

BY ANDREW GIDEON

Selecting an ISP For Your Business

With bandwidth increasing to both homes and offices, and with wireless devices growing ever more popular, it's getting more exciting for digital imaging professionals every day. With the right Internet service provider (ISP) as your partner, this is a time of terrific opportunity for growth. A key aspect to building a Web site is, therefore, selection of the right ISP.

The possibilities for your Web site are quite literally unlimited. What can be done is bound only by imagination and cost. This is why it's important to locate a Web service provider that is willing and able to explore not just how to build a Web site for your business, but how that Web site can become an integral part of your business's operation.

More than just an ISP, what you need is someone who will partner with you in helping your business get all that it can out of the Internet technology of both today and tomorrow. Here we'll discuss some of the qualities to seek in choosing that Internet partner.

Good Support Staff

Every interaction you have with an ISP will be through its support staff. Therefore, the quality of this staff is crucial to your decision. A staff that operates from a "script" of questions and responses is sufficient for certain tasks. But, to support the dynamic and individual needs of your business, the support staff needs to have a real understanding of the Internet, how it works, and how it can be used. Although it should go without saying, you need to be able to communicate well with the support staff.

Another important consideration regarding the support staff is that they must be permitted to help. Too often, companies have fixed policies that prevent this. In these cases, the policies become more important than the needs of the customers. Those companies should be avoided. Even if your needs fit within their policies today, they may not tomorrow.

Data Centers

A company that owns its own data center is indicating a more serious commitment to the business. This company is also in a

position to more quickly respond to new needs or problems.

The computers in the data center will be optimized for the deployment of Web-based applications, and these applications will be designed for straightforward deployment. Permitting data

center and site builder to be separate parties allows for the possibility that one or both will take shortcuts that can adversely impact the other. This can lead into the "finger pointing" game, discussed below in the "One-Stop Shop" section.

HOW TO DETERMINE THE NETWORKS OF NAME SERVERS

A good place to start is at the web page:
<http://www.internic.org/cgi/whois>

Enter the domain name of the ISP you wish to check, select the "domain" option, and press "submit". The information this returns will include a list of "Name Servers".

If there's only one listed, you've already decided to use a different ISP. But if there are two or more, the next step is to determine whether these are on separate networks.

Using the same web page, enter each of the "Name Server" names into the input field one at a time, select the "Nameserver" option, and submit the page. Each time you do this, you'll be given the IP address (the 4 numbers separated by dots) of that Name Server. This number indicates the "location", from the perspective of the Internet, of this name server.

If the first three numbers of the address of any of these Name Servers are identical, these are most likely on the same network. If they're similar, they may be close. If they're very different, then the Name Servers are spread out over the Internet, which is the most desirable configuration possible.

This doesn't tell you actual physical locations. To be sure that these Name Servers are in at least two different locations, you need to ask the ISP. But this does give you a good start at the investigation: if the Name Servers all have the same first three numbers, this may not be an ISP in which you want to entrust your web site.

One-Stop Shop

A one-stop shop is able to provide anything from design to programming to hosting. This eliminates "finger pointing exercises," where each party blames another for a problem. You deal with a single company responsible for making your site work, regardless of what or where the problem may be.

Even if you do work with an outside designer or programmer, an ISP that can provide all of these services will be in a better position to work with your design-

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er or programmer, as the company will understand his or her needs and goals.

Emphasis on Quality

A Web site is worth nothing if it cannot be seen by your target audience. An ISP should have the technical infrastructure in place to assure that the site is always available to that audience. There are many different ways that an ISP can save money that will not affect you under ideal conditions, but the difference is obvious when conditions are less than ideal.

Unfortunately, these decisions are often hidden from the clients of the ISP until something goes wrong and service is impacted. But there are things to look for, and questions to ask, that will help to determine that an ISP is truly looking out for its clients by providing a reasonable level of

THERE'S MORE THAN ONE INTERNET BACKBONE?

A common misunderstanding about how the Internet operates is that there is but a single backbone. That was true up until the late 1980s, but since that time there have been multiple backbones. How many there are changes over time, and also changes based upon how one counts. But the number is generally considered to be something between four and ten.

redundancy in its services.

The first thing to check is the list of nameservers at the end of the ISP's "who is" information. How many are there? Do they have network numbers that indicate that they're on the same network, or are they separated?

You should also ask the ISP about these nameservers. Are they located in at least two different locations?

Too many ISPs make excuses as to why these practices are not followed. However, they're described in a "best practices" document called RFC 2182 (<http://www.faqs.org/rfcs/rfc2182.html>). In that document, there's a section dedicated to debunking many of the myths ISPs use in these situations. If the nameservers aren't spread over at least two networks and locations, then certain problems may make it appear that your Web site—in fact, your entire domain—is no longer live.

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follow the "best practices" of RFC 2182 is to save money.

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Another question to ask the ISP is how many backbones the ISP is connected to. Again, the proper answer is at least two. This protects you against a number of different failures, any of which could prevent people from reaching your Web site.

Still another question involves the ISP's backup policy. How often are backups taken of your Web site, and where are these stored? Can you request that files you've accidentally damaged or removed be recovered? Are you protected in case of a fire, flood, or power outage at the ISP?

Whatever the backup policies of the ISP, it's a good idea for you to retain a backup copy of your Web site. In the case of an ultimate failure, this may mean the difference between moving your site elsewhere and having to re-create it

WHY MULTIPLE BACKBONE CONNECTIONS: INVISIBLE TO AOL

Any backbone should be connected to all other backbones at multiple locations. This prevents a problem at one site from adversely impacting a major portion of the Internet.

But software bugs can and do cause problems. Several years ago, a software problem on the network of one backbone company caused some of that company's clients to become invisible to AOL users. Needless to say, this is a highly undesirable outcome.

Those clients of that company that were connected to at least one other backbone were able to escape this problem. Their web servers were still visible to AOL via that second backbone.

Companies using only that one backbone were out of luck until that backbone company fixed their software problem.

from scratch.

A final quality-related consideration is security. How rapidly does the ISP respond to security issues? Regardless of the source, software is always being improved and having security concerns addressed. Does the ISP stay up to date on these? Or is the ISP running old (and possibly insecure) versions of its software?

Does the ISP protect its servers (and your Web site) with firewalls? Or are those servers left unprotected against the hostile environment of the Internet?

Does the ISP make available

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tools that enhance security? For example, both Telnet and FTP are tools commonly used to maintain a remote Web site. However, both also have well-known security issues. Does the ISP provide an alternative to these tools, such as SSH, that permits you to interact with your Web site without exposing your log-in and password to anyone eavesdropping on the network?

As with retaining your own backup, this is also something that you should do to protect yourself. Your ISP should offer SSH as a security alternative to Telnet or FTP, but this has no advantage if you don't use this tool.

Stability

Given how the ISP market has been undergoing such dramatic changes, with companies bought

and sold, started and closed down, stability is an important consideration when selecting an ISP. You should be seeking a company that's been doing this for a while. But be careful: Too many companies claim to have been "in the business" for many years, while in fact they have been in a different business.

may be exposed to certain financial problems, which can spell trouble for their ability to serve your Web site.

Using these guidelines, you should be able to identify an ISP with the qualities you need in an Internet partner today. Working together, the two of you will be able to do a superior job of getting

PREPARING "JUST IN CASE"

Despite all the care you've taken in the selection of your ISP, it is still an unfortunate possibility that your vendor will be one of those that goes softly into that good night. There are certain steps you can take to protect yourself against that possibility. They'll not prevent the ISP from disappearing, of course, but they will permit you to restore your Internet Presence as rapidly as possible.

- Retain your own backup copy of your site.
- Always use your own domain name for everything. Too often someone will have a web site at <http://WWW.YOURDOMAIN.COM>, but will continue to use an email address of YOURNAME@ISPDOMAIN.COM.

Your email address should be YOURNAME@YOURDOMAIN.COM. This permits your email address to follow you to your new ISP. If the address cannot move, you'll need to go through the time and expense of giving everyone your new address.

- Be sure that your domain is registered in your name. Otherwise, you may find yourself forced to provide a lot of documentation in order to move it to a new ISP.
- Be sure that there are no copyright issues regarding the materials your ISP has created for your website.
- All but the simplest websites are built using one or more software tools. These can be relational databases, web server "add in" modules, special development tools, etc.

If your next ISP must have certain tools to support your web site, you need to retain a list of what these tools are. Otherwise, selecting a new ISP can become a very frustrating and time-consuming exercise.

For example, companies that used to provide dial-up lines are now starting to also provide Web services. But, while they've been in the dial-up business for a while, the Web business is new to them. Considering all that this implies, exercise caution when dealing with these companies.

Another warning sign regarding corporate stability is either rapid and sudden growth or shrinkage. Either way, this indicates a company that may be hard-pressed to maintain the necessary support services you'll be needing. Either can also indicate that the company

your message to your audience. And, because you've taken care in the evaluation, you have the comfort of knowing that your partner is going to be around for a long time to come.

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