WHITE PAPER

Convergence with Vblock Systems: A Value Measurement

Sponsored by: VCE

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EXECUTIVE SUMMARY

IT infrastructure is the backbone of today's modern business. It enables rapid expansion into new, fast-growing markets. It is at the core of new customer services offerings such as mobile commerce. It is the key to successfully exploiting an explosion in data and data analytics within business processes.

In this environment, business executives measure the value of the IT organization in terms of its ability to support specific business objectives, such as scaling to integrate an acquired firm in a new region or enable rapid response to changing customer demands for mobile-based services. Today, IT managers focus intently on rapidly deploying business services on demand and at scale, without triggering an explosion in capital and operating expenses.

One of the most significant solutions that IT organizations are deploying to meet these needs are converged systems that integrate compute, storage, and network resources; virtualization software; and infrastructure management software into a pretested platform. Organizations around the world spent over $3.3 billion on converged systems in 2012, and we forecast this spending to increase by 20% in 2013 and again in 2014. IT executives making converged infrastructure (CI) investments want to quantify the business value this investment delivers, whether through driving business expansion, reducing the cost of conducting business, or speeding business innovation.

IDC conducted in-depth interviews with 11 IT organizations, enterprises, and major service providers that deployed CI systems based on VCE Vblock Systems. Vblock Systems are built by VCE using compute, network and storage technologies and virtualization software from Cisco, EMC, and VMware.

IDC found that Vblock System implementations sped deployments, simplified operations, improved business-support agility, saved money, and freed staff to launch new applications, extend services, and improve user/customer satisfaction.

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These organizations reported that, compared with their prior IT environment, Vblock Systems reduced infrastructure hardware costs and IT staff time to manage operations. Together these savings reduced annual datacenter costs by half.

Enterprises and service providers leveraging Vblock Systems are well positioned to drive datacenter modernization, enable more effective launch and expansion of private clouds, and maintain ongoing benefits in terms of speed, savings, and simplicity.

BUSINESS AGILITY: THE NEVER-ENDING GOAL FOR YOUR IT ORGANIZATION

Whenever IDC speaks with senior business and IT executives around the world, the message comes through loud and clear that datacenters and the IT infrastructure are rapidly becoming the backbone of the business. Datacenters are becoming:

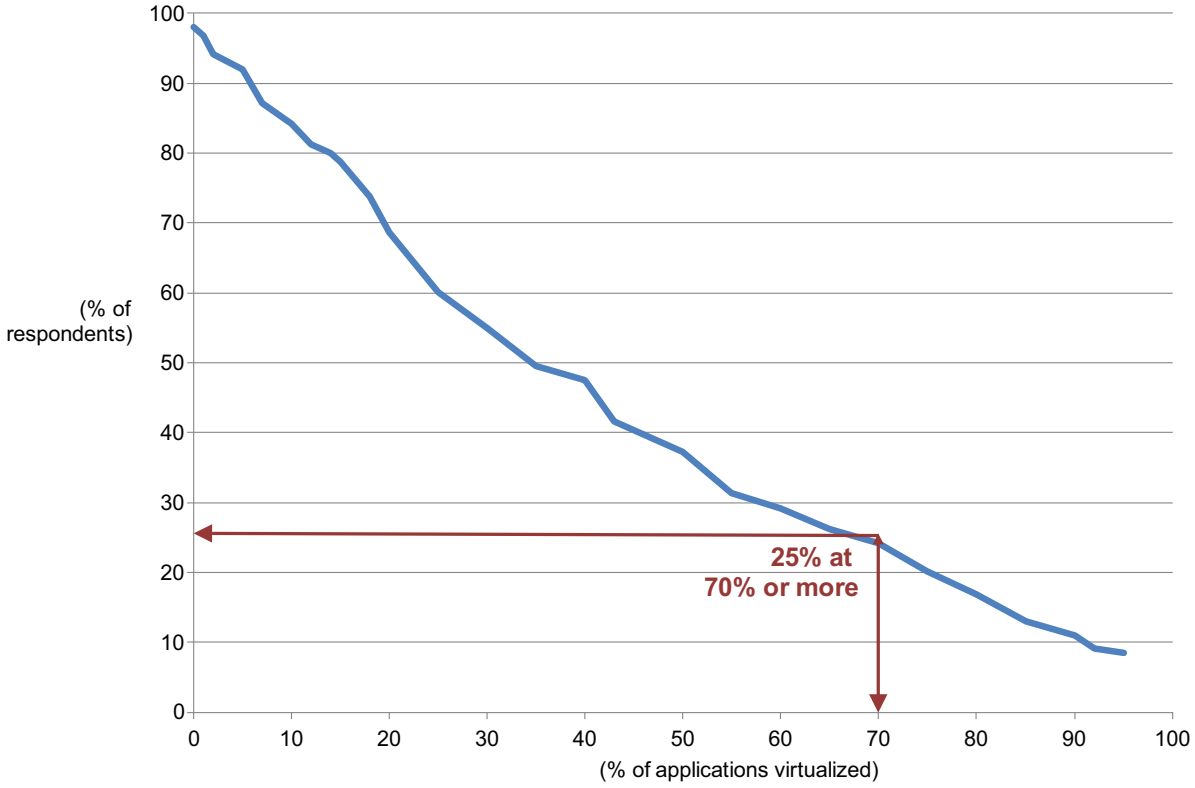
- **A key enabler of efforts to expand globally.** "We have to go where the new customers, where the new markets, are through either organic growth or acquisition, and we need datacenters and IT assets there."
- **The foundation underlying the expansion and explosion in new services.** "I have a slew of new mobile applications that I have to deliver now, not next year, to make my customers happier, and I need to integrate analytics into those applications to ensure those customers remain satisfied."
- **An increasing source of concern.** "We realized that the existing way of running our datacenters just isn't keeping pace with our needs or our cost expectations. We have to change our model, or we spend ourselves out of business."

Over the past five years, IT organizations have embarked on a journey from the world of traditional IT, where it took months to deploy an individual system or application, to the world of highly virtualized IT, where businesses expect a new system or application to be delivered in days, if not hours or minutes (see Figure 1).

FIGURE 1

Virtualization Adoption

Q. Approximately what percent of your entire application portfolio is virtualized today?



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Source: IDC's *Virtualization Survey*, 2011 and 2012

The relative ease with which application builders can use virtual machine instances to roll out new software or widen user bases is exposing and sharpening the significant challenge of acquiring, provisioning, deploying, and managing the right level of platform (server, network I/O, and storage) capacity to enable this expansion.

Business First: Focus on Value-Add

IT managers today must focus intently on deploying business services on demand and at scale in fractions of the time required in earlier days. In fact, IT's ability to support specific business objectives, such as scaling to integrate an acquired firm onto the existing application and data platform, takes precedence over other IT tasks.

In IDC's interviews, Vblock System customers repeatedly cited these business imperatives as a key driver for implementing Vblock Systems. We are now at the next point in the never-ending journey to consistently deliver IT assets faster (hours rather than days or weeks) and more cost effectively in terms of both capital expenditures and IT operations, all in support of a wide array of applications and diverse business initiatives.

Table 1 presents examples of organizations implementing Vblock Systems to address specific business requirements. These deployments enabled business process improvements that directly resulted in business value.

TABLE 1

Converged Infrastructure Business Drivers/Business Impact by Respondent and Industry

	Business Demand	IT Challenge	Converged Infrastructure Response	Business Enablement	Result
Financial Services: Asset Management	Integrate acquired firm	Migrate data and applications	Deploy application environment in days versus weeks	Speed integration; shut down acquired systems; avoid cost	Higher market valuation
Service Provider: Cloud Provisioning	Sell public cloud service	Deliver cloud within weeks of sale	Deploy prebuilt, preconfigured infrastructure on demand	Grow cloud revenue at 100% annually	Increased share of public cloud revenue
Healthcare: Managed Care Provider — Medicaid	Capture new Affordable Care Act (ACA) Medicaid demand	Replace legacy with scalable infrastructure	Refresh entire IT infrastructure at once with Vblock Systems	Ready for growing Medicaid demand	Positioned for growth to meet aggressive investor expectations
Manufacturing: Medical Devices	Broaden product line	Add SAP capacity; ensure 100% uptime	Outsource "config and deploy"; focus on private cloud applications, data	Application teams deploy new apps from private cloud	Ready to support new lines, locations, facilities

Source: IDC Interviews with Vblock customers, 2013;
GlobalData Financial and Strategic SWOT Analyses, 2013; CJS Securities Company Updates, 2013;
Wedbush Securities, PacGrow Life Sciences Equity Research, 2013;
Corporate Annual Reports

"Getting out of the piece part assembly business — I would say that was the number one driver for both myself and the manager of infrastructure and operations ... when it came to moving to Vblock." — IT executive at a manufacturing firm

IT Responds: Overcoming the Roadblocks

In comparison to the ease of "spinning instances" with hypervisors, IT organizations are now chafing at the time and delays associated with provisioning new or incremental hardware in support of these efforts.

They also complain about the increasingly difficult tasks of managing all the moving parts. This includes the costs associated with the planning, the purchasing, and the staging of the different release levels and technology introductions associated with separate storage, server, network, and software components. In this disjointed environment, optimizing across these four dimensions or implementing a cross-datacenter technology refresh cycle is becoming difficult, if not impossible.

"What killed us ... is … firmware …. I might get a vSphere at one level. I might get a fiber interconnect at another level. I might get a chassis firmware at another level. And I might have a blade firmware at yet another layer. Those are released kind of ad hoc. This all changed with Vblock." — IT director, major financial services firm

CONVERGED SYSTEMS FOR IT INFRASTRUCTURE

Increasingly, today's IT organizations complain that the traditional build-it-yourself option for deploying IT infrastructure costs calendar time delays in delivery to the business. Many of these organizations are looking for accelerated deployment. They are skipping the home-built approach and opting for a prebuilt, preconfigured solution — a converged infrastructure solution.

One result of this attitude is that organizations around the world spent over $3.3 billion on CI solutions in 2012 and are on pace to spend over $4 billion in 2013. This represents over 20% growth for CI compared with a traditional server market that has remained essentially flat. While the demand for accelerated time to market (business agility) does drive this rapid spending increase, other motives also contribute to the growth.

"… The ability for VCE to get us the Vblock on the floor within 30 days … that was the driving factor. That was so important for us, so very big for us, because we had the goal of standing up a fully functional ... application environment … by June 30th." — IT manager, financial services

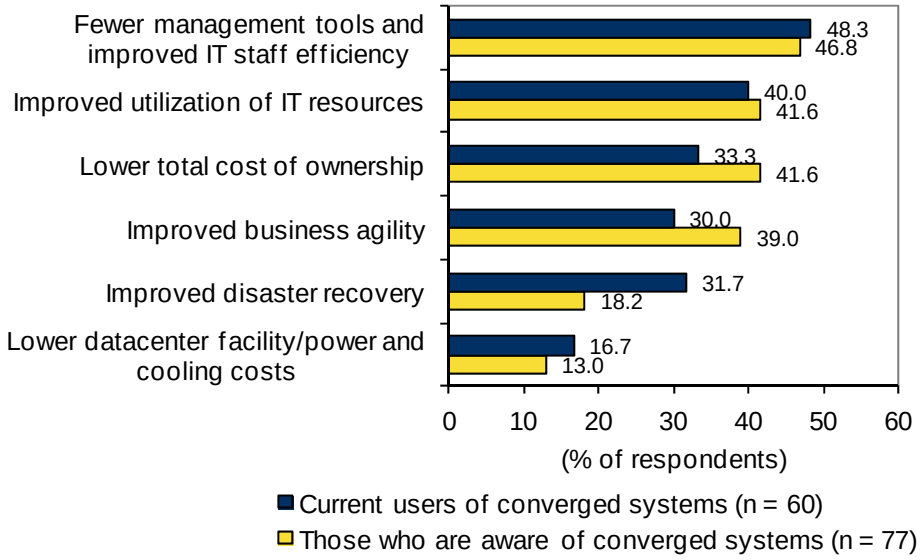
Figure 2 presents the top benefits customers expect from converged systems, as reported in a 2012 IDC survey. The theme of IT simplification stands out. Given the pressures in the business environment, an increasing number of companies are seeking to leverage their IT as a competitive differentiator. IT organizations need to devote more of their resources toward projects that center on speeding IT services to the business units, engaging with their customers via IT, and improving their own workforce productivity. Even with these demands from the business, IT organizations are still faced with stagnant budgets and must seek new systems that deliver greater IT efficiency.

Enterprises implementing converged infrastructures cite the improved efficiency of IT staff and the improved utilization of IT resources as the top benefits realized. Converged infrastructure frees server, storage, and networking administrators from routine, mundane maintenance tasks. Because of the preintegrated, pretested nature of the converged platforms, IT departments can reallocate staff time and resources toward projects that focus on innovating IT service or enhancing the environment.

FIGURE 2

Major Benefits of Converged Infrastructure

Q. What do you see as the top 2 major benefits to converged computing?



Base = firms with converged systems

Source: IDC's *Converged Systems Survey*, July 2012

VCE's family of Vblock Systems, examples of converged systems, include blade server chassis (Cisco's UCS server), network fabric manager (based on Cisco's Nexus network platforms), virtualized storage systems (e.g., EMC's VMAX or VNX storage systems), a preferred hypervisor (e.g., VMware's vSphere), and IT automation software. These converged systems allow administrators to move away from deploying each element (server, storage, network) individually and toward delivering what IT's customers actually need: availability and performance.

Within a converged system such as Vblock System, the compute, storage, and network devices are tuned together for high performance across multiple workloads.

This also enhances the ability to centralize management of all the IT elements within the system and even across multiple racks or aisles within the datacenter. Converged systems enable increased automation through dynamic partitioning and automatic load balancing supporting a pool of different business applications. This approach makes maintenance/support and disaster recovery within a datacenter or across geographically dispersed datacenters simpler, more predictable, and more cost effective.

In an effort to provide more quantifiable information on these benefits to IT decision makers, IDC examines the findings from a primary research study of enterprise datacenters that implemented VCE Vblock Systems. The following sections present how Vblock Systems affected:

- IT hardware spending (server, storage, network) as datacenters expand
- Operational costs associated with IT asset selection, management, and maintenance
- System and business application delivery speed
- Application resiliency

The study provides a foundation for identifying how investing in a converged systems strategy based on solutions such as those from VCE can translate into immediate and sustained business value for your organization.

ASSESSING THE VALUE OF A CONVERGED DATACENTER INFRASTRUCTURE

VCE's Solution

Formed by Cisco and EMC with investments from VMware and Intel, VCE markets an integrated converged infrastructure solution for the datacenter. VCE develops a range of platforms and solutions for virtualized and nonvirtualized environments based on components from Cisco, EMC, and VMware. VCE's corporate charter is to accelerate the adoption of converged infrastructure and cloud-based computing models that dramatically reduce the cost of IT while improving time to market for customers.

VCE's flagship products are the family of Vblock Systems. They combine compute, network, storage, virtualization, and management technologies into prepackaged units of infrastructure that are preengineered, preintegrated, and pretested in VCE's factories. VCE provides customer support for the entire stack (software, network, compute, storage) via a single point of contact. In addition, VCE implements a full integration test approach to release and configuration management to further simplify IT operations.

VCE sells Vblock Systems to customers directly and through a number of business partners, including a network of value-added resellers, systems integrators, and service provider partners. Close to 150 leading partners in 40 countries are actively selling Vblock Systems to a diverse global customer base. A number of partners also employ Vblock Systems as the foundation for their own hosted private and public cloud service offerings.

Converged Infrastructure: Quantifying the Value

To quantify the value associated with the benefits experienced using VCE's Vblock Systems, IDC interviewed 11 customers, nominated by VCE, to articulate their experiences using the platform. These diverse companies, which employ between 100 and 98,000 employees, are from North America and South America, Asia/Pacific, and Europe and represent a range of business sectors: healthcare, financial services, manufacturing, service providers, utilities, and government.

As varied as these companies were in regard to size, industry, and region, they also differed in their reasons for deploying Vblock:

- Four of these organizations were facing the same IT challenges that most organizations face today — aging infrastructure, rapid annual growth in data (usually exceeding 40% per year), increased requirements to maintain and account for information, and continued automation of business processes. In response, they had committed to a converged infrastructure strategy and chose Vblock Systems as their vehicle.

- Five of the companies had committed to moving to private cloud with the goal of providing cloud services to their internal organizations/business units (two), to other companies as a service provider (two), or as a hybrid cloud provider (one).

- Five of the companies have adopted Vblock Systems as their virtual desktop infrastructure (VDI) platform in addition to their platform for consolidation or private cloud. Those deploying VDI cited the ability to scale their VDI capability more easily with Vblock Systems as one of the key factors for their adoption.

- Most of the organizations, having developed confidence in the speed, scalability, and reliability of Vblock Systems, had moved critical application workloads (e.g., all SAP modules) to Vblock.

One company is deploying 55 systems. Each of the other respondents had deployed 2 to 10 Vblock Systems. These are highly virtualized systems with an average of 70 physical CPUs per Vblock but over 500 virtual server images, resulting in a ratio of up to 29 images per each virtualized physical server.

"... I think [VDI on Vblock] is great. … You've got standards that work … a highly scalable architecture … network backplane, fast storage, and everything's all close to where it's got to be, so you've got very few bottlenecks. The ability to scale is very good ...." — Infrastructure executive, U.K. service provider

IDC quantified the costs and benefits that these organizations incurred through the use of Vblock Systems and compared them with the costs of traditional environments. Table 2 summarizes the benefits, and the following sections discuss these findings.

TABLE 2

Business Value Effects of Vblock

Benefit Domain		Vblock Systems Impact	Measure
Agility	Time to deploy new infrastructure	Avoided configuration, cabling, and integration tasks normally associated with separate infrastructure elements	Reduced calendar time for deployment from 160 days to 40 days
	Staff time to configure/test/ deploy new infrastructure		Reduced staff time to configure/test/deploy by 79%
End-User Productivity	Reduction in user inactivity due to system/application outage and unavailability	Reduced downtime	Reduced downtime by 96% from 10.7 to 0.4 hours per year; reduced user productivity losses by more than $18,500 per 100 users per year
	Improvement in system performance driving end-user productivity increases	Improved throughput	Improved user productivity by almost $42,000 per 100 users per year
IT Staff Productivity	Reduction in IT staff time to manage and implement all aspects of datacenter operations	Reduced time to configure/test/deploy; simpler, one-source problem resolution for entire stack	Reduced IT staff costs by 38%, saving close to $7,300 per 100 users
IT Infrastructure Costs	Reduction in acquisition/maintenance expenditures on hardware (servers, storage, network, etc.) and software	Higher utilization of storage, server, and network resources; consolidated footprint; lower power usage	Reduced costs for storage by 50%, network hardware by 40%, servers by 66%, power by 16%; reduced facilities space requirements by 12%

Source: IDC, 2013

Agility/Speed Benefits

Interviews revealed that by migrating to a converged infrastructure, companies substantially improved business agility. Several respondents indicated that they purchased their Vblock System(s) because the technology enabled them to deploy infrastructure assets (hardware, network, storage, software) much more rapidly than they could have by building the converged infrastructure on their own.

On average, the "calendar time" involved in deploying additional new IT infrastructure (new server, storage, network capability) was reduced from an average duration of 160 days to only 40 days. Companies also reported a 79% reduction in the internal IT staff time to configure, test, and deploy this infrastructure. Companies typically using systems integrators for their server deployment reduced their installation costs by 30%.

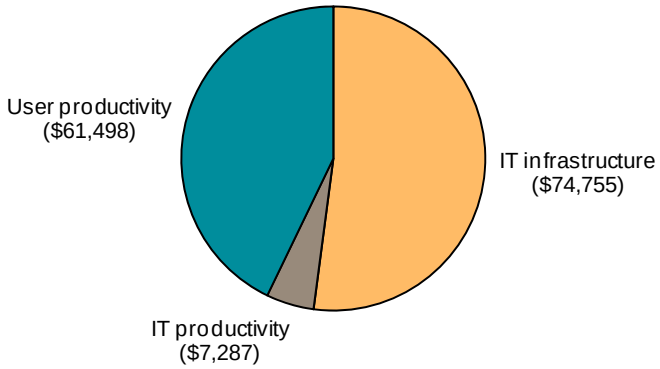
In the words of one service provider, "A Vblock itself only takes five days. In other words, if I wanted to take the amount of storage … and compute capacity that a Vblock has, and use a traditional architecture to deploy it … getting it deployed would easily take me two to three months." Cutting the time to roll out new IT services so dramatically enhances IT staff productivity and agility. IT staff can scale and better serve business needs.

Efficiency Benefits

Respondents gained significant financial benefits from three main categories of efficiency improvements (see Figure 3).[1] When we compared the costs of providing a converged infrastructure platform with the costs of providing a traditional, nonconverged platform, we found that the companies in our survey increased total user productivity by more than $61,000 per 100 users per year through a combination of increasing system speed and performance and reducing outages. They also increased IT staff productivity (IT staff time to manage and implement all aspects of datacenter operations) by more than $7,000 per 100 users per year and reduced IT infrastructure costs by close to $75,000 per 100 users.

FIGURE 3

Annual Benefits per 100 Users



Total = $143,540

Source: IDC, 2013

The in-depth surveys with these respondents shed light on how Vblock Systems delivered these benefits. The converged model appears to enable more efficient use of the available IT capacity than traditional IT siloed models allow. Certain key performance indicators of IT efficiency (see Table 3) highlight the efficiency improvements. The table compares the efficiency performance indicators for

[1] Note: IDC's Business Value tables and figures use a standard ratio of cost/benefit per 100 users to rationalize the data and allow readers to scale the factors proportionally to match the size of their organization.

pre-Vblock Systems, Vblock Systems, and traditional infrastructures. The table shows that Vblock Systems enabled the organizations in the study to deliver 60% higher storage utilization and to almost double their networking port utilization — a 93% increase compared with their non-Vblock System operations. The higher utilization rates drive down hardware costs and make long-term infrastructure planning more reliable and efficient.

TABLE 3

IT Infrastructure Efficiency Performance Indicators

Performance Indicator	Traditional	Pre-Vblock Systems	Vblock Systems
Storage utilization (%)	40	50	80
Networking port utilization (%)	16	40	77
Time to market for new service (days)	25	10	5

Notes:

"Traditional" indicates industry-standard rates as determined by multiple previous IDC surveys.

"Pre-Vblock Systems" and "Vblock Systems" refer to respondents' average non-Vblock and Vblock System environments, respectively.

Source: IDC, 2013

Optimized datacenter infrastructure. Migrating to a Vblock System environment enabled these organizations to purchase modular units of infrastructure tuned to deliver higher utilization of networking, compute, and storage resources. All the organizations in our study indicated that they selected Vblock Systems because they had committed to migrating to a converged infrastructure and felt they either could not do it themselves or could not do it as efficiently and effectively as VCE. The converged infrastructure delivered the following cost efficiencies:

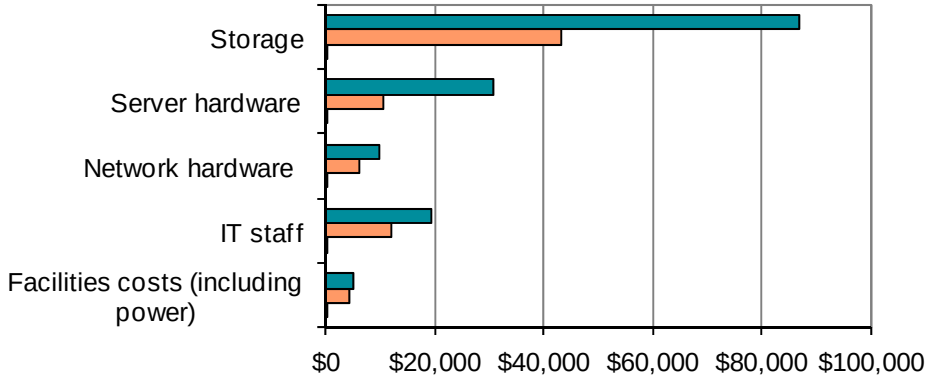
"The alternative, for us … is … basically, taking off-the-shelf, garden-variety architecture and trying to integrate it ourselves. Server … storage … and same with the network and SAN infrastructure. We could take that architecture and try and build it ourselves … or we can just bring in … a Vblock ...." — IT manager, utility firm

- **Storage.** Increased utilization reduced storage costs by 50%.
- **Network hardware.** Increased port utilization reduced network equipment costs by 40%.
- **Server hardware.** Increased CPU utilization decreased server costs by 66%. (On average, 85% of these organizations' servers were running a hypervisor.)
- **Power.** Higher utilization per CPU and reduction in cabling drove down relative power costs by 16%.
- **Facilities.** Higher utilization rates and consolidated footprint reduced cost for space requirements by 12%.

On average, organizations in this study reduced their annual infrastructure costs by nearly $3.6 million ($75,778 per 100 users). Figure 4 presents the respondents' cost savings for each infrastructure element.

FIGURE 4

IT Infrastructure Cost Comparison: Pre-Vblock Systems and Vblock Systems



	Facilities costs (including power)	IT staff	Network hardware	Server hardware	Storage
Pre-Vblock	$5,168	$19,177	$9,850	$30,630	$86,746
Vblock	$4,320	$11,890	$5,947	$10,350	$43,286
Savings %	16%	38%	40%	66%	50%

Note: Annual cost is per 100 users.

Source: IDC, 2013

Efficient IT staff operations. Our research indicated that the converged infrastructures also created efficiencies in IT staff operations by reducing the complexity and variety of platforms that the staff had to deploy and maintain. Purchasing preengineered, preintegrated, and pretested units of IT significantly reduces the staff time and resources dedicated to pre–system deployment activities, which take up 23% of staff time and resources in the datacenter. Release and upgrade guidance facilitates transition operations, reducing time spent on these activities and eliminating infrastructure interoperability problems.

These organizations ran their IT operations very efficiently prior to implementing Vblock. For example, if their IT staff costs for the infrastructure replaced by Vblock were extended to cover the entire datacenter, they would have been spending $1,066 per end user for IT staff support before implementing Vblock. A traditional organization spends an average of $2,165 per user annually for its datacenter. With Vblock Systems, these organizations are now spending $596 per end user.

Some respondents felt that one of the most important benefits offered by VCE came from the ability to troubleshoot issues from a single person or source. Rather than involving multiple separate specialists at different vendor companies — network engineers, hardware administrators, storage specialists — on a problem, companies found that a single, full-time support expert at VCE could evaluate all aspects of a problem and usually resolve it. In the words of one manager, "… One of the big things with VCE and the Vblock is that although

"... There are only 2 cables coming out of the box … 2 cables per Vblock. Before, [we'd have] … 32 blades … so you'd have 64 cables … going from the blade ... to your two switches, each with 2 cables, so you'd have 4 cables going to wherever you're storage is ... so it's 32 blades into 2 switches, Then the two switches going to the storage … so that's 4 … and then the switches going to the Internet, that's another 2. It's 64 plus 4 plus 2." — Global portfolio executive, service provider

there are different components … they support the entire converged piece of equipment for you, in the sense that if you have any problems with anything on that Vblock, you can call VCE, and they have … accredited engineers that understand the different components …." This saves time, phone calls, and specialist expense.

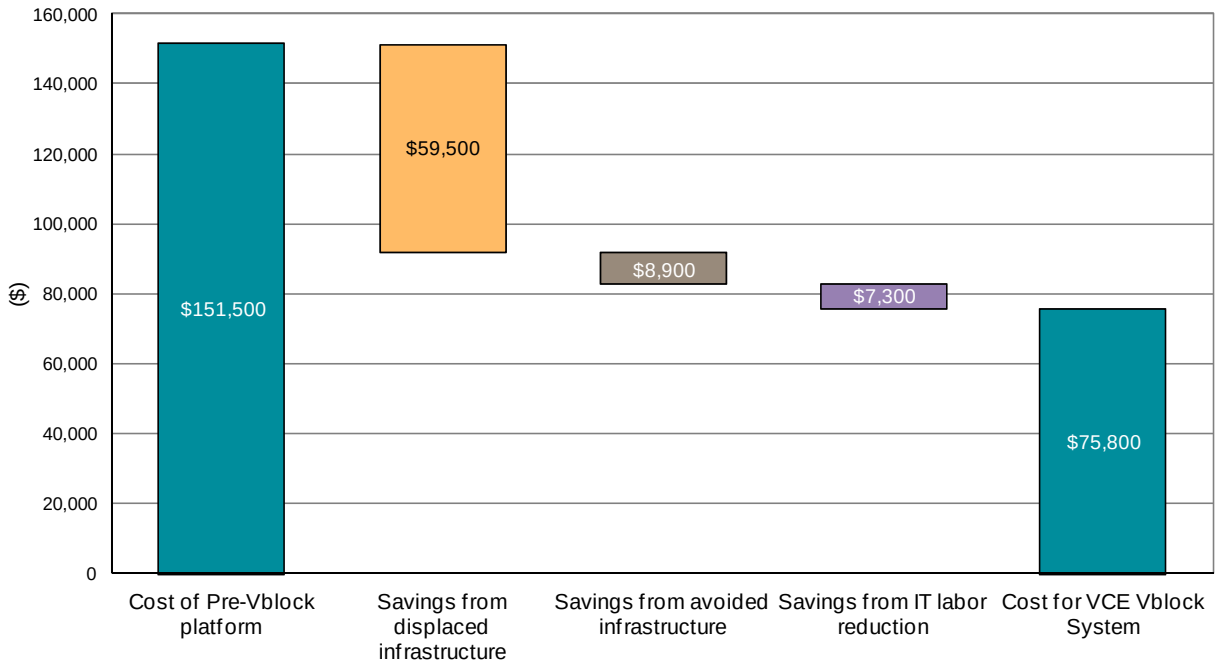
Additionally, the higher utilization rate means that more users can be supported by the same number of staff. The net result for the organizations in the study was a 38% decrease in staff costs. This increased productivity liberates IT staff resources to ensure higher quality of services, implement new initiatives more rapidly, and tackle projects that had been delayed for lack of such resources.

Lower total datacenter costs. Vblock Systems are accounting for 52% of the organizations' global infrastructure and 82% of their x86 environment. By implementing Vblock Systems, the organizations in our study were able to reduce the average annual cost per 100 users of their datacenters by 50%, from $151,500 to $75,800 (see Figure 5). The costs saved included:

- Costs associated with the aging infrastructure displaced by Vblock Systems, which no longer needs to be refreshed and maintained
- Costs avoided by not having to invest in new infrastructure on the traditional model to support the growth in datacenter requirements
- IT staff cost savings mentioned previously

FIGURE 5

Cost Differentials: Annual Costs of Pre-Vblock Systems Versus Annual Costs of Vblock and Sources of Cost Changes



Source: IDC, 2013

Reliable IT services. In addition to creating a more efficient infrastructure, VCE's converged solution helps IT deliver more reliable services. As Table 4 indicates, the organizations in the study were able to reduce the number of downtime hours per year by 96%. The reasons for the improvement are the following:

- Consolidated footprint — fewer sites, collapsed communication lines, compressed networking
- Less complex environment designed to operate as one — fewer hardware and software incompatibilities and aging issues as well as fewer touch points, reducing the probability of human error
- Freed-up IT staff resources can focus on quality

The value of lower downtime is that users are more productive and application utilization increases. In addition, operational and business risk is reduced.

TABLE 4

Downtime Performance Indicators

Performance Indicator	Pre-Vblock Systems	Vblock Systems	% Savings
Annual server downtime incidents	16.2	1.0	94
Hours per incident	1.6	1.0	36
Annual downtime hours per user	10.7	0.4	96

Source: IDC, 2013

Converged Environments Deliver ROI

IDC uses a three-step methodology for conducting ROI analysis:

- **Gather quantitative benefit information during the interviews using a before-and-after assessment.** In this study, the benefits included IT staff productivity increase, user productivity increase, and IT cost reduction.
- **Create a complete investment (three-year total cost analysis) profile based on the interviews.** Investments go beyond just the solution's hardware and software. IT departments spent staff time installing and configuring the new solution, removing old equipment and/or software, and then maintaining the new solution over three years. Ancillary costs directly related to the solution, such as user input to planning, outsourced installation, configuration or maintenance costs, and IT staff or user training, are also included in the analysis.
- **Calculate the ROI and payback period.** IDC conducts a depreciated cash flow analysis of the benefits and investments over a three-year period.

Because the full benefits of the solution are not available during the deployment period, IDC prorates the benefits on a monthly basis and subtracts the appropriate amount for the deployment time from the first-year savings.

IDC uses a discounted cash flow methodology to calculate the ROI and payback period. ROI is the ratio of the net present value (NPV) of the net benefits and the discounted investment. Payback period is the point at which cumulative benefits equal the initial investment. IDC uses a standard 12% discount factor (allows for risk and the missed opportunity cost that could have been realized using that capital).

The three-year ROI analysis shows that on average, the organizations in this study spent $85,738 per 100 users ($75,793 for hardware plus additional installation and other costs) deploying and maintaining Vblock Systems and received $337,579 per 100 users in benefits for an NPV of $251,841. The companies saw a payback period of 11.6 months and an ROI of 294% (see Table 5). Some of the organizations interviewed are making five-year investments in Vblock Systems — the additional two years of accrued benefits increase their ROI to 435%.

TABLE 5

Three-Year ROI Analysis per 100 Users

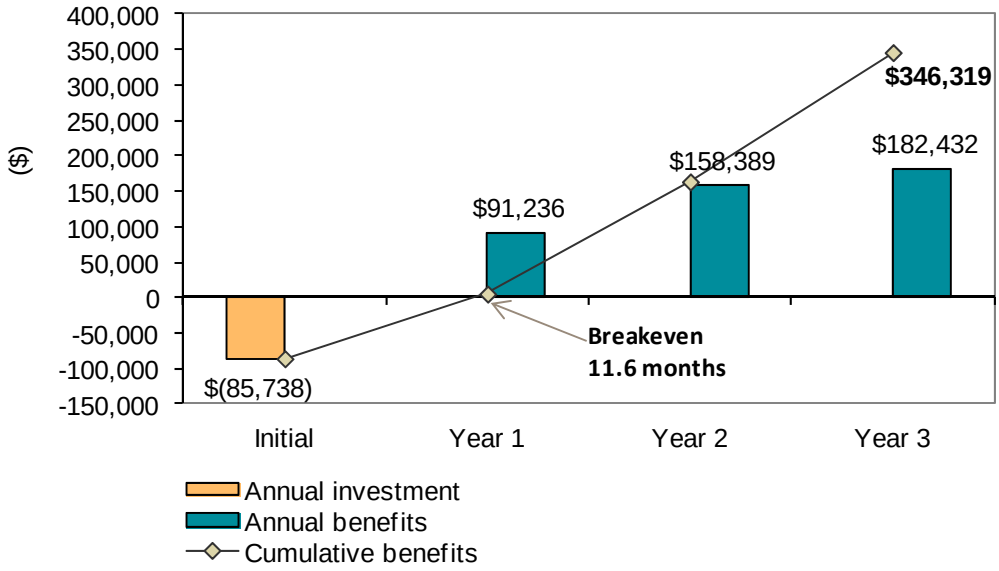
Discounted net benefit	$337,579
Investment	$85,738
Net present value (NPV)	$251,841
ROI = NPV/investment	294%
Payback period	11.6 months
Discount rate	12%

Source: IDC, 2013

Figure 6 illustrates the three-year investments and benefits associated with a Vblock System deployment. Initial installation of VCE Vblock cost $85,738 per 100 users ($2.2 million per Vblock). Based on that investment, the organizations realized average annual benefits of $144,019 per 100 users and a cumulative undiscounted net savings of $346,319 per 100 users.

FIGURE 6

Vblock Systems Investment and Benefits over Time per 100 Users



Source: IDC, 2013

Challenges/Opportunities for VCE

IDC's research revealed that the best way to maximize the value of converged systems such as Vblock is to deploy and use them extensively. VCE must ensure that this benefit extends beyond a single datacenter. Organizations need a range of systems (in terms of capacity and cost) based on a common design and management framework that deliver consistent benefits in remote datacenters. (e.g., datacenters deployed in new geographies to support business expansion). VCE recently introduced a wider family of Vblock Systems to address more diverse needs, but it must also ensure that it has the right partners to assist customers that want to deploy and operate the converged infrastructure in new regions or on collocation datacenters.

IDC's interviews as well as other conversations with IT executives make it clear that organizational challenges far outweigh technical challenges when it comes to taking full advantage of converged infrastructure. VCE and its partners must continue to enhance their ability to assist in product evaluation, budgeting, and IT operations management. Leading-edge adopters of converged infrastructure have dealt with these changes and evolved. Other organizations with less experience in this transition will need help to navigate the transition to tighter internal infrastructure standards, realigned datacenter organization, staff retraining, and financing and acquisition approaches. VCE and its business partners must continue to educate customers and help them navigate the change.

WHAT CONVERGED SYSTEMS MEAN FOR THE DATACENTER EXECUTIVE

The transition to converged systems in datacenters will play a vital role in helping your IT team meet the fast-evolving business needs of your organization. It will also be critical in efforts to reduce both the capital costs and the operational costs of running datacenters and the applications/information residing in them. You must demand that IT suppliers deliver solutions that continue to tighten the links between the hardware elements, provide an open operating environment, and support full orchestration of resources across the entire datacenter and then across multiple datacenters.

Adoption of more efficient and more capable systems, however, is not sufficient. Your IT organization must adjust existing product selection and management practices to fully take advantage of converged systems. When speaking with IT executives considering broader use of this approach, IDC has three major recommendations:

- Embrace standardization of hardware and software components as much as possible because it can simplify management and interoperability challenges, but don't stop at the OS. The shift to a converged infrastructure should also be a trigger point for greater standardization of platform and application profiles, which will significantly accelerate application deployment and updating.
- Implement a mature, centralized, and automated approach to management operations with added investment in performance monitoring and analytics (but not solely at individual component levels) and install a chargeback system.
- Revamp the IT organization structure to move away from device-specific (e.g., server, storage, and network) administration and move toward an IT resource–oriented (e.g., database, collaboration, and archiving) and IT services–oriented (e.g., transaction, content serving, analysis) structure.

In addition, the IT executive team should meet regularly with your finance department because a shift to a converged systems approach, and the continued enhancement of converged systems in term of usability and capacity, will require a new, more incremental, approach to IT budgeting and cost allocation. Don't let organizational/institutional barriers stand in the way of maximizing the full value of this important datacenter effort.