

White Paper

Strategic Vendor Partnerships Provide Unprecedented Value to Enterprises

Sponsored by: Lenovo

Ashish Nadkarni
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Eric Burgener

Matthew Eastwood

IDC OPINION

Digital transformation (DX) – a technology-driven strategy – is the profound transformation of business and organizational activities, processes, competencies, and models to fully leverage the changes and opportunities that are presented by digital technologies and the significant impact they have on society. DX compels enterprises to become data driven, encouraging them to rethink their IT infrastructure to make it agile, scalable, and capex friendly. IT transformation (ITX) initiatives will help drive an efficient and sustainable approach to reconditioning (and, in many cases, rebuilding) an IT infrastructure, making it ready for DX. ITX also offers enterprises an opportunity to rethink vendor relationships. A shift to treating IT infrastructure vendors as strategic partners in the DX/ITX journey enables enterprises to accelerate the design and implementation of a modern datacenter, especially when a vendor pursues a hybrid strategy for the buildout of its portfolio complete with best-of-breed components developed in-house as well as acquired via strategic partnerships.

The new Lenovo/NetApp partnership announced in September 2018 combines the synergies of two IT infrastructure vendors to deliver an industry-leading set of enterprise-class solutions that will benefit organizations of all sizes:

- Lenovo is a \$45 billion Fortune 500 company with a global footprint spanning 160+ countries. Lenovo, via trusted technology partner NetApp, will deliver end-to-end solutions that now include all-flash arrays (AFAs) and hybrid flash arrays (HFAs). These flash technologies complement Lenovo's own portfolio of computing infrastructure solutions, bringing Lenovo in line with its key competitors. These enterprise storage solutions are manufactured in all Lenovo's regional manufacturing centers, allowing Lenovo's supply chain agility and flexibility to respond to customers' entire datacenter needs.
- NetApp, via its partnership with Lenovo, can go deeper in specific regions such as China, where Lenovo has a strong presence, thereby providing additional one-stop shop options for enterprises seeking to standardize on a single vendor.

Initially, this agreement enables Lenovo to build, sell, and service ThinkSystem storage products based on NetApp technology and innovation. Longer term, both vendors will commit to develop a deeper venture that has the potential to deliver unprecedented value and choice to IT infrastructure customers. IDC believes that such strategic vendor partnerships, when well executed by both parties, can be good for the market by offering a "1 + 1 = 3" value proposition. The combined strength of these two vendors puts the competition on notice and compels all participating vendors in the market to work harder to differentiate their portfolios on the merits of technology, support, and value.

IN THIS WHITE PAPER

In September 2018, Lenovo and NetApp announced a global strategic relationship intended to drive compelling value for new and existing customers. This white paper discusses evolving enterprise infrastructure requirements, reviews the details of the strategic relationship, and provides IDC's view of the value that the relationship delivers to both customers and the two vendors themselves.

SITUATION OVERVIEW

Introduction

DX is under way in enterprises of all sizes today. Simply stated, DX is the profound transformation of business and organizational activities, processes, competencies, and models to better enable the business to fully leverage the changes and opportunities provided by a mix of digital technologies. These technologies include social media, mobile computing, big data and analytics, and cloud, and their effects are further enhanced by innovation accelerators such as the Internet of Things (IoT), cognitive systems (artificial intelligence [AI]/machine learning [ML]), augmented and virtual reality, and robotics. DX puts data at the core of business processes, moving businesses toward a more technology-driven strategy. This offers clear business benefits by significantly increasing an enterprise's ability to glean insight from customer behavior and market trends and react more quickly to changing market conditions to establish and/or maintain competitive differentiation.

Putting data at the core of business processes requires a rethinking of the IT infrastructure. This new business environment is driving a different set of requirements for better performance, increased scalability, higher availability, and much more flexible IT infrastructure that is easier to buy, deploy, manage, support, and scale. DX requires ITX, and the resulting infrastructure must support fast and easy access to data, optimized data management, and mobility that spans edge, core, and cloud. ITX is a multifaceted journey that includes four key areas:

- **Modernizing IT infrastructure:** Refreshing, with new processors and more advanced devices, the server, storage, and networking infrastructure that supports key systems of record and trust and embracing converged/hyperconverged systems and newer data protection and security technologies
- **Automating IT service delivery:** Deploying a hybrid cloud that includes private and public cloud resources and deploying newer IT-centric systems of engagement and insight
- **Transforming IT operations.** Moving to an IT-as-a-service model with internal and external resources and moving IT to an "information drives process" paradigm along with the rest of the firm
- **Evolving IT budgets:** Shifting from just maintaining existing assets to actively investing in future growth areas and reducing the capital and operational costs of legacy IT and shifting that budget toward personal and process transformation

Actionable Information Is at the Center of ITX

More data is being collected from more locations than ever before, and IT organizations must be able to efficiently scale their infrastructure to be able to accommodate the explosive growth of data – all of which has to be converted into meaningful and actionable information. The ability to analyze data in real time is becoming more important across all types of business processes, and for some, it is hypercritical. IT infrastructure efficiency coupled with the right type of infrastructure underpins such endeavors. The strong interest in IT infrastructure and operations efficiency (which is top of mind for many CIOs) has many facets. In addition to administrative productivity, other important considerations for organizations undergoing DX include:

- Infrastructure density (across metrics such as performance and capacity), energy and floor space consumption, and ease of nondisruptive scalability (for both performance and capacity) to help accommodate the needs of growing businesses
- New storage and data efficiency technologies, when enabled for broad use with latency-sensitive primary storage workloads by flash storage, that allow organizations to make much better use of available capacity and include capabilities such as inline data reduction (compression, deduplication), thin provisioning, space-efficient read/write snapshots, and delta differential-based replication
- Newer compute technologies that lower energy consumption while increasing performance and/or capacity, driving a higher infrastructure density that makes much more efficient use of available floor space
- Scale-out compute and storage architectures that provide much better options to nondisruptively scale both performance and capacity independently to accommodate the needs of growing workloads, making it easier for IT organizations to meet more stringent high-availability requirements
- Optimized data management that emphasizes strong multitenant management capabilities that enable the consolidation of more workloads onto fewer infrastructure platforms to help drive better IT efficiencies
- A hybrid IT strategy that enables the development of a seamless data fabric across on-premises and public cloud infrastructure complete with governance, risk, and compliance systems

These aforementioned factors lead to several interesting trends in IT infrastructure deployments:

- **Flash storage.** The ubiquitous requirement to provide fast and easy access to large and growing data sets has been one of the key driving forces behind the rapid penetration of flash storage in the enterprise. Approximately 78.6% of IT organizations subscribe to an "all flash for primary storage" strategy, although they are moving to this technology slowly over time, replacing hard disk drive (HDD)-based arrays with AFAs for primary storage workloads as those older systems come up for technology refresh. IDC defines a primary storage workload as one that is performance sensitive (in terms of latency, throughput, and/or bandwidth), considered at least business critical if not mission critical, and managed according to strictly defined high-availability requirements.
- **Hybrid IT.** With infrastructure spanning multiple on-premises and off-premises locations, including multiple public clouds, CIOs and IT managers need a unified "consumption centric" view of all IT resources, a view of on-premises and off-premises (public cloud) tiers, with visibility into economic, health, performance, and utilization analytics of each tier. They need flexible premises-agnostic composable compute and storage resource pools for current and next-generation apps front ended by a cloudlike portal for simple and metered (pay per use) consumption. In a recent study, IDC found that almost 90% of firms have a hybrid IT strategy in place today with their core/business applications deployed in multiple locations.

Although scale may be somewhat different among small, medium-sized, and large enterprises, the need for the previously discussed capabilities is remarkably similar for companies of all sizes. There are two specific areas of commonality. Budgets tend to be much more limited, which means there is an increased emphasis on value for them, and the need for ease of use while providing the same optimized data management capabilities is stronger, given that enterprises tend to have much more limited administrative resources. This extends not only to ongoing management of existing systems but also to how easy it is to buy, deploy, scale, and support systems as needed.

Strategic Vendor Partnerships Create Value and Provide Options

When IT organizations leverage vendors as strategic partners in their ITX journey, it can drive additional value. In fact, a vendor cannot be a bystander in its customers' ITX journey. For a vendor, the ability to sell end-to-end solutions that cater to its customers' ITX needs is a necessary mandate, no matter what the vendor's own position is in the market. This is where mergers, acquisitions, and strategic partnerships come into play.

Strategic vendor partnerships, especially between leaders in their respective market segments, and the resulting full-service portfolio enable IT vendors to better service a converged infrastructure paradigm – one example in which compute is moving closer to data, time to value is important, and the storage and computing stacks are no longer siloed. These partnerships provide enterprises with a one-stop shop for building a cost-effective on-premises infrastructure for hosting current as well as next-generation workloads.

A well-crafted partnership, where participating vendor strengths are complementary, can deliver synergies that exceed the sum of components, effectively offering a "1 + 1 = 3" value proposition for customers. When evaluating such partnerships in the enterprise storage arena, customers should look for the following benefits:

- **Complementary technology well suited to customer requirements.** The whole point of a vendor partnership that drives value for customers is to combine more industry-leading technologies into a single solution than solutions available from any one vendor. The right combination of best-of-breed products creates a best-of-breed solution by leveraging the strengths of vendor partners.
- **Integrated solutions offering that simplifies deployment and support.** Combining key technologies from partners into an integrated offering available from a single vendor simplifies purchasing, reduces management complexity, streamlines support, and ensures that the included products are prequalified to operate effectively together.
- **Intelligent leveraging of go-to-market synergies.** Partnerships in which vendors bring complementary go-to-market strengths in various geographies offer several benefits. The same integrated solution can be made widely available across more geographies, thereby giving customers the ability to leverage the same storage solutions across their enterprise on a worldwide basis. Country-specific strengths that have made one vendor successful in certain markets help increase the value of its partner's technology in markets the latter partner may not yet have penetrated. And joint ventures, where they exist, can create more localized versions of integrated product offerings that provide more value than a single generic version of the product can.

The Lenovo/NetApp Partnership

Lenovo and NetApp announced a global strategic relationship that includes an OEM agreement and complementary, worldwide go-to-market strategies as well as a joint venture in China. As part of this partnership, Lenovo is gaining enterprise storage technology from NetApp, and Lenovo will deliver a new set of IT infrastructure solutions based on this technology as part of its ThinkSystem portfolio.

These systems, which include both AFAs and HFAs, are manufactured, sold, and supported by Lenovo and its worldwide channel partners. The two vendors are also announcing a joint venture in the People's Republic of China (PRC) that will encompass the entire enterprise storage systems portfolio from NetApp, in addition to the development of localized offerings for the Chinese market. More information about the joint venture will be available in early 2019.

Given the complementary market positions of Lenovo (with its strength in servers and leadership positions in several markets worldwide) and NetApp (with its industry-leading storage technology and strength in complementary markets), this relationship promises to deliver an industry-leading end-to-end IT infrastructure portfolio for enterprises worldwide.

This partnership enables Lenovo to offer a broader and more integrated portfolio that combines the best of compute and storage. It will deliver an infrastructure portfolio that is flash optimized for performance and has more comprehensive and flexible data management across on-premises and the cloud. The portfolio is built with enterprise-class availability, security, and data integrity capabilities based on trusted, proven storage technology. Lenovo's proven track record of executing on the sales and support side will make it easier for the company to introduce these products to new and existing customers.

The resulting IT infrastructure solutions portfolio from Lenovo is aligned with its current server business. Lenovo's differentiation rests on the fact that, unlike reseller relationships in the industry, the company both builds and sells these systems, standing behind them just as it does with the rest of its core offerings. Also, the enterprise storage solutions will be manufactured in all of Lenovo's regional manufacturing centers, allowing Lenovo supply chain agility and flexibility to respond to customers' entire datacenter needs.

The close and far-reaching nature of the relationship between the two vendors will instill confidence in customers that Lenovo will deliver high-quality single-vendor support that is on par with what NetApp offers its customers.

The Lenovo/NetApp partnership will no doubt help drive relevant differentiation and value as the two vendors leverage their respective technology and market strengths.

The Lenovo Enterprise Portfolio

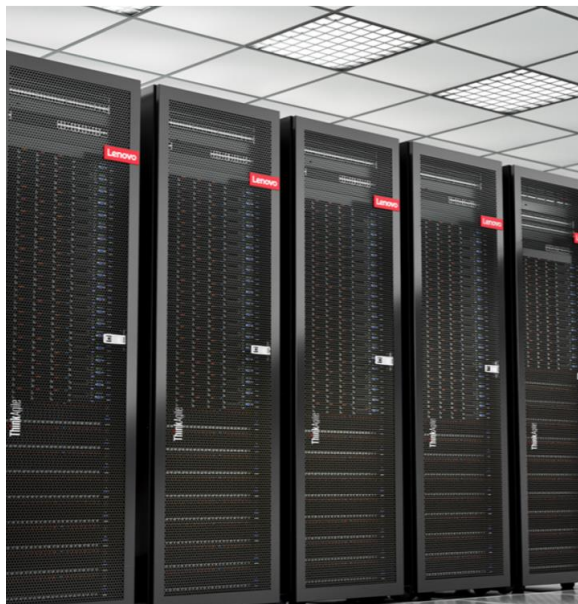
In 2017, Lenovo reorganized the business units (BUs) across its entire company around its go-to-market strategy. The new BUs have an end-to-end focus and are structured around consumer, enterprise, and cloud solutions as opposed to point products. The Data Center Group (DCG) BU was born out of Lenovo's former Enterprise Group and positions Lenovo as a leader in enterprise IT solutions. One of the principal charters for this BU is to redesign Lenovo's enterprise IT portfolio to better serve the needs of modern enterprises – businesses that have embarked on DX initiatives and whose future IT strategy centers on software-defined infrastructure.

The Lenovo datacenter portfolio owned and operated by the DCG is aggregated under the "ThinkSystem" and "ThinkAgile" families of solutions targeted specifically for future-defined datacenters (see Figure 1). Through the ThinkSystem and ThinkAgile brands, the DCG plans to tackle the "status quo" in enterprise IT via four strategic segments:

- **Datacenter infrastructure:** Deliver new products that build on Lenovo's market reputation for reliability, flexibility, security, and performance.
- **Software-defined infrastructure:** Bring the flexible architecture of these systems to the masses with what Lenovo claims is the industry's lowest total cost of ownership (TCO).
- **Technical computing (which includes massively parallel computing, high-performance computing, and AI/ML):** Accelerate growth in the top 500 accounts, where Lenovo already has a significant technical computing footprint.
- **ODM+:** Design and deliver unique solutions to hyperscalers (firms with a large infrastructure footprint) and large datacenter operators using Lenovo's global footprint and, in the process, beat key ODM Direct vendors.

FIGURE 1

Lenovo's Enterprise Portfolio



ThinkSystem

Server, Storage, & Networking Solutions
for the future-defined data center

ThinkAgile

Next generation IT for
software-defined infrastructure

Lenovo Engineered
Solutions
Lenovo Premier
Support

Source: Lenovo, 2018

ThinkSystem Family of Server, Storage, and Networking Solutions

Lenovo's portfolio of datacenter products is the result of in-house development as well as acquisitions, the last major acquisition being Lenovo's acquisition of IBM's System x business. This complex, multibrand portfolio spanned more than eight product groups and included brands such as System x, BladeCenter, iDataPlex, NeXtScale, ThinkServer, Lenovo Storage, and Lenovo Networking.

The assortment of redundant and overlapping products had been an inhibitor to Lenovo's ability to gain competitive differentiation in the fiercely competitive enterprise IT market.

As a part of Lenovo's datacenter infrastructure branding initiative, Lenovo has now brought its server, storage, and networking products under a single brand known as ThinkSystem. ThinkSystem offerings are built upon a unified server foundation, and the solution features a server portfolio with much more clearly defined customer targets. With the new ThinkSystem lineup, Lenovo is displaying the depth, reliability, performance, security, and flexibility of its infrastructure products.

ThinkAgile Portfolio for Next-Generation IT

Lenovo introduced "ThinkAgile" as an umbrella brand in 2016 for its software-defined infrastructure offerings. With ThinkAgile, Lenovo is showcasing its solutions for transformative cloud IT, which include hyperconverged infrastructure, software-defined storage, and software-defined infrastructure. Lenovo's ThinkAgile portfolio is partner based and, for each solution, features unique co-innovations that make Lenovo stand out among its competitors with similar offerings.

Engineered Solutions

Lenovo's strategy for Engineered Solutions is to develop integrated platforms that are easy to purchase, deploy, and manage for selected popular workloads. Lenovo intends to leverage its strengths in the PC industry and in delivering solutions for technical computing and SAP HANA to build comprehensive engineered systems. Lenovo's Engineered Solutions portfolio is built on ThinkSystem and ThinkAgile infrastructure products and includes solutions developed with partners such as VMware and Microsoft.

Services

Lenovo Services offerings are custom designed to each client's unique needs to help them make the most out of their technology investment and reach their business goals. Lenovo's comprehensive portfolio of options supports the full life cycle of IT assets and spans every stage of the datacenter. From solution design to implementation to support, Services offerings provide the expertise that ensures more accurate budgeting, delivers better service-level agreements (SLAs), and generates greater end-user satisfaction.

Introducing ThinkSystem DM and DE Series

The strategic partnership will result in two new Lenovo families: ThinkSystem DM and DE Series. Both systems feature simplified packaging with bundled (instead of optional) enterprise-class data services and integrate Lenovo's XClarity for effortless portfolio management, streamlining the customer buying, management, and support processes in a way that provides higher value to customers (see Figure 2):

- **ThinkSystem DM Series:** The new ThinkSystem DM Series features enterprise-class data management, security, and availability and is targeted for mixed enterprise workload consolidation, which includes AI/ML, business analytics, enterprise applications, and virtualization environments. These systems utilize the NetApp ONTAP operating environment to deliver enterprise-grade reliability and availability.
- **ThinkSystem DE Series:** The new ThinkSystem DE Series offers denser performance options for dedicated workloads such as big data and analytics, video surveillance, and other technical computing environments.

Both the ThinkSystem DM and DE Series systems are manufactured by Lenovo and will be sold and supported directly by Lenovo and its global network of worldwide channel partners.

Additionally, Lenovo has the ability to sell NetApp's higher-end arrays and software to meet customer needs not addressed by Lenovo's core offerings.

FIGURE 2

Lenovo's ThinkSystem DM and DE Series

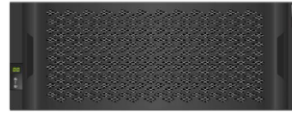
ThinkSystem DE Series



Lenovo Performance Block

- Entry to high performance
- AFA and Hybrid Block
- Lenovo XClarity support
- MFG & Supported by Lenovo

ThinkSystem DM Series



Lenovo AFA & Midrange Unified

- ONTAP Data Management
- Cloud Tiering
- Lenovo XClarity support
- MFG & Supported by Lenovo

Source: Lenovo, 2018

FUTURE OUTLOOK

IDC believes that as enterprises move into the advanced stages of DX, the battle for IT infrastructure will shift to two fronts:

- **Optimized data management.** Optimized data management takes center stage in a data-driven organization. To effectively handle high data growth, IT organizations will need to perform real-time analysis, identifying key data and results needed for further use and disposing of the rest. This requires a data-centric infrastructure in which the compute and data platforms are colocated. Optimized data management also demands strong multitenant management capabilities that enable more workloads to be consolidated onto fewer storage platforms for efficiency reasons. Quality-of-service controls ensure that individual workloads will continue to meet SLAs despite dense multitenancy. To ensure data remains accessible and secure, storage must support data protection options (e.g., dynamic multipathing, dual-parity RAID, replication, and integrated backup and disaster recovery capabilities), recovery features (fast RAID rebuilds to quickly return to full protection after a failure, transparent failover, redundant hot-pluggable components, optimized restores), and support security features (encryption, industry standards-based access control, certified compliance with regulatory standards such as FIPS, SHA, AES, and TLC). Data mobility tools and out-of-the-box cloud integration give administrators the ability to store data in the best location, depending on access requirements, regardless of whether that is in on-premises or off-premises IT infrastructure.

- **Autonomous operations.** Autonomous operations drive higher administrative productivity, making the most efficient use of limited administrative resources. Approximately 65.8% of administrators responsible for storage management in enterprises today manage at least 251TB of capacity, and 30.1% of them manage more than 500TB. With these tasks falling increasingly to IT generalists with limited storage-specific expertise, features such as provisioning wizards and templates, default workflows, simplified GUIs, and cross-product integrations (e.g., data protection and disaster recovery operations) help administrators handle an increased span of administrative control (i.e., how much capacity an administrator manages). This need for simplicity has been another driver of high AFA market growth – many AFAs are built around what IDC refers to as "self-managed storage" design tenets. Administrators' experience with AFAs over the past seven years proves this out. Compared with HDD-based arrays, AFA deployment has cut storage bottlenecks at least in half for 97.2% of organizations, while 81.1% of organizations spend less than half the amount of time managing AFAs as they did managing older HDD-based arrays. Performance tuning tasks, which can easily consume 5-10 hours of administrators' time per week with HDD-based arrays, typically drop precipitously with AFA deployment.

IT infrastructure vendors that can deliver on these two requirements deliver compelling value for customers and are in a better position to capture market share going forward.

ESSENTIAL GUIDANCE FOR IT BUYERS

IDC recommends that technology buyers evaluate Lenovo during the vendor and product selection phase of an infrastructure refresh or expansion. Lenovo continues to demonstrate its commitment to its core market by introducing innovative products and solutions. The recently announced partnership is proof that Lenovo is interested in building an end-to-end portfolio and is not taking the shortcut through a reseller relationship to get there. It is going the extra mile, making a strong commitment to build a deep relationship with a leader in enterprise storage. The updated Lenovo ThinkSystem portfolio is competitive, giving Lenovo a well-deserved seat at the evaluation table across multiple platform types:

- **Infrastructure products:** Lenovo's ThinkSystem portfolio has a robust selection of servers, hybrid flash and all-flash storage platforms, and top-of-rack and storage networking products. Lenovo has garnered a reputation for producing solid products, and it stands by these products with proven service and support. Buyers should evaluate Lenovo's ThinkSystem products as part of server, storage, and networking infrastructure refresh or expansion initiatives. Lenovo's products are backed by a worldwide service and support model, thanks to Lenovo's global operating presence in 160+ countries.
- **End-to-end software-defined infrastructure solutions:** Lenovo's ThinkAgile portfolio is partner based. For each hyperconverged, software-defined storage, and integrated infrastructure solution, unique co-innovations make Lenovo stand out among its competitors with similar offerings. Buyers ought to consider the business benefits of utilizing ThinkAgile solutions for accelerating the journey to software-defined infrastructure.
- **Lenovo's Engineered Solutions:** Lenovo's Engineered Solutions are targeted for resource-intensive and highly customizable workloads and applications and are intended to accelerate the deployment of these popular business application platforms. Lenovo's portfolio includes solutions developed with partners such as SAP, VMware, Red Hat, Microsoft, and SUSE, to name a few.

Investing in a long-term relationship with Lenovo means that, in addition to the combined portfolio of infrastructure solutions with a single point of sales and support, enterprises will get access to NetApp's proven storage technology and innovation that includes:

- Access to industry-leading enterprise storage functionality, based around NetApp's mature and feature-rich storage operating environments
- Newer storage technologies from NetApp, such as NVMe and storage-class memory, that will reshape the enterprise storage market over the next three years
- Support for both block- and file-based storage in the same storage platform at the same time, thereby offering additional options for consolidating workloads for improved efficiencies

CHALLENGES/OPPORTUNITIES FOR LENOVO

While Lenovo is an industry leader in the Chinese market with a multibillion-dollar enterprise IT infrastructure business, it has significant opportunities for expansion in many other markets worldwide. In the past, Lenovo found it a bit challenging to gain market share among small and midmarket enterprises because of the lack of native AFAs and HFAs that support unified storage (block and file) in its portfolio. While Lenovo was able to make up some of that void by reselling products from other vendors, such products fell short of the requirement from enterprises seeking to consolidate their storage infrastructure with fewer vendors and platforms.

NetApp's strength in complementary markets and proven ability to deliver enterprise-class unified storage solutions should provide better and wider market penetration opportunities for Lenovo. Lenovo's strategy to manufacture Lenovo offerings based on NetApp technology will allow Lenovo to leverage its own strengths to provide better value for new customers in untapped market segments and regions.

A focus on optimizing customer experience among the most forward-thinking enterprise infrastructure providers is an emerging trend. The new expanded definition of customer experience focuses on how customers rate their overall experience with a vendor, from initial contact through upgrades and platform retirement, based on much more than just a vendor's products. Lenovo and NetApp deliver an enhanced customer experience focused on the full spectrum of IT solutions during each phase of the customer journey. These shared values around the customer experience will further raise the bar for this strategic partnership, ultimately benefiting the customer.

CONCLUSION

Lenovo is no stranger to the IT industry. The company debuted on the worldwide stage with the acquisition of IBM's "Think" business, which included laptops and PCs. For an encore, it made a move in the datacenter market by acquiring IBM's System x (x86-based server) business. Lenovo entered a fiercely competitive OEM server market dominated by HPE, Dell EMC, and Cisco. It underwent a major organizational and branding initiative to simplify its portfolio and set it up for organic and inorganic growth. Its strategy to capitalize on the wave to standardize infrastructure compute and storage on x86-based servers paid off, giving Lenovo a solid number 3 rank in the industry in 2016 in terms of revenue and units shipped. Now with the NetApp partnership, Lenovo has demonstrated that it means business when it comes to climbing the ranks in terms of IT infrastructure market leadership and share. Enterprises should see that Lenovo is serious about building, delivering, and supporting a high-quality and industry-leading end-to-end infrastructure solutions portfolio. Existing customers of

Lenovo can now get access to mature, proven hybrid and all-flash storage solutions from a vendor they trust. New customers and prospects now have the added attraction of more comprehensive IT infrastructure solutions featuring industry-leading enterprise storage technology that leverages Lenovo's expertise and single point of sales and support to bring them into the Lenovo fold.

About IDC

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Global Headquarters

5 Speen Street
Framingham, MA 01701
USA
508.872.8200
Twitter: @IDC
idc-community.com
www.idc.com

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