



# From Virtualization to the Private Cloud:

## The Benefits and How to Achieve Them

For many organizations, operating a data center that can cost-effectively respond to business needs continues to be a daunting challenge. Too often, assets remain underutilized and management remains manual and not automated. Relief is at hand, however — beginning with virtualization and then continuing the journey to cloud computing.

**Tell me again:  
What's a private cloud?**

A multi-tenancy IT infrastructure/architecture that leverages virtualization as well as resource orchestration and automation techniques to provide an organization's users and/or customers with pay-as-you-use IT services/capabilities that can be turned on or off as needed.

In 2011, cloud computing ranked at the very top of CIOs' technology priorities, according to Gartner.<sup>1</sup> A bit of drill-down into Gartner's commentary quickly shows why: Until recently, 80% of the average IT budget has been swallowed by day-to-day operations, but new IT deployments utilizing service-based technologies like cloud computing can potentially liberate 35% to 50% of IT's infrastructure and operational budget resources.

The first iteration of cloud computing — public cloud services — had business users celebrating access to capabilities they've long yearned for, and some CFOs anticipating significantly lower IT costs. However, citing unacceptable risk, many chief security officers pointed to the substantial security exposures posed by relying on public cloud services for core business-critical application services.

Now the discussion has shifted to the value of *private* cloud deployment models that can deliver the same sort of elastic, on-demand IT capabilities offered by public clouds while keeping business-critical applications and data safe within the company's data center.

Although no single vendor currently offers all the pieces needed to deploy a private cloud, cloud computing is already transforming IT infrastructures worldwide — and private clouds have a key role to play in any organization striving to remain competitive.

So the question remains: Is there a way to transform *your* existing IT infrastructure into one that's private cloud-capable without the cost and culture disruptions that are so common to IT makeovers?

The answer is yes, and this paper will demonstrate how.

## The business case for private cloud computing

Gartner estimates that enterprises will spend \$112 billion over the next six years on various cloud-related technologies<sup>2</sup> — a sure sign that private cloud computing has begun to transform enterprise IT infrastructures.

**Beyond virtualization.** A private cloud environment is comprised of a great deal more than merely streamlining an organization's current approach to IT management. Private clouds are built on a foundation of virtualization in which servers, storage, and networks behave as a single pool of resources that are able to



### Orchestration — agile provisioning

Coordination and automation of the provisioning of a range of resources — such as processors, networks, and storage — so that a single command triggers an integrated resource request that's responded to in minutes instead of days or weeks.

respond on demand to workload requests. But what distinguishes a private cloud from simple virtualization is the cloud's ability to *orchestrate* and *automate* the use of many different kinds of IT resources to support the needs of the business as they arise in real time.

When the fast resource turnaround offered by this sort of automated orchestration, or agile provisioning, gets combined with virtualization, it becomes a whole new paradigm for IT.

This isn't just because agile provisioning enables IT managers to deliver IT capabilities much more quickly and efficiently with comparatively little manual labor; it's not even that users can select IT capabilities via self-service catalogs.

It's because a private cloud fundamentally changes the way you utilize your IT assets. Your IT infrastructure becomes a managed resource pool allocated on demand where and when needed in accordance with user policies. When services are turned off, resources are returned to the pool so that they're available to respond to other demands. Deployment of resources is not only vastly more productive, it can be measured in real time — and what can be measured can be billed back to business units.

**More competitive.** A private cloud can boost your organization's competitiveness and profitability by making better use of IT assets — to benefit from economies of scale, exploit asset-sharing opportunities, and improve resource agility. You'll experience much faster delivery of the technology and business process capabilities users need without those users having to bog themselves down in the details of implementation. The accelerated time-to-market for the organization's products and services that rely on IT means a greater opportunity to gain market share.

The result: Your organization becomes significantly more responsive, flexible, and efficient while enabling you to reduce costs.

## Are you private cloud ready?

Transforming your existing IT infrastructure into one that's private cloud-capable requires some investment. Your organization is cloud ready when it has committed to or achieved:

- Standardization of its underlying IT assets and service catalog
- Pervasive virtualization



### Quick look: The benefits of a private cloud

- Lower costs through greater efficiency and better governance
- Greater business agility to quickly and cost-efficiently deploy IT capabilities in response to changing business conditions
- Better alignment of information technology to the business
- Ability to bill back IT usage to line-of-business units
- Reduced risk through use of service catalogs and pre-defined service definitions

- A service-oriented approach to IT that focuses on application service delivery
- The ability to share a common IT resource pool
- Automation/coordination of the way IT resources are provisioned

To some degree, most organizations are embarking on these paths already. The challenge lies in understanding how to both leverage existing technologies so that they become part of a cost-effective cloud solution and integrate various cloud-readiness efforts.

For many companies, the first step involves unifying server, storage, and network virtualization. Without the ability to centrally track ownership, deployment, and usage of *all* your virtualized assets, chances are you'll end up a victim of virtualization sprawl, which is likely to undo much of what you're hoping to gain from private cloud computing.

And, of course, you'll need to implement agile provisioning so that the whole process can be accomplished automatically from one console, rather than from different consoles for networking, servers, security, etc.

## You don't have to do it alone

The IT infrastructure transformation triggered by virtualization and private cloud computing will eventually change the competitive landscape for just about every organization. So the question isn't whether it will happen — the question is when. When will your old, slow IT infrastructure cost your organization its competitive edge?

If Gartner's predictions are ballpark, the answer for many is: Sooner than you think.

Fortunately, getting your organization private cloud ready — whether or not your company has begun to implement virtualization — is easier now than ever before, thanks to OnX Enterprise Solutions' approach to cloud services. OnX can help you determine your current stage of cloud readiness and how best to move forward on your cloud journey.



## OnX Enterprise Solutions

OnX Enterprise Solutions is a global enterprise data center solutions provider with a suite of end-to-end solutions, including the industry-leading Federated cloud solution offerings. The company designs, builds, and manages complete data center environments comprised of multi-vendor offerings in four core areas: Hardware & Software Solutions, Cloud & Managed Services, Digital & Application Services, and Professional Services. Over the past 28 years, OnX has helped clients achieve exceptional business results that accelerate their growth and value. Headquartered in Toronto, Canada, OnX has a team of more than 500 IT professionals with offices throughout North America and Europe.

## About OnX

A leading provider of innovative IT solutions, OnX not only understands virtualization and private clouds — it also works with the world’s foremost virtualization and private cloud vendors, including VMware, Cisco, EMC, IBM, HP, Oracle, and others.

OnX marshals the power of these forward-looking vendor solutions with its own deep expertise in virtualization and private cloud deployments to help organizations virtualize their IT infrastructures, add the agile provisioning necessary for private cloud computing, and deal with the challenges posed by such issues as platform-dependent legacy apps, firewall virtualization, and cloud performance optimization. Furthermore, our experience designing, building, deploying and operating multi-tenanted cloud services within our data centers in a competitive marketplace can assist our clients in building their own private cloud services.

## OnX Private Cloud Solutions

OnX experts understand that, potent as today’s vendor solutions may be, one solution size cannot fit the myriad of diverse client requirements.

**Beginning with an assessment.** That’s why OnX prefers to begin every customer engagement with a vendor-independent assessment. “An assessment not only shows you what you have in your environment, but helps define what will work,” says Ted Hall, OnX Senior Solution Architect.

Hall notes that the most successful and best-performing projects OnX has implemented over the past few years have been those that began with an infrastructure and/or business case assessment.

Experience so far suggests that private clouds work well for frequently-requested services that don’t continuously use resources, such as virtual desktop computing, development environments, and certain collaboration, database, and Web environments. OnX professionals work with you to identify where a private cloud can benefit your organization and to establish a strong business case, emphasizing return on investment — that is, increasing value, not just reducing costs.

# OnX Enterprise Solutions

## OnX Cloud Readiness Assessment Workshops

An OnX Cloud Readiness Assessment Workshop is a collaborative, proven, and structured approach that enables our technical experts to gain a deeper understanding of your business as well as its challenges. In this workshop, our experts determine where you are on the path to an optimized, automated, and business-aligned IT resource pool.

Through a phased methodology, OnX is able to align the appropriate solutions that will not only meet their information technology requirements, but corporate business goals as well.

This customer-centric approach also means OnX experts make sure they thoroughly understand your IT environment as they design and deploy the virtualization and private cloud capabilities that can best serve your organization. Because our experts take the time to understand your existing environment, they can identify — and design for — any weaknesses in key infrastructure areas, such as storage, network, clustering, security, business continuity, or staff capabilities. Plus, they make sure your infrastructure includes the provisioning and configuration management functionality necessary for a private cloud, including server provisioning, patching, server configuration baselining and auditing, application provisioning and configuration management, application release automation, and redeployment of assets.

**The importance of trusted partnership.** Unless your organization can carry truly extensive staff expertise in all aspects of virtualization, versed in multiple vendor platforms, as well as agile provisioning and a number of other technical skills, designing and deploying a successful private cloud can be intimidating.

But you don't have to be intimidated. With a trusted partner able to offer the right skill sets, vendor relationships, and certifications, you can get a private cloud capability that has been expertly designed for the particular needs of your organization and deployed in keeping with your organization's policies and culture.

At OnX, we maintain deep expertise as well as close connections with and certifications from the leading cloud technology solution providers. But we *always* remain focused first and foremost on each of our customer's particular requirements. That means we recommend what you need, not what a vendor wants to sell you. And we're experienced at integrating products and services from multiple vendors, so you don't have to worry about vendor lock-in.

When you're ready to take a step toward your private cloud future, contact us. Our accomplished team has the know-how to combine the right products and services to meet your private cloud business requirements and the ability to work with your staff and your existing technologies, tools, and procedures.

OnX is always there whenever you need us. Because that's what a trusted partner does.

## References

<sup>1</sup> <http://www.gartner.com/it/page.jsp?id=1526414>

<sup>2</sup> <http://www.cioinsight.com/c/a/Infrastructure/Gartners-Cloud-Computing-Outlook-2011-521057/?kc=CIOMINEPNL05122011STR4>