

WHITE PAPER

System Builders Make Case for White-Box Servers

Sponsored by: Intel Corporation, Microsoft Corporation

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IDC OPINION

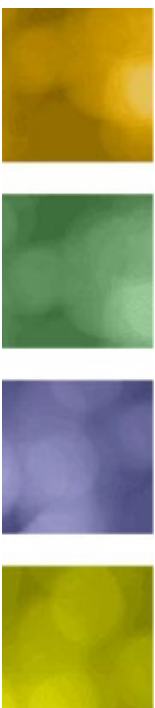
The market for white-box, or unbranded, personal computers continues to provide strong opportunities for system builders. These players are challenged, however, to fend off the advances of lower-priced, branded PCs from larger players, maintain reasonable margins, and continue to expand the opportunity for higher-profit services. IDC has found that system builders that move to assembling Intel® architecture-based servers and preconfigure them with the Microsoft® Windows® Server operating system are realizing significant benefits, including access to the broad ecosystem of Microsoft and Intel partners. System builders have had similar experiences in several areas as they've made the transition to servers, including the following:

- ☒ The move to assemble servers is typically driven by customer demand, and it provides significant opportunities for the sale of additional products and services, as well as improved product margins.
- ☒ The transition to assembling servers in addition to desktops requires weeks rather than months and, in most cases, is accomplished using primarily existing resources.
- ☒ System builders generally believe that both Microsoft and Intel deliver strong benefits, particularly in the areas of technical and marketing support, that enable the transition to servers.

METHODOLOGY

In late 2002 and early 2003, IDC conducted telephone interviews with fifteen white-box system builders worldwide, including nine in the United States, to understand how they made the decision to supplement their PC assembly business with white-box servers. Interviewees evaluated their transition to servers and the impact of this change on their businesses in terms of costs, revenue, and profitability. At the same time, builders were asked to describe the role played by Intel and Microsoft in both the transition and continuing operations of their businesses.

These system builders provide a global perspective and cover a range of company sizes, business models, and customer sets. They described in detail their experiences in server adoption, including the business impact, best practices, and effects of partnering with established vendors.



SITUATION OVERVIEW

The PC market segment has long been characterized by the need to develop strategies to counter declining margins and maintain profitability. For system builders, these strategies are often centered around cutting fixed costs; opening new distribution channels; introducing new software, peripherals, and services; and developing more sophisticated vertical market solutions.

Even though these challenges have been felt most acutely in the PC arena, system builders are increasingly being forced to confront issues that strike directly at both revenue and margins. The worldwide server market segment has been in decline since the high-water mark of 2000, when vendors shipped \$61.4 billion worth of servers. Although high-end servers have been particularly affected by this shift, entry-level servers (those selling for less than \$25,000) have been much more consistent and represent something of a bright spot in customer demand. Overall, IDC projects that the total server market will bounce back through 2006 and that entry-level servers will lead the recovery.

The market for white-box servers is robust, particularly at the entry level, which is also the fastest-growing segment of the server market. This market segment represented 39% of the total server market in 2001 and is expected to grow vigorously through 2006. The entry-level market is characterized by increasing use of industry-standard processors and commoditization. Both of these trends favor Intel architecture-based white-box machines. Windows also remains the market-leading operating system in this category and is expected to retain strong market share through 2006.

Today, the top 5 vendors account for about 79% of the value of all servers shipped worldwide, as illustrated in Table 1. IDC doesn't expect these leading vendors to gain significant market share without further consolidation; this consolidation has already occurred among the top 5 vendors and is likely to be a compelling strategy in the middle tier as well. Below these two layers, however, is a fragmented market made up of myriad brand-name and white-box players with a significant revenue base and plenty of room to expand.

TABLE 1

WORLDWIDE SERVER FACTORY REVENUE BY VENDOR TYPE, 2002

	Revenue (\$M)	Market Segment Share (%)
Major multinational OEMs*	34,924	79.2
Tier 2 OEMs**	6,263	14.2
Other	2,895	6.6
Total	44,082	100.0

* Includes Compaq, Dell, Hewlett-Packard, IBM, and Sun

** Includes Acer, Apple, Fujitsu, Fujitsu Siemens, Groupe Bull, Hitachi, NCR, NEC, SGI, and Unisys

Source: IDC, 2003

THE DECISION TO BUILD SERVERS

The biggest single reason given by system builders for expanding from white-box PCs to servers is customer demand: Once customers have made a commitment to a PC platform, it's natural for them to want to consolidate their suppliers. The benefits of consolidation for the customer include minimizing the number of hardware support providers; delivering machines that have a validated, integrated infrastructure; and the ability to more closely tie the supplier's success to the quality of the products because so much potential business rides on the outcome. System builders also pointed out that servers provide a unique opportunity to get closer to the core IT infrastructure of their clients, which makes them a more trusted partner.

Building servers is complementary to several proven business models in the IT industry, which has opened the field to resellers, white-box PC builders, as well as wholesale and component distributors. Regional distributors, in particular, have seen expanded opportunities to either provide components to system builders or assemble products to sell to resellers. This extension to their businesses has the same logic that applies to the reseller-customer relationship: If resellers need to choose between acquiring technology from multiple distributors and consolidating to one, they are more likely to send all their business to the supplier that can get white-box PCs and servers, according to regional distributors.

Both IT distributors and resellers have also been increasing the proportion of their business dedicated to software, particularly to shore up margins and improve their value-add. By building their own servers, vendors increase their opportunity to custom configure not only the hardware but also the software.

The most compelling reason given for moving to servers, however, is to satisfy customer demand. With a ready client base, system builders can focus on other aspects of the transition.

SUCCESS FACTORS

White-box server builders indicated that they were able to move relatively easily to servers, generally by improving training for their existing staff. Although additional technical staff were required in some instances, none of the system builders interviewed by IDC reported significant hiring requirements.

Among the key considerations in moving to a new technology such as servers is the availability of industry-standard components and platforms with high adoption rates, along with rich ecosystems for distribution, support, and training. This combination of factors helps ensure that components are readily available, platforms have acceptance in the market, and the skills required to assemble the technology are either already available in-house or prevalent in the market.

Server builders also have to be able to make a convincing case for their ability to sell servers in addition to PCs, which means sales training. Although system builders generally have the technical ability to move relatively quickly to servers, they find a real need to educate their own staff to address longer sales cycles and higher average selling prices and develop a better understanding of richer solutions and customer needs. At the same time, resellers accustomed to selling name brands need to be trained to offer white-box servers to customers that might reflexively go with a larger name brand. System builders need to be able to enunciate the benefits of white-box servers and train their own salespeople as well as their resellers to position the technology as competitive with the name brands of larger, multinational vendors.

System builders also have to show customers that they are capable of supporting, as well as building, servers. Best practices around servers are different from those of PCs and include backup machines, short response times (especially because a server is more likely to be mission critical than any single PC), improved telephone and email support, and higher levels of overall knowledge that require additional training.

Another key requirement is increased customer intimacy, or a better understanding of customer buying cycles. Servers, storage, and networking equipment are purchased in different combinations and on different cycles from PCs and need to be delivered on very exacting time lines, according to system builders. This need for customer intimacy has been proven to be the case in other IDC research as well. White-box vendors are generally local companies within earshot of the customer and can therefore leverage the value of "local flavor." As a result, white-box server builders can sell their proximity — if it means they can physically respond more quickly to technical issues than the local offices of larger multinational players. IDC PC research shows that beyond price, white-box vendors' primary value-add is customer intimacy — this should be translated to servers as well.

Additionally, some companies may need to change their advertising — both the content and the advertising vehicles — to go after different buyers as they move up the IT food chain. Although some system builders said the buyers are the same between PCs and servers, the sale itself is always different, with different value propositions and support requirements. This extends to changing cold-calling strategy, shifting away from price-led sales calls and into more discussions designed to build an understanding of the customer's IT environment.

System builders also need to cultivate partnerships with other companies in the industry, such as systems integrators, resellers, and other manufacturers, to share leads and even deliver sales. This is a major component of the business success of many of the system builders interviewed by IDC. Industrywide, it's simply good business practice: The larger the community of partners that support a particular technology or platform, the easier it is to find people and products to complement your offerings.

The good news for white-box PC builders, according to server builders, is that they can make the transition to servers in a matter of weeks, rather than months, using their existing technical expertise, supplemented by training.

THE BUSINESS CASE

One of the keys to winning white-box server business in the market is the penetration of white-box PCs overall among business users. In the small business sector, in fact, 39.6% of all U.S. organizations surveyed by IDC owned white-box PCs in 2002, and 34.4% planned to purchase white-box PCs within 12 months. This is a ready market segment that server builders should be able to target out of the gate, particularly for their current customers.

White-box system builders also reported a number of other business benefits resulting from their adoption of servers, as discussed in the following sections.

VOLUME

The numbers vary somewhat from company to company by geography, but system builders reported that as many as 10 PCs are dragged through with every server sale. (One company in Indonesia reported as many as 50 desktops are pulled through with every server sale.) Many of these companies also expect to expand their ratio of servers to PCs over the next year, which could mean expanding the total business, without taking

away from the PC volume. One system builder in Australia said white-box server volume has doubled in each of the past three quarters, growing to 20% of a total business that already produces an average of about 100 machines a week.

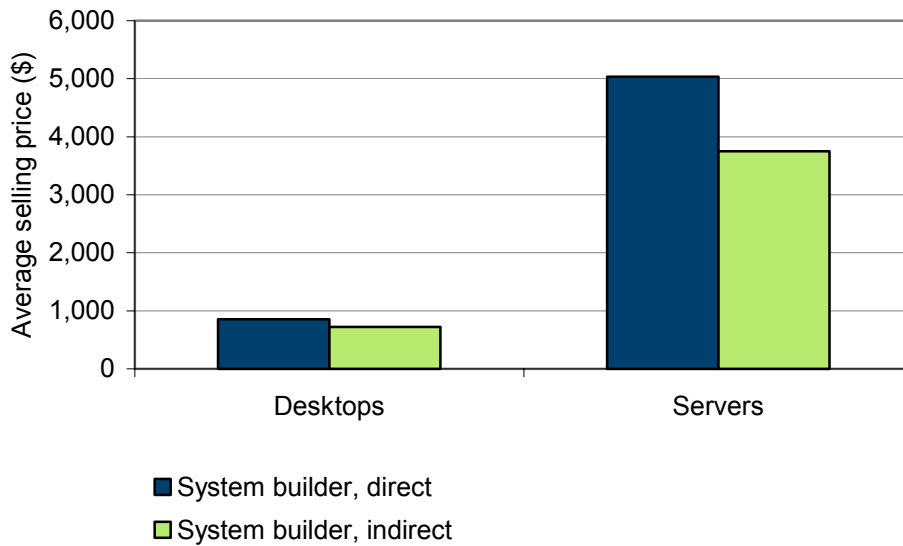
"As a sales person, you can see that when someone is buying a server, you know to look for other components of the sale," said one system builder.

PRICE

Not only do servers bring more PC volume, but they also carry much higher selling prices, as illustrated in Figure 1. The two groups represented in Figure 1 are direct companies — those that build systems for their own end-user customers — and indirect companies — those that build systems for resellers. The chart shows how quickly system builders become responsible for a much bigger share of their customers' spending when they move to servers from PCs.

FIGURE 1

WORLDWIDE WHITE-BOX PC AND SERVER AVERAGE SELLING PRICE BY PARTNER TYPE



n = 13

Note: "System builder, direct" refers to companies that build white-box servers for their own end-user customers. "System builder, indirect" refers to companies that build servers for resellers.

Source: IDC, 2003

MARGINS

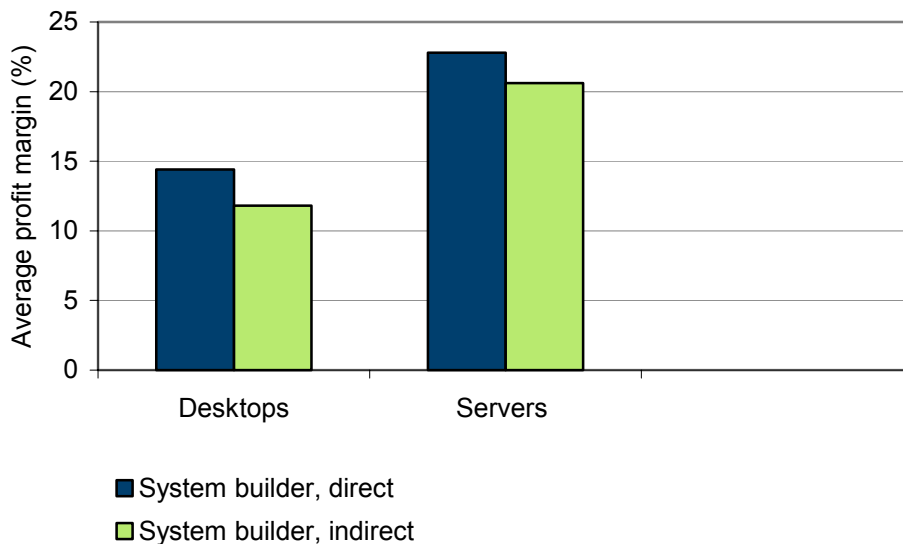
In addition to higher average selling prices, system builders also command much higher profit margins for servers than they do for PCs. Figure 2 describes the margins system builders yield on both desktops and servers. As in Figure 1, the sample is divided almost evenly between system builders that sell direct and those that sell through resellers and includes a mix of companies based both inside and outside the United States.

Figure 2 shows that the differences in margins are more pronounced than the differences between average selling prices because resellers take more of the available margin on a product in exchange for their sales and support capabilities. Although numbers vary, system builders reported that margins on servers vary from a low of 10% to a high of 30%, while PC margins tend to top out at 10% or 15%. This is a critical consideration for resellers looking for bigger margins; these resellers are in a position to influence their customers' decisions in favor of white-box servers.

"If I sold HP, I would push that to customers and they would buy that," said one system builder. "You might as well take better margins if you have influence in the account."

FIGURE 2

WORLDWIDE WHITE-BOX PC AND SERVER AVERAGE PROFIT MARGIN BY PARTNER TYPE



n = 13

Note: "System builder, direct" refers to companies that build white-box servers for their own end-user customers. "System builder, indirect" refers to companies that build servers for resellers.

Source: IDC, 2003

SERVICES

To compete effectively in the white-box server market segment, companies need to provide a more detailed services offering to customers because servers are more likely than PCs to be mission critical. Services offerings by system builders range from support to facilities management. Services requirements for servers are also potentially much more lucrative — up to 20% of the cost of the server, in some cases, for baseline support. Companies reported different business ratios based on the level of services they provide, but services can account for 15–20% of a system builder's business and can also be resold and provided by resellers.

SOFTWARE CONFIGURATION

The move to servers also opens an avenue for more software sales in solution areas ranging from Web and application servers to firewalls and security, as well as storage software, which is the area most mentioned by system builders as a value-added business. In enhancing their software and solution offerings, system builders can lean on the Windows Server operating system, a leading mainstream platform for which a wealth of applications are available.

MARKET STRENGTH

System builders also pointed out that the server market segment has a longer potential life than the desktop business, where declining component prices, commoditization of the finished product, and a host of other factors are driving marginal players out of the market segment and threatening the long-term prospects of the survivors.

In the same way that white-box PC sales drag potential server business, system builders surveyed by IDC reported a strong connection between servers and other products, including networking equipment.

"When you're doing the server for someone, the desktops tend to follow, and more network products are sold as well," said one U.S. system builder. "A bid might be for a server, 50 workstations, the hubs, and monitors — when you get the server part of it, it is more likely to lead to getting the other components of the solution."

KEY PARTNERSHIPS

The fundamental building blocks of the server are processors, chipsets, platforms, boards, RAID controllers, and chassis, and in all cases, system builders have choices. For most builders, the choices come down to which products are most reliable, which products have market demand, which products provide the best trade-off between price and performance, and which vendors are best at supporting the technology and marketing requirements of their builders.

White-box builders that have made the move to servers are clear about the value of selecting core solution components that deliver market penetration, reliability, and support from the vendor. Specifically, when asked about the assets that Intel and Microsoft bring to the table, system builders responded favorably to both the value proposition of the vendors and the strength of their products.

"Intel is probably the best business partner I've ever worked with," one system assembler said. "They are the most professional, they're on top of it, they've got resources available, they're all over helping us win in the channel."

Specifically, system builders reported that they are satisfied with the technology and marketing support from Intel and Microsoft and that their decision to deliver on this platform was the right one. Overall, system vendors cited the following key benefits of their technology decision:

- ☒ **Industry-standard components and software.** System builders have recognized the need to be flexible in responding to customer demand while still delivering proven technology that is widely accepted by end users and widely available through distribution channels. Companies reported that they utilized Intel's validated components and configuration guides and were able to work easily with the chassis to alleviate any potential problems.
- ☒ **Branding.** Individual white boxes may not have the brand equity of some major brands, but they benefit from the same brand pull of Intel and Microsoft that helped larger vendors overcome resistance with the same technology. Intel continues to promote its brand as a key component of the server, while Microsoft pushes its brand equity through global and localized marketing events and advertising. This branding is a great leveler, manufacturers reported, that allows them to get a foot in the door of larger accounts.
- ☒ **Technical support and training.** Although system builders reported they were generally able to transition quickly to servers from PCs, they still have continuing needs for technical support for day-to-day tasks as well as for longer-term issues such as technology road maps and system design. Both Microsoft and Intel are good at communicating product direction as well as delivering technical training locally through road shows and other activities performed by local representatives, according to system builders.
- ☒ **Linking manufacturers to other original equipment manufacturers (OEMs).** Typically, vendors that develop programs to support their partners are really trying to establish a partner network architecture. In these networks, each partner "node" is expected to understand how to hook up with complementary partners to share information, complete solutions, and go to market together, where their skills are complementary. This rarely happens because most vendors lack the reach and capability to really make these exchanges happen. System builders specifically cited the size and expanse of the Microsoft and Intel partner community as a differentiator that makes it easier to establish channel alliances to win deals.

BEST PRACTICES

Companies that want to expand from white-box PCs to servers have generally found that they already have many of the tools necessary to make the transition, but as the saying goes, It's the same, it's just different. Cookie-cutting servers isn't a formula for success except in large volumes, so system builders have had to develop their own best practices — particularly around knowledge, response time, and warranty — to substantiate their value-added margins. System builders pointed to the following among several best practices as keys to success:

- ☒ **Broaden the distribution channel.** Several of the system builders surveyed by IDC sell through resellers and other channels of distribution, including their own retail outlets.
- ☒ **Utilize partner program benefits.** Microsoft, Intel, and other vendors have programs to support their partners and customers. Typically, the most comprehensive benefits of these programs are available to partners that make the highest investments in the vendors. But at a minimum, these benefits help provide support for marketing efforts, sales and technical training, and potentially for recruiting reselling partners. Vendors spend heavily to create awareness

around their programs precisely because partners don't always take advantage of what's available. System builders that use vendor resources reported they make better use of their own investment.

- ☒ **Play well with others.** It's a big ecosystem, and system builders reported that they succeed when they tap into the resources of others in the industry. This strategy extends from vendors to resellers to other OEMs.
- ☒ **Act locally.** White-box system builders reported that they match up well against larger vendors, particularly when they stress the value of local support and contacts. What these companies lack in name-brand recognition they make up for with local support, physical proximity to the customer, and knowledge of the local market.
- ☒ **Capitalize on available branding.** The Intel Inside® brand message plays as well in white-box servers as it does in major brand names. System builders said that by leveraging the Intel and Microsoft brand names in their servers, they can overcome many of the barriers to competing with major brands.
- ☒ **Keep a spare box.** Servers are more likely to be mission critical than PCs, so some system builders build an extra box for some or all sales. This allows them to leverage their local presence and get replacement servers quickly to customers.
- ☒ **Sell the service along with the box.** System builders interviewed by IDC said they are averse to being the low-cost provider and recognize the need to increase the yield per machine by attaching high-value services. Maintenance contracts that include vital services, such as a four-hour, onsite spare part exchange, facilities management, and the availability of backup server configurations, can add significantly to the server sale. Overall, the real margins are made with service, support, and customization. One company reported that 30% of its workforce is dedicated to service, including supporting a three-year warranty and providing toll-free technical support for the life of the server.
- ☒ **Inventory as little as possible and buy from distributors.** This can create challenges when trying to meet strict deadlines for delivery, but it reduces exposure to component cost fluctuations, particularly when opening a new business in servers.
- ☒ **Custom configure.** This is the key to driving margins higher. It means more potential competition against some customer resellers, but more business overall from resellers that want their servers drop-shipped to end users. System builders recognize that software, services, and other hardware are keys to expanding the profitability of every machine shipped.
- ☒ **Establish baseline configurations.** In addition to customized servers, system builders reported success with a strategy of identifying their most common configurations and selling them at discounts of between 10% and 20%. This helps seed the market, while reducing the overall support costs per machine, by using proven configurations.
- ☒ **Understand Microsoft licensing.** Resellers can benefit from a solid understanding of how software licensing works. IDC data shows end users will turn to these partners for advice on the most cost-effective ways to acquire their licenses, which makes it a value-added service.

FUTURE OUTLOOK

2002 was a challenging year for companies across the IT spectrum, and server manufacturers were no exception. Server shipments declined slightly from 2001 and even more from 2000; however, white-box manufacturers interviewed by IDC reported solid growth and good profitability. These companies are smaller than their larger, multinational counterparts, which makes year-over-year growth easier to achieve. These vendors have profited from unique strategies, sound business practices, and the general expansion of the market segment opportunity for local players that can provide high levels of service on standard platforms.

Overall, white-box server builders are positioned in what IDC believes is the fastest-growing portion of the server market segment: entry-level servers. The increasing presence of Intel architecture-based servers in this space, as well as price erosion on RISC processor-based machines, contributed to this segment being least affected by the latest decline in IT infrastructure spending. White-box server system builders are represented and tracked by IDC in the "other" category of server manufacturers, which accounted for 14.7% of all server shipments in the Standard Intel Architecture Server market segment in 2002.

As the white-box server market segment evolves, IDC expects system builders to face a number of challenges and opportunities that will define their individual success, even as the market segment continues to grow.

First and foremost is the challenge of competing against large, multinational system vendors, with their built-in market acceptance and implied reliability and support. Intel attempts to equalize this factor with the Intel Inside program, which is essentially a marketing program that allows licensees to post the Intel Inside logo on their branded servers, all supported by a specific global branding campaign. Overall, however, system builders reported success in competing against major brand players primarily by stressing local presence and support, leveraging the partner program offerings of major suppliers, and delivering their machines on an industry-standard platform.

System builders also find that servers add new challenges to the business, requiring more training and more capable technologists. These obstacles can be overcome through training offered by Intel and Microsoft as well as by other resources these companies put together to flatten the technology learning curve. One system builder called this the "pain to profit" reality: Servers have better profit margins, but there's no margin for error because these machines are more likely to be mission critical. Additional resources are needed to build, configure, and test these machines, and they need to be delivered on strict time lines. The good news is that the learning curve is steepest at the beginning, which means system builders can plan for it. Additionally, the availability of extensively validated platforms from Intel and easily configured software from Microsoft means that builders can ramp up relatively quickly on servers.

Servers are a different sell than PCs, which means system builders need to invest in different sales skills. This isn't a major barrier to entry in the market segment, but it does require planning and training. In many cases, system builders reported that server sales are made to the same people who buy PCs, which means they can leverage existing relationships. In some cases, however, the buyer changes, particularly as the product acquisition becomes more mission critical and the nature of the sale changes to reflect a decision based less on price and availability than on the system builder's ability to custom configure and support the product.

The changes in sales requirements potentially extend beyond a white-box system builder's in-house sales capability and into the reseller community, in the case of companies that sell indirectly. System builders that sell through VARs need to

manage VAR expectations and skill levels for servers, ensuring that their partners are trained to sell and support servers.

Many system builders reported that they have overcome these challenges through a combination of investing in skills, leveraging partner programs, and understanding their own customers' requirements.

CONCLUSION

System builders reported that moving from desktops to servers is a relatively easy transition that provides an array of benefits, including higher revenue and margins, a broader product portfolio, closer proximity to the core of the customer's IT environment, drag-through PC sales, and an increase in higher-margin services business. There are significant challenges to this transition, but no major inherent impediments.

As companies grow this piece of their business, they divide the opportunity between standard configurations that they can produce quickly and support easily and higher-yielding custom configurations. Either way, system builders reported that relying on mainstream components and platforms eases the transition. Like PCs, Intel servers also use industry-standard components, which reduces training time and requirements, while loading servers with Microsoft Windows Server operating system results in proven configurations that are well understood by resellers and end users and provides access to a wide array of compatible applications from third-party ISVs. Additionally, Windows is "not a complex installation," according to system builders.

System builders also reported that Intel's product strength and support have been instrumental in helping them make the transition to servers. Companies that have tried other technologies reported that Intel is the preferred vendor for delivering a strenuously tested solution along with technical support and training, sales training, and warranty support.

IDC believes that Intel and Microsoft have made strong commitments to what is clearly a growing market segment, and there are significant potential benefits to system builders that can leverage these added resources to expand their business into white-box servers. In short, system builders that have made the transition to servers are happy with their decision, particularly with the benefits of working with Intel and Microsoft. These companies have generally done well financially in a very challenging IT market and will continue to invest in their server business in order to grow.

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