Enterprise Strategy Group by TechTarget

ECONOMIC VALIDATION

The Economic Benefits of Lenovo ThinkAgile HX Series with Nutanix Cloud Platform

HCI Solution Combining Lenovo Hardware With Nutanix Software Delivers Simplicity, Streamlined Operations, and Reduced Risk, While Lowering Infrastructure TCO by up to 61% and Providing a 418% ROI

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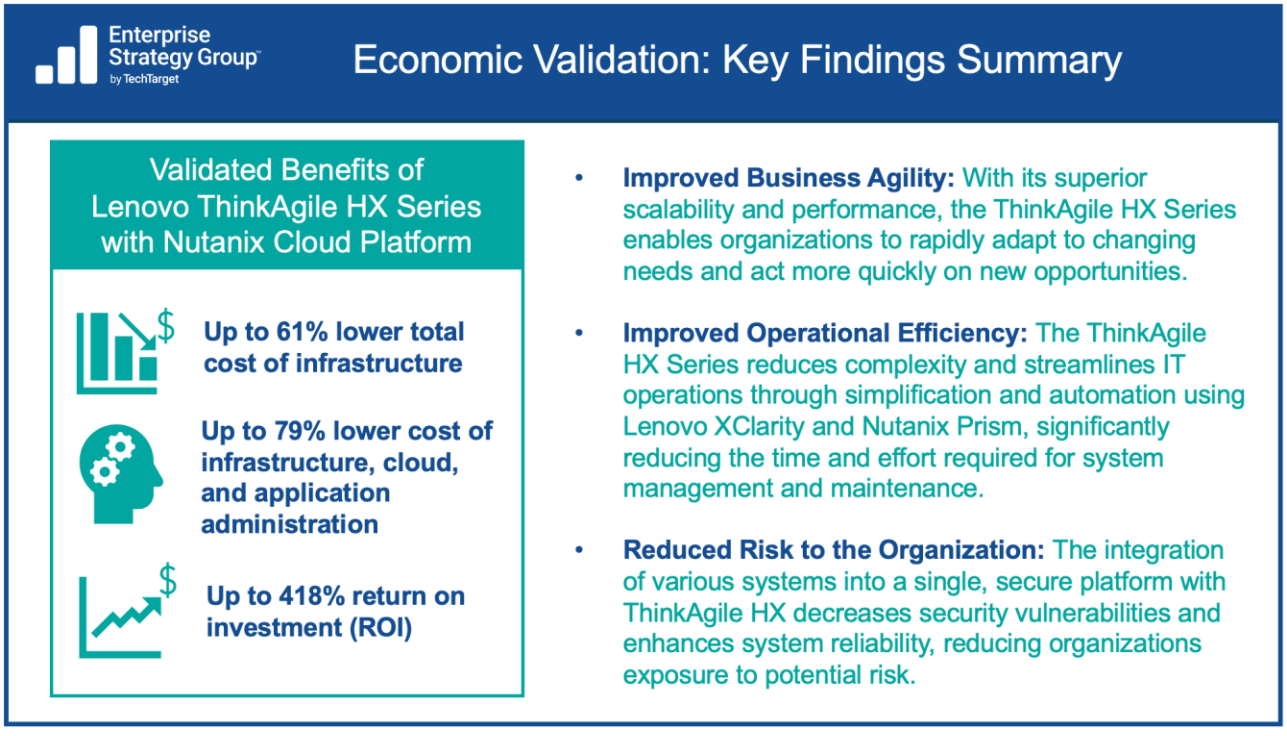

Introduction

This Economic Validation by TechTarget's Enterprise Strategy Group explores the quantitative and qualitative benefits organizations can realize when supporting scalable, hybrid cloud data and workloads with Lenovo ThinkAgile HX Series hyperconverged infrastructure (HCI solutions) with Nutanix Cloud Platform, versus traditional three-tier IT infrastructure solutions composed of separate server, network, and storage infrastructure.

Customer Challenges

Today's organizations are adapting to a rapidly evolving IT landscape marked by a shift toward digital operations and the adoption of hybrid cloud environments. They face significant challenges, including the need for rapid and secure data access, enhanced cybersecurity, and effective management of complex workloads such as AI and machine learning (ML). Moreover, they must address sustainability concerns, particularly reducing power consumption and minimizing carbon footprints, which align with broader environmental and corporate social responsibility goals. Cost constraints are also a critical challenge, as business budgets need to accommodate these new technologies while maintaining operational efficiency. Additionally, deriving valuable insights from vast data amounts and the complexity of integrating information from multiple sources pose substantial operational challenges. As outlined by Enterprise Strategy Group research, these challenges are not limited to infrastructure but extend to data management, compliance, and security.[1]

Figure 1. Some of the Challenges and Considerations for Hybrid Cloud Environments

Source: Enterprise Strategy Group, a division of TechTarget, Inc.

Hyperconverged infrastructure presents a streamlined alternative to traditional three-tier data center setups, integrating computing, storage, and networking to reduce administrative burdens. According to Enterprise Strategy Group, the primary drivers for HCI adoption include improved scalability (42%), IT automation (41%), staff productivity (39%), and hybrid cloud management (36%), with 84% of organizations reporting increased agility post-deployment.[2] Organizations that we have spoken with have also mentioned that the ability to simplify edge deployments had played a large role in their decision to adopt HCI.

[1] Source: Enterprise Strategy Group Complete Survey Results, *Navigating the Evolving AI Infrastructure Landscape*, December 2023.
[2] Source: Enterprise Strategy Group Complete Survey Results, *Navigating the Cloud and AI Revolution: The State of Enterprise Storage and HCI*, February 2024.

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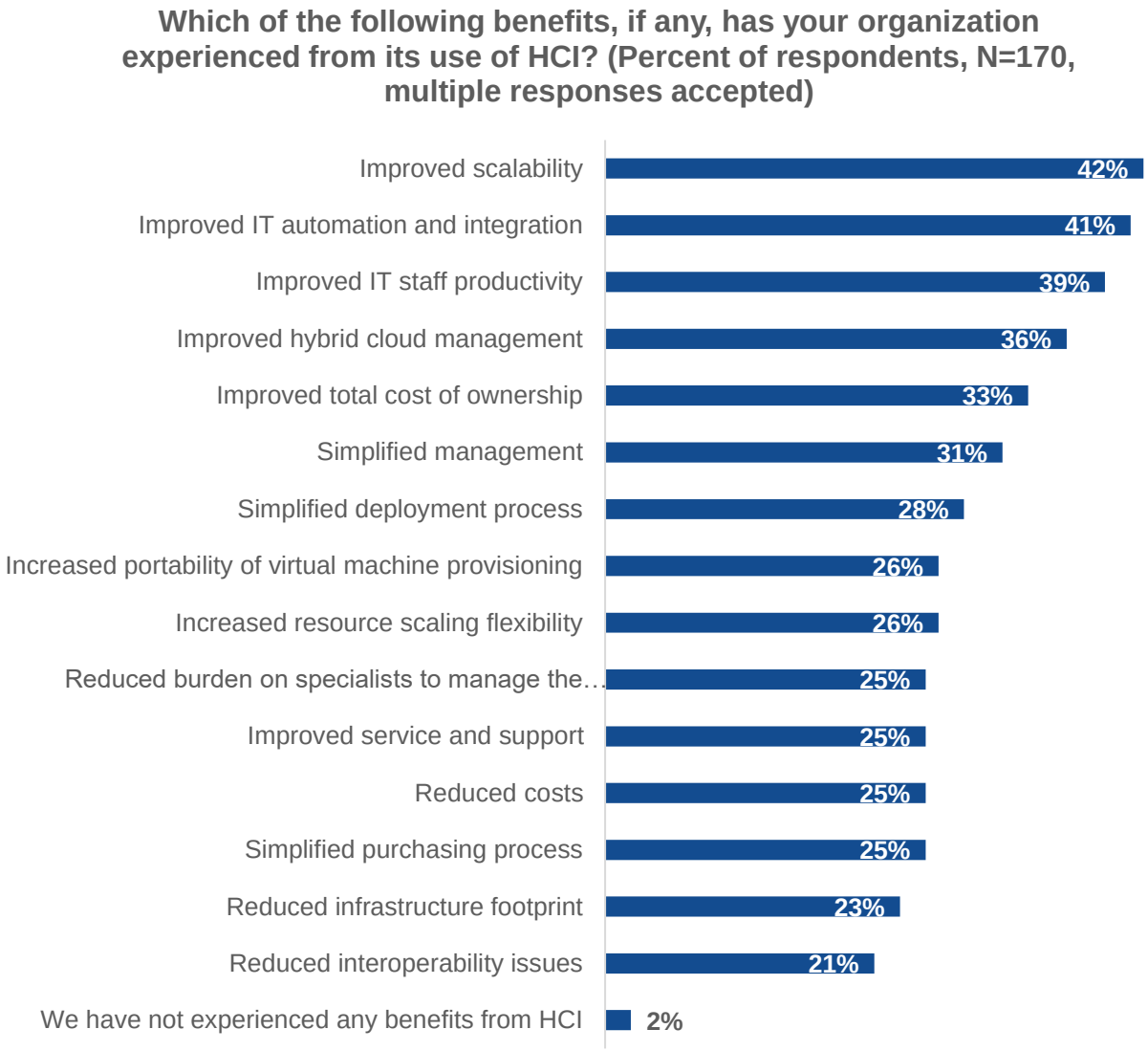
Figure 2. Why Organizations Choose to Deploy Hyperconverged Infrastructure



Source: Enterprise Strategy Group, a division of TechTarget, Inc.

Organizations are focusing on strategic IT infrastructure management initiatives such as cost reduction, operational efficiency, rapid solution deployment, and enhanced security to address imperative goals. Yet, they encounter widespread challenges: managing diverse interfaces, navigating siloed equipment from multiple vendors, wrestling with complex management tools that generate excessive system alerts, performing manual tasks, and contending with a lack of centralized visibility. These hurdles lead to inefficiencies and negative financial implications.

In such a dynamic IT environment, choosing the right solution is critical. HCI solutions vary, with some excelling in robust hardware and others in advanced software capabilities. Successful organizations typically opt for a balanced approach, combining superior hardware with cutting-edge software to effectively meet their unique IT challenges and succeed in today's fast-paced tech world.

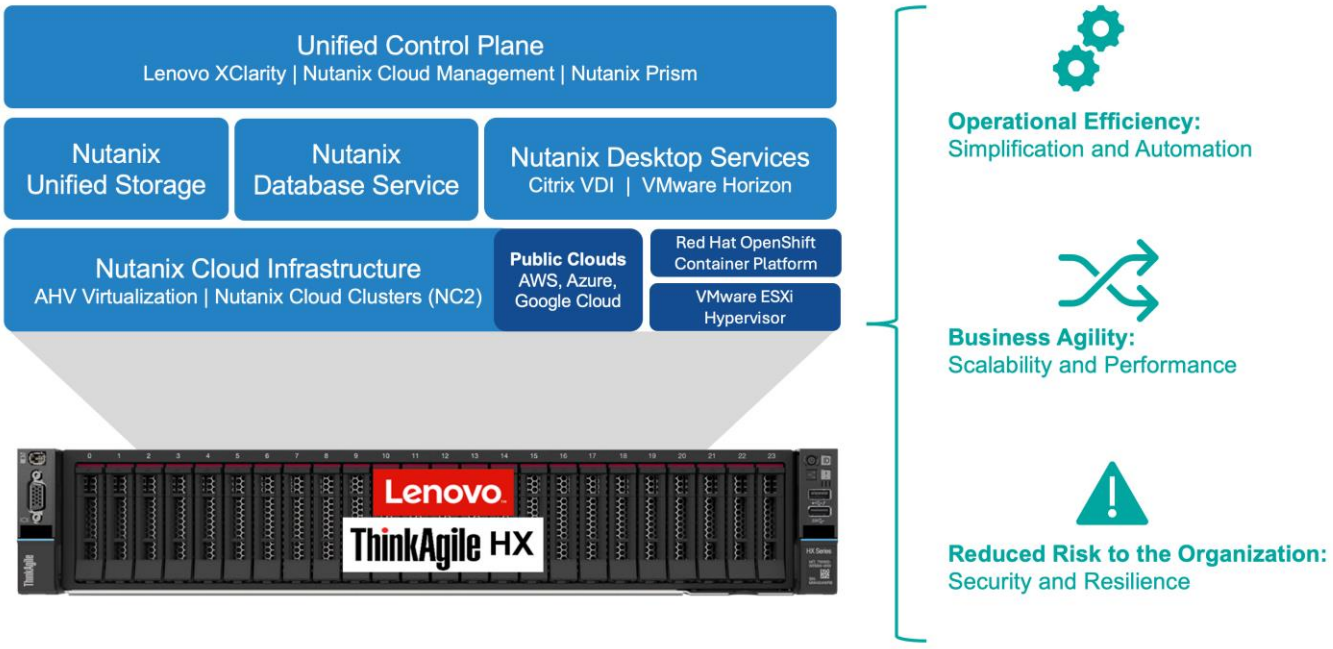
The Solution: Lenovo ThinkAgile HX Series with Nutanix Cloud Platform

Lenovo ThinkAgile HX Series is a hyperconverged infrastructure solution that integrates storage, computing, and virtualization into a scalable and reliable server with Nutanix software. By organizing servers into clusters, ThinkAgile HX creates a unified resource pool for both compute and storage, accessible via a single management interface. This setup simplifies IT complexity and enhances agility. Within this ecosystem, Nutanix Cloud Platform provides software packages that manage hybrid and multi-cloud environments and applications across both on-premises settings and hyperscale cloud platforms. These packages include comprehensive tools for foundational infrastructure, storage, database management, and virtual desktop provisioning.

Model offerings include the following:

- **HX630 V3 ROBO and HX630 V3.** Engineered for a range of workloads, from business applications to virtual desktop infrastructure (VDI), these models are optimized for remote office/branch office environments and databases.
- **HX645 V3.** This model is designed for general virtualization and VDI, including remote office/branch office (ROBO) settings.
- **HX650 V3 and HX665 V3.** These models are ideal for in-memory databases, analytics, AI/ML, VDI, and mission-critical workloads.
- **HX650 V3 Storage and HX665 V3 Storage.** These are engineered for big data and high-capacity needs, such as media content and storage, home directories, general file shares, healthcare/PACs, data backup and archiving, media streaming, and backup targets.
- **SAP HANA models (HX630 V3 for SAP HANA, HX650 V3 for SAP HANA).** Tailored and certified for SAP HANA applications, these offerings ensure optimal performance and reliability.

Figure 3. Solution Overview: The Lenovo HX Series with Nutanix Cloud Platform



Source: Enterprise Strategy Group, a division of TechTarget, Inc.

Key features, as summarized in Figure 3, include the following:

- **End-to-end solution.** ThinkAgile HX is a complete end-to-end solution with hardware, software, and services bundled as part of the solution with single point of support from Lenovo for both ThinkAgile HX hardware and Nutanix software.
- **Hybrid cloud integration.** ThinkAgile HX seamlessly integrates with major cloud platforms and edge environments enabling easy transitions between on-premises, edge, and cloud environments, while effectively managing and optimizing workloads.
- **AI-enabled solutions.** Equipped with the latest GPUs, ThinkAgile HX excels in high-performance computing tasks necessary for AI inferencing and machine learning, driving forward technological innovation and operational improvements in both data center and edge environments.
- **Scalability.** ThinkAgile HX enables easy addition of nodes to quickly adapt to increasing or evolving workload demands. Customers can start with a single node and scale quickly, ensuring that IT infrastructure can grow with business needs without disruptions.
- **Minimized total cost of ownership (TCO).** The HX series reduces TCO by unifying the functions of powerful management tools like Lenovo XClarity and Nutanix Prism to simplify operations, reduce costs, and enhance user experiences by automating and streamlining workload management. It further reduces TCO by providing a single point of support for both hardware and software, thus avoiding the need to reach out to separate vendors. Lenovo ensures seamless service with end-to-end case management through Premier Support.
- **Comprehensive security.** The solution secures sensitive data with advanced encryption and access controls through ThinkShield, enhanced by Nutanix Flow Network Security, which provides microsegmentation between applications, reducing the blast radius of an event and providing a more clear path to a zero-trust architecture, including real-time threat monitoring, ensuring a robust security posture.
- **Resiliency and business continuity.** ThinkAgile HX features Lenovo's x86 servers, which offer industry-leading reliability along with robust disaster recovery and backup solutions from third-party vendors like Veeam and Cohesity that minimize data loss and downtime.
- **Sustainability.** It promotes eco-friendly operations through sustainable practices and efficient resource use, offering CO_2 offsets and Asset Recovery Services to help organizations achieve their environmental goals.
- **Infrastructure as a Service (IaaS).** Lenovo TruScale Infrastructure as a Service with Nutanix offers flexible, on-premises data center solutions that are managed and scaled according to business needs, providing cost-effective services that reduce both physical and environmental impacts.

Enterprise Strategy Group Economic Validation

Enterprise Strategy Group's Economic Validation process is a proven method for understanding, validating, quantifying, and modeling the economic value propositions of a product or solution. The process leverages Enterprise Strategy Group's core competencies in market and industry analysis, forward-looking research, and technical/economic validation. Enterprise Strategy Group conducted in-depth interviews with end users to better understand and quantify how ThinkAgile HX has improved their organizations' operational efficiency, scalability, and security posture, particularly compared with previously deployed and/or experienced three-tier infrastructure solutions. The qualitative and quantitative findings were used as the basis for an economic model comparing the expected costs and benefits that can be realized by transitioning to hyperconverged infrastructure. This model highlights the potential for significant cost savings, reduced complexity, and enhanced business agility, providing a compelling argument for organizations considering an upgrade or shift in their IT strategy.

ThinkAgile HX Series Economic Overview

Enterprise Strategy Group's economic analysis revealed that adopting ThinkAgile HX solutions for managing hybrid cloud environments offers organizations significant advantages. In comparison to traditional three-tier architectures, ThinkAgile HX yields notable cost savings, along with administrative, security, and agility improvements. The key benefits identified are:

- **Operational efficiency.** ThinkAgile HX reduced complexity and streamlined IT operations through simplification and automation, significantly reducing the time and effort required for system management and maintenance.
- **Business agility.** With its superior scalability and performance, the ThinkAgile HX Series enabled organizations to rapidly adapt to changing needs and seize new opportunities more quickly than ever before.
- **Reduced risk to the organization.** The integration of various systems into a single, secure platform with ThinkAgile HX decreases security vulnerabilities and enhances system reliability, reducing organizations' exposure to risk.

Operational Efficiency

Operational efficiency is essential in a modern IT strategy as organizations strive to streamline processes, reduce expenses, and enhance productivity. Transitioning to HCI, especially with Lenovo ThinkAgile HX, meets these objectives by refining IT management. Based on Enterprise Strategy Group findings and customer insights, ThinkAgile HX markedly elevates operational efficiency in several critical aspects:

- **Reduced management complexity.** According to customer testimonials validated by Enterprise Strategy Group, ThinkAgile HX provides a unified management experience, significantly simplifying the administration of hyperconverged infrastructures. Clients noted that the single-pane-of-glass view via Nutanix Prism Central made the management process up to 70% more efficient than with their previous three-tier systems. The inclusion of lifecycle management (LCM) available through Prism allows for a one-click firmware/software upgrade process, further enhancing ease of use. For more advanced hardware management, customers mentioned they also have the option to utilize Lenovo XClarity, which adds an extra layer of hardware control and visibility. A customer shared how the ease of use with ThinkAgile HX's intuitive interface has led to a drastic reduction in training time—from as much as 15 hours down to an efficient two hours—enabling new employees to be productive much more quickly.

  "Two specialists used to spend 70% of their time on our legacy systems; now, one junior can manage the easy-to-use ThinkAgile HX with just 30% of his time, freeing our experts for strategic work."

- **Automated workflows.** Users of ThinkAgile HX benefit from enhanced automation capabilities for both infrastructure and applications using NCM Intelligent Operations and NCM Self-Service. Enterprise Strategy Group has previously validated up to 91% administrative savings through Intelligent Operations and Self-Service automation and orchestration.[3] Integrating Nutanix Cloud Manager expands these capabilities, enabling seamless automation across hybrid and multi-cloud setups. This integration simplifies complex processes, significantly boosting operational efficiency. As one user stated, **"HX automation has really simplified our regular work. There's more to explore, and we're excited about what we can do next with it."**

[3] Source: Enterprise Strategy Group Economic Validation, *The Economic Benefits of Intelligent IT Automation with Nutanix Prism and Calm*, July 2020.

- **Reduced hardware complexity.** Customers we spoke with mentioned how ThinkAgile HX significantly reduces hardware complexity by offering a consolidated solution that integrates various storage types and server functionalities into one unified system. This consolidation results in fewer hardware components to manage, deploy, cable, and service compared with traditional three-tier architectures, which often involve complex integration of disparate systems. Additionally, ThinkAgile HX features a compatibility matrix for supported firmware across all hardware components, enhancing system reliability and streamlining maintenance. Enterprise Strategy Group's validation highlights that customers appreciate the reduced time and effort needed to manage hardware components and point solutions. One customer noted, **"The decreased need to oversee separate hardware components and multiple-point solutions has been a major advantage, enhancing our operational efficiency substantially."**
- **Simplified support and maintenance.** Users of ThinkAgile HX benefit from a simplified support experience, as all services are consolidated under a single vendor. XClarity enhances this by managing hardware alerts across all subsystems, even when the OS is unavailable, and its Light Path Diagnostics quickly identify failing components. Prism complements these features by providing clear visibility into system performance and health, which minimizes interoperability issues and reduces the need for multiple management tools. This streamlined approach reduces complexity and significantly shortens resolution times. For instance, one customer noted, **"Since we switched to ThinkAgile HX, the reduction in alerts and the improved clarity have minimized vendor finger-pointing, cutting our troubleshooting time significantly."** Another added, **"With Lenovo as our sole support provider, we've reduced deployment times from months to weeks."**
- **Simplified integration.** ThinkAgile HX enhances IT operations through seamless integrations with various enterprise tools and platforms, including ServiceNow, Veeam, Cohesity and Citrix. This connectivity simplifies the IT landscape, saving organizations time by minimizing compatibility issues and reducing the need to manage multiple disparate solutions. One customer highlighted the practical benefits, stating, **"Integrating with Veeam is straightforward and critical for us, particularly in disaster recovery situations. Before, we couldn't back up virtual machines at all."**

Business Agility

The ability to quickly scale, pivot, and act on new business opportunities is pivotal for organizations to remain competitive and responsive in a dynamic market landscape. Enterprise Strategy Group's analysis reveals how ThinkAgile HX streamlines scalability, flexibility, and performance optimization, significantly contributing to a faster time to value and offering cost options with clear visibility—key factors enabling businesses to adapt quickly to evolving demands and opportunities. Customers reported savings and benefits in the following categories:

> **"ThinkAgile HX really changed the game for us. It's quick to scale and adapts easily to our needs."**

- **Scalability.** Enterprise Strategy Group has validated that ThinkAgile HX significantly simplifies scaling, enabling organizations to adjust their infrastructure swiftly and efficiently. Unlike traditional three-tier architectures, which can take weeks or months to expand, scaling with ThinkAgile HX involves merely adding a new node. Customers can even start with one node clusters, enhancing flexibility. This approach eliminates the need for overprovisioning and avoids project delays. A customer shared, **"Previously, scalability was challenging with our old infrastructure. Now, with ThinkAgile HX, scaling up is just a matter of purchasing and provisioning a new node."**
- **Flexibility.** Users of ThinkAgile HX enjoy enhanced organizational agility thanks to its flexible infrastructure, which supports configurations tailored to specific application needs, including GPU-equipped nodes that are ideal for AI tasks. The ThinkAgile XClarity management platform enables straightforward adjustments in compute, storage, and GPU settings, enhancing operational adaptability. A customer noted, **"Being able to customize nodes for each of our specific workloads has greatly increased our operational flexibility."**

- **Performance optimization.** Customers reported significant performance improvements using the HX Series, with advanced GPU support boosting processing efficiency and speed for databases, VDI, and AI and ML workloads. Integrated Prism tools provide clear visibility into performance metrics, allowing for precise adjustments. This capability leads to quicker task execution and greater overall efficiency, enabling organizations to rapidly meet business demands. Previous Enterprise Strategy Group economic validations show that, by consolidating to new and powerful HCI nodes, customers have experienced up to a 50% improvement in application performance compared with their legacy three-tier environments. A customer remarked, **"After moving from our old three-tier setup to the HX Series, we saw a marked improvement in application performance, which improved our end-user experiences."**
- **Faster time to value.** ThinkAgile HX Series accelerates the journey to value by streamlining deployment, updates, and provisioning, ensuring rapid scalability. The entire solution—including software, hardware, and services—can be ordered through Lenovo, simplifying the procurement process. Additionally, a cluster can be deployed in just 45 minutes. This starkly contrasts with the lengthy timelines associated with traditional three-tier solutions, which often require extensive planning, are prone to supply chain delays, and demand prolonged integration and testing periods. The HX Series simplifies and speeds up these processes, enabling businesses to quickly seize new opportunities and reduce time to market. A customer shared, **"With ThinkAgile HX, tasks that once took months now only take days. This responsiveness is crucial for maintaining our competitive edge in a rapidly changing market."**
- **Cost options and visibility.** ThinkAgile HX Series offers a variety of purchasing options and improved visibility into costs and usage, enhancing financial flexibility and insight. Organizations can choose from appliance-based pricing linked to hardware life or capacity-based pricing based on physical CPU cores and SSD capacity within a cluster. This flexibility allows for tailored budget strategies, accommodating Capex or Opex preferences. The Prism interface provides detailed insights into infrastructure and workload costs, facilitating informed, strategic financial planning and quicker adaptation to changing business needs. This visibility can result in more effective resource allocation and cost optimization, ensuring that IT investments align with strategic business objectives to better support organizational agility and financial sustainability in a dynamic market.

Reduced Risk to the Organization

ThinkAgile HX Series mitigates operational and financial risks by improving system uptime and reducing the risk of both mechanical and human errors. By simplifying infrastructure management, ThinkAgile HX reduces time spent on troubleshooting and reactive issue management (prevalent in legacy three-tier systems), which frees IT teams to concentrate on strategic initiatives that fuel business growth. Such a transformation not only boosts operational efficiency but also fortifies the IT environment, significantly decreasing the likelihood of business disruptions that result in financial impact. Customers have reported notable savings and improvements in several key areas:

"ThinkAgile HX has transformed our IT landscape: Downtime is a thing of the past, and issues are resolved in minutes, not hours."

- **Risk mitigation.** ThinkAgile HX Series reduces the risk of cybersecurity threats by incorporating Lenovo's ThinkShield security solutions, which fortify the infrastructure with advanced data encryption and secure access controls. Lenovo enhances these protections with a secure supply chain that builds security into products from the start of development. Lenovo controls its manufacturing process and uses a Trusted Supplier Program to ensure suppliers meet stringent security standards, significantly enhancing the security framework of the HX Series. Additionally, Nutanix Unified Storage, coupled with Data Lens, equips the HX Series with robust defense mechanisms, including real-time insights, alerting, and automated threat remediation. This proactive security approach is enhanced by Nutanix Prism, which features role-based access control, data-at-rest encryption, and automated compliance checks to improve data protection and system integrity. The streamlined architecture of ThinkAgile HX reduces the complexity and potential for human error associated with more complex three-tier systems. A

customer noted, **"The ThinkAgile HX Series has strengthened our cybersecurity posture, has effectively prevented potential threats, and has minimized disruptions."**

- **Reduced downtime.** The ThinkAgile HX Series significantly lowers the risk of downtime and the associated costs through rock-solid hardware design, proactive risk management, and enhanced security measures. Lenovo's XClarity management platform promotes early detection of potential issues, resulting in faster remediation, improved system reliability, and minimized disruption to workloads and productivity. The integrated Veeam backup solutions also ensure rapid recovery capabilities, protecting against ransomware and strengthening system resilience. Supported by Lenovo's x86 servers, which have been recognized for industry-leading reliability for nine consecutive years,[4] ThinkAgile HX provides a sturdy foundation. Its integrated, scalable, and automated maintenance features prevent operational downtime and guarantee business continuity. A customer shared, **"Before switching to HX, we experienced up to five hours of downtime over five years. Since adopting HX, we've had zero downtime, allowing us to have full trust in our system and peace of mind."** This shift underscores ThinkAgile HX's role in sustaining continuous operations and safeguarding against potential revenue losses and damage to brand reputation.
- **Fewer interoperability issues and simplified troubleshooting.** ThinkAgile HX Series further reduces the risk of potential downtime impact to workloads by ensuring all hardware components seamlessly work together, facilitating smoother third-party interoperability and providing a simplified troubleshooting process. Its advanced system architecture, characterized by pretested and preconfigured updates, minimizes the risk of compatibility issues that can disrupt IT operations. Nutanix Prism and Lenovo XClarity enhance visibility, enabling rapid resolution of issues and significantly reducing troubleshooting times. With a single point of contact for both hardware and software issues, operations are streamlined, eliminating vendor disputes over responsibility and significantly mitigating risk by maintaining operational consistency and reliability. A customer shared, **"With ThinkAgile HX, we reduced our troubleshooting times from five hours to just two minutes,"** marking a substantial improvement over their previous three-tier architecture.

Enterprise Strategy Group Analysis

Enterprise Strategy Group utilized vendor-provided materials, public and industry knowledge of economics and technologies, and insights from customer interviews to construct a five-year return on investment (ROI) model. This model compares the costs and benefits of deploying the ThinkAgile HX series for virtualized workloads in a hybrid cloud environment against a traditional three-tier architecture. Enterprise Strategy Group's interviews with customers who have recently made the transition, combined with experience and expertise in economic modeling and technical validation of Nutanix and ThinkAgile HX solutions, helped to form the basis for our modeled scenario.

Our model focused on a typical enterprise organization with an existing three-tier deployment consisting of 24 servers, two Fibre Channel (FC) SAN switches, and an enterprise all-flash storage array with approximately 161 TB of effective storage capacity. The organization was considering whether to continue leveraging and expanding its aging architecture; refresh their server environment with fewer, higher-density servers; or consolidate and simplify the infrastructure on to Lenovo ThinkAgile HX650 V3 nodes. Based on the relative technical specs of the servers (shown in the Appendix), we assumed that each HX650 V3 node and refreshed server would consolidate the VMs currently running on four existing servers. We also assumed the organization would continue to grow the infrastructure by adding the equivalent of two HX650 V3 nodes of compute and storage capabilities per year going forward (see Table 1).

[4] Source: Lenovo, *ITIC 2023 Global Server HW, Server OS Reliability Report*, September 2023.

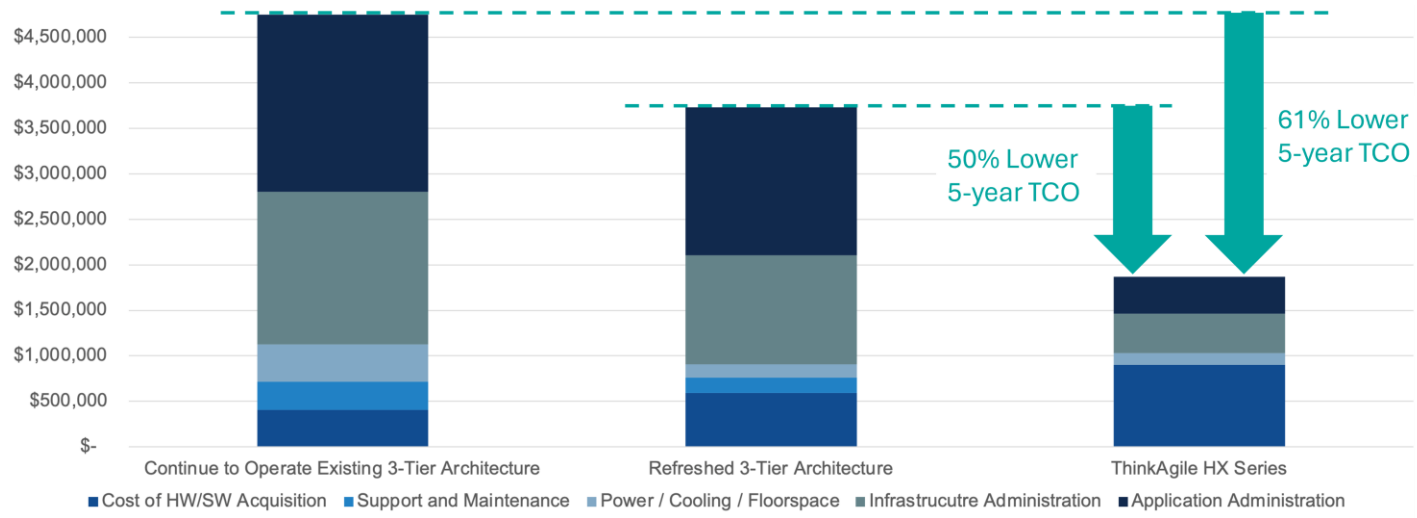
Table 1. Five-year Assumed Infrastructure Requirements for Virtualized Workloads

Use Case	Year 1	Year 2	Year 3	Year 4	Year 5
Continue to use existing 3-tier infrastructure	24 servers 2 FC switches 161 TB of all-flash storage	32 servers 2 FC switches 161 TB of all-flash storage	40 servers 2 FC switches 161 TB of all-flash storage	48 servers 2 FC switches 161 TB of all-flash storage	52 servers 2 FC switches 161 TB of all-flash storage
Refresh 3-tier infrastructure environment	6 servers 2 FC switches 161 TB of all-flash storage	8 servers 2 FC switches 161 TB of all-flash storage	10 servers 2 FC switches 161 TB of all-flash storage	12 servers 2 FC switches 161 TB of all-flash storage	14 servers 2 FC switches 161 TB of all-flash storage
Consolidate onto Lenovo ThinkAgile HX	6 HX650 V3 nodes	8 HX650 V3 nodes	10 HX650 V3 nodes	12 HX650 V3 nodes	14 HX650 V3 nodes

Source: Enterprise Strategy Group, a division of TechTarget, Inc.

For each of the use cases, the model considered the expected costs of hardware and software acquisition, support and maintenance, power/cooling/floor space, infrastructure administration, and application administration. Our model predicted that Lenovo ThinkAgile HX series could provide a five-year TCO that is 61% lower than continuing to operate and grow the existing three-tier infrastructure and 50% lower than refreshing and consolidating with three-tier infrastructure. The results are shown in Figure 4.

Figure 4. Expected Five-year TCO Comparison



Source: Enterprise Strategy Group, a division of TechTarget, Inc.

What the Numbers Mean

By consolidating workloads to ThinkAgile HX series, the organization could realize savings amounting to $3.75M over five years. This represents a potential ROI of 320% to 418%+, highlighting the significant economic advantage and improvements the ThinkAgile HX series offers over traditional three-tier architectures in supporting virtualized workloads on hybrid cloud environments. As shown in Figure 4, this $3.75M in total savings was calculated based on the following:

- **Hardware and software cost of acquisition.** The "continuing to operate the three-tier architecture" case considered only the cost to purchase equivalently configured servers for growth since all other hardware and software were already owned. The "refreshed three-tier" case considered the cost to purchase all servers, SAN switches, and the all-flash storage array with associated software. The ThinkAgile HX Series acquisition cost reflects all-inclusive pricing of the hardware, software, support and maintenance, and deployment services. We did not consider any hypervisor-related costs, and it should be noted that organizations could save substantial costs if using the included AHV hypervisor rather than VMware.
- **$167K to $308K avoided cost of support and maintenance.** 24/7 four-hour support and maintenance was included for ThinkAgile HX Series, avoiding up to $308K in support and maintenance costs over five years.
- **13% to 68% lower cost of power, cooling, and floor space.** ThinkAgile HX savings were realized because there was less hardware to deploy, power, and cool, including fewer nodes (versus servers), no SAN switches, and no separate storage array. Power and cooling requirements were calculated using vendor-provided power calculators for each solution at an assumed 70% utilization. We assumed a cost of $0.13/kWh for electricity and a floor space cost of $286 per rack unit.
- **64% to 74% lower cost of infrastructure administration.** This is the cost to deploy, manage, and maintain the physical infrastructure, including the servers, network switches, and storage arrays. Our models predicted that continuing to operate the existing environment would require an average of 1.6 system administrators. By refreshing and consolidating to 4x fewer servers, the organization could manage infrastructure with only 0.8 system administrators, and by consolidating to the ThinkAgile HX Series, this burden could be reduced to only 0.3 system administrators.
- **75% to 79% lower cost of cloud and application administration.** We also modeled the expected cost to manage and operate the hypervisors and cloud instances, as well as to deploy, manage, and scale applications running on the systems. We assumed that continuing to operate and scale the existing deployment would require the equivalent of 1.2 administrators. By refreshing and consolidating to fewer servers, the organization could manage infrastructure with a single system administrator, and by consolidating to the ThinkAgile HX Series and leveraging the automation and playbooks provided by Prism and Self-Service, this burden could be reduced to only 0.25 administrators. We assumed a 75% reduction in effort due to Prism and NCM Self-Service playbook automation (Enterprise Strategy Group has validated up to 91% savings in a previous report).

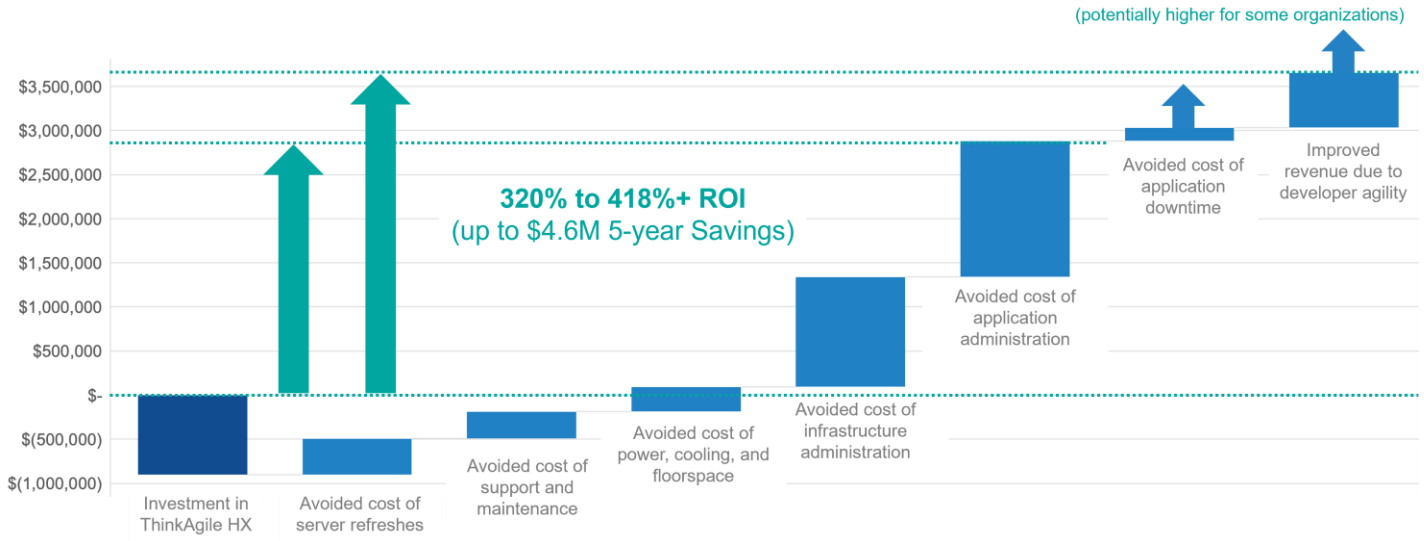
Enterprise Strategy Group also conservatively modeled potential savings and benefits resulting from reduced impact of downtime and improved revenue due to added developer agility. It should be noted that both of these benefits are highly dependent on the details of the organization's business, workloads, existing infrastructure and operations, and revenue. These savings may not be relevant to some organizations and may save other organizations millions of dollars more.

- **Avoided cost of downtime.** Our models predicted that ThinkAgile HX series could potentially save the organization lost revenue due to planned and unplanned application downtime. We assumed an annual company revenue of $25M was generated by production applications, and there would be an average of 6 events annually in which production systems had to be updated or restored. With the three-tier architecture, we assumed each event would impact 2 hours of availability, and with ThinkAgile HX series we assumed that non--disruptive updates and faster restores could cut the impact down to only 15 minutes.

- **Improved revenue due to developer agility.** The ability of ThinkAgile HX series to integrate into the DevOps process, provide quick and easy access to Dev/Test copies, and automate operations with Prism and Calm enabled developers to operate in a more agile manner. This can result in faster product updates, quicker integration of new features, faster release of new products, and improved product quality. We assumed that the organization had 25 developers working to maintain the $25M revenue stream generated by applications. We conservatively estimated a 0.5% improvement to revenue due to added development agility. In some cases, this benefit could be far larger for organizations.

Taking all of these potential savings and benefits into consideration, Enterprise Strategy Group calculated an expected five-year ROI of 320% based on TCO alone and up to 418% or more when considering the benefits of avoided cost of downtime and improved revenue (these benefits could be potentially substantially higher in some circumstances). The results are shown in Figure 5.

Figure 5. Expected Five-year ROI of ThinkAgile HX



Source: Enterprise Strategy Group, a division of TechTarget, Inc.

Issues to Consider

While not part of this analysis, and depending on many factors, it should be mentioned that organizations consolidating to the ThinkAgile HX Series may also realize significantly more benefits, including improved revenues provided by faster business agility and avoided cybersecurity risk, to name a few. Enterprise Strategy Group's models are built in good faith upon conservative, credible, and validated assumptions, and no single modeled scenario will ever represent every potential environment. Customer savings will depend on their particular use case, the nature of their applications, their compute and storage requirements, and existing automation capabilities and workflows, along with many other considerations. Enterprise Strategy Group recommends that organizations perform their own analysis of available products and consult with their Lenovo representative to understand and discuss the differences between the solutions proven through their own proof-of-concept testing.

Conclusion

Organizations today are working to integrate on-premises and cloud-based systems into a single, smooth-running hybrid cloud environment. This places a burden on IT teams that struggle to ensure immediate access to data, maintain rigorous cybersecurity standards, and efficiently manage a broad spectrum of complex workloads. ThinkAgile HX Series addresses these challenges by providing a unified infrastructure that streamlines these critical operations, facilitating a seamless flow among on-premises, edge, and cloud environments.

Decisions made today about the consolidation and deployment of critical business applications will shape an organization's ability to adapt and scale in the future. While it's common to invest in powerful but separate compute, network, and storage solutions from different vendors, this approach can lead to longer-term issues with system integration and operation. ThinkAgile HX Series provides a cohesive alternative, combining Nutanix's premier hyperconvergence software with Lenovo's advanced server technology and support to create a robust infrastructure suited for virtualized settings.

The economic advantages of the ThinkAgile HX Series are concrete and measurable. Our economic model shows that adopting ThinkAgile HX can lead to significant operational cost reductions, such as decreasing power, cooling, and space expenses by 13% to 68%; decreasing infrastructure administration costs by 64% to 74%; and decreasing application administration costs by 75% to 79%. This efficient approach to workload management is projected to lower an organization's TCO by up to 61% and yield a five-year ROI of 320% to 418%+, strongly supporting the decision for organizations to switch from traditional three-tier systems to an HCI solution such as ThinkAgile HX.

Organizations appreciate ThinkAgile HX Series for its dependability and ease of use. One customer shared, **"Its reliability and simplicity define the HX Series for us—qualities that we depend upon daily,"** highlighting the trust in the system. This sentiment reflects its role in enhancing business continuity and operational agility. The ThinkAgile HX Series is a strategic investment, enabling organizations to evolve and excel in a dynamic, hybrid cloud world.

We hope that the information contained in this report and our modeled scenario can be used as guidance by organizations to ask pertinent questions that help lead to well-informed infrastructure decisions. Through validation, Enterprise Strategy Group confirmed that the combination of Nutanix software and Lenovo hardware presents a compelling functional and economic choice for many businesses. We encourage IT decision-makers to consult with a Lenovo representative or sales partner to determine if ThinkAgile HX is the right solution for their needs.

Appendix

Configuration assumptions for modeled scenario use cases (see Table 1 for quantities) are as follows:

Existing Three-tier Deployment (Plus Annual Growth)

- **Compute (per server):** 1 x Intel Gold 5416S (16 cores/32 threads); 4 x 32 GB memory; 2 x 960 GB SSD; 2 x FC host bus adapter (HBA).
- **SAN switches:** 2 x 48 Port 32 GB FC switches.
- **Storage array:** Enterprise all-flash storage array with 161 TB of effective capacity; 4:1 space efficiency assumed.

Refreshed Three-tier Deployment

- **Compute (per server):** 2 x Intel Gold 5420+ (28 cores/56 threads); 12 x 32 GB memory; 2 x 960 GB SSD; 2 x FC HBA.
- **SAN switches:** 2 x 48 Port 32 GB FC switches.
- **Storage array:** Enterprise all-flash storage array with 161 TB of effective capacity; 4:1 space efficiency assumed.

ThinkAgile HX650 V3 Series Nodes

- **Per node:** 2 x Intel Gold 6430 (32 cores / 64 threads); 16 x 32 GB memory; 2 x 960 GB SSD + 6 x 3.84 TB NVMe SSD; 2 x FC HBA.

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