

## IDC ExpertROI® SPOTLIGHT

# NxtGen Leverages VMware Cloud Provider Platform to Grow Its Business with Its "Infinite Datacenters"

Sponsored by: VMware

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### Overview

NxtGen is a Bengaluru, India-based provider of datacenter solutions and cloud technologies for organizations in the Middle East and South Asia. Founded in 2012, NxtGen defines its mission as helping its customers grow their businesses by delivering required IT infrastructure capacity while reducing the cost and complexity associated with that infrastructure. Achieving these objectives requires NxtGen to continually evaluate the technologies it uses to run and deliver its customer-focused services.

A.S. Rajgopal, managing director and chief executive officer at NxtGen, explained that his company realized in its first years of operations that it wanted to "become a true cloud provider rather than a technology company doing service," which would require partnering with an IT infrastructure vendor. His company chose to partner with VMware through the VMware Cloud Provider Program (VCP) because of the breadth and quality of its infrastructure offerings for service providers and because of high acceptance and use of VMware products at enterprises that NxtGen views as potential customers.

Rajgopal explained that NxtGen has moved quickly to build datacenters based on VMware technologies such as vSphere, vSAN, NSX, and vCloud Director (vCD), with four datacenters already online at the time of interviewing with plans to deploy up to 14 datacenters in total. He described the concept underlying these new VMware-based datacenters as that of the "Infinite Datacenter," which NxtGen sees as a hybrid model of accessing and delivering unlimited IT resources across customers' and NxtGen's datacenters as business needs dictate. Rajgopal linked the Infinite Datacenter to the business success of NxtGen's customers because it "takes away the complexity of running infrastructure and lets customers focus on their applications."

### Business Value Highlights

**Organization:** NxtGen

**Location:** Bengaluru, India

**Challenge:** Develop and deliver attractive and robust IT services to enterprise customers.

**Solution:** VMware Cloud Provider Platform, including the deployment of datacenters using the entire VMware stack such as: VMware-based hyperconverged infrastructure, VMware NSX, VMware vSAN, VMware vCloud Director, and vRealize

#### Financial Benefits:

- Financial return of more than 2:1 (>100% ROI over five years)
- Payback in just under two years
- Enabling business projected to be worth hundreds of millions of dollars over five years

#### Other Benefits:

- 72% more efficient IT infrastructure teams
- 50% more productive application development team
- 44% reduction in service credits paid to customers
- Received Cloud Verified designation from VMware

According to Rajgopal, the services NxtGen is offering through its VMware-based datacenters, including IT Infrastructure, IT Continuity, and IT Transformation services, are resonating with customers. They value the flexibility, performance, security, and price point of NxtGen's VMware-driven services. In particular, NxtGen's analysis shows that the company offers very favorable price-to-performance ratios compared with competing services in terms of both compute and storage services. His company already has hundreds of customers that purchase its IT services, including virtual machines (VMs), memory, and storage, through NxtGen's VMware-based datacenters, resulting in substantial growth of NxtGen's revenue. With plans to build additional datacenters, Rajgopal expects to realize further revenue gains in the next several years by expanding the company's customer base.

Importantly, the VMware technologies underlying these datacenters have also enabled NxtGen to develop and offer these services with efficiency even as it offers improved levels of service quality. Rajgopal noted that, as a result, his company continues to add customers to these VMware-based datacenters without needing to grow the size of either its IT infrastructure or its application development teams and has reduced the number of service credits it must pay to customers for violations of service-level agreements (SLAs).

Based on interviews and discussions with Rajgopal, IDC has quantified both the cost of deploying the first nine VMware-based datacenters and the benefits NxtGen expects to achieve through deployment of these datacenters and its partnership with VMware in the VMware Cloud Provider Program. IDC projects that over five years, NxtGen **will realize total financial benefits worth more than two times as much as total investment costs**, resulting in a return of more than 2:1 (**>100% ROI over five years**), through its partnership with VMware and investment in VMware-based datacenters.

## Implementation

Rajgopal explained that NxtGen's first datacenters were built on OpenStack technologies but that the company soon concluded that it needed to evaluate its technological foundations to address the enterprise market segment and to grow its ability to offer hybrid and hosted cloud services in a cost-effective and efficient way.

NxtGen further realized that it needed to reevaluate its business strategy to best position itself moving forward. According to Rajgopal, NxtGen concluded that it would need to refocus on providing services rather than only technology. To make this transition, NxtGen knew that it would need a technology partner: "We started to look at the options available to build a relationship with a long-term partner that would enable us to be a cloud provider rather than primarily a technology player so that we wouldn't need to build products and maintain them."

Around two years ago, NxtGen began assessing partner options and concluded that VMware would offer the technology required and support customer use requirements: "VMware is more cloud provider-friendly than other options we considered, and there's huge enterprise acceptance of VMware technologies." Further, NxtGen believed that VMware offered the right suite of products that combined high performance and cost efficiency that would allow it to offer truly hybrid cloud services to its customers at a strong value to cost ratio. Per Rajgopal: "There were three drivers of us choosing to partner with VMware: one, VMWare's cloud provider focus; two, enterprise acceptance of and investment in

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VMware technology; and three, we could use NSX to get customers to a truly hybrid environment by virtualizing their networks and extending to NxtGen's VMware datacenters."

In 2017, NxtGen began building out its first "Infinite Datacenters" with VMware technology through the VMware Cloud Provider Program designed to "genuinely propagate hybrid cloud" to potential customers. By late 2017, NxtGen had begun building its "first wave" of VMware-based datacenters in Mumbai, Bangalore, Ahmedabad, and Faridabad. By mid-2018, NxtGen was already delivering services to several hundred customers through four of these datacenters, ranging from customers with as few as 5-10 VMs to as many as 4,000-5,000 VMs.

According to Rajgopal, each of these datacenters has clusters of HPE and Dell EMC VMware-based commodity servers with vSAN all-flash storage technology, with NSX connecting and virtualizing the datacenters in cooperation with Arista. Further, vCloud Director and vRealize provide cloudlike automation, orchestration, and management. In total, Phase 1 datacenters will offer physical core capacity in the tens of thousands, hundreds of thousands of gigabytes of memory and more than 10PB of raw storage capacity.

The ability of NxtGen to offer high-quality and cost-effective software-defined datacenter (SDDC) services to customers with its VMware datacenters is impactful to its overall business success. Rajgopal explained that his company can now offer three SDDC options that combine to form the Infinite Datacenter concept (i.e., true hybrid cloud):

- Primary and secondary (disaster recovery) virtual datacenters hosted at NxtGen
- Primary customer on-premise, with burstable or added capacity via NSX through NxtGen's datacenters, which extends the customer's private network
- On-premise for customer's primary disaster recovery environment

At the time of interviewing in August 2018, NxtGen had four datacenters operational running on VMware technology, with NSX virtualizing connectivity between these datacenters. **NxtGen plans to deploy up to 14 datacenters in total based on VMware technologies** in two additional phases, with the locations for these datacenters based on economic size. VMware is validating the design of all of these datacenters and certifying their deployment as "Cloud Verified." Rajgopal noted that his company is now transitioning all workloads from its Hyper-V platform to VMware and provisioning all new customers on its VMware datacenters rather than its OpenStack technology platform.

## Benefits of VMware Cloud Provider Platform

With its partnership with VMware and datacenters running on VMware technologies, NxtGen has substantially expanded the market it can address with its services, reduced development and support costs, and benefited from more predictable performance. In particular, it now believes that it has the right service offerings to address the needs of Indian enterprises, with combined revenues well into the hundreds of billions of U.S. dollars per year.

## ***Opening New Business Opportunities Through Performance and Price***

Partnering with VMware to deploy VMware technology-based datacenters has become a differentiator that is enabling NxtGen to win business from new customers. Specifically, Rajgopal explained that his company can now better compete for enterprise-level customers based on both their comfort with VMware technology and performance. He cited improved agility, strong performance for cost, and security as helping NxtGen win significant numbers of new customer accounts.

As mentioned, the fundamental concept underlying NxtGen's VMware-based datacenters is that of the "Infinite Datacenter," or providing customers with truly hybrid cloud services. Rajgopal cited NSX as enabling agility in obtaining IT resources that NxtGen's customers demanded. He noted that customers often want to run workloads both on their own datacenter infrastructure and in a private cloud environment, which NSX allows NxtGen to offer: "NSX solved a lot of problems around allowing customers to run a portion of their applications on their datacenter infrastructure and the other portion in our datacenters. That's a very, very key need for our customers, and NSX facilitated our ability to meet this need."

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Rajgopal also referenced NxtGen's ability to onboard new customers efficiently with VMware technologies. He described the impact of NSX on effectuating much faster migrations, both providing for an improved customer experience and ensuring that NxtGen recognizes revenue at an earlier date: "In India, a typical IT migration project takes more than a year and can be a very painful process. NSX and workload migration tools such as vCD Extender and vMotion really enable migration because we can extend the network reach through virtualization, meaning that we can extend our NSX edge into the customer's infrastructure and migration becomes a click of a button."

Meanwhile, NxtGen provides each customer with a VMware vCloud Director instance to be used to automate and accelerate the customer's deployment of VMs and storage capacity. With the ability to provision compute and storage in a matter of minutes with vCD, NxtGen's customers secure true IT agility and flexibility through their use of NxtGen services.

Rajgopal also cited improved performance and enhanced visibility on the customer side as additional benefits of services delivered through NxtGen's VMware-based datacenters. He explained that "running slow kinds of scenarios" are often most challenging to his company because customers have not had visibility into the root cause of performance issues. However, with VMware technologies, and especially customer access to vRealize functionality, the frequency of calls has fallen substantially "because the customer knows what's wrong because they have much better visibility into the infrastructure." Meanwhile, having all-flash storage has eliminated the need for NxtGen to prioritize various workloads and enables it to deliver consistently strong performance and high levels of reliability for all of its customer-facing services.

NxtGen also benefits from its VMware datacenters in offering compute and storage services that it believes compare well with competing public cloud services in terms of not only performance (e.g., CPUs per VM and IOPS) but also very favorable performance-to-price ratios. Storage performance based on vSAN technology is especially favorable for NxtGen, with their tests showing random read and write IOPS performance consistently higher than competitors' results, and more than ten times higher than

certain competitors. This level of performance – when combined with prices based on an efficient, scalable datacenter environment – has helped NxtGen offer very attractive performance-to-price ratios that result in new business and revenue.

Rajgopal also credited improved security posture with helping NxtGen win new customers. He cited the ability to microsegment with VMware technology as especially important: "One of the key top-of-mind issues with our enterprise customers is security. When we tell our customers that they can localize security issues with microsegmentation and impose restrictions at a VM level, they see value." He explained further how VMware capabilities have differentiated NxtGen's services offerings: "NSX and its microsegmentation capabilities really enabled us by allowing our customers to put certain restrictions at the VM level. Our pitch has become more related to having a virtualized network and security capabilities, and that has become a differentiator for us as we compete for enterprise customers." NxtGen also offers third-party security services for its customers through a global IT service provider for activities such as security monitoring, incident response, and vulnerability assessments.

Rajgopal also noted how its VMware datacenters help it and its customers address GDPR requirements: "Our VMware cloud fully supports two key areas of GDPR compliance: data protection, because NSX helps customers automate data privilege policy, enforce policies, and restrict data transfer, while vSphere and vSAN provide data encryption at rest to ensure data protection that meets GDPR requirements, and policy creation and enforcement, because vRealize enables customers to create and enforce centralized policies for VMs and vSphere secures data deletion when required."

### ***Generating Operational Efficiencies***

Beyond helping NxtGen address more market opportunities, VMware technologies are helping the company extend its service footprint more efficiently, which in turn enables it to maintain the high performance-to-price ratios discussed previously. For NxtGen, this is an important cost and resource benefit as it progressively extends its business footprint. Rajgopal explained: "We are a growing company, so we do not reduce our team size as our efficiency improves. However, with VMware technologies, we are able to avoid further investments in team size. For example, **we have doubled our infrastructure in the last year without adding a single team member.**"

Rajgopal provided additional detail on how NSX helps his team manage networks for hybrid cloud environments efficiently and effectively: "NSX resolves multiple issues in building and managing networks for our customers. Unlike an enterprise, we have hundreds of private networks inside our infrastructure, and each customer has its own unique demands. The investment in NSX and VMware is allowing us to avoid increasing the team size in proportion to our capacity augmentation." This has already allowed NxtGen to avoid hiring up to 50 staff members, with further efficiencies as the company builds out its VMware datacenters, which **will result in 72% more efficient core IT staff teams.**

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Likewise, NxtGen is benefiting from more effective application and service development efforts with its VMware-based datacenters. As noted previously, these efficiencies relate back in particular to efficiencies in deploying new services, as well as increased agility in terms of **provisioning compute, storage, and networking capacity to developers, activities that now take minutes rather than hours.**

Rajgopal also commented on the overall cost-effectiveness of NxtGen's VMware-based datacenters and, especially, for enabling the company to maintain sufficient capacity to address latent and new customer demand without needing to overprovision these resources. He referenced flexibility in storage capacity with vSAN: "The reason we initially adopted vSAN — even before these new datacenters — is that it makes it very easy for us to add elastic capacity in small increments. When I need more storage or more compute, I just add a node to the cluster, and then a couple of hours later, I have more capacity. If we would have to deploy a large set of infrastructure and wait for customers to come, the economics wouldn't really work because we wouldn't know the size of compute and storage resources needed."

Rajgopal also noted that NSX has helped his company provide security cost-effectively. Without NSX, NxtGen would have needed to deploy thousands of dollars worth of firewalls at each datacenter. Further, NSX provided needed levels of security without adversely affecting latency, thereby helping ensure the strong performance of NxtGen services discussed in this study.

## Quantifying the Benefits

Based on interviews with Rajgopal, IDC has quantified the costs of building out NxtGen's VMware-based datacenters and the benefits the company anticipates achieving through its investment in these datacenters. IDC calculates that **NxtGen will achieve total benefits worth more than two times as much as total investment costs, resulting in an ROI of more than 2:1 (>100%) over five years and breakeven in just under two years.**

### *Increased Revenue*

By expanding its addressable market to medium-sized and large enterprises, NxtGen is already earning substantially more revenue from new customers. It expects to continue to onboard new customers across India, the Middle East, and Southeast Asia as it brings new datacenters online and extends the services it offers to its customers. **In total, NxtGen expects these datacenters to support business worth tens of millions of U.S. dollars in additional revenue per year.**

### *More Efficient Support*

By leveraging VMware products and technologies — especially NSX, vRealize, and vCD — NxtGen has been able to increase its datacenter capacity without adding new team members. It already has doubled its new datacenter capacity without adding more team members and expects to be able to expand further without needing to augment this team. **IDC expects that NxtGen will require a total of 72% less staff time to manage and support the infrastructure on which it runs its services than it otherwise would.**

### *More Effective Application and Service Development*

By leveraging its VMware infrastructure to deploy new services faster and minimize friction associated with provisioning compute, storage, and network resources, **NxtGen has increased the productivity levels of its development team. IDC projects that this team will work up to 50% more productively on its VMware-based infrastructure,** allowing this team to deliver substantially more value to the organization.

## ***Improved Service Performance and Reliability***

By improving the performance and reliability of its services, NxtGen ensures better performance for its customers and limits its risk of incurring liability for service credits. **IDC forecasts that NxtGen will reduce service credit payments by 44% compared with what it otherwise would have typically paid because of improved performance and reliability with its VMware-based datacenter infrastructure.**

## **Methodology**

IDC conducted interviews with Rajgopal to understand the impact of partnering with VMware to build out new datacenters on NxtGen's business results and operations. IDC gathered the information needed to quantify the benefits and investment associated with the company's VMware-based datacenters in these interviews and created an ROI analysis from the results.

IDC calculates the ROI and payback period in a three-step process:

- Measure the financial benefits directly resulting from the solution, including higher revenue, increased IT staff productivity, and reductions in service credits paid to customers.
- Ascertain the total investment.
- Project the investment and benefit over five years and calculate the ROI and payback period. The ROI is the five-year net present value (NPV) divided by the investment. Payback period (expressed in months) is the time required to pay back the initial investment and establish a positive cash flow. (To account for the time value of money, IDC bases the ROI and payback period calculations on a 12% discounted cash flow.)

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