The Power of the Electronic Press Unleashed — An Interview with John McLaughlin

"Right now the Internet is like a printing press with paper and ink next to it. Everybody's standing around saying what a great invention it is. OK, fair enough, but it's time we actually started printing."

– John McLaughlin: Publisher of SunFlash

Welcome to the first issue of Net Ventures, the journal about how people use the Internet to solve problems and create opportunities for themselves, their customers, and the organizations they work for.

Trying to learn about the Internet from reading books and attending conferences alone is bound to be a frustrating task. There are certain things you simply can't learn from books. Ask 100 Internet pros how they got their knowledge of the Net and invariably you'll get the same answer: someone personally showed them the ropes and they took it from there.

Without stepping on any regional toes, I think it's fair to say the biggest proportion of the world's Internet experts live right here in Northern California. And, if you wait long

enough, you can count on the rest of them passing through here at one point or another.

It occurred to me one evening, while having dinner with an Internet friend, that, as an Internet-interested San Franciscan, I regularly enjoy what people in other parts of the world can only dream about. easy access to an incredible superabundance of Internet talent.

Then I played "What if?" What if instead of limiting my conversations to me and whoever else was in earshot, I taped them? And what if I found somebody to edit them so they made sense? Internet people are amongst the most free-handed people I know with their time and knowledge. Why not multiply the benefits of their generosity so that thousands of people can make progress together?

Let me reveal my prejudices up front. While I am excited about what the Internet can do, I am much more interested in what people do with it. I was struck by an interview in "Morph's Outpost." Marc Andreessen said something like "The part of the Internet I use the most is e-mail. Otherwise, I haven't found that many things on it that are useful."

I couldn't agree more. The tools are impressive and pregnant with potential, but we have barely scratched the surface of discovering how to use them and how to make them pay.

John McLaughlin's work with electronic publishing is the perfect subject to launch this publication. He has accomplished things that most publishing professionals would tell you are impossible.

Working alone in his spare time (he works as a field engineer for Sun Microsystems), John publishes a periodical that is read by at least 10% of the members of a $25 billion industry. And he does it without ever seeing a printing bill or visiting the post office!

Has John become rich from his efforts? Not yet, but he didn't start out to become rich. He was merely trying to create a service that would help his customers. Six years later, he's developed a simple, yet incredibly powerful publishing machine that is worth its weight in gold. After reading this interview, you'll see for yourself why the Internet has such an enormous potential for bringing companies in closer contact with their customers.

Next issue: Software.net

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INTERVIEW

(**J:** John McLaughlin; **K:** Ken McCarthy)

K: We're here with John McLaughlin of Sun Microsystems. You work in the Florida office?

J: Right. I'm a Systems Engineer, and I also publish electronic newsletters.

K: And the name of the newsletter you publish is...?

J: …. it's called SunFlash, and I've been producing it for seventy-one months. See, it's seventy-one months because they're numbered by volume. So, I'm just coming up on our sixth year.

K: What's your subscription base? How many people read your publication?

J: It's about 140 or 150,000. It's really broad.

K: How do you manage a subscription base that is so large?

J: The top level that I post has about 5,000 entries, of which at least 1,000 are aliases to other locations, either other Sun offices or our larger customer sites which have their own redistribution offices.

K: In other words, you send the 5,000 and at least 1,000 of those people, in turn, send it to ten, 100, or 1,000?

J: Exactly. I know of two or three locations that I've talked to over the years that have in the order of 1,000 individual subscribers.

K: Wow.

J: The reach is actually a little bit greater than that. I know of a number of sites, including some of my own local customers, that have about 1,000 workstations with only about 20 people subscribing and those 20 people are kind of the information technology gatekeepers. They forward the proper messages to the proper people. If it's related to networking they forward it to the networking group. That way the networking group doesn't have to monitor the 100 or so articles that I produce each month.

K: Is SunFlash published monthly?

J: No, I produce continuously. Sun, for example, publishes press releases which I try to turn around immediately. I try to stabilize 20 or so articles each week. What I discovered was that if I give myself one deadline each month, it would be so much work I just couldn't do it. So, by doing it as the data became available it's manageable. At my busiest, I wait until the weekend to catch up.

K: With that kind of flexibility, do some people like to subscribe on a daily basis and others weekly?

J: Some people do, so I created a weekly and a monthly version of article summaries. If they wish to get the full article, they can send the article number to an automatic

response program which returns the full text of that article. That way they can scan 25 articles and send for the four or five they're interested in and they will arrive ten or twenty minutes later.

K: What kind of software allows you to automate this process so efficiently?

J: Many in my audience are Sun users and use some Sun-specific tools that are shipped with their machines. One piece of software is an e-mail program called Mailtool which has a graphical mail reading program which allows you to make file attachments to mail messages.

I created a Mailtool version that comes out once a week. The message bodies are the summaries of the articles, and have attachments to the twenty or so articles for that week. That way people can quickly scan through the table of contents, find a story they're interested in, and go straight to that attachment to find the story.

K: Within each issue, have you worked out a particular strategy for organizing the information?

J: I discovered that because the information I post is very specific to Sun computers, sometimes I'll have five or six very specialized articles that I don't think are of general interest to people. I group those together so even those people who get the daily newsletter will sometimes get a collection of stories which even the daily people have to use the automatic response program. That way I can put out fairly esoteric details and not actually overfill people's mailboxes. If it's something that I think is of general interest, such as Sun announcing their quarterly earnings or a major new workstation I push that out to everybody.

K: How do you identify who gets what esoteric information?

J: I use a mailing list manager called Majordomo and operate separate mailing lists. The nice thing about Majordomo is

that people can move themselves from one list to another without intervention. They can send e-mail to Majordomo, unsubscribe from one list and subscribe to the weekly list or the monthly list.

K: And you don't have to be involved?

J: The only time I get involved with Majordomo is if the address of the person making the change is different from the address to which the change is being requested. I'll scan all of the security features so people don't accidentally remove the redistribution aliases or improperly add their friends or remove their enemies or anyone else.

K: What about platforms other than Sun?

J: The Mailtool would be an example. However, some people liked the idea but didn't like that particular tool. In the time since Sun created the Mailtool program, a new Internet standard has evolved called MIME. MIME allows for the creation of attachments that can contain any subject matter, such as graphics or audio files, PostScript files or plain text, in any format PCs, Macs or other vendors' workstations.

K: With readers outside of Sun, do you have to adjust any sensitive content within the publication?

J: I have to be careful to implement some Sun policies or restrictions. One of which is how and where I distribute the U.S. prices. Basically they don't want me to share U.S. prices with non-U.S. customers. My program will check if there is a U.S. version of the article, basically with U.S. prices, and if the person making the request for the article is on the USA list, I'll send them the U.S. version. Otherwise, I'll send them the generic international version.

K: How many people are employed in producing this periodical and distributing it to the 150,000?

J: Three people. Me, Myself and I! I do this in addition to my full-time job as a systems engineer.

K: So you write it and edit it?

J: Well, I don't write it. The articles come from a variety of sources within Sun, particularly press releases. We have a series of internal product announcements called Sun Intros which are designed for the field people such as system engineers, sales reps, marketing people, not customers. I edit that and make it proper to give it to customers, which means sometimes changing the sales pitch, toning it down and removing internal contact information, and removing some sections which I don't think are necessary for customers. Some people within Sun ask me what makes me think I'm qualified to make those edits to internal documents. My job as a systems engineer means I represent the company to the customer so that's exactly what I'm qualified to do.

K: You do that every day?

J: Yes, and I think it's appropriate that after I make those edits, I send them back to product management people who originally authored them and explicitly seek their permission. I tell them this article will be read by hundreds of thousands of Sun customers and ask if they are happy with it. It also gives them the opportunity to make last-minute changes, like "We said it was going to go out in November, it's actually going out in December."

K: Or, "We forgot to mention this important feature, let us tell you about it." So, you're kind of like a meta-systems engineer?

J: Right, in fact, a large reason I started producing was it helped me locally, with my sales reps in my office and my local customers. There's a motto I like: "Think Globally, Act Locally." So, on behalf of my corporation I'm thinking locally, it's good for my local customers, but by acting globally, producing it in an electronic format which is inexpensively

distributed throughout the globe to all my other fellow systems engineers, sales reps, customers, it helps them too with a little incremental effort from me.

K: You were doing the work anyway for your local office and now maybe you're even more motivated to do more?

J: Yes, for example, there's one group that produces a very nice printed newsletter once per quarter called Sun's Harvest. They have professional editors and colors and pictures and all the good stuff. I had them do the extra effort after they printed to extract the text and make an e-mail version of their newsletter. I probably distribute their information to more people than they do, at a fraction of the price.

K: That brings up an interesting point. We are often told there are twenty to fifty million people on the Internet, but those numbers actually apply to the numbers of people who have e-mail access.

J: That's right. I've had people refer to it as the core Internet. I've estimated that perhaps four or five million people can actually use Mosaic and FTP and compared them to the larger collection of networks which can exchange e-mails. There are perhaps 30 or 40 million of those people.

K: That would include the 1.5 million America Online members, the two million Prodigy members, the million CompuServe members?

J: Exactly. I've run across a number of bulletin boards overseas that want to make the connection and exchange e-mail. They have that capability, even with low-speed links. That number will always be greater than the number who have first-class access. Sometimes in the U.S. we forget just how inexpensive telecommunications are for us.

Elsewhere in the world it's even more expensive to have a telephone line, let alone the luxury of having local dialing for free. Where I come from, Scotland, if you're local dialing

to the guy next door they charge you every minute, just like dialing long distance.

K: In Japan you need a $1,000 deposit to get a phone, and you have to wait a year.

J: So there'll always be more people with e-mail access. But in recognizing the fact that the Web has become so popular, over the last few months I've changed my production technique to one which I actually produce the articles in HTML, and make sure that the files look good in the Web format.

Then I process them into plain ASCII, which I format and distribute by e-mail. I place the actual HTML and plain ASCII files on an FTP server, which introduces vet another distribution methodology. Again, this is very useful for people in remote locations where they have slow-speed Internet links. They can connect in through FIP and download a megabyte file and get a whole week or month worth of articles, and then deal with them locally at their leisure.

K: Any plans to have a Web site?

J: Well, I have my sneaky plan. Rather than having one Web site, what I've done is placed all the HTML files on my FTP server and encouraged people to install them in their local web. I have four or five people who have done that already to my knowledge, and I think I'll see a lot more people do that as they realize these files are available.

K: You're really providing the raw material for excellent Web sites for local resellers.

J: Exactly. I want to be the content provider rather than the service provider

K: Another important issue is cost. What kind of cost are we looking at to reach these 150,000 subscribers?

J: There are no real costs. Sun is already on the Internet, we have our links in place, we have our offices already set up. The sales office in Denver wants to redistribute my newsletter to their customers. I'll send one copy to them, then they can take care of paying the local phone bills, or the long-distance bills to customers there. As Sun's network has developed and the Internet develops, I can continue that model but to a large extent it's very inexpensive for Sun to provide that capability.

K: What about readers outside of the Sun loop?

J: Some of our customers pay to go on the Internet, so this is an added benefit to them being on the Internet. Some people use commercial services so they are paying a long-distance dial-up fee or a connect fee. So, there are costs to people out there, so for that reason, I also try to limit material to no more than 100 or so articles a month. That was also one of the reasons I went to offering the weekly version. That way people who are paying for it get just one article a week, and they only send for the articles which they think will be valuable to them.

K: So the menu also helps you cut costs for your readers?

J: Another interesting effect I've discovered is that if I look at the statistics from my automatic response program for a month, even though I've got close to 100 articles, the automatic response program may have sent out 450 or 500 different articles. So people still fetch articles up to a year old from the archives.

K: You know, even if there weren't bandwidth constraints, and someday we'll be in a world where there aren't bandwidth constraints, there are still human processing constraints. This idea of sending a menu and letting people look at what they're going to select is still an efficient means of delivery.

J: Given that my audience is relatively specialized, I can constrain all the types of information to be of interest to Sun users. As Sun users become more diverse, my present model may become difficult.

Sun users have very broad interests. There are developers, administrators, programmers, and their interests are different. It helps if you are an administrator, you can skip articles that are for developers and vice versa. Eventually, I may have to go to a model where I produce three newsletters as the amount of information I need to share increases.

K: What kind of software are you using to prepare the HTML you mentioned?

J: I use the standard text editor that comes from Sun, and have Mosaic and a WWW server installed in my machine so I can install a file and browse it with my own Mosaic viewer, make sure it looks okay. I also use an HTML editor called HoTMetaL to make sure that the HTML looks good on a browser. Afterwards, I have another window open where I use Mosaic to take the completed article and save it as formatted ASCII, then use another text editor. I kind of start off with text on the right-hand side and end with text on the left hand side, when I make sure that the post-processed version looks okay. Then I save those to my database.

K: Basically, you're running this whole operation off of one SparcStation. Your physical needs to do this are a Sparc workstation, the software that you've described, a connection to the Internet, time to develop your network of subscribers, and what else?

J: The mailing list management software I use, Majordomo, is publicly available. It makes it very easy to create multiple lists or have them more specialized. The automatic response program is homegrown; I didn't really find a program to do what I wanted it to do. I basically had to figure out how to process the incoming addresses and then provide users

with a convenient syntax. In my case, that syntax consists of one or more article numbers, either on a subject line or on the body, and a few key words like help and index. I would like to expand that and offer more capabilities like search for example.

K: Currently, if I'm a subscriber, I'll get a list of articles with a number next to each, perhaps once a week?

J: You'll also get a paragraph about each so you can determine if you're interested. Then you can send e-mail to "flashback.com," my home machine with a list of one or more article numbers. Flashback's automatic response system will queue up your request, and process it immediately. I don't know how many requests I'm going to get at one time. By queuing them and having one program process them it has a predictable load on the machine, rather than posting a weekly summary and then getting 340 requests all at the same time, or having 340 response programs running all at the same time.

That's one of the challenges, I haven't seen many references to commercial automatic response programs because each person's requirements will be different. I had to figure out how to store each of the articles to make it easier for the program to figure out who sent for article 403, to see if that is a valid article, and then to reconstruct it and send it back to them. I guess that's one of the challenges for non-technical people doing this there isn't a lot of off-the-shelf software to help you do that.

K: You recently did a demographic study. How did that work?

J: I'm calling it a census. I've asked people to respond to the article I sent out, with the keyword PING on the subject line kind of similar to how people in the UNIX world check if another machine is up with TCP / IP. They can send a PING to check and see if that machine is up so I wanted

to see which users are out there and simply respond so I can collect all the responses. The first day I had about 2,000 responses, in 48 hours I had 3000 responses. By the end of that week I noticed there were about 4,000 responses.

K: Can you tell which individuals these responses were?

J: I only get each individual's e-mail address which tells me a little about them. I strip off the peoples' names and have a list of the domain names. I can have some kind of where they're coming from, by country, and by their type of domain, such as "com" or "edu."

K: So, if I request a certain article are you able to record my request?

J: I record the time, the date, the article you requested and your e-mail address to produce monthly statistics as to which were the most popular articles. As publisher, I get feedback as to which articles people found interesting enough to send for. This helps direct me as to what kind of stories to send out. Most of Sun's press releases are interesting but sometimes we produce some that are so outrageously self-promoting that people aren't interested enough.

K: We were talking earlier about how you are filling a unique role. You're not marketing, you're not public relations, you're not a journalist. You're in a new area, but I guess it grows out of your job as a systems engineer.

J: The key thing is that I have to add value to the information I'm delivering. If it isn't the stuff that the customers are interested in, then they'll stop using the service

K: I understand you have another project underway.

J: Over the last couple of years I started carrying a lot of articles that weren't from Sun, but were of interest to the Sun community. I was a little unclear if it was appropriate for Sun to carry so much information about other companies

without explicit permission. It just didn't feel right to have Sun posting all of this information for other companies. So, I started a separate endeavor called FlashBack which provides a mechanism for those same people to have access to a similar mailing list. I use the machine in my garage for both ventures. I can produce both newsletters in less time than it used to take to produce just one.

K: The audience is essentially the same?

J: They're all Sun people; that's the key thing I'm looking for. In the relationship with non-Sun vendors I act more as a user's advocate and make sure I can hold back the flood of advertisements. If you want to advertise, buy advertising space in one of the trade magazines. If you want more interesting stuff and more depth, you don't want an advertisement. The less the vendor slants toward himself, the more credibility he'll gain. I think people have learned that lesson.

K: But advertisements don't really take up space in an electronic publication. In fact, you probably really don't have to worry about size of material or space in the publication, do you?

J: It's electronic and it's relatively inexpensive in relationship to depth. If it's a printed magazine, the more pages, the more expensive it is. If it's a press release you get charged by the word, but if it's by e-mail, so many people use the fill-text-on-demand by e-mail capability that it's reasonable to have the articles fairly long. People will only send for them if they're interested in the subject. So, the type of information people typically put in a glossy brochure and hand out at a trade show would be a good candidate, such as the ones with more technical information, like a white paper.

K: What thoughts have you had about subscription fees?

J: I'm investigating a couple of different business models. One would be simply a fee per article or a sponsored article.

The problem with that approach is people need some evidence as to exactly how big my audience is and I haven't done a lot of that demographic kind of study. I'm looking at one in which I keep track of the leads that are generated and I charge on a per-lead basis. To make that work I'm thinking of an annual fee, to be listed in a vendor database, which is what people would see reference to in an article. I would post an article by a vendor, and for more information FTP article XYZ. Then people will send for article XYZ which would have the latest information by that vendor, including name, number, the fax number, their locations in Germany, Brazil, or wherever, and a list of all the other articles that vendor has posted.

By proactively contacting them once a quarter and validating that the information is correct, it wouldn't matter if someone fetched an article by that vendor and they had a change of location. When they send e-mail to get that vendor's contact information from the database, it would be right up to date. By keeping track of which people sent for the contact information, there would be a very high probability that those would be leads, and if I charge on a per lead basis with a ceiling, like $10 per lead up to $1,000 if there were 1,000 responses, they wouldn't be surprised with a large bill. It would only cost $1000. But also, the nice thing for them is if this is the wrong audience and there were no responses, it wouldn't cost them anything.

I think people are uncomfortable about actually trying it out. Plus, I would still retain the editorial rights to act as the users' advocate, and be able to say "You know, that's really not appropriate for this audience. It's really nice you sold lots of whatever to those people but that won't work here. Now, if you want to write a story as to why all those people bought all those things and the technology, then that would be interesting."

K: I realize you process a lot of material, but what kind of fact-checking or validation of vendor claims do you have to go through?

J: This is a very public audience, in a highly specialized marketplace, that spends a lot of money. People spend $5 billion a year on Sun computers. People spend probably three or four times as much on related software and hardware. That's a $20 or $30 billion per year marketplace. So, for a vendor to make a claim in public that they can't validate, this would be a bad idea. And the competition probably subscribes. That's one of the advantages of the Internet as Intel discovered recently, bad news travels very, very quickly.

K: You are a major information source in a $25 billion dollar market. In fact, you may not want to blow your own horn, but you've been meeting some interesting people by virtue of your publishing activities. For instance, who are you meeting with tomorrow?

J: Scott McNealy, Sun's chief executive officer. In fact, last month I published an article by Scott. I've been encouraging the Sun executives to recognize that they have a unique opportunity here. Sun senior officers can post articles that go directly to the customers on at least a monthly basis, without their own PR people. Without the newspapers and business being in the way, they'll find information slides straight to the users. I got very positive feedback from Scott's article.

K: From the readers?

J: Yes, the readers. I asked them expressly, "Here's an article from Sun's chief executive office, do you like having this direct stuff?" One of the things I'm planning on talking to him about tomorrow is the bi-directional quality of e-mail. That's to say, I can ask people for input or to suggest a topic, and ask for their feedback. Readers would get to tell the execs exactly what they think of Sun quality, software, hardware,

or service. Then the executives would turn around and address those issues. Quality is a real good example for that because we've been investing a lot of money over the last year on quality and it's not really visible.

Actually it's a problem within Sun, when it takes a year or two for people to see the results. An executive can take some of the questions, gauge the audience interest and then turn around and respond within about ten days. When you think about it, there are few other media where people can do that. I mean it's not clear there are any! Trying to do that by direct mail, you're looking at a minimum of a twenty-day turnaround, and big bucks. This is free.

K: I understand you were recently elected to the Board of Directors for the Sun user's group?

J: Part of the reason I was elected was a recognition of the contribution I've made to the user community. I've always tried to balance the fact that I'm a Sun employee and also a field employee and interact with customers directly. That's why those corporate marketing people sometimes are at a distance from the users and see things a little bit differently. At times I see myself, in some ways, as a user advocate too.

K: I think the whole project is a pro-users project. That also benefits the company.

J: To be able to apply my experience to highlight the important and shelter people from the normal day-to-day turnout and the mundane is an important part of my editorial contribution.

K: Have you seen other examples of people doing what you're doing and the way you're doing it?

J: There's a couple of commercial services that focused on high-performance computing. A company out of San Diego called HPC Wire has a fee-based service and produces only a weekly publication. The only way you can get an article is to

send the article number to their automatic response program, like mine. But, you have to be a subscriber. They also have sponsorship mechanisms and advertising. They cover high-performance computing, such as supercomputers, massive parallels, and workstations too. I've made available their weekly table of contents to my subscribers because it's a large overlap in interest.

K: Do you think there is a lower-end market for such a publication?

J: I think the areas where there are high e-mail activity and high value make these services valuable. People are buying $55 games for their PCs, but it's not clear that a service like this would make sense in that area. Think about trade magazines for inexpensive PC products that tend to be measured in inches.

High-end magazines are narrower and highly focused. They tend to focus on expensive products with the hardware and the software that runs them. On the high end it's not unusual for people to spend $100,000 or $200,000 for one software package for one user, which is inconceivable in the PC world.

K: Do you see publication opportunities like this for other companies and other industries?

J: Any place where there's large amounts of changing information. You can select and share that information and apply proper experience to that filtering process. I think that's a problem that's going to grow and is growing exponentially. If people are attracted to the idea of using things like the World Wide Web (WWW), this is a real good way to get started.

People have been using desktop publishing for a few years now and discovered the biggest hassle in desktop publishing is the publishing part. The formatting, the layout, getting it to the printer, folding it, stapling it, that's all the work.

The part that's the most fun, the most useful, and the most value-added is actually selecting content and editing the newsletter. All the trends that made the 80's the decade of desktop publishing will make the next decade the decade of online publishing.

K: What do you see as the earliest markets for this kind of publication?

J: The kind of people who make sense to market this kind of publishing system to today are in the high-tech industries. Other industries will start following. The government marketplace, for example is becoming highly connected to the Internet. Partially for their own purposes. This is a great way to satisfy the public mandate to make information available. But it works both ways. That means that the government is now accessible by e-mail, opening up many unexplored areas.

K: Perhaps the key point here is that basically one person, with one machine and one collection of software is operating a publishing venture that is reaching at least 120,000 people responsible for about $25 Billion of activity.

J: I think I have confidence in saying that I'm reaching a solid 10% of Sun's marketplace, a phenomenal number when you think about it.

K: I know you are busy with your own work, but do you ever consult with people who want to establish similar systems for their companies or their industries?

J: Not yet, but I would be interested in doing that. I think helping other people produce a similar publication would also help me continue my ideas.

K: It would be great if there were a community of publishers like you, you could all compare notes and share ideas.

J: I think one of the reasons I'm highly motivated to turn this into a commercial venture and to start making some money with it, is that I have more ideas than I have time to implement. I need people to help me. I would like, for example, to produce a real multimedia version. A reader could send for an article about a company and it would include PostScript documents, photographs or screenshots of a product, or maybe audio clips. This is all technology which is available today. It's easy to do.

Right now the Internet is like a printing press with paper and ink next to it. Everybody's standing around saying what a great invention it is. OK, fair enough, but it's time we actually started printing. That's the way I think it is for most multimedia. It's ready to start printing; we just have to start cranking it out. In the same way that printing is generic technology, this is the next generic communication technology

K: Thank John McLaughlin for sharing your experiences with us. How would someone get in touch with you to find out more about your publishing venture?

J: E-mail, of course. To flash@flashback.com or flash@sun.com.

CyberSource: Bringing Common Sense to Selling on the Internet

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"You can have all the reviews and all the brochures in the world, but nothing compares with actually playing with the product."

> – John Pettitt: Vice President Engineering, CyberSource

Editor's Introduction:

"Can you really make money on the Internet?" That's the question on nearly everyone's lips these days. Clearly, access providers, software makers, and book publishers are making money, but is anybody else? Are there any real buyers out there? Is anybody selling enough of anything to make their effort worth-while?

Before answering these questions, it might be a good idea to catch our breaths and appreciate how far and how fast we've come. Two years ago, Internet experts were debating whether or not commerce should take place on the Internet at all. And a year ago, before the ascendance of the World Wide Web, the vast majority of most people's access to the Internet was text-only. Very few businesses, large or small, even those that were already Online, showed much interest in the Internet at all.

Today, if you read magazines targeted to marketing professionals, you'll see that the Internet is the hot topic. One

school of thought claims the Internet is an over-hyped fad. It cites the small number of users, the difficulty in getting access, and the disproportionate number of student users as proof that doing real business on the Internet is nothing more than a pipe dream. The opposing school claims the Internet offers a gateway to nothing less than a completely new economic paradigm, one in which even the smallest business can compete on equal footing with the Fortune 500.

The point overlooked by both these camps is the utter newness of the medium. Technically, the Internet has been around for 25 years, but in reality it's only been in the media eye for the last two, and it's only been taken seriously by the business world for the last year or so. Historically, it takes time for business people to figure out how to make a medium pay. Technology always seems to run a little bit ahead of economics.

There have been all kinds of examples of this. One that I've never seen discussed before, but which offers many points of comparison, is the postal system, now sometimes called "snail mail." The idea of a service that lets people send letters to people in distant places was brilliant. Before the postal system concept, only kings, popes, and generals had the infrastructure to send written communication. Everyone else had to make individual, customized arrangements on a letter-by letter basis. "Hey, next time you're in Dublin, could you take this letter to my cousin James?"

Fabulous as it was, there was one problem with the original postal service concept: pricing. The charge for sending a letter was determined by how far it would travel. Elaborate rate books were produced specifying how much to send a letter from Birmingham to London and from Liverpool to Newcastle and so on. A great deal of time and money was expended calculating these rates, publishing them, updating them, looking them up, and affixing the

correct postage. As a result, the cost of mailing was high enough to make sending letters a luxury.

One day, a bright person realized that the major costs in running a postal service were not the moving of mail from one city to the next, but the intake, sorting, and delivery of it, the costs of which were being run up through the roof by the need to laboriously calculate the price of each letter one at a time.

"Why not a flat fee for a standard letter regardless of where it's being sent?" he asked. As these things sometimes turn out, the man who originally suggested this was derided as a lunatic, but eventually the idea caught on and thus the postage stamp was born. A few decades later the idea of universal delivery came along and then things got very interesting.

Around the turn of the century, there were two ways to go shopping. If you lived in a city, you hopped a trolley car to the local department store and picked from a wide selection of competitively priced goods. If you lived in the country (over half of the population back then), you made a weekly, or monthly, trip to the nearby town where your options were limited to whatever the storekeeper happened to have on hand and you paid three times or more what your city cousin would pay for the same item, in a newer model and in better condition.

Two individuals, first Montgomery Ward and then Richard Sears, realized that this situation was an opportunity to make a fortune and they preceded to do so. Thus mail order, a multi-billion dollar industry, was born. The mail order industry's greatest ally is the universal postal service which was made possible by the postage stamp which was made possible by a very simple, but not at all obvious idea.

The breakthrough formulas for marketing successfully on the Internet are probably not going to be obvious. Superb

operations and a flair for merchandising will be minimum requirements. If this doesn't scare you off and you still want to try your hand at selling through this new medium, here's an exceedingly well run venture worth careful study. It's CyberSource's software.net headed by Bill McKiernan and John Pettitt.

CyberSource is based in Menlo Park, California and software.net can be visited at http://software.net. (And yes, they are making money.)

- Ken McCarthy, Editor

INTERVIEW with John Pettitt, Vice President of Engineering

NV: John, you were involved in an early Internet project in England.

J: Yes, from two different perspectives really. I was one of the founders of a company called Specialix. We built terminal servers and serial boards and so on for UNIX systems. At the time, we were the biggest non-university Usenet site in the UK. There was no IP connection; there was no commercial Internet in the UK at that time. We got an organization together called UK Internet Consortium as a not-for-profit. We founded it, and its mission was to make the Internet happen in the UK. And out of that spun two things.

One of the founders went off and started Pipex, probably Europe's biggest commercial Internet operation. The academic network people that were providing the Usenet connection to the UK, UKNet, also went into the Internet business, and then a whole bunch of other people sprung into it. There are four or five providers now. But Specialix was the first non-academic Internet site in the UK.

NV: How did you and Bill meet?

J: I met Bill McKiernan, the president of CyberSourse, on the Net. He had advertised in the ba. jobs newsgroup for some technical folks to make an idea of his happen. It turns out that two years previously I'd actually written a business plan, and started looking for funding, for a company to distribute software electronically. When we got together and compared business plans, we had much in common. I had done all the thinking for the technical side of it already so we could get a real running start, so we said - "We have got to do this!" And we started the company.

NV: CyberSource is the parent company of software.net?

J: Software.net is a service of CyberSource. CyberSource exists to sell and distribute information products on the Internet. Or electronically, the Internet being the primary medium right now.

NV: You started in the fall?

J: We moved into the offices here in August. Before that, we'd been working from home and we opened the doors, the virtual doors, in November.

NV: Did you mention that you were already profitable by January?

J: We made a profit in January. At the moment we're not making a profit. That's because we are investing.

NV: What kinds of things are you investing in?

J: A lot of it in people. We brought our own telesales group. We're bringing in a large engineering group. We've got a lot of engineering investment in terms of sustainable hardware coming in.

NV: What hardware are you using?

J: Right now we're using Sun machines. Actually it's a mixture of SUN and PC's running UNIX.

NV: You started with a Pentium, didn't you?

J: We started with a Pentium and Linux. When we started, our entire software budget for external software was $39.00 for the UNIX CD. And then we used entirely free software off the Net to put the service up.

NV: Plus, a lifetime of experience.

J: Yes, I have the skills to go fix the UNIX kernel when it breaks. That's not a sustainable business model. We've moved onto the Suns and we bought Netscape's Netsite Server.

NV: Talking about the Netsite Server, one of the big concerns about marketing on the Internet, is how do you keep credit card payments secure and so on, and how do you keep people from breaking in? You talked a little bit about that at the Software Entrepreneurs Forum.

J: There are three issues with security. Number one, the one that the press talks about all the time, is the bad guy listening in when your card number goes by on the Net. That one is a red herring for two reasons. One, the volume of traffic is such that it's very difficult to monitor it in any sensible way, unless you have a fairly powerful workstation.

Another reason is that even if someone steals your credit card, you're only liable for the first fifty bucks, and the banks only enforce that if you don't report it in a timely manner. As a consumer, it's not your problem. It actually turns out to be the merchant's problem because the merchant gets to eat the charges. Which brings me to security issue number two.

Internet merchants are very much like mail-order merchants. We don't see a credit card, we just see a number. We have to

jump through a lot of hoops to make sure the person with the number is really the person with the card.

NV: What kind of things do you do?

J: The thing we talk about is address verification. We submit the customer's name and address with the card number when we roll out the card. Visa or Mastercard will return a code to us to tell whether it's the one that matches the one on file. In order to commit fraud you need the name and address. We also do a bunch of other stuff which I'm not prepared to talk about in terms of validating the transaction.

One of the things about doing business on the Net that's harder than regular mail order is that there are no people in the loop. In mail order, a lot of credit-fraud protection is in the operators' intuition. They have an intuition about cards and they have a set of further questions they can ask the customer if it doesn't feel right. You can't do that on the Net. I get transactions at 2:00 in the morning on a Saturday night from Japan where they want to buy something and I have to decide whether I'm going to deliver that software electronically in about 20 seconds. That's about how long it takes Visa to validate the card. That's about my window to make a decision as to whether I'm going to do that transaction or not. And it has to happen automatically, so we have a significant investment in technology to do that.

NV: I bet people try to trick you.

J: Always. I've put two people in jail for credit card fraud.

NV: What's the third security issue.

J: The third security issue is when someone breaks into a machine and steals all the credit cards out of the data base. Which is what happened to Netcom. Again, it's the merchant's risk. From a cardholder's point of view it may be a bit of a hassle to get your card canceled and number reissued, but it's not going to cost you money. From a

merchant's point of view your card issuer is likely to pull your account.

NV: Then you're out of business.

J: Yes, because they don't want the risk. So, we are security paranoid in the extreme in terms of how we run our service. We have a site that if people probe in, as they do occasionally, we notice. It's not just a big wall that you can't get into. It's an inviting wall with some places to get in and if you do, we'll notice. It's no big secret how to do it.

NV: You also make your site more secure by not permitting certain types of access.

J: Basically we only accept inbound mail and inbound Web connections. We don't let people FTP, we don't let people Telnet.

NV: Do those steps automatically cut down your exposure?

J: Yes. The less holes you make in the firewall, the less there are for people to come through, and the ones you've made you can watch very closely.

NV: Your home page loads very fast.

J: Our current home page design is running about 27K, and our limit is 30K. We shouldn't really be looking at more than 25-30 seconds on a 14.4 modem connection to get the page out because people lose interest. You can see this particularly as AOL and Compuserve and Prodigy are coming on. Prodigy is 9600 service mostly. We have an advantage over other people because we have a page and a whole slew of pages that works well on low-bandwidth links. Some people really haven't got that message.

NV: Are you starting to get a lot of hits from Prodigy and AOL?

J: Yes. We were actually just reviewing the estimates. AOL has 3 million users, Prodigy's got 1 million and something,

CompuServe has 2 million. And they are all Web-capable now. They all have Web services running. And then you look at the rest of the Net and you see that maybe there are 5 million Web-capable people on all the other services combined. Half of the Web-capable populations are on those three services. And they came in the last three months. Twenty-five percent of our .com domain traffic is coming from AOL right now.

One of the reasons is that we are featured in their marketplace section.

NV: Do you pay for that?

J: Yes.

NV: One of your biggest investments, initially, besides the technical things, was PR. You made a good investment in that. It seems to be paying off.

J: We've had some good press coverage from the Wall Street Journal to Forbes to lots of trade press. It's been very good coverage. Our PR agency has gotten us a lot of good speaking gigs at various conferences, which again works very well for us.

NV: And then you also do online marketing. Do you do that in-house?

J: The online stuff in done in-house. We have someone coming on full-time who's job it will be to seek out sites that should have a link to us, and get them to link to us. That will be their entire job, to sit and look for possible links. We track where our traffic comes from. When a web browser connects to our site it tells me which page it was looking at last. I analyze that, and I sort them by order, and I set up an internal page with all those links on it. We can click and go back and see where people got to us from. It is really useful because we know how effective advertising is when we buy space on sites.

NV: And there are more and more opportunities to buy online ad space. Can you disclose which ones work for you?

J: Right now I've got three paid spaces which are working well. One is HotWired, which we are really pleased with. One is AOL. They're still in basic with their web browser. They've got about 300,000 web clients out there now, out of their 3 million population of users. We are pleased with AOL. The other one is TechWeb, CMP publications. That's an interesting one. We have a cooperative deal with them. All of their content is available to our customers. If you want to review a software product, you click CMP TechWeb reviews. I reach out across the Net and query their server, I have 35,000 articles in the database. So, I query their server, grab any articles that are relevant, and serve them without having to leave my site. It's a nice value added for everybody. TechWeb makes it's money by selling ad space on it, and I will display those ads in with the review. So their ads are running in front of more people. They are actually in front of people who are trying to buy stuff. That works well for them. It works well for me because I added 35,000 pages to my site without actually having to add articles on my machine.

NV: So it's basically a cooperative arrangement.

J: It's a cooperative arrangement between the two of us. We have cross-links to our home pages, and we're both generating more traffic from that. Cumulatively the traffic level has gone up on both sides.

NV: You have a search engine too, don't you, that helps people find specific articles?

J: We're using TechWeb's search engine, which is nice because their service is hosted by a very good search engine. It's completely transparent to our user. My machine reaches out to TechWeb's machine, grabs the articles, and gives them

to you - but you don't see that. It's like Tech Web is only 20 milliseconds away across the Net.

NV: I always thought those articles were on your machine.

J: That's exactly what you're supposed to think. It's a good way to do it.

NV: And about your core business right now which is selling software; you have two methods of selling software on the Net.

J: That's right. One is the traditional model. We have about 8,000 titles up right now. Most of those you order and we send you a box that will either come ground, or two-day air, or next day, or whatever. Very much the traditional model of shipping software.

NV: But you don't ship it personally, do you?

J: No. We have an agreement with one of the national distributors who warehouse for us. That gives us six warehouses around the country. If you want Microsoft Word, I've got 3,000 of them in stock. I just have access to their stock.

NV: You just send them the message?

J: Yes, we electronically communicate what we want fulfilled, and where, and they drop ship it. We don't touch the goods.

NV: How about customer service problems with shipments and so on?

J: We handle that. The interface with the customer is something we want to keep control of. We are very concerned with keeping high-quality professional service. So we won't subcontract that. The only thing we're subcontracting is warehousing the boxes and shipping them. We have a nice tight electronic link so we can query orders and know exactly what has shipped, and what hasn't.

NV: If your customer has a problem and they call you…

J: Yes, we can be online with the warehouse at that point and know where the product is.

NV: From the customer's point of view, they don't really know where the box is coming from.

J: It has a label on it that says it's from CyberSource. It will have the address of the warehouse, which is the distributor's warehouse, but the labels and everything will say CyberSource. It's a transparent service.

NV: And the other method of distribution is…

J: ..electronic. We currently have 68 products that are electronically deliverable. You order them and we ship them back across the Net to you. That is growing fairly rapidly for us with products like Now Utilities, Now Contacts for the Mac, a whole range of Symantec products, and Norton Utilities for the PC and the Mac.

For those products, we generate a product, encrypt it in a secure container so we know it has arrived in an uncorrupted form, and ship it to you in response to an order. Depending on how fast you can ask for it, you can have your product in five minutes.

NV: At the Software Entrepreneur meeting you mentioned there is a fee upfront for the publisher to have that processing done, to have that title prepared for distribution; you were thinking of starting a program for smaller publishers.

J: We do have an emerging program for smaller publishers which is on a reduced-free basis.

NV: I thought one of the most intriguing things you said at the meeting was that publishers don't want you to discount. Let's look at it this way, you can deliver software for thirteen cents an order. That obviously creates a great margin. But

the companies don't want you to lower the price because they have to maintain the price for all of the other channels.

J: Yes, that's something we are all experimenting with at the moment. There is clearly a saving in distributing electronically. You don't have to build a box, you don't have to inventory the box, you don't have to take it off the shelf when you change the version. So there is a savings to the manufacturer. We take some of the saving from the manufacturer, and we pass some of it on to the end user. The prices are lower than you will typically find for a boxed product.

NV: Even through the discount catalogs?

J: Even through the discount catalogs. Yes, the online prices tend to be lower.

NV: Do you sell advertising on your site?

J: We are in the process of doing that. We are starting to dedicate areas for either particular hardware platforms or particular publishers that are visibly part of software.net. So you'd have the 'whatever corporation section of software. net, and they get a dedicated section with their own products in it, be it a hardware platform or a publisher.

Or we can do them transparently. A publisher could put up a site that looks like that publisher's site, entirely like it belonged to them and it was in their domain, but it would actually live on one of our machines. The reality is that every publisher at some point is going to be in the business of selling software on the Net themselves. And just as they subcontract physical fulfillment now, we see no reason why they shouldn't subcontract electronic fulfillment.

NV: And they'll come to you?

J: They'll come to us.

NV: What other kinds of services do you provide for publishers?

J: We are doing a lead generation program. One of the key things we give to a publisher is a hundred percent product registration. The customers don't have to fill out a registration card because we do it for them. They've given us all the data which we'll electronically transmit to the publisher. The customer is automatically registered. From a publisher's point of view that's worth a lot of money. The product that goes through a regular two-tier distribution to a computer store, if they get twenty of thirty percent registration they are doing real well.

NV: Do you have any particular clients that have had a good success story?

J: I guess the best one would be On Technology. Their traditional model was magazine advertising. You fill out a card and they'lI send you the product for a thirty-day evaluation. A telesales operation will phone you and market the product to you to get you to buy it during those thirty days. It costs a lot of money to do that. It costs money to fulfill disks free to anybody that fills in a card. It costs them to generate those leads.

For us, they aren't paying to advertise so they've got no cost upfront, and they are paying us on a per-lead basis. They are paying only for the leads they get. The customer has already got the software at that point so the publisher doesn't have to then fulfill it. It works really well for them. And they get a nice complete set of information with address and phone number and e-mail and the whole thing, so it works well.

We give away a lot of software. We have a lot of free trials and demos and a preferred model for a publisher. If a publisher came to us and said "How do we do this?" our preferred model is to have a product with a fully functional demo that will run for thirty days so people can try it. The

cost of delivering that on the Net is nil. It's a bandwidth issue. You can have all the reviews and all the brochures in the world, but nothing compares with actually playing with the product. And if people can play with it and like it, they'll come back and buy it. We think that's the way of the future.

NV: It would self-destruct after thirty days?

J: Generally they lock up. They say you need to put a serial number or something to make it go, and then maybe go to us to buy a serial number. Or call the publisher and buy a serial number. Either way, we make money on that.

Then there are other services like Checkfree, one we just put up, the bill paying service where your bills are paid electronically. They are a service that makes money off the monthly fee. Clearly we are an ideal model for distributing. We distribute their product and they pay us a commission based on who signs up. Same with ImagiNation Network, and Online Games Network. We have their client software, you can download it for free, and if you sign up for their service we'll get a commission for that.

NV: I read an announcement about six months ago that Oracle was going to start distributing their software online. It was very dramatic, but I haven't heard anything about it since.

J: Well, we tried to download it and it was 15 megs and it took six hours even with our T1 line. Their end of things was way overloaded, everyone else on the Net was trying to do it as well. And we never actually got it to work.

Which brings up an interesting point. Putting up a Web server is really easy. Putting up software to FTP, which anybody can grab, is real easy. Doing it in a controlled manner and actually selling software is hard. You know you can give away the product, but from a publisher's standpoint we ask people to fill in forms. You fill in a form as to who you are, and then we'll give you a free demo.

NV: For people who are thinking of marketing online, what are the key considerations from your point of view? Obviously marketing is important, customer service is always important. It seems like we've already gone over a lot of it, but just to summarize.

J: The Web is a bit like desktop publishing. Laser printers came out and everybody bought Pagemaker and they all thought it was going to make them an instant graphic designer. Some of the things that were perpetrated by desktop publishing offend everybody's sense of graphic design. The Web is like that. It's easy to buy the equipment and put something up. It's very difficult to make something that is good and has quality.

INTERVIEW with Bill McKiernan, President

NV: We were talking with John about what's under the hood; security issues and distribution issues. What are your plans for the future, and what's your part of the business?

B: Before starting this company I was president of another software company called McAfee Associates. A virus protection company.

NV: It was very successful in distributing…

B: Products electronically, exactly, and so the concept was to take that model to the next level and to distribute all different kinds of products electronically using the Internet. John is the engineering person and I am the sales, marketing, finance, and operations person.

NV: In addition to selling software, do you have plans to sell other products in the future? Do you have one target in mind or another area that you plan to market in?

B: We do have very specific plans. The name of the company is CyberSource Corporation and the mission is to market and distribute products that are digital or digitizable. We want to leverage the installed base and infrastructure of the Internet. We're not interested in selling shirts and ties, stuff that is a physical product.

NV: Why is that?

B: Because we want to deliver products directly to the customer. We want to use that pipe, that Internet pipe, to deliver products. Software is an obvious choice.

Also, we are selling Dataquest reports and we intend to significantly expand that part of the business. They publish newsletters on the software, multimedia, and online services industries. We're talking with other information providers to do similar types of distribution. One of the issues for people or companies in that information space, we're talking about people like

Dataquest, Gartner Group, Forrester, and DataPro who have got incredible amounts of data, there is really no efficient marketing and distribution channel for that data today.

So if you're an MIS director, or a senior sales executive, and you need a market study on a specific industry, unless you happen to get a call from a rep from one of those companies or you happen to have their latest catalog, you have no idea that information exists. Yet all you have to do is call it up and they lI send it to you. What we want to do is create a much more efficient channel for that information.

NV: Also in talking to John it sounds like you are creating a utility for software publishers just to plug into. For instance, if they want to sell their software online they could develop

that capacity. We discussed Oracle's attempt to do that earlier. It sounds like you're positioning yourself to be that utility for them.

B: I think that is very true. We want to make sofware.net the site on the Internet that people think about when they want to buy software. Number one, we do that by providing instant gratification to the user. Allowing them to download the product immediately. Also with providing them a lot of value-added content. They can look at product reviews online, they can look at brochures, they can communicate with one another in a software forum, and have interactive discussions. We want people to come to us when they need software.

Likewise, we fully expect that many software publishers will probably distribute their products through their own websites. And we think we can still add a lot of value to the customer by giving customers a choice. They can come to us and look at a whole range of products, talk to users about different products, download free trials, go in and get product reviews. To the extent that a publisher still wants to distribute products electronically through their own website we will provide fulfillment for that, so we will build the back-end processing services, just like we have today.

NV: Leveraging the investment you've already made in areas like security?

B: Exactly. While publishers may decide to do this on their own, that is offer software through their own website just like in today's environment where they out-source the physical fulfillment, we think they may choose to out-source the electronic fulfillment as well. And we'll be happy to help them leverage our infrastructure

NV: In other words create websites that use the proprietary technology you've developed.

B: It's more like this. A software publisher has their own website and they fill it with all the content that they ve done to date, but when their customer wants to do a transaction, that's when it is routed over to our website. Maybe it's a routing, maybe it's something that we sell them for their server, but the actual transaction, the fulfillment of the credit card processing is done by us because that's what we're good at.

NV: In that case, you could actually provide that service to anybody selling anything. You personally want to sell electronic products, but a clothing merchant or wine merchant or jewelry merchant, would they be…

B: They may be, but what we're good at is not only processing the transaction, but also then fulfilling the order. And I have difficulty fulfilling the order for socks. I can send that to a warehouses someplace and have them ship it, but my preference is to actually take the transaction from initiation to complete fulfillment, and I think that's where we add the most value. I don't see us going to an L.L. Bean to do their credit card processing. Who knows? This industry changes pretty quickly so we may find that we'll do that as well, but right now I want to focus on the digital products. **NV:** It seems, from what I understand of CyberCash, that they are a company trying to create a safe transaction space for merchants. Maybe they are a more likely company to provide that to the world.

B: Yes, that's an interesting question to ask. We've been talking to Dan Lynch about a couple of things. Dan was the moderator at an MIT Stanford Venture Lab where we were the presenting company. We presented the business model for CyberSourse Corporation. Dan was the moderator of the panel so we talked with him about making sure that we allow our customers to use the CyberCash technology. Our view, from a customer perspective, is that we want to make it easy for them to do business with us, and if people want

to use CyberCash that's fine. If people want to use DigiCash that's fine. If they want to use a credit card that's fine. If they want to set up a corporate account and have us bill them that's fine.

NV: How do software publishers find you, or do you find them?

B: We have a marketing organization that is reaching out and calling software publishers. Likewise we get mail, electronic mail, everyday from publishers who are asking about what it takes to get their products up.

NV: In a digital form?

B: In a digital form, yes.

NV: You're probably selling products for companies don't even know it yet. They just get the checks.

B: Well, we sell 8,000 products today, most of which are available for physical fulfillment. That is, we ship the customer a shrink wrapped box. And many of those publishers are not aware of the fact that today we are selling their product, but that's in a physical form as opposed to electronic form. Any publisher whose products we sell electronically is clearly aware of it because we sign a distribution agreement with them that allows us to do that.

And our goal is, over time, to have all 8,000 products available for both physical or electronic fulfillment. And let the customer decide. "How do you want it? Do you want a shrink-wrapped box? That's fine, we'll FedEx one to you. If you want the electronic version that's fine too. We'll download it to you".

NV: How does software.net promote itself to consumers? How do people find out about it?

B: We use some of the traditional means. We have a PR firm that works with many of the publications out there.

We're looking at doing direct mail pieces and some print advertising. We've got a telesales force today that's calling on corporate accounts, government agencies, and university accounts to make them aware of our service. Encouraging them to open accounts with us so they can buy electronically with a purchase order and also receive special corporate pricing.

NV: How is that project going?

B: It's going extremely well. I had a meeting yesterday with a major company right here in the Valley. They are very interested in doing business with us electronically. They love the convenience of just being able to order online without having to call a rep. The instant gratification is important to them, the amount of information available is important to them. They see a lot of benefits in the model.

The telesales group has only been in place for a few weeks, but we've opened accounts with significant companies. PG & E, State University of New York at Freedonia, Cornell, Xerox, quite a few big companies. We've got more coming in every day. And in addition to that, we do quite a bit of electronic marketing. We're sponsoring TechWeb right now, which is CMP's web site. We're sponsoring Hot Wired right now. We just did a deal with AOL where we will have a presence on their service to point users to us for software needs.

So it's a combination of traditional marketing, with telesales, advertising, direct mail. Perhaps more important is electronic marketing with sponsorships of various websites. And most important of all is providing users with content that they find valuable and a service they find valuable, because on the Internet the best way to get traffic, and build goodwill, build a customer base, is by providing value. People talking about you is very powerful marketing.

NV: How do you get people to come, other than having a good site, and the free things you give away and the articles. Do you use any other methods to remind people of your existence once they've visited you? For instance, a print catalog will continue to send a catalog.

B: We've got a number of projects underway right now that will keep us in touch with our customers and vice versa. For example, we know who our customers are and what they have bought. And to the extent they might be interested in getting information about updates of those products, or bug fixes, or patches, or new drivers, or whatever - we want to provide that to them. Having said that, we are very sensitive to privacy issues. What we'd like to do is give customers the option of signing up to receive additional information about various products or industry trends or whatever. It's an area that we're looking at very carefully. We will have some services that we will probably be able to demonstrate in the next few months.

In the technology industry in general, and the software industry in particular, things change so quickly no one can keep up to date on all this stuff without some help from some intelligent agent or something. We want to make sure that our customers and our users have the ability to access that information. We're in a unique position. We see ourselves as somewhat of a clearinghouse for information about software. We want to make sure that we take that information in and disseminate it to the people that have the most need for it.

NV: It's really just taking what already exists in the direct mail industry and making it intelligent. Right now they get your name and they mail until you die.

B: And you get a catalog that has everything in it whether you're interested or not. In the traditional world there is really no way to efficiently customize information to people. You can't expect a Mac Warehouse, or whatever, to create

these individualized catalogs. Not today anyway. But in the electronic world we can do that. There's no reason we can't do that.

It's not so much a catalog, its just providing specific information whether in e-mail format or whatever.

NV: It addresses the privacy issue because not only are you getting their permission, you're really getting the request to be providing profile information. Great. Any summation of your place in the future or what you've learned? It's a fascinating business. You're still private right?

B: Yes, we haven't gone public yet. We've learned a heck of a lot. We've only been open since November of 1994, but we've learned a great deal. I think the advantage we have right now is that we understand this business. We understand electronic marketing, we understand electronic distribution, we understand the culture of the Internet. You cannot take a traditional marketing model and simply port it over to an electronic environment and expect to be successful. It's a very different environment. I think a lot of people are learning right now that it's extremely easy, it's almost trivial, to set up a Web site. What's difficult is to set up a site that adds value to people and is a business. If there is anything that John and I bring to the table, it's our ability to understand an electronic model and create a business that has very significant potential.

Marc Fleischmann: Web Sites That Make Sense

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"The Web sites we create are meant to facilitate sales, one way or another. I'm a commercial graphic artist by training so I care about how things look, but if I want to hang out at a "cool site," I'll go to Starbucks in Palo Alto and have coffee."

– Marc Fleischmann, Internet Distribution Services, Inc.

Palo Alto, California

Editor's Introduction:

Marc Fleischmann is my favorite web publisher. Here's a few reasons why:

First, his body of work; which you can see at http://www.service.com. He's had a hand in over 100 websites including major success stories like CareerMosaic, Shopping 2000, and the Document Center.

Second, Marc was one of the very first - if not the first person to hang out a shingle as a commercial web publisher back in 1993, which puts him on par with people like Christopher Columbus. I assure you there was nothing glamorous, hip, or cool about being a

"webmaster" (Marc hates the term by the way) in 1993. Marc and his early clients were the first to show that the Web could be used for practical business purposes when conventional wisdom said you couldn't do business on the Internet.

Third, Marc is intensely practical. When everyone else was clucking proudly about their "hits" and putting bandwidth-choking graphics on their home page (and many are still doing it), he counseled his clients - in 1993 - that "hits" alone were a poor measurement of a website's traffic and that just because you can load a 100K graphic to your home page doesn't mean your clients are going to have the patience to wait for it to download.

A tool is only as good as the people who use it. Anybody building websites today would be well served to study Marc's work and watch how it develops.

In this interview, Marc tells it like it is. A refreshing change in the hype-driven world of the Web

- Ken McCarthy, Publisher

INTERVIEW with Marc Fleischmann

NV: I understand that you don't like to be called a webmaster, which is kind of ironic since you were one of the first people to offer commercial Web services. You put up the Document Center in 1993.

M: Yes. As far as I know, it was the first commercial, third-party WWW Server to combine World Wide Web, WAIS, and online ordering into a single coherent Internet presence. (Editor's note: This site went up less than six months after the first release of NCSA Mosaic.)

NV: Has it worked well for them?

M: I believe the company has doubled its sales since the site went up.

NV: What does the Document Center site do?

M: A lot, but nothing that's ever going to win the

"cool site of the day" award. It's actually boring, unless you need quick access to tens of thousands of government or industry documents. Then it's incredibly useful.

Which brings me to why I don't ever like to be called a webmaster. It seems that everybody who's ever read a book about HTML and has put up a few pages is calling themselves a webmaster. There's a lot to running a successful production web server and HTML is the least of it.

NV: One of the more popular delusions these days is that a clever site automatically attracts crowds of people and that being named "cool site" of the day is always a good thing.

M: Right. It's a little like opening up a store, having thousands of people show up to get free samples, but no one buys anything. That's hardly anything to cheer about. My clients are all very interested in sales. The Web sites we create are meant to facilitate sales, one way or another. I'm a commercial graphic artist by training so I care about how things look, but if I

want to hang out at a "cool site," I'll go to Starbucks in Palo Alto and have a coffee. We've found that people who spend time "surfing" the Net looking for "cool sites" have a lot of time and very little money. My clients are looking for the reverse - people who are looking for solutions to specific problems that a Web site can solve.

NV: The whole scene has changed so much since we first met.

M: It was at the Commerce Department meeting in Sunnyvale. They were holding a hearing to discuss information access.

NV: Yes. They had a demonstration area in a little meeting room Off to the side, big enough to play half-court basketball. You were there, along with InfoSeek, QuoteCom and others. All the space you had was a card table.

M: Right. That's what they gave us.

NV: I remember thinking how far out this stuff was, wondering when, or if, it would ever make it to the mainstream.

M: I still think "if." I'm not taking this as a de facto…

NV: Really?

M: Well, the medium has to justify itself. The phenomena of "cool sites" is not going to last forever. At some point, the accountants are going to look at all this activity and ask: "Does it pay?"

NV: What do you think?

M: We have some clients that are doing very well. For example, the Palo Alto Weekly. This was the first general circulation newspaper to go into full-time simultaneous distribution in print and the Internet. It puts articles online that people care about: classifieds, open house listings, jobs, movie reviews. You hear so much about newspapers putting photos online, but we don't even use graphics! Apparently, people can live without pictures.

Here's a paper that's got a print circulation of 50,000 with an online readership of almost 20,000 unique machines. Remember, a gateway machine could represent hundreds or thousands of individual readers, so the number of online readers could be well in excess of 20,000. I know one thing for sure. If the paper doesn't appear online at 8:30 AM, the phone starts ringing. People really miss it.

NV: What does the Weekly get out of being online?

M: More readership, which increases their ad exposure. It's a free, advertisement-supported paper. The more people who read it the better it is for the advertisers. A lot of people have called and said that they've sold whatever they were selling by 9:00 AM. They didn't even know the paper had hit the

newsstands. We also get a lot of out-of-state traffic, people coming to Palo Alto wanting to know what houses cost. Real estate is definitely a big issue around here. Housing is tight, and people want every edge they can get.

NV: I remember one trick for getting an apartment in New York was to get the Sunday Times on Saturday night, to be right there at the newsstand when it came out.

M: Well, here in Palo Alto the best you can do is get the Wednesday paper online on Tuesday at 2 PM, or get the Friday paper at 8:30 in the morning.

NV: How do you put the paper together so fast?

M: For a small paper they are very advanced. They give me two floppies. Actually, the whole paper could fit on one, but their classified ad system runs on a PC and their editorial system runs on a Macintosh. Normally they would both fit on one floppy except they're in different formats. It takes us about nine minutes, twice a week, to publish it. About half that time is just waiting for it to copy off the floppy. Then we have scripts that reformat it. There's no manual formatting because they already use a tag system. Their writers actually mark up the story as they write it, specifying headlines, bylines, captions, and body copy for export to Quark Xpress for print. That's the level of tagging.

NV: So they're not doing anything extra.

M: Right. They make a second copy of discs and their courier drops them off on his way down to the printing plant.

NV: You mention that the paper is text-only. Other than not having photos, does the Palo Alto Weekly put everything up?

M: All the editorial content and line ads are included. What doesn't get in are pictures and display ads.

NV: That's interesting. They don't have an urge to have graphic ads in the paper at this point. In other words, it's working.

M: Yes. As both a business and a consumer I'm interested in three things: product, price, and availability. I really don't care about your mission statement, or a picture of your founder standing in front of a sunset, or anything else. I want to buy your product. I don't want to wade through thirty pages of how great a company you are, how global you are, you or how you're a leader in the business. I want to find out where you are, and I want a product.

There are a lot of big, corporate Web sites out there that don't make a lot of sales, although they might make good P.R. The bottom line is that all of our clients are interested in sales, and a Web site should not detract from that. As a consumer, I don't want all this other stuff getting in my way. A lot of big corporate Web sites seem to be wasting their energy on distracting side issues.

NV: It's clear that when you spend time looking at sites you end up looking at a lot of attractive, but pointless stuff.

M: This is a real design challenge. Too many people are designing Web pages as if they were in print, completely ignoring the time it takes to download the graphics. Let me give you an example. We do the hosting and technical backup for Shopping2000. When we started we used little thumbnails (postage-size graphic images). A page with sixty mail-order catalogs on one cover was impressive. It just blew your socks off, but it took forever to load. So, we went to text orientation which loads much faster but isn't as visually impressive. Initially, we got a lot of comments, mostly from ad people who were trying to use our visuals to pitch their clients. They sent in messages saying, "What happened to the images?"

NV: They were more impressed with the visuals than whether the site worked or not.

M: Right.

NV: One technical point I'd like to go back to is the question of how to track who is using your Web. You said you could really only identify the host, the actual computers that are calling the server. For example, does Prodigy get counted as a single host?

M: Prodigy might get counted as three hosts because it happens to have three gateways. But yes, you're right if you're talking about a site that doesn't ask for registrations. For example, HotWired is a site that requires registration. It's very easy for companies to track who is using their site if they require you to register before using it, because you have to tell them about yourself and give them your user password. Here, tracking isn't an issue.

But if you're not a registered user with a password, what does the server truly know? All the server knows is that a machine made a request for a page. So, what do you do with a company like Netcom? Netcom has twenty-three shared machines, so I see Netcom as twenty-three different hosts. But that could be 23 people or 10,000 people, because I don't know whether that Netcom machine is a PC with one person or an IBM mainframe with 8000 people on it. They all look the same.

The concept of "hits" can be very misleading. You get a hit for every graphic, every piece of text. If I want to drive the number of hits up all I have to do is put in a couple more graphics. My hits will go from 2 million to 5 million a month. That's an easy number to throw around. Instead, what I count is unique hosts and HTML pages. I don't care how many pictures are on the page. All I care about is that you came to that page. These numbers are a lot more meaningful than hits.

NV: You were presenting that approach as long ago as last summer when you gave a talk at one of our conferences. This was long before most people knew what a hit was, let alone before they were debating its value.

M: We used this method of counting from day one. The minute we put up that first page and realized that by using extra graphics the hits doubled, we realized that hits as a measure are totally meaningless.

Again, as an example, the three machines that say Prodigy on them could be three people or three million people. It works like this: somebody who is using Prodigy's Web interface wants to look at CareerMosaic. The data is sucked from Prodigy's gateway machine and then delivered to the person on their PC or Mac. Then, the very next Prodigy user who asks for that same page gets it directly from the gateway machine without going back to Career Mosaic. In an effort to present the pages faster Prodigy's gateway machines look in their own memory for a copy of the CareerMosaic home page. That second hit never gets recorded on my server. Thousands of people could be looking at a page and I'd never know.

NV: This is a little like the pass-along value of a magazine, but even more dramatic. You sell 20,000 copies, but maybe 60,000 actually read it.

M: Sun, SGI, DEC all use what are called proxy servers. Their people don't come out directly on the Internet. They get funneled through a machine, and what I see is that machine. People keep throwing hit numbers around because they keep equating the Internet to print. For instance, for your newsletter it's important to know what your circulation is. Your readership is two hundred, two thousand, two hundred thousand, two million. The size of your circulation determines how much you can charge for ads, even though we know that not every single subscriber is going to see that ad.

The Internet and the Web are not the equivalent of print. "People who have time to surf the Net have no money, and people who have money have no time to surf the Internet". There are all these people saying "Advertise on our home page and we'll charge you $30,000 per month because four million people see us." They can't prove that. The high return value goes to those customers who have put up Web sites and use their existing marketing in print, TV, direct mail, and radio to draw attention to the site. People aren't going to just wander around the Internet. People who have time to do that aren't making any money. All they have is time!

If somebody says 'My site's getting 400,000 hits a day", that's the equivalent of opening up a store and watching everyone come in for free samples rather than buying anything. Our customers want sales.

The Internet is typically being viewed as a broadcast media as opposed to a response media, which is a mistake. The Playboy server, for example, gets 750,000 hits a day. I don't know if that translates into more magazine or video sales. I know it's a lot of tire-kickers, a lot of people probably downloading pictures, but the question is, has it translated to sales?

It all comes back to what makes your customer make a purchase? That's what we spend most of our time on. Most of our work is deciding what to do, not spending all our money on award-winning sites. Once you really focus on what consumers want, you find out that their needs are often very mundane, product, price, and availability. What is it, how much does it cost, and do you have it.

We also view faceless transactions as not being very relevant. People say, "You've got to order over the Internet" I'd rather call a customer. A lot of telemarketing organizations pull up records of what you've bought just so you can ask them, "Well, I bought something a couple of months ago, what

did I buy? Match the gray on the sweatpants? How much will they shrink? Can you include a gift card in it and Is it in stock?. Does the gray of the sweater send it to my sister because I forgot her birthday again?"

Faceless transactions don't do any of that. It sounds really nice to have a faceless order, but the real marketers recognize that it doesn't make sales for them. What makes sales is the personal touch, as when a telemarketer says "Would you like our special offer today? You can get two of those sweaters, and get overnight shipping." Can the customer be enticed into making another purchase? That's profit.

NV: What about a computer that could be taught to do the same thing? For instance, if I were to order Online to buy a sweater, it could say "Ah! How did you like the last sweater you bought from us?"

M: I don't think you'll pay attention. I wouldn't, it would be too impersonal. The reason WalMart and Nordstroms wipe out the competition, or at least claim they do, is that they match everybody's price, and they give much better service. There's a guy who works at Nordstrom who calls me up when they get shirts in my size. Why? Because he knows what I want. That is not going to happen facelessly.

NV: What about intelligent agents that would go out on the Internet and shop for you?

M: But why would you do that if Nordstrom's shopping service, instead of calling me up, could get my E-mail address and send me an e-mail saying that the shirts are in?

NV: Travel agents. People rave about how they can call up on line, check schedules themselves, etc. I prefer to call my travel agent and tell her what want to do and then forget about it until she calls me back with my answer.

M: Right. I am very aware of what my time is worth and what my time costs. I don't know whether you are, but I find that a lot of people aren't.

NV: If they're not self-employed, chances are they're not.

M: Are you aware that everyone in business costs about $150 an hour? The sum of your salary, benefits, office space, and the support to keep you in business is about $150 an hour, for just about everybody. That's why I call a travel agent. That's why we use researchers, electricians, etc.. But can I do it? Yes. Do I want to spend twelve hours on a weekend running cable, or do I want to pay an electrician who is in and out in twelve minutes? What's your time worth? People say, "Oh, I booked my whole vacation on the Internet." I ask them "How long did you take?" "Oh, I spent six hours wandering around." Well, gee, six hours, 150 bucks an hour, that's almost 1000 bucks.

NV: Even if all the tools of the travel agency were available to you online, it wouldn't be time-efficient to use them.

M: And they are available. I might say in an e-mail message "Ken, I want to go from San Francisco to Chicago, non-stop, aisle seat, leaving between 6 and 8 in the morning, and I need a room at the Hyatt." Then, you e-mail me my options. But, you're still acting as the travel agent.

If you think about it, a travel agent just sits in front of an IBM PC with 8 or 9 windows and different reservation systems. They just cut and paste it in an e-mail message and send it off to you. They know details about coupons, special deals, airline packages, etc. So I'm not real excited about using my own time to do this.

Another example. Last winter I needed a new briefcase. It was just after Christmas and we had thrown away all the catalogs. I called up Land's End. Now if they ship me a catalog, it takes 6 weeks. So l asked them to fax me the two pages I needed. Thirty seconds later my fax machine

is ringing with the two pages out of their catalog. I knew what I wanted so it didn't matter to me that the pictures were black and white. What I really wanted was to read the difference between the original and the new jumbo one for an extra twelve bucks. Then I called back and placed an order.

Now, if I could have typed in www.landsend.com, yes I would have saved a phone call, a fax, and I would have accomplished the same thing. But here's the point - how many times have you bought shoes without trying them on?

NV: I never have.

M: A year ago I bought a pair of Nike Air Max running shoes. When I wanted a new pair I called up the store and said, "Here's the model number of the shoe I'm wearing, I want another size 9". But other than that, I try on shoes. Why would someone bother putting a shoe catalog, for instance, up on the Web? Public Relations? We do see companies who do this just to be a player. In other words, they've put up a Website, it's very nice looking, not a lot of stuff, but just enough to keep their presence. They want to be a player. If it turns out that things change and they get some response, then they'll add more to their site. But that's a five to ten thousand dollar job, not a fifteen to fifty thousand dollar job.

NV: And, they're going in on that basis. They are being realistic abut it.

M: Right. That's P.R. It's not sales.

NV: What are some examples of your clients that have gone and done very elaborate Web projects?

M: Not many. We think they're not very worthwhile. I don't see the point in $300,000 Web sites

right now. I don't know what you'd spend that money on, other than lots of flashy graphics which probably have no sales value.

NV: A lot of web developers think of the Internet as a content and entertainment provider, such as magazines like Playboy putting themselves online.

M: Well, that's not a product company, that's an information provider. That's really different. Most of our customers are tangible product companies. For example, there's Clontech, a biotechnology company. They sell the products DNA researchers use to do their research. It could be said that their product on the Internet is their catalog.

NV: Their main function is to provide the catalog?

M: Yes.

NV: The point I'm trying to make is I see a lot of web producers whose primary goal is to create a site that is deemed "cool." What's the point of this besides ego gratification for the designer? Why the overriding emphasis? Is there are something that I'm missing?

M: I don't know. I'm someone who is very involved in this, and haven't even looked at NCSA's 'What's New in nine months. I look at a site when I run across it in print, or when I have a specific problem, and usually, if I'm doing that, I'm looking for a company. I don't have time to go look at cool sites.

The "cool site" people want background colors, great graphics, flashing pictures, and yet they may not reach any audience. One designer I know did a Website that can only be viewed in Netscape. If you're on AOL, Prodigy, CompuServe, Mosaic, Air Mosaic or Pipeline, you get only a blank page with a couple of lines on it. The designer's rationalization is, 'Well, this is a Netscape 1.1 application." Our answer to that is, "Well, obviously, you've written off

most of the Internet". The reality is that there are seven million people that use Prodigy, AOL and CompuServe. We've got to reach the broadest audience. You can't just cop out and say, 'I m doing this because I don't know how to design for everybody, so I'm just going to do this and walk away."

So, I don't hang out on cool sites because I don't have time. I tend to go look at a server that's about NCSA's HITPD server. There's a page at NCSA that keeps listing all the tools; support tools, shell scripts, and other stuff that people have contributed to help run Web servers. That's very related to my business. I'd rather go look at Forbe's, Business Week, or the Wall Street Journal. Cool sites don't mean anything to me.

NV: So your position is that they should be functional?

M: I see that there's a potential market for a very narrow focus like newsletter writer sites, but not just generic cool sites.

NV: I'm dubious about the idea of the Internet ever being a mass media. At some point in the future everyone may use the Internet, but only to do specific things, as opposed to "Well, gee, I'm going to dial up the Sports Illustrated Internet site today, and millions of other people are going to do the same people thing."

M: You hear people say, "You can reach fifty million people". Bullshit! You can't reach fifty million - there are forty-nine and a half million who don't give a damn about your product. It's like saying, "Ken! Quick, get a telephone, you can reach three hundred million people!!" Well, so what? Most of them don't know who you are! Our goal, from a business standpoint, is middle-of-the-road, very professional quality, high penetration sites. It's not something that's going to get written up as the weirdest or coolest site on the Net.

NV: Right. For instance, no one may ever write about Clontech, and yet dozens of buyers will be reached.

M: Right. In that market of research institutions, universities, and hospitals, they'll come and get it. It's a Document Center, very boring government industries standards and specs, but sales have doubled since the Website went on!

NV: It's been on for about two years now?

M: August 1993, it was the first site we put on.

NV: What is your bottom line? Which basic browser capability are you designing for?

M: The browser on the desk while we're working tends to be NCSA Mosaic. But we proof things and worry about design on Netscape, Prodigy, CompuServe and AOL

NV: You have all those different browsers?

M: Yes. You also have to understand monitor size. We sit in front of a Sun Sony monitor. The vertical orientation gets you basically an 81/2 × 11 page. A Web page will look very different if you go to AOL on a PC or Mac with a 12 inch monitor with 640 × 480 old VGA graphics. You get about a third of a page. So, it's not just browsers we're concerned about but also what the page looks like on the screen. For example, take Sun Microsystems. I guess their audience tends not to be people on PC's and Macs. If you look at who is going to come to Sun it's probably people on workstations or other UNIX workstations. They tend to have 17, 19 and 20 inch monitors, which means that they do have a vertical orientation of 8 1/2 x 11. It's different if I'm designing for Shopping2000, where I think a lot of people are dialing in from home over Prodigy, CompuServe, or slip links. Am I designing something that's looked at over a 14.4 or 9600 baud modem? Or am I looking at business-to-business? We evaluate all of them.

NV: So you do a lot more evaluation than most people. Most people are now designing for the Netscape browser only.

M: Right, but that's a cop-out on the designer's part. Here's something we did with Winston Advertising. Let me show you something. Here you are looking at the same site in two different browsers. This presence was designed with many of the graphics centered on the page. Netscape has a center tag, the other browsers don't. But notice that everything looks centered. It looks centered on Mosaic, and it's centered on Netscape because we've altered the window to really make sure that it's centered.

We started this two years ago. We detect what browsers people come in on, Netscape or not, and then we go through and look at what the default window size is for most browsers when you just click and start them up. What's the right width? And, we put in spacer tags. If it's for Netscape, you're actually sticking in center tags.

NV: So you have two different pages?

M: It's not difficult, this is not rocket scientist stuff. It's like doing a print ad or doing a logo. For example, if you do a logo design, you say, "OK, what's the logo look like on four-color chrome paper, what's it look like on a card, a shipping box, etc." You can't design a logo, like Apple's logo, that doesn't reproduce in black and white. You try all of them. The people that design only for Netscape 1.1, are, in my point of view, writing off much of the Internet, and don't have the experience or expertise or skill to sit there and design.

NV: So it's going to come up empty.

M: Right. The view that everyone's got Netscape isn't true. There's a lot of it out there, but are you willing to write off seven million users who use CompuServe, Prodigy or AOL? I'm not.

NV: This may have to do with your background. You come to this from traditional graphics.

M: Design, Industrial and Graphic Design. My Dad owned an ad agency and was a partner in a printing business until he retired.

NV: So, this is a new medium, but it's something that you're familiar with.

M: Oh, yes. I'm back after spending fifteen years at Digital and Lockheed. Now I'm doing what I did in high school, but it's the same media. Different tools, same job. A lot of it is just classic advertising. You know, what really makes a sale? What is the message you want to get across? How long do you have to talk to your audience? Remember, you don't have them captive.

NV: This is probably the least captive audience of all!

Is there anything you'd like to talk about, or leave people with?

M: I think we are going to go far in this. I'm not just running around saying that the sky is falling. There are two groups running around the Internet. Marketing people who have no idea of the technology, and technical people who don't understand what makes a buying decision, what makes a sale, what gives people comfort levels. Everyone seems to feel a sense of urgency; there's an urgency to put up a catalog, get rid of newspapers, have faceless trans-actions, make money in your sleep.

Let's just start off simply. Machines will get cheaper, monitors will get bigger, software will get better, more network links will appear. Telling someone who wants to do home shopping that they have to buy a Pentium with Windows 95 and an ISDN line just to see what the pizza place has...that won't work. When a desktop run-of-the-mill PC is $1200, and you have a twenty-inch monitor, 125 mega-

hertz, and a I-3 coming into your backyard, that's when this stuff will just happen.

Someone at Interactive Age said they thought the one development that was going to drive the largest increase of the use of the Internet was Cannon's release of a $350 color laser printer. Think about it. Soon you can expect to get that Land's End catalog page, downloaded and printed on your $350-400 color laser printer with the same quality that you get in print, or at least as good as newspaper.

Now, if I were the post office, I wouldn't keep raising catalog rates or mail rates, because we're going to quickly reach a point where it's cheaper to send stuff out on CD and then download the stuff to a laser printer. It's becoming very economical now.

What makes the biggest return right now? Driving people from existing media to the online catalog and then getting them to call on the phone and order. The highest return, the least investment. Do you need a movie of someone modeling your sweater? No. You already buy mail-order with just a little-bitty bit of a picture. Just take it one step at a time.

Promote the hell out of your site by using conventional media; business cards, mailing envelopes, invoices. It's just like having your 800 numbers plastered everywhere, so that no one can ever miss your Web site. For a lot of companies, that's going to take two years just to revise all their print. I think it's all profitable, it gives high return, but you've got to push the reality, not the hype.