

Boldly navigating towards IT-as-a-Service

CIOs navigating their organization towards an IT-as-a-Service (ITaaS) model are certainly encountering new challenges along their journey. They need proven tools to help them chart a safe and expedient path through these daunting new waters. Those who stay the course will realize unprecedented levels of IT flexibility that will propel them to an extraordinary new frontier where IT drives business agility.

No two paths to ITaaS will be the same—and yours will depend on your company's business strategy, resources, culture, competitive positioning, and current IT environment. However, there are key tenets that should give you confidence to be steadfast. Among them is that the transformation to ITaaS is enabled by virtualization and cloud computing.

The Passage to ITaaS via Virtualization and the Cloud

It's hard to find a CIO who hasn't started down the path toward virtualization. Yet while the first leg of the journey delivers impressive gains, CIOs with the vision to deliver ITaaS stand to reap far greater rewards.

The buzz around virtualization has been deafening these last few years as companies flock to the technology to garner efficiencies and wring costs out of their IT operations. Why all the hoopla? Well-documented virtualization success stories and impressive ROI figures are simply too compelling to ignore. By some industry accounts, more than 90 percent of midsize and large businesses have deployed some level of virtualization, and the technology, along with cloud computing and mobility, ranks among the top five priorities for CIOs this year, according to a recent Gartner study¹.

As a platform to consolidate IT infrastructure, virtualization lives up to its billing as a disruptive technology, delivering up to a 60 percent reduction in data center and capital expenditures. By making virtualization a key IT initiative, companies report energy savings in the area of 80 percent, driven by reduced power, cooling and real-estate requirements. On average, virtualization also cuts hardware costs by 33 percent, reduces hardware maintenance by 34 percent, and lowers infra-

structure testing expenses by 34 percent, as reported in the April 2011 "Worldwide VMware Customer Benchmarking" survey².

Given those results, there's no disputing that virtualization is a highly-effective tool for reducing data center costs. But that's only a piece of the story. CIOs that evaluate virtualization solely within the context of basic IT consolidation are taking a myopic view, putting their organization at risk for missing out on the more strategic business benefits afforded by the technology. For CIOs who dare to consider the bigger picture, virtualization blazes the trail to ITaaS, by enabling cloud computing. With a virtualized infrastructure, companies have the foundation to deliver scalable and flexible IT services via private, public or even hybrid clouds. They can create a dynamic, scalable, and secure backbone to bolster IT agility and improve service levels—all fundamental requirements for delivering greater business agility—while minimizing costs and risk.

As CIOs well know, these are critical imperatives for businesses. The accelerated pace of change is increasing demand on companies to respond faster, while the sea of mobile and connected users escalate the need for information access at

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¹ CIO Priorities, Gartner, 2011 preliminary rankings based on more than 500 responses

² April 2011 Worldwide VM Customer Benchmarking Survey, Wave 1

A recent study by IDG Research on the “Benefits of Virtualizing Business Critical Applications”³ revealed the following among the 300 respondents:

- ▶ 98 percent enjoyed increased performance or experienced no performance degradation.
- ▶ 66 percent enjoyed significant increases in performance.
- ▶ More than 60 percent claimed improvements around business continuity and DR, security and compliance, and test and development cycles.
- ▶ 98 percent reporting no trouble with ISV support.

the touch of a button, whether that button resides on a laptop computer or new smart device. Traditional IT infrastructure is too brittle and far too complex and costly to keep up in any meaningful way.

The transformative change enabled by virtualization and cloud computing is what’s necessary to stay in the game. Yet to reap the strategic business benefits of the new paradigm, CIOs must steer their organizations on a more calculated course, instead of making a series of ad hoc pit stops. CIOs in the driver’s seat create a well-defined roadmap to guide companies through the various stages of the journey. Those who navigate each phase as an add-on or bump-up of IT infrastructure risk being left behind by more strategic CIOs who recognize that delivering ITaaS is the end game—and perhaps, more importantly, the ultimate game changer.

Charting Your Course to ITaaS

So what is the best roadmap for your journey? In the formative years, virtualization was tapped as a way to optimally leverage x86 servers to consolidate test and development applications. Subsequent improvements to hypervisor technology and a growing comfort level with virtualization opened the door for the technology to gain widespread acceptance as a way to dramatically lower costs and reduce IT complexity. Enterprises may also explore internal clouds for development and testing to create building blocks for their IT transformation. This is stage one of the journey—the phase most CIOs now see in their rear-view mirror. In this stage, with relative ease, CIOs achieve tangible and immediate ROI through consolidation, and began realizing how a virtual IT infrastructure can enable unprecedented flexibility.

Stage two is about virtualizing business-critical applications as a way to boost business productivity and improve quality of service via high availability and more reliable disaster recovery (DR) capabilities. This is the phase the vast majority of CIOs are in today. A study conducted by IDG Research on the “Benefits of Virtualizing Business Critical Applications” revealed that 88 percent of survey respondents believe their cloud computing goals around agility are far more achievable as a result of

virtualizing business-critical applications.⁴ They see this as a necessary step to enabling the cloud to transform IT. Stage three delivers the full promise of ITaaS, delivering high-velocity IT services at optimum cost and efficiency.

Virtualizing Business Critical Applications—Full Speed Ahead?

While many have forged ahead, some CIOs are still in the earlier stages of their journey. They may have reservations about virtualizing business-critical applications, or they’re going about it very slowly, because they don’t want to put key business processes at risk. Typically their concerns are whether a virtual platform will match the performance or availability requirements of the business. Culturally, virtualization of business-critical applications can also be a tough sell. Application owners can be resistant because they have a comfort level in having a physical hardware stack dedicated to their business needs, and don’t want to relinquish control over the resources running their applications.

The truth is, most of these concerns are unfounded with current virtualization offerings. Improvements in hypervisor technology and ongoing advances in CPU horsepower and x86 server hardware, including multicore capabilities, have addressed most, if not all, of these performance issues. For example, VMware’s new vSphere 5 release can support virtual machines with 32 virtual CPUs up to 1 Terabyte of RAM. And IBM’s System X servers and Disk Storage Systems are built to optimize these advanced capabilities, with headroom to spare.

While studies show there is strong ROI for each stage of the ITaaS journey, the numbers magnify as companies progress on the journey and begin virtualizing business-critical applications such as Microsoft SQL databases, Exchange and SharePoint systems along with Oracle, SAP and enterprise Java applications.

³ Benefits of Virtualizing Business Critical Applications, study of 300 respondents

⁴ Benefits of Virtualizing Business Critical Applications, study of 300 respondents conducted by IDG Research for VMware

An average ROI of 226% on their total investment in virtualization software was indicated by customers in the survey.

ROI rates increase as customers progress on the virtualization journey.

In the VMware Customer Benchmark study (see graph), for example, the early test and development stage yielded a compelling 175 percent ROI, with the business production stage (where business-critical applications are virtualized) showed an impressive ROI of 253 percent. As companies move into the final stage of the ITaaS model, they claim an average ROI of 241 percent.⁵

Natural disasters and major system outages in recent memory have heightened the demand for more reliable protection and recovery solutions for critical applications. Virtualized IT unshackles the infrastructure from many of its interdependencies that are often the cause of planned and unplanned downtime. Thanks to features like built-in high availability and fault tolerance, virtualization creates a layer of abstraction that frees applications from the underlying hardware, providing immediate protection from potential failures. This enables application mobility and flexibility, which essentially translates into dramatic increases in uptime and performance.

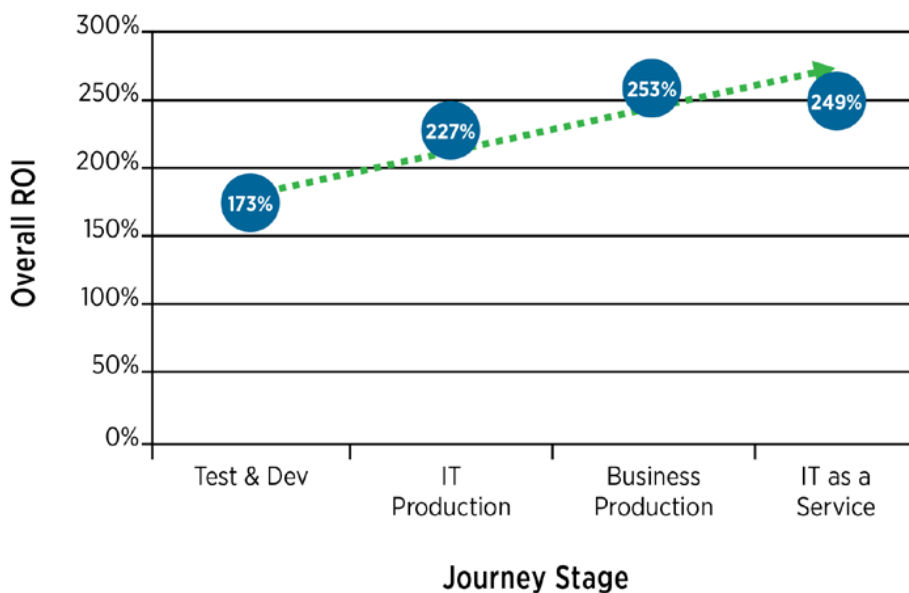
And while virtualization makes protection and recovery more reliable, it makes it more affordable as well, enabling even smaller companies to afford enterprise-class protection. This was certainly the experience of a small liberal arts college that implemented an IBM VMware DR

solution to mitigate downtime risk. By virtualizing all of its business-critical applications and including them in their DR plan, the college was able to realize a recovery time of 1.5 hours and recovery point objective of 15 minutes. Similarly, a midsize manufacturer implemented an IBM VMware virtualization solution to bolster the protection of its core SAP ERP environment, which also greatly simplified the ongoing maintenance of this critical application.

One other nugget that can help allay organizational concerns: Virtualization actually improves application quality of service by enabling systems to scale up or out on demand. As companies move forward, the addition of on-demand self-service capabilities and advanced cloud management—leveraging full automation and orchestration capabilities—can deliver a level of IT and business agility impossible to replicate in the world of physical hardware.

CIOs as Admirals of their Fleet

Given the breadth of benefits of this journey, what's the most effective case for convincing an organization to get on board for the full ride? It starts by educating everyone from C-level executives to line-of-business (LOB) application owners on the realities of virtualization and the surprising sweep of benefits it can offer. The journey to ITaaS and cloud adoption requires high-level sponsorship, and the CIO must serve as chief evangelist. The CIO's ability to set the vision and communicate the business value at each stage of the journey is invaluable to getting the requisite buy-in for the cultural and technology changes necessary for the paradigm shift to ITaaS. CIOs with success on this front say they actively engaged application owners in the process, devoting time and IT resources to proving out the performance and resiliency of virtualization technology in trials, and coming up with scale-out strategies beforehand to convince LOB users and application owners that their business-critical applications would perform optimally as demand for IT services grew.



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⁵ April 2011 Worldwide VM Customer Benchmarking Survey, Wave 1

80% of the respondents in the survey agree that business agility is positively linked to improving corporate revenue, cost and risk profiles. There is evidence that extremely agile companies outperform others across multiple business dimensions.

Despite their critical role, CIOs don't need to undertake the journey alone: Partnering with the right IT provider(s) can prove instrumental to success. The optimal partners should have the breadth of products and services that can go the distance through each of the stages. Their solutions will have proven capabilities in the following areas:

- ▶ A highly scalable and high-performance platform to support resource-intensive applications that can guarantee high levels of availability.
- ▶ Common management and automation capabilities to free IT from routine management tasks and reduce operating expenses.
- ▶ Adaptive security infrastructure that can move with the virtual machines.
- ▶ Openness and portability, enabling more choice and flexibility and allowing shops to move applications from on-premise to the cloud and back with no concern about security and little need for application rewrites.

When dealing with multiple IT providers, as most CIOs do, it's critical to maintain close partnerships. There must be extensive integration and testing work between products, and thorough support agreements for joint solutions.

Pursuing IT and Business Agility

Ultimately, the CIO's goal is to create an IT environment that propels the business to new heights of competitiveness. Research reveals that corporate decision makers directly link cloud computing to business agility, and business agility to success.

These correlations were described by a February 2011 "Global Business Agility Survey" of 600 IT decision-makers at enterprise companies across the globe.⁶

Eighty percent of the respondents in the survey agree that business agility is positively linked to improving corporate revenue, cost and risk profiles. There is evidence that extremely agile companies outperform others across multiple business dimensions.

This same survey suggests a strong correlation between IT agility and business agility. It suggests "extremely agile" compa-

nies report IT as one of their top agile business functions. Whereas companies that are not agile report IT as among the two least agile of their business functions. In fact, for companies with agile IT functions, business and IT leaders agree that infrastructure and technology are the primary drivers of that agility. "It's difficult to tell whether companies are agile because IT is agile or whether an agile business culture has influenced IT. Regardless of which is cause and which is effect, the correlation between the two is strong," says Cornelius Willis, vice president of solution marketing at VMware. "CIOs who are bold and pursue a path towards IT-as-a-Service are very likely to impact not only the agility of their IT but the company as a whole."

Other industry experts take a similar view on the value of agile IT to the business, and how to achieve it. "Many CIOs see the value in cloud computing but are concerned about making a big leap into the unknown," says Inna Kuznetsova, vice president of sales and marketing for IBM's System Software. "We recommend that customers treat it more like a journey and carefully map out the steps and measure the success along the way. At each stage there are cost savings and ways to increase business agility that will deliver a return on your investments."

For CIOs to be true game changers and navigate their companies towards an ITaaS model, they must have a vision for business transformation. Then, they must apply technology to enable the change. This means strategizing with business leaders and key technology partners well before embarking on any leg of the ITaaS journey via virtualization and cloud, no matter how tempting it might be to tackle IT consolidation and production first. CIOs who strategically plan IT transformation—and don't merely meander toward it without clear direction—are more likely to change the way their business operates, and deliver real value to the enterprise. What better way for a CIO to effectively make their mark? ■

⁶ Global Business Agility Survey, February 2011 – a study of 600 respondents at enterprise companies in the U.S., EMEA and APAC; conducted by Absolutdata.