EXECUTIVE SUMMARY

Enterprise IT departments are facing increasing pressure to say "yes" to the business more often. They must provide better, faster service to their users while at the same time reducing costs. Given the sizeable investment of providing and managing the IT infrastructure that supports day-to-day operations, companies are taking a closer look at how to deliver IT services more cost effectively to the lines of business these services support.

Enterprises are increasingly transitioning from company-owned IT hardware, software, and services to more cost-effective, agile, and flexible IT service models using the latest advances in cloud computing technology. Though some have expressed concern over the inability of commodity public clouds to deliver the required performance, security, and application portability, they're finding that hybrid and enterprise public cloud models can overcome these limitations. Enterprise-class hybrid cloud technology enables workloads to be moved between a private datacenter and compatible public cloud services. By offloading much of their IT burdens to hybrid and enterprise public clouds, organizations can not only significantly reduce IT costs, but also enhance quality of service and increase IT and overall business agility.

SAY YES TO THE BUSINESS MORE OFTEN

In a global economy where companies that move quickly gain the competitive advantage, and where technology is central to every strategic decision, IT responsiveness is paramount to business success. Companies need on-demand computing resources to facilitate aggressive business development campaigns; enable multi-site collaboration; change customer-facing websites; produce dynamic test and development environments; and even support low-priority applications for individual departments. However, many IT organizations lack the necessary agility due to infrastructures that are too complex and brittle to easily adapt to meet market and client demands.

In addition, IT organizations often lack the resources and budget to undertake extensive planning and delivery cycles. Therefore, they are focusing on reducing the substantial investments in their IT infrastructures, where IT is continuously spending on maintenance, upgrades, and other related administration and management activities. With the majority of current IT investments focused on maintenance, insufficient resources are often left for business-critical innovations. Furthermore, getting projects off the ground quickly is often impossible using a traditional IT approach. Many processes are involved to ensure successful delivery, including design and requirements gathering; writing and posting RFPs or RFQs; procurement and shipping; installation and testing; and other activities.

IT organizations are faced with difficult infrastructure decisions related to storage, server, network, and compute requirements for new projects. After these decisions are made and the delivery processes are finalized, some applications will continue to grow, while others will eventually reach a plateau, and still others will need to be retired after serving their purpose. The scenarios can

be hard to predict and these days, companies can't afford to over-provision and manage excess capacity for periodic peaks in demand to accommodate maximum predicted workloads for new solutions and services. At the same time, IT decision makers must attempt to predict the actual usage of applications if they are using traditional means of delivering infrastructure.

Enterprise IT departments need a way to quickly spin up environments that can be resized and moved around on the fly, while only paying for the resources that are actually used. That's where enterprise cloud computing comes into play.

EMBRACE THE CHANGE

Companies must continually innovate to remain competitive. Many IT executives are searching for viable ways to change how they're currently delivering and managing IT infrastructures and services and free up more bandwidth so the business can focus on high priorities and innovation. At the same time, CIOs are beginning to realize the strategic implications of the cloud and its ability to change the way they do business.

According to the "CIO Global Cloud Computing Adoption Survey," a recent IDG Research study conducted globally among IT decision makers at enterprise companies, a significant number of CIOs view the cloud as "far more than a mechanism to support one-off projects or commodity business applications. Rather, it is a platform for IT transformation."[1] Some even feel the cloud can transform the business itself.

Applying new technologies and business practices in new ways enables resources to be redirected to yield better business outcomes. One such outcome is business agility, cited by the majority of IT decision makers as the top driver for cloud computing, followed by reducing IT infrastructure costs.

Business agility and reducing IT infrastructure costs are the top drivers of cloud computing among more than 600 global IT decision makers.
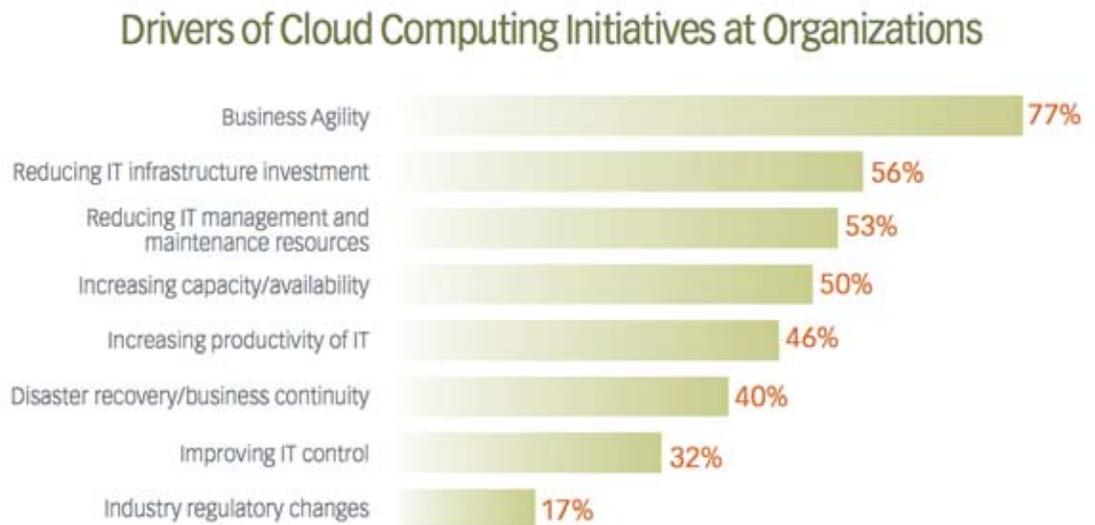

Figure 1: Top Drivers of Cloud Computing
(Source: IDG Research, *CIO Global Cloud Computing Adoption Survey*, January 2011)

FIND A WAY TO GET STARTED

The cloud isn't going away. In fact, IDG Research reveals that 67% of survey respondents are adopting cloud services now or planning to adopt them in the very near future, and 22 percent say they already have department- and enterprise-wide deployments. Eighty-eight percent of respondents say that cloud computing is either a critical, high, or moderate priority for their organizations over the next 18 months.[2] The sooner IT can take advantage of cloud computing in an effective way, the sooner the business can start benefiting from the results. However, deploying a new and potentially game-changing model can raise concerns.

Lack of experience is one of the hardest challenges during any kind of a transition. There isn't enough knowledge upon which to take action and some activity is required to gain the required level of understanding to move forward. Enterprise IT departments can avoid some of the risk of this new model by focusing their cloud strategy on low risk or commoditized needs such as line of business applications, testing and development, proof of concept, or disaster recovery until they are more comfortable operating in the cloud. After organizations gain experience, they can begin to more thoughtfully consider the migration of ERM systems or global logistics database applications, which can be risky ways to get started initially.

PICK THE RIGHT APPROACH

Public and hybrid cloud services vary enormously in regards to cost, performance, and security. Using public cloud services from commodity providers, for example, may provide some short-term benefits to project teams, but it can lead to serious problems in the long run. Potential risks include inconsistent performance, hidden costs, challenges associated with application portability to and from public clouds, vendor lock-in, and potential violations of security and compliance requirements. In evaluating cloud computing vendors or technology, IDG Research indicates that IT decision makers rate high performance and enterprise-level security as the top two capabilities.

Enterprise-Class Capabilities Rise as Most Important

Capability	Percentage
High performance (reliability and availability)	68%
Provides enterprise-level security	63%
Provides enterprise-level quality of service	59%
Application portability	44%
Regulatory standards/compliance	42%

Figure 2: Top Vendor or Technology Capabilities
(Source: IDG Research, *CIO Global Cloud Computing Adoption Survey*, January 2011)

Bluelock and VMware are working closely together as strategic partners in order to deliver the next generation of enterprise-class hybrid cloud offerings. Based on the VMware vCloud Datacenter Service, Bluelock Virtual Datacenters provide the security, interoperability, and control that midsize and larger companies require to transform their datacenters into IT game-changers.

To maintain excellence and cost efficiency in IT service delivery, IT must be capable of responding quickly to requests; have insight into how and where resources are being used; and leverage resources effectively. Bluelock Virtual Datacenters assist IT organizations in achieving these strategic IT goals and more. The key to success lies in having continual access to the scalable cloud hosting environment delivered by Bluelock and founded upon proven enterprise-class virtualization technology from VMware.

Bluelock Virtual Datacenters offer IT departments complete flexibility and control of the virtual machines, along with the network, security, and catalog templates they typically manage in their own private VMware environments.

BLUELOCK VIRTUAL DATACENTERS
Bluelock Virtual Datacenters offer companies a resilient, scalable public cloud hosting environment designed specifically for midsize and larger enterprises with complex infrastructure needs. This certified VMware vCloud Datacenter Service uses the same market-leading VMware virtualization technology that its enterprise clients use, providing a common framework that enables workloads to move between internal data centers and Bluelock Virtual Datacenters.

Companies can protect their in-house IT investments and augment existing application infrastructures with Bluelock Virtual Datacenter public cloud resources for a hybrid cloud strategy that can transform IT into a significantly leaner, more responsive business entity.

FLEXIBILITY AND CONTROL
Bluelock Virtual Datacenters offer IT departments complete flexibility and control of the virtual machines, along with the network, security, and catalog templates they typically manage in their own private VMware environments. IT departments can quickly build new virtual machines from public and private catalogs of virtual machine templates or simply upload virtual machines already running in their environment.

Bluelock Virtual Datacenters take just minutes to set up, either through Bluelock's managed services team or the vCloud Director-based, self-service interface. The Bluelock Virtual Datacenter offers a paradigm shift for today's IT organizations, which are diligently seeking new opportunities for efficiency and resilience.

VMware vCloud Connector enables Bluelock clients to move virtual machines, vApps, and templates between internal datacenters and Bluelock Virtual Datacenters with a centralized hybrid cloud management user interface. The vCloud Connector plugs into vSphere Client and allows administrators to access their consoles remotely; gain deep

visibility into virtual resource allocation and consumption; and connect and manage all virtual and cloud environments.
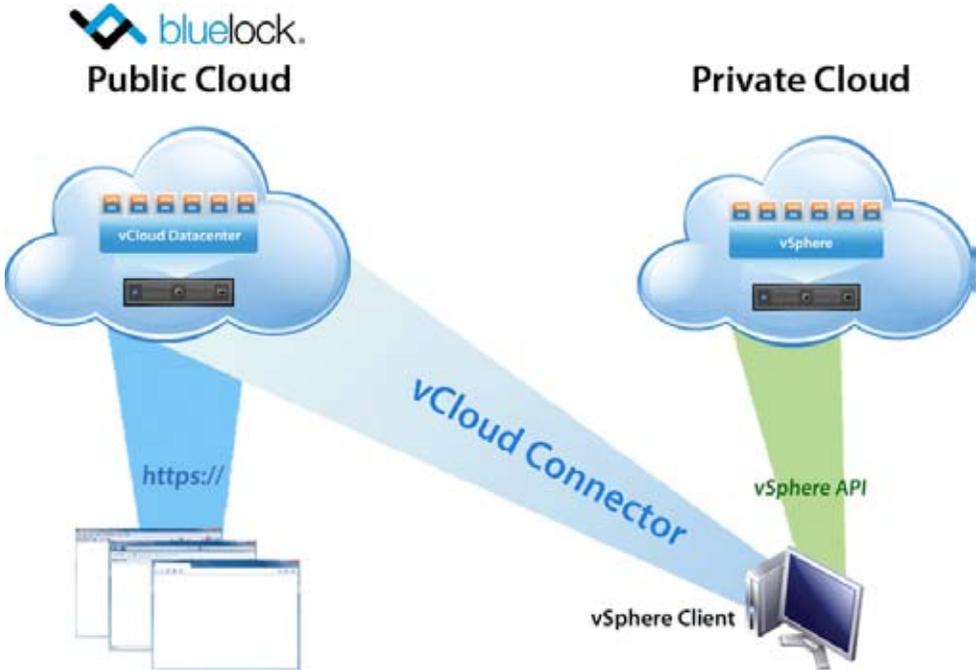

Figure 3: VMware vCloud Connector enables Bluelock clients to move virtual machines, vApps, and templates between internal datacenters and Bluelock Virtual Datacenters.

PORTABILITY AND COMPATIBILITY
The Bluelock Virtual Datacenter uses VMware's cloud infrastructure technology, including vCloud Director, vCloud API, VMware vSphere, and vShield security. Using a common management and security model, IT can move workloads between internal datacenters and Bluelock Virtual Datacenters.
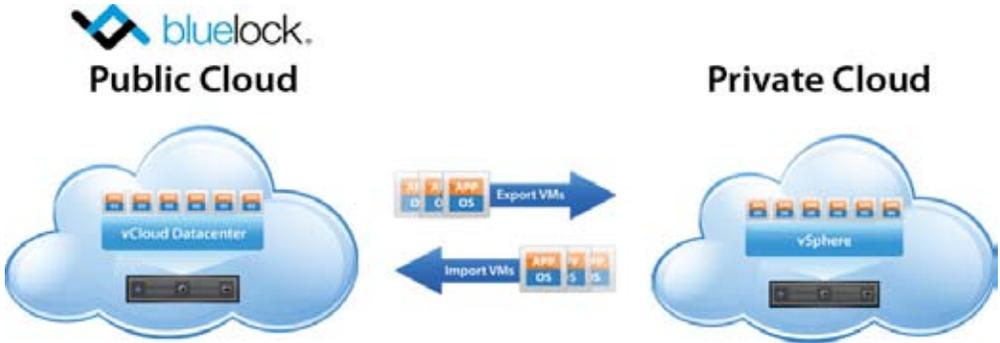
Figure 4: IT can move workloads between internal datacenters and Bluelock Virtual Datacenters.

The Bluelock Virtual Datacenter service offers enormous flexibility, given the Open Virtualization Form (OVF) standard supported by Bluelock and VMware. With a standardized methodology for packaging and distributing virtual machines, IT organizations can freely and seamlessly move workloads between public and private clouds. With ease of moving data and workloads via OVF, companies can overcome the migration challenges of uploading and downloading and can also feel safe from the risks of vendor lock-in.

SECURITY AND COMPLIANCE

Security is one of the biggest concerns for organizations that are considering cloud adoption. Bluelock's advanced architecture and heightened emphasis on security offer the assurance that any applications and data moved to the cloud hosting environment will be adequately protected. Bluelock not only maintains important industry certifications and passes specific audits on behalf of its clients, but also helps clients to obtain vital certifications that will differentiate them in the marketplace. Bluelock Virtual Datacenters deliver consistent and auditable security and performance, as well as technical capabilities such as network isolation, role-based access control, and directory services integration.

VMWARE VCLOUD DATACENTER CERTIFICATION

As one of the first certified VMware vCloud Datacenter providers, Bluelock enables hybrid cloud computing that is consistent with the technology and management tools VMware virtualization clients currently use to manage their own private clouds internally. The VMware vCloud Datacenter is built on proven VMware solutions, including VMware vSphere, VMware vCloud Director, VMware vCenter Chargeback, and VMware vShield products. The service delivers ready-to-use cloud infrastructures to Bluelock clients, enabling rapid, self-service provisioning of IT.

More than 250,000 customers worldwide trust VMware's proven, production-ready technology in their datacenters.
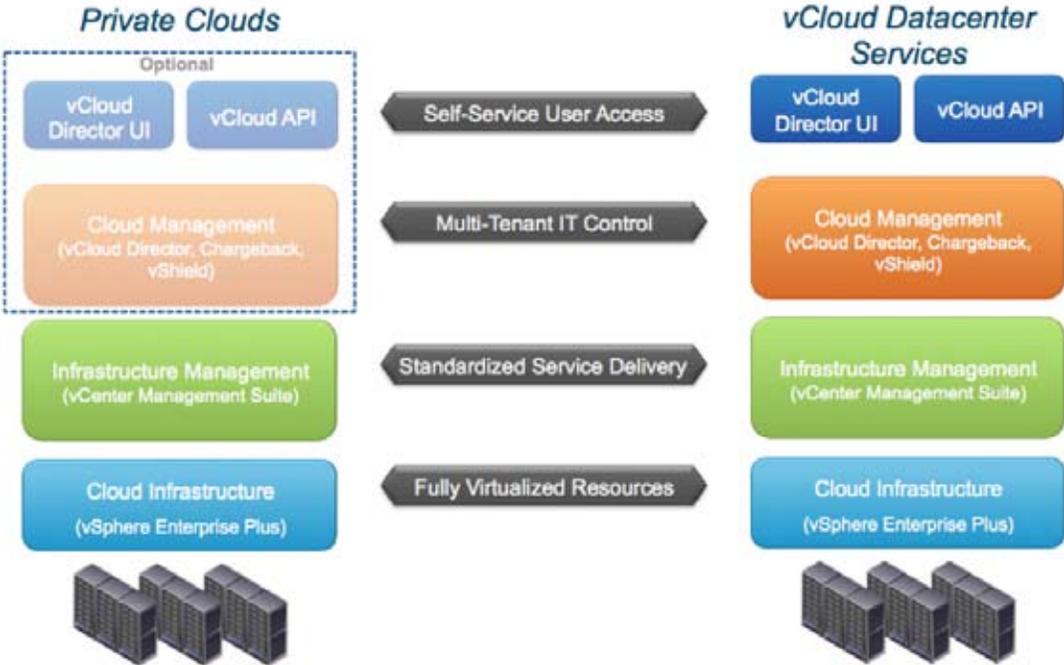

Figure 5: vCloud Datacenter Service Benefits

Meeting security and compliance requirements consistent with Bluelock's rigorous security standards, VMware vCloud Datacenter requires either SAS 70 Type II or ISO 27001 compliance, application-aware firewall capabilities, Layer 2 isolation, role-based access control, and directory services integration. With the security inherent in VMware vCloud Datacenter, organizations can extend the logical boundaries of their datacenters and leverage compatible public cloud services while retaining complete control over security and compliance.

More than 250,000 customers worldwide trust VMware's proven, production-ready technology in their datacenters. Now Bluelock clients can leverage their existing VMware implementations in combination with Bluelock Virtual Datacenters to support their enterprise-class cloud computing objectives with a certified VMware vCloud Datacenter Service.

THE BLUELOCK VIRTUAL DATACENTER ADVANTAGE

Bluelock Virtual Datacenters hosted in the public cloud offer companies an easy way to move a portion of their IT infrastructures to the cloud, with flexible service options that foster a new level of business agility and IT efficiency. At the same time, IT managers can maintain as much control over the cloud infrastructure as desired, depending on the cloud service, while ensuring ongoing security and compliance. The Bluelock Virtual Datacenter advantage includes:

Bluelock Virtual Datacenters hosted in the public cloud offer companies an easy way to move a portion of their IT infrastructures to the cloud, with flexible service options that foster a new level of business agility and IT efficiency.

- **Quick action.** Your Bluelock Virtual Datacenter (VDC) takes minutes to set up, either through the vCloud Director-based, self-service interface or with Bluelock's managed services team. You can build new virtual machines (VMs) quickly from your public and private catalogs of VM templates, or simply upload VMs you already have running in your environment. Quick setup of the service and easy deployment of virtual machines provide an efficient, accelerated path to adoption.
- **Ability to deal with the unknown.** Start small (or large) and adjust as you go with the flexibility of Bluelock VDC. With Bluelock VDC, you have the flexibility to modify the blend of components in the public and private clouds—whether a single virtual machine, a virtual application, or the entire virtual datacenter—and you don't need to worry about over- or under-provisioning because you can easily subtract and add capacity as you go, paying for only what you use.
- **Flexibility to change your mind.** With the ability to upload and download any VMware-compatible workloads, you can easily migrate to and from your Bluelock VDC. The solution is built on open standards with OVF packaging for the transport of workloads and interoperability, with additional support for the VMware vCloud API in case you need to move workloads around.
- **Ability to mix and match resources.** With efficient pooling of an on-demand, self-managed virtual infrastructure, clients can grow and shrink their environments based on current needs as well as alter the components within your virtual machine, virtual application, or your entire Virtual Datacenter. This provides the flexibility to better deal with changing needs while maintaining a level of predictability and control.
- **Application portability.** Provides the interoperability and portability needed to deploy

applications across private and public clouds and to move workloads to and from the public and private cloud, as the Bluelock VDC is based on the VMware vCloud Datacenter and built on the same compatible VMware technology.

- **Control.** Gives IT organizations the ability to stay in complete control while enabling a self-service provisioning model for end users if desired, unlike most public cloud offerings that require customers to delegate all security and control measures to external parties. IT organizations can use role-based access control, user activity logs, and other controls, as well as calibrate multiple levels of service and access for all users.
- **Auditable security.** Features multi-level, auditable security through SAS 70 Type II or ISO 27001 compliance, virtualization-aware firewall capabilities, and Layer 2 isolation, and is built to predefined specifications and based on secure VMware cloud infrastructure technology.
- **Pay-as-you-go structure.** Paying only for resources used, IT organizations can immediately turn off resources and reduce expenses or rapidly redeploy resources for other projects.

CONCLUSION

In a fast-paced global economy, today's IT organizations want and need the resilience to quickly respond to business demands and market opportunities, and they need a cost-effective strategy for getting there. More and more IT managers are turning to cloud services to accelerate their responsiveness to business needs. Cloud services can enable faster time to market and reduced startup costs through faster IT deployments and end-user self-service.

According to IDG Research, the enterprise hybrid cloud not only paves the way to a more strategic IT organization, but also has great promise for the enterprise itself.

Bluelock and VMware are providing an evolutionary path to the public cloud for midsize and larger corporations and their millions of existing datacenter applications. With Bluelock Virtual Datacenters, a VMware vCloud Datacenter Service, Bluelock is helping organizations that desire better, faster, more affordable business processes to revolutionize IT with a new breed of resilient, scalable, enterprise-class public and hybrid cloud services.

FOR MORE INFORMATION

- Bluelock Virtual Datacenters:
  http://www.bluelock.com/bluelock-cloud-hosting/virtual-datacenters/
- VMware vCloud Datacenter Services:
  http://www.vmware.com/solutions/cloud-computing/public-cloud/
  vcloud-datacenter-services-providers.html

REFERENCES
1. IDG Research, *CIO Global Cloud Computing Adoption Survey*, January 2011.
2. *CIO Global Cloud Computing Adoption Survey.*