PSR Reviews

Bi-Monthly Newsletter for Positive Support Review's Clients and Subscribers

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100% Recycled Paper

Changing Internet Service Providers Can Be Hard Work — Part Two

They make it feel like a world of smoke and mirrors. No one is in charge and you are at risk.

As you will recall from last time, we at Positive Support Review were embarking on a major undertaking, changing from one Internet service provider (ISP) to another. We were leaving Netcom for the greener pastures of UUNet, having determined through our market research that UUNet was more likely to give us the speed, reliability and value-for-money that we needed.

One of the greatest risks that anyone doing this faces is not having ultimate control over the timing of the changeover. In our case, UUNet told us that they would determine when they would be able to "flick the switch," and we were ready for this for the better part of two weeks. When the call came, it was a Thursday afternoon, and we asked to have this happen the following day.

I am both for and against this, but I am also on the fence -- that is where I stand. What is your opinion?

In order for the change to occur, several things had to happen. First, Netcom would have to forward all of our e-mail to the new service. This was not much of a problem, though it took a little while. Fortunately, the solution was in place within one day. This is important because after three days undelivered mail is sent back to the senders and marked as "unde-

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Client Server - Can I see your standards?

Many organizations are making the same mistakes that were made in the 70's.

The oldest and first rule of the early programming days was KISS, '*Keep It Simple Stupid.*' I had trainers and mentors constantly admonishing me to follow this precept religiously and not give in to the temptations of building applications for the 'machine' but for real people. The core business applications, both batch and on-line, that drove the talent demand through the 70's were not brain surgery or works of art. Systems were needed to do simple calculations and keep track of records.

Has it all changed so much today? I don't think basics have changed. What has changed is the perception of what can and can not be done. Anyone who has been in the business environment in the United States has been touched by technology. Be it at McDonald's or some other restaurant we have all seen Point of Sale systems. Many of us even use the word POS. Time Magazine, Business Week, Forbes and the Wall Street Journal have IT technology sections, and they all have Web sites on the Internet.

Today, we are in the early stages of reestablishing these same core applications that were implemented in the 70's, but with vastly more powerful tools. We strive for improved ease of use and increased productivity under the rallying cry of Client Server, but is this what makes a system successful? We seem to think so!

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Changing Internet Service Providers Can Be Hard Work - But Necessary

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liverable." Second, UUNet became our new provider of Internet news, that huge collection of "newsgroups" known collectively as "Usenet." Again, no problem, or so we thought. We would simply become ready to receive the newsfeed from the new provider, and prepare our news server (a dedicated PC located in our Santa Monica office) to host it on a 2GB drive assigned for that purpose. Third, our Web site hosting had to be completely moved from the old ISP to the new one. This was the tricky part, since we do not want people to find our site "unavailable" or "nonexistent" for any extended period. We have an existing client base to service, and we also need to make our news and information available to potential or first-time customers.

On Friday, our LAN Administrator was on the phone to UUNet's customer support line through the whole process. UUNet told us our new IP address (the unique numerical designation which will identify any Web server on the Internet, usually a group of numbers such as 123.456.789.0), and we informed Netcom that any Web requests for our old IP should be forwarded to the new one. UUNet took control of the hosting of our Web site, and the switch was successfully made. Or was it?

Here is what happens behind the scenes when you use a browser to surf the World Wide Web:

You click on a link, or type in a location, or access a bookmark. This causes a request to be sent from your computer to your ISP. The language and format of this request have a name: Hypertext Transfer Protocol, from which we get the term "HTTP," which often serves as the front part of code in such a request. (Do not confuse HTTP with HTML, or Hypertext Mark-up Language, the code in which many Web pages are written.) Your computer's request will generally include a particular domain, such as www.psrinc.com, and often a specific page, such as salary.htm. (Yes, the "htm" is short for "html," showing that our Web server is a Windows NT box. The convention is that UNIX boxes host files with the extension "html" while NT boxes shorten it to three letters. This is for the convenience of Webauthors on Windows 3.x systems still constrained by the 8.3 filename limits of MS-DOS. There is no reason why this convention should continue, but so far it has.)

Right away, the computer you have connected to at your ISP reads the domain name request. To route your request properly, however, it needs a numerical address (see above), and not the domain name. So a request is sent to a Domain Name Server, or DNS, which performs a lookup on a gigantic database to cross-reference the domain names. Once this is done, your request travels out over the Internet to the proper server hosting that domain name. This request is essentially a simple text string, bearing such information as where the request comes from (your own IP address), the date and time, the protocol that is being used (still HTTP 1.0), and the name, if any, of the specific file or page being requested.

Every server which hosts Web domains can keep a log file of these requests, and these log files can be used to generate server statistics. This helps to create the "number of visits" or "number of hits" listings that you see on many of your favorite Web sites. (If you like, take a look at PSR's own statistics pages at http://www.psrinc.com/stats/index.htm.)

The issue then is that the DNS machines have to have a current picture of which numeric IP addresses correspond with which domain names. As with so many things today, information is worthless unless it is complete and up-to-date, and this especially applies to the World Wide Web.

The problem was that Netcom had not yet begun to forward requests from our old IP address to our new one, even though we had already adjusted our software to receive Internet feed from UUNet. As it happened, Netcom's own people were unclear as to whether they had put the new information into their DNS machine to propagate throughout the Net. Eventually, after much discussion with Netcom's tech support team, we found out this was the issue and had them take care of it.

Even after the information was put in, it took a full day to propagate, but as this occurred we found that our site was accessible from more and more servers. To test this, various employees dialed up or otherwise connected with their own ISPs, and as the day rolled by, PSR's Web site was visible from all of them. End result: Our Web service had been down for a couple of days, but at least it was on a weekend.

The Usenet changeover was left for last (about ten days after the mail and Web connections were moved), so that we could be certain that mail and Web services had been properly moved. Initially the feed to our news server was slow, primarily due to the fact that we had not established the correct communications protocols. However, our server and UUNet's feed eventually did catch up with one another, and we now have a timely receipt of the newsgroups that we require to follow the technologies and commerce which enable us to address our clients' needs. We did keep a careful eye on UUNet's billing, and at first they tried to bill us for newsfeed for those ten days when we had not been receiving it. Once we pointed out this error, it was corrected and credited on the next invoice.

In retrospect, our recommendation is that IP address rerouting should be done first, before you adjust any of the routing leading to your site. This will minimize the Web "down time" and maximize your clients' ability to access your site.

Client Server
Can I see your standards?

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With a slight modification we should adapt KISS to 'Keep It Simple, Keep It Standard' and drop off the trailing epithet. Maybe more than anything else, 'Standards' have the potential to deliver on the promises of the Client Server system; more than cheaper hardware, more than rapid prototyping, and more than GUI (Graphical User Interface) and WYSIWYG (What You See Is What You Get). Standards are, bottom line, more important than ever.

I was reminded of this when a client CFO asked his CIO to defend a major Client Server system rollout, still in Phase I, in light of articles decrying the real cost of implementing and maintaining Client Server system technology, not to mention just getting it to work as promised. A handful of these trade journal articles hit the CIO's desk with the attached post-it, 'How are we going to avoid this?' Responding to this question was now the CIO's top priority and a white paper was now under way.

Researching, reviewing, calling people in the publicized companies gave the CIO his answer. They all had limited or nonexistent standards and were 100 to 150% over plan. Without even venturing down to the design and coding level standards, the problems, or points of failure, boiled down to a few areas.

Your Client Server system needs may or may not be enterprise wide with multiple time zones and countries, but crossing departments' cultural boundaries and trying to span floors of the same building can be just as difficult a challenge. Client Server systems can deliver industrial strength, cost effective solutions throughout the enterprise but not without standards. We will all be better off when the question, Can I see your plan?, is followed by, Can I see your standards?. Standards that should be implemented include:

- ✔ **Controls - prevention, detection and correction** A definition of what controls need to be implemented needs to be validated with both operational and financial management. In our books we have defined three types of controls - as depicted in the graphic on this page. This chart is reprinted from the Client Server Management HandiGuide® - published by Positive Support Review, 1996.
- ✔ **Testing - unit, system, and parallel** How and what is tested. Many system failures occur because a new change is implemented and it adversely impacts some other code. Testing standards need to be in place that help to identify these types of errors.
- ✔ **Security and Remote Access - modems, lines, ports, interfaces** A definition of what security needs are to be met must be defined. This would include definitions of the various levels of security for not only data but also files.
- ✔ **User Training - sessions, work groups, passwords, help desk** Guidelines should be set for the level of training upon implementation of a new system and approach, as well as training for new individuals as they assume responsibilities for new systems.
- ✔ **Server Architecture - cross platform often means cross purposes** An overall system and network architecture should be documented and updated at least quarterly. This should be used as the primary blue print for system expansion and modification enhancement.
- ✔ **Business Backup - being productive when the server is down** The most critical process is what to do when the computer and/or network system are not operational. This needs to be in addition to the process of how to get the system back into a fully operational state.

As Client Server systems become more prevalent, the old ways of doing things will be lost just as they were for the early mainframe solutions of the past. One area that will be a great concern in the next few years is the year 2000 problem that many organizations are starting to face today.

Without good documentation there is no way to understand the impact on systems. Standards for Client Server need to include both business and infrastructure issues. Question - Is Client Server really different?

	Types of controls		
	Prevention	Detection	Correction
Policies & Procedures	X	X	X
Program Development & Testing	X	X	
Change Control	X		
Documentation	X	X	X
Data Editing	X	X	X
Input/Output Controls	X	X	X
Physical Access Restrictions	X	X	
Logical Access Restrictions	X	X	
Back-up & Contingency Planning			X
Audit		X	

Forecast for the National Information Systems Market

Money supply (M2) is expanding too rapidly, inflation danger looms after the fall elections and international political climate makes many uneasy

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The upturn has continued for the last month but some concerns are now surfacing. The embargo of California's wheat crop and the continued drought in Texas and Oklahoma are now starting to be noticed by many. The Stock Market does not know which way to turn, not knowing if there will be a tax cut at all much less how extensive it will be.

The fed has continued to expand the money supply explosively (over a 5% annualized rate) to counter the softness. With all of that, for many companies productivity and earnings continue to increase. For the first time, college graduates are in high demand and are finding good jobs sooner. On the MBA front it is a different story. There are too many and the perceived price is too high.

This year over 110,000 MBAs will graduate from all of the US institutions. Only 25% of the students at the first tier institutions found a job through the normal "on-campus" recruiting process. The rest, most of whom have jobs, had to do extensive job searches to find the positions that they got.

Last semester I was fortunate enough to be a visiting professor at a graduate school of business. I learned some things that help to define why organizations are recruiting the college graduates with such vigor while ignoring MBAs. First and foremost is the additional skills that companies get with MBAs are not necessarily worth the premium. For example, many of the students in the MBA program still have the notion that they know more than the executives that run some of the most successful corporations. In school and in interviews they are not inquisitive, rather they are argumentative. Many students do not have a grasp of the tools they will have to use - someone else will do it for them. The results are clear.

One West Coast MBA program, not a first tier school, has over 50% of their current graduating class still looking for jobs. I interviewed a graduate from two years ago from that institution and was surprised to hear her story.

She graduated two years ago and was hired at $65,000 by an "International" organization. She worked in Canada for a year and then was downsized out of a job. She has been working as an independent consultant for the last year, at a billing and utilization rate that will give her an annualized compensation of $50,000. That after she spent over $80,000 to get an MBA.

I now have a choice of hiring her, an MBA with almost two years post-graduate experience plus 4 years pre-graduate experience, for $50,000. Or I could hire a new graduate from the same school who has 4 years pre-graduate experience for $67,000. My choice is obvious. I will go for experience, first and will not hire the recent MBA. They know too little and they want too much.

Add to all of that the forecast of what corporations will look like in the future and there is an interesting picture for the technology job market.

- ✔ **Mainframe** - Systems will continue to be in place for the foreseeable future. Opportunities will exist for individuals and organizations that know how to take that technology and make it graphical and user friendly.
- ✔ **Client Server** - Hype will slowly dissipate as organizations see that many client server applications on the AS400, for example, are nothing but smaller versions of mainframes.
- ✔ **Network - GUI** - This is were the action will be. IT organizations will not be directing this activity. Rather, look at the marketing and operations groups to be heading up these activities. This is where the jobs will be.

Vic

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

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