

PART

One

Perspectives

You've built a great web site. Now you just need someone to keep it running. How hard could that be? Certainly not as hard as it was building it in the first place, right? You could do this yourself, but the vast majority of web sites are turning to a whole new industry of web-hosting services to outsource some or all aspects of their ongoing web site operations.

Not long ago there was no World Wide Web at all, so who could imagine there would be an entire industry dedicated to housing and operating Internet data centers. Today that industry includes more than 15,000 web-hosting services that range from Bobby's Servers-in-a-Closet to large, publicly traded companies with market capitalizations in the tens of billions of dollars.

Navigating through this maze of web-hosting and managed service providers can be a nightmare, and, I can say from my own experience and that of many others, there's almost no way to make the right decisions the first time without help. Even people who are trying to select a hosting service for their second or third time tell me it's still difficult.

Unlike other decisions one has to make in the course of getting and keeping a business online, the selection of a hosting or management vendor is very high risk. In particular, the cost of making the *wrong* decision can be great. For many new-economy businesses, their web sites *are* their businesses. If the site is down, so are they. Over time, even traditional bricks-and-mortar businesses have come to depend on their web sites being up and available to their customers.

Selecting the wrong vendor and suffering frequent or lengthy outages of your web site are bad enough, but you won't really feel the pain until you need to relocate your site to another hosting service. The *switching costs*—the impact of changing hosting services—are extraordinary. As an old saying goes, the only thing worse than a fire is a move. So true is this that you'll tend to stick with a weak provider far longer than you should, and at that point you'll be stuck with managing a dysfunctional vendor relationship on an ongoing, day-to-day basis. Ugh.

The premise of *Strategies for Web Hosting and Managed Services* is that you can select the right vendors the first time, and manage those vendors more effectively through good strategic planning. We'll begin our exploration of this concept in Part One, "Perspectives," by laying the foundation for the in-depth sections that follow.

In Chapter 1, "Web-Hosting Options," we'll look at your web-hosting needs relative to those of others, and we'll introduce the classifications by which we'll segregate the various web-hosting service vendors. We'll then discuss the benefits of outsourcing web-site operations and consider when it makes more sense to keep them in house.

In Chapter 2, "The Components of Web Hosting," we'll present another perspective that's helpful in breaking down the offerings of various vendors. The *service component pyramid* will provide structure to our discussions by showing how the various components of web hosting are segregated, how they relate to one another, and which of them are typically provided by vendors in each of the categories.

Web-Hosting Options

Why do so many web-hosting decisions seem to go wrong?

Handing over the responsibility for web-site operations to a web-hosting service or *managed service provider* (MSP) is a form of *outsourcing*. Information technology (IT) departments have been outsourcing for decades, but as the web is relatively new, outsourcing the operation of a web site is still a nascent process. The oldest vendors have been in the web-hosting business only since 1995, and most for far less time than that. Likewise, few web-hosting customers have had experience with more than one vendor, and certainly not for more than a few years.

It's not that web-hosting vendors aren't trying and doing the best they can. But they're being asked to build and manage computer and networking systems to handle unpredictable and, in some cases, overwhelming demand. Many pre-Internet processes and tools simply don't work in this new environment. For these reasons—the lack of experience of both customers and vendors, compounded by the lack of standards in the web-hosting business—selecting a web-hosting service is a difficult task.

Web-hosting services (like web sites) come in all shapes and sizes. Some are large and some are small. Some are expensive and some are cheap. And of course, some are good while others are . . . not so good. You can get a perspective on the range of web-hosting services just by flipping to the back of almost any Internet trade magazine. There you'll see page after page of advertisements for web-hosting services offering what appear to be terrific bargains: \$29.95 per month, \$9.95 per month, and even free web hosting. Then turn to the editorial section of the same magazine, and you'll likely

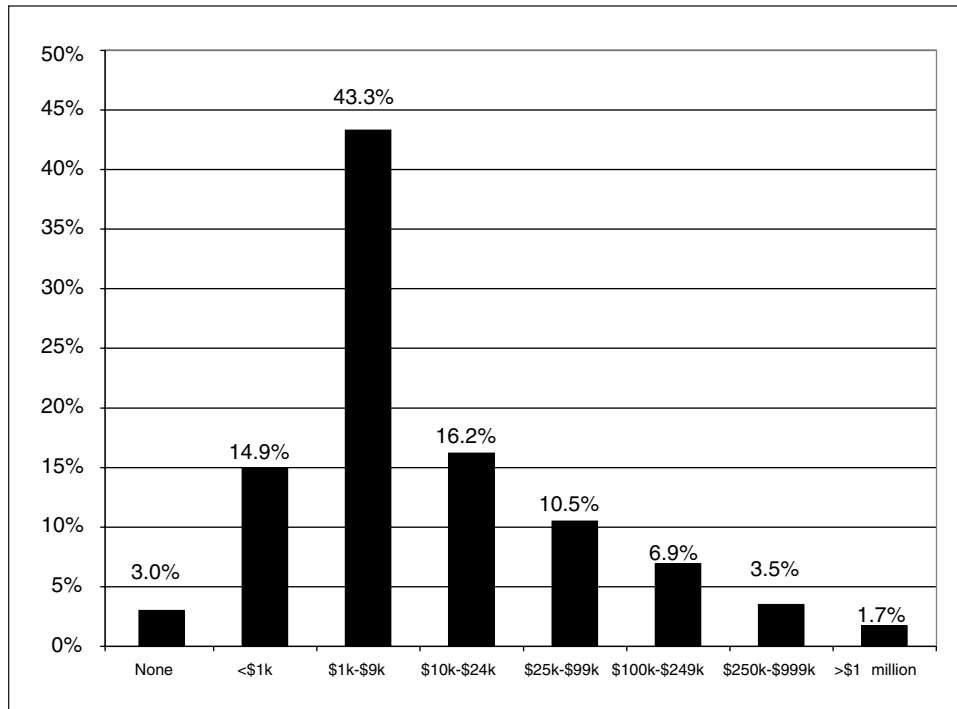


Figure 1.1 Annual web-hosting budgets.
 ActivMedia Research (www.activmediaresearch.com)

find an article about a company that is spending hundreds of thousands of dollars per month for its web hosting.

Ten dollars to \$100,000 per month? That's a 10,000:1 ratio—quite a range for a single group of products or services. So before we get into the details, it's probably worthwhile to find out where you fit into this huge arena we generically call web hosting.

The chart in Figure 1.1 shows the distribution of annual web-hosting budgets for U.S. businesses. The average budget is on the order of \$1,200 to \$1,800 per year (\$100 to \$150 per month), but note that more than 10 percent of all businesses surveyed spend more than \$100,000 per year.

Because of such a tremendous range of offerings, one might think that the services at one end of the spectrum are very different from those at the other end. In fact, these services are far more alike than they are different. For example, all web sites, no matter how small or how large, require web servers, domain name services, backup and recovery, and (of course) connections to the Internet. But it would be nearly impossible to analyze as a single group this wide range of offerings that fall under the web-hosting umbrella. In order to keep our analysis more manageable, and to keep the results more relevant to specific readers, we'll begin by segregating the vendors into categories, then study each category in detail.

The Categories

After a few years of confusion over the various types of web hosting available, the vendors have settled into four distinct service categories. Nearly everyone in the web-hosting industry and the trade press has universally accepted these categories. As a result, the categories are now consistent and helpful in distinguishing the many vendors.

In the least expensive, or low-end, category are *shared servers*. As their name implies, these are computer systems that are shared by more than one web site, and hence are appropriate for small, simple, low-traffic sites.

Next on the list are *dedicated servers*. These are nearly identical to shared servers with the obvious exception that they're not shared but rather dedicated to a single web site or to multiple web sites owned and controlled by the same business entity. As compared to shared servers, dedicated servers offer more capacity, flexibility, and better security, but at a higher price.

The next category is a substantial step away from the previous categories, but in some ways it's a step backward. Instead of offering more support than is available from shared- and dedicated-server web-hosting services, *colocation* is a rather bare-bones service that merely houses servers in a data center and connects those servers to the Internet. It doesn't include the server hardware or any of the software and services that are necessary to operate a web site. Colocation by itself is aimed at customers who want to supply and manage their own web-site hardware and software, but who don't want to provide their own physical facilities and may not want to manage their links to the Internet.

In the early days of the web, any organization that was building a web site large enough to be located at a colocation service was also large enough to hire its own staff to manage that web site around the clock. Such companies had little choice, since there were no vendors offering management services for large-scale sites, and the only way these companies could obtain the expertise necessary to run such a web site was to hire the system administrators, database administrators, and network engineers that knew how to do it.

Over time, two changes occurred. First, those system administrators, database administrators (DBAs), and network engineers who knew how to run large web sites became harder and harder to find and more and more expensive when they could be found. Second, a new subgroup called *managed service providers* (MSPs)—our fourth and final category—appeared in 1997 to address the huge gap between the bare-bones offerings of colocation services and the needs of owners of major web sites. Colocation services and MSPs have developed truly symbiotic relationships in which one could not succeed without the other, and the combination of these two services is often the best choice for high-end web sites.

Application Service Providers

You may be wondering why we haven't mentioned *application service providers* (ASPs). While this book could contain an entire section on ASPs, it would be notably out of place, because ASPs, for the most part, aren't infrastructure providers. In fact, many

ASPs are themselves customers of web-hosting services, and many MSPs view ASPs as prospective customers.

Application service providers (no surprise) provide *application* services. For example, an ASP might offer hosting of *enterprise resource planning* (ERP) applications such as manufacturing, order entry, warehousing, accounting, and human resources developed by software vendors such as PeopleSoft, SAP, and Oracle. In these cases, the hosting isn't for the public World Wide Web, but rather for corporate intranets.

The distinction between web-hosting services, MSPs, and ASPs isn't simply a matter of experience with public Internet versus corporate intranets, but rather the additional skills that web-hosting services and MSPs have that go far beyond application packages. Some ASPs offer hosting of web-based applications, but the expertise of these companies tends to be in applications such as specific third-party e-commerce packages, not in supporting technologies such as Internet connectivity, DNS, security, firewalls, web servers, and operating systems. For help with these supporting technologies, most ASPs—like most web-site owners—turn to web-hosting vendors and MSPs.

Outsourcing

All four categories of web-hosting services fall into the practice called outsourcing—an arrangement in which one company provides services to another company, where such services typically have been provided in-house. Outsourcing is a trend that's becoming more common in information technology and other industries for services that have previously been regarded as intrinsic to managing a business. In some cases, the entire IT management of a company is outsourced. Outsourcing agreements can range from large contracts—in which a company like EDS manages IT services for a company like General Motors—to the practice of hiring contractors and temporary office workers on an individual basis.

Benefits of Outsourcing

Primarily, this book answers the question of *how* to outsource, but it would be a huge mistake to skip over the obvious first question of *why* to outsource. Understanding the why behind outsourcing lays the foundation for the how decisions you'll eventually need to make.

Why would you want to outsource your web hosting? What do you hope to achieve? The following five criteria will help you evaluate the benefits.

Focus. Is configuring routers or making DNS changes a good use of your time or that of your staff? Is it your area of expertise? Probably not. The classic argument for outsourcing is that it allows you to focus on your strengths and what's unique about your business.

Cost. Ask yourself, "Do I have the budget to build a data center with multiple diesel generators, biometric controls for physical access, security cameras, and alarms? Can I afford an on-site 24/7 staff of system administrators, hardware technicians, and database administrators?" Probably not.

A web-hosting service, on the other hand, can amortize these costs over many customers and web sites. This not only saves money (some of which is hopefully passed on to you), but it also allows the hosting service to provide services and facilities that would never be practical for a single web site to provide on its own.

You should expect to save money by outsourcing, although it's sometimes difficult to determine whether in fact you're saving anything since in-house and outsourced services can be so different. For example, let's say you're currently hosting your own web site, and your 24/7 support staff consists of just one guy with a pager. You can't directly compare the services you're currently receiving to those you'd expect from hosting at a data center fully staffed by on-site 24/7 technicians. While the latter is true 24/7 support, the former works only so long as the guy with a pager remains available and motivated. What happens when he's out sick or on vacation?

Speed. Even if you could afford it, you probably couldn't build a team and assemble the components of in-house hosting on your own in anywhere near the time frame that the outsourced hosting service team can. Since your vendor will already have such a team in place, you should expect them to help you get your web site up and running more quickly than your existing, less robust staff. Of course, if your site is being hosted at a facility that charges \$19.95 per month, you've got to be realistic about what services you're going to get for that price.

Quality. You should expect that outsourcing will result in a higher quality of operations than if the same tasks were performed in-house. (If not, why would you outsource?) In Chapter 10, "Service Level Agreements," we'll examine how SLAs can help you and your vendor agree on the standards by which you'll measure the quality of the services you receive.

Confidence. Confidence is the inverse of risk. There are many things that can go wrong with a web site, and your outsourcing provider has likely encountered most of them already. We'll discuss how you can increase your confidence, and that of your senior management, by reducing many of the risks associated with outsourced web hosting.

The In-House Hosting Option

As compelling as the advantages of outsourcing may be, some organizations still choose to host their web sites in-house. Organizations that have valid reasons for hosting in-house typically share one or more characteristics:

- They have existing IT staffs that already handle 24/7 support.
- They have midsized web sites. (Companies with small, low-traffic web sites typically outsource because they can't justify the cost of staff. Those with large, high-traffic web sites, on the other hand, tend toward outsourcing because they can't provide adequate data center facilities or Internet connectivity at their own locations.)
- They are Internet-based enterprises for which web technologies are a must-have core competency.
- Their businesses and back-end systems are tightly integrated with the web.

Perhaps you do have the option of hosting your web site in-house, and maybe you could manage it using your own staff, but the vast majority of managers and web-site owners faced with this decision are electing to outsource some or all aspects of their ongoing web-site operations. Today there are simply too many compelling reasons to outsource web hosting, the most important of which will be presented in this book.

So many people have made the decision to outsource that it has created a fast-growing web-hosting industry that didn't exist a few years ago. That industry now includes more than 15,000 web-hosting vendors. Some industry analysts expect the annual revenues from web hosting to exceed \$20 billion by 2005.

Clearly, you can choose *not* to outsource your web hosting. Just consider that you will, in effect, be going into the web-hosting business, but with only one customer: your own organization. You'll have to hire, develop, and maintain a staff with all of the required expertise, whereas those who outsource hosting can focus their resources in areas that more effectively leverage their companies' core competencies.

In fact, you may decide to outsource some aspects of your web hosting but not others. In the next chapter, "The Components of Web Hosting," we'll break down web hosting into the logical pieces that we'll use throughout the remainder of this book and according to which you should make your outsourcing decisions.