

Lenovo leads the competition in x86-based server satisfaction

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TECHNOLOGY BUSINESS RESEARCH, INC.

Introduction

Organizations rely on x86-based servers to optimize their data centers as well as maximize performance and reliability while reducing complexity and cost. This includes running mission-critical workloads, making it key for vendors to satisfy customers in important attributes such as reliability, performance and quality. To meet and exceed customer expectations, organizations often opt to use x86-based architecture due to its simplicity and compatibility with existing hardware as well as its reputation for low levels of downtime, low latency and high levels of security.

Technology Business Research, Inc.'s (TBR) analysis of x86-based customer satisfaction and purchase drivers continues to show that organizations' purchase decisions are driven by critically important attributes such as performance; ongoing hardware reliability; virtualization, efficiency, scalability; initial hardware quality; TCO; and on-site response time. To drive high satisfaction, x86-based server vendors must meet customer expectations for these attributes as organizations work to simplify their IT environments, decrease downtime and increase efficiency. Organizations are seeking to leverage their IT investments not only to maintain existing systems but also to innovate and drive their growth goals while at the same time attempting to generate cost savings through efficiency and simplicity.

TBR has tracked North America hardware purchaser satisfaction since 1997. This research currently includes bi-annual surveys of 300 North America IT decision makers responsible for purchasing x86 servers that are analyzed and published in the *Corporate IT Buying Behavior and Customer Satisfaction Study: North America – x86-based Servers (CSAT x86-based Servers Study)*. In 2017 TBR initiated another bi-annual research stream, with approximately 300 surveys of IT decision makers responsible for purchasing servers in the United Kingdom, Germany and Japan, creating the *Corporate IT Buying Behavior and Customer Satisfaction Study: EMEA and APAC – x86-based Servers*.

In both studies, which were conducted in 2H17 and measure 22 satisfaction attributes among Dell EMC, Hewlett Packard Enterprise (HPE) and Lenovo customers, Lenovo outscored its peers in customer satisfaction in almost every attribute, giving Lenovo the highest score in TBR's Weighted Satisfaction Index. Lenovo's overall TBR Weighted Satisfaction Index score in North America, which includes sales, product and service attributes as well as brand loyalty, was 85.3 out of a possible 100, compared to Dell EMC and HPE, which scored 78.1 and 76.6, respectively. In EMEA and APAC, Lenovo scored 78.4 out of a possible 100, compared to 71.8 and 72.0 for Dell EMC and HPE, respectively. 2H17 marks the eighth consecutive North America-based TBR study¹ and second consecutive EMEA and APAC-based TBR study in which Lenovo outperformed Dell EMC and HPE in overall x86-based server customer satisfaction. TBR believes the results reflect Lenovo's ability to meet customer expectations for high-quality hardware across multiple regions.

Vendors generate high levels of satisfaction by meeting customer expectations

For each half-year period, TBR calculates the sales, product, and services and support attributes most important to customer satisfaction at that time for its *CSAT x86-based Servers Studies*. In TBR's 2H17 North America study,

¹Lenovo has placed first in the last eight publications of TBR's *North America CSAT x86-based Servers Study*: 1Q15, 2Q15, 3Q15, 4Q15, 1H16, 2H16, 1H17 and 2H17. In 2016 TBR reduced the frequency of the CSAT study from quarterly to semiannually.

customers rated performance; ongoing hardware reliability; initial hardware quality; virtualization, efficiency, scalability; and TCO as the most critical attributes to overall satisfaction with their x86-based servers. Customers in EMEA and APAC reported similar levels of importance for those attributes with the exception of TCO, which was less important in these markets. Additionally, these customers also cited ongoing services and maintenance and product design/features as critical attributes.

TBR's 20-year history of surveying x86-based server customers has shown customers consistently rank product-related attributes as critically important to their purchase decisions. Dell EMC, HPE and Lenovo are all able to provide satisfactory experiences in these areas, but Lenovo outperformed its peers in 2H17 in all seven product-related attributes in North America and six out of seven in EMEA and APAC, with a tie with HPE for the lead in the virtualization, efficiency, scalability attribute. By outperforming its competition in multiple geographies across the globe, Lenovo demonstrates its ability to meet customer expectations in the most critical attributes.

While leading in critical product attributes such as performance, reliability and quality is important, TBR believes vendors must differentiate themselves in sales- and service-related attributes such as replacement parts availability, on-site response time and phone support availability to complement their hardware offerings. Due to perceptions surrounding hardware commoditization, it has become increasingly important for Lenovo and other server vendors to meet or exceed customer expectations in high-ranking attributes influencing purchase decisions, not only to differentiate their hardware offerings but also to build strong relationships through positive interactions that loyal customer bases depend upon. In both the 2H17 North America study and 2H17 EMEA and APAC study, Lenovo met customer expectations in these areas and more, as the vendor earned the highest score in TBR's Sales Satisfaction Index as well as the Services Satisfaction Index.

"I think [server] performance is the most important point that really confirms [Lenovo's server] reliability." — IT Manager, Telecommunications Services, United States

Performance

Customers in North America as well as those in EMEA and APAC consistently cite performance as the most important attribute during their purchase decisions as the performance of the data center can directly impact the overall ability of the organization to meet operational and strategic goals. As a result, customers repeatedly turn to x86-based servers over alternatives such as off-premises cloud and proprietary servers due to concerns about downtime and complexity, as x86-based servers offer many organizations the best balance between cost and real-world performance.

Initial hardware quality and ongoing reliability

Organizations across the globe deploy x86-based servers to support business-critical and mission-critical workloads, making hardware quality and ongoing reliability critical to organizations' ability to limit downtime and control costs. In addition, quality and reliability are also critical to establishing positive long-term customer relationships and building strong brand loyalty. These attributes help vendors to build trust and demonstrate their value proposition to their customers.

Service and support

Organizations often turn to x86-based servers for familiarity, simplicity and compatibility, which makes it easier for organizations to rely on in-house IT support staff. However, the complexities of today's data centers, which often include different on-premises and off-premises environments, typically result in organizations turning to their server vendor to supplement internal capabilities with additional service and support offerings. Furthermore, while

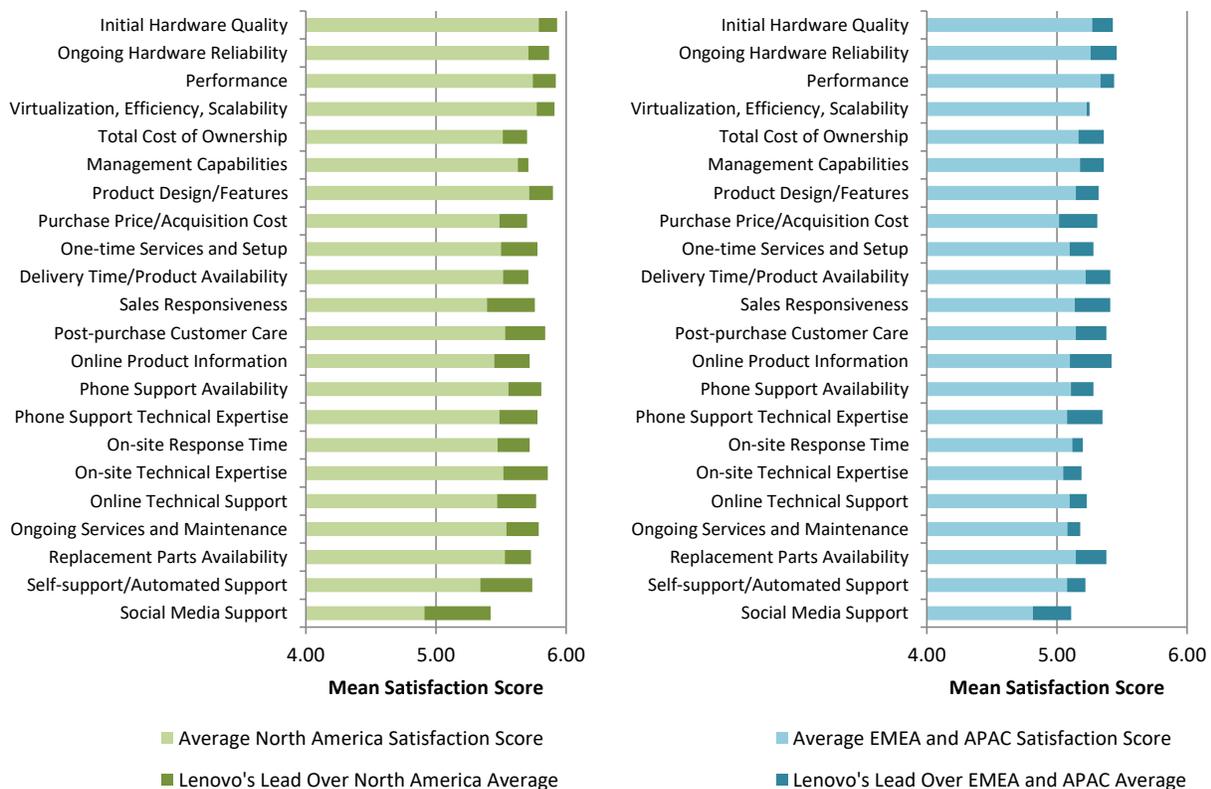
product-related attributes are often the most critical to the purchase decision, service and support attributes such as replacement parts availability and on-site response time cannot be overlooked. Organizations seek to not only limit downtime but also extend the life cycle of their x86-based servers, creating a need for server vendors to provide services and support that limit the impact of downtime due to repairs or maintenance during the product life cycle. Server vendors can benefit from focusing on delivering services and support that ensure a high level of availability and quick response times that meet or exceed customer expectations in these areas.

Total cost of ownership

The shift in the data center market toward cloud technologies has resulted in a new way of thinking about IT budgets and strategies as organizations have become increasingly concerned with TCO. Organizations are looking beyond the initial purchase price to better understand additional costs related to operating servers on premises, such as parts, repairs, cooling and power consumption, to ensure they maximize the value of their investments in their data centers. As a result, x86-based server vendors must design and produce servers that not only generate high levels of performance, quality and reliability but also are highly efficient, providing organizations with a cost-effective solution. Additionally, across TBR's *2H17 North America CSAT x86-based Servers Study* and *2H17 EMEA & APAC CSAT x86-based Servers Study*, customers often cited dissatisfaction with TCO as well as the expense and poor value as reasons they were unlikely to purchase from their server vendor again. This demonstrates the importance of the cost of the server over its entire life cycle in not only acquiring new customers but also retaining the existing customer base.



LENOVO CUSTOMERS REPORT ABOVE-AVERAGE SATISFACTION ACROSS 22 ATTRIBUTES OF X86-BASED SERVERS



SOURCE: TBR

Lenovo ranks No. 1 in all 22 attributes in North America

TBR's *2H17 North America CSAT x86-based Servers Study* determined that Lenovo outperformed Dell EMC and HPE in all attributes, resulting in a perfect 22 out of 22 No. 1 industry rankings. Lenovo continues to advance its data center portfolio as it pushes further into the data center market with not only stand-alone x86-based servers but also packaged hyperconverged offerings leveraging its x86-based servers. During 1H17 Lenovo restructured its server business into two brands, ThinkSystem and ThinkAgile, demonstrating the vendor's commitment to the server market following its acquisition of IBM's System x portfolio in 2014. The ongoing developments of its x86-based server portfolio through investments in R&D and partnerships provide the momentum necessary to meet customer expectations consistently and improve customer satisfaction. Lenovo has consistently outscored its peers, Dell EMC and HPE, in TBR's *North America CSAT x86-based Servers Study* since early 2015. During 2017 Lenovo's strong performance in sales- and service-related attributes generated a significant lead for Lenovo over both of its peers in nearly every attribute, demonstrating Lenovo's ability to meet customer expectations outside the critical product-related attributes and differentiate from competitors through important service and support attributes. In addition to strong satisfaction scores, Lenovo has also improved its loyalty scores, with No. 1 rankings in both likeliness to buy again and likeliness to recommend. As a result, TBR believes Lenovo is well positioned to continue to meet its customers' expectations and grow its customer base.

Lenovo outperformed its competition in 21 of 22 attributes in EMEA and APAC

TBR's *2H17 EMEA and APAC CSAT x86-based Servers Study* determined that Lenovo had the No. 1 industry ranking in 19 attributes while also tying HPE for the top ranking in virtualization, efficiency, scalability and on-site response time, giving Lenovo a total of 21 first-place industry rankings for the period. Lenovo's only second-place finish came in performance, in which the vendor trails HPE by a small margin. The strong performance of Lenovo in 2H17 helped the vendor secure the highest TBR Weighted Satisfaction Index score for the second consecutive quarter, demonstrating Lenovo's ability to meet customer expectations for product-, sales- and service-related attributes outside North America. TBR believes Lenovo is well positioned to capture market share and advance its strategic expansion goals across the globe. Additionally, strong satisfaction across geographies for not only server hardware but also the services and support associated with x86-based servers positions Lenovo to be able to tap into demand from multinational organizations seeking a consistent, reliable and satisfactory experience across their data centers and all their locations.

Initial hardware quality and ongoing reliability

Since the beginning of 2015, Lenovo has maintained the No. 1 industry ranking in TBR's *North America CSAT x86-based Servers Study* for both initial hardware quality and ongoing reliability, attributes customers have consistently ranked within the top five most critical attributes to their purchase decisions. In TBR's *2H17 EMEA and APAC CSAT x86-based Servers Study*, Lenovo further solidified this position by establishing itself as the No. 1 vendor for both attributes in EMEA and APAC in addition to North America. While these attributes should be considered table stakes, Lenovo's ability to consistently deliver the highest level of satisfaction for these attributes gives the vendor a competitive advantage. Lenovo can leverage this advantage to influence customer purchase decisions, especially customers whose organizations utilize x86-based servers for business-critical and mission-critical workloads and are concerned with downtime or costly repairs during the server's life cycle.

Virtualization, efficiency, scalability

Cloud technologies have disrupted the traditional data center market, prompting an increased focus on virtualization, efficiency and scalability as organizations adapt to the changing technologies and create data centers that operate more like public clouds. This allows organizations to use virtualization to scale their data centers up or down with virtualized servers to meet business needs without requiring additional hardware purchases while also maintaining a high level of efficiency that can generate cost savings through reductions in cooling and power consumption expense. Additionally, x86-based server vendors often offer consumption-based financing on their data center hardware that helps reduce the initial upfront cost and provide a more predictable monthly cost for organizations. These financing options give organizations the flexibility they need to acquire servers capable of scaling to future needs while also helping organizations maintain desired efficiency levels by enabling them to pay for only what it is needed and to quickly scale as future demand arises. In TBR's *2H17 North America CSAT x86-based Servers Study* and *2H17 EMEA and APAC CSAT x86-based Servers Study*, Lenovo ranks ahead of both Dell EMC and HPE in virtualization, scalability, efficiency satisfaction, confirming Lenovo's ability to meet customer expectations for decreasing costs and increasing efficiency.

Performance

Organizations rely on x86-based servers to run mission-critical and business-critical workloads. As a result, server performance is critical for many organizations whose business operations can be negatively impacted by poor server performance. In TBR's *North America CSAT x86-based Servers Study*, Lenovo has consistently led Dell EMC and HPE in performance satisfaction since 1H15. TBR believes Lenovo's ability to dependably meet customer expectations and induce high levels of satisfaction from server performance positions the vendor well to capture additional market share, especially among midsize and enterprise customers requiring high-quality, high-performance x86-based servers.

Purchase price and TCO

Purchase price and TCO remain key factors in purchase decisions as customers seek a balance between product and services attributes and overall value. Lenovo has led Dell EMC and HPE in purchase price/acquisition cost and TCO satisfaction in TBR's *North America CSAT x86-based Servers Study* since the beginning of 2015 and led in both attributes in TBR's *EMEA and APAC CSAT x86-based Servers Study* in 2H17. Additionally, in both studies customers reported a significantly higher mean satisfaction score for purchase price/acquisition cost for Lenovo compared to Dell EMC and HPE, indicating Lenovo's wide lead in this attribute. While Lenovo leads in purchase price/acquisition cost satisfaction, this does not imply the vendor offers the least expensive server; rather, the vendor is able to convey the value proposition of its x86-based servers to customers, effectively keeping expectations in line with real-world outcomes. TBR believes this affords Lenovo an advantage and positions the vendor to continue to grow its market share in the x86-based server market as organizations focus more on the overall value and cost of data center hardware and less on the vendor with the lowest initial purchase price.

Service and support

The commoditization of x86-based hardware, along with a shifting data center market, has resulted in customers increasingly focusing on service and support for their servers as organizations lean more heavily on their data centers to not only support their day-to-day operations but also drive innovation. Many buyers

"I find that [Lenovo's] on-site support has been very responsive and resolves any issue you have in a very timely fashion. They are quick, efficient and smart." — IT Director, Telecommunications Services, United States

believe there is little difference in hardware from one x86-based server vendor to another, which has led to some organizations turning to ODMs to save on cost. While ODMs may offer lower costs than traditional OEMs, such as Dell EMC, HPE and Lenovo, most organizations recognize they must augment their internal IT support staff with additional services and support from the server vendor, an area where ODMs fall short. This demand for additional services and support creates a critical need for vendors to not only provide these service and support offerings but also deliver satisfactory results. These services and support offerings provide the tools and resources necessary for customers to meet the requirements of their businesses, such as minimizing server downtime, deploying additional x86-based solutions, and troubleshooting issues quickly and cost effectively.

TBR's *North America CSAT x86-based Servers Study* and *EMEA and APAC CSAT x86-based Servers Study* surveyed IT decision makers on their satisfaction levels for nine attributes related to the services and support of their organizations' x86-based servers. The results indicated that Lenovo is the clear leader in services and support, both in North America as well as in EMEA and APAC, as the vendor claimed the No. 1 industry ranking in all nine attributes in both studies, albeit tying with HPE for the No. 1 spot in on-site response time in the EMEA and APAC study. In the North America study, Lenovo scored significantly higher than Dell EMC in all nine attributes and significantly higher than HPE in eight attributes, with replacement parts availability being the one attribute in which HPE did not significantly trail Lenovo. Lenovo's scores in the EMEA and APAC study were closer to its competitors', with Lenovo scoring significantly ahead of Dell EMC in five attributes and HPE in three. Lenovo's ability to provide industry-leading levels of satisfaction with its services and support offerings gives organizations the peace of mind to entrust Lenovo to manage server infrastructure, thereby reducing the time spent managing, repairing and maintaining servers and allowing organizations to spend more time on higher-value business tasks.

Conclusion

Since acquiring IBM's System x business in 2014, Lenovo's x86-based servers have consistently outperformed customer expectations, helping the vendor achieve some of the highest TBR Weighted Satisfaction Index scores in the history of TBR's *North America CSAT x86-based Servers Study*. As a result, Lenovo has held onto the No. 1 spot overall since 1H15, including one of its most dominant performances to date in 2H17 as the vendor outscored Dell EMC and HPE in satisfaction for all 22 attributes. In 2017 TBR launched its semiannual tracker of customer satisfaction in the United Kingdom, Germany and Japan for its *EMEA and APAC CSAT x86-based Servers Study*. In 2H17 Lenovo performed almost as impressively in EMEA and APAC as it did in North America, leading Dell EMC and HPE in 21 out of 22 attributes, albeit tying with HPE for the lead in two of those attributes. Lenovo's strong satisfaction scores across multiple geographies and its ongoing investments in its x86-based server portfolio of offerings position the vendor well to compete with leading server vendors in 2018. Lenovo's launch of two new brands, ThinkSystem and ThinkAgile, in 2017 to deliver end-to-end solutions that meet the needs of customers further demonstrates the commitment of the vendor to the data center market as Lenovo continues to take the steps needed to remain the leader in x86-based server satisfaction.

About TBR's CSAT studies

TBR measures the expectations, satisfaction and loyalty of enterprise customers in its quarterly CSAT studies. TBR measures satisfaction on a seven-point Likert scale, with 1.00 being extremely dissatisfied, 4.00 being neutral and 7.00 being extremely satisfied. On a semiannual basis, TBR surveys 300 individuals responsible for purchasing x86-based servers at U.S.-based enterprises with more than 500 employees for its *North America CSAT x86-based Servers Study*. In addition, TBR surveys 300 individuals responsible for purchasing x86-based servers at U.K., Germany- and Japan-based enterprises with more than 500 employees for its *EMEA and APAC CSAT x86-based Servers Study*. TBR ranks major vendors in each area through indices including sales satisfaction, product satisfaction, service satisfaction and loyalty.

About TBR

Technology Business Research, Inc. is a leading independent technology market research and consulting firm specializing in the business and financial analyses of hardware, software, professional services, telecom and enterprise network vendors, and operators.

Serving a global clientele, TBR provides timely and actionable market research and business intelligence in formats that are tailored to clients' needs. Our analysts are available to further address client-specific issues or information needs on an inquiry or proprietary consulting basis.

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