



VBLOCK™ SYSTEMS FOR VMWARE VIEW 5

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Introduction

Organizations face the difficult task of building a strategy for the virtual desktop environment (VDI) that satisfies the requirements of task workers to power workers and desktops to mobile devices while at the same time meeting corporate objectives for cost, security, and compliance.

Vblock™ Systems—pre-integrated, pre-architected, and pre-tested converged infrastructure platforms—when combined with the leading desktop virtualization solution, VMware View 5, deliver a powerful, efficient, and scalable VDI solution.

This document presents an overview of Vblock Systems for VMware View 5. It highlights how Vblock Systems extend their capabilities to provide a fully optimized View deployment solution.

Audience

The target audience for this document is highly technical, and it includes technical consultants, professional services personnel, IT managers, infrastructure architects, partner engineers, sales engineers, and consumers who wish to deploy VMware View 5 on Vblock Systems.

Documentation feedback

To suggest documentation changes and provide feedback on this guide, send an email to docfeedback@vce.com. Include the name of this guide, the topic name where your comment applies, and your feedback.



The business challenge

Deploying VDI presents challenges to organizations that can have significant long-term ramifications for cost and functionality. This section describes some of the top VDI challenges that organizations typically experience.

The desktop dilemma

Enterprises today face a serious desktop dilemma. Users need the freedom and flexibility to access their applications and data from a multitude of devices and locations. However, meeting this need drives up costs. In addition, beyond financial constraints, IT organizations must balance user needs with internal policies and compliance requirements.

VMware View 5 is an excellent platform for building an enterprise VDI solution. It takes advantage of all the features, services, and fault tolerance built into VMware's flagship vSphere Hypervisor. View allows IT administrators to manage pools of virtual desktops, assign them to users, and define policies for VDI behavior, all from a single browser-based UI. View supports connectivity from a wide variety of client devices, and its PC over IP (PCoIP) remoting protocol helps improve the user experience by reducing the latency between the server-hosted virtual machine (VM) and its user. By default, PCoIP renders images up to 30 frames per second (FPS), achieving lossless reproduction once stable. In comparison, Citrix High Definition Experience (HDX) protocol renders at up to 24 FPS, settling at normal quality for lossy reproduction.

Vblock Systems are the perfect complement to VMware View 5. Together, they overcome the desktop dilemma discussed above by virtualizing desktop operating systems, applications, and user data, decoupling these components from their underlying hardware. IT administrators can then centrally manage and provision these desktop components from the data center, creating a rapidly deployable desktop cloud infrastructure.

Customer pain points

Some of the common VDI-related pain points that cause concern for IT administrators include:

- **Lack of modularity:** The customer wants to deploy VDI in different workgroups.
- **Lack of pre-validated solutions:** The customer needs VDI immediately as he does not have several months for proof-of-concepts (POCs).
- **Lack of seamless support:** The customer finds it difficult to manage the multiple vendors in a VDI solution.
- **Lack of pre-architected solutions:** The customer does not know how to design a VDI solution.
- **Lack of proven user profile management:** The customer finds it difficult to manage user profiles effectively to ensure successful VDI deployment.

This document discusses how Vblock Systems for View meet these challenges and provide a simple, fast, and efficient solution for VDI.



Vblock™ Systems for VMware View

Vblock Systems overview

The Vblock System from VCE is the world's most advanced converged infrastructure—one that optimizes infrastructure, lowers costs, secures the environment, simplifies management, speeds deployment, and promotes innovation. The Vblock System is designed as one architecture that spans the entire portfolio, includes best-in-class components, offers a single point of contact from initiation through support, and provides the industry's most robust range of configurations.

Combining validated technologies from industry leaders in compute, network, storage, and virtualization technologies in a unified solution, Vblock Systems simplify VDI deployment and deliver more value to the business.

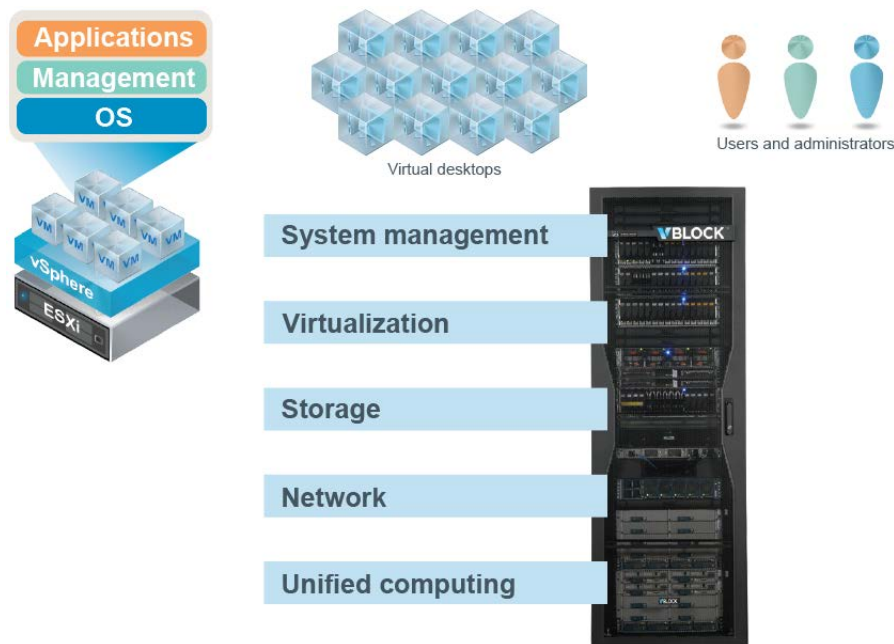


Figure 1. Vblock Systems overview

Vblock Systems are characterized by:

- Repeatable units of construction based on matched performance, operational characteristics, and discrete requirements of power, space, and cooling
- Repeatable design patterns that facilitate rapid deployment, integration, and scalability
- An architecture that can be scaled for the highest efficiencies in virtualization and workload mobility
- An extensible management and orchestration model based on industry-standard tools, APIs, and methods
- A design that contains, manages, and mitigates failure scenarios in hardware and software environments



Vblock System 100

Leveraging the Vblock System 100, midmarket companies and enterprise remote office/branch offices (ROBOs) can, for the first time ever, address their specific capacity and workload requirements while still enjoying the repeatability, standardization, and business results synonymous with the Vblock System family.

Sized to fit within a footprint typical of the environment, the Vblock System 100 is the same architecture as larger Vblock Systems in a competitively priced form factor. The system is specifically priced and built to:

- Deliver core IT services for remote and distributed locations in such specialized industries as health care, multinational, and advanced manufacturing verticals
- Function as the sole and comprehensive data center for the smallest midmarket companies
- Provide mixed workload support for larger midmarket companies
- Offer dedicated application support for larger midmarket companies in such areas as file, print, and domain, VDI, communications, and collaboration

With well-defined, entirely fixed configurations, the Vblock System 100 can be shipped in as little as 30 days of order—and fully operational in just a few more.

Vblock System 200

The Vblock System 200 provides the ultimate blend of architecture standardization and implementation flexibility in a competitively priced form factor. The system is specifically priced and designed to:

- Deliver core IT services for enterprise remote and distributed operations
- Function as the sole and comprehensive data center for smaller midmarket companies
- Provide mixed workload support for larger midmarket and commercial companies
- Support application development and testing and co-location data centers
- Run a broad array of dedicated business applications, such as file, print, and domain, VDI, communications, collaboration, and database

The Vblock System 200 can be shipped in as little as 45 days of order—and fully operational within a week of delivery.



Vblock System 320

The Vblock System 320 is an enterprise and service provider ready system in the Vblock System 300 family, designed to address a wide spectrum of virtual machines, users, and applications. It is ideally suited to achieve the scale required in both private and public cloud environments. The Vblock System 320 has been engineered for greater scalability and performance to support large enterprise deployments of mission-critical applications, cloud services, VDI, mixed workloads and application development and testing. The Vblock System 320 delivers greater configuration choices, 2X performance and scale from prior generations, flexible storage options, denser compute, five 9s of availability, and converged network and support for a new virtualization platform that accelerates time to service and reduces operations costs. Every Vblock System 320 is available with the market-leading EMC VNX storage arrays.

Vblock System 720

The Vblock System 720 is an enterprise, service provider class mission-critical system in the Vblock System 700 family, for the most demanding IT environments—supporting enterprise workloads and SLAs that run thousands of virtual machines and virtual desktops. It is architecturally designed to be modular, providing flexibility and choice of configurations based on demanding workloads. These workloads include business-critical enterprise resource planning (ERP), customer relationship management (CRM), and database, messaging, and collaboration services. The Vblock System 720 leverages the industry's best director-class fabric switch, the most advanced fabric based blade server, and the most trusted storage platform. The Vblock System 720 delivers greater configuration choices, 2X performance and scale from prior generations, flexible storage options, denser compute, five 9s of availability, and converged network and support for a new virtualization platform that accelerates time to service and reduces operations costs.

VMware View 5 overview

VMware View 5, based on the proven VMware vSphere virtualization platform, delivers unique desktop control and manageability, while providing users with a familiar desktop experience without any modifications to the desktop environment or applications.

View 5 offers improved PCoIP performance, more client device support, and more integrated profile management over its previous versions. Some of these notable features include:

- **PCoIP optimization controls:** View 5 with PCoIP provides users with top performance regardless of network conditions. New PCoIP optimization controls, including client-side caching can decrease bandwidth usage by up to 75 percent and increase network user density on both LAN and WAN connections.
- **3D graphics:** View Media Services for 3D Graphics enables View desktops to run basic 3D applications—such as Aero, Office 2010, or those requiring OpenGL or DirectX—without specialized graphics cards or client devices.
- **Unified Communications (UC) support:** View 5 delivers an integrated workspace of virtual desktops and communications to provide a seamless productivity experience across desktop, voice, and video media services. This feature enables business continuity for UC with View and quality of service for VoIP and desktop, all while saving costs by leveraging existing UC infrastructure.

- **Personal desktops and stateless desktops:** View 5 is available in two editions—View Enterprise and View Premier. The View Premier edition is a special View Persona Management console to enable IT administrators to allow users to personalize certain aspects of their desktop. This allows IT administrators' greater control of their virtual machines and their users' experiences across any number of locations and virtual machine sessions.

The figure below shows the relationship between major components of a VMware View deployment. It consists of a complete suite of tools for delivering desktops as a secure, managed service from a centralized infrastructure. The components of VMware View VDI deployment include client connection devices (desktops, laptops, or thin clients), VMware View manager for connection brokering and virtual desktop management, VMware View Composer for space-efficient provisioning of desktop virtual machines, and vSphere ESXi server virtualization for hosting virtual desktops.

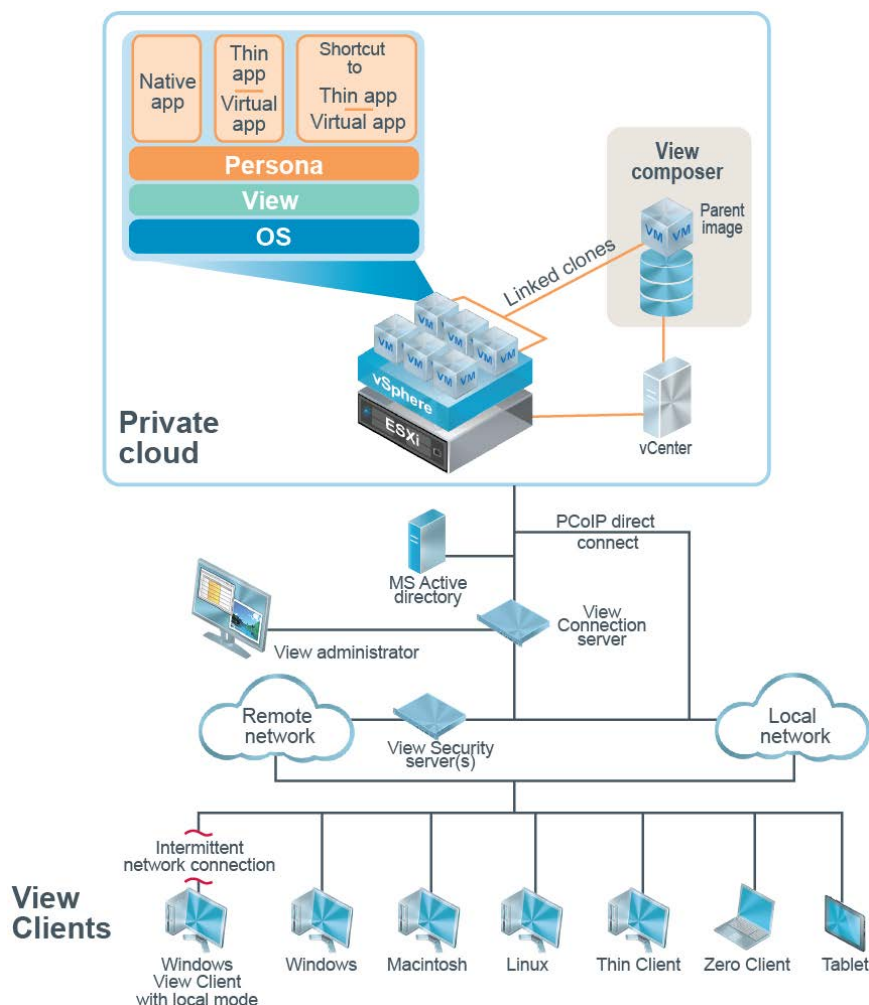


Figure 2. VMware View deployment



Vblock Systems for VMware View benefits

Vblock Systems provide a highly scalable, modular, and unified solution for VMware View. As described in the previous section, the Vblock Systems product family ranges from Vblock Systems 100 through Vblock Systems 720. The choice of the right Vblock system for VDI depends on the customer's specific deployment needs in terms of machines, users, and applications. For example, Vblock System 720 is ideally suited for deployments involving large number of virtual machines and meets the higher performance and availability requirements of an enterprise's business-critical applications. In some other deployment scenarios, such as when a wide spectrum of virtual machines, users, and applications is required, Vblock System 320 is well suited and achieves the scale required in both private and public cloud environments.

The figure below illustrates the basic Vblock Systems configuration for VMware view.

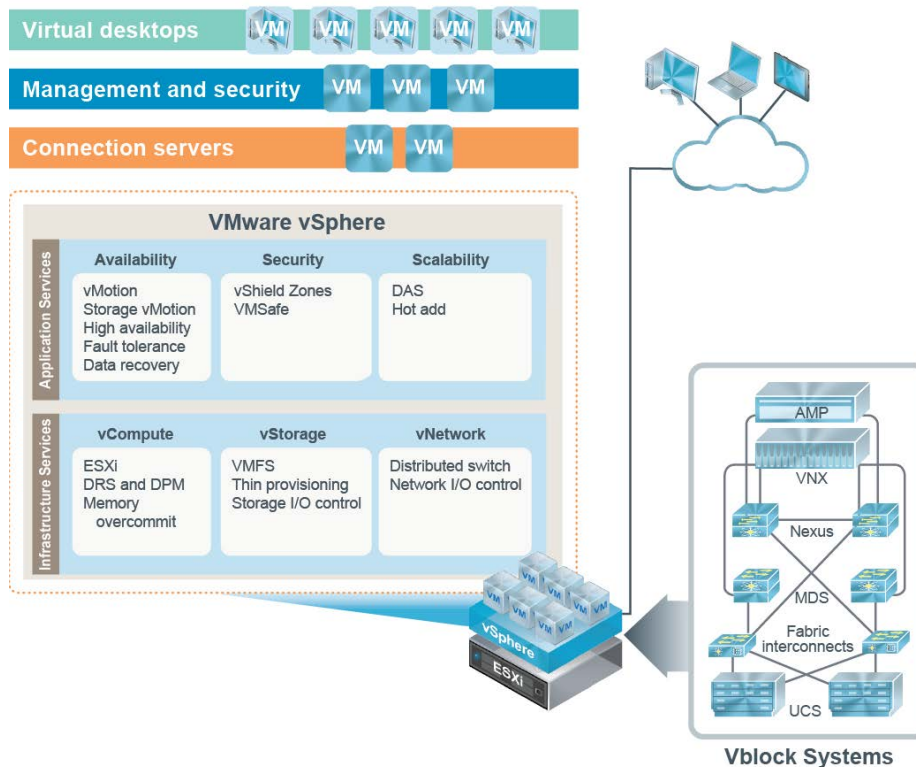


Figure 3. Vblock Systems for VMware components



The unique benefits of the combined solution include:

- **Modular virtual desktop growth:** IT managers can easily add more virtual desktops as their needs grow by moving to larger Vblock Systems or simply by adding more virtual desktops. The building block approach allows organizations to scale out to meet growing demand for thousands of users predictably. This facilitates a departmental VDI rollout and avoids the need to pre-purchase hardware that may not readily be used. Enterprises can start with a right-sized Vblock System and scale up or out as needed.
- **Rapid provisioning and decommissioning of desktops:** The auto-provisioning features built into the Vblock converged infrastructures, such as EMC's vStorage API for Array Integration (VAAI), support rapid provisioning and decommissioning of resources. These features enable IT administrators to create and provision virtual desktops much faster than traditional VDI environments. Cisco UCS Manager and Cisco UCS service profiles help move new server resources from the loading dock into production, or repurpose existing server resources in minutes rather than in the hours, days, or weeks required to provision traditional servers. This speed becomes an asset when IT departments need to move users to virtual desktops as groups are ready to deploy VDI. In addition, 10Gb Ethernet and Fibre Channel over Ethernet (FCoE) provide high throughput and bandwidth.
- **Simplified management:** EMC Unified Infrastructure Manager (UIM) enables administrators to unify their server, network, and storage resources for the Vblock Solution for VMware View. UIM provides a single point of management for Vblock Systems and manages multiple Vblock Systems across compute, network, and storage resources anywhere in the world. Unified Infrastructure Manager also comes with an open management framework (API) to leverage other quality management solutions such as BMC.
- **Self-curing architecture:** Vblock Systems high-density architecture has elastic properties to accommodate unplanned events such as spikes or boot storms. This prevents the degradation of the user experience that can happen when too many users log in at the same time. Instead of rendering mission-critical desktops into an unusable state, the self-curing properties of the Vblock Systems kick in, allocate appropriate resources, and enable users to keep working with a high-performance user experience.
- **High number of virtual desktops on a single Vblock System:** This solution can support thousands of users on a single Vblock System that includes all the server, network, and storage resources needed for virtual desktop deployment—all in one box. The patented Cisco Extended Memory Technology improves desktop density by up to 60% per blade over alternative solutions.



Conclusion

IT organizations today find it extremely challenging to set up, configure, and deploy VDI due to complexity of consoles, and the servers and equipment needed to establish a simple proof of concept or pilot. These challenges cause IT organizations to outsource their VDI projects or reset their projects and try again, all driving up their total cost of ownership and return on investment.

This paper serves as a short introduction to the unique architectural design of Vblock Systems for View and describes how this offering turns an IT organization's VDI challenges into business advantages. Vblock Systems for View eliminates VDI deployment complexity, lowers the cost, accelerates implementation, and is easy to scale/grow, while providing a rich, no-compromise user experience. However, it is not possible in this paper to provide a complete discussion of all of the architectural principles, strategies, issues, and considerations for the Vblock Systems for View deployment model.

In summary, using Vblock Systems for VMware View for VDI provides the following benefits:

- Integrated best-of-breed technology and support
- Factory-ready Vblock Systems
- Highly scalable options
- Fully optimized solution for VDI deployments
- Support for thousands of users on a single Vblock System

Next steps

To learn more about this and other solutions, contact a VCE representative or visit www.vce.com.



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