



The Need for a Collaborative Experience to Develop the Right Server Solution

Selecting the right server for your needs involves weighing the interplay of a number of factors. To begin with, you must balance minimum performance requirements with budget limitations. From there, considerations range from component choices and physical space requirements to purchasing timelines, the server's environmental impact, and long-term total cost of ownership (TCO).

This process is not always as straightforward as checking boxes on a configurator for four reasons:

1. IT managers have numerous responsibilities, and it can be difficult to keep up with the latest server technologies offered by every vendor.
2. Budget constraints are usually a critical determining factor in the purchase of a server. Purchase price is important, but return on investment and total cost of ownership should be factored in, too. Assessing the multitude of variables that impact ROI and TCO is not easy.
3. It can be challenging to determine performance needs in the future, and equate those with the scalability potential of the server you're considering purchasing today.
4. In addition to readily available off-the-shelf (OTS) servers, it's also possible to work with a custom server supplier to configure a solution to your exact specifications—but how can you tell that a custom server is what your organization needs?

This paper will explore when and why custom server solutions are the appropriate choice, and how to select a supplier that will build a solution to fit your requirements—both now and in the future.

Different Needs for Different Buyers

Let's take a look at some real-world examples of how server requirements can differ.



Software Companies

Software companies have unique needs for the performance of their software applications. Their business is dependent on a secure and error-free experience for their customers. In many cases the application is delivered to the end user already loaded onto a server. The application/server combination is a ready-to-deploy appliance.

These companies require a special kind of collaboration with their server suppliers—one that necessitates a high level of trust. They must be willing to provide the next version of their software to the server solution provider in advance of its release to the public. Only with full and early access to the software can the server provider optimize the hardware that it will run on.

An OTS server solution may meet requirements like pricing and time to delivery, but there are risks that the solution will not scale or meet other critical contingencies such as spikes in demand or future revisions to the application itself.

It is difficult to imagine that a software company would take the risk of purchasing an off-the-shelf solution to support its core business in this way.



Data Centers

Data centers are fast becoming the most important area of focus for IT departments in all industries. With the advent of big data and the migration to the cloud, data centers can quickly become a complex and unmanageable cost driver.

The best servers for today's data center environment must be optimized for load requirements, performance demands, energy use constraints, cooling efficiency, rack space utilization, remote management, and other factors. The complexity of these factors often means that an off-the-shelf server solution is a perilous compromise with far-reaching ramifications.



Public Sector Institutions

While most public sector entities have fairly straightforward server needs, a sizable contingent of public sector entities requires very high performance or unusual configurations. In addition, government agencies, public universities, and other public institutions often have tighter budgetary and timing constraints than their private-sector counterparts—for example, the “use-it-or-lose-it” nature of most government budgets.

Government agencies and institutions receive a certain level of funding each year based on their needs and the previous year's spending. These entities are motivated to spend every penny they are allotted in order to keep the funding flowing for the next year. That means that these entities not only have a very specific spending target to hit, but a very specific deadline.

Off-the-shelf hardware solutions may suffice, but the same limitations and risks that face software companies and data centers apply to public entities as well.

These three groups represent only a small number of the organizations for which custom server solutions are the best option. It really boils down to a single question:

“Are you getting—and paying for—only, and exactly, what you need?”

The Off-the-Shelf Compromise

Many IT buyers fall into the trap of assuming that they must accept OTS server solutions, which typically reflect the most common component, performance, and price requirements.

In many cases, OTS components are selected to match specific price points in the market that still deliver profitability to the supplier. These systems force buyers with more specialized needs into accepting—and paying for—components they might not appreciate, while potentially not including components that could prove more valuable to buyers' requirements.

In other words, OTS servers from brand-name providers offer limited selection that may not fit your unique server needs.

The Advantages of Custom Server Solutions

One option that's sometimes overlooked is a custom-built server solution. Some IT professionals assume that custom servers are more expensive, which is not necessarily the case.

A custom server allows buyers to specify exactly what they need—and pay for nothing more. This is particularly useful in cases where the server will play an unusual role that no “mass market” OTS server configuration would perform adequately. In short, custom server solutions force no compromises. By contrast, the limited range of OTS server options frequently requires buyers to make trade-offs.

Exploring Your Options

Custom Servers

- Are ideal for customers with specific or unusual configuration requirements.
- Are built to your exact specifications.
- Do not require paying for components that you don't need.
- Can be built to accommodate present budget constraints and future expansion needs concurrently.
- Often can be built to order in the US and shipped as quickly as just a few days after order.

Off-the-Shelf Servers

- Come in ready-made configurations of components and software that fit some customers' needs well enough.
- Are straightforward to purchase, especially if you already have a relationship with the supplier.
- Can sometimes offer competitive pricing because of economies of scale and existing supplier contracts.
- May be in stock in a warehouse in the US or Asia.

Is Custom Hardware a Valid Choice?

You might find an OTS system that meets most of your needs. But if your user and business analysis reveals the need for a more specialized solution, a custom server may be the right approach.

Determining what kind of server is best for your company's precise functionality and performance requirements is not only a matter of short-term cost/benefit analysis—it's about your future needs and costs as well. Do you plan to expand your data center or user base? Do you know you will introduce a new application that will put a bigger burden on your servers? Is it better to select the option with the cheaper purchase price, or the lower long-term TCO?

After weighing all of these factors, many organizations discover that custom servers provide the best return on their investment.

Three Ways Custom Servers Add Value

Let's take a look at three of the ways that a custom server solution can meet your needs within budget, performance, and time constraints.



Spend Only on What's Important to You

Building a server to your specifications allows you to attain the maximum performance possible within your budget. By specifying all the servers' components and functionality, you ensure that you're not paying for things you don't need or won't appreciate.

Suppose you need more memory than you can find in an OTS mid-range server that otherwise meets all your requirements. Buying an OTS system with as much memory as you need might force you into buying a high-end server with an overkill level of performance and a premium price beyond your budget—when all you really need is more memory.

If you have a server custom-built to your specifications, you avoid the cost of unnecessary components and allocate most of your budget to the things that will best help you accomplish the mission for the server and delight its users.

Buying a purpose-built server is often the only way to maximize the overall performance of your system.



Maximize Your IT Budget

Custom server solutions do not necessarily cost more than their off-the-shelf counterparts. In fact, you may actually be able to save money by only buying the configuration that you need.

A collateral benefit of customization is consolidation. When you can purchase a single custom server (or a small number of them) that fits your needs exactly, you may be able to save on space, maintenance, and power. These benefits add up significantly over the lifetime of the server.



Scalability for the Future

If buying an OTS server meets your needs today, but becomes insufficient to meet those needs in a few years, then you may actually lose money on your investment.

A custom-built server affords you the flexibility to accommodate future growth plans or changing needs, whether planned or unplanned. For instance, you might configure a system with far more drive bays than you need right now, predicting that you will need them in two years. This flexibility protects and extends the investments you make today.

And custom solutions allow you to specify unusual configurations that no off-the-shelf vendor offers. Brand-name manufacturers typically offer the equipment that most buyers would be happy with—but you are not necessarily like most buyers.

Finding the Right Custom Server Supplier

Custom does not mean extravagant. You get the highest return on your investment by investing in server infrastructure that meets your company's needs now and is scalable into the future.

Configuring a server to provide the perfect balance of functionality, performance and scalability—and doing so within budget constraints—is not always a straightforward process. Getting to the right server requires close collaboration with a custom server supplier.



Collaboration is Key

A collaborative custom server provider will make staying within budget and ahead of deadlines possible, and even easy. Some important characteristics to consider when choosing a provider are its history, size, reputation, and the consultative nature of its sales staff.

The right supplier can steer you away from costly purchasing mistakes, and can optimize the equipment you purchase to better match your needs, reduce energy consumption, and minimize space requirements with the latest technology and options.

Pricing and timely delivery are important, but they are not the only considerations. The right server supplier adds value over each budget cycle by understanding and meeting your specific needs, including those that are mission-critical or a matter of public safety.

In these cases, settling for off-the-shelf just doesn't cut it.

The best collaborative processes occur when the supplier understands the buyer's needs and constraints, the buyer understands the supplier's capabilities, and both parties are determined to work together to find an optimal solution. Some key points that are important for buyers to share with their supplier include:

- The immediate purpose of the servers being purchased, as well as any longer-term possibilities for expanding or re-purposing the server's role.
- Specific technical requirements, such as anticipated load on the server or computational processing speed.
- Budget, space, energy efficiency, and other constraints and requirements for this purchase.
- Purchase plans for the remainder of the current budget cycle.
- Required lead times to build and deploy the server.

Once all of this information is understood, appropriate components of an ideal solution can be defined.



Looking to the Future

An important part of server configuration is planning for the future. Only you know where your organization has been and where you are going. If you don't communicate those things to your server supplier, you may end up with a server configuration that is overkill for your needs—or one that you quickly outgrow.

To zero in on the most effective solution for your unique performance requirements, budget constraints, and timeline, you should openly discuss the following questions with your server supplier:

- What are my options?
- What happens to cost and performance if I select one option over another?
- If I choose these options, what effect does that have on lead time, if any?
- What are the benefits and downsides to choosing one option over another?

Will your supplier take the time to provide answers to questions like these with your best interests in mind? If not, you may be talking to the wrong company. Working together toward a single goal is the best way to get the most value out of your server investment, both now and in the future.

What Else Should You Consider?

The supplier you choose should also have an efficient production process that ultimately reduces server prices and delivery times, and enough purchasing power to negotiate advantageous pricing from its component vendors.

You should also look for a supplier whose recommendations are not overtly influenced by financial incentives from server component vendors to promote their products, or by a desire to clear their inventory of certain components.

The bottom line: Seek a supplier that will engage in a long-lasting business partnership with you—a partnership based on trust.

Servers Direct

Servers Direct is a premier provider of advanced build-to-order server and storage solutions for use in enterprise, data centers, education, government, and the private sector. Its collaborative approach ensures that each client gets the solution that balances their performance, budget, and timing requirements—and that will continue to provide value for the long haul.

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