Hardware Does Matter: Global Server Brands are Perceived as Superior for Driving Digital Business

Results from the 2019 Frost & Sullivan Server Preference Survey

A Frost & Sullivan White Paper
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INTRODUCTION

In the era of cloud computing, software-defined everything, and network-based functionality, it’s easy to believe that hardware has little value. Server infrastructure may seem old-fashioned compared with next-generation technologies and software platforms.

And yet, every application, every workload, every data set, every function—regardless of deployment model or location—runs on physical server appliances. Without the right underlying hardware infrastructure (efficient, resilient, and powerful), critical business operations may be in jeopardy.

If business applications work only as well as the servers they run on, IT decision-makers must carefully choose the right server hardware. But how do they know which server hardware is best for their business? Buyers have a broad choice, ranging from low-priced commodity servers to high-performance global brands. Do they perceive differences among brands to be significant enough to impact their critical business functions? Or do they subscribe to the idea that all server functionality is comparable?

According to a recent survey by Frost & Sullivan, a majority of businesses reject the notion that all servers are the same, instead placing higher value on the server characteristics that directly impact the way they run their digital business. For these firms, server selection is based on careful assessment of critical characteristics.

In this report, we evaluate market misperceptions surrounding server functionality. We present data on server adoption and perceptions, based on the 2019 Frost & Sullivan Server Preference survey, and show which selection criteria IT leaders considered most important. Finally, we offer recommendations for assessing server brands to determine which will best meet your business needs.

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1 The 2019 Frost & Sullivan Global Server Preference Survey was conducted among 500 IT decision-makers identified as having primary responsibility for server purchases in their organizations. Respondents represented a range of business sizes, industries, and world regions.
Common Misperceptions Surrounding Server Investments

As businesses transform to meet the demands of the digital era, they align their IT purchases with their strategic goals—seeking out best-of-breed technologies and vendors that will help them achieve goals for business resiliency, agility, cost-efficiency, and security. Yet, paradoxically, they often perceive little differentiation among server vendors, leading them to underestimate the impact that server purchases have on how their business runs. Market misperceptions include the following variations on a pervasive mythology:

**Myth: Physical appliances are yesterday’s news**

No doubt about it: Physical appliances have fallen out of favor. Scorned as cumbersome, capital- and labor-intensive, physical hardware is being spurned these days in favor of newer and sexier technologies, such as virtualized, software-defined, containerized, even serverless solutions. What this “modern” viewpoint misses is that the new technologies do not displace hardware; to the contrary, they require the hardware to perform better and more efficiently.

**Myth: Runs on generic x86 hardware**

This phrase may be listed as a benefit in marketing material for solutions such as virtualized appliances, Virtualized Network Functions, and software-defined storage. It falsely implies that any software (including modern, powerful software) can run effectively on any dollar-store hardware.

**Myth: You can repurpose what you have on the floor**

Any business’s overall infrastructure investment plans should include maximizing shelf life of equipment. But beware claims by software vendors that imply their intelligent platforms can breathe new life into equipment that’s been gathering dust long past its useful life. For optimal performance, modern software needs modern equipment that has been tuned to handle the demands for throughput, availability, resiliency, high performance compute, etc., to function properly and take advantage of the latest code.

**Myth: Servers are a commodity**

Actually they’re not. By definition, “commodity” refers to a natural or agricultural resource that is predictably the same, regardless of origin. When people refer to servers (or other manufactured products) as commodities, they mean there is no meaningful difference among vendors—and therefore, low price is the goal. But in fact, there is significant variation among server brands, based on vendor strategy, manufacturing processes, technology, architecture, and outcomes. Some of these differences—as experienced by actual businesses—are discussed in this paper.
OPTIMAL SERVER CHARACTERISTICS
Top Purchase Criteria among Buyers Align with Digital Transformation Priorities

In the 2019 Server Preference Survey, Frost & Sullivan asked IT decision-makers to rate various criteria according to their importance to server purchases. Results are shown in Figure 1.

FIGURE 1: CRITERIA RATED AS “IMPORTANT” OR “VERY IMPORTANT” TO SERVER PURCHASE DECISIONS

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information Security Assurance</td>
<td>83%</td>
</tr>
<tr>
<td>Reliable Availability</td>
<td>81%</td>
</tr>
<tr>
<td>Logical or Software Compatibility</td>
<td>77%</td>
</tr>
<tr>
<td>Efficient Time and Money Use</td>
<td>71%</td>
</tr>
<tr>
<td>Physical Compatibility</td>
<td>64%</td>
</tr>
<tr>
<td>Compliance and Sustainability</td>
<td>61%</td>
</tr>
<tr>
<td>Scalable Designs</td>
<td>57%</td>
</tr>
</tbody>
</table>

Source: Frost & Sullivan

Not surprisingly, these criteria are closely aligned with the top digital transformation priorities cited by business leaders. For example:

- The top criteria for server purchases—security and availability—also head the list of digital transformation priorities, cited by 61% and 67%, respectively, of IT leaders.

- The “compatibility” criteria for server purchases—both logical and physical—recognizes that yesterday’s siloed, one-app-per-server approach is too restrictive for today’s modular, integrated, scalable, and hybrid applications. Similarly, 60% of IT leaders spearheading their companies’ overall digital transformation initiatives are also investing in flexible, integrated hybrid environments that support business agility.

- Compliance and efficiency (both cited by 54% of IT leaders as drivers of digital transformation investments) are important, as businesses look for ways to optimize costs and resource utilization.
GLOBAL BRANDS VS. COMMODITY SERVERS

Which Best Delivers on Purchase Criteria?

While IT decision-makers largely agree on the criteria important to server purchases, do they perceive differences in a brand’s ability to deliver—or do they consider all the criteria to be merely table stakes, equally achieved by commodity and global brands alike?

In the survey, Frost & Sullivan asked respondents to name their “preferred” server brand. To derive insights about differing perceptions, in our analysis we categorized their preferred brands into three buckets:

- **Leading global brands**, characterized by a broad portfolio of products and services (Dell EMC, HPE, Cisco)
- **Commodity brands**, characterized by high volume and low price strategies (SuperMicro, Inspur)
- **Regional/niche brands**, characterized by focus on targeted customer segments, industries, or regions (Fujitsu, Huawei, Lenovo)

Overall, the preferred server choice of the majority of respondents fell into Frost & Sullivan’s “leading global brands” bucket.

We then looked, again, at the rankings of server purchase criteria, this time through the lens of server preference. For the purposes of this report, we are confining our analysis to a comparison of those who prefer global brands and those who prefer commodity brands.

As shown in Figure 3, those who prefer global brands ascribe higher importance ratings to most of the criteria. The correlation indicates that *buyers who care more about achieving key business objectives are attracted to the high performance and high functionality associated with the global...*
brands; whereas, those who place less value on certain strategic business benefits are satisfied with high-volume, price-driven commodity servers. The only criterion valued more highly by those who prefer commodity server brands is scalable designs, which may indicate that commodity servers are often used to “fill in” infrastructure gaps, rather than as part of a holistic purpose-built solution.

**FIGURE 3: SERVER PURCHASE CRITERIA RATED AS IMPORTANT OR VERY IMPORTANT, BY PREFERRED SERVER CATEGORY**

<table>
<thead>
<tr>
<th>Category</th>
<th>Preference for Global Brand (DELL EMC, HPE, CISCO)</th>
<th>Preference for Commodity Brand</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information Security Assurance</td>
<td>85%</td>
<td>73%</td>
</tr>
<tr>
<td>Reliable Availability</td>
<td>84%</td>
<td>61%</td>
</tr>
<tr>
<td>Logical or Software Compatibility</td>
<td>80%</td>
<td>70%</td>
</tr>
<tr>
<td>Efficient Time and Money Use</td>
<td>74%</td>
<td>70%</td>
</tr>
<tr>
<td>Physical Compatibility</td>
<td>66%</td>
<td>53%</td>
</tr>
<tr>
<td>Compliance and Sustainability</td>
<td>62%</td>
<td>59%</td>
</tr>
<tr>
<td>Scalable Designs</td>
<td>56%</td>
<td>59%</td>
</tr>
</tbody>
</table>

*Source: Frost & Sullivan*

**THE DETAILS MAKE A DIFFERENCE**

**How Global Brands Compare with Commodity Servers**

Aware of business priorities for digital transformation, vendors across all technologies tend to tout their products’ ability to meet needs for reliability, scalability, security, etc. But as always, details make a difference in how well a particular product or vendor addresses those business requirements. Server buyers surveyed by Frost & Sullivan demonstrated clear differences in their perceptions of how various server types meet specific criteria.

**Information Security Assurance**

Across all users—but especially among those who prefer global brand servers—“information security” is a top purchase criterion. At the server level, addressing this critical priority requires comprehensive security protection and a response shield that helps assure the confidentiality, integrity, and availability of key information.

Respondents surveyed by Frost & Sullivan show a clear preference for global brands over commodity brands, especially when it comes to specific capabilities related to information security, as shown
in Figure 4. The perceived gap in server brands’ ability to protect against hardware compromise is particularly pronounced, with 71% of global brand loyalists considering that criterion to be important, but just 35% of commodity loyalists.

**FIGURE 4: IMPORTANCE OF SECURITY-RELATED PURCHASE CRITERIA, AS RATED BY GLOBAL BRAND VS. COMMODITY BRAND LOYALISTS**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Global Brand Loyalists</th>
<th>Commodity Brand Loyalists</th>
</tr>
</thead>
<tbody>
<tr>
<td>Security Features Integrated into the Server</td>
<td>86%</td>
<td>76%</td>
</tr>
<tr>
<td>Support for and Compliance with Security Regulations</td>
<td>85%</td>
<td>60%</td>
</tr>
<tr>
<td>Protection against Hardware and Firmware Compromise</td>
<td>71%</td>
<td>35%</td>
</tr>
</tbody>
</table>

GLOBAL BRAND LOYALISTS (DELL EMC, HPE, CISCO)  
COMMODITY BRAND LOYALISTS

Source: Frost & Sullivan

**Reliable Availability**

Businesses need assurance that the servers will work. They look for design and engineering components, as well as vendor services, that minimize, detect, and respond to potential disruptions. Specific criteria rated as important by survey respondents are listed in Figure 5. Among specific brands, the differences are even more pronounced; for example, in the criterion “Least Need/Fastest Time to Reboot,” Dell EMC led all server brands, with 55% of loyalists citing the criterion as important.

**FIGURE 5: IMPORTANCE OF AVAILABILITY-RELATED PURCHASE CRITERIA, AS RATED BY GLOBAL BRAND VS. COMMODITY BRAND LOYALISTS**

| Criteria                                                       | Global Brand Loyalists | Commodity Brand Loyalists |
|                                                               |                        |                           |
| Built-in Redundancy Capabilities                               | 86%                    | 59%                       |
| Few Hardware Problems                                          | 76%                    | 67%                       |
| Least Need/Fastest Time to Reboot                              | 52%                    | 39%                       |

GLOBAL BRAND LOYALISTS (DELL EMC, HPE, CISCO)  
COMMODITY BRAND LOYALISTS

Source: Frost & Sullivan
Physical/Logical Compatibility and Compliance
Modern servers must be able to work within the enterprise operating environment, and support layers of infrastructure management and operating software. They also must meet corporate standards for environmental compliance and safety factors. Specific criteria deemed important are shown in Figure 6. Again, buyers for whom specific criteria are highly important will need to examine how each brand delivers on their needs. For example, those that require a comprehensive server warranty would be interested in noting that Dell EMC leads all brands in that category, with 94% of loyalists ranking it as important.

**FIGURE 6: IMPORTANCE OF COMPATIBILITY AND COMPLIANCE-RELATED PURCHASE CRITERIA, AS RATED BY GLOBAL BRAND VS. COMMODITY BRAND LOYALISTS**

- **Overall compatibility with application software platforms**: 91% for global brands, 78% for commodity brands.
- **Low power consumption**: 79% for global brands, 55% for commodity brands.
- **Extensive server warranty and support**: 92% for global brands, 87% for commodity brands.
- **Minimal time required to manage, monitor, and update servers**: 91% for global brands, 78% for commodity brands.

GLOBAL BRAND LOYALISTS (DELL EMC, HPE, CISCO)
COMMODITY BRAND LOYALISTS

Source: Frost & Sullivan

ASSESSING SERVER BRANDS
Which Brand Demonstrates Consistently Superior Performance across Criteria?
Depending on the planned use of the server, some purchase criteria may be more relevant than others. In this case, buyers may well select a server based on high performance in one or two criteria categories (for example, for a critical application, reliable availability may be the highest priority). But for buyers who want flexibility in deploying workloads among servers, the best choice may be a server that performs consistently well across all categories. Figure 7 shows how loyalists of various brands rate their preferred brand across the criteria. Not surprisingly, commodity loyalists give their choice a high ranking for “efficient time and money use,” but lower rankings across other criteria.
Even among the global brands, loyalists vary in how they rate their preferred brand across the criteria. For example, in the “compliance and sustainability” category, 32% of Dell EMC loyalists rate their preferred brand superior to all others—outranking not only commodity brands, but also other global brands by a wide margin. In fact, Dell EMC is the only one of the surveyed brands whose loyal customers rank the brand consistently high across all criteria.
Choosing a Server Brand Based on Intended Workload
The survey also sheds light into how businesses allocate critical workloads among various server brands. According to the Frost & Sullivan survey, businesses selected Dell EMC servers for mission-critical business applications, including:

- **Azure, Microsoft Server, or Office 365**: Among businesses that use these leading Microsoft products, 34% of survey respondents report that their preferred server brand for these critical applications is Dell EMC servers; 50% more than the next leading brand.

- **SAP HANA**: 37% of businesses report that their preferred server for running SAP HANA, the world’s leading ERP platform, is Dell EMC—twice as many as prefer the next brand.

- **Machine Learning and Deep Learning**: Businesses increasingly are incorporating sophisticated functionality that “trains” software models to self-improve as exposed to new data. To run the data-intensive workloads, 33% of respondents say they prefer Dell EMC servers—nearly twice as many as any other brand.

Choosing the Right Brand, Rather Than the Usual Brand
A variety of server brands appears on pretty much every data center floor. But as the urgency and pace of digital transformation accelerate, it appears that brand loyalty may give way to performance criteria.

An interesting finding in the survey is a discrepancy between respondents’ preferred brands and their most recent purchases.

As noted, survey respondents indicated their preferred server brand—the brand that dominates their data center. Yet, their most recent purchases don’t necessarily align with their stated preferences. For example, while 35% of all respondents said they are “brand-loyal” to Dell EMC, a significantly higher percentage said they purchased a Dell EMC server in the past three months (47%)—more than 15 percentage points higher than purchased the nearest competitive brand. In terms of proportion of all server purchases in the last 3 months, Dell EMC also earned the top spot, with respondents reporting that nearly a third of all their server purchases worldwide were Dell EMC servers, again significantly higher than any other brand.

*The recent purchasers of Dell EMC servers include 89% of Dell EMC loyalists, but also 20–30% of those loyal to other brands.* Why is this significant? Businesses are adding new and emerging applications and workloads to meet their near-term business goals (such as intelligent decision-making or innovation). Furthermore, IT leaders are most likely to install such new and critical applications on newly purchased purpose-built servers. The survey results suggest that for their newest workloads—which may have specialized requirements for optimal performance—buyers are evaluating servers against different, perhaps more stringent criteria, rather than automatically turning to the same brands as in the past.

**THE LAST WORD: PUTTING IT ALL TOGETHER**
As enterprises in every industry transform into digital businesses, one thing hasn’t changed: Their applications and workloads, legacy and next generation, are only as good as the server hardware they run on. To achieve aggressive strategic business goals—including agility, always-on
availability, security and compliance, and flexibility—organizations need to ensure they have the right server foundation.

But determining which server brand or brands will optimally meet enterprise goals can be a challenge. Often, the most reliable source of information is from actual users, including:

- **Your own experience**: Your company’s data centers likely include servers representing a variety of vendors and products. Take some time to understand how these servers perform, based on your own infrastructure management reports and conversations with architects, IT operations teams, and others who support the servers and the applications they run.

- **Other users**: Colleagues and competitors—in your industry or region and elsewhere—can provide valuable input based on their experience. Look for assessments from users who have similar priorities to your business.

The Frost & Sullivan Server Preference Survey results, as shown in this report, can provide some guidance for your assessment. For example:

- Acknowledge that server brands vary significantly, and that a commodity brand may not provide the outcomes you need. Assess brands according to the criteria that are most important to your business and the workloads you plan to run. A brand that scores high in “reliable availability” will keep your critical applications running with minimal disruption; one that scores well in “security compliance” will help protect sensitive apps and data, and facilitate compliance audits.

- Build a flexible, adaptable data center by selecting sever brands that are designed to easily integrate with a variety of hardware and software platforms. This ensures you can continue to maximize the utilization of the server throughout its lifecycle, even as your business needs change.

- Consider that new and next-generation applications may require more powerful and functional servers for optimal performance. Server brands that worked well in the past may no longer be optimal for your new data center needs.

IT leaders bear responsibility for leading their companies into the digital era. Their success may depend on choosing the right server infrastructure.

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