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Changing Internet Service Providers Can Be Hard Work - But Necessary

As the quality of service varies more organizations will face the pitfalls of changing providers.

One of the most challenging decisions to be made in setting up your business on the Internet is finding the right Internet service provider (ISP). It is at least as difficult as changing from one provider to another. The reasons for making such a change can be compelling: The old ISP goes out of business, falls victim to changes in policy and/or management, or simply becomes unreliable or fails to meet your business needs. Whatever the reasons, you should view any such change as a major undertaking, requiring a great deal of preparation, oversight, and crisis management. At PSR we have completed just such a service change, and perhaps you can learn from our experience.

The first thing you should do is research the available ISPs. Select a new ISP using all the criteria which are important to you, and maybe a few more. For example, what kind of connections will they provide (dialup at 28.8Kbaud, leased 56Kbaud line, ISDN, T-1, T-3)? Can these be upgraded later as your business and connectivity needs increase? Will they host your Web site, or will they simply provide a connection to get your



**Technology is like a tiger
It looks good and is impressive
but if it gets out of hand it is dangerous**

The Internet is the market of the future - Who will make money?

Demographics are so favorable that it looks like you can not lose - many will!!!

Today, only 1% of U.S. consumers make purchases on the World Wide Web, yet 84% of those who presently "surf" the net predict that they are likely to make a purchase from the Web sometime in the next year. Given all that, it is estimated that \$300MM worth of products will be charged on the Internet this year -- which is the equivalent of just seven minutes of Mastercard and Visa charges.

The on-line shopping industry is only a \$360 million business, but with the number of users increasing exponentially, on-line commerce business stands to grow at ever increasing rates. An annual survey conducted by Mastercard International revealed the following characteristics of WWW users was a very attractive demographic group that many enterprises would like to tap into:

- ✓ 75% of the users are men
- ✓ 55% have college degrees or significant amounts of higher education
- ✓ 40% have an annual household income above \$50,000

- ✓ Average age is 34; 60% are married; 33% have children
- ✓ About 50% of the users are either students or entrepreneurs

The survey also revealed facts about the

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Changing Internet Service Providers Can Be Hard Work - But Necessary

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own Web server on the Internet? Which newsgroups are available from their Usenet feed, and how easy is it to request that groups be added or deleted? What is their service track record? Do they have an off-hours support number, and if so, how well is it staffed? What are their fees and conditions? Ask as many questions as necessary to find out what you need to know – despite the attitude taken by some of today's "professionals," they are still providing a service to you, the customer, and should be answerable to any legitimate questions you may have about how their service will affect your business. Do not hesitate to shop around; the marketplace is almost completely unregulated and very competitive, and is a long way from settling on any "standard" rates.

Don't opt for a service provider that's "just good enough for now." After all, you shouldn't expect that you will always have to do business the same way you've always done it. You have to be prepared for growth and change, and so should your ISP. Consider the possibilities that you may have to expand your business, and your Internet connectivity along with it. (It is also possible that you may need to economize, in which case your Internet use will have to become "smaller and smarter.") The ISP you use should be flexible enough to let you upgrade (or trim down) your service on demand. Don't get "locked in" to deals which won't permit such changes; they're worse than auto leases.

Another issue you'll need to deal with is the domain name. If your current ISP hosts your e-mail and Web site off of their server using their own domain name, you'll need to send out a lot of address change notices to make sure your customers know about the new locations. You should strongly consider registering your own domain name, a sort of "home address" of your Internet connection that is unique to your business. PSR's

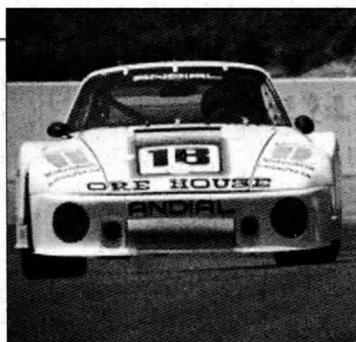
domain name, for example, is **psrinc.com**. Many companies go the obvious route and use **ibm.com** or **intel.com**. If you want to "own" a domain name, you have to register it with a clearinghouse organization called InterNIC and pay a \$50 start-up fee plus an additional \$50 per year to maintain this registration. See "Protecting Internet domain names is an issue that is now more complicated" in the November-December 1995 issue of *PSR Reviews* for more details (http://www.psrinc.com/newsltr/9511_12B.htm). Consult your prospective ISP to find out what rates you will have to pay them for such a service. And while you're at it, find out from your old ISP about getting them to forward e-mail or Web site requests. Many will do this for a time as a matter of courtesy, but be on your toes anyway.

To prepare for the move, have your new ISP make arrangements with InterNIC so that they will be the ones to carry your domain name on their equipment. (This is assuming that you've made the smart choice and will be using your own domain name.) This can take anywhere from a couple of days to weeks. In our case we waited 14 days until UUNet, our new ISP, gave us the word that they were ready to switch us over from Netcom, our old provider. That call came on a Friday afternoon, and while this may have been a low-risk time for the change, considering what followed, we could and should have been better prepared.

To begin with there is no one "master list" of domain names. Actually there are thousands of them, as each Web host is connected to a DNS, or Domain Name Server. With any request from a Web browser, a call is made to a DNS server, which translates this to the IP address. If the DNS doesn't have the most recent updates of IP addresses, it can't connect your call and you get an error message. But it takes time for all of the DNS servers all over the world to get the updates from all of the other DNS servers. In other words, Netcom was ready to pitch, UUNet was ready to catch, but you couldn't tell who the players were without the numbers.

Now that you are breathlessly wondering how our change over went, we'll have to leave you waiting for the exciting conclusion in our next issue. 

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PREPAYMENT

The Internet is the market of the future - Who will make money?

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purchases currently being made on-line. The items that are purchased on the Internet which are technology-based, and which meet the needs of the current Internet user base, are:

1. Computer Software
2. Information
3. Entertainment
4. Computer Hardware

Some other characteristics of these purchases are:

- ✓ The purchases are in the \$20-50 and \$100-200 range
- ✓ 20% of Internet users spent more than \$500 last month on the Internet
- ✓ Consumers are more apt to buy items they are familiar with and those which are not too complicated
- ✓ Consumers felt more comfortable purchasing commodity-like goods
- ✓ Consumers also wanted to buy those goods that were previously very expensive but could be purchased on-line for less

Consumers

Consumers indicate that they would consider and in many cases prefer on-line shopping because of the convenience that the experience provides. In addition, the following issues have been identified by us as those they were most concerned would limit their shopping on the Internet:

1. Privacy - Data Security
2. Time Savings
3. Shop From Home (Convenience)
4. Comparison Shop
5. Shop Around the World

The issue of theft and safety was an even bigger concern for those who did not purchase items on the World Wide Web in comparison to those who did. This seems to indicate that the biggest barrier to on-line purchasing is consumer perception of data security and privacy. If these concerns are resolved, on-line purchases will increase, perhaps dramatically.

Most concerns about privacy and data security of information center on the data that consumers provide on-line, such as credit card access codes and PIN numbers which are vulnerable to hackers. However, another significant concern regarding on-line sales pertains to the legitimacy of the merchants themselves. After all, almost anyone can create a Web page and start a business on the Internet. Unfortunately, this issue seems a bit harder to define and solve than the previously discussed safety concern.

Credit card processors now assume that mail order and

anything done over the Internet is high risk. That however does not agree with the facts. Telephone sales fraud today is 5% while fraud on the Internet is only 0.5%

It is reasonable to assume that the same regulatory bodies that currently govern businesses will eventually oversee the activities of Internet merchants. In addition, this is likely to be of less concern to consumers as Internet sales increase, because it seems likely that word-of-mouth advertising will encourage sellers to be honest.

We believe that as more consumers use the Internet and the World Wide Web, their comfort level will grow, and so will their willingness to shop on-line. However, two things must occur for Web commerce to explode:

1. It must be clear to the consumer that significant safety concerns have been addressed and resolved.
2. More consumers must become skilled at maneuvering on the web.

Lest it seem unlikely that these issues can be resolved, one should note that the mail order industry faced similar issues in its infancy and it grew to become the \$6 billion business that it is today.

Payment Methods

There are several protective applications that are being used currently or which are under development. These are the primary ways firms are working to ensure on-line safety for commerce on the Internet. They are:

- ✓ **Digital Authentication** - Message authentication determines if the message is authorized to come from where it did.
- ✓ **Encryption** - Transforms clear text into unintelligible cipher text which enables the transmission of sensitive information.
- ✓ **Firewalls** - Are used in communication to ensure that only those authorized are allowed to enter restricted areas.
- ✓ **Buyer Accounts (with secured e-mail confirmation)** - Firm issues a consumer a debit card via e-mail confirming that you purchased the product.
- ✓ **Buyer Accounts (with phone confirmations)** - Firm issues debit cards to customers, and thus avoids credit card numbers. Upon purchase the firm will phone the party to confirm that party's interest in the product.
- ✓ **Credit Cards (future)** - On-line transactions will inevitably follow a standard agreed upon by Mastercard and Visa.

In summary, as more payment methods are implemented and more people become familiar with "surfing" the Net, purchasing on-line will become commonplace. 



Forecast for the National Information Systems Market

Spring spurt in economy is temporary - until the political situation stabilizes. Election results have already been discounted.

by M. Victor Janulaitis
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There has been a recent upturn in the economic condition of the west coast. Some of it is due to the fact that it could not get worse, but most is due to some subtle changes in the way business views the potential of the west coast job market.

The recent announced merger of PacTel and SBC foretells the next wave of mergers. They will be focusing on cost savings from traditional economies of scale versus re-engineering and downsizing. For example, with the announcement of the PacTel and SBC merger there was no statement from either company on the "number of jobs to be consolidated." Rather, there was an announcement that SBC would be adding employees in California.

Turnover of CIO's has all but stopped in the last quarter. There have been a number of "changes" but- for the most part - organizations are starting to stabilize and focus on results. There now is a significant shortage of people in the West and the Midwest. There continues to be a significant surplus in the Mid-Atlantic and Southern markets.

Skills that are in the highest demand are Client Server and rapid application development. One area where activity seems to show no bounds is the Internet. A large number of major organizations are focusing new hiring for Internet marketing

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and trying to understand how to do business there. This includes organizations in the industrial and consumer market places. Microsoft, Intel and General Foods are hiring a large number of MBAs to exploit this new market.

The fall-out of the recent decision by the IRS to cancel its multi-billion dollar modernization process has many of the major computer and consulting firms scrambling to figure out how they are going to continue to increase revenues. This added with the \$700 million dollar loss reported by Apple Computer is the cause of much concern.

The current administration is trying to figure out how they will be able to leverage this in the election. Bill has come up with the perfect solution: he will let Hillary come up with a plan, have Al Gore present it, Don Imus comment on it and then distance himself from it by saying that he feels our pain.

This aside, NAFTA is starting to work its magic. Jobs are appearing in Mexico and Canada. The problem is that other nations have figured out that this is the way into the US market. Major investments are being made in both Mexico and Canada. Mexico City and Monterey are rapidly

expanding their industrial bases. This is moving those economies into high gear. At the same time the balance of payments for the US is now at an all-time high and getting worse. In the end this will continue to result in more enterprises focusing on cost reduction. Taxes are so high (38% of total income for the "typical" family) that a number of industries are seeing a significant downward spiral:

- ✓ **Retail** - Sales are down for discretionary items and high cost - low quality goods. Major chains are about to think about how much they will cut back - they do not see a good Christmas this year. For the first time WalMart is placing its focus on the international market and is no longer looking to expand "significantly" in the continental US.
- ✓ **Manufacturing** - A strong positive with the change in the requirement for US content requirements now being questioned by many.
- ✓ **Agriculture** - The wheat fungus and the "crazy beef" scare along with a reduction in farm entitlements are adding a strain on the ability of this market segment to export.

Our technology forte will continue to be a strength. Areas that will continue to expand will be limited and focused on the "world market" and that will be impacted by things outside of our control.

Vic

Location	Prospects Short Term	Prospects Long Term
Northeast	Good	Good
Mid Atlantic	Good	Good/Poor
Southeast	Good	Good/Poor
South	Good	Good/Poor
Midwest	Good	Excellent/Good
Southwest	Excellent	Excellent/Good
West	Excellent	Excellent
Pacific Northwest	Good	Excellent
Best Location	West	West