



THE VIRTUAL COMPUTING
ENVIRONMENT COMPANY

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DRIVING BUSINESS VALUE WITH VBLOCK™ INFRASTRUCTURE PLATFORMS

Private clouds, built on pervasive virtual infrastructures, are increasingly appealing to organizations looking to deliver IT resources to end users faster, more reliably, and at a lower cost. However, bringing a private cloud and pervasive virtualization to reality is a daunting challenge. With many vendors offering different components for virtualization, products must be evaluated, selected, implemented, integrated, and supported across the entire IT stack. Building a private cloud that is integrated, reliable, and easy to use and manage can seem almost impossible. The risks are high because IT managers must choose among a myriad of vendors, technologies, features, price points, and support options.

VCE solves this challenge with Vblock Infrastructure Platforms: the first completely integrated IT offering that combines best-of-breed networking, compute, storage, security, and management with end-to-end vendor accountability. With Vblock Infrastructure Platforms, organizations of any size can rapidly deploy a pervasive virtual infrastructure and implement a private cloud while lowering risk and operating expenses.

What is a Private Cloud?

Cloud computing is not just an IT buzzword. A cloud is a flexible, shared pool of preconfigured and integrated computing resources (servers, storage, management tools, and so on) that enables organizations to deliver better IT services faster and less expensively than with traditional data center models. A cloud is private when the computing resources that constitute it are in the control of an organization and the services the cloud enables are consumed exclusively by that organization.

Cloud computing delivers quantifiable business benefits to an organization, including:

- Faster delivery of IT services to end-users
- Increased agility and scalability
- Flexible consumption models
- Less fragmented resources
- Improved security and control

What is pervasive virtualization?

The key to building a private cloud and realizing these and other benefits is pervasive virtualization—the use of virtualized applications and operating systems throughout the enterprise. Many organizations limit their virtualization strategy to file and print services. However, companies can only realize the benefits of a private cloud when they extend the virtualization to include applications and aggregate resources throughout the infrastructure.

With Vblock Infrastructure Platforms, organizations of any size can rapidly deploy a pervasive virtual infrastructure and move toward a private cloud while lowering risk and operating expenses.

Challenges of Reaching the Private Cloud Ideal

Despite such clear and compelling benefits, the private cloud model remains elusive for many organizations, and for good reason—the challenges that must be overcome are daunting.

Evaluating all the options - For starters, any organization wanting to make progress toward a cloud computing model is quickly flooded with a tsunami of information. Information about products, services, and models flows in from a myriad of vendors each claiming that their solution can get you to the cloud. Evaluating the options is huge task that requires countless staff hours of research. What kind of hardware platform is best for your current needs and future growth? Which technologies are indispensable and which ones are marketing fluff? Which vendors offer the features, performance, and price you're looking for? Which vendors will be around to support their products in two years? In five?

Product integration - As you begin to narrow your choices, you must determine whether the products you're considering will work together. If they don't, your IT group will spend more time and money creating fixes and workarounds than delivering IT services, which is exactly the opposite of your goal.

Cost estimates - Creating cost projections for a cloud computing model presents another layer of complexity. It's a difficult task when so many variables affect both short- and long-term costs. The initial capital expenditure for new IT infrastructure is just one variable—and might be a relatively small one in comparison to long-term operating expenses, such as support, licensing, and training. Power and cooling costs are additional variables that also must be taken into consideration.

High risk decision - As if the overload of choices and information were not bad enough, the stakes are high. The choices you make are loaded with risk not only because of the capital outlay, but also because these choices impact the entire IT stack. How can you be sure that all the products you need will work well together? How can you be sure you're building a scalable, future-proof cloud? Aiming for a cloud computing model is not like virtualizing print services—a wrong step can have disastrous consequences for users and IT productivity and a direct impact on business profitability.

Support issues - Organizations that are considering cloud computing models are also concerned about support. As you purchase new IT infrastructure components on a path toward cloud computing, you need to know that those components are backed by solid support. Applications and services you plan to deliver need to be available 24x7, so your vendors' ability to provide support well into the future is a critical requirement. However, support offerings can be complicated, too, and evaluating the support picture of each separate component required for a cloud model is a daunting task in itself.

These are complex questions and there are no simple answers, but progress doesn't have to be as painful as you think. Vblock Infrastructure Platforms offer a solution.

Simplified, integrated IT Infrastructure

Vblock Infrastructure Platforms unite traditionally disparate layers to offer a truly integrated solution. By converging the compute, network, storage, virtualization, security and management layers in a single unit, they simplify your IT infrastructure in ways that are immediately visible:

- Fewer physical components
- Reduced cabling
- Predictable, constant footprint

With a simpler IT infrastructure, your staff can focus on innovation and service delivery instead of on configuring separate components and tuning network performance.

Reduced Total Cost of Ownership (TCO)

Because Vblock Infrastructure Platforms are purchased, deployed, and managed as a single unit, they reduce TCO compared to the cost of purchasing, deploying, and managing comparable IT infrastructure as separate components. IT staff can deploy them more quickly than individual components, which helps reduce costs associated with development and testing. The Vblock Infrastructure Platforms feature a rack design that enables efficient cooling and serviceability to help reduce power and management costs. Vblock Infrastructure Platforms help you further reduce TCO by aligning management of the virtual and physical infrastructure, which enables operational consistency and visibility throughout the network.

Improved Service Levels

With Vblock Infrastructure Platforms, IT administrators can deploy new applications and services more quickly because the IT infrastructure that supports the applications is preconfigured and pretested. This efficiency helps end users to be more productive and frees IT staff to develop innovative solutions that add value to the business.

Minimized Risk

Vblock Infrastructure Platforms help minimize the risk of pervasive virtualization and cloud computing through validation—a process that extensively tests a broad range of applications and services on Vblock Infrastructure Platforms. Some crucial applications are validated to work with the technology, including mission-critical applications on which your business relies, and many more are currently in the validation process.

Seamless Support

Seamless Support from VCE is another way to reduce risk and is a big part of the commitment VCE is making with Vblock Infrastructure Platforms. VCE simplifies your support experience through a single contact point, connecting you directly to experts in virtualization, networking, and storage. These experts can help minimize impact to your business operations through expert interoperability testing and troubleshooting. VCE's seamless support gives you one point of contact for fast technical assistance and response while reducing complexity in your support experience. Key elements of the seamless support experience include:

- Joint problem re-creation labs
- A single support experience for onsite and remote support
- Cross-company, cross-product trained support experts
- Cooperative engineering groups
- Shared problem resolution and escalation processes
- Documented processes through a best practices Support Implementation Plan
- Common metric definition and alignment

Bring These Benefits to Life for Your Organization

You understand the benefits of pervasive virtualization and your IT staff is most likely eager to virtualize as many applications as the IT infrastructure can support. The obstacles standing in your way are complex, but you can begin to realize the benefits more quickly than you might have expected.

For example, if your data center is like others worldwide, many of your servers are due for a refresh. But your new multiprocessor servers will be shackled if old networking equipment creates bottlenecks between those servers and your LAN or SAN. So you might also need to upgrade older networking gear. You might instruct your IT administrators to begin the research and evaluation process to prepare for a significant upgrade of IT infrastructure.

But this is where you should pause. If you proceed on that trajectory, upgrading the infrastructure in the same way the infrastructure was built—piece by piece, using solutions from many different vendors—then you will merely put a new face on old problems. The IT infrastructure remains complex and fragmented, requiring intense IT staff effort to assess, configure, test, deploy, and manage.

Instead, deploy a Vblock Infrastructure Platform. It includes best-of-breed technology from vendors you already know and trust, so you can drastically reduce the time required to research and assess your investment. These best-of-breed components are preconfigured and pretested, giving you a multilayered block of functionality that is production ready and optimized for pervasive virtualization. Rather than tuning the infrastructure, your IT staff can focus on virtualizing applications and delivering services to end users.

The estimates in the following table show the time- and cost-saving advantages of upgrading your IT infrastructure using Vblock Infrastructure Platforms instead of the traditional method.

	Vblock Infrastructure Platforms	Traditional Method
Research and evaluation time	Hours or days	Weeks or months
Configuration and testing	Preconfigured, pretested	Days or weeks
Provisioning and deployment	Hours or days	Days or weeks
Time to value	Hours or days	Weeks or months

Vblock Infrastructure Platforms simplify and accelerate the process of preparing your IT infrastructure for pervasive virtualization.

Introducing Vblock Infrastructure Platforms

Vblock Infrastructure Platforms from VCE can simplify and accelerate your progress toward a private cloud model.

What Is VCE?

VCE embodies the joint commitment and expertise of Cisco, EMC, and VMware. It has a simple goal: to simplify organizations' progress toward private cloud computing by offering best-of-breed technologies, products, and services from a single source.

VCE is comprised of the industry leaders you already know and trust who have collaborated on engineering, pricing, and support to develop Vblock Infrastructure Platforms that can help you more rapidly achieve the benefits of cloud computing.

What Are Vblock Infrastructure Platforms?

Vblock Infrastructure Platforms are the industry's first completely integrated IT offering that combines the following technologies with end-to-end vendor accountability:

- Networking by Cisco switches
- Computing power by Cisco® Unified Computing System™ (UCS)
- Virtualization by VMware® vSphere™ and vCenter™ Server
- Storage by EMC® Symmetrix® VMAX™, EMC® CLARiiON®, or EMC Unified Storage
- Security by RSA enVision® and RSA SecurID® (both optional)
- Management by EMC® Ionix™ Unified Infrastructure Manager

This unified approach to IT infrastructure heralds the convergence of network and compute layers, which simplifies data center manageability and improves flexibility and utilization. It also allows IT to focus more on delivering services to end users, and less on how to piece together disparate IT components and make them work together.

As preconfigured and pretested blocks of IT infrastructure, Vblock Infrastructure Platforms deliver value almost as soon as they are installed.

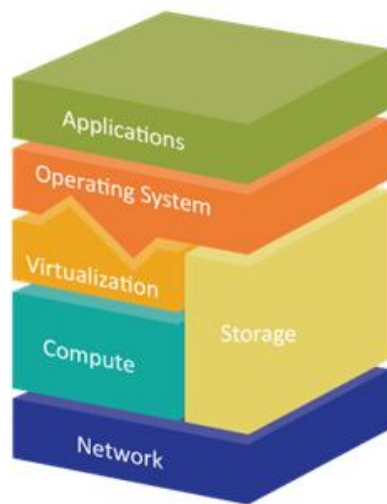
Extend the scope of virtualization

With Vblock Infrastructure Platforms, you can extend the benefits of virtualization throughout the infrastructure. As predesigned, preconfigured, completely integrated units, they remove architectural obstacles such as hybridized solutions and complexity. They are tested and validated blocks of functionality that are optimized for virtualization and ready to support any application you decide is ready to be virtualized. They have been tested and validated with many major applications, including:

- Microsoft Exchange
- Microsoft SharePoint
- Oracle RAC
- SAP
- VMware View

Because VCE has completed this compatibility and validation work up front, your IT staff can focus on implementing virtualization more broadly throughout your organization.

Vblock Infrastructure Platforms



Vblock Infrastructure Platforms unite layers of the IT infrastructure in a single unit with predictable costs.



Summary

Pervasive virtualization and private cloud computing can bring significant advantages to businesses, including lower costs, greater data center agility, and reduced complexity. But, reaching the private cloud can be a challenging, risk-heavy task. The current state of data centers does not make it easy to leverage the benefits of pervasive virtualization, and until now, businesses have not had an integrated solution that allows data centers to live up to the promise of cloud computing.

Vblock Infrastructure Platforms from VCE are game changers. As preconfigured, pretested blocks of IT functionality from industry leaders, they can fast track the move toward pervasive virtualization by combining best-of-breed networking, computing, storage, security, and management technologies. They can also help remove the risk from your journey toward private cloud computing with end-to-end vendor accountability and a single-source support experience that is committed to your success well into the future.

Next Steps

Learn more about how you can enjoy the benefits of pervasive virtualization sooner than you think with Vblock Infrastructure Platforms. Visit www.vce.com or contact your authorized VCE reseller.

ABOUT VCE

VCE, the Virtual Computing Environment Company formed by Cisco and EMC with investments from VMware and Intel, accelerates the adoption of converged infrastructure and cloud-based computing models that dramatically reduce the cost of IT while improving time to market for our customers. VCE, through the Vblock platform, delivers the industry's first completely integrated IT offering with end-to-end vendor accountability. VCE's prepackaged solutions are available through an extensive partner network, and cover horizontal applications, vertical industry offerings, and application development environments, allowing customers to focus on business innovation instead of integrating, validating and managing IT infrastructure.

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