

# Lenovo Client Virtualization

## Validated Design for Citrix XenDesktop on ThinkAgile HX

**Deliver greater reliability while simplifying the modern datacenter with Nutanix InstantOn**

### Simplify Solutions Infrastructure with ThinkAgile HX

Lenovo and Nutanix share a common vision of delivering an invisible infrastructure that does not demand significant time and resources to deploy and maintain. This frees IT to focus on delivering applications and drive innovation, greater efficiency and agility for their business.

The Lenovo ThinkAgile HX Appliance Series is simple to deploy. With compute, storage and virtualization co-located on a single node, the Lenovo ThinkAgile HX Appliance Series enables you to dramatically simplify your server, storage and virtualization deployments and pool your resources into a single virtualized infrastructure for more flexible and efficient utilization and management. Plus, it scales rapidly to meet the growing needs of your business. Lenovo designs its platforms with open standards, enabling easy integration with third-party partners for best-in-class offerings

While starting with as few as three nodes allows you to keep your acquisition costs down, the Lenovo ThinkAgile HX Appliance Series is capable of immense scalability as your needs grow. The capability of the Lenovo ThinkAgile HX platform to support the Citrix XenDesktop client virtualization workload and the Nutanix InstantOn feature is detailed herein.

### Client Virtualization with Citrix XenDesktop

Desktop virtualization and application virtualization have emerged as powerful tools to address a variety of IT challenges. These include growing end-user support costs, servicing remote and branch offices, improving information and application security and tackling initiatives such as BYOD and teleworking. Successful deployments of desktop and application virtualization always start with choosing the right solution from the right partners.

The validated converged infrastructure minimizes the risk of deploying persistent and non-persistent virtual desktops from pilot to production at scale. Getting started with Citrix XenDesktop and the Lenovo ThinkAgile HX appliance is quick and easy. For example, with the general-purpose Lenovo virtualization platform, the ThinkAgile HX3320, the award-winning Citrix XenDesktop is up and serving desktops in just a few hours, without introducing a complex storage configuration or network integration issues. Once deployed, the compute and storage infrastructure can be easily scaled with the patented Nutanix Acropolis Distributed Storage Fabric. Start small with initial deployments for one hundred end users or less and linearly scale to tens of thousands of users without any upfront costs, additional performance overhead, or complex management.

#### Highlights

- Simplify your IT infrastructure -- Allow your infrastructure to disappear into the background rather than demand significant time and resources
- Manage both cloud-based and traditional enterprise applications as a unified public cloud service
- Deploy virtual desktops in under 30 minutes, easily managed from the virtualization console
- Enable database consolidation and enjoy extreme performance for Microsoft SQL server applications

Using the Lenovo ThinkAgile HX3320, HX3520-G, HX5520, or HX7520 running Citrix XenDesktop® for your client virtualization architecture, you can deliver an excellent end-user experience for a diverse mix of users spread across different locations, for hundreds to tens of thousands of end users. Accelerate the journey to application and desktop virtualization with Nutanix and Citrix:

- Get started in a fraction of the time, without the upfront cost, and seamlessly scale as needed
- Ensure success with minimal to no risk with VDI Assurance and validated designs
- Create desktops with pre-assigned Nutanix service levels through Citrix XenDesktop Studio using the Nutanix plug-in
- Lower acquisition and ongoing costs by as much as 50% and run VDI alongside other workloads

The Lenovo ThinkAgile HX3320 can be used to deliver even higher performance using all flash local SSDs. The Lenovo ThinkAgile HX3520-G features two NVidia M60 GPUs that can be used in virtual GPU (vGPU) mode under VMware ESXi. These GPUs provide accelerated graphics for video or 3D and an improved experience for the most demanding end users and graphical applications.

## Nutanix InstantOn for Citrix Cloud

Given the speed at which the modern workplace is changing, IT organizations are increasingly challenged to keep pace with new digital workplace requirements. Growing businesses, especially those with smaller IT teams and lower budgets, struggle with implementing new solutions and delivering enterprise-level services.



Lenovo ThinkAgile HX3320 (top), HX3520-G (middle), and HX3720 (bottom) appliances

Further, legacy IT infrastructure, composed of separate silos of compute, storage, networking and virtualization resources, creates IT complexity, increases costs, reduces business speed and elevates risk.

To address these challenges, Lenovo has worked with Nutanix and Citrix to expand the ThinkAgile HX workload portfolio to support Nutanix InstantOn for Citrix Cloud, a tightly integrated hybrid cloud solution that simplifies and accelerates virtual application and desktop (VDI) deployments for companies of any size.

For those who are new to VDI or application virtualization, this solution delivers better end-user performance without on-premise management or complexity. Industry-best hyperconverged software from Nutanix on Lenovo's reliable platforms, plus Citrix Cloud management with a subscription-based licensing model, enable businesses to grow their desktop virtualization footprint and reduce their upfront CapEx.

### Invisible Infrastructure That Works

Companies of all sizes want to leverage virtual applications and desktops to increase business continuity and productivity while containing costs.

However, budget constraints, lack of IT specialists and increased infrastructure complexities can delay the decision to implement VDI and application virtualization. For many, the thought of implementing a separate virtual infrastructure while dealing with a three-tier architecture might seem like putting a square peg in a round hole. Considering all that is involved, to ensure a VDI implementation is successful, the choice of infrastructure platform becomes extremely critical.

Deploying the Lenovo ThinkAgile HX platform with Nutanix InstantOn for Citrix Cloud makes infrastructure almost invisible, which means organizations can focus on the applications that drive the business instead of getting bogged down by infrastructure management. Lenovo, Nutanix, and Citrix make this possible by converging silos of compute, storage, networking into a highly reliable, hyperconverged platform, with the virtualized app managed in the Citrix Cloud.

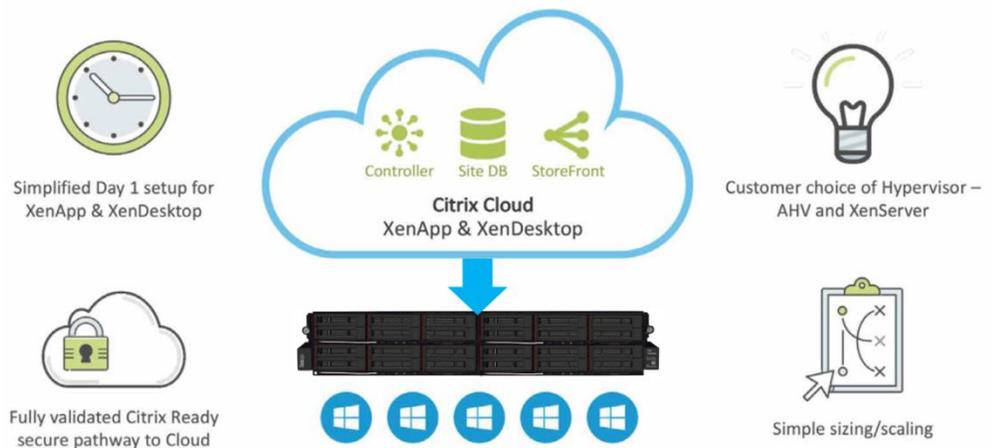
## Citrix Cloud XenApp and XenDesktop Services: Secure Digital WorkSpaces for All

Citrix delivers secure digital workspaces, enabling employees to be productive with access to their apps, desktops and data from anywhere, on any device. Citrix XenApp and XenDesktop are leading app and desktop virtualization platforms, delivering Windows, Linux, web and SaaS applications or full virtual desktops from any cloud—public, on premise, or hybrid.

Now, with the new ThinkAgile HX with Nutanix InstantOn XenApp and XenDesktop Service for Citrix Cloud, businesses can deliver the same industry-leading app and desktop delivery platform as a hybrid cloud service. Best of all, the infrastructure components of a typical XenApp and XenDesktop deployment are managed and monitored by Citrix, giving you instant access to the latest productivity features as soon as they become available.

XenApp and XenDesktop Service also radically simplifies the deployment of virtual apps and desktops across the hybrid cloud by enabling businesses to deploy their workloads to any cloud, any hypervisor, or any location, while securely giving their users anywhere access to their apps and data.

This allows businesses to focus on line-of-business applications and deliver a unique workspace experience to their users, while keeping data secure in the location of their choice.



Simply put, when running a hybrid cloud environment, Citrix Cloud XenApp and XenDesktop Service gives businesses faster deployment times, minimized infrastructure requirements and reduced ongoing maintenance, thus accelerating the time-to-value of delivering secure digital workspaces to their users.

### Nutanix InstantOn for Citrix Cloud: Accelerating VDI Deployments

By combining the usability of Citrix Cloud with the simplicity of Nutanix, ThinkAgile HX with Nutanix InstantOn for Citrix Cloud delivers a turnkey VDI and application virtualization solution that greatly reduces implementation complexities across the complete solution stack. Enterprise and SMBs can implement hybrid cloud VDI within hours of racking the appliance. Plus, with the subscription-based pricing from XenApp and XenDesktop Service, and the scale-as-you-grow model from Lenovo and Nutanix, they can greatly reduce upfront CapEx costs—while the streamlined solution stack reduces ongoing maintenance and the need for specialized IT resources.

Some of the other key benefits of the solution include:

- **Reduced Total Cost of Ownership:** Lenovo's ThinkAgile HX appliances allow companies to deploy the appropriate amount of server, storage and networking resources to meet their current requirements, thereby eliminating risk and mitigating over-provisioning.
- **High Performance and Reliability:** The ThinkAgile HX with Nutanix InstantOn solution runs on the industry's most reliable platforms, which also support the 2-socket world record in virtualization performance .
- **Greater mobility, productivity and security for professional workstation users:** Virtualized professional workstations powered by Lenovo, Nutanix, and Citrix deliver secure productivity and performance on any device.
- **Ease of Scale:** Using Lenovo ThinkAgile HX with Nutanix InstantOn for Citrix Cloud, businesses can start with a small VDI pilot project and grow to thousands of users without disruption, performance-related risks or large, upfront costs.
- **Faster Turnkey Deployment:** Lenovo ThinkAgile HX with Nutanix InstantOn for Citrix Cloud also gives IT teams the benefit of a turnkey and risk-free VDI and application virtualization solution that delivers faster time-to-value.

Designed for easy deployment and manageability in scale-out clusters, the Lenovo ThinkAgile HX Series integrates Nutanix software onto Lenovo's highly reliable and scalable servers.



## Configuration Details

Starting with as few as three nodes to keep acquisition costs down, the Lenovo ThinkAgile HX Appliance Series are capable of immense scalability as needs grow. The Lenovo ThinkAgile HX Appliance Series are available in several families that can be tailored to individual business needs:

- Lenovo ThinkAgile HX3000 Series: optimized for compute-heavy environments
- Lenovo ThinkAgile HX5000 Series: optimized for storage-heavy workloads
- Lenovo ThinkAgile HX7000 Series: optimized for high-performance workloads.

## Why Lenovo

Lenovo is a leading provider of x86 servers for the data center. Featuring rack, tower, blade, dense and converged systems, the Lenovo server portfolio provides excellent performance, reliability and security. Lenovo also offers a full range of networking, storage, software, solutions, and comprehensive services supporting business needs throughout the IT lifecycle. With options for planning, deployment, and support, Lenovo offers expertise and services needed to deliver better service-level agreements and generate greater end-user satisfaction.

## For More Information

To learn more about the Lenovo ThinkAgile HX Appliance Series and the solutions supported on these appliances, contact your Lenovo Business Partner or visit:

- [Lenovo ThinkAgile HX Series](#)
- [Lenovo Client Virtualization Validated Design for Citrix XenDesktop on ThinkAgile HX](#)

Lenovo ThinkAgile Appliances on the Citrix Ready Marketplace:

- [Lenovo ThinkAgile HX3320](#)
- [Lenovo ThinkAgile HX3520-G](#)
- [Lenovo ThinkAgile HX5520](#)
- [Lenovo ThinkAgile HX5520-C](#)
- [Lenovo ThinkAgile HX7520](#)

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