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## Business Value Highlights

**4.6**

times more applications developed/delivered per year

**41%**

less IT time spent keeping the lights on

**4.4**

times faster time to market for services/products

**96%**

less downtime

**338%**

more IT time spent on business enablement

**55%**

faster application development life cycle

**36%**

reduced IT infrastructure and IT infrastructure staff costs

**2.1%**

productivity increase (all employees)

**2.4%**

higher revenue

# The Business Value of VCE Vblock Systems: Leveraging Convergence to Drive Business Agility

## EXECUTIVE SUMMARY

In the past decade, information technology (IT) evolved from an enabler of back-office business processes to the very foundation of a modern business. In the increasingly digital and mobile world, the datacenter is often the first and most frequent point of contact with customers. The ability to innovate quickly lies at the heart of today's changing business models. Businesses expect their IT investments to accelerate their pace of innovation, provide flexibility to meet new demands, and continually reduce the costs of operations.

Converged infrastructure is essential for many companies to ensure that their datacenter infrastructures can meet today's challenges. The business rationale for deploying converged infrastructure goes far beyond traditional IT feeds and speeds. Customers using converged solutions like VCE's Vblock Systems (Vblock) realize lower costs, greater levels of utilization, and reduced downtime. VCE customers in this study recognized business benefits such as improved organizational agility, faster application development, increased innovation, and improved employee productivity.

IDC interviewed 16 VCE Vblock Systems customers to understand and quantify the benefits delivered by their Vblock converged infrastructure deployments. Vblock Systems are built by VCE using compute, network, and storage technologies and virtualization software from Cisco, EMC, and VMware.

IDC found that by using Vblock Systems, these organizations recorded improved business outcomes and that these improvements are increasingly driving IT investment decisions. All VCE customers interviewed for this study generated substantial business value by consolidating their IT infrastructures with Vblock. IDC calculates that these VCE customers will generate five-year discounted benefits worth an average of \$384,202 per 100 users by using Vblock, which will result in an average return on investment (ROI) of 518% and a payback period of 7.5 months.

Drivers of economic benefits include:

- » Improved IT agility, which reduces the time needed to deliver applications and services and provision datacenter resources — 4.4 times faster time to market for new services/products
- » Greater business innovation as IT staff spend less time “keeping the lights on” and more time on innovation projects including mobile and analytics — 41% less time spent keeping the lights on
- » Increased performance, driving higher levels of customer services and satisfaction — 4.6 times more applications developed/delivered per year
- » Higher levels of cost-effectiveness, scalability, and reliability in the technology infrastructure — 96% less downtime

Converged infrastructure enables IT to rapidly deploy proportional infrastructure resources of every type (compute, network, storage, and advanced data services) while reducing operational overhead. Its effective use is a key enabler of business flexibility.

## In This White Paper

This study presents the data and IDC’s analysis of the business value that 16 VCE customers achieved by deploying Vblock Systems. These organizations represent a wide variety of countries and industry verticals, ranging in size from 400 to 200,000 employees, with a mean employee base of 27,113. On average, these VCE customers have deployed five Vblock Systems to support an average of 282 business applications used by 85% of all IT users at their organizations. According to VCE customers, they are running important business applications on the platform, and a number of them are supporting IT initiatives such as private cloud, Big Data and analytics, and centralized virtual desktop (CVD).

## Strategic Focus Shifting to Speed and Agility and Enabling 3rd Platform Innovation

The world of IT is undergoing a massive shift from the PC-based client/server-centric computing model of the 2nd Platform to a model dominated by cloud, mobile, Big Data and analytics, and social technologies. IDC refers to this as the 3rd Platform of computing. Today, virtually all business and technical innovation is occurring on 3rd Platform technologies, and the shift to the 3rd Platform is enabling thousands of high-value, industry-transforming solutions and services. 3rd Platform technologies are also driving the development of entirely new business models, altering and improving customer experience, and delivering new insights that are the sources of competitive advantage.

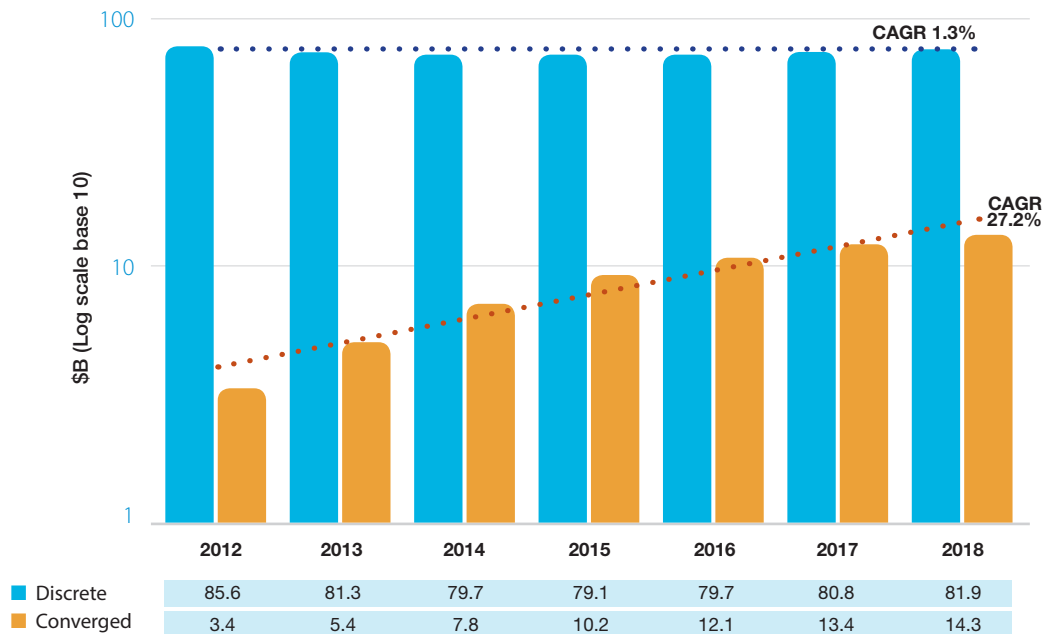
In 3rd Platform-based business, speed and agility are key. No longer can business units wait weeks or months for the infrastructure required to deploy or scale new applications or services. They require the flexibility to quickly scale their compute capacity up or down for any particular application to respond to changing use cases and patterns of demand.

### Converged Infrastructure Quickly Becoming Mainstream

Given the customer experience described previously, it should come as no surprise that converged infrastructure deployments are rapidly gaining traction in enterprise datacenters around the world. Many enterprises are investing heavily on converged infrastructure as their primary method of implementing new capacity moving forward. IDC estimates that in 2015, \$10.2 billion will be spent on converged systems, representing 11.4% of total IT infrastructure spending, and that this number will grow to \$14.3 billion by 2018, representing 14.9% of total IT infrastructure spending. This will represent over 12.3% of the total spending on networking, 11.5% of the spending on servers, and 22% of the spending on storage by 2018 (see Figure 1).

FIGURE 1

### Converged Systems Outlook, 2012–2018



Note: For details, see *Worldwide Integrated Systems 2014–2018 Forecast: State of the Market and Outlook* (IDC #252616, November 2014).

Source: IDC, 2014

Further, the strategic rationale behind deploying converged infrastructure is also evolving. As recently as two to three years ago, many businesses' primary rationale was to increase utilization and reduce operational costs around managing compute, storage, and network environments separately. While those benefits are still relevant, companies are expanding their strategic rationale because converged infrastructure also provides significant benefits in terms of enterprise agility and time to market. Companies are realizing that converged infrastructure is a critical enabler of 3rd Platform technologies and innovation.

## VCE Vblock Systems

In less than five years of being on the market, VCE Vblock Systems has now exceeded a \$2 billion annual bookings run rate. VCE engineers and factory integrates compute and networking from Cisco, storage from EMC, and virtualization from VMware and its own system software and sells and supports these infrastructure systems for its customers. VCE is an EMC Federation business.

VCE announced its new VxBlock System (VxBlock) offering in March 2015. VxBlock brings greater levels of flexibility and supports software-defined networking (SDN) technologies to provide customers with greater choice when it comes to their datacenter infrastructure.

### Driving IT Innovation with Vblock

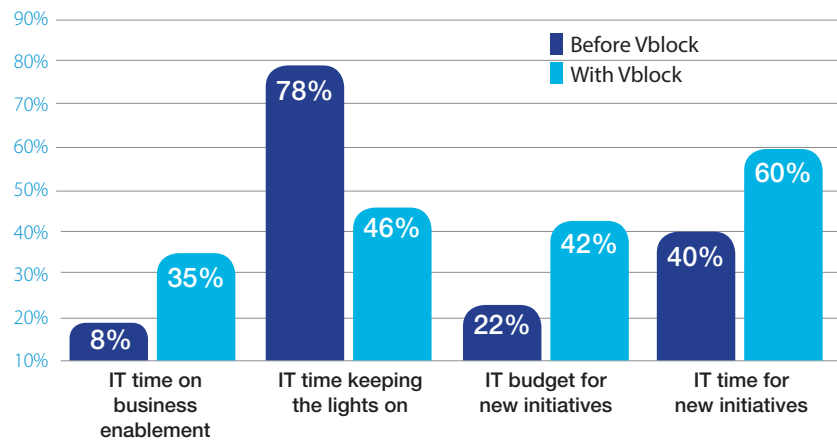
By enabling cost and time efficiencies, Vblock Systems help customers better allocate budget and staff resources. VCE customers are better able to focus IT on business enablement and innovation. They dedicate less staff time to keeping the lights on even as they improve their service levels. IDC found that companies that used to spend 78% of time and budget keeping the lights on now spend only 46%. Looked at in another way, IT staff spend on business enablement increased by more than 300% from 8% to 35% (see Figure 2). These organizations increased the percentage of their IT budget spent on new initiatives by 97%. This type of increase aligns very well with 3rd Platform priorities.

A United States-based healthcare company said that its Vblock infrastructure helped enable its Big Data and analytics initiatives. As an IT manager with the firm said, "By implementing Vblock, you're able to take staff and redirect them away from working in the datacenter to do other activities that you didn't have time to do before." The company has been able to leverage analytics to support its marketing efforts and drive new business opportunities.

"The real value of Vblock is that we can take resources that used to spend their time in the lab and turn them around and have them work on mobility solutions. If we didn't have these mobility solutions, I would believe that our sales figures would not be as good."

FIGURE 2

## Innovation and Business Enablement with Vblock



Source: IDC, 2015

### Vblock Enables Agile and Elastic IT Environments

Every VCE customer interviewed reported that its Vblock environment is contributing to better business outcomes by making the IT environment more agile and elastic, driving more innovation, and enabling the company to better serve users and customers.

With Vblock Systems in place, IT teams can move faster and more flexibly. For example, organizations interviewed deployed a server in 84% less time. IT infrastructure that used to require days or even weeks to deploy can now be deployed in hours.

VCE customers interviewed are deploying applications in 66% less time than before and releasing new services in 77% less time than with their legacy environments (see Table 1). Just as important as the ability to develop and provision services rapidly is the ability to quickly scale those services up (or down) to meet changing needs. VCE customers told us their application development teams have access to capacity when they need it, and they leverage this infrastructure to reduce application development cycles.

This speed directly drives innovation, new services, and, in many cases, new revenue streams and higher customer satisfaction.

A United States–based software developer said that the use of Vblock shortened its application development life cycle, which is critical in the highly competitive software market. An IT manager said that his organization got “a pat on the back from the business side when they closed out a couple of big deals and said that our response time was the reason for that.”

“We’re growing a new research collaboration capability for our research professionals, and as it’s taking off, we’ve needed to scale very, very quickly to accommodate the growth, and it’s simply been a matter of turning up new capacity in the Vblock environment. Historically, it would have been a very protracted, complex process.”

TABLE 1

Business Agility KPIs	Before Vblock	With Vblock	Benefit	Advantage (%)
Time to provision server (days)	7.1	1.1	6.0	84
Time to deploy application (weeks)	4.6	1.6	3.0	66
Time for application development life cycle (weeks)	40.0	18.1	21.9	55
Time to market for new services/products (days)	41.8	9.5	32.3	77

Source: IDC, 2015

“Vblock helps us scale easier. For example, we can deploy the VM to support a new service — or onboard a new company — in minutes as opposed to maybe weeks.”

### Providing Better Business Outcomes with Vblock

With freed-up resources and improved IT agility, VCE customers reported that they are better able to serve users and customers. More time for innovation can help organizations develop new types of applications and services, including mobile and self-service options, increasing the value of these applications. And the reliability of Vblock helps ensure that customers experience minimal interruptions to applications and services (see Table 2).

A European telecommunications company found that Vblock Systems removed infrastructure as a roadblock to generating substantial additional business. Vblock enabled it to launch new services it could not have supported without significant additional investment to its legacy infrastructure.

TABLE 2

Customer Experience KPIs	Before Vblock	With Vblock	Advantage (%)
Number of applications developed/delivered per year	24	111	358
Time to develop and deliver each application (weeks)	36	14	61
Share of applications available to mobile users (%)	20	60	200

Source: IDC, 2015

IDC calculates that over a five-year period, the organizations interviewed for this study will earn an average of \$6.20 for every \$1.00 invested in VCE’s Vblock Systems.

### Operational Value of VCE Vblock

IDC calculates that over a five-year period, the organizations interviewed for this study will earn an average of \$6.20 for every \$1.00 invested in VCE’s Vblock Systems. This is equivalent to \$13.07 million per year per organization, or \$156,932 per year per 100 users. These financial benefits stem both from Vblock serving as a cost-effective, efficient, and reliable converged infrastructure solution and from the ability of the organizations to leverage Vblock to provide greater IT agility and IT innovation and their improved ability to serve customers and achieve better business outcomes.

At a foundational level, VCE customers have benefited from deploying Vblock because it serves as a more efficient infrastructure solution. This enables cost savings and staff productivity gains as summarized in Table 3.

TABLE 3

Benefits of Vblock Systems			
	Vblock Systems Impact	Annual Benefit per 100 Users (\$)	Annual Benefit per Customer (\$M)
IT infrastructure cost savings	VCE customers used Vblock as a consolidated, cost-effective, and scalable foundation for their growing businesses.	48,583	4.05
IT staff productivity gains	VCE customers spent less time “keeping the lights on” with their Vblock environments because of their converged and simplified nature, reducing the cost of providing IT services and freeing up time for innovation.	30,961	2.58
Risk mitigation — user productivity benefits	VCE customers benefited from Vblock’s reliability as a platform for providing services and applications, minimizing disruptions to users and customers.	31,234	2.60
Business productivity benefits	Vblock enabled organizations to become more agile, more innovative, and more customer friendly, thus serving as a business enabler.	46,154	3.84

Source: IDC, 2015

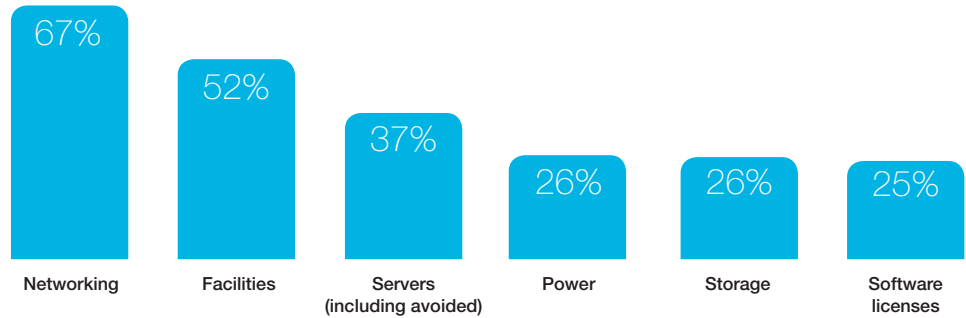
The primary reason that we chose Vblock was that we ... had run out of space within our datacenter and run out of power. ... We had to radically rethink how we were delivering technology to the company.

### Vblock as a Cost-Effective, Reliable, and Efficient IT Infrastructure

VCE customers say Vblock is a cost-effective, reliable, and efficient infrastructure for running critical business applications. Most customers interviewed need fewer physical servers to support growing workloads and are taking advantage of converged infrastructure to cut costs for hardware, power and facilities, and software licenses. Figure 3 presents percentage savings by area of IT infrastructure spending.

**FIGURE 3**

### Infrastructure Cost Reductions and Avoidances with Vblock

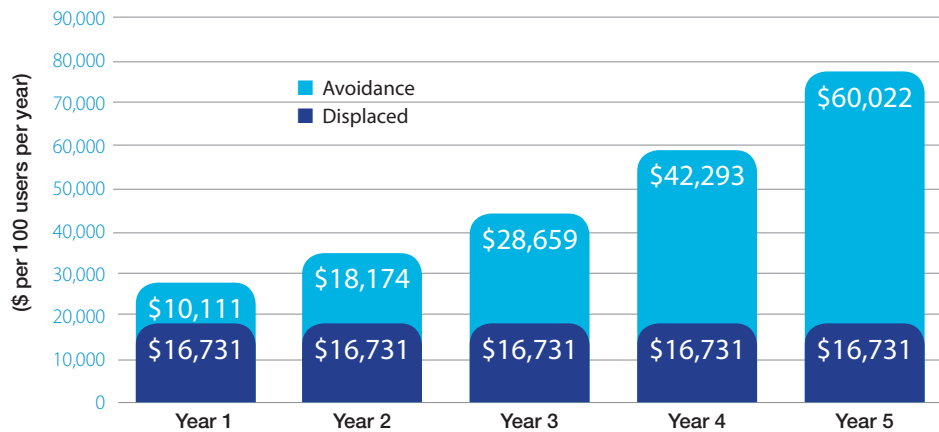


Source: IDC, 2015

Vblock can be quickly deployed with sufficient compute and storage capacity to handle service and business application growth, leading to significant reductions in datacenter infrastructure costs (see Figure 4).

**FIGURE 4**

### Infrastructure Benefits per 100 Users with Vblock



Source: IDC, 2015

VCE customers also mentioned that they have generated significant IT staff efficiencies in a wide variety of areas such as deployment and server management (see Figure 5). IDC calculates that VCE customers achieved 71% efficiencies in terms of managing their Vblock environments compared with their pre-Vblock infrastructure. Customers reported taking

“The important thing about Vblock is that it’s taking an infrastructure that used to take a lot of time and turning it into a commodity ... I can take those resources that used to spend their time in the lab and have them work on mobility and collaboration.”

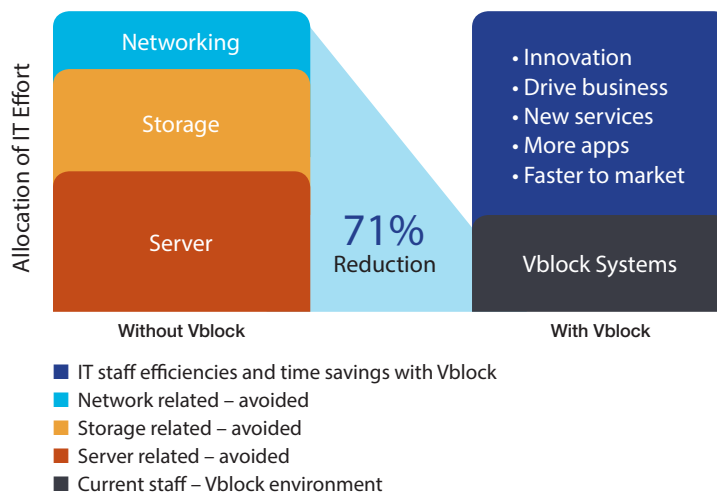


advantage of converged environments to transform their IT organization and eliminate IT silos. Customers indicated that IT staff productivity gains have been particularly evident in the following areas:

- » **Server, storage, and network administration.** Customers need fewer resources to manage the server, storage, and network aspects of their Vblock environment.
- » **Patching.** Customers reduced risk and benefited from timely patch updates and information from VCE saving substantial staff time and helping minimize the likelihood of outages and problems.

FIGURE 5

### IT Staff Efficiencies — Vblock Environment



Source: IDC, 2015

“With Vblock, what we have is a multiskilled IT team. They may have their areas of specialization, but they can all do a little bit of everything, so we can make better use of them because they can cover a wider gamut of tasks.”

### Risk Mitigation — User Productivity

On average, customers interviewed reported 96% less downtime. They experienced 90% fewer downtime instances and resolved downtime 61% faster since moving to Vblock. VCE customers indicated that Vblock helped them deliver more reliable services, minimizing business risk and making users more productive (see Table 4). Of the 16 customers interviewed, only 6 reported any incidents of downtime after deploying Vblock. One customer mentioned going from an average of 35 user-impacting downtime incidents per month to zero, and more than half of the customers interviewed said they have yet to experience a single instance of downtime since deploying Vblock.

TABLE 4

Risk Mitigation — User Productivity KPIs				
	Before Vblock	With Vblock	Benefit	Advantage (%)
Number of unplanned downtime incidents per year	50.4	5.2	45.2	90
Time to resolve (hours)	5.4	2.1	3.3	61
Total downtime per user per year	8.0	0.3	7.7	96

Source: IDC, 2015

“Vblock helps us capture customers. We make and market software, so time to market is super important ... We got a pat on the back from the business side when they closed out a couple of big deals and said our response time was the reason for that.”

### Gaining Tangible Financial Benefits with Vblock

For VCE customers, improved IT agility, greater innovation, and better customer experience led to tangible financial benefits. Organizations interviewed for this study are capturing on average 2.4% more revenue and increasing IT user productivity by 2.1%. For these customers, these Vblock-driven business outcomes have become a substantial competitive advantage and bottom-line benefit (see Table 5).

TABLE 5

Improved Business Outcomes with Vblock	
Business Outcome Impact	Benefit (%)
Revenue increase from improved operations	2.4
Net employee productivity increase	2.1
Improved application performance	38
Reduced time per query — analytics	75
Increase in customers using self-service capabilities	30

Source: IDC, 2015

## ROI Analysis

IDC used the following three-step method for conducting its ROI analysis:

- » **Gathered quantitative benefit information during the interviews using a before-and-after assessment.** In this study, the benefits included user productivity increase, IT cost reduction, and IT staff productivity increase.

- » **Created a complete investment (five-year total cost analysis) profile based on the interviews.** Investments go beyond the solution’s hardware and software. IT departments spend staff time installing and configuring the new solution, removing old equipment and/or software, and then maintaining the new solution over five years. Ancillary costs directly related to the solution, such as user input to planning; outsourced installation, configuration, or maintenance; and IT staff or user training, are also included in the analysis.
- » **Calculated the ROI and payback period.** IDC conducted a depreciated cash-flow analysis of the benefits and investments over a five-year period.

IDC uses a discounted cash flow methodology to calculate the return on investment and payback period. ROI is the ratio of the net present value (NPV) and discounted investment. The payback period is the point at which *cumulative* benefits equal the initial investment.

IDC’s five-year ROI analysis shows that VCE customers interviewed for this study will invest a discounted total of \$5.18 million in Vblock, including the costs of purchasing, maintaining, and supporting the converged solutions (see Table 6). IDC calculates that in return, these organizations will generate discounted business benefits worth \$32.01 million, resulting in an average ROI of 518% and breakeven time period of 7.5 months.

**TABLE 6**

Five-Year ROI Analysis		
	Average per Customer	Average per 100 Users
Benefit (discounted)	\$32.01 million	\$384,202
Investment (discounted)	\$5.18 million	\$62,201
Net present value (NPV)	\$26.83 million	\$322,001
Return on investment (ROI)	518%	518%
Payback period	7.5 months	7.5 months
Discount rate	12%	12%

Source: IDC, 2015

## Challenges/Opportunities

IDC sees a number of challenges and opportunities for VCE as it continues to bring its Vblock offerings to market.

Challenges include:

- » **Overcoming steeper up-front customer investment.** Because converged infrastructure elements contain all major infrastructure components — server, storage, and networking — they can require additional levels of up-front investment, not only in terms of capital expenditures but also in terms of deployment, training, and support. Coming up with the financial flexibility to support this up-front investment may present a challenge for some organizations.
- » **Customer desire to pursue best-of-breed approach.** Some IT organizations prefer a best-of-breed approach, sourcing servers, storage, and networking from separate vendors, each according to the strengths of their underlying offerings. Some customers prefer to keep vendors in a competitive mode in order to find best-in-class solutions at the lowest possible cost. Putting all their eggs in a single converged infrastructure basket undermines the ability of customers to pursue such strategies.

Opportunities include:

- » **Pushing beyond the datacenter.** IDC research over the years has illustrated the fact that the best way to maximize the use of converged infrastructure is to use them extensively throughout the enterprise. VCE needs to ensure that its solutions work not only in a single datacenter environment but also in organizations with multiple datacenters, as well as at the smaller, campus scale. With its family of Vblock products that scale according to different needs, VCE is positioning itself to take advantage of this opportunity.
- » **Moving up the cloud stack.** One of the primary use cases for converged infrastructure is to provide a scalable and agile IT foundation for the creation of new cloud-based services. The development teams building such services want their infrastructure solution to move beyond provisioning of basic compute, storage, and network services. They also need more advanced data and application-level services. By working with higher-level application and cloud development platforms, VCE is positioning itself as a provider of turnkey cloud service development platforms for new business innovation.

## Conclusion

IDC's interviews with 16 VCE Vblock customers demonstrated that converged infrastructure deployments dramatically improved time to deploy and scale new services and freed up IT resources to focus on more value-added, strategic activities, all while reducing operational costs. As organizations continue to migrate their datacenter infrastructure to converged systems, they will introduce greater levels of flexibility into their IT environments and better position themselves as 3rd Platform innovators.

## Appendix

### Methodology

IDC's standard ROI methodology was used for this project. This methodology is based on gathering data from current users of the technology as the foundation for the model. Based on these interviews, IDC performs a three-step process to calculate the ROI and payback period:

- » Measure the savings from reduced IT costs (staff, hardware, software, maintenance, and IT support), increased user productivity, and improved revenue over the term of the deployment.
- » Ascertain the investment made in deploying the solution and the associated training and support costs.
- » Project the costs and savings over a five-year period and calculate the ROI and payback for the deployed solution.

IDC bases the payback period and ROI calculations on a number of assumptions, which are summarized as follows:

- » Time values are multiplied by burdened salary (salary + 28% for benefits and overhead) to quantify efficiency and manager productivity savings.
- » Downtime values are a product of the number of hours of downtime multiplied by the number of users affected.
- » The impact of unplanned downtime is quantified in terms of impaired end-user productivity and lost revenue.
- » Lost productivity is a product of downtime multiplied by burdened salary.

- » Lost revenue is a product of downtime multiplied by the average revenue generated per hour.
- » The net present value of the five-year savings is calculated by subtracting the amount that would have been realized by investing the original sum in an instrument yielding a 12% return to allow for the missed opportunity cost. This accounts for both the assumed cost of money and the assumed rate of return.

Because every hour of downtime does not equate to a lost hour of productivity or revenue generation, IDC attributes only a fraction of the result to savings. As part of our assessment, we asked each company what fraction of downtime hours to use in calculating productivity savings and the reduction in lost revenue. IDC then taxes the revenue at that rate.

Further, because IT solutions require a deployment period, the full benefits of the solution are not available during deployment. To capture this reality, IDC prorates the benefits on a monthly basis and then subtracts the deployment time from the first-year savings.

## Demographics

Table 7 provides an aggregate profile of the organizations interviewed for this white paper.

**TABLE 7**

Demographics of Interviewed Organizations		
	Range	Average
Number of employees	400–200,000	27,113
Number of IT staff	22–4,000	756
Percentage of employees using IT services for jobs	20–100%	86%
Percentage of users supported by Vblock Systems	10–100%	85%
Percentage of users who are mobile users	2–100%	37%
Number of servers (physical)	50–5,000	584
Number of servers (virtual)	140–11,000	4,591
x86 servers as a percentage of total servers	75–100%	95%
Percentage of total x86 servers running on Vblock Systems	3–100%	54%
Number of business applications	25–10,000	1,627
Percentage of business applications running on Vblock Systems	1–100%	55%

Source: IDC, 2015

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