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Internet Entrepreneurs, New Traffic Patterns, and Policy Issues

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**Boston University
Journal of Science & Technology Law**

Symposium

Internet Entrepreneurs, New Traffic Patterns, and Policy Issues

Michael Baram, Marv Goldschmitt, Richard J. Testa, Thomas C.
Siekman, Peter Marx, and Steven Bauer

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Internet Entrepreneurs, New Traffic Patterns, and Policy Issues[†]

Michael Baram, Marc Goldschmitt, Richard J. Testa, Thomas C.
Siekman, Peter Marx and Steven Bauer

Michael Baram:¹

1. Welcome to the first session of the Internet Law Symposium co-sponsored by the Center for Law and Technology² at Boston University School of Law and the law firm of Testa, Hurwitz & Thibault.³ This session will focus on a variety of Internet⁴ law and public policy issues and their implications for business.

2. The Internet⁵ is an incredible resource. It is not a finite natural resource, but a technologically-created resource without foreseeable boundaries. There are few comparable developments to which we can turn for guidance. The invention of

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¹ Michael Baram is a Professor of Law, the Director of the Center for Law and Technology at Boston University School of Law, and a Professor of Health Law at Boston University School of Public Health.

² Faculty and students at Boston University School of Law's Center for Law and Technology engage in research, education, and public service focused on the role of law in shaping technological progress and the policy issues raised by advances in electronics, communications, robotics, biology, industrial chemicals, and related areas of science and technology.

³ Testa, Hurwitz & Thibault is a Boston-based law firm nationally renowned for its leadership in the fields of emerging technology, private equity, and venture capital. For more information on Testa, Hurwitz & Thibault, see <<http://www.tht.com>>.

⁴ References to the "Internet" are capitalized. See WIRED STYLE: PRINCIPLES OF ENGLISH USAGE IN THE DIGITAL AGE 24 (Constance Hale ed., 1996).

⁵ The Internet is "a global system of networked computers that allows user-to-user communication and transfer of data files from one machine to any other on the network." JOHN DECEMBER & NEIL RANDALL, THE WORLD WIDE WEB UNLEASHED 6 (2d ed. 1995).

the printing press and the generation of electricity come to mind as technological breakthroughs of the past which rival the Internet in significance. Like such technological advances, the Internet will have a vast influence on our culture, economy, careers and values. Last week the Telecommunications Act⁶ became a law. It will take years to unravel. Much of the Act applies to the Internet. A few weeks earlier, students at Massachusetts Institute of Technology,⁷ Carnegie Mellon University,⁸ and other universities put neo-Nazi literature onto web sites⁹ on the Internet to promote principles of free speech and thwart attempts at censorship by the German government. Clearly, the Internet is going to intensify certain debates in society.

3. The purpose of this symposium series is to illuminate such issues and inform the policy debate which will take place over the next decade -- a debate that will shape the Internet and many other aspects of our future.

Steven Bauer:¹⁰

4. We are going to start by having each panelist talk for five or ten minutes about where they see the Internet going. They bring expertise from various different perspectives. Their backgrounds cover the gamut from large corporations, to small start-ups, to service providers, and each one has a unique perspective.

Marv Goldschmitt:¹¹

⁶ Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56 (1996) (codified in scattered sections of 47 U.S.C.).

⁷ For information on Massachusetts Institute of Technology, see <<http://web.mit.edu>>.

⁸ For information on Carnegie Mellon University, see <<http://www.cmu.edu>>.

⁹ A web site is any collection of pages accessed through a main page. See *WIRED STYLE*, *supra* note 4, at 112.

¹⁰ Steven Bauer is Co-Chair of the Patent and Intellectual Property Practice Group at Testa, Hurwitz & Thibault, and specializes in the protection and enforcement of intellectual property rights, including technology and software licensing.

¹¹ Marv Goldschmitt is the Executive Vice President of Marketing and Product Planning at Freemark Communications.

5. We are a start-up entrepreneurial company. We are providing free, advertiser-supported services, starting with free e-mail,¹² to the broader, consumer market. That raises many issues for us. The interactive market is comprised of a very technically savvy group of people who understand not only the technology and the potential for the technology, but also the nature of the information that is available.

6. In order for this whole new area of communications to have value, it has to spread to a larger segment of society. There are issues for that larger segment of society as early adopting groups are always much different from the later adopting groups. The trailing edge is always much different from the leading edge, and the issues that the larger market will confront are going to be very different from the early adopting markets. When we look at where the Internet is going or the types of services that are going to be available, we are clearly affected by a number of things to have an optimal business where we have to raise money, sell a good story to investors, and deliver on it.

7. We have to model not just what is going to happen five, ten, and fifteen years from now, but what is going to happen over the next 12 to 24 months in order to be able to take advantage of it. If not, we will not be around to continue to philosophize.

8. We are affected by many things. The legal environment is clearly one of them. The technical environment is another. Market perception is another. Our biggest concern is the hype associated with the Internet. Whenever anything comes out with a massive amount of hype in the press and on the evening news, it tends to have a pendulum effect. There is an expectation built up in the larger part of society. If we do not fulfill that expectation in a reasonably short time, society not only forgets about it, but rejects it the next time they hear about it. We have the short- and long-term issues of the Internet or interactivity for electronic communications, and our major focus is the short-term.

9. There is a saying we have in our company that you can sell anything new so long as it is at least 90 percent old. So we look at the Internet and try to figure out what part of it is 90 percent old and what part is 90 percent new. We are trying to avoid the 90 percent new part. That is the orientation and the specifics of what will probably come out during the discussion. When we look at the Internet, one of the things that concerns me is that it is a term that we use without any consensus as to what it means. I talk to people in virtually every industry and I get completely different images. It is like the three blind men and the elephant. They touch the

¹² Electronic mail, or e-mail, is an electronic communications medium that permits the exchange of text, information, and files via local area networks or the Internet. See THE INTERNET INITIATIVE: LIBRARIES PROVIDING INTERNET SERVICES AND HOW THEY PLAN, PAY, AND MANAGE 194 (Edward J. Valaukas & Nancy R. John eds., 1995) [hereinafter INTERNET INITIATIVE].

elephant to try and to figure out what it is. One thinks because he touches the leg, it is a tree trunk, and the other one touches the tail and thinks it is a rope. You just do not have a consensus.

10. From our perspective, the Internet is really three things that have significant legal and business implications. First, it is a party-line. It is a party-line for computers to communicate. From that point of view, it has all of the implications, both positive and negative, of a regular party-line. The people on the party-line have no contractual relationship to each other. There is no security, it is not reliable, it is not predictable in its performance. On the other hand, it is cheap and ubiquitous.

11. Second, it is a resource of information because all of these computers on the party-line share information. That information is good, bad, hard to find, easy to find, sometimes free, and sometimes expensive. But there is information there, and that is powerful. That is probably the most powerful thing. Nick Negroponte,¹³ who is on our advisory committee, estimates that less than one percent of all of the potentially digitized information has been digitized.¹⁴ That is all coming online very rapidly. We are going to see an explosion on these computers of information that is readily available to people, independent of where they are and independent of their economic status. That is an incredibly powerful message.

12. Third, it is an experience that is going to cause a huge amount of the pendulum swing backlash that we are expecting over the next year or so. It is an experience for most people on the Web,¹⁵ and for most people it is a terribly poor experience. There are data to support this. A company called FIND/SVP¹⁶ probably did the first good research project on the Web. They unveiled it at the International World Wide Web Conference at MIT¹⁷ a few weeks ago. It was interesting. They

¹³ Nicholas Negroponte is the founder and Director of the MIT Media Laboratory. See *Nicholas Negroponte* (visited Jan. 20, 1997) <<http://nicholas.www.media.mit.edu/people/nicholas>>. For more information on the MIT Media Lab, see <<http://www.media.mit.edu>>.

¹⁴ See generally NICHOLAS NEGROPONTE, *BEING DIGITAL* (1995) (discussing the implications of digital technology).

¹⁵ The World Wide Web, or the Web, is a hypertext collection of documents that furnishes "the technology needed to offer a navigable, attractive interface for the Internet's vast sea of resources." DECEMBER & RANDALL, *supra* note 5, at 5.

¹⁶ FIND/SVP is a worldwide consulting, research, and advisory firm. Telephone Interview with Scott Dempster, Media Department at FIND/SVP (Oct. 4, 1996). The Emerging Technologies Group at FIND/SVP has performed several studies to determine the impact of emerging technology on consumer lifestyle and education. *Id.* For more information on FIND/SVP, see <<http://www.findsvp.com>>.

¹⁷ The International World Wide Web Conference, sponsored by the Massachusetts Institute of Technology Laboratory for Computer Science and the Open Software Foundation, addressed the

were so excited about it that they were seeing only the positive side and not necessarily the negative side of their research.

13. What they came out with was the figure that 9.5 million Americans have had experience with the Web.¹⁸ That is a massive number, considering that two years ago no one had even heard of the Web. But there was more interest in their numbers than just that. Seventy-seven percent of the people surveyed had seen less than 100 web sites.¹⁹ Of that, more than half had seen less than 25 web sites.²⁰ They did not ask the people why they had seen so few. But, basically about 40 percent of the total number of people who have ever been on the Web have seen the equivalent of what most people would see in one good web session.²¹

14. People are expressing that they cannot find what they are looking for because what they are looking for takes a long time, and they get disconnected. When we talk about what short-term future is, there are many things that have to come into play for society to get the benefits of it. Right now, what currently exists as the Internet is not something that delivers on the promises we have been hearing. I think we have some longer-term issues to address that are legal, technical, and economic. These issues are going to be built around a technical point of view, such as having higher bandwidth so that information is more than just text, but can become graphical, and can become the use of applications. Java²² is a promise in that direction. Information can become video on demand, and we start to blur the distinctions between a computer and our communications environment. That is really the promise of the Internet -- to become a personal communications tool, either on a one-to-one basis or one-to-many basis. It is going to take a number of years to get there. Estimates are that it is going to take five to ten years to even get to the first level.

15. Most of the issues that we are seeing when it comes to the Internet's effect on society, in a very large sense, will not happen overnight, and that is probably a good thing. Many of the issues we are dealing with involve law. Such issues involve privacy, copyright, and control when there is no single locus of control

future of Web technology. See *International World Wide Web Conference Held in Boston December 11-14, 1995* (visited Oct. 8, 1996) <http://www.w3.org/pub/Conferences/WWW4/951113_News.html>.

18 FIND/SVP, *The American Internet User Survey* (visited Jan. 20, 1997) <<http://etr.findsvp.com/internet/highlights.html>>.

19 *Id.*

20 *Id.*

21 See *id.*

22 Java is the programming language designed by Sun Microsystems and used in Sun's HotJava browser. See *Wired on the Web*, BYTE, Jan. 1996, at 77. For more information on Java, see <<http://java.sun.com>>.

of information. Who has control of laws like the Telecommunications Bill's smut aspect?²³ How do you control across borders? What are the relationships among countries, in terms of information?

16. These are the issues we have to wrestle with. I think we have the time, but I do not think they have been fleshed out yet. There has been such an hysteria about the Internet and such a rush to judgment and a rush of capital into it, that people are not yet stepping back to say, "What do we mean? What do we expect? What is 90 percent old?" And that is really what we wrestle with. In our case, we are taking the simplest point of view. We are only delivering the one thing that has proven to be of general value on the Internet, and we are doing it off the Internet, to be honest. We are doing it as a direct dial-up service, which is free e-mail. And, we feel like that is something people understand, something people will go to. It is something we can economically support, and it is devoid of most of the larger legal issues that have yet to be resolved.

Richard Testa:²⁴

17. As we are talking about what the Internet is, we find we cannot define it very well. As we try to describe the issues and the problems, we find we are not doing a very good job. Obviously we do not have the solutions. I would like to draw a number of comparisons. Comparisons are always imperfect, but if you make enough comparisons you might be able to focus on some of the really important issues.



18. First, observe the marketplace. Netscape²⁵ is an example. Anything that touches upon, relates to, or even hints of the Web or the Internet becomes crazy from a valuation point of view. I would suggest to you this is not a new phenomenon. We have seen it before, except it has had other names. A decade or more ago, it was biotechnology. We heard about the magic bullets and the billion-dollar valuations.

²³ Communications Decency Act of 1996, Pub. L. No. 104-104, 110 Stat. 133 (1996) (codified at 47 U.S.C. § 223 (a)-(h)).

²⁴ Richard J. Testa is a co-founder and the Managing Partner of the Boston law firm Testa, Hurwitz & Thibault.

²⁵ Netscape Communications Corp. produces Netscape Navigator, one of the most popular Web browsers on the Internet. See INTERNET INITIATIVE, *supra* note 12, at 199. For more information on Netscape Communications Corp., see <<http://www.netscape.com>>.

What has happened? There continue to be very sound biotechnology companies. It is just going to take a very long time. Think about the old story from a generation or two ago. "Young man, get into plastics. That is the future." I believe the Internet is the future. It represents what I would characterize as a market discontinuity. A market discontinuity to me simply means a permanent, fundamental change in the way people do business. But, if it is a fundamental change, why is it difficult to describe?

19. Let me try another comparison. Think of a Japanese-style bullet train between Boston and Los Angeles that goes lickety-split. But, it only goes from Boston to Los Angeles and is, therefore, of rather limited utility. The backbone of the Internet is not new. In fact, a Boston-based company, BBN,²⁶ was one of the pioneers in building networks. They built a network courtesy of the United States government, and they actually had a pretty good one. It was almost the equivalent of a bullet train between Boston and Los Angeles. Now, the better idea is to have the speed of a bullet train, but the convenience of a local train that goes to every stop, in every community in the country, or in the world. Think of the ultimate in speed, the ultimate in local convenience, and everything being virtually instantaneous. Of course it is not instantaneous. It is not everywhere yet. It is becoming more and more accepted.

20. In the financing frenzy that is going on now in the public sector we have had similar analogies. A hundred years or more ago, we had exactly the same thing. Read your history on the financing of the railways. The railway represented, at its time, a fundamental shift -- a market discontinuity -- in transportation. It was terrific. All the Wall Street underwriters and all the financial tycoons of the day could not wait to build another railway. They finally built the major ones, and then the local ones, and then you had local railways everywhere. You did not have any automobiles, and trains were clearly superior to horses.

21. Draw that as a comparison as to why venture capital is racing to the Internet. I suggest to you that it is an elephant, and no one has the view from 30,000 feet of elevation on exactly the shape and the footprint of the elephant. But, they know it is very large, and it is moving, and wherever it steps it changes the terrain. For example, last week I was at an industrial company that had a demonstration of what I thought was a very nice software program. They are going to put a front-end software product on a web site that will capture the identity of anyone making an inquiry into that web site. Their logo is the wolf's head. The wolf is looking at everything that is coming in. The next step is that if you do not have the right

²⁶ Bolt, Beranek & Newman, Inc. ("BBN") specializes in computer integrated systems design and electronic computers, prepackaged software, computer-related services, and commercial physical and biological research. See 2 CORPTECH DIRECTORY OF TECHNOLOGY COMPANIES 649-50 (10th ed. 1995) [hereinafter CORPTECH DIRECTORY]. For more information on BBN, see <<http://www.bbn.com>>.

identity, it may mean something. That little company is going to get an incredible amount of financing. Whether or not the product is any good is unimportant at this point. It is simply a product. I probably should not have used the word product because it is not hard, you do not measure it in pounds, and it is not a service. If you would like to purchase it, you dial them up on the Internet and they will ship the product over the Internet, you can use it for 20 minutes, and if you like it, you pay for it. If you do not pay for it, it self-destructs.

22. So you have a specific example of a fundamental change. Think of it as a series of storefronts. And you are on your bullet train. You want to stop, get off the bullet train, and take a look inside the storefronts. You open the door and you look inside and you see something that looks good. You open the next door, and you continue to peer inside. Finally you are inside, taking something off the shelves that you want to buy. The storekeeper will sell it to you and ship it to you the same way you came in the store, through the Internet, onto the bullet train, and back to wherever you are located. That is a fundamental shift in the way people do business. You do not get in your car. You do not go to the retail store looking for software. You dial it up through some combination of your telephone and your computer.

23. That is a fundamental shift. It is a market discontinuity, equivalent to the wheel or the telephone. Consider it as you would the pervasive introduction of computer systems. Consider it as you would the television. Take all those concepts, and realize it is all of those in one, and yet it is different. That is the opportunity that is going to create innumerable issues involving investment finance, venture capital, the public market, and the protection of intellectual property. By definition, it is a cross-border or borderless society. It is a society where no one goes and gathers. You do not go anyplace. You stay where you are, and you touch everybody, via the Internet, whatever that is.

Thomas Siekman:²⁷

24. We at Digital Equipment Corporation²⁸ cannot define the Internet either. As you may know, Digital is a broad-based supplier of products and services for the computer industry, as it has been for a number of decades. We do know the Internet

²⁷ Thomas C. Siekman is Vice-President and General Counsel for Digital Equipment Corporation.

²⁸ Digital Equipment Corp. ("DEC") is a top supplier of networked computer systems and components, software, and services. See HOOVER'S HANDBOOK OF AMERICAN BUSINESS 490 (Patrick J. Spain & James R. Talbot eds., 1996) [hereinafter HOOVER'S HANDBOOK]. For more information on DEC, see <<http://www.digital.com>>. DEC owns AltaVista which develops and markets software products for use in the Internet environment, including AltaVista Search Public Service, the world's most popular Internet search engine. For more information on AltaVista, see <<http://www.altavista.software.digital.com>>.

represents a significant shift in the industry. It is like an elephant. We do not want to be too far in front of the elephant. That is kind of dangerous. We do not want to be in back of the elephant. That is an awful place to be. We want to be on top of the elephant.

25. If you look at the change in technology over the history of the computer industry there are paradigm shifts, and so the beginning of the computer industry was built around mainframes. There were companies like Sperry Univac²⁹ and IBM.³⁰ There was a second wave in the industry. The second paradigm shift involved smaller computers, a department-level focus, and companies like Hewlett-Packard³¹ and Digital. Digital was very successful in that area. Companies like Data General³² were significant there too. There was another shift in the industry to personal computers. Microsoft,³³ Intel,³⁴ Compaq,³⁵ and many other new companies entered and really led the industry. Today we have another shift which has not quite reached the business world. It is the Internet. The Internet is a new way people are following technology, business, and legal developments, and we are waiting to see what happens.

26. We are beginning the third wave or focus of the Internet. The first focus of the Internet was technical. Government, education, and research institutions used it. And it was hard to use. The second wave, over the last couple of years, made it much easier to use. You cannot pick up the newspaper without seeing something on

²⁹ Sperry Univac is a division of Sperry Corporation. Sperry Corporation merged with Unisys Corporation. Unisys provides information services and technology, and develops software. *See* 4 CORPTECH DIRECTORY, *supra* note 26, at 1142.

³⁰ International Business Machines Corp. ("IBM") is a manufacturer of a wide variety of computer hardware, software, and peripherals. *See* 3 *id.* at 793. For more information on IBM, see <<http://www.ibm.com>>.

³¹ Hewlett-Packard Co. is a market leader in office computing and computer printing. *See* HOOVER'S HANDBOOK, *supra* note 28, at 730. For more information on Hewlett-Packard Co., see <<http://www.hp.com>>.

³² Data General Corp. provides servers and workstations, software, and peripheral computer equipment for corporate clients. *See id.* at 462. For more information on Data General Corp., see <<http://www.dg.com>>.

³³ Microsoft Corp. offers more than 70 computer-related consumer products, and is the world's leading individual software company. *See id.* at 996. For more information on Microsoft Corp., see <<http://www.microsoft.com>>.

³⁴ Intel Corp. is the world's leading manufacturer of microprocessors and motherboards. *See id.* at 776. For more information on Intel Corp., see <<http://www.intel.com>>.

³⁵ Compaq Computer Corp. is the second largest manufacturer of personal computers in the United States. *See id.* at 408. For more information on Compaq Computer Corp., see <<http://www.compaq.com>>.

the Internet.³⁶ This is because it is easy to use, and because it reaches the masses. At the same time, people still do not know what to do with it. We are experimenting with the commercial significance. We are experimenting with the educational significance. And we are just beginning the third wave, where the Internet will come into a full paradigm as a dominant force of computing. It will take a number of years.

27. A number of things have to happen, both business and technical. The Internet has to be faster if it is to be of commercial significance. The bandwidth has to be enhanced. We need better security. We need a way to guarantee service on the Internet. People have a certain standard when they pay money. If this is to be commercialized and money is to be exchanged, there is a certain expectation or guarantee on some level. The Internet, for the most part, cannot provide that. We have to find a way to simplify all the information that is on the Internet. There is too much there to be useful in a commercial sense. We have to find a way to bill the clients who use the Internet, whether through access fees, or whether through billing as one would for a utility. There are a number of combinations of technical and business issues that have to be resolved before the Internet becomes the dominant prototype for computing. It is clearly headed that way. The commercial ideas and concepts, and the technical aspects have to be developed further. In parallel with all of this are tremendous changes in the law. These dimensions will all develop simultaneously. It is going to be a very interesting time.

Peter Marx:³⁷

28. I work on strategy and structure of business relationships in the online services industry. In a sense, the online services industry is now merged into the Internet. As an example of the types of things I do, BBN is a client of mine. I help them figure out their Internet capabilities. With the Internet, they are going to appeal to people who own information or are providing some traditional online services.

³⁶ See, e.g., James Flanigan, *Investing in the Future of the Internet*, L.A. TIMES, Nov. 17, 1996, at D1 (discussing United States business investment in the Internet); Rahel Musleah, *Toward a Definition of the Internet's Role in Education*, N.Y. TIMES, June 2, 1996, (Long Island Weekly), at 2 (discussing the benefits of Internet access in schools); Jared Sandberg, *U.S. Households with Internet Access Doubled to 14.7 Million in Past Year*, WALL ST. J., Oct. 21, 1996, at B11 (discussing the growth of home access to the Internet).

³⁷ Peter Marx is Chairman of the Marx Group, a Massachusetts-based law and consulting firm focusing on the online, interactive, and information services industries.

29. Lotus Development³⁸ used to have a division called Marketplace.³⁹ This was a CD-ROM service supposedly for mailing lists, but you could define your mailing list in effect to be one. Lotus got embarrassed and decided to divest from it. I worked with them to make sure this did not impact some of their other information services businesses.

30. Desktop Data,⁴⁰ a local company that went public about six months ago, is a real-time news feed deliverer to large organizations. ZiffNet⁴¹ is the largest service on CompuServe.⁴² I worked with them to go up on Prodigy,⁴³ keep CompuServe happy, and also get ready for Interchange,⁴⁴ which was bought by AT&T⁴⁵ and recently closed down.

31. I recently started working with a consortium of newspaper groups that are worried about how new media, like the Internet, is going to affect the newspaper business. In this regard, I am working as a venture capitalist, helping them figure out in which companies they ought to invest.

38 Lotus Development Corp. produced one of the first spreadsheets. For more information on Lotus Development., see <<http://www.lotus.com>>.

39 Marketplace was a 1991 joint venture between Lotus Development and Equifax, Inc. to compile a database of the shopping habits of 100 million Americans for sale to direct marketers. See HOOVER'S HANDBOOK, *supra* note 28, at 560.

40 Desktop Data, Inc. is the leader in local area network delivery of customized real-time news and information. See 2 CORPTECH DIRECTORY, *supra* note 26, at 1289. For more information on Desktop Data, Inc., see <<http://www.desktopdata.com>>.

41 ZiffNet is an online information service begun by Ziff-Davis, the leading publisher of computer and high-tech magazines in the United States. See HOOVER'S HANDBOOK, *supra* note 28, at 1576.

42 CompuServe is a bulletin board service provider. See 10 INTERNATIONAL DIRECTORY OF COMPANY HISTORIES 237 (Paula Kepos ed., 1995). A bulletin board system provides access to programs and files, electronic mail, and in some cases connections to the Internet. See INTERNET INITIATIVE, *supra* note 12, at 193.

43 Prodigy Services Co. is a bulletin board service provider. See ALLEN C. BENSON, THE COMPLETE INTERNET COMPANION FOR LIBRARIANS 38 (1995). For more information on Prodigy Services Co., see <<http://www.prodigy.com>>.

44 Interchange Network Co. is an online service bought by AT&T Corp. from Ziff Communications in 1994. See HOOVER'S HANDBOOK, *supra* note 28, at 1576.

45 AT&T, or American Telephone and Telegraph Co., is the leading communications services company in the United States. See *id.* at 196. For more information on AT&T, see <<http://www.att.com>>.

32. I worked for two or three years for the Baby Bells⁴⁶ in the telecommunications battles in Washington. Basically, there were two fighting armed camps that brought us this deregulation. One was AT&T; the other was the Baby Bells. I was in the Baby Bell camp as their advisor on the online services industry.

33. A zillion legal issues seem to be coming out of the Internet world. I do not believe any of these are going to be show-stoppers. I think we are going to get by them fairly easily in the long-run. I think we will have some interesting litigation, but I do not think they are going to slow down the growth of Internet capabilities.

34. There are a couple of serious technical issues. Security is not as big a technical issue as it is a confidence issue. Security is pretty good today, and I have no doubt that it is going to get very good within a year or so. On the other hand, people do not think security is good, even if it is safer than handing out your credit card number over the phone or in a store. This perception can really slow things down, because the thing that is going to make this Internet world go is transaction services. If people are worried about transactions, in terms of their security, things will slow down.

35. I also think to really achieve the whiz-bang services that everybody assumes are just around the corner, we need a broadband network. We are a long way from that. A couple of years ago, when Bell Atlantic⁴⁷ was going to merge with Telecommunications, Inc.,⁴⁸ it seemed like we were just six months away from it. Nobody really thought about how expensive and complicated it is to bring fiber optics⁴⁹ into every home and business. People now realize that it costs a significant amount of money. It may or may not be economically justified, but until it happens it is a real drag on all the things that we hope the Internet will achieve. To me, the

⁴⁶ "Baby Bells" refers to the seven or so telephone companies created from the breakup of AT&T that monopolize local-access territories. The Telecommunications Act of 1996 made sweeping changes to the industry, ending this monopoly. Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56 (1996) (codified in scattered sections of 47 U.S.C.). However, the Baby Bells won the ability to start offering long-distance service once they prove that open competition exists for their local-access customers. See § 271.

⁴⁷ Bell Atlantic Corp., a Baby Bell, provides local telephone service to approximately 11 million households. See HOOVER'S HANDBOOK, *supra* note 28, at 256.

⁴⁸ Tele-Communications, Inc. (TCI) is the largest cable television systems operator in the United States. See *id.* at 1378.

⁴⁹ Fiber optic cable consists of thin, transparent fibers of glass or plastic that are enclosed by material of a lower index of refraction and that transmit light throughout their length by internal reflections. Fiber optics allow a greater transmission rate than traditional copper wires. MERRIAM WEBSTER'S COLLEGIATE DICTIONARY 431 (10th ed. 1993).

difference between the Internet and the Information Superhighway⁵⁰ is the \$100 billion that has to be spent on that broadband network. I think it would be nice if someone chooses to spend it, but they may decide that they do not want to.

36. In terms of the business model, nobody has shown that there is any business model that works in this Internet world. Many people can make a good living building technical capabilities, or providing legal services. For example, people are having a good time building web sites. But how do you make a profit on Internet-based services? I do not believe anybody is doing it today. That is a real question. Everybody is assuming it is going to be driven by advertising. I am skeptical that advertising alone will really drive it. There just is not that much advertising in the world. I think there is going to have to be a combination of subscription and transaction charges. Subscriptions, clearly, are not working. People do not want to go to the effort to subscribe. Ultimately, I think there will be an infrastructure such that if you want to access an article, or do just about anything, you will be able to pay pennies for it. You just click, and somewhere there is a computer infrastructure tracking system. But without that, I do not think it will work. I do not think the ends will justify the capabilities people are building.

37. The business model for the Internet also involves the commoditization of services. We have seen it in the past, in so many areas that Microsoft has taken over. They bundle it all into Windows,⁵¹ and we have seen company after company go away. I think we are going to see many leapfrogging technologies. It is going to be very difficult to build a profitable business in this Internet world within two years. Despite the fact that overall this thing is going to grow like crazy, you cannot necessarily make it up on the volume.

Steven Bauer:

38. Nobody knows how to define the Internet. Are we talking about internet with a little "i," like we are talking about the telephone, or are we talking about Internet with a capital "I," like we are talking about AT&T. If we are talking about

⁵⁰ "Information Superhighway" is a term popularized by the Clinton Administration describing the complex communications network connecting computers, mobile phones, faxes, earth stations, space stations, televisions, and telephones. George Melloan, *Global View: Keep the Information Superhighway a Freeway*, WALL ST. J., May 16, 1994, at A19.

⁵¹ Windows is a graphics-based operating environment from Microsoft. See ALAN FREEDMAN, *COMPUTER WORDS YOU GOTTA KNOW!* 168 (1993). Windows operating systems accounted for 86 percent of the operating systems in use in 1995, up from 76 percent in 1994. See *Windows 95 to Clobber Competitors in '96, Researcher Says*, REP. ON IBM (DataTrends Publications, Inc.), Jan. 17, 1996, available in 1996 WL 5802753.

it with a big "I," is there competition down the road as when MCI⁵² or Sprint⁵³ competes against AT&T? Or are we talking about the internet with a little "i," like the telephone, and, if so, what is the competition?

Peter Marx:

39. I look at the Internet in three ways. In one sense, it is a channel over which people are going to distribute products and services. It is also a technology or a medium of which people are going to take advantage. Finally, it is a network that is really just the phone company today with computers attached. Until it all comes together, it does not make a difference how you define it. I think we are just in the beginning of it. People are going to build different types of businesses, and lawyers are going to have different types of legal issues, depending on how you define it. In other words, if you are a network company, then you have a different sort of paradigm than if you are a publisher or a software company. I think we all look at it in all of these ways, depending on what the issue is, or the business, or the technology that happens to be present at the moment.

40. I think Information Superhighway is a buzzword because it does not exist. I think the Internet certainly exists and online services now have a bad name because unlike the Internet they are proprietary and closed. Companies like America Online⁵⁴ and CompuServe are supposedly threatened because nobody wants a closed system.

Mary Goldschmitt:

41. It is interesting you have selected the small "i" rather than the large "I," because the large "I" is the way most people think of it. Especially in the broader market, you need to think in terms of something that exists, something that has boundaries to it, something that is identifiable. Even if you cannot identify it, you know somebody else can. In that sense, it does not exist. In order to have it, there has to be some locus of control. In an undefined area, it is a medium, but it is a

⁵² MCI Communications Corp. is the second largest long distance service provider in the United States. See HOOVER'S HANDBOOK, *supra* note 28, at 964.

⁵³ Sprint Corp., a long distance service provider, is expanding its business to include local and wireless services. See *id.* at 1332.

⁵⁴ America Online is an online information service offering bulletin boards, financial data, and news. See HOOVER'S HANDBOOK OF EMERGING COMPANIES 90 (Patrick J. Spain & James R. Talbot eds., 1996). For more information on America Online, see <<http://www.aol.com>>.

medium that is undefined. It does not have a CBS⁵⁵ or an NBC⁵⁶ running it. The small "i" is a rubric, and it basically encompasses electronic interaction with somebody initiating it themselves. I can initiate a request for information. I can initiate a communication. I can initiate a dissemination of information and put it out for other people to have.

42. Now that can encompass a wide range of technologies. I can just use an online service like CompuServe or America Online to go to a usenet group⁵⁷ or a bulletin board, and I can do exactly those things I just defined. Or I can get on the "broad Internet" with IP connections⁵⁸ and get out to all the networks of computers. Or I can even balkanize the Internet and do what is called "intranetting,"⁵⁹ and become a company that isolates itself so that other people have no idea that I am using the same communications channels. This is a rubric that is very difficult for people to understand, but it encompasses that capability of having, at its core, computers communicating with computers. But there is no one thing with the large "I" that is the Internet. I think that is probably going to be the greatest source of confusion and dissatisfaction when people realize that it does not exist and they cannot participate in something that does not exist.

Question and Answer Session

Audience Member:

43. The Internet exists. It is very real and very definable. But it is not an individual thing like an MCI or an NBC. It is a federation of phone systems. One cannot say since there is no one phone company, there is no phone system. You could easily have another phone system that is parallel to, but not connected to, "the"

⁵⁵ CBS, Inc. is the world's second oldest broadcasting network. See HOOVER'S HANDBOOK, *supra* note 28, at 340.

⁵⁶ NBC, Inc. provides network television service to affiliates, produces television and radio programming, and operated television stations. See 6 INTERNATIONAL DIRECTORY OF COMPANY HISTORIES 164 (Paula Kepos ed., 1992).

⁵⁷ Usenet groups provide users with news and other information over the Internet. See FREEDMAN, *supra* note 51, at 158.

⁵⁸ Internet protocol (IP) connections route messages across the Internet and other networks. Used in conjunction with transmission control protocol (as TCP/IP), the TCP protocol controls the transfer of the data, and the IP protocol provides the routing mechanism. See ALAN FREEDMAN, THE COMPUTER GLOSSARY 289, 508 (6th ed. 1993).

⁵⁹ An intranet is an alternative to expensive, proprietary internal communication systems, and is in essence a miniature version of the Internet's World Wide Web except that is designed strictly for internal company use. See WIRED STYLE, *supra* note 4, at 50.

phone system, but then you would have to say it becomes this other thing which is the "telephone superhighway." Thus, the Internet is not one organization. But it is very easy to identify the fuzzy fringes. Where Oracle⁶⁰ claims to be the Internet, and Microsoft claims to be the Internet, it gets fuzzy.

Marv Goldschmitt:

44. I do not mean to say, in that sense, it does not exist, because it certainly does. You can define it. I am thinking more from the larger sense. Most people who are on the Internet are in places like BBN. If you look at the distribution of Internet connections, 90 percent of them are in Boston, Silicon Valley, and Seattle.⁶¹ There is an intragroup who understand it and use it in the more arcane sense. But when we are talking about the broader market, and trying to identify what this elephant is, they do not understand. They think there is a one thing like an MCI or an NBC. And it does not exist like that, so when they look for it they cannot identify it. When they get on CompuServe, and they go from a CompuServe forum and all of a sudden they click on something and they are in the Internet in a browser, they do not understand what happened or where they are. It is like they are out in space. That is what I mean by it. There is nothing they can grab onto and say, "Now I know what it is."

45. If you define the internet with a little "I," you are not talking about technology that can replace the telephone. You are talking about new technology within the phone network, and that is the internet with the little "I." When you are talking about the Internet with a big "I," you are talking about replacing the phone system and cable with fiber optics.

Richard Testa:

46. We all suffer when we compare and contrast, but focus on the telephone system as we have it in this country only. There are hundreds of telephone companies. Each is a franchise, and with the franchise comes responsibility. If you try to make a call from Boston to Los Angeles, and it will not work, you can find, or somebody can find, a failure within that total closed system. Whether it is AT&T, a local phone company, or MCI, it is a relatively closed system with perhaps a hundred companies. There is somebody who has responsibility at some point, and if you spend enough time you can find it.

⁶⁰ Oracle Corp. is a leading developer of database management software. See HOOVER'S HANDBOOK, *supra* note 28, at 1100. For more information on Oracle Corp., see <<http://www.oracle.com>>.

⁶¹ See *Survey Sharpens Debate Over How Internet Will Change U.S.*, SACRAMENTO BEE, Sept. 18, 1996, at D2.

47. Presumably, we are going to end up there, whether you can say we started with the Internet or we started with the telephone system. Is everything ultimately just an ancestor of Ma Bell?⁶² I do not know.

Audience Member:

48. What danger for exposure exists in terms of the export of trademarked technology?

Richard Testa:

49. There is already regulation relating to the export of technology,⁶³ and with the Clinton Administration over the last few years, the regulations have been dramatically liberalized.⁶⁴ Today, we in the computer industry still think they should be further liberalized, or at least focused on the real problem. The real problem is the improper use of technology by outlaws of society. It is nuclear proliferation versus a general kind of regulation that impacts a number of countries, who for the most part are our allies. There is regulation that is much more reasonable and flexible than it was in the past. And there is an on-going dialogue as those regulations evolve, in conjunction with the evolving international relations scene.

Michael Baram:

50. As for extracting value, we have heard about two options, advertising⁶⁵ and metering.⁶⁶ It seems to me that advertising is an option that depends on overcoming some privacy obstacles.

Marv Goldschmitt:

⁶² AT&T's telephone market monopoly ended by a consent decree resulting from antitrust litigation. *See United States v. American Tel. & Tel. Co.*, 552 F. Supp. 131 (D.D.C. 1982), *aff'd sub nom.*, *Maryland v. United States*, 460 U.S. 1001 (1983). "Ma Bell" refers to AT&T before the consent decree. *See* S.B. FLEXNER, LISTENING TO AMERCA 500 (1982).

⁶³ For example, "an export of technical data must be made under either a U.S. Department of Commerce general license or a validated export license." 15 C.F.R. § 779.2 (1996).

⁶⁴ *See, e.g.*, Dean Takahashi, *Clinton Loosens Export Policy on Encryption*, WALL ST. J., Nov. 18, 1996, at B3 (stating that a liberal export policy is vital to selling computer technology over the Internet).

⁶⁵ *See* Jonathan Weber, *Download This: The Dirty Secret About the Net: It's About Money (But Isn't It Always?)*, L.A. TIMES, Oct. 27, 1996, (Magazine), at 8.

⁶⁶ *See* Bob Metcalfe, *Dare I Write About the WaveMeter Credit Chip After All This Hate Mail?*, INFO WORLD, Feb. 2, 1996, at 46.

51. The Internet involves the privacy of those on our service and those not on our service. We have been on Madison Avenue now for close to a year and a half working with the major agencies. It is a grueling effort, and we have not shipped our product yet. That is how long it takes to get into Madison Avenue, and we knew that. We have many folks who have advertising expertise. If you add up the dollars, it is a massive amount. Direct advertising in the United States, meaning what you see on television and print ads, totals more than \$150 billion a year.⁶⁷ Indirect advertising which includes rebates, coupons, and dealer promotions, brings it up to \$500 billion. Most of this money flows through Madison Avenue agencies. These folks are not highly motivated to try new things because new things usually take a finite, but massive number of dollars. Advertising is your distribution model; advertisers are your distributors into the Chryslers⁶⁸ or the Upjohns⁶⁹ or whomever. They had the problem of looking at new things that their customers say they are interested in. At the same time they really do not want to do anything, because it is simply work for them, and work that does not have known returns. We have been spending a lot of time trying to work with them.

52. What we find is that the advertisers themselves are very excited about interactive advertising for a very specific reason. I will use the automobile industry as an example: 2.4 percent of the American population are in the car-buying mode in any given month.⁷⁰ Using that number, more than 98 percent of the advertising dollars spent by the automobile industry is wasted, and they know it. You can talk about image advertising, but unless you are in the car-buying mode, you do not pay any attention to the ads on TV, or in the back of the newspaper, or anywhere else. What they are very interested in is targeted, accountable advertising. For example, Mercedes⁷¹ told us directly that they did not want to be seen by anybody who lives in

⁶⁷ United States advertisement spending rose 8.7 percent in 1995, to \$150 billion, with predictions of an 8 percent rise to \$175 billion in 1996. See Harry Berkowitz, *Strong Gains Forecast For Ad Spending*, NEWSDAY, June 14, 1995, at A39.

⁶⁸ Chrysler Corp. is the third largest automobile manufacturer in the United States. See HOOVER'S HANDBOOK, *supra* note 28, at 362.

⁶⁹ Pharmacia & Upjohn, is a Swedish-United States pharmaceuticals company. See *id.* at 1156.

⁷⁰ Based on statistics from the United States Census Bureau and the American Auto Manufacturer's Association, approximately 2.4 percent of American households purchased a car each month in 1994. For general statistics about the automobile industry, see <<http://www.aama.com>>. For census statistics, see <<http://www.census.gov>>.

⁷¹ Daimler-Benz Aktiengesellschaft is the largest industrial company in Germany and the world's oldest car maker. The Mercedes is a luxury car manufactured by Daimler-Benz. See HOOVER'S HANDBOOK OF WORLD BUSINESS 1995-1996 at 194 (Patrick J. Spain & James R. Talbot eds., 1995).

a household with less than \$100,000 income. Every single ad they put into those houses is a waste. So targeting their ads better in order to become more effective with their marketing campaigns is the crucible of advertising.

53. They hate broadcast television. What do you buy when you do a \$40 million integrated ad campaign with print, TV, radio, direct mail, and promotional. All you buy, at the end, is a report. You buy a Nielsen⁷² or MRI⁷³ report that is sitting on your desk. You can flip through the report and see how many people might have seen your advertising. The connection between regular advertising and sales is virtually nonexistent. The advertisers are extremely interested in tightening up the connection as much as possible. They want to know everything about you. They want to invade your privacy because they figure the more they know about you, the better they are going to be at finding the person who is going to buy their product. That is all they care about. They can build the long-term relationships that will allow them to go back and resell.

54. From our standpoint, we want to do that too. But we never will do this in such a way that we violate someone's privacy. What we are able to do, and I think this is the promise of interactive advertising, is to establish ourselves essentially as an e-mail company offering ourselves as the phone company and the post office. Everybody gives information away to somebody they trust in return for value. You give a massive amount of information away to your lawyer, your doctor, and your credit card company. You do so based on the idea that you will receive value. Somewhere trust has been established -- trust that you will be protected and that information will be used only in ways of value to you.

55. I think that is really the challenge we face. Clearly, if we are going to get advertising dollars, it is only going to come because we are able to improve upon the traditional methods of advertising and commercialization. Otherwise, those dollars are not going to shift to us. The only way we can shift those dollars to us is through better targeting. But at the same time, we have to do it in a way that protects individual privacy, and that is the balance we try to strike. We think we have done a reasonable job of doing that. Both advertisers and consumers feel that way, and that is for us to test. There are other folks who are trying the same thing, with different models, but with the same goal. There is an industry organization called CASIE⁷⁴ that, two weeks ago, came out with an extremely stringent privacy policy

⁷² A.C. Nielsen is a television and advertising ratings service. See 13 INTERNATIONAL DIRECTORY OF COMPANY HISTORIES 3 (Tina Grant ed., 1996).

⁷³ Mediamark Research Inc. ("MRI") is a market research firm. See 2 WARD'S BUSINESS DIRECTORY OF U.S. PRIVATE AND PUBLIC COMPANIES 2413 (1997).

⁷⁴ The Coalition for Advertising Supported Information and Entertainment. For information on CASIE, see <<http://www.commercepark.com/AAAA/casie/mission.html>>.

for advertisers in the interactive world.⁷⁵ We are signing on to it and we are encouraging everybody else to. Basically, you cannot reveal somebody's name or anything that identifies them without their express consent. The people who have created the information have the ability, and the right, to control that information. I think that is the model that has to grow.

56. We all share information, even the most private information. We just want to share it in a way that is of value to us. And we want to trust the person to whom we give the information that they will not violate that privacy. That is our challenge.

57. We are not directly on the Internet ourselves. People come to us with a secure network, because we are concerned about that, and so for us it will hopefully be a non-issue. We went both ways as to whether or not we would have a direct IP connection for everybody -- which would be the cheapest way for us -- or go a more expensive way and do it secure. So we went secure. But there will be pirates on the Internet. We already have spoofing⁷⁶ going on all over the place. There are companies who are taking extremely creative and aggressive stances on it, coming up with nice technologies. For example, a company called First Virtual,⁷⁷ that is doing online transactions via e-mail, has come up with a wonderful way to protect your credit and your privacy. There is significant amount of creative work being done. But, generally speaking, it will be the pirates violating peoples' privacy and not the mainstream industry. We will have to deal with the pirates.

Michael Baram:

58. The privacy issue is very interesting. With software that can capture a person's name and other private information, they need to inform people that if they log onto this web site their identity will be captured and reviewed.

Marv Goldschmitt:

⁷⁵ For a detailed description of CASIE's privacy policy, see CASIE, *Goals for Privacy in Marketing on Interactive Media* (last modified Feb. 5, 1996) <<http://www.commercepark.com/AAAA/bc/casie/privacy.html>>.

⁷⁶ Spoofing is the interception, alteration, and retransmission of an electronic signal in such a way as to mislead the recipient. See *Institute for Telecommunications Sciences* (visited Oct. 10, 1996) <<http://glossary.its.bldrdoc.gov>>.

⁷⁷ First Virtual Holdings Inc. is an Internet commerce company based in San Diego. First Virtual protects privacy by registering each customer opening an account with a Virtual PIN, used to purchase goods and services from merchants subscribing to First Virtual. See HOOVER'S GUIDE TO THE TOP SOUTHERN CALIFORNIA COMPANIES 173 (1996). For more information on First Virtual Holdings, Inc., see <<http://www.firstvirtual.com>>.

59. It is like going into the automobile dealership and saying you would like to take a test drive a car, and the salesman says, "You can have the keys to the car, but show me your driver's license first, please."

Audience Member:

60. What markets do you see coming into development right now, and do you think that people investing in the Internet have knowledge of what they are doing?

Richard Testa:

61. In the venture capital world, or more generically in the alternate private equity world, billions of dollars in fresh capital were committed last year and I already know that it is going to be a larger number in 1996.⁷⁸ There are innumerable firms around the country that are entertaining proposals from new young companies that want to do Internet-related things. Many of them are being funded, and it is an environment that has got much capital. To overuse the comparison, it is the same as the biotechnology world was 12 years ago, but the cast of characters has changed a little bit. I have met everyone I am dealing with before, except the last time I met them, he or she had a different name.

Peter Marx:

62. The telecommunications bill has a lot to do with it as the players in the telecommunications industries are converging. The players in those newly competitive industries themselves have no idea. We have seen a virtual feeding frenzy of money coming from these players into small companies, and sometimes large companies, and projects they are going to do. AT&T and MCI are committed ostensibly to invest \$20 billion to build a local telephone delivery mechanism.⁷⁹ That is on the big macro scale. That is a massive amount of dollars. You will see its effect in a lot of places. They have to put enough chips down so that no matter what comes up on the roulette wheel, they feel like they can win.

63. Moreover, there is a significant amount of money going into intranets, which are the internal corporate networks connected to the Internet. Multinational companies have their own need for internal communications, and they are using more and more Internet protocols in their private networks.

⁷⁸ The venture industry now manages approximately \$36 billion. *U.S. Small Business Administration Small Business Investment Company Program: Hearings Before Senate Comm. on Small Business*, 104th Cong. (1995) (testimony of Walter Dick).

⁷⁹ AT&T and MCI plan to build local phone networks in some United States markets or swap the use of facilities they already own to bypass the networks of Bell companies and other local carriers. This new network could cost as much as \$5 billion to get started, and as much as \$20 billion to become competitive. See Karen Schwartz, *MCI, ATT May Work Together Discuss Building Local Telephone Networks*, DAYTON DAILY NEWS, Feb. 13, 1996, at 5B.

Thomas Siekman:

64. That is a good point about intranets. Intranets may become far more important than the Internet, but it does not get near the press that the Internet does.

Audience Member:

65. Do you anticipate the FCC exercising its jurisdiction?

Peter Marx:

66. There is going to be tremendous pressure on the FCC over the next several months to put into effect regulations that are mandated by this statute. In light of the amount of money that the Baby Bells have spent to get regulatory relief, they are not going to sit by without rules that can tell them when they can get into long distance. I think any commissioner that plans to have a career after the Commission will be passing some new regulations. Whether or not they are good, they will be passed.