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HIGH-TECH SUMMIT THREE: REMOVING BARRIERS TO THE NEW ECONOMY—DAY TWO

HEARING

before the

JOINT ECONOMIC COMMITTEE CONGRESS OF THE UNITED STATES

ONE HUNDRED SIXTH CONGRESS

SECOND SESSION

Part II

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HIGH-TECH SUMMIT THREE: REMOVING BARRIERS TO THE NEW ECONOMY – DAY TWO

June 7, 2000

Congress of the United States,
Joint Economic Committee,
Washington, D.C.

The Committee met at 10:00 a.m., in Room SH-216 of the Hart Senate Office Building, the Honorable Robert F. Bennett, Chairman of the Committee, presiding.

Senators present: Senators Mack, Bennett, Frist, Abraham, Boxer, Hutchison, Brownback, and Mikulski.

Representatives present: Representatives Davis, Minge, Roemer, Dooley, Doolittle, Watt, Eshoo, Maloney, and Sanford.

Staff Present: Shelley S. Hymes, James Gwartney, Colleen J. Healy, Kerry Fennelly, Kevin Doyle, Lori Hodo, Steve Schultz, Chris Edwards, Angela Ritzert, Howard Rosen, Leah Liston, and Daphne Clones.

STATEMENT OF SENATOR ROBERT F. BENNETT

Senator Bennett. The Committee will come to order.

We wish you good morning. I'm Senator Bob Bennett. Senator Mack, the Chairman of the Committee, has asked that I chair this session of our High-Tech Summit, and we're grateful to Senator Mack for calling the Summit together and presiding over these proceedings.

Before we get into the proceedings, a reminder once again of the fact that these hearings are being live-streamed over the Internet.

So anyone listening who wants to access it on the Web, the Website address is jec.senate.gov. And people will be able to link to this event in that regard.

And time permitting, we will accept questions via e-mail. The e-mail address is: techsummit—t-e-c-h-s-u-m-m-i-t, one word—techsummit@jec.senate.gov.

Now, as Senator Mack, Chairman Mack, set the pattern yesterday, we will keep, as best we can, to the time frame outlined.

That means that I will ask my colleagues to keep their questions

fairly short. And we will not go to every member of the Committee to question every panel. We will start in the order in which members of the Committee arrive, go until the time for that panel is over, and then continue down the list for the next panel and so on.

So members of the Committee who arrive after a time frame when they could question the first witness will be called on in the order in which they arrive for the second witness.

All right. With those housekeeping details out of the way, we recognize and welcome our colleague, Senator Boxer, from California, who will introduce our first witness.

Senator, we're glad to have you here.

Panel I

STATEMENT OF SENATOR BARBARA BOXER

Senator Boxer. Mr. Chairman, thank you for granting me this privilege of introducing Carly Fiorina of California, who is the President and Chief Executive Officer of Hewlett-Packard Company.

Hewlett-Packard is the world's second largest computer company and it is a cornerstone of California's economy.

Ms. Fiorina has twice been named by Fortune magazine as the most powerful woman in American business.

She became President and CEO of HP in July of 1999. As I said in a Congressional Record statement on that occasion, Ms. Fiorina's move to the top of Hewlett-Packard has implications beyond the company, the industry, and our state.

That's because she's the first woman to be named CEO of a—is it Fortune 50?

Mrs. Fiorina. Yes.

Senator Boxer. Fortune 50 company, or a company listed in the Dow Jones Industrial Average.

HP is recognized as a philanthropic leader among global corporations. We are very proud of the work they do.

In 1999, the company gave $57.9 million in cash and equipment to nonprofit agencies and educational institutions worldwide. Seventy percent of this amount was directed toward improving education.

Ms. Fiorina participated in a recent digital divide event—but she likes to call it "e-inclusion," I learned yesterday—that was hosted by our president in East Palo Alto, California, where she announced that HP would invest $15 million in a digital village initiative to help underserved communities.

Mr. Chairman, it is my great pleasure to introduce a leader in the

new economy to you, Carly Fiorina.

And if I might ask if I might join the panel to listen to her from up there.

Senator Bennett. We'd be honored to have you join the panel and appreciate your being here and appreciate the introduction.

Senator Boxer. Thank you very, very much.

Senator Bennett. I was with Mrs. Fiorina in East Palo Alto on that occasion.

Ms. Fiorina, we're delighted to welcome you here today. We look forward to your testimony.

STATEMENT OF CARLY FIORINA, PRESIDENT AND CEO, HEWLETT-PACKARD COMPANY

Mrs. Fiorina. Thank you. Thank you, Mr. Chairman, and thank you for that gracious introduction, Senator Boxer.

I want to thank the Joint Economic Committee for hosting this annual high-tech summit and as well for the opportunity to participate in this important discussion about removing barriers to the new economy.

The theme of this year's summit reflects the recognition that we should usher in and fully embrace the benefits that this new economy brings.

I commend this Committee for taking this view and I praise members of the House and Senate from both parties who are choosing a similar forward-looking path on the critical issue of permanently normalizing trade with China.

There are few issues more vital and fundamental to U.S. economic growth than trade policies that open markets and remove barriers to American products and services.

I urge the Senate to move quickly on this issue, recognizing that it is among the most important votes you will make.

This vote for PNTR is not simply about opening a huge market to American business, although it is surely that. It is also about a vote of confidence for China's reformist leadership and about giving them the tools of technology that will hasten positive change.

Now as we chart the course for this new century, I believe we must be guided by a clear purpose and take a principled path to reaching our goals. And while we come from different roles and perspectives, our common purpose is the same—to better the lives of our constituents.

In your case, constituents are the citizens of your district and state and, more broadly, this country.

In my case, they are HP's customers, partners, employees, share-owners, and the communities in which we live and work.

The principled path to serving our shared constituency must have the following elements:

Our efforts must be cooperative, bipartisan and reaching across both real and virtual borders.

It must be for the good of the many, while minimizing potential negative impacts to the few.

And it must promote creative, inventive solutions, rather than jumping to quick-fix, simplistic approaches.

To provide a better life for our constituents in the new economy, there are at least three areas where we must provide this principled leadership.

First, open trade policies. And I've already addressed that as it relates to China.

Education.

And consumer trust.

So let me move to education, if I might.

For sometime, I have been talking about education and Hewlett-Packard has a long and distinguished history of involvement in education through philanthropy, through technology, as well as through the time and efforts of HP people all around the world.

And it is clear that education is critically important to our nation, to our businesses, to our children, and to our future.

In fact, I believe that education is at the heart of everything.

As we help to bridge the digital divide, we are promoting what HP calls e-inclusion—that is, providing opportunities for everyone, people of all ages, sizes, shapes and colors, to participate in our economy through education, access to technology, and community outreach.

But we know that to get to the root of the problem, to make a real difference, to be truly committed, we must give more than just technology, more than just money, although these are essential.

While giving money is important, frankly, it is the easy thing to do.

Giving people well-prepared teachers, career development paths, mentoring, training, that is one-on-one stuff, it is important stuff, and it is hard to do.

I'll mention briefly just three examples of Federal initiatives that are making important contributions in this area: The Dwight D. Eisenhower Professional Development Funds, the National Science Foundation, and the TRIO programs.

Whether through outstanding government programs like these or through private-sector initiatives like HP's education and diversity

initiatives, we must do more to achieve e-inclusion for the students of today and the workforce of tomorrow.

Education must be a national priority. It must be a corporate priority. It must be an urgent priority.

The pace of technology is such that if we do not deal seriously with this issue now, we will lose a generation of children forever.

Working together, I believe we can ensure that our schools have the resources they need, whether in funding and people, teaching materials and facilities, standards and research, to give every student the opportunity and the tools to learn and succeed in the new economy.

Now I believe we are entering the renaissance of the information age.

To realize the full promise of this new economy, education is clearly critical, open trade is clearly critical, but as well, trust is paramount.

Inspiring trust depends on a range of ethical business practices. It is the ongoing commitment to delivering on our promise to customers that leads to business success.

If our customers trust us, especially online, they vote with their dollars or their Yen or their Euros. Which is why public policy compatibility on the issue of trust is so crucial.

The borderless nature of this technology calls for increasingly compatible public policies, policies that will coordinate, not conflict, between states, regions, and countries.

So how will we as business and government leaders protect consumers and promote trust in the online world of this new economy?

How should we address issues of online privacy? How should we resolve consumer disputes in Internet transactions? How should we protect individuals and our businesses against cyber-terrorism?

All of these issues strike at the heart of consumer trust, which is a pre-requisite for growth of global e-commerce in the emerging Internet or dot.com industry.

Cyber-security truly brings home the reality of this new and borderless economy. With each cyber-attack, which can strike from any part of the world, as we've recently experienced in the last couple of months, trust and confidence in the online world is shaken.

Following Hewlett-Packard's participation in the White House Summit on Cyber-Security in February, we are participating in an industry coalition to address this issue. The coalition is developing a voluntary mechanism to share cyber-security information among IT companies, establishing a communications system to alert companies to attacks and identifying solutions.

As the IT industry joins together to combat cyber-terrorism, it may prove necessary for Congress to consider removing some of the potential barriers to these efforts.

Similar to the Y-2K issue, companies are concerned about liability in sharing information or running afoul of anti-trust regulations. We must also be cautious about making our companies vulnerable to civil, product liability lawsuits, as security weaknesses are shared openly.

And if we share security information with the government, how can we ensure that we don't give the public access to sensitive, proprietary product information using the Freedom of Information Act?

In each of these areas, Congress could help clear the way for greater collaboration to strengthen cyber-security by reducing the barriers to information-sharing between and among businesses and government.

Let me now turn to privacy, another critical element of trust.

Consumers now have access to a tremendous amount of information to help them negotiate prices, terms and conditions. They are no longer limited in where they shop, when they shop, or with whom they do business.

But these benefits cannot be fully realized if consumers are concerned about how their personal information is treated online.

In a recent Business Week-Harris poll, 92 percent of net users expressed discomfort with sites sharing personal information with other sites. And 57 percent of those respondents to the survey said that government should pass laws on how personal information is collected.

A recent Federal Trade Commission report on privacy online echoes this sentiment, concluding that industry's self-regulatory efforts to ensure consumer privacy have not advanced far enough and that legislation is needed.

State governments from New York to California have considered or are considering privacy legislation that range from being narrowly focused to very broad in scope.

I worry about nonuniform state actions on Internet privacy and I am concerned about regulatory overkill at all levels of government.

While industry self-regulation may not be the complete solution, I believe the private-sector has done a good job of responding to privacy concerns during the seminal growth of e-commerce.

Still, I know we can and must do better. So let me start with five principles that I believe we need to keep in mind as we deal with this important issue of privacy.

First, we must deal with the whole issue. We cannot discriminate against the online world.

Second, I believe we should focus on a floor of minimally acceptable standards of disclosure, rather than reach for an aspirational program because that is the most practical thing we can do.

Third, I think we must support dispute resolution mechanisms, and I'll mention a couple of these in a moment.

Fourth, we must give consumers the information they need to choose. We must give consumers the power to decide, which is why we believe disclosure is important.

And fifth, and perhaps most importantly, consumers' information belongs to them. Consumers should be empowered to use their own property—that is, their personal information—the way that they choose.

Now, as an example of our concern on this issue, HP is making an offer that we hope will encourage many more companies to join HP as a member of the Better Business Bureau Privacy Seal Program.

Beginning this month through September, HP will pay other companies' application fees and up to $5000 for each company's first year of membership to join the Better Business Bureau Online Privacy Seal Program.

We are also offering limited free consultation from HP's privacy managers to help each company get started. This offer reflects, I believe, our commitment to addressing consumer privacy concerns.

And in fact, the Better Business Bureau program has been singled out by the European Commission as the kind of program that gives them confidence that an American safe harbor will meet European adequacy standards for privacy.

What I think the FTC privacy online report points out, however, is that self-regulatory efforts need to be made more effective by requiring all commercial websites to inform consumers about their privacy policy, recognizing that as we address privacy, we cannot discriminate against the online world.

We must deal with privacy of consumer information in both the offline and the online world.

But the facts are, whether it is offline or online, consumers have the right to know what is being done with their private information. Such a disclosure requirement would require that the website inform consumers in a clear and conspicuous manner what the site does with consumer information.

This approach, coupled with broad-based consumer awareness programs, would empower consumers to only do business with those sites that have privacy policies that satisfy their needs. And whether they prefer to opt in or opt out, whether they want to share some information in exchange for discounts or customization, which is a legitimate

business model in this e-world, they can reward businesses, both offline and online, that meet their privacy needs and avoid those that do not.

Support for a privacy disclosure requirement is the one step that all five FTC commissioners agree on. And this pro-consumer initiative would build on and enhance our industry's self-regulatory efforts.

But to truly earn the trust of consumers, we cannot stop here. We also need to expand self-regulatory efforts internationally.

For example, consumers need to have confidence that when they do business across national borders, that there will be a redress system if anything goes wrong with the transaction.

It would be difficult, and probably not cost effective, for the court system to resolve consumer complaints when the business is based in another country.

That's why, again, we at Hewlett-Packard have been working with the Better Business Bureau, trade associations, and consumer groups in a number of countries to develop a system of third-party mediation to help resolve trans-border consumer complaints.

I am pleased that we have the active support of the FTC and the European Commission in these efforts.

I am also working with 60-plus CEOs from around the world to develop world-wide industry consensus on global standards through the Global Business Dialogue on Electronic Commerce.

Current concerns about consumer confidence should not turn into barriers to empowering consumers through global e-commerce. HP believes that the high-tech industry has a stewardship responsibility to ensure that this new online marketplace remains a clean, well-lighted venue for businesses and consumers.

Given differing views about the best approach to online consumer protection, what do we recommend?

We recognize that government has a role in protecting consumers online and offline. To guide these decisions, I will presume to give you four do's and one don't.

DO work to harmonize conflicting consumer protection legislation. Better yet, use a compatible approach to Federal, state and international public policies governing online consumer protection before conflicts arise.

DO support disclosure, a requirement that all commercial sites clearly and conspicuously state what their website does with personal information.

DO work to establish global alternative dispute resolution systems to instill consumer confidence in cross-border e-commerce.

DO recognize that the online industry is still very young and operating in a rapidly evolving marketplace. Allow industry to make greater progress in strengthening and expanding online consumer protection self-regulation.

And here is the one DON'T.

DON'T enact legislation that would be premature and could impose standards that are difficult and costly to implement, especially for small businesses.

And in that last caution, it's important to note that HP is a leader in online consumer protection and supports enforcement of the four fair data handling practices outlined by the FTC, Better Business Bureau Online, and the EU Safe Harbor Requirements.

Those are notice, choice, access and security.

So it is not that we are concerned about our own ability to comply. We are concerned that legislation that is too onerous or too restrictive could negatively impact smaller, emerging online businesses and that U.S. regulations developed in isolation could conflict with international policies.

Now, before I take your questions, let me just say a word on Internet taxation.

Let me acknowledge important progress and general consensus on the absence of Internet access fees and tariffs. And let me make a few additional points.

First, to apply the current system of taxation to the online world would be disastrous. The current system is unwieldy, overly complex, inefficient, and comes from a vastly different, old economy world.

However, second, and at the same time, to exempt forever online commerce from taxation is unrealistic.

So let's start at the beginning. Let's do the heavy lifting, a burden the states must first bear, to simplify and modernize the tax system to be fit to apply to the online world.

Such an effort will require serious, ongoing commitment. Then and only then should we apply such a system to electronic commerce.

And now in closing, before I take your questions, let me reiterate, if I may, the important principles of leadership that we in our respective roles must embrace in this renaissance of the information age.

First, let us create cooperative efforts, reaching across both real and virtual borders.

Second, let us focus on what is good for the many, while not neglecting the few.

And third, let us aspire to creative, inventive solutions, not quick-fix, simplistic approaches.

With this formula, I believe we are sure to realize the benefits of the new economy for our constituents, young and old, who represent the values of our past and the promise of our future.

Thank you very much. I'll take your questions now.

[The prepared statement of Mrs. Fiorina appears in the Submissions for the Record.]

Senator Bennett. Thank you very much for an excellent and very comprehensive statement.

I have a sense of deja vu when you're talking about the question of disclosure and concern about lawsuits and so on. We went through all of that with the Y-2K issue, as you indicated. We passed two pieces of legislation, one which would allow companies to get together and share information without fear that the anti-trust laws would come down on them.

And second, that they could work to fix the problem in a period of arbitration rather than an immediate lawsuit.

The first legislation was a little easier to get through than the second because there were some lawyers who thought it might cut into their income if in fact things got settled.

Now as it turned out, American business got the problem solved to the point that there were no lawsuits of consequence. A lot of people say to me, gee, much ado about nothing. There was no problem with Y-2K.

Much ado, and that's why there was no problem.

But I find it interesting, the parallelism between that kind of experience and what you're recommending here.

Let's talk for just a minute about the question of balance on the issue of privacy and security of information.

On the one hand, you are absolutely right and everybody recognizes that the information should be under the control of the consumer and should not be used in ways that the consumer doesn't want it used.

On the other hand, the information is a very powerful tool to make life better for the consumer.

Mrs. Fiorina. Absolutely.

Senator Bennett. And a lot of folks who have testified before this Committee—because we've had hearings both in this Committee and in the Banking Committee, on which Senator Mack and I both serve, on the issue of privacy with respect to financial information.

And many people who have testified in those hearings have assumed that the business will automatically use the information for malevolent purposes.

And therefore, business must be stopped.

And I think the point you're making, and I want to expand a little, is that business is not in the business of offending customers and driving them away. So they will use the information in ways that will make the customer feel more loyal to the business and more anxious to do business with that particular firm.

At least that's my conviction.

Would you comment on that and some of the values that could come to a customer from having information shared across lines that are not shared now?

Mrs. Fiorina. Yes. In fact, I think, Senator Bennett, you've used a very important word in discussing this issue. And that word is balance.

Because surely balance is key to an appropriate approach.

You are exactly right. Using consumer information is of great benefit to consumers, whether it is used to tailor products and solutions to serve that consumer's needs more effectively and more quickly over time, whether that information is used to provide to the consumer an opportunity for better pricing.

There are lots of online business models where in fact consumer information is traded for better price on certain goods and services that are sold online.

So the issue is not that consumer information is used for ill purposes always. And the issue is not even that consumers, if given an appropriate choice, will always choose to withhold their information.

The issue, I believe, is more specifically that consumers have the right to know what is being done with their information so that they can make an educated choice.

And I believe that principle of choice, as well as the principle of balance that you suggest, is critically important, again, and I repeat myself, but in both the online and the off-world.

I think it would be a mistake for members of industry or government to use the growing privacy concern to discriminate against the online world in a way that does not also deal with some of these legitimate issues in the off-line world.

Senator Bennett. Thank you. I could pursue it, but we've got a time constraint.

We'll go to Congressman Minge.

STATEMENT OF REPRESENTATIVE DAVID MINGE

Representative Minge. Thank you. I'm Congressman David Minge from Minnesota.

I had the opportunity on Monday to tour Seagate research and product development facility in my District. It was a very impressive facility and they're doing excellent work and much like Hewlett-Packard, trying to provide leadership in the American industry.

One of the things we talked about was the importance of partnerships and research and development activity, and some of the concerns they had then about anti-trust laws.

I also asked about financial assistance to universities around the country, grants that corporations have made for university research and the involvement between the universities and the private businesses and whatever rights of first refusal to patent some of the work that might emerge.

And as you perhaps know, there's been a fairly critical article in The Atlantic Monthly in the last three or four months on this subject.

I'm wondering if you have any observations on the relationship between the private sector and grants to universities and university research that might be helpful because a lot of the research is also being financed through the National Science Foundation, as you mentioned, and other federal research programs.

Mrs. Fiorina. Yes. Hewlett-Packard has a long-standing history of relationships with university research institutions over the years.

And in fact, last week, I had the privilege of announcing a $25 million grant to MIT over five years to expand and enhance our relationship with that particular institution.

That is an example. It is not our sole relationship of that nature.

But I believe that these kinds of partnerships between various kinds of institutions are in fact more important for the high-tech industry going forward.

And that is because of the rapidity of change and the nature of change in high-tech?

One of the most concerning elements for a chief executive of a high-tech company is what is it we will miss? What new development, what new advance in technology will we fail to recognize and fail to take advantage of?

And that concern is growing in importance because if you miss something, you have far less time to recover in this age.

And so, therefore, I think partnerships across institutions become more important because it gives us an opportunity to see more broadly what is occurring in the advancement of technology.

Representative Minge. When you make grants like that, are there conditions attached or is the university and the research faculty allowed to pursue topics that they feel would be of greatest interest or value to the broader community?

Are the results of this research available in the public domain? How is this being shared in the broader community?

Mrs. Fiorina. It really depends upon the relationship that's being struck.

In the particular case of MIT, we have done some work to define some parameters around which we think our cooperative efforts will be most fruitful.

Both institutions have dedicated personnel to ongoing collaboration in these areas. So it's not a wide-open field.

But on the other hand, research by its nature needs to be exploratory and creative, and so we're allowing for that kind of work.

Representative Minge. I was also very interested in your comments about the need for an international approach dealing with privacy issues so that we coordinate our work here in the United States with other countries and that the states are not doing 50 different things.

Are there any international organizations that you can point to that provide some leadership or would be sort of an umbrella entity for that type of effort?

Another and very closely related topic that concerns me is if we wait several years before we pursue this, my fear is that we will have some incidents which will drive precipitous legislation, either in the United States or other countries, or in individual states, that then will be very difficult to deal with because that will become sort of the entrenched law of the area.

We perhaps don't have the luxury to wait several years before we act in a comprehensive way with respect to privacy issues.

Mrs. Fiorina. I certainly agree wholeheartedly with a couple of things that you've just said.

First, it's important to remember that what information technology does and what the Internet creates in particular is a borderless economy.

And so, the Internet literally eliminates the boundaries of geography. And we must bear that in mind as we think about our approach to any of these issues, but particularly privacy.

Therefore, it is critically important, I think, that we have that global view in mind as we work to solve these issues instead of various government and regulatory entities jumping out in front with a simplistic, quick-fix solution which will cause a lot of difficulties, I believe, down the line.

We have been working, as I mentioned, with, in essence, the European version of the Better Business Bureau and the EU. We would be happy to work with anyone who's interested in pointing out the specific organizations that we've been working with around the globe.

We're now just becoming involved with Asia. But I think this is a place where, again, government and industry must collaborate on a global basis and where simply rushing to create legislation will not solve the problem.

Senator Bennett. Thank you.

Representative Minge. Thank you.

Senator Bennett. We will go to Senator Frist and then to Congressman Watt. And then we'll have to cut off the questioning here because we are running out of time.

We have to go to the next witness.

So, Senator Frist?

STATEMENT OF SENATOR BILL FRIST

Senator Frist. Thank you, Mr. Chairman. I'll be brief and ask two questions.

One has to do with education, which is a recurrent theme, in yesterday's and today's testimony. One, obviously, that the private sector feels very strongly about. Currently, we are in the process of reauthorizing the elementary and secondary education act in the United States Senate.

The House has addressed it already.

We are failing miserably in terms of math and science in the United States of America, which is the platform for information technology, sharing of information, and software development, as we look forward.

Do you feel that the Federal Government is adequately supporting, in leadership and funding, math and science public-private partnerships? Or do you feel that our role should be just a step back, allowing you the freedom to carry out those public-private partnerships, in which you as a company have taken a real leadership position?

And let me just ask a second question related to your testimony about there being a market of personalization, domestically and internationally. You mentioned self-regulation in terms of commercial sites, domestically and internationally, and you're working with and through the EU.

What are the barriers to self-regulations today? If self-regulation is insufficient, clearly there will be legislative remedies introduced as a reflex.

Of domestic and international commercial websites, what are the barriers to self-regulation?

Mrs. Fiorina. Starting with education first, while I may not give you as specific an answer as you would like, I think I would reiterate that education, not solely around math and science, but this clearly is an area where we continue to fall behind. Education must become an urgent, top national priority, state priority, and corporate priority.

And as I've said earlier in my testimony, that is because we have a limited time left to solve this issue.

The pace of change in technology is so rapid now, that if we do not make substantial progress in this area, which I believe will require a truly collaborative public-private partnership, a partnership that is bipartisan in approach, a partnership that engages corporations and state and local governments and the national government, if we do not approach it in that way, ten years from now, we will not have an opportunity to recapture the generation of children that we have lost.

Secondly, in terms of barriers to self-regulation, the reason we are focused on creating some commonly agreed-upon and minimally acceptable rules of disclosure is so that consumers are empowered—that is, consumers know what is being done with their information.

And I think, frankly, to have everyone reach agreement on a standard of disclosure will require unprecedented amounts of cooperation across industries, but will also engage other associations and members of government at some point.

But for us, the fundamental principle there is consumers need to know. Consumers need to have the power of choice and therefore, some minimal standards of disclosure must apply across both the online and the off-line worlds.

Senator Bennett. Thank you.

Mr. Watt?

STATEMENT OF REPRESENTATIVE MELVIN L. WATT

Representative Watt. Thank you, Senator Bennett.

To those of you who were here yesterday and observed that I was looking and feeling pretty peaked, I was. And while I may not be looking any better today, I feel a lot better.

So I just want to reassure everybody.

Mrs. Fiorina. Well, welcome back.

Representative Watt. Thank you. I walked in—and I have two questions, really. I walked in in the middle of your presentation.

And one of the things that caught my ear was your comments about taxation of e-commerce. I couldn't help but think that your comments

seemed kind of like those who say we've got an unworkable tax system and we need to find the flat tax or we need to find some other taxation. And therefore, we shouldn't be paying any taxes until we work out that unworkable tax system.

And I didn't hear any real suggestions that you were making about how that got done in the short term or how you would think that since the brick and mortar stores are currently operating under that unworkable system, how it's fair that e-commerce is not operating under that unwieldy system, as you described it.

Is the industry taking any aggressive steps to try to work through getting to a more workable system?

And if so, what are those steps? That's the first question I have.

The second question has to do really with this whole question of leadership in the high-tech industry, particularly service on boards.

My general observation is that board service, boardrooms—and it's great to ask you this question because you're not the typical-looking CEO in any of these industries, either.

But my observation is that boardrooms in these high-tech companies are not looking any more diverse than boardrooms in old-line industries.

Are there any more aggressive steps being taken to make the boardrooms more diverse in terms of race, gender, and so forth? And if so, what are they?

Mrs. Fiorina. Let me address your second point first.

I have recently—at the Rainbow Coalition Digital Divide Conference that the Reverend Jackson held in California—made a series of comments about diversity needing to become a top priority of the high-tech industry.

And I believe that applies across our companies, whether we're talking about the boardroom or we're talking about entry-level positions.

And the reason it must become a top priority is not because it's the right thing to do, although it is.

The reason it must become a top priority is because it's good business. That is true in the boardroom and it's true in terms of the business we do with communities across the country and around the world.

And so, for me the key question and the question I asked at that conference is—the key question is not what can we do for minorities and people of color. The question is what can they do for us in making our businesses more successful, making our businesses more effective.

Because in the end, I deeply believe that diversity of background, of perspective, of skills, of insight, diversity of perspective yields better

choices, better decisions, and is at the heart of creativity and invention.

And invention is the prime virtue in this new economy.

Secondly, on your question on taxation, yes, you understood me correctly. I believe that to apply the current taxation system to the online world would be disastrous.

And there are some very substantial differences between the brick and mortar retail experience and the online world, one of the most important of which is the borderless nature of the online economy.

The goods and services which are purchased and exchanged, the information and ideas which are purchased and exchanged over the Internet know no geographic boundaries.

So, therefore, while I believe it is not realistic of our industry to stand and say that taxation should never be applied to e-commerce, I think it is equally troublesome to assume that we can apply the current taxation system without disastrous consequences on an aspect of our economy which is still new and still in some ways fledgling.

And so, therefore, what we are calling for is a concerted effort to do the heavy lifting and bring our taxation system into the modern age so that we can tax in a fair way both online and off-line transactions.

Senator Bennett. I'd love to get into that, but I won't.

(Laughter.)

Thank you very much, Mrs. Fiorina. We appreciate your time. We appreciate your insights and the great efforts you put into your testimony.

We only apologize that we don't have all morning to spend with each witness because you have a great deal that you could share with us.

But we must thank you and excuse you now.

Mrs. Fiorina. Thank you very much.

Senator Bennett. Our next witness will be Michael Eisner of Disney.

(Pause.)

Panel II

Senator Mack. Mr. Eisner, we welcome you to the Committee and Senator Boxer, we look forward to your introduction here.

Senator Boxer. Thank you so much, Mr. Chairman, again for this great privilege to have two of our California stars here. It makes us feel very proud, Senator Feinstein and me.

Mr. Chairman, it is my pleasure to introduce Michael Eisner of California, who has been Chairman and Chief Executive Officer of the Walt Disney Company since 1984.

He was formerly President and Chief Operating Officer of

Paramount Pictures Corporation and has been a Senior Executive with ABC Entertainment.

Mr. Eisner has strongly encouraged the company and its employees to care about community. The Disney Company responded to the 1997 President's Summit by committing to one million hours of community service, by helping to rebuild the burned First AME Zion Church in South Central Los Angeles, and by establishing a program called Goals, which is a free youth hockey program for underprivileged youngsters in Orange County, California.

Under Mr. Eisner's leadership, Disney has developed two major TV events, recognizing educators and students. Disney's American Teach Awards brings together and recognizes 35 of the nation's finest teachers annually. And Disney's Young Musicians Symphony Orchestra each year assembles young musicians from North America and Europe for a two-week music camp and an opportunity to perform at a major venue.

Mr. Eisner is a founding member of the Points of Light Foundation and he sits on the boards of numerous educational and philanthropic organizations.

He has established and funded the Eisner Foundation, a philanthropic organization headed by his wife Jane.

So, Mr. Chairman, I am deeply honored and pleased to introduce to you Mr. Michael Eisner.

Senator Mack. Thank you, Senator Boxer.

Again, Mr. Eisner, welcome to the Joint Economic Committee. We look forward to your comments.

STATEMENT OF MICHAEL EISNER, CHAIRMAN, THE WALT DISNEY COMPANY

Mr. Eisner. Thank you. Thank you, Senator Boxer. Thank you, Mr. Chairman.

This morning, I'd like to share some thoughts about new technology and our enduring Constitution, and how the two can work together for the benefit of the American people.

The Walt Disney Company, like America's other creative content companies, loves new technology, especially as it is represented by the Internet.

But the Internet can only achieve its full potential if it is governed by a regard for property rights as granted in the United States Constitution.

If this does not occur, then the development of the Internet will

stall and we will risk undermining one of the most positive contributors to our Nation's balance-of-payments, America's copyright industries.

A little perspective will illustrate what is at stake.

America's copyright industries contribute more to the U.S. economy and employ more workers than any single manufacturing sector, including chemicals, industrial equipment, electronics, food processing, textiles and apparel and aircraft.

What's more, American copyright industries lead all major industry sectors in foreign sales and exports.

It is not an overstatement to say that any threat to the ownership rights that underpin America's copyright industries is a threat to the overall American economy.

There's no question that the Internet is a wondrous tool. At Disney, we believe it represents the future of entertainment and are investing substantial amounts of time and money into our go.com network, which includes Disney.com, espn.com, abcnews.com, abc.com and family.com.

But the same technology that is giving us exciting new ways to create and distribute copyrighted works also has the potential to deprive us of our fundamental rights of ownership.

With the click of a mouse, pirated copies of intellectual property can be transmitted around the world. The artists who compose and perform music have already been victimized.

Millions of pirated musical works are now being transferred over the Internet every day.

As broadband connections progress, movies will be the next. Soon it will be possible to transmit perfect copies of high-tech work of art like our new film "Dinosaur," around the globe without our knowledge, participation or consent.

Our Founding Fathers got it right when they recognized the importance of copyright protection in the Constitution. Copyrights supply the economic incentives for artists and authors and the companies that support them to create works of literature, culture, art, education and entertainment.

If the creators of content are deprived of the rights of ownership of their creations, they will put their energies elsewhere.

What's more, the development of the Internet itself will ultimately be placed in jeopardy.

The fact is that no one uses the Internet because of its hubs and routers. Rather, people flock to the Internet because of its content, content that will not be there tomorrow if piracy destroys the incentives that fuel its creation.

Just as our society is beginning to address other security threats

posed by the Internet, we must address the security of copyrights.

With this in mind, our company is undertaking a wide-ranging strategy to make the Internet truly secure for intellectual property.

This strategy consists of five main elements.

First of all, we are turning to our representatives in Washington for both offensive and defensive requests.

On defense, we ask the Congress to refrain from mandating a compulsory license for redistribution of creative works over the Internet.

There are numerous factors that make compulsory licensing ill-suited to a global medium like the Internet.

On offense, we ask you to begin to explore with us legislation that would assure the efficiency of technological solutions to copyright security.

As we seek to develop measures such as watermarking, we need the assurance that the people who manufacture computers and the people who operate ISPs will cooperate by incorporating the technology to look for and respond to those watermarks.

The same mandate could be part of the solution to a host of other Internet security issues as well.

The second element of our strategy is to work with governments around the world to respect our rights. We are actively involved in the global business dialogue on e-commerce and our company is serving as chair of the Intellectual Property Work Group.

The Internet is international. The issues involving it cannot be viewed with a myopic eye or myopic American eye. Instead, we must think and act globally.

The third element is education.

Most people are honest and want to do the right thing. But they can't do the right thing if they don't know that what they are doing is the wrong thing.

Working with the Motion Picture Association of America (MPAA), we are advocating a more aggressive campaign to make people aware of intellectual property rights on the Internet, much the same way as the FBI warning at the front of videotapes.

Fourth, we believe that the Internet industry as a whole—and I mean all the companies with a stake in e-future—must take meaningful technological measures to assure the security of intellectual property.

Piracy is a technical problem and must be addressed with technical solutions. The studios, broadcasters and record companies, working in cooperation with the technology companies, need to develop innovative and flexible watermarking or encryption systems that can stay one step ahead of the hackers.

The fifth and final of our initiatives is economic.

History has shown that one of the best deterrents to pirated product is providing legitimate product at appropriate prices.

In the music industry, we have already seen that most people will gladly pay a fair price for a legally-produced product, even when it can be easily reproduced and unlawful copies can be easily acquired.

To be sure, none of these measures represents a silver bullet that will stop piracy in its tracks. But that's okay. Markets are messy and over time, these initiatives will be refined and new ones will emerge.

But there first needs to be a recognition and a commitment in government, in industry, and among the general populace that theft will not be tolerated in any form, whether it's someone shopping in a store or downloading on the net.

All we need is for this basic rule of our society to be acknowledged and enforced in the cyber-world as it is in the real world.

If this can be achieved, then the possibilities of the Internet, for communications, for education, for entertainment, and for commerce, will be as limitless as the light speed at which it has brought the world together.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Eisner appears in the Submissions for the Record.]

Senator Mack. Again, Mr. Eisner, I appreciate very much your being here. And you've touched on a subject, obviously, that is extremely important. It got great play in the papers this morning, some of the issues having to do with piracy.

I happen to believe that property rights are fundamental to a free and capitalistic society.

So I begin with that premise.

As I read through this story that was in *The Washington Post* this morning, I was somewhat surprised at this kind of almost accepted notion that it's okay to download information off the Internet at no cost.

If I conclude an item too expensive, I can make the decision that I'm going to use it without paying for it.

And there was an attorney quoted. I won't read the whole thing. But one comment the attorney made was that the music and the movie people treat this as if it's a property rights issue. Then they say, even if I'm not losing money, you don't get to play in my room.

Well, copyright is not like a yard. All this is a propaganda war.

Now, yesterday, at one of our panels, I thought it was stated fairly clearly that the issue here is really not writing more laws, but it was a

question of enforcement, that there are only three cases in which there have been prosecution under the laws that are on the books, which, again, goes to your point, one of the last points that you made.

But, again, I kind of frame this, to give you an opportunity just to expand on some of the comments that you made in your testimony.

I think this is a very fundamental issue. I think you've been quoted as saying that the Internet is a wonderful delivery system, but it may have nothing to deliver if we don't protect the rights of those who produce content.

Mr. Eisner. Well, the only example that I personally can give in the area of lack of knowledge or lack of ethics or understanding that property is property, whether it's intellectual or whether it's not, was a story that happened to me when I was the President of Paramount in probably the late '70s.

I found out that our videotapes—and this was the very early age of videotapes—were being stolen and used on oil derricks in the Gulf of Mexico.

And so, I thought—I was kind of like a smart kid. I called the chairman of the oil company. After a few tries, he finally figured out that I wasn't some maniac. He took the call.

And I said, I just want to ask you a question.

I have learned that all of our—"Raiders of the Lost Ark," "Grease," "Saturday Night Fever"—our films were being stolen from us and sent out to these oil derricks.

And he said, well, you have to understand. It's cold out there. It's raining. They're out there for three months. There are no women. They have nothing to do. They have to watch movies.

You just have to understand the problem.

And I said, you know what? I do understand the problem. It's been really helpful. And you have to understand something else.

We're here on Gower Boulevard in Los Angeles. We have about 2500 people that work for us. About half of them live east of here. They have children. They're really having a tough time with tuition or schools or clothes. They can't take a vacation. There's not enough money.

You know what? When they drive home tonight, I'm just going to tell them to stop by your gas station and fill 'er up and go on home because it will make their life a lot better.

And there was like this long pause. He said, you know something? That's the first time I've ever understood what intellectual property is all about.

(Laughter.)

It ended. He was educated that what we make, what costs anywhere

from $10 to $200 million and eight years and thousands of people working and digital worlds and making this highly difficult product, and all their lives depend on it and the success of our company and its profitability and our exports and all of the people that do things like this —all of a sudden they realize that this intellectual stuff that comes out of the air actually has real value and is property.

Actually, the Bank of America was created when those bankers understood that a can of film—in those days, it was a rather large can of film—could be as valuable and you could put a mortgage against that like you could the Empire State Building.

There was some value.

So education, making kids understand that organizing music, listening to hundreds of thousands of different garage bands, then finding one that has talent and bringing them to New York or California and nurturing them and producing their records and distributing their records and packaging their records, all has a value in the editing process of bringing quality music to the public.

There's got to be some compensation for that. It's just not all free.

Senator Mack. Let me just tie up this one point.

Should we be focusing on enforcement or should we be clarifying what is meant by copyright?

You mentioned watermarks. If we had to pick, where do we start first?

Mr. Eisner. Well, here is the problem. This is the most devastating thing that's happened in the entertainment business, I think, in the last 75 years.

This is a real issue.

If you just project what's happening with the music business into, say, books and/or movies, when the digital world has more bandwidth and you could take a DVD of "Dinosaur," which is already out in Malaysia, but it's not out on a DVD-quality pirated copy, and you could have one—you make one, and say it costs you $150 million to make one. And it is world-wide in ten minutes and everybody can download it.

You have ended, in effect, the American intellectual strength that we have had uniquely as a country in this world of make-believe, if you will.

So it is not as simple as any one answer. It is a lot of answers.

I think one of the really important answers is a technical answer. I think you need the cooperation of the computer companies who very much have been dragging their feet as to making it possible for us to put watermarks on, say, a film that they would embed into their computers or ISPs so that the ISP would have to find that watermark to see whether

they were pushing forward a legally copyrighted material or not.

The technology is possible.

The old adage, which is, it will slow down the computer, it will make it less efficient, no longer is the case. The computers are very quick.

It's no different from the car manufacturers telling you in the '60s that seatbelts were too expensive. It added price to the cars.

You legislated seatbelts. All cars now have seatbelts in them. Yes, it probably does add a little cost to the car and maybe even a little cost to the consumer. But the end result is worth the risk of added cost.

If everybody got together between the legislative branch, the technical branch, and the content branch, this could be solved.

The problem is it is not in the interest of some technology people to add that cost.

I think they're very shortsighted because when they find out that Jack Benny on radio is no longer being paid and therefore, you won't have Jack Benny on radio, therefore, less radios would have been sold, I think that they would have wished that years before they had got their act in order.

So I think that what I'm saying is kind of self-evident and has to be done. And unfortunately, because of Internet speed, has to be done now.

Right now, we're about a year and a half or two years away from full broadband, multi-people getting access. The DSL and high-speed modems and satellite delivery. And when that happens, these DVDs that are out—we're putting out "Snow White" in the fall of 2001 on a DVD. And we are considering not doing that because once we've done that, if there is no protection, that property from our company, which is one of the backbones of our company, is gone forever.

Senator Mack. All right. Thank you. I appreciate your response.

Congresswoman Maloney?

STATEMENT OF REPRESENTATIVE CAROLYN B. MALONEY

Representative Maloney. Thank you very much and welcome, Mr. Eisner.

Your testimony really raised me to the concerns the New Democrats of the Congress have been working on.

I wanted to mention that many members of the new Democratic Coalition are here, even though they're not members of the Committee—Mr. Davis, Mr. Roemer, Mr. Dooley and Ms. Eshoo. They have been working on many of the areas that you have mentioned.

My District, New York City, is one of the artistic and creative capitals of the world. I'm very, very concerned about protecting

intellectual property.

It is really part of the fabric and economic strength and vitality of the city that I represent.

Do you think the current trade agreements and the WTO are doing enough to protect intellectual property? Do you think the PNTR vote that just passed the House and is before the Senate will strengthen our ability to protect intellectual property?

And could you comment on what we could do more in our trade agreements to protect our industries, our American industries?

Mr. Eisner. I'm not an expert on each of the trade agreements that you referred to.

But, generally, I believe that communicating and being in contact with and having commerce with countries that we previously had not is a great help in protecting our product.

I believe that since 1995, we have made tremendous progress in China, for instance, in reducing the amount of piracy.

It's still rampant, but I think 91 or so different pirating factories have been shut down. Through the trade agreement, we are doubling the amount of American product being allowed to go into China. It will be increasing every year.

We will be there. We will be investing in the distribution of video in China.

I think, generally, open trade, open dialogue helps. If you have a problem with somebody, a child or a friend, a solution is not silence. The solution is some kind of interaction.

So, generally, I feel for our industry and for the potential of protecting our industry, especially in this Internet world of instant communication and instant delivery of product, we'd better be talking and acting and in commerce with them.

Representative Maloney. My colleague mentioned the article that's on the front page of *The Washington Post* today, on really many of the issues that you've raised.

One person is quoted as saying, basically, I feel if movies weren't so expensive, then we wouldn't need to steal them.

This is a direct quote in the paper today.

Do you think there's any truth in this statement, that if the cost of going to the theater was lower, there would be less of this piracy?

Mr. Eisner. I don't think so. The fact of the matter is that, first of all, movies are very expensive to make and not many movie companies are actually very profitable in the movie section of it because of the high cost.

This technology comes at a very high cost.

I believe that's an excuse. I believe that the cost of tickets in America, for instance, has been beneath inflation for about 30 years.

It's still a very inexpensive form of entertainment as compared to rock concerts or Broadway theater or theme parks or ski areas or anything like that.

It's a very inexpensive form of entertainment.

I believe that when you're sitting at home, unlike having to go to a back alley and find some guy in a shady hat and glasses and buy a video, you're sitting at home and you're just two clicks in your computer and it's right there and it seems to come in such perfect quality and it seems to come from some good guy in Wichita, as opposed to some guy in the back alley on 3rd Avenue and 147th Street.

I think the rationalization for stealing is overwhelming. And therefore, one of the things we have to do is we have to get into the American fabric the idea that it's wrong.

And basically, people in this country are good. Obviously, everybody has a dark side. We want to go to their light side.

I think if they recognized that this just will in the end hurt them—who cares about Steven Spielberg? They don't.

But they may care about the kid in his class who could be the next Steven Spielberg who will never get the chance to exhibit his work and get paid for it.

We've got to get rid of the extremes, the people that have done unbelievably well, and just look at the thousands and thousands of people who are making art, making movies, making television shows, making radio shows, and what that means to the country and has met to the country.

And it doesn't just happen by accident in this country. A lot of this intellectual property comes out because of what our political system is.

I've never ever been asked in my life in making a movie, what does some government think? Or what does the White House think? Or what do the Senators think? Or what does your local mayor think?

But when you talk to people making movies in France and England —less so in England, but in France—and then everywhere else in the world, the first question is—oh, I wonder if we can do that. I wonder if the government will let us do that.

That's why we're able to make such a freeflow of all sorts of kind of good, bad and horrible entertainment.

But if it's good and bad, it should be paid for. If it's horrible, maybe the market won't pay for it.

Unless it's ours.

(Laughter.)

Senator Mack. Senator Bennett?

Senator Bennett. Thank you, Mr. Chairman.

As I think I may have told you, Mr. Eisner, I lived through the transition into the videotape world when I was working for the Osmonds and they were thinking about bringing out their musical product on videotapes for home entertainment and viewing.

I developed a business plan for them. The "Donnie and Marie Show" got cancelled and they ran out of money and I changed jobs.

(Laughter.)

Mr. Eisner. So I'm responsible for you having your job, having cancelled that show?

(Laughter.)

Senator Bennett. No, no.

(Laughter.)

I took a look at the long-term prospects of the company and made my decision by myself.

The same worry was there. And it was solved, I think, by the issue of quality. People got their videotape machines for time-shift purposes.

You want to tape Disney while you're at church and then come home and watch it. And then the temptation, when you've taped a movie while you're at church and you come home and watch it. And then your next-door neighbor says, well, give me that videotape and I will dub it onto my videotape and I'll have a copy of the movie.

You can go down to Blockbusters and get a real-quality videotape that doesn't have commercials in it, that doesn't have the cuts and all the rest of it, and what's the point of making your own if this videotape that's available for rent is high quality and it's wonderful.

And you can say, well, the same issue will be here.

It will not because it's digital. There is no difference between a digital download of "Dinosaur" that you make and a digital download that is professionally created.

Isn't that true?

Mr. Eisner. It is totally true and it's a double-edged sword.

We now have six theaters in the country, only six, but this will expand into every theater within a decade, where we project digitally.

So the "Dinosaur" that you see on the opening night in Hollywood where we have 27 technicians sitting there blowing at the camera and making sure there's not dust or anything like that, it will be and is in theaters—there's one in New York, there are three in Europe, there's one in Los Angeles, where we project digitally.

There is no film going through that camera.

And what this means is that the person in Columbus, Ohio is watching and hearing the exact same brilliance that was done in the control room when the film was made.

Therefore, in the theaters today, there's going to be a whole new great experience of quality.

Now any one of those things—it's about as big as this clip here—eight years of work on "Dinosaur," 4500 people, down to one clip like this on the Internet makes that same perfect digital copy everywhere in the world eventually in a couple of minutes.

Senator Bennett. So that's why this problem is different from the videotape problem, and that's the point I think everybody ought to remember.

They'll say, the industry cried wolf on videotape and look, it didn't turn out to be a major problem. It turned out to be a major profit center for Disney to put "Snow White" on video and they didn't get hurt.

The same thing will happen here.

This is a very different world. I think that point ought to be made and added to the compelling testimony that you've given us.

Mr. Eisner. The success of "Fantasia" on home video—"Fantasia" lost money from 1941 to 1996. Never ever made money. It was Walt's biggest disappointment.

In 1996, it made $100 million. I got a call from Lillian Disney, who said—who was about 98 at this time—and said, I can't believe it. He was always right. I told him that was such a terrible movie.

He was always right.

She was 98 years old.

(Laughter.)

That profit we put right back in in making "Fantasia 2000," because we were able to generate profit in the home market.

And the hope is that in the future, the vast reach of the Internet will create profits to fuel new works, new energies in this.

It's not just the bottom line of The Walt Disney Company. It goes to the entire work that comes out of New York and LA and Boston and all the other centers of this kind of stuff.

Senator Mack. Congressman Roemer?

And this will be the last question for this panel. We're running a little bit behind, so we're going to move on.

STATEMENT OF REPRESENTATIVE TIM ROEMER

Representative Roemer. Thank you, Mr. Chairman.

Welcome, Mr. Eisner. It's nice to have you here.

Before I ask my question, I have to tell you that just two weekends ago, I took my three children and their five cousins to "Dinosaur."

They loved the movie. They want to go again. And again.

Mr. Eisner. And again.

(Laughter.)

Representative Roemer. I'm not sure we can do that with eight of them.

(Laughter.)

But the best point about it for my wife and I is that you've also given us some relief to talk about dinosaurs from this Pokemon craze that my children are in, too.

So thank you for producing a good movie out there that kids love.

Talking about kids and talking about my own children, you've mentioned the Internet several times in your testimony.

My three-year-old, a little girl, Sarah, would rather get up in the morning—sometimes at 5:30, sometimes at 6:30, way too early most of the time for me—but she'd rather get on her computer and get on some kind of computer software educational disk than turn the TV on.

Now my question to you is, there are a lot of children in the world, in the United States, that don't have access to these computers, to the technology, to the Internet.

And for a CEO of a company that certainly is dependent upon all of our children, inner-city, black, Hispanic, rural, farm children, getting access to this technology.

It is critically important that they have access to this technology.

Sending a kid to a school that doesn't have this technology in the year 2000 would almost be similar to sending a kid to a school in the year 1900 without a teacher.

We vitally need your help and your ideas to help connect these children up to the Internet and help train our teachers to get the adequate training and proficiency so that they feel comfortable with this technology.

Let me ask you a two-pronged question with that preface.

One, what types of things do you think Disney can do in the future —not what you've done—can do in the future to help us with this challenge?

And secondly, what kind of role might you see appropriate for the government in trying to incentivize the dot.coms that you also mentioned in your testimony?

What can we do, what kind of incentivizing legislation can we put together that can try to help the future dot.coms for teachers, for technology, to create a private-sector enterprise out there with dot.coms

that can really help us hone in on education, the Internet, technology, training teachers, particularly in hard-to-get areas for these students?

Mr. Eisner. Well, I'm a little out of my field, but I'll take a guess because I think this is happening despite anything that's going on.

I believe that, for instance, in our company, we have an enormous initiative, all of which is very successful, in educational products for the Internet, CD-ROMs and the like. They're very, very popular, using our characters, instruction teaching and kids are getting up at 5:30 in the morning and putting those CD-ROMs in.

I think the industry, the computer industry, are building less and less expensive computers. Some are mini-computers, some are not even called computers. They're things like Netcenter and things like that.

It seems to me that the market—and also, I think everybody in this area understands that if a kid doesn't have a computer, it's like not having a pencil.

A computer is part of your life and you'll have to have a computer.

So I just don't know what legislation is necessary because I think this is going to happen. I'm sure there are inner-city schools that have to be helped to make sure that they can afford even at the lesser prices to have the computers in the home and education on how to use computers.

But I think the problem is adults.

These kids could probably teach all of us how to use computers pretty efficiently.

So I think this sounds like a problem that you referred to that is going to resolve itself, at least in the mainstream. And then maybe the government has to attach itself more vigorously to the less well off parts of the country where economic incentives will help.

Representative Roemer. As the CEO of one of the corporations in America that is a leader in trying to help our children get a good education and get good access to quality entertainment, certainly you support Disney playing a role in helping us figure out how to help these children get access to this technology?

Many of them aren't. Quite frankly, if you're black, if you're Hispanic in the United States of America, you're much less likely to be connected to the Net. You're much less likely to have a computer in your home.

Mr. Eisner. Obviously, this is extremely important. Yes, we work strongly with teachers. We work strongly with music and education, in that area.

We're not a technology company. We do not make a computer. We do not make technology products other than theme park rides that are based on technology and movies and so forth.

But, clearly, we would like to see the strengthening of the home, the strengthening of kids.

That's part of our mission.

Senator Mack. Thank you, Mr. Eisner. We again appreciate your being here today. You've raised some important issues and we will try to see that the appropriate committees in the Congress focus on those concerns.

And again, thank you for your testimony.

Mr. Eisner. Thank you.

Senator Mack. Dr. Venter, welcome to the Joint Economic Committee.

I'm going to turn first to Senator Mikulski to make a few comments.

Barbara, welcome.

Panel III

STATEMENT OF SENATOR BARBARA A. MIKULSKI

Senator Mikulski. Thank you very much, Senator Mack.

First, I want to welcome you once again, Dr. Venter, to Congress.

And to my colleagues, let me say that you're in for a treat. Dr. Venter is really a pioneer, not only in science and the rapidity by which he wants to map the human genome, but also a pioneer in terms of the way he wants to shake up the scientific establishment and eliminate bureaucracy and foster discovery.

Dr. Venter, really, in my own home state, wears two hats.

One is being something called the head of TIGR, which is the Institute of Genomic Research.

Now this is different than NIH or extra-mural research. It's not that the other two are not excellent. And in fact, the Chairman is noted for his passion in doubling.

But it's going to be very good for us to hear about how an institute goes about it as well.

In addition to that, he's also head of a company called Celera Genomics. For those of you who read "Business Week" magazine, he's now the cover guy on "Business Week" because of the daring breakthroughs that he's doing with the human genome.

Listening to him, I think you're going to find a scholar, a scientist, a pioneer.

I'm so proud of what he's doing and I'd like to introduce him to the Senate.

Dr. Venter. Thank you, Senator.

Senator Mack. Thank you, Senator Mikulski.

Dr. Venter, we look forward to your testimony.

STATEMENT OF J. CRAIG VENTER, PH.D., PRESIDENT AND CHIEF SCIENTIFIC OFFICER, CELERA GENOMICS

Dr. Venter. Mr. Chairman, members of the Committee, I appreciate the opportunity to testify on barriers to the new economy.

Instead of reading my testimony, I'd just ask that it be incorporated for the record and I will just make a few comments and be happy to take questions.

Senator Mack. Okay.

Dr. Venter. I'm J. Craig Venter. I'm President and Chief Scientific Officer of Celera Genomics.

It's a company that's less than two years old. As you heard from Senator Mikulski, we're only about 30 minutes up the road from here in Rockville, Maryland.

Celera was formed in a collaboration between myself and PE Corporation, based on new technology that PE Corporation had developed for sequencing DNA.

That combined with the strategy that came out of our not-for-profit research institute, the Institute for Genomic Research, combined again with 64-bit computing with our new partner, Compac Computers, we've managed to come up with a method for sequencing and decoding genomes orders of magnitude faster than was even conceivable a few years ago.

The Human Genome Project was a 15-year project that was going to be $3 to $5 billion, to determine our generic code.

Celera has managed to do this in less than nine months using this new technology, using the new computers, using our methodology.

And this information, whether it be from the public effort or from Celera, has profound implications for the future of science and medicine.

For example, Celera's goal is—we're not a biotech company. We're a combination between biotech and high-tech. We've managed to build the largest sequencing facility in the world. It's the largest science manufacturing facility. And with Compac Computers, we've built the largest civilian super-computer that's yet been constructed.

We need that much computer power for interpreting the human genetic code.

We've also used this method for sequencing the largest genome completed to date before the human and that was the fruit fly genome, which is key for interpreting the human genetic code.

And we announced just last month that we've already done over a billion base pairs of the mouse genome.

Again, this is key for interpreting the human genetic code.

There's sort of three areas that I thought I would touch on with the implications of this information for the new economy.

I think most people view both the Internet and genomics of two of the biggest forefront areas that are going to drive the economy in the future.

Celera combines both of these. We're an Internet company. We provide information to pharmaceutical companies, to university researchers, biotech companies, ultimately retraining physicians and ultimately to individuals.

We view we have potentially six billion customers out there because all of our genetic codes are subtly different from each other.

We have around three million differences out of the 3.2 billion letters in the genetic code between any two of us.

The biggest concern I have is actually genetic discrimination. And if we don't do something fairly early about this, that will be the biggest barrier from having a real medical revolution based on this tremendous new scientific information.

For example, because we differ subtly from each other, a lot of people want to over interpret this data in terms of genetic determinism.

Because of your genetic code, you are what you are.

It doesn't work quite that well, but perception is reality in this country, particularly in the city. And discrimination is based on perception, not necessarily based on reality.

So new bills to protect us all against genetic discrimination is critical.

If you believe in genetic determinism, and there's been a lot of op-ed pieces and editorials about how each one of us have succeeded because of our genetic code and therefore, genetic discrimination will work against people who are successful.

That's not how genetics works.

We're a larger function of our environment than we are our genetic code, or genetic code determines our potential totally dependent on our environment.

For example, identical twins, if one has schizophrenia, the chance of the other twin getting schizophrenia is only 50-50, even though they have the exact same genetic code.

Genetic discrimination—and it's been dealt with, in fact, by the Chairman and Senator Frist in terms of the Patient Bill of Rights of dealing with the medical issues.

The same issues affect employment. They affect life insurance. They're going to affect basically every aspect of life.

Each one of us, when our genetic code is determined, and if I have my way, it will be determined—everybody's genetic code in the next ten to 15 years—because that will lead to preventative medicine. That will lead to understanding our propensity for disease and being able to do something about it before the disease ever develops.

But at the same time, if insurance companies base either health or life insurance on the likelihood of getting disease, pretty soon we will all be noninsurable.

We all have a propensity for disease in our genetic code. It depends on our environment whether that shows up or not.

For example, with lung cancer, there's genes linked to increased risk for lung cancer, that that risk shows up primarily with cigarette smoking.

So we do have in our genetic code things that we can change our environment to respond to it.

So we'd like to see an expansion of the work that's been very productive in Congress dealing with genetic discrimination to go beyond medical situations to employment and to other areas.

The other area, just briefly to touch upon it, is database piracy.

Celera as a company has taken a very unusual step. We're using our own investment money to sequence the human genome and we're making that freely available to scientists.

In Europe, legislation has been passed that protects databases. It's illegal to pirate them.

That does not exist in the U.S., and there's no reciprocity with Europe because we don't have a law in the U.S.

So we have a case right now where data developed by my research institute and by Celera Genomics is in a database in Europe that to use that data, we now have to pay for it as a company, and there's no reciprocity.

As soon as we publish the human genetic code, if we want to get some of that data back from this database in Europe, we will have to pay to get our own data back.

I think that's a serious situation that is working against our social contract as Celera Genomics with the world to provide the genetic code for free.

There are companies that have issued press releases saying as soon as we publish the genetic code, they will start selling our data to our competitors.

We can protect some of this with contract through click-through agreements on the Internet. But there's no legislation that actually protects it. There's no laws—well, copyright law does not cover the genetic code.

We could patent the human genome. We could patent the human genetic code. But we will not do that. We think that that is an unacceptable step for us as a company and I would not want anybody else to be doing that, either.

We'd rather see other means of protection.

The last issue that I really want to touch on you heard a lot about yesterday, is the H(1)(b) visa issue.

Twenty-five percent of the employees that we have in biology and the informatics area are people with H(1)(b) visas.

The quotas are really limiting the expansion of the use of this information in our company, the same at our research institute.

This affects the entire field.

We do not have enough qualified researchers in the U.S. to hire into these positions.

With that I'd be happy to take your questions.

[The prepared statement of Dr. Venter appears in the Submissions for the Record.]

Senator Mack. Well, again, thank you very much for your comments this morning.

Before I turn to Senator Brownback, I just want to say to my colleagues, the reason that I asked Dr. Venter to be here today is because I think it's important that we understand the significant role, and I think in the future a very dominant role, that the biotech industry is going to play in our future economy.

John Nesbitt, when he wrote his "Megatrends 2000," and I've forgotten how long ago that's been now, made the point that biotech will become for the 21st Century basically what the computer industry was in the last half of the last century.

So I think it's important that we all begin to focus on the significance of the industry that you represent here today.

That's the reason that I wanted you to be here.

Sam?

STATEMENT OF SENATOR SAM BROWNBACK

Senator Brownback. Thank you very much, Connie. And thank you very much for being here, Dr. Venter.

I have an extraordinary fascination with the work that you're doing. Dr. Collins was out, I hosted him in my state less than a month ago to

discuss the human genome project and what all is taking place.

And the possibilities, it seems to me, are extraordinary for the improvement of human life. It's an exciting prospect and you are making exciting discoveries. You're in the middle of laying out in front of us the Human Genetic code and we'll be spending the next half-century figuring out what all this information means.

I'm curious, as you look at this issue, what are the ethical standards that you think we should be considering?

I know that's a bit different from what you're here to talk about today. But I'm wondering if you could venture into that.

Do you see any ethical boundaries on the use or the manipulation of the genetic code that you are most concerned about?

Dr. Venter. Well, there is a tremendous amount of discussion on this area, mostly based on—I guess it's relevant to the previous witness—based on movies.

Unfortunately, we seem to get our science education from science fiction movies, not from appropriate training.

Cloning of humans was a very popular topic. I think people got their notions of that from a movie, "Multiplicity." They thought that cloning meant having an exact copy of yourself, with your memory and your capabilities.

What it means in reality, if it was even possible to clone humans, you would have a baby brother if we cloned you that would grow up in a totally different environment and a different era than you and would be far less like you than if you had a twin brother that you grew up with.

So I think our notion of genetic manipulation is far beyond what the realities will be.

But am I concerned about the ethical abuses of this? Yes, it's hard looking at recent history in the world—the former Yugoslavia, where people are probably more genetically similar than you and I are, trying to kill each other because of perceived differences with each other.

We don't want the genetic code to be a new basis of people trying to justify their pre-existing prejudices.

I think the genetic discrimination issue is the number-one actual concern.

With the microbes and the other pathogens that we've decoded that are already leading to new vaccines, we also have to be concerned about their use in biological warfare.

But that's where I've testified before that this information will be the ultimate deterrent from a biological warfare attack if we know that we can actually rapidly detect whether there's a new biological agent from the genetic code.

So I think the key issue that's going to affect us is what I testified before, and that's the genetic discrimination issue and having new laws to protect us against discrimination.

Senator Brownback. Well, I appreciate those thoughts and comments.

I also would hope that you would engage with us as we look down the road of this beautiful science, this elegant report of the nature of the human genome, which I understand is going to be a book the height of the Washington Monument, I guess when we get it out of—

Dr. Venter. It will actually be a hundred feet taller than the Washington Monument.

Senator Brownback. A hundred feet taller? Well, I'm actually glad to be corrected that way, beautifully and fearfully made, because it's beautiful and elegant.

But I think as we go into that, I would hope that we would start to discuss and draw what are our moral boundaries as well towards the use and the manipulation of this, and that you would be engaged with us.

It's better to discuss that at this point in time rather than five and ten years down the road when we get into the middle of it and try to determine and discuss our common interests as a species at that point in time.

I think it's a better discussion to have here and I hope you'll be involved in the middle of those discussions.

Dr. Venter. I'm delighted to participate. In fact, I think that one of the things that Dr. Wonson at the NIH did in starting the genome project was devoting five percent of the budget to ethical, legal and social issues.

So it's been a key part of our discussions from the beginning. But I think it's time to really expand that now that we have the genetic code in hand.

Senator Brownback. Good.

Thank you, Mr. Chairman.

Senator Mack. Thank you, Sam.

Senator Mikulski?

Senator Mikulski. Thank you, Senator Mack.

First of all, Dr. Venter, thanks so much for really raising the issue of genetic discrimination.

I think we're all concerned about that. In some ways, genetics is destiny. That's who you are. You might be able to delay genes—for example, a diabetic propensity in the family—but you can't necessarily beat them at this point.

We're concerned not only as individuals being discriminated against, but you also raised the issue of groups. And it could become a new form of profiling.

So I know that we have very significant issues both for individual and group discrimination.

Let me switch and go to something here.

Your work at your private-sector companies grew out of your research institute.

Am I correct in that?

Dr. Venter. That's correct. But it ultimately started with the work when I was at NIH for a decade as well.

Senator Mikulski. Well, here is my question in terms of the new economy.

I know many of my colleagues are very interested in moving, an invention, into either the market place or in your case, both the market place and clinical practice, where we'll be able to do that.

You have a research institute and you worked at NIH. Here's the question.

What is it that government should be looking at to promote as the new mechanisms to be able to accelerate the speed, recognizing issues around safety and efficacy, of the FDA clinical trials?

But how do we really accelerate this? We're going to put a lot of money into NIH. We're eager, particularly in our country, to continue discovery in biotech and pharmaceuticals.

What is your recommendation for that? Should we be funding a modality of new kinds of thinking? Do you think the competition is good?

Because ultimately, the competition of ideas and perhaps a greater speed and less bureaucracy could move things to the clinical practice?

Do you have comments, or is that not even a good, interesting question?

Dr. Venter. Well, no. It's an extremely interesting question that seems to be much on the press' mind for the last 18 months since we announced that we were sequencing the human genome at Celera.

Having spent a decade in the government at NIH, having set up a private research institute and now a company, I've seen the biomedical research area from multiple angles.

I think the most important thing that government funding can do, and there would not be a genome project if it was not for the Department of Energy and the NIH in terms of really getting it going.

I think that's quite clear.

Is funding things that won't be done faster and better by private

industry because they can't afford to or there's not an economic incentive to do it.

The drosophila genome was done with a phenomenal public-private collaboration between Celera and the publicly-funded effort under Gerry Rubin's direction at UC Berkeley.

As a result, the genetic code got determined far faster and far more accurately than either could have done it alone.

So I'd like to see more public-private partnership.

I think competition is certainly good as long as it's not in the spending of billions of dollars that could be going to trying to find cures for breast cancer and other key diseases.

We need to find the appropriate balance.

Senator Mikulski. Thank you, Mr. Chairman. I know you have many others.

Senator Mack. Senator Frist?

Senator Frist. Thank you, Mr. Chairman.

Thank you, Dr. Venter, for being here. Each time you are present, whether it's this forum or another, you provoke many thoughts.

Two areas—super-computing and bioterrorism. Different questions that I'd like for you to just comment upon.

Today super-computing in this country has been a real enabler based on the direction that Celera has set out for itself. Computing at the highest capacity means speed, it means uncovering and defining the secrets of today which will become realities of tomorrow.

What is the role of the Federal Government today in terms of super-computing? Should we turn it all over to you?

Do you have the resources? Do you have the capacity to do it as we look forward?

Right now, we're addressing a budget for the Department of Energy. In terms of science it is really not doing very well, not as well as it has historically done as we look in the region of science, super-computing.

So question number one is, is super-computing being addressed in a mature way by the United States Government today as we look forward?

The second question—let me just jump to it just so that you can respond—bioterrorism.

As we look to the future, bioterrorism frightens us. We talk every day about the end of the cold war, the new dynamics, the rogue nations, the access to science being so easy, and not very expensive.

What should our defense be?

Are we in the Federal Government focusing enough attention in

terms of the science of bioterrorism as we look out to the future?

Dr. Venter. Well, thank you, Senator. Both of those are excellent questions.

In terms of super-computing, I think it's one area where the government can play a major role.

There's actually less basic research going on in industry than most people think. I think with the Department of Energy and the NSF budgets and their super-computing initiatives, I would be very strongly supportive of the government increasing its role in those areas.

And I think most people in this field would be.

We're pushing the limits. It's estimated it's going to be another 10 or 20 years before we have a computer powerful enough to model human development from a single egg and a sperm to the 100 trillion cells that actually make each one of us alive.

That's a very large compute. That's going to be a tremendous change.

Our computer facility costs $100 million, and it's barely adequate for what we're trying to do right now.

We need some real advances where the type of computing that we're doing now would cost $100,000. We need some very dramatic changes and that's only going to come with basic research, as it has in the biology field.

In terms of bioterrorism, I've given a lot of thought on this topic because at TIGR, we've been decoding most of the key human pathogens.

There's a fundamental difference between a directly-introduced, man-introduced new pathogen into the environment or into a city versus a new one just emerging, such as the AIDS virus.

The impact is the same, though. We need the same tools, the same resources to be able to detect them and do something about them.

I would like to see more of the government funds directed towards new antibiotic development, new vaccine development.

We spend about a billion dollars to deal with microbial resistance in this country just as an after-effect.

We now have staphorious and other key organisms that obviously would have affected your medical practice pretty tremendously that are now totally resistant to our current armament of antibiotics.

So all these things go together.

We have a broad array of new antibiotics. We have vaccines. We have the genetic code of every pathogen. We have both detections and treatment issues that make bioterrorism a nonthreat.

Senator Frist. Thank you.

Senator Mack. I just have one more question before we go to the

next panel that I'd like to pose to you, and it's really kind of a very broad question in the sense of giving us an idea of what you think the future looks like in the relative short term as a result of having decoded the genome.

How will life improve for my sons and daughter as a result of this information from a health perspective?

Dr. Venter. It's an excellent question and it's one I get asked quite a bit.

I can predict the future to some extent with this information. What I can't predict is the timing of those events.

But what each genome that we've published does and what will happen even a greater extent with the human genetic code, it will fundamentally change how basic research is done.

I spent ten years of my career trying to get one gene, one protein, to understand that. It's a key neurotransmitter receptor from the human brain.

Now we will have the complete repertoire. What took me ten years, now will be a 15-second computer search on the Celera database.

So the effort, the several billion dollars that NIH spends funding individual gene discovery projects can now shift to studying the function of those genes.

You've had a tremendous history of cancer in your family. We have not had a lot of real breakthroughs in the treatment of cancer because trying to understand how maybe a million different proteins interact in the cell to form the cell biology is something that we're now just beginning to understand.

The hope that we have, the hope that your family would have is that from this basic information, we will fundamentally understand how the cell work and now how to intervene to block and prevent cancer.

We'll also be able to predict in advance at least the genetic links to cancer. The tremendous work of Burt Vogelstein at Johns Hopkins University in terms of colon cancer, we collaborated with him to find three new genes responsible for colon cancer.

They can predict now by looking at genetic changes in those genes the increased likelihood that somebody would have for getting colon cancer.

That's very powerful information for individuals that, instead of waiting until age 50 to have a colonoscopy, if you know you have a greatly increased risk, you don't just wait for symptoms to appear or you don't wait until you're age 50.

Hopefully out of this we'll have new blood tests for the different types of cancers such as the PSA antigen with prostate cancer, so that if

you know you have an increased risk for cancer, as your family history has shown, that's something that we can actually do something about.

Most cancers are totally curable or treatable if they're caught early enough.

So part of the goal of this information is to give power to individuals to change through preventative medicine the outcome of disease.

Senator Mack. Well, thank you very much for that response. And again, I admire the work that you have done and I'm delighted that you could come this morning and be with us.

Dr. Venter. Thank you very much.

Senator Mack. All right. We will now move to the final panel.

Panel IV

Senator Bennett. We welcome our final panel. We appreciate your patience, sitting through all of the others.

I'd share with you an experience, again from the Y-2K committee.

With an amazing amount of consistency, we always found that the most valuable piece of information came from the final witness. After we had sat through a whole day, the final witness maybe was the most candid, or whatever.

So Dr. Bryant, you're on for that kind of expectation.

We welcome Beth VanStory, who is the President of iMotors.com.

Gene Hoffman, Founder, President and CEO of EMusic.com.

Judith Hamilton, President and CEO of Classroom Connect.

And Anne Bryant, the Executive Director of the National School Boards Association.

And we appreciate, as I say, your patience and coming through the other witnesses. We'll hear from you in that order, and then we'll go to the Committee for questions after you have all finished.

So Ms. VanStory, you're up.

STATEMENT OF BETH VANSTORY, PRESIDENT, IMOTORS.COM

Ms. VanStory. Good morning and thanks for the opportunity to speak with you today.

I'm pleased to be here and share our thoughts on removing some of the barriers to the new economy and what this means for iMotors.

For the past years, I've been privileged to be president of iMotors. But prior to that, I was also in e-commerce, running off of officedepot.com for that bricks and mortar company. And prior to that, weather.com for The Weather Channel.

And long before most people had even heard of the Internet, I worked in the early interactive television industry with Bell Atlantic Stargazer TV.

So, for better or worse, it's safe to say that I've been involved in e-commerce, well since the beginning, and even before that.

I want to echo many of the sentiments expressed by my colleagues today. We all share similar goals about working in partnership with the Federal Government to open new markets, expand opportunities for American workers, and reduce regulatory impediments to our continued growth.

Some of you may not be familiar with iMotors, so I'd like to take just a few minutes and tell you what we do and explain our company and how we're using the Internet and new technology to transform a 75-year-old bricks and mortar industry, and that is used car sales.

In fact, we were flattered last week to be named by Internet World as the top bricks and mortar company in existence today.

We are a direct, to-consumer, used car company selling custom-ordered one- to five-year-old vehicles over the Internet.

We have no inventory and no sales persons. Our customers sell themselves by selecting a car on the Internet. They can choose the year, make, model, color, mileage and options right on our website and in real time, as they choose their car, we'll give them an up-front price that is typically below Kelly Blue Book.

After locating their vehicle from a pool of two million vehicles available to iMotors through off-lease companies and commercial auctions, we'll buy the vehicle and transport it to one of our regional vehicle certification centers or used car factories—high-production reconditioning facilities employing hundreds of skilled automotive technicians.

There, each customer's vehicle undergoes a 269-point certification process at the hands of I-CAR and ASE-certified technicians, ensuring that our customers receive their car or truck in like-new condition.

In addition, iMotors backs every car with a seven-day, 700-mile, money-back return policy and a comprehensive three-month, 3000-mile warranty, assurances currently unheard of in the used-car industry.

We currently have three vehicle certification centers, one in Sacramento and one in Westchester, Ohio, and we're about to open our third in Stockbridge, Georgia, to serve the southeast.

We also currently have 12 delivery centers where customers pick up their vehicles. These are all on the west coast currently and they're small, fully-licensed dealerships and we are registered as a dealer in every state in which we do business.

That means that we pay relevant sales and vehicle taxes on every car we sell and it also means that we comply with applicable state and local law.

In fact, we've worked very closely with the division of motor vehicle departments and attorneys general in a variety of states as we prepare to open for business.

Without fail, every state worker in these offices that we have dealt with has been tremendously smart, dedicated, and hard-working, serving your constituents well. But their hands are tied by outdated laws and regulations in an era before the Internet and e-commerce and in many cases, before television.

They're doing Herculean efforts to make these outdated laws work in a modern society with evolving business and consumer needs. But we can do more to help.

A good example of this is in vehicle titling laws.

These laws vary from state to state and were written before anyone ever envisioned a national car company like iMotors.

Under the current patchwork of state laws, dealers and consumers are exposed to significant fraud and safety risks. For example, a vehicle that was in an accident in one state and declared by an insurance company to be irreparable, would in most states have its title so noted as a salvage title.

Due to the inconsistent regulation and lack of consistent databases across states, that vehicle can actually be reregistered and retitled in another state, eliminating any trace of the salvage title status.

As a result, a repaired vehicle would bear no trace of ever being damaged and unsuspecting dealers and consumers may buy that car, believing it is in sound shape.

Greater leadership from the Federal Government can make a major difference in protecting iMotors, our customers, and the 40 million Americans that choose to purchase a used vehicle.

A free and unfettered Internet economy has allowed us to grow at a rapid yet sustainable pace. Since our launch last September, the company has more than tripled in size from 168 to 625 employees today.

While I'm pleased with our growth, which is exceeding all our expectations, frankly, I believe we could be in more markets today and benefitting more customers if the regulatory process were even more open and business-friendly.

The new economy is still very young. A year from now, e-commerce will not look as it does today. As we continue to grow and change, our business will become more efficient as technology changes.

But restrictive legislation or regulations could cripple this advancement.

In business, time is of the essence and never more so than with e-commerce. Before we can search for a vehicle for a customer, we have them sign what's called a search-and-locate agreement.

Currently, today, that agreement must be mailed or faxed to that customer and, as you know, many consumers don't happen to have fax machines in their homes.

Currently, with no recognized standard for digital signatures, the document takes a long time to get back to us. Internet and e-mail provide a quicker and more efficient way to submit these documents.

However, without a standard for providing a digital signature, thus giving iMotors permission to begin our search work, we cannot proceed.

Therefore, we support a digital signature bill that both protects the consumer and provides business with an efficient and legally recognized alternative.

We are also under great strain to find enough skilled workers to meet our demands. Although our business is selling used vehicles, we are highly dependent on technology and the Internet, which means we require a skilled staff to offer our services.

As a result, we support an increase in the H(1)(b) visas provided for skilled foreign workers and we believe that the only way to keep the engine of the new economy running at full throttle and maintain the lead position of the United States in e-commerce is to allow an increase in H(1)(b) visas.

Of course, we recognize the importance of American workers. Unfortunately, there are simply not enough American technical workers at this time to fill the need.

While an increase in H(1)(b) visas is a crucial short-term solution, the long-term solution is to better prepare our own students and workers for the demands.

Finally, I'd like to stress the incredible opportunities that abound with the Internet and the new economy.

The Internet has set the stage for a spirit of entrepreneurship that will have ramifications throughout the new century, much the same way the Industrial Revolution provided for an improved standard of living of Americans in the previous century.

Not too long ago, iMotors was simply an idea being talked about over a desk of a car salesman. Today, we're leaders in the new economy.

The Internet and the hard work of many individuals made this happen. However, there looms on the horizon barriers to the growth of e-commerce.

We must find the appropriate balance between regulation and entrepreneurialism, between the desire to push the e-commerce and technology boundaries and the need to provide robust protection for the consumer.

Our vision has always been to put the needs of our customers first and we know that in business, whether traditional bricks and mortar or the new economy's clicks and mortar, customer satisfaction will make or break your business.

So I invite any interested members of the Committee and staff to see this first-hand and to come out to one of our vehicle certification centers, take a tour, see our state-of-the-art facilities.

And thank you for the opportunity to speak with you today.

Senator Bennett. Thank you very much.

Mr. Hoffman?

[The prepared statement of Ms. VanStory appears in the Submissions for the Record.]

STATEMENT OF GENE HOFFMAN, JR., FOUNDER, PRESIDENT AND CEO, EMUSIC.COM, INC.

Mr. Hoffman. It's always a pleasure to be back. Thank you, Mr. Chairman, members of the Committee.

I'd like to submit my written testimony for the record.

Senator Bennett. We like your music.

(Laughter.)

Mr. Hoffman. Let me speak on two issues.

Senator Mack. Was he listening to the same music that I was?

Mr. Hoffman. I believe he was.

(Laughter.)

The Chairmen are commenting on a portable player that I have floating with me.

I will explain what we do.

We're emusic.com. We sell downloadable music. Downloadable music is a much maligned, very interesting topic these days. We sell in the MP3 format, which is highly controversial.

However, I was playing the Violent Femmes for the Chairmen and they enjoyed it, on a portable device called a Creative Nomad.

This holds an album's worth of music with no moving parts. So a real radical departure from the way that music had been used in the past.

For a moment I want to diverge from what we do and talk a little bit about one of the most important issues for the new economy and high-technology in general.

That is, FASB issues, especially around pooling of mergers and

other accounting methods used for mergers.

This is a somewhat arcane issue. Luckily, I can tell you that I'm not an accountant, so I'll try not to bore anyone here. I'm the son of an accountant, and I guess that's close enough.

First, a little bit about me.

This is actually my third start-up, the second one I've cofounded. I'm the youngest Nasdaq CEO.

I definitely have survived and thrived on buying and selling companies. In fact, my company has acquired five companies and the assets of a sixth in its two and one-half years in business.

So from that perspective, we see purchase accounting versus pooling accounting as being a significant issue to the continuation of the new economy.

And I would make just a couple of quick points and move on to a more interesting topic about copyright.

One thing I want to say is that there is some myth that this is a debate between technology companies, the new media, new economy companies, and old economy companies.

The question I'd ask that you ask those old economy companies is are they not technology companies themselves?

The issue simply gets to be that stalwarts of the old economy are becoming very quickly new economy companies. Companies that we never thought would be considered information services companies are actually finding that information services are what drives their top and bottom line.

Dahlmer Chrysler is an information services company. That's what they wish to grow up to be. And so for any company to say that they're not a technology company, these issues do not affect them or that they feel that they are somehow being left out is a bit specious.

One important issue about this topic is really about reporting standards and whether or not we're going to create a discriminatory environment for the individual investor.

For a large company that's well covered by street analysts on Wall Street, pooling versus purchase account is not an issue. Frankly, what's occurring is that the street is starting to ignore intangible assets and how they're accounted for.

The problem you start running into is that your individual investor, the person that the SEC is most charged to protect, is having the hardest time understanding exactly what the difference between pro-forma results are, why this company making cash is actually not profitable, and why a direct competitor who didn't use acquisition to grow is for some reason on appearances a more powerful and stronger company, though the

reality is in the market place, that the company that grew by acquisition is, if not more so, at least as competitive as the other.

So these are important issues when we start thinking about the fairness of how these somewhat arcane accounting issues actually affect reporting and understanding of these new economy companies.

Finally, I'd just like to move to copyright for a moment. Copyright has been a bit in the news and I'll be a bit more specific.

A lot of people are talking about Napster, Napster and MP3 and all of these other things that are changing the way that business is done.

One important point I want to make because there's obviously an upcoming hearing in the Senate Judiciary which we look forward to testifying at, is that a lot of this is occurring in a void.

I challenge you to find downloadable music from artists other than those on our site available on line. It's very interesting that we're in somewhat of a prohibition state right now.

For various reasons—be it fear, be it other issues, copyright holders have been reticent to make their copyrights available in a nonphysical format.

And so, before we jump too early to change what I think is already a great body of existing copyright law, we need to make sure that we're doing that in a business environment that allows the consumer to do the right thing because right now, the customer doesn't really have much of a choice but to do something that's not legal.

Now, having said that, there are important issues around enforcement.

The issue is now that—it used to be that pirates, people who were illegally appropriating copyrighted material for their own gain, were CD duplicators or cassette tape manufacturers or people who were doing it on a much larger scale, though in a regional area.

The good news about Internet music piracy or video piracy is that it's very easy to enforce, at least from a can-you-find them, because if you can't find them, they're not important to enforce again.

As a friend of mine said, if the pirates are easy to find, well, the pirates are easy to find.

The real problem is pitting copyright owners—often bands, people like the Walt Disney Company—directly against their consumers. And that's currently the only choice we have to enforce our rights on line.

The issue simply being that, with the changes the net act brought to make free distribution of copyrighted material an actual misdemeanor or federal felony, the question still is who's going to enforce because though the individual copyright infringer is not very interesting for a U.S. attorney general or the FBI, the individual college kid with 500 songs up

really doesn't trigger the net act.

The mass amounts of, say, ten million users doing exactly that really causes a problem.

So if anything, I think we have to look at the enforcement issues more than actually making changes to the law itself.

Thank you very much, and I look forward to your questions.

Senator Bennett. Thank you. Ms. Hamilton?

[The prepared statement of Mr. Hoffman appears in the Submissions for the Record.]

STATEMENT OF JUDITH HAMILTON, PRESIDENT AND CEO, CLASSROOM CONNECT

Ms. Hamilton. Yes. First of all, thank you very much for inviting me here today. I'm very privileged to represent the education technology industry and would like to discuss the potential that technology has for developing an educated workforce.

I'm the CEO of Classroom Connect. We're a Silicon Valley-based company, and what we produce is professional development for teachers and Web-based curriculum for K through 12.

My goal today is to identify some of the key benefits technology can bring to education, specifically the Internet, to talk about some of the challenges to realizing those benefits, and the role that you, the Federal Government, can play to overcome these barriers.

As we all know, the Internet is now an indelible part of the fabric of American society, and with it comes a tremendous responsibility to understand it, manage it, and use it effectively in all we do.

Its role in education is critical.

The Internet can enhance and extend teaching and learning and our children must have the skills and knowledge to use this technology to be educated, productive members of the work force.

Let me assure you, we at Classroom Connect do not believe that the Internet is the panacea for all education. But we have seen many benefits that can come from this technology.

First, the Internet is a dynamic tool for teaching and learning. It allows students to study real-time events and immediately integrate them into their daily curriculum.

Research has shown that the Internet increases critical thinking skills in exciting new ways.

Most of you and I probably learned by having someone lecture to you, you memorized it, and then you played it back.

Students today must acquire skills to search and analyze the vast repositories of information now available and learn to make judgment

instead of rote memorization.

The Internet can also empower students to act on their learning, to ask questions of experts, to seek corroborative information, and present information in an exciting way, with sound and video, and collaborate with a targeted group working on the same problems to reach a solution.

No one should underestimate the value of that collaboration.

Despite physical handicaps, regardless of socio-economic status, and no matter where they are, students can participate in this Internet revolution.

Preparing for today, we put a question up on our website to our community of educators asking them, the teachers, what is the most severe challenge that you're facing in introducing this new technology.

We had over 400 responses in just a few hours.

They clearly identified that the Internet can transform education in many ways. But significant barriers remain.

One teacher said—Technology can be the most important change in education in the last 200 years or the biggest blown opportunity. All of us must ensure the former.

And as you well know, the E-rate has done much to connect the schools. Much more needs to be done.

From Springfield, Massachusetts, one educator wrote—Many teachers have had their interest in using the Internet daunted by out-of-date equipment, unreliable connections, and frustratingly slow access speeds.

In Dallas, a sixth-grade teacher using one of our Adventure Learning products, wrote—This is the project that got our school into the technological age. The project is so interesting, educational and easy to use, that it was the first activity our school tried online.

We did it with classes sitting in the hallway, crammed around the one computer in the school with the modem connected to the principal's phone.

Here's an example of the wonders of the Internet, but how hard it was for those teachers to take advantage of it. Shouldn't we address conditions like this to bring schools into this new digital age without such adversity?

In our poll, the number-one concern teachers had was learning how to incorporate technology into the curriculum.

An elementary teacher from Brunswick, Georgia, states—School districts can purchase millions of dollars in equipment, but if teachers don't know how to use it, what good does it do the students?

My dream, she continues, is that the Federal Government would fund teacher training programs in schools throughout the nation so that

teachers can effectively prepare children for their future.

It's critical for us to address this issue of teacher training. In a National Center for Education Statistics report, two-thirds of teachers say they're not ready to use technology in the classroom. But the same report shows that if a teacher gets at least 32 hours of training, they're twice as likely to use a computer.

In preparing for today, the one question, the one challenge that we wanted to give this Committee to address was developing and funding a national initiative to provide ongoing professional development on the integration of technology into the curriculum and access to the technology to perform what was learned.

And then ongoing research should be monitored as to how students perform as a result of this teacher training because that is the ultimate measure of success.

So members of the Committee, I thank you for this opportunity to provide this testimony. If used effectively, technology can be an incredibly powerful force in teaching and learning and would create improvement in our schools and therefore, a more educated work force for this new economy.

And just as we're asking you to commit to this investment, I pledge that I and all my fine colleagues back at Classroom Connect will wholeheartedly support your efforts.

Thank you.

Senator Bennett. Thank you.

Dr. Bryant?

[The prepared statement of Ms. Hamilton appears in the Submissions for the Record.]

STATEMENT OF DR. ANN BRYANT, EXECUTIVE DIRECTOR, NATIONAL SCHOOL BOARDS ASSOCIATION

Dr. Bryant. Yes. I'm honored to be the final witness. And although I can't sell you a used car, and I can't download a musical version of the Capitol Steps, I hope that what I will do is connect the work of this Committee to public education.

The High-Tech Summit is very important. And Mr. Chairman and the Committee, you've brought together some extraordinary people to discuss the issues that we've heard today.

But I think we all share some real concerns which are the realities behind this new fast-paced world.

In a Wall Street-driven world, there are realities, and I'm going to talk about some of those realities.

Number one—for high-tech companies to survive and thrive, the people they hire have to be smart, skilled and flexible.

Reality number two—hiring workers from overseas is a short-term solution. The harder, and better, long-term solution is providing excellent, intelligent, technology-rich schools where children are inspired to learn and do so in a highly competitive culture that is world-class.

Reality number three—our nation's schools are not all there yet. Many are, and we have to learn from the successes, at Bronx High School of Science, or Midwood High School of Brooklyn, or Thomas Jefferson, right around the corner in Fairfax, or Montgomery Blair High School in Maryland.

Reality number four—with some notable exceptions, some here today, the leading technology companies and start-ups are not becoming partners with our local community schools.

Reality number five—it is just plain wrong that in the 21st Century, children go to school in America with leaking roofs and windows, where wiring for the Internet is the teacher's last concern when she doesn't have enough books and supplies in her classroom.

Reality number six, and here's the good news—schools that have fully integrated technology find that test scores and student achievement go up, student motivation improves, and behavior problems decline.

According to a new report last month, more than 20 million children attend schools that are not equipped with classroom computers because the schools lack the wiring and the infrastructure.

This is a case of technology haves and have-nots.

As Judy mentioned, most schools lack high-speed Internet access, adequate broadband width in the classroom.

Some schools have no modern computers, limited software, and no possibility for professional development of teachers. Other schools have all of these features, with the latest software, with teachers who are professionally trained and actually know as much as their students do about the Internet.

This digital divide must be closed if we're to ensure that all students—girls and boys, black and white, rich and poor—obtain the educational benefits of technology. Schools can make technology accessible. But we need the support of policy-makers and of the industry.

The digital divide exists even as the U.S. economy expands. Our National School Boards Foundation two months ago completed a nationwide survey that found that 70 percent of higher income parents said that their children were connected to the Internet. Thirty-five percent of low-income parents said the same. Eighty percent of African

American, low-income students gained their access to the computer through the schools.

In fact, overall, three-quarters of low-income families gain access through the schools.

So schools can start to level the playing field.

One of the ways that we're bridging that gap is through the E-rate. The Congress should be very proud of a program they initiated many years ago.

The first year, 68,000 schools participated in the E-rate. Last year, there was a 15 percent increase. This year, the applicants to the E-rate program have asked for $4.7 billion in discounts.

And as you all know, there is $2-1/4 billion available.

So the demand for these services is huge. What we need are in-depth corporate partnerships between technology and other businesses and our schools. And those are happening as well.

In rural western New Jersey, a partnership between high-tech business, Bell Atlantic and AT&T, and the Hunterton Regional High School, has given students new learning tools that have resulted in an increased number of students passing state-mandated tests, higher overall achievement, and a reduced drop-out rate.

There are hundreds of examples just like this.

But this is not a company giving away old computers. This is the kind of integrated partnership that I think Carly mentioned earlier.

We need equity of access to technology. Learning is becoming a 24-hour, 7-day-a-week process.

With the growth in our schools, burgeoning enrollments, we have got to look at 365 days a year as a possibility, not 180.

Congress and the technology industry must take a leadership role and we need that leadership today.

First, Congress—no one in this room— but members of Congress have to stop using education as a campaign soundbite and start adequately funding the federal share of education.

The current increase of the House Appropriations bill of 2.5 percent is simply not adequate.

Along with full funding, school districts need the flexibility to use this money in a way that best meets their needs.

Second, we should expand the E-rate. The need is there, the demand is there, and we need more and continued funding. The Congress should pass the Elementary-Secondary Education Act, particularly with the provisions in the House bill around technology.

And finally, if Senator Mikulski was still here, I would advocate for her Digital Empowerment Act. There is good information and legislation in that bill.

And last, I would say the next time the tech executives come to the Hill to talk about the issues that you heard about this morning, ask them, what have they done for their local schools lately.

Thank you.

[The prepared statement of Dr. Bryant and additional information directed to Senator Mack appear in the Submissions for the Record.]

Senator Bennett. Thank you very much. You come close.

(Laughter.)

We've just had a vote called, which means that Senator Mack and I are going to have to leave in maybe 12 to 15 minutes.

So, Congressman Watt, why don't we go to you directly? I will forego.

Representative Watt. Thank you, Senator.

I can't help but agree with you that perhaps the most important panel that brings all of what we've been talking about for these couple of days is this last panel because it kind of puts in perspective a number of different issues that we have dealt with.

I'm not sure that five minutes will allow me to do it justice, but I at least want to take a shot at fleshing out a couple of issues because where Dr. Bryant ended, dealing with e-commerce commitment and high-tech commitment to local schools and communities really kind of takes us back to this underlying issue of how we or whether we tax e-commerce.

I can't think of a better person to ask about this than Ms. VanStory because she started off in a brick and mortar store and ended up in a click and mortar situation.

How is your current business taxed?

Ms. VanStory. Well, because we deal in automobiles, which are a securitized title product, we are subject to all state taxation laws.

And so, we do collect and submit sales tax.

Representative Watt. To whom? If I'm in North Carolina, I access you in New York. You get a car from Michigan and deliver it to me in North Carolina.

Who are you collecting the tax for?

Ms. VanStory. Your car will be titled in the state of North Carolina and we will collect and submit the tax in the state of North Carolina.

Representative Watt. Okay. Now, part of the undercutting of local education and the commitment is the absence of being able to collect taxes on some e-commerce.

You heard the CEO of Hewlett-Packard talk about it not being fair to collect these taxes until we have some working out of all these systems.

Do you think that's fair?

Ms. VanStory. I think there's a lot yet to be figured out there. And that goes back to cataloguers and how they're taxed.

I think there's a lot more broad issues.

But what our company really supports is the repeal of any taxes and the prevention of any further taxes on access to the Internet.

Representative Watt. I'm not talking about access to the Internet. I'm talking about sales over the Internet.

I'm not arguing about that at all. Don't even try to take me there.

What I want to know is how the high-tech industry can justify where it is? I'm a big—I've gone to Europe. I've sat in the Judiciary Committee. I've tried to solve all of these copyright and patent issues, works in progress.

And to have a CEO say to me, okay, because you don't have a perfect solution to an issue, you shouldn't have any solution to it and we should be exempted from it, is like saying to me, okay, we don't have a perfect copyright law. So, therefore, we ought to just not apply any copyright law to high tech any more until we get a perfect solution.

Talk to me.

(Laughter.)

Ms. VanStory. Okay. Sure. Yes, I will go back to what we're facing with iMotors.

We pay the same taxes as the dealers do and we're happy to be on that level playing field. I don't think it's fair for me to comment really on what other companies feel is a level playing field, but clearly, there are some discrepancies here and living in an extremely high tax state such as California, for a company to have an eight-percent advantage versus another company on pricing clearly is a problem and something needs to be done.

I don't have the answer to that. I'm looking forward to watching what happens with legislation to try to figure out, is it an overall of an entire tax system? Is it a different type of taxation?

But clearly, there's got to be a level playing field.

Senator Bennett. Let me just comment. I used to run a mail-order company and made the decision that we would collect sales tax in

all 50 states. And it was a very simple matter of simply programming that into our computer.

And we got zero customer resistance.

So I'm with you.

Representative Watt. And I'm out of time, so I can't pursue this any further.

But I hope the word will go out to the high-tech companies that I will be a staunch defender of moving into this high-tech area, protecting copyright interests, protecting patent interests, working out the accounting issues.

But I don't think that the high-tech industry can just say, okay, let us do this by partnering in local communities. The ultimate partnership is collecting the taxes that allow school boards to run the schools and allow local officials to run communities.

And to say to me, we don't have a perfect taxation system, but the brick and mortar stores ought to be obligated to operate under the imperfect system while everybody else, the high-tech industry is exempt from doing anything, is like saying, we don't have a perfect income tax system. Therefore, I'm not going to participate until you find me one.

I yield back.

Senator Bennett. I think the word has gone out.

(Laughter.)

Senator Mack?

Senator Mack. Mr. Hoffman, welcome back.

Mr. Hoffman. Thank you.

Senator Mack. The more I listen to you, the more I'm convinced that you're really not in the music business. You're in the business of buying businesses and who knows what you'll be doing two years from now.

But, anyway, welcome back.

I do think that this issue of copyrights, the issue of theft on the Internet, of piracy that we've heard about, is an important issue.

I think if I understood what you were saying is, the situation now with respect to enforcement is that Disney is in a position where they would be enforcing these laws against their customer, and that's not a comfortable position to be in.

Mr. Hoffman. That's correct, sir.

Senator Mack. Whereas, yesterday, one of the panelists clearly made a different case, and I suspect she was in a slightly different situation. She held up a CD that had $20,000 worth of programmable material on it.

So there may be two different situations. Her answer was this is an enforcement issue.

Talk to me a little bit about the enforcement. Again, we've had the chance to chat a little bit earlier.

Mr. Hoffman. Sure. Certainly.

Senator Mack. I get the drift, though, that you're basically saying that given the situation as it exists now, it's very difficult to enforce.

And so, I guess what I'm asking you, then, is what needs to be changed?

Mr. Hoffman. Certainly, well, right now, it's clearly illegal for you to take music, either from CDs that you bought from our site, take software, either from your own software CDs or that you've bought directly online, to do the same thing even with a digital book.

It's illegal for you to make that available to others in a mass form. Making it available over a Napster, making it available on an FTP site, on Hotline, on IRC, all of these are classic places where copyright information has been made available.

In the past, those people who, the Recording Industry Association of America, the Business Software Alliance, generally went after, were either businesses or were virtually businesses.

And what I mean by that is, for example, the local flea market had a person in a stall making duplicates of Madonna CDs.

The enforcement action against them in a civil sense was not that difficult because it was much more of a question of you're clearly in the wrong.

The problem is when Metallica serves up 350,000 names of people, fans, that are trading their music illegally, it creates a really ugly scenario.

Now the concept here was that—and there's such a thing as felonious copyright infringement. If you hit a certain level in what's called the net act, you actually now are a felon and can be put in jail by the FBI or fined as a federal misdemeanor.

The problem you run into is that the individuals who are doing this, the actual people who are doing it are just people. So the real concern here is that the FBI is currently the one slated with the enforcement job if it's not the civil side of the business doing this enforcement.

And each one individual is small potatoes. They're too small for any individual FBI group that feel like they're really doing something that's important.

The problem here is that it's also not nearly the type of copyright infringement we used to see, the type of copyright infringement we used

to see where people literally were making hundreds of thousands of dollars, if you will, on someone else's intellectual property.

Here it's much more small time. It's more akin to speeding, frankly.

And what we're basically saying is that, even though individuals now are empowered with the ability to duplicate intellectual property at the same rate that someone who used to have a printing press can, we've now got the situation where we need to have a lower barrier for people to basically break that barrier, but at the same time, if you will, a lower fine and a different group of people.

This is something that I look to you in some ways to say, what are good solutions in other spaces to have enforcement done on a federal law that's not necessarily taking the FBI away from what, frankly, are more important issues than this specific one.

Senator Mack. Michael Eisner, I think, would give a slightly different perspective on that.

Mr. Hoffman. Certainly.

Senator Mack. Should he or should he not? Are we talking about two different kinds of situations?

Mr. Hoffman. No, I don't think so. The issue is, right now, Michael Eisner and myself are in the unenviable position of being forced to go to what would be consumers of our products and sue them in a Federal court for Federal copyright violations.

Senator Mack. The bottom line is you're not prepared to do that yet because you haven't felt it on your bottom line.

Mr. Hoffman. We haven't.

Senator Mack. But when you do feel it on the bottom line, then you are prepared, then, to go to your customers.

Mr. Hoffman. And we have that remedy. But the important part here from a policy perspective is, is this the environment you want to create between intellectual property owners and users, because already, we're looking at a world that is highly factionalized.

You have customers saying, frankly, this is not being made available and pardon, but these record companies have been over-pricing music, these movie companies have been over-pricing movies, et cetera, et cetera, and being, frankly, very factionalized on one side.

So literally, you've got the mass of consumers saying, we want copyright law repealed.

Senator Mack. Okay.

Mr. Hoffman. And on the other side, you've got, frankly, a reactionary stance of we can't let this digital technology move forward at all because it will continue to exacerbate this problem.

So you've got two camps very much stalled.

And again, the perception being the reality especially here, it's very hard for a band or a movie studio or an author to sue what would normally be his own customers and survive that in any form that's not ostracized.

If anything, you're really moving it even further apart.

Senator Bennett. I'm going to have to cut you off because the vote is here.

Congressman Davis, you get the last minute, the last word, and then we're going to have to adjourn.

OPENING STATEMENT OF REPRESENTATIVE JIM DAVIS

Representative Davis. Thank you, Mr. Chairman.

It seems to me that we have a unique opportunity here to leverage public dollars to invest in public education because there is a remarkable overlap as between the self-interest of the industry and developing its work force and our interest in producing strong graduates of our public educational system.

And so the question I have for all of you all is what specifically should we do on the federal level to entice the types of relationships that we have heard about on a piecemeal basis between the industry and various educational institutions to achieve some scale and some immediacy?

Dr. Bryant. Well, I'll start off on that.

I think that the kind of partnerships that I'm talking about that are happening with small companies and local communities are the piecemeal.

But we talked this morning -- you talked to some very substantial companies with tentacles all over this country.

So I would urge that that approach be looked at.

But I think, importantly, and I would agree with Mr. Watt, that the taxation issue is real. Local taxes are going to pay for local schools and fire departments, et cetera.

With respect for Carly Fiorina, that answer is not acceptable because it's not rocket science to create the software program that enables you to tax Internet sales.

So I think the tax issue is another piece that this Committee and Congress can look at.

I think it's also important that this Congress take, as it has, its responsibility around funding poorer, needier schools. That's where the federal dollars go. That's where Title I goes. That's where the appropriations money goes.

It goes to the have-nots.

And so I would urge you in any appropriations bill or with ESEA to make sure that the funding is going to the neediest students.

Ms. Hamilton. And I would only add to that as well that the funding should be targeted so that money gets spent for training and technology and doesn't go other places totally.

Mr. Hoffman. And I want to also add that not every technology company ignores this.

In some ways, I'm lucky in the sense that my wife is now on the California Emergency Teachers Credential. The important issue she raises with me all the time is that she is one of the few lucky ones who really can ignore what her salary is and be able to teach.

Frankly, that's one of the biggest problems we have, is that teachers aren't really being compensated at a level to make being a teacher an interesting job.

Ms. VanStory. And I think from our perspective, one of the interesting things for us is we're teaching auto mechanics and former car sales people how to use computers now.

I think that will go back to helping them work with their children and their families.

But to me, the most important thing is, you can throw a lot of money at something and get nowhere. It's to make sure that you have the right people in place putting together the programs that are going to be highest impact.

As we talk about the H(1)(b) visa issue and, yes, we want to train American workers and have better education, that's going to take a long time.

The sooner we start with the right programs in the right places with the right people, that's where we've really got to go.

Senator Bennett. I would love to pursue all of these issues with all of you, but we have to go save the Republic.

(Laughter.)

Thank you very much for all you have done and your full statements will appear in the record.

We very much appreciate your participation. The hearing is adjourned.

(Whereupon, at 12:35 p.m., the hearing was adjourned.)

SUBMISSIONS FOR THE RECORD

PREPARED STATEMENT OF CARLY FIORINA, PRESIDENT AND CEO, HEWLETT-PACKARD COMPANY

Mr. Chairman, I want to thank you and the Joint Economic Committee for hosting this annual High-Tech Summit and for the opportunity to participate in this important discussion about removing barriers to the New Economy.

The theme of this year's summit reflects the recognition that we should usher in and fully embrace the benefits that this economy brings.

I commend this committee for taking this view, and I praise members of the House and Senate—from both parties—who are choosing a similar, forward-looking path on the critical issue of permanently normalizing trade with China.

There are few issues more vital and fundamental to U.S. economic growth than trade policies that open markets and remove barriers to American products and services.

Like the issues surrounding trade with China, the issues we face when discussing barriers to the New Economy—barriers driven by unprecedented advances in technology—are neither simple nor easy to resolve.

The paradox is that even as technology simplifies our lives on the one hand, on the other hand it has made our lives, in the public policy arena, more complex.

And that complexity—and the public anxiety that often accompanies it—is what must be addressed by you—in the public sector—and by CEOs, like me, in the private sector. We will be making decisions for our companies and employees or for our country and our constituents that will set the course for all of our futures.

As we chart the course for this new century, we must be guided by a clear purpose and take a principled path to reaching our goals.

While we come from different roles and perspectives, our common purpose is the same: to better the lives of our constituents.

In your case, constituents are the citizens of your district and state—and more broadly—this country. In my case, they are HP's customers, partners, employees, shareowners and communities.

The principled path to serving our shared constituency must have the following elements:

Our efforts must be cooperative – bipartisan and reaching across real and virtual borders;

It must be for the good of the many, while minimizing potential negative impacts to the few;

And it must promote creative, inventive solutions, rather than jumping to quick-fix, simplistic approaches.

To provide a better life for our constituents in the New Economy—there are at least three areas where we must provide principled leadership:

1.Open Trade Policies... 2. Education . . . . .and 3. Consumer trust

I've already mentioned the importance of open trade policies, which provide growth and opportunity for workers, businesses and consumers—in the U.S. and abroad.

And for some time now, I've been talking about education and its importance to our nation, to our businesses, to our children, and to our future.

I believe education is at the heart of everything.

As we help to bridge the digital divide, we are promoting what HP calls e-inclusion—providing opportunities for everyone -- people of all ages, sizes, shapes, and colors -- to participate in our economy through education, access to technology and community outreach.

But we know that to get to the root of the problem—to make a real difference—to be truly committed—we must give more than just technology, more than just money, although these are essential. While giving money is important, it's the easy thing to do.

Giving people well-prepared teachers, career development paths, mentoring, training—that's one-on-one stuff—important stuff. And it's hard to do.

I'll mention just three examples of federal initiatives that are making important contributions in this area: the Dwight D. Eisenhower Professional Development Funds, the National Science Foundation and the TRIO programs.

The Dwight D. Eisenhower funds are helping to bridge the digital divide by promoting effective teaching, through quality training, focused on helping students achieve high-performance standards in mathematics, science and other core academic subjects. Eisenhower funds have been critical to successful science teacher development in many HP K-12 partnerships.

The National Science Foundation (NSF) has played a significant role in making effective math and science curricula available for all of our nation's students. In fact, HP was able to leverage NSF's excellent curricula development in our own Hands-on Science program; which reaches more than one-quarter of a million students in 60 school districts across the United States.

Finally, the TRIO Programs serve students from low-income families who need extra attention and services to finish high school and prep are for college. Since its founding, TRIO has helped roughly 2 million low-income, first-generation-college bound students enter college, graduate and move on to participate more fully in America's economy.

Whether through outstanding government programs, like these, or through private-sector initiatives, like HP's education and diversity initiatives, we must do more to achieve e-inclusion for the students of today and the workforce of tomorrow.

Working together, we can ensure that our schools have the resources they need – whether in funding and people . . . teaching materials and facilities . . . standards and research—to give every student the opportunity and the tools to learn and succeed in the New Economy.

And while education is important to all of us, today what I'd really like to focus on is consumer trust in the virtual world.

Looking ahead in the New Economy, all of us must be ready to tackle the future—to tackle a new world.

A world that we believe will be defined by a different kind of technology landscape. It's a landscape that's defined by three things: infrastructure, appliances and e-services.

An infrastructure . . . that's always-accessible, always reliable.

Appliances ... that are simple, affordable and unobtrusive.

E-services ... that are useful and meaningful.

The next era will see the Net becoming personal, warm, human, friendly, rather than distant, cold, remote, alien—the words to describe cyberspace.

The next era we'll see the rise of wireless everything; everything becomes a platform for accessing e-services; everything will have a Web page. It's an era where the Web works for you, rather than you working for the Web.

This rapidly changing technological landscape poses unique challenges for government and industry.

To help fully realize the possibilities of this future we must focus on building consumer trust in the virtual world and public policy compatibility—both domestically and internationally.

Inspiring trust depends on a range of ethical business practices. It is the ongoing commitment to delivering on our promise to customers that leads to business success. If they trust us, especially online, they vote with their dollars, or yen, or euros.

Which is why public policy compatibility is crucial: The borderless nature of this technology calls for increasingly compatible public policies. Policies that will coordinate—not conflict—between states, regions, and countries.

So, how will we – as business and government leaders – protect consumers and promote trust in the online world of this New Economy?

How should we address issues of online privacy? Resolve consumer disputes in Internet transactions? Protect individuals and our businesses against cyber-terrorism?

These issues strike at the heart of consumer trust, which is a prerequisite for growth of global e-commerce in the emerging Internet or dot.com industry.

Cyber security truly brings home the reality of this new and borderless Economy. With each "cyber attack," which can strike from any part of the world-as we've recently experienced in the last couple of months—trust and confidence in the online world is shaken.

Following HP's participation in the White House Summit on cyber security in February, we are participating in an industry coalition to address this issue. The coalition is developing a voluntary mechanism to share cyber-security information among IT companies, establishing a communication system to alert companies to attacks and identifying solutions.

As the IT industry joins together to combat cyber terrorism, it may prove necessary for Congress to consider removing some of the potential barriers to these efforts.

Similar to the Y2K issue, companies are concerned about liability in sharing information or running afoul of antitrust regulations.

We also must be cautious about making our companies vulnerable to civil, product liability lawsuits, as security weaknesses are shared openly.

And if we share security information with the government, how can we ensure that we don't give the public access to sensitive, proprietary product information using the freedom of information act?

In each of these areas, Congress could help clear the way for greater collaboration to strengthen cyber security by redu cing the barriers to information sharing between and among businesses and government.

Another online issue of concern is consumer confidence, especially in the area of privacy.

Consumers now have access to a tremendous amount of information to help them negotiate prices, terms and conditions. They are no longer limited in where they shop, when they shop, or with whom they do business.

But these benefits cannot be fully realized if consumers are concerned about how their personal information is treated online.

In a recent Business Week/Harris Poll, 92% of Net users expressed discomfort with sites sharing personal information with other sites. And 57% of respondents to the survey said that government should pass laws on how personal information is collected.

A recent Federal Trade Commission report on "Privacy Online" echoes that sentiment – concluding that industry's self-regulatory efforts to ensure consumer privacy have not advanced far enough and that legislation is needed.

State governments from New York to California have considered – or are considering—privacy legislation that range from being narrowly focused to broad in scope.

I worry about non-uniform state actions on Internet privacy, and I am concerned about 'regulatory overkill' at all levels of government.

While industry self-regulation may not be the complete solution, I believe the private sector has done a good job of responding to privacy concerns during the seminal growth of e-commerce. Still, I know we can and must do better.

In fact, HP is making an offer that we hope will encourage many more companies to join HP as a member of the Better Business Bureau Privacy Seal program.

Beginning this month through September, HP will pay other companies' application fees and up to $5,000 for each company's first year of membership to join the BBBOnLine Privacy Seal program. We are also offering limited, free consultation from HP's Privacy Manager to help each company get started.

This offer reflects both our commitment to addressing consumer privacy concerns as well as our belief that the Better Business Bureau offers the 'gold standard' of privacy programs.

In fact, the BBB program has been singled out by the European Commission as the kind of program that gives them confidence that an American 'safe harbor' will meet European adequacy standards for privacy.

What I think the FTC "Privacy Online Report" points out, however, is that self-regulatory efforts need to be made more effective by requiring all commercial Web sites to inform consumers about their privacy policy.

Consumers have the right to know what is being done with their private information. Such a disclosure requirement would require that the Web site inform consumers –in a clear and conspicuous manner—what the site does with consumer information.

This approach, coupled with broad-based consumer awareness programs, would empower consumers to only do business with those sites that have privacy policies that satisfy their needs. Whether they prefer opt-in or opt-out, whether they want to share some information in

exchange for discounts or customization, they can reward businesses that meet their privacy needs and avoid those that don't.

Support for a privacy disclosure requirement is the one step that all five FTC commissioners agree on. This pro-consumer initiative would build on and enhance our industry's self-regulatory efforts.

But to truly earn the trust of consumers, we can't stop there. We also need to expand self-regulatory efforts internationally. For example, consumers need to have confidence that when they do business across national borders, that there will be a redress system if anything goes wrong with the transaction.

It would be difficult –and probably not cost-effective– for the court system to resolve consumer complaints when the business is based in another country.

That's why we have been working with the Better Business Bureau, trade associations and consumer groups in a number of countries, to develop a system of 3rd party mediation to help resolve trans-border consumer complaints. I am pleased that we have had the active support of the FTC and the European Commission in these efforts.

Current concerns about consumer confidence should not turn into barriers to empowering consumers through global e-commerce. HP believes that the high-tech industry has a stewardship responsibility to ensure that this new, online marketplace remains a clean, well-lighted venue for businesses and consumers.

Given differing views about the best approach to online consumer protection, what does HP recommend?

We recognize that government has a role in protecting consumers online. To guide these decisions, here are four "do's: and one "don't."

Do: Work to harmonize conflicting consumer protection legislation. Better yet, use a compatible approach to federal, state, and international public policies governing online consumer protection *before* conflicts arise.

Do: Support disclosure, requiring that all commercial Web sites — clearly and conspicuously— state what their Web site does with personal information (as proposed in the Boucher-Goodlatte bill, H.R.1685).

Do: Work to establish global alternative dispute resolution systems to instill consumer confidence in cross-border e-commerce.

Do: Recognize that the online industry is still young, operating in a rapidly evolving marketplace. Allow industry to make greater progress in strengthening and expanding online consumer-protection self-regulation.

Now, here is the one "don't":

Don't: Enact legislation that would be premature and could impose standards that are difficult and costly to implement, especially for small businesses.

In that last caution, it's important to note that HP is a leader in online consumer protection and supports the four fair data handling practices outlined by the FTC, BBBOnline and EU Safe Harbor requirements:

- notice,
- choice,
- access, and
- security.

So, it's not that we are concerned about our own ability to comply. We are concerned that legislation that is too onerous or too restrictive could negatively impact smaller, emerging online businesses, and that U.S. regulations developed in isolation could conflict with international policies.

As we usher in the New Economy, some of the greatest opportunities for business and employment growth will come from electronic commerce. Both the public and private sector must ensure that we protect consumers from fraudulent acts, whether locally or globally to promote the trust that is needed for electronic commerce to flourish.

While my discussion covered only a few topics today, the principles to use on the path to eliminating barriers to the New Economy apply across many, if not all, high-tech, borderless economy issues we face:

Cooperative efforts, reaching across real and virtual borders;

Good for the many, while not neglecting the few;

Creative, inventive solutions, not quick-fix, simplistic approaches.

With this formula, we're sure to realize the benefits of the New Economy for our constituents—young and old—who represent the values of our past and the promise of our future.

Thank you. I would be happy to take any questions at this time.

PREPARED STATEMENT OF MICHAEL EISNER, CHAIRMAN, THE WALT DISNEY COMPANY

Thank you Mr. Chairman. This morning I'd like to share some thoughts about the beauties of new technology and eternal Constitutional law.

The Walt Disney Company, like America's other creative content companies, loves new technology, especially as it is represented by the Internet. But, the Internet can only achieve its full potential if it is governed by a regard for property rights as grounded in the United States Constitution. If this does not occur, then the development of the Internet will stall and we will risk undermining one of the most positive contributors to our nation's balance of payments – America's copyright industries.

A little perspective will illustrate what is at stake. America's copyright industries contribute more to the U.S. economy and employ more workers than any single manufacturing sector, including chemicals, industrial equipment, electronics, food processing, textiles and apparel and aircraft! What's more, American copyright industries lead all major industry sectors in foreign sales and exports. It is not an overstatement to say that any threat to the ownership rights that underpin America's copyright industries is a threat to the overall American economy.

There is no question that the Internet is a wondrous tool. At Disney, we believe it represents the future of entertainment and are investing substantial amounts of time and money into our GO.com network, which includes Disney.com, ESPN.com, ABCNews.com, ABC.com, and Family.com.

But, the same technology that is giving us exciting new ways to create and distribute copyrighted works also has the potential to deprive us of our fundamental rights of ownership. With the click of a mouse, pirated copies of intellectual property can be transmitted around the world. The artists who compose and perform music have already been victimized. Millions of pirated musical works are now being transferred over the Internet every day. As broadband connections progress, movies will be next. Soon it will be possible to transmit perfect copies of a high tech masterpiece like our new film "Dinosaur" around the globe without our knowledge, participation or consent.

Our founding fathers got it right when they recognized the importance of copyright protection in the Constitution. Copyrights supply the economic incentive for artists and authors -- and the companies that

support them -- to create works of literature, culture, art, education and entertainment. If the creators of content are deprived of the rights of ownership of their creations, they will put their energies elsewhere.

What's more, the development of the Internet itself will ultimately be placed in jeopardy. The fact is that no one uses the Internet because of its hubs and routers. Rather, people flock to the Internet because of its content – content that will not be there tomorrow if piracy destroys the incentives that fuel its creation.

Just as our society is beginning to address other security threats posed by the internet, we must address the security of copyrights. With this in mind, our company is undertaking a wide-ranging strategy to make the Internet truly secure for intellectual property. This strategy consists of five main elements.

First of all, we are turning to our representatives in Washington with both offensive and defensive requests. On defense, we ask the Congress to refrain from mandating a compulsory license for redistribution of creative works over the Internet. There are numerous factors that make compulsory licensing ill suited to a global medium like the Internet.

On offense, we ask you to begin to explore with us legislation that would assure the efficacy of technology solutions to copyright security. As we seek to develop measures such as watermarking, we need the assurance that the people who manufacture computers and the people who operate ISP's will cooperate by incorporating the technology to look for and respond to the watermarks. This same mandate could be part of the solution to a host of other Internet security issues as well.

The second element of our strategy is to work with governments around the world to respect our rights. We are actively involved in the Global Business Dialogue on E-Commerce, and our company is serving as chair of the Intellectual Property Work Group. The Internet is international. The issues involving it cannot be viewed with a myopic American eye. Instead, we must think and act globally.

The third element is education. Most people are honest and want to do the right thing. But they can't do the right thing if they don't know that they're doing a wrong thing. Working with the MPAA, we are advocating a more aggressive campaign to make people aware of intellectual property rights on the Internet, in much the same way as the FBI warning at the front of videotapes.

Fourth, we believe that the Internet industry as a whole – and I mean all the companies with a stake in the e-future - must take meaningful technological measures to assure the security of intellectual property. Piracy is a technical problem and must be addressed with technical solutions. The studios, broadcasters and record companies – working in cooperation with the technology companies – need to develop innovative and flexible watermarking or encryption systems that can stay one step ahead of the hackers.

The fifth and final of our initiatives is economic. History has shown that one of the best deterrents to pirated product is providing legitimate product at appropriate prices. In the music industry, we have already seen that people will gladly pay fair prices for legally produced product even when it can be easily reproduced and unlawful copies can be easily acquired.

To be sure, none of these measures represents a silver bullet that will stop piracy in its tracks. But, that's O.K. Markets are messy, and, over time, these initiatives will be refined and new ones will emerge. But, there first needs to be a recognition and a commitment – in government, in industry and among the general populace – that theft will not be tolerated in any form ... whether it's someone shoplifting in a store or downloading on the Net.

All we need is for this basic rule of society to be acknowledged and enforced in the cyber world as it is in the real world. If this can be achieved, then the possibilities of the Internet – for communication, for education, for entertainment and for commerce – will be as limitless as the light speed at which it has brought the world together.

PREPARED STATEMENT OF
J. CRAIG VENTER, Ph.D.
PRESIDENT AND CHIEF SCIENTIFIC OFFICER
CELERA GENOMICS, A PE CORPORATION BUSINESS
BEFORE THE
JOINT ECONOMIC COMMITTEE
U.S. CONGRESS
June 7, 2000

Mr. Chairman and Members of the Committee, thank you for opportunity to testify today before you about barriers to the New Economy. My name is J. Craig Venter and I am the President and Chief Scientific Officer of Celera Genomics headquartered in Rockville, Maryland with several additional locations in California. In June of 1998, the PE Corporation and I launched Celera Genomics. Our goal was to build an information company to provide researchers in industry and academia with an integrated information and discovery system for genomic information available on a subscription basis. I am not alone in believing that there will be two key contributors to the New Economy –the Internet and the human genome. Celera is at the interface of those two things. We are constructing a business that will ultimately empower individuals by providing them with the meaning of their genetic information and providing them with the information necessary to make important life decisions. We will have to be careful with this information, as I will discuss, but it truly holds the promise of ushering in an era of personalized and preventative medicine. This information will also challenge our existing medical professionals. They will need to be reeducated and retrained. We intend to be at the center of that activity at Celera.

At the time of our formation, the federal human genome effort was scheduled to complete its task in 2005. Celera set out, using the new ABI PRISM® 3700 DNA Sequencers produced by PE Biosystems and the whole genome shotgun strategy developed by me and my colleagues at The Institute for Genomic Research (TIGR), to accelerate the completion of the human genome sequence to 2001. Mr. Chairman, you would not believe the number of people who ask me, "What's the hurry?" I know you, this Committee, and the entire Congress know the answer to this question. You have had friends or relatives with cancer, diabetes, Alzheimer's, or some other devastating disease. I want to thank you and all of your colleagues for supporting biomedical research as strongly as you have. We are all working to make our lives healthier. We are all working to find treatments and therapies to beat disease. It is about creating a world where disease is a rarity, medicine is preventative, and geared to the individual. At Celera we have adopted the motto "Speed matters" because "Discovery can't wait." I am pleased to say we and the public Human Genome Project have accelerated our pace and these goals are closer than we thought they might be even one year ago. At Celera, we announced that the sequencing phase of decoding the human genome was complete in April. We expect to announce that we have assembled all the raw data into a properly ordered sequence with full-length genes within the month of June. Later this year we will publish the human genome. The biomedical research community will not have crossed a finish line at this point. We will just be getting to the starting line for decades of new

discovery and advances. As an information company, Celera was created to assist researchers in those efforts. Our business goal is to make the complex, sometimes overwhelming, and ever-increasing volumes of biological information more accessible and useful to researchers in academia and industry. Toward that end, we are creating an unparalleled library of genomic information in our databases. We are the only genomics firm using its sequencing power to directly sequence the human genome. Annotation of the data by Celera scientists using an array of bioinformatics tools will act as the platform for developing a range of products and services. We will offer these tools in a manner similar to the models used by other information companies, such as Lexis-Nexis, Bloomberg, and AOL. The need for services such as these will only increase as the volumes of information and the complex interrelated nature of that information increase. Pricing for subscriptions to this service will vary appropriately, depending on the product, the customer, and the application. We will provide value-added information to academics and other non-commercial researchers at reasonable rates, naturally bounded by those customers' resources and appraisals of the value-added. Another feature distinguishing us from many of our competitors is that we provide our data and information without the inherent deterrent of requiring database users to pay onerous royalties on the discoveries they make with our data (often referred to as "reach-through" rights). We have already entered into third-party agreements that bind us to this.

Celera has had many technical and scientific successes.

- Since moving into our facilities in August of 1998 we constructed the world's largest DNA sequencing facility. We are especially pleased with the accuracy of the sequence from the individual DNA samples.

- Our computer center became operational at the beginning of 1999. Our partner, Compaq Computers, has supplied us with about 800 Alpha EV6 and EV67 processors with 64-bit architecture and over 80 terabytes of storage for our data. Compaq tells us our computer center is comparable to those at the Department of Energy's Defense Laboratories--Sandia and Lawrence Livermore. We have installed over 200 miles of fiber optic cable and 200 miles of copper cable to handle the data flow. This center was constructed not only for the essential task of assembling genomes using the whole genome shotgun strategy, but also for serving our customers and providing them with unprecedented computational power for their research and analysis.

- On March 24, 2000 the genome sequence of Drosophila, the fruit fly (a key model organism for biomedical researchers), was published in the journal *Science*. Celera started its sequencing of this genome in May 1999. It was the product of the finest scientific collaboration I have ever participated in and included Dr. Gerry Rubin and the Berkeley Drosophila Genome Project members along with the European Drosophila Genome Project members. Our ten-month effort compares to the ten years it took to complete the next largest genome. This clearly demonstrated that the whole genome shotgun strategy could work on complex genomes. For those who remain skeptical--the NIH-funded effort to sequence the mouse has now adopted our

technique. They realize that the strategy is faster, cheaper, and of equal or greater quality, than the conventional approach.

- In January of this year Celera announced that its databases gave researchers coverage of 90 percent of the human genome. Since that announcement we have continued to increase the coverage of our data. Progress is such that we have modified our earlier estimated completion date of sometime before the end of 2001 to 2000.
- Just last week we announced that we have decoded over a billion letters of the genetic code of the mouse. A key component of Celera's business model is to provide subscribers with the ability to compare genomes from various organisms (i.e., comparative genomics). The comparison of the mouse, *Drosophila*, human, and other model organisms genomes is expected to open many new avenues of research into the mechanisms of gene conservation and regulation, which could lead to a better understanding of gene function and disease mechanisms. This project is of critical importance to biomedical researchers using the mouse as a model organism for studies of human biology and medicine. Having access to the mouse genome should allow researchers to make important discoveries in the regulation of human genes based on common structure and mechanisms shared with mouse genes.

REMOVING BARRIERS TO THE NEW ECONOMY

Database Piracy

One of Celera's founding principles is that we will release the entire consensus human genome sequence freely to researchers on Celera's Internet site after it is completed. We believe that this is in the best interests of both science and our company, since it will allow researchers to advance science and medicine and at the same time be introduced to Celera's high quality data and software tools. Those who access the data can publish research results derived from this data, or seek intellectual property protection on discoveries using this data. The only protection that we have indicated that we would seek is database protection to inhibit other persons or database companies from copying and selling the Celera database. In Europe legislation has been enacted that makes it illegal to pirate databases. Two bills are pending in the House-one authored by Mr. Coble and the other by Mr. Bliley-that would have a similar result. In the absence of any legislation we will have to try and prevent this through contractual and licensing arrangements. Information is certainly an article of trade in the New Economy. As private investment becomes a greater part of its generation laws such as the database piracy legislation will be as important as patent and copyright laws have been in the old economy. I urge you to look closely at this issue.

Genetic Discrimination

Discrimination in health insurance or employment based on genetic or other medical information may seem like an unusual topic to list among issues that are barriers to the New Economy. Let me explain why it is high on the list. Many have suggested, the 21st century is the century of biology. Genomics will be key in achieving this. If people are

afraid to avail themselves of the advances in health because they fear the knowledge they learn may be used to withhold healthcare, life insurance, or a job that we will not see those advances.

This issue is often discussed in the context of the broader one of confidentiality of medical records. There are many proposals for achieving genetic privacy. I argue that it is virtually impossible to achieve full medical privacy. Accepting this fact highlights our need for legislation prohibiting discrimination on the basis of genetic information. It is essential if the biotechnology revolution is to be realized. There are many bills pending. There are many Members who are well educated to the issues. I will only add my voice and the voice of the biotechnology industry to that of groups like the Alliance of Genetic Support groups urging you to take action.

H1B Visa Program Reform

Key to our progress at Celera Genomics is that we have assembled an exceptional group of employees. We have excellent technical people operating our sequencing factory. Our biologists, software engineers, information technologists, mathematicians and bioinformaticians are some of the finest to be found anywhere. This talent has not gone unnoticed. Companies have formed agreements with us to take advantage of this talent discover genes related to traits of importance in humans, maize, and dairy cattle.

We are hiring people at a rate of approximately one per day. I can state categorically that the H1B Visa program has inhibited our efforts at growth. Approximately 25% of our biological and informatics scientists have H1B Visas. At Paracel, a supercomputing company we have recently acquired, over 15% of the staff are working with H1B Visas. In both cases we are having difficulty hiring further people because of the caps on the number of these Visas. Failure to address this problem may stifle growth in both the biotech and high tech fields.

Medicare Drug Coverage

I personally applaud the current efforts to provide for drug coverage under Medicare. The biotechnology industry supports it. How you do it matters to us, however. Mechanisms that really are different forms of price controls will have the effect of driving investors away from the biotechnology sector. They make their investment on the presumption that they could realize a significant return on their investment. Without that likelihood, the biotechnology industry will loose investors' capital on which it is so dependent. The result will be that the seniors seeking drug benefits will loose also. They will loose the efforts at new drug discovery that would otherwise have been funded.

Gene Patents

Celera endorses the Patent and Trademark Office's recently announced position on gene patents, which is supported by centuries of precedent. Fundamental patent requirements of utility, novelty, and non-obviousness are complete and effective protections to the fear propagated that the human genome will be patented or that the revolution will be slowed. Celera does not believe the genome or other mere products of nature can be patented. Consistent with long-established principles of patent law, we do expect that patents and other protections for subsequent inventions using the genome alphabet and showing utility, novelty, and non-obviousness are not only appropriate, but required to assure that incentives continue to fuel the genomic revolution.

Let me take a moment to review for the Committee why we are even discussing patenting human genes. Pharmaceutical and biotech companies use these genes as the direct means of producing drugs such as insulin and as "targets" to develop drugs. The cost of taking a single drug through the Food and Drug Administration approval process can range from $300 to $800 million. Having patents on the drugs allows the company a period of time when they can exclusively use these patented discoveries for commercial purposes. This provides them a period in which to try and recover their drug development costs. This rationale for patenting is one that is fully accepted and supported by the NIH—the largest hold of human gene patents. Recently, during the FY2000 budget considerations, Dr. Harold Varmus, past Director of NIH explained the importance of patenting to assure commercial availability to the general public of these scientific discoveries to the U.S. Senate Appropriations Committee. He said:

> ...patenting of newly isolated genes whose functions and medical importance are identifiable at the time of patenting can be a spur to the development of the next steps that would benefit the public, and we believe that has been the case in the instance of several recently cloned genes.

However, Celera and many of our pharmaceutical partners are very concerned that the patenting of random genetic sequence and Express Sequence Tag (ESTs) fragments by many companies and research institutions will restrict their access to key targets required for drug development. An important aspect of Celera's policies is the nonexclusive licensing of drug targets.

How does Celera respond to the concerns of scientists who worry that patenting gene sequences and putting such basic information in private hands will discourage research outside of the drug companies that own the rights to the information? Under the US and European patent systems, researchers are free to conduct basic research for non-commercial purposes on others' patented discoveries. While some hypothesize that patents on genes will generally inhibit research, the facts indicate otherwise. For example, a patent was granted on the BRCA1 gene associated with breast cancer in 1993. Since that time, over 721 basic research papers have been published on the BRCA1 gene, and tens of further patent applications on important inventions, including genetic tests related to the BRAC1 gene, have been filed by individuals in universities and companies.

We have organized a team for discovering new genes in humans. Since its founding we have said that Celera will seek to develop on its own 100-300 medically important genes for use by pharmaceutical and biotechnology companies from among the 100,000 human genes. We will give preference in licensing these potential therapeutic targets to our subscribers and we will license them on a non-exclusive basis. We are not attempting to patent the human genome, any of its chromosomes, or any random sequence. Celera announced last fall that the company had filed provisional patent applications covering 6,500 identified protein-encoding sequences that we believe may be of medical importance. A provisional application serves to notify the Patent Office that a discovery has been made in the event that there are other patent applications for the same discovery. A patent will not be issued on the discovery unless an actual patent application is filed within one year of the provisional application filing. During this twelve-month period, Celera will decide with its pharmaceutical partners which genes are medically important enough to file patent applications. This approach is similar to the research strategy taken by pharmaceutical companies. In their drug development process they start with thousands of compounds and reduce the number to a few promising compounds as more information is gained. Likewise, Celera will look at thousands of genes before determining which have the greatest relevance for human health and are most likely to be developed into commercial products by pharmaceutical companies. Other companies have different intellectual property strategies and I cannot speak for them, Mr. Chairman, but I urge you to consider that changes to patent law have be considered in the context of what they will do pharmaceutical companies' efforts at drug discovery.

Mr. Chairman, when PE Corporation Chairman Tony White and I announced the creation of Celera in May 1998, it was based on a shared vision of sequencing the human genome as the basis of accelerating a revolution in biology and health care. Financed exclusively by private investment, we brought together unique technologies and capabilities within a start-up enterprise to pursue this seemingly impossible goal.

It is our belief that the sequencing of the human genome is the beginning, not the end, of this revolution. The end will entail a complete understanding of life's processes, such that disease and illness finally can be treated and cured directly at the source. We envision a day when medical treatments involving the likes of radiation and chemical poisons, with their insidious side effects and trial-and-error uncertainty, are considered medieval anachronisms.

This day will not come tomorrow or during the next year. Nor will any one person, company, or organization facilitate this day. Celera's business model acknowledges this. It centers on a philosophy of facilitating others in the revolution. We are truly an enterprise of the New Economy and very much welcome your interest in seeing that effort such as ours is successful.

Statement of Beth VanStory, President, iMotors.com
Joint Economic Committee, "New Economy Barriers"
June 7, 2000

Good morning Mr. Chairman, Mr. Vice-Chairman, and members of the Committee. My name is Beth VanStory and I am President of iMotors.com, based in San Francisco. I am pleased to be here today to share with you my thoughts on removing barriers to the new economy and what this means for iMotors.

I have been privileged to be with iMotors for the last year. Before joining iMotors I was Vice President with OfficeDepot.com, where I was responsible for developing and launching their award-winning site. Prior to that, I led Weather.com for The Weather Channel where I was the Vice President and General Manager of New Media. In addition, long before most people had even heard of the Internet, I worked in the early interactive television industry on Bell Atlantic's Stargazer Interactive TV venture. For better or worse, it's safe to say that I've been involved in e-commerce and the Internet since its beginnings.

I want to echo many of the sentiments expressed by my colleagues today. We all share similar goals about working in partnership with the federal government to open up new markets, expand opportunities for

American workers, and reduce regulatory impediments to our continued growth. I want to be clear that "continued growth" is not code language for just making high-tech executives richer. For iMotors, it means creating more skilled technical and blue-collar jobs. It also means sharing the wealth with our workers.

As an example, when we announced to our employees at our Vehicle Certification Center (VCC) in West Chester, Ohio that we would be granting all workers there stock options, the reaction ranged from pure excitement, to mild confusion. Many of our employees – from mechanics to office staff – have never even owned stock, let alone worked for a company that makes them owners and gives them the chance to benefit from our combined success. This reality is the real-world face to the new economy; the side that doesn't get as much media coverage – hard working men and women being able to provide even more for their families because of the high-tech industry.

Some of you may not be familiar with iMotors.com and what we do, so I would like to take just a few seconds and explain our company to you, and how we're using the Internet and information technology to transform a 75-year-old "bricks and mortar" industry – used car sales. In fact, we were

flattered recently when Internet World magazine called us the top "clicks and mortar" company in existence today.

iMotors is a one-of-a-kind, direct-to-consumer used car e-tailer selling custom ordered one- to -five-year -old used vehicles over the Internet. We have no inventory and no salespersons. Consumers sell themselves the car they want – by choosing the year, make, model, color, mileage, and options they desire right on our Web site. In real-time, as they specify the vehicle they desire, we provide a guaranteed price, which is typically hundreds to thousands of dollars below the retail Blue Book price. After locating their vehicle from a pool of almost 2 million vehicles available to iMotors through our relationships with major lease companies and commercial auctions, we buy the vehicle and transport it to one of our regional Vehicle Certification Centers – high production reconditioning facilities employing hundreds of skilled automotive technicians. There, each customer's vehicle undergoes a 269-point certification process at the hands of I-CAR and ASE certified technicians, ensuring that our customers receive their car or truck in like-new condition. In addition, iMotors backs every car with a 7-day/700-mile money-back return policy and a comprehensive 3-month, 3,000-mile warranty – assurances unheard of in the used car industry.

Allow me to walk you through the iMotors process. Consumers log onto our Web site at www.iMotors.com or call our toll free phone number (888-iMotors) and specify the year, make, model, options, color choice and mileage of the vehicle he or she desires. Once the parameters of the car are entered, we instantly give an up-front, no-haggle quote that is hundreds to thousands of dollars less than the Kelley Blue Book retail price. To secure the order, the customer provides a $250 deposit, signs an iMotors' Search and Locate Agreement, and provides proof of financing. If the customer requests, we will assist them in obtaining financing. iMotors has partnered with numerous banks and lending institutions to help our customers afford their car.

Next, our iMotors team of expert buyers quickly locates, assesses, and buys the car that meets the customer's specifications. Our buyers leverage information technology, using proprietary software and databases to efficiently scour inventory held by major lease companies and commercial auto auctions – not open to the public – to locate a vehicle that fits a customer's order. Once found and bought, the customer-designed vehicle is transported to an iMotors Vehicle Certification Center for testing, repair, and certification.

At our VCCs, iMotors takes a digital picture of the car and sends it to our customer for viewing. We then put each vehicle through a rigorous 269-point bumper-to-bumper inspection. Our ASE and I-CAR-certified technicians evaluate everything from the engine, power train, brakes, transmission, interior and exterior making needed repairs and performing preventive maintenance. While undergoing the 269-point inspection, we send periodic updates to our customer.

After the vehicle undergoes any minor mechanical repair (major repair work will disqualify a vehicle for sale by iMotors), parts replacement, preventative maintenance, and cosmetic detailing, iMotors schedules a delivery appointment at a state-licensed iMotors Delivery Center located near the customer. We will also deliver their vehicle to the customer's home, office – wherever it is most convenient for them. Upon delivery, our customers inspect and drive the vehicle and are provided with an iMotors AutoBiography[SM]. The AutoBiography[SM] provides unprecedented disclosure – a title history of the vehicle verifying a clean title and an accurate odometer, and complete documentation of all work performed at the iMotors' VCC. We believe empowering the consumer with the details of our inspection, parts used, and labor applied, is the best way to earn customers' trust in a business widely recognized as one with little trust between buyer and seller.

After reviewing the AutoBiography[SM] the customer signs the bill of sale, DMV/title paperwork, and any financing papers.

Every iMotors' customer drives away with his or her like-new vehicle covered by a 7-day/700-mile money-back guarantee and a 3-month/3,000-mile warranty (in addition to any existing manufacturers' warranties still in effect.).

How did we create iMotors? This unique company is the brainchild of our CEO and Co-Founder, Adam Simms. Adam has remained at the forefront of automotive retailing for over 18 years. From his experience, Adam noted that if a customer was looking for a used car and could not find exactly what he or she wanted on the lot, they would usually settle on a vehicle they didn't really want. The customer would compromise on color, make, model, and price to buy a car. Adam then hit on the idea – let the customer design the exact vehicle they want and go find that car.

In a traditional dealership, space constraints limit the number of cars that a lot can hold, thus if you do not have exactly what the customer wants, the customer would go elsewhere, or have to settle for something they don't want. In addition, there are other costs involved with a traditional dealership – buying or renting land and showroom space, and holding an

inventory that depreciates with each passing day - costs that don't add value to the consumer.

iMotors began by thinking outside the box of traditional used auto sales and invented a new model in the new economy that saves money to the corporate bottom-line, which translates into cost savings for the consumer. Rather than spend money holding an inventory, iMotors harnessed the power and freedom of the Internet to search for the exact car the customer requested. Our VCCs operate in industrial areas where land is cheaper, compared to more urban retail real estate, where most traditional dealerships operate. Overall, we achieve complete customer satisfaction because we have put power into the consumer's hands, via the Internet. Without this tool, iMotors.com would not exist.

Our first VCC is located outside of Sacramento, California, and serves our West Coast markets. In April of this year, we opened our second VCC in West Chester, Ohio, which will serve the Midwest and Northeast. We plan to open our third VCC in Stockbridge, Georgia, later this summer, to serve the Southeast.

We currently have twelve Delivery Centers, where customers pick up their vehicles, open on the West Coast. These stretch from Seattle to San

Diego, and all of the major markets in between, including one in Santa Clara in Mr. Campbell's district. These Delivery Centers are small, fully-licensed dealerships and we are registered as dealers in every state in which we do business. This means we pay all relevant sales and vehicle taxes on every car we sell. It also means we comply with applicable state and local law.

iMotors has worked closely with the Motor Vehicle Departments and Attorneys General offices in a variety of states as we prepare to open for business, including Maryland, Massachusetts, Minnesota, New York, North Carolina and Virginia, among others. Without fail, every state worker in these offices that we have dealt with has been tremendously smart, dedicated, and hard working, serving your constituents well. But many times their hands are tied by outdated laws and regulations written in an era before the Internet and e-commerce, some even before the advent of television. They are doing Herculean efforts to make these outdated laws work in a modern society with evolving business and consumer needs, but we can do more to help them.

A free and unfettered Internet economy has allowed us to grow at a rapid, yet sustainable pace. Since iMotors' launch in September of last year, the company has more than tripled in size, growing from 168 to 625 employees today. In the same time, we went from one Vehicle Certification

Center outside Sacramento and Delivery Centers in just two cities, to having two additional VCCs and 12 Delivery Centers. None of this would have happened if the regulatory environment we were operating in weren't open. And while we are very pleased with our growth, which is exceeding all of our expectations, frankly, I believe that we could be in more markets today, benefiting more consumers, if the regulatory process were even more open and business-friendly.

Let me take a moment to list some facts and figures about our industry. These figures do not just reflect our industry of used car sales, but also give you a thumbnail sketch of the growth potential of the Internet.

The United States has one-third of the world's total vehicles in use – roughly 195 million. According to Roper Starch, in 1998 overall car ownership in the United States was stable at nine in ten households. Forrester Research, Inc., the estimated U.S. market for used automobiles is $340 billion, with 40 million used car purchases in 1999. Also, Forrester projects that used car buyers utilizing the Internet to research and/or purchase a used car will rise from 4.2 million in 1998 to 17 million in 2003.

J.D. Power and Associates has reported an upward shift in the age and income of used car buyers. It is becoming more appealing to buyers

between the ages of 35 and 49 with annual household incomes of $50,000 to $75,000 to purchase a used car. A study by the Dohring Company reported that 41% of respondents said their next vehicle would be a used vehicle, an increase of two-thirds, from only 27% of respondents in 1997. Used cars are a mega-industry and used car retailers are undergoing a fundamental change.

Numbers released by the Department of Commerce on May 31 of this year show a continued rise in e-tail sales. Sales grew 1.2% in the first quarter of 2000 to $5.26 billion – it was noted that grow in e-tail continued even as overall retail sales for the fist quarter of 2000 fell 8.9%. E-tail sales, however, account for less than 1% of the $747.84 billion in retail sales for the first quarter. Commerce Secretary Daley noted these figures show the "continued growth and viability of the on-line economy." Commerce Under Secretary Robert J. Shapiro emphasized that e-tailing is not a passing economic fancy by stating that, "The continued growth of e-tail commerce indicates that on-line retail purchasing is not just a holiday phenomenon." E-commerce is growing from an alternative retail method to the norm.

Inventory-based retailing, with large depreciating inventories that need to be maintained and financed, forces the seller to sell each customer a lower quality vehicle, from the limited selection, and pass along the retail

expenses. In contrast, our iMotors' unique no-inventory business model ensures our interests are aligned with the customers - if we do not deliver what we promise, then our business fails. The Internet has created a consumer that is more educated and informed than anytime in history. The Internet provides for a wide range of transaction opportunities that customers can leverage to demand higher quality at lower prices with better services on their terms.

The Internet and e-commerce greatly expand the ability of our company to give customer satisfaction and meet our customers' needs. In meeting the customer's needs, however, a responsible company will not only be concerned with consumer satisfaction but also with consumer protection. At iMotors, consumer protection is our number one concern. In the new economy of e-commerce, "consumer protection" takes on a new and expanded meaning. E-tailers, have a responsibility to ensure that the consumer is protected through full discloser of their privacy policy and a strict adherence to that policy.

This new economy is still very young. A year from now, e-commerce will not look as it does today. iMotors continues to change and grow – our business will become more efficient as technology changes. But restrictive legislation or regulations could cripple this advancement. A heavy hand

from government could stop us in our tracks and with it, the nation's dramatic economic growth that we now take for granted.

I would like to share with you our thoughts on various e-commerce topics that have garnered attention over the past few months.

In business, time is of the essence, never more so than with e-commerce. Before iMotors can search for the vehicle ordered by a customer, we require the customer to sign a Search and Locate Agreement. This agreement reiterates for the customer the car they have chosen, that they have put down a fully refundable deposit, and that iMotors will begin a search for their car and then buy it. Currently, with no recognized standard for digital signatures, this document must be mailed out to the customer and mailed back to iMotors, or faxed if a fax machine is available. The Internet and email provide a quicker and more efficient way to submit these documents, however without a standard for providing a digital signature, thus giving iMotors permission to begin their search, we cannot proceed. iMotors, therefore, strongly supports a digital signature bill that both protects the consumer and provides business with an efficient and legally recognized alternative to contracting.

E-commerce and the new economy are also under a great strain to find enough skilled workers to meet its demands. Although our business is selling used automobiles, we do it on the Internet, which means we require a skilled technical staff to ensure that our current services are available, and that we can continue to apply technology to create value for the consumer. As a result, we support the increase in H1-B visas provided for skilled foreign workers. We believe the only way to keep the engine of the new economy running at full throttle and maintain the lead position of the United States in e-commerce, is to allow an increase in H1-B visas.

The simple fact is that there are not enough American technical workers to fill this need. While an increase in H1-B visas is a crucial short-term solution, the long-term solution is to better prepare our own students and workers for the demands of the 21st century workplace. This means more of a commitment from all levels of government for basic education funding and advanced training programs.

Privacy on the Internet has become an important issue, especially in light of the recent FTC report on privacy and its recommendation for legislation. iMotors understands that to gain consumer trust in our e-business the consumer must have confidence that the information they give online will remain private. iMotors respects its customer's need for privacy.

We do not sell our customer data to other companies. Anyone investing time and effort into the new economy understands that they will fail in their attempt if they do not respect their customers' privacy. iMotors understands this first-hand, as we must tackle the twin burdens on selling used cars over the Internet. Therefore, we support strong, industry-led regulation on privacy matters.

Finally, I would like to stress the incredible opportunities that abound with the Internet and the new economy. The Internet is setting the stage for a spirit of entrepreneurship that will have ramifications throughout the new century, much the same way the industrial revolution provided for an improved standard of living for Americans in the previous century.

Not too long ago iMotors was an idea being talked out over a desk in the office of a car salesman. Today, we are the leaders in the new economy. The Internet and the hard work of many individuals made this happen. However, there looms on the horizon barriers to the growth of e-commerce. We must find the appropriate balance between regulation and entrepreneurialism, between the desire to push the e-commerce and technology boundaries, and the need to provide robust protection for the consumer.

The iMotors vision has always been to put the needs of our customers first. We know that in business, whether traditional bricks and mortar or the new economy's clicks and mortar, customer satisfaction will make or break your business.

I invite any interested members of the Committee and staff to see this first hand and come out to one of our VCCs to take a tour and see our state-of-the-art facilities.

Thank you for the opportunity today to tell you about iMotors.com and our vision of the new economy and help you understand the barriers we face in e-commerce.

iMotors.com

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Beth VanStory
President, iMotors.com

Beth VanStory is president of iMotors.com. She is responsible for managing the entire customer experience, from acquisition through delivery, including business development, marketing, sales, service and systems development and operation.

Prior to joining iMotors, she was vice president of Office Depot Online, responsible for building and managing the online business targeting the small office/home office market. VanStory built and led the team that produced the award-winning OfficeDepot.com web site and grew it into a profitable business.

From 1995 to 1997, VanStory served as vice president and general manager of new media for The Weather Channel. Her achievements there included leading the growth of the award-winning weather.com site to its current status as a top content site on the Internet. She also helped extend The Weather Channel brand into new interactive distribution channels, including cable modems and push technologies.

Other positions previously held by VanStory include Director of Marketing for Bell Atlantic Video Services, and several product management and marketing positions with MCI.

VanStory is a director of shop.org, the leading online retailing association, and Michaels Stores, the leading retailer of arts and crafts supplies. VanStory earned a master's degree in marketing and management from Northwestern University's Kellogg School of Management. She holds a bachelor's degree in finance and management information systems from the University of Virginia.

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iMotors.com

You've never bought a used car like this.

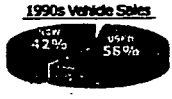
FACT SHEET

Profile

iMotors.com, the Internet's first and only used car e-tailer, has developed a breakthrough business model to create a better used car buying experience for the consumer. Through iMotors' user-friendly, easily navigable Web site or its toll-free customer support number, consumers can select and purchase the exact make, model, options, color, and mileage they want in a 1-5 year old used vehicle. iMotors will then find, buy, test, inspect, certify, warranty and deliver it to the customer_all at a price quoted up-front and guaranteed to be below Kelley Blue Book retail price. With its state-of-the-art Vehicle Certification Centers, iMotors is setting a new standard for product quality by taking full responsibility to re-manufacture and add value to every vehicle it delivers. By restructuring the used car supply chain, and eliminating the expense of inventory, retail outlets and salespeople, iMotors reaps greater operating efficiencies and unlocks unprecedented value for both consumers and automotive leasing companies.

Marketplace Snapshot

- **The U.S. market for used automobiles** is $370 billion, with consumers purchasing 40 million used cars in 1999, estimates Forrester Research, Inc.
- **Used vehicle sales** have outperformed new vehicle sales in the 1990s and currently account for 58 percent of total vehicle sales, according to J.D. Power and Associates
- **Used car sales influenced by the Net** will rise to 17 million in 2003, from 4.2 million in 1998 _affecting 40% of total used car sales, according to Forrester.



How does iMotors Work?

1. The customer selects from a virtual inventory of over 1.8 million used vehicles, specifying the year, make, model, options, color choices, and mileage of the vehicle desired online (www.imotors.com) or via a toll free number (1-888-IMOTORS).
2. iMotors' nationwide network of expert buyers quickly locate, assess and buy the car that meets the customer's specifications and iMotors' high-quality standards.
3. At an iMotors Vehicle Certification Centers (VCC), state-of-the-art used car reconditioning facilities, ASE and I-CAR certified mechanics and technicians conduct a comprehensive certification, thoroughly inspecting, making needed repairs and performing preventive maintenance on the exterior, interior, engine, transmission and accessories of each vehicle.
4. Once the car is ready, iMotors schedules a delivery appointment at a nearby Delivery Center. There the customer reviews the vehicle, test-drives it, and finalizes the paperwork.
5. The consumer drives away with a like-new car backed by a 7-day/700-mile money-back guarantee and a 3-month/3,000-mile warranty. The customer also receives an iMotors exclusive – the AutoBiography℠, a full disclosure of the vehicle's history, the inspection process and the actual work iMotors completed on the car.

Strategic Partners

COSTCO WHOLESALE	NAPA	BECHTEL
Costco and iMotors have been testing a co-marketing partnership in Northern California to offer exceptional used cars to Costco Wholesale members.	National Automotive Parts Association acts as iMotors' store within a store for automotive parts and tools, allowing iMotors to purchase all parts at considerable cost savings. Through its 9,000 car care centers, NAPA also provides warranty servicing for all iMotors vehicles.	This 102 year-old global engineering, construction, development, and management company and iMotors have entered into an exclusive, multi-year program to design and construct iMotors' VCCs worldwide.

iMotors Milestones

Apr 15, 2000	iMotors officially opens VCC outside of Cincinnati, and to celebrate, gives employees coupons to distribute widely, good for gas cards worth $100 when used to buy a vehicle from the company.
Apr 3, 2000	iMotors and Costco expand test program, offering iMotors vehicles to Costco members throughout Northern California.
Mar 31, 2000	iMotors introduces service in Portland, OR.
Feb 25, 2000	iMotors announces national infrastructure expansion with two new Vehicle Certification Centers near Cincinnati, OH and Atlanta, GA.
Feb 7, 2000	iMotors launches its services in the San Diego area.
Jan 20, 2000	iMotors launches its services in the Seattle area, its fourth major market launch.
Jan 12, 2000	iMotors announces that it has entered into a $300 million, multi-year program with Bechtel to design and construct Vehicle Certification Centers worldwide.
Dec 10, 1999	iMotors unveils a new $10 million advertising campaign in San Francisco, San Jose, Sacramento, and Los Angeles.
Nov 17, 1999	iMotors launches its service in Southern California.
Oct 21, 1999	iMotors raises $57 million in fourth round of financing, bringing total funding to $73.3 million.
Sept 8, 1999	iMotors becomes the first and only used car e-tailer, launches Web site, and rolls out service in San Francisco, San Jose, and Sacramento.

Management Team

iMotors has assembled a world-class management team with tremendous depth of expertise
in both automotive retailing and eCommerce. Key members of the iMotors management team include:

- **Adam Simms, CEO and Co-Founder**, is a visionary in automotive retailing with over 18 years industry experience. Among his many accomplishments, he was one of the first retailers to take
mega-dealerships to a one-price selling environment. Before iMotors, Adam was VP of the Hall Automotive Group, a 23-store dealer group generating over $400 million in revenue.

Adam Simms, CEO and Co-Founder

- **Beth VanStory, President**, joined iMotors from Office Depot, where she was Vice President in charge of launching and developing_Officedepot.com into an award-winning eCommerce site. Before Office Depot, Beth led Weather.com for the Weather Channel.

- **Eli B.A. Halliwell, Chief Strategy Officer and Co-Founder**, co-authored the first research report on Wall Street about Carmax in 1995 for Sanford C. Bernstein & Co. He was previously a member of DLJ's Global Retail Partners, one of iMotors' first venture investors.

- **Don Keithley, Executive Vice President of Industry Relations**, has more than 35 years automotive experience. Most recently, Don was EVP of Business Development at Capital Automotive REIT (Nasdaq: CARS).

- **Dave Frazier, Executive Vice President of Vehicle Operations**, has over 15 years executive level automotive industry experience. Dave brings an extraordinary level of procurement, refurbishment and logistics expertise to the company. Previously, he was EVP and COO of ADESA Corporation, the second largest wholesale auctioneer in the United States.

Investors

Launched in September 1999, iMotors is backed by world-class investors including Oak Investment Partners, Global Retail Partners, Trinity Ventures, Vulcan Ventures, Rosewood Capital Partners, Moore Capital Management, Inc., and MeriTech Capital Partners. iMotors has raised four rounds of funding totaling $73.3 million, earmarked to dramatically expand its West Coast operations and lay the groundwork for an East Coast presence in early 2000.

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PREPARED STATEMENT OF GENE HOFFMAN, JR., FOUNDER, PRESIDENT AND CEO, EMUSIC.COM, INC.

Introduction

It is a pleasure to take part in this hearing on removing barriers to the New Economy. I greatly appreciate the Joint Economic Committee's leadership in creating this opportunity for government and industry to focus together on how we can encourage our nation's continued technological and economic leadership.

My remarks today will focus on a top priority of the technology industries: the role of knowledge and intangible assets in the New Economy. For the companies that make up the New Economy, nothing is more crucial to success than the ability to attract capital for investment in new technologies, new products and new ways of delivering those products. Unlike the traditional economy, however, today's technology-driven economy is built not on hard assets or physical products, but on mindshare. It is therefore essential that accounting standards recognize the role that intangibles and knowledge-based assets play in the New Economy. Although accounting rules and the work of the Financial Accounting Standards Board are seemingly arcane, they currently threaten to undermine the factors driving the New Economy. Old approaches to the valuation of intangible assets and financial reporting of those assets represent genuine barriers to realizing the full potential of the New Economy.

Let me take a few moments to tell you about EMusic. Since it was founded in January 1998, EMusic has established itself at the forefront of how new music will be discovered, delivered and enjoyed in the next decade. In addition to having the Internet's largest catalog of downloadable MP3 music available for purchase, EMusic operates one of the Web's most popular families of music-oriented Web sites -- including RollingStone.com, EMusic.com, DownBeatJazz.com, and IUMA. The company is based in Redwood City, California, with regional offices in Chicago, Los Angeles, New York and Nashville.

EMusic.com is the Web's leading site for sampling and purchasing music in the MP3 format, which has become the standard in the digital distribution of music. Through direct relationships with leading artists and exclusive licensing agreements with over 650 independent record

labels, EMusic.com offers music fans an expanding collection of more than 100,000 tracks for purchase -- individual tracks for 99 cents each or entire downloadable albums for $8.99. EMusic.com features top artists in all popular musical genres, such as Alternative (Bush, Kid Rock, They Might Be Giants, Frank Black), Punk (Blink-182, The Offspring, Pennywise), Jazz (Duke Ellington, Dizzy Gillespie, Louis Armstrong, Concord Records), Blues (John Lee Hooker, B.B. King, Buddy Guy), Hip Hop (Kool Keith, The Coup), Country (Willie Nelson, Merle Haggard, Patsy Cline), Rock (Phish, Goo Goo Dolls, David Crosby), World (Nusrat Fateh Ali Kahn, Lee "Scratch" Perry) and Vintage Pop (Liza Minnelli, Eartha Kitt, Judy Garland).

To give you an idea of how fast the downloadable music industry is growing, the company has now sold over 1 million songs in the popular MP3 format since its launch. This total includes single-track sales as well as tracks included as a part of albums and special collections. In addition, EMusic.com's catalog has grown to offer more than 100,000 high-quality MP3s for sale from over 650 independent labels.

EMusic is part of the New Economy, both culturally and technologically. At twenty-four years old, I am the youngest CEO in NASDAQ. I am one of those freaks of nature in the high tech world – but in a very good sense. I am very proud of the fact that I have taken ideas and created companies with my friends and with many new people that I have been fortunate to meet along my journey. EMusic is my third company. My first, PrivNet, I created while in college. I sold it to PGP, Inc., and went to work for PGP. PGP was sold in 1997 to Network Associates. While at EMusic I have bought four companies. Creating companies, jobs, and economic wealth – all depend on sound accounting principles supported by well thought-out public policy. EMusic is a young company that has grown by acquisition. So far EMusic has done purchase transactions because we are not poolable. This is one aspect of the impact of accounting rules on the New Economy. I will come back to that point shortly.

It is important to understand that EMusic represents significant intangible assets. Many companies in the New Economy do not and will not have any physical assets. Their value is either between the ears of their employees or on the hard drives of their computers and networks. EMusic digitally delivers music to consumers.

So far my earnings are not too significant; they are increasing however. EMusic currently reports a loss. I can tell you that our

intangible losses are much more significant than my cash base losses because we write down a lot of intangibles. Purchase accounting requires that we write down our intangibles as if they were wasting away. And I assure you that if these assets that I have acquired are in fact wasting away, EMusic's shareholders will soon make me Nasdaq's youngest ex-CEO.

Accounting and Economics

Growth and improvements in information technology have, as Treasury Secretary Lawrence Summers said recently, "a great deal to do with our current economic success." "But," he cautioned, "it would be a grave mistake to assume that it all goes forward automatically." While the accountants at the Financial Accounting Standards Board say that they do not look at economics, and some economists might say that accounting isn't relevant to economic decisions, the facts on the ground in the New Economy say that they are closely related. Financial numbers are the language that investors must be able to read in order to make good decisions. Accounting rules are the syntax and grammar of this language. These rules can make the language either clear or incomprehensible to the individual investor and to the markets as a whole. I can tell you right now, when it comes to accounting for goodwill and other intangible assets, the rules obscure rather than clarify.

This is important to the whole economy, not just the New Economy. As Treasury Secretary Summers said, one fundamental change at the heart of the New Economy is "the move from an economy based on the production of physical goods to an economy based on the production and application of knowledge" – and, at the risk of seeming biased, I would add: "production and distribution of music"!

There is a microeconomic and a macroeconomic impact from the inability of investors to discern the actual financial condition of intangible-laden businesses from their financial reports. First, if the company's GAAP financial reports misstate the business' condition by obscuring the value of its intangibles, the company's cost of equity capital will rise. This is especially true for newer, smaller companies that do not have dozens of analysts following them and performing separate, non-GAAP, analyses of their financials.

Second, from all these individual investment decisions, based on poor or misleading information, there is a high likelihood that capital will be misallocated. This is a barrier to the continued advance of the New Economy.

Purchase vs. Pooling

As you may know, there is a debate raging about accounting for mergers and acquisitions. The Financial Accounting Standards Board ("FASB") has a plan to eliminate pooling accounting and to force all business combinations to be accounted for as though one company purchased the other. Purchase accounting is the method that Emusic has had to use up until now and purchase accounting forces EMusic to amortize and deduct the value of the intangible assets I described earlier. Therefore, unless FASB makes significant changes to purchase accounting before it moves to eliminate pooling, investors will continue to receive distorted information about New Economy companies. FASB's plan to eliminate pooling accounting misses two fundamental points that I want to leave with you.

I don't think good public policy here should make this an either-or discussion. There are problems with both purchase and pooling accounting. So my first point is, FASB needs to fix purchase accounting first before it goes after pooling.

There is a large problem in the high tech community: the growing disparity between book value and market value. The problem can be traced to the fact that much of the value of these companies is in intangible assets. So my second point is that we really need a better method for measuring intangibles.

As more economic wealth moves into intangibles, accounting methods and their supporting public policy have to keep up. By not fixing purchase accounting and by eliminating pooling accounting, FASB threatens the New Economy. Moreover, there will be no improvement in the flow of information about companies to markets and investors. As we all know the past few years have enabled more Americans to directly invest in the stock market and individual companies. Many Americans do so via the Internet; many have stock from their employers; many have their retirements and investments in stocks and mutual funds. Just as transparency and the flow of information are critical to the success of democracy, it is critical in the increasingly democratic, egalitarian and participatory stock markets.

The Entrepreneur's Dilemma: An Example of Accounting and Economics

As an entrepreneur I have two options to perform a transaction. I can utilize the purchase accounting method, under which I have to take an EPS impact in the future, or I can do a pooling, which obviously has positive benefits for my company as a high tech company and an intangible asset company. Those companies that have built their intangible assets from the ground up don't have that hit against their earnings, frankly, because those intangible assets have never been valued. But when I buy a company and am required to value and amortize its intellectual property assets (i.e., its intangible assets) that work against my business decision to acquire.

Frankly, these valuations are not black and white. A company can see the value of its assets increase without doing anything. For example, an artist such as Madonna can perform an old song and increase its value even though a company unrelated to Madonna and her record label owns the song. The problem is that valuation is confusing, and if it is confusing to companies in the business that know or should know as much as there is to know about valuing intangibles, then where does this leave the individual and institutional investors? One of my biggest concerns here is how intangible assets are valued because I am not sure that the public really knows what stated assets are really worth or are not worth. Institutional investors may be able to get into the details and ascertain from their own perspective what value may be, but the average Josephine is not likely to decipher what is and what is not included in a company's pro forma presentation of earnings before she makes her personal investment. Notwithstanding the great amount of information available to individual investors via the Internet, the average individual investor simply does not have access to the analysis that companies and institutions do.

This touches upon an even larger public policy issue. And this issue underscores why it is so important for the Congress to increase its oversight of FASB and how it changes accounting rules. This larger public policy issue is a matter of who gets the information, in what form and when. Individuals may not get all the information at all, in a useable form, or they may get it at the last moment after others have seen it and made their move in the market. This is an increasing market inefficiency given the expanding amount of capital flowing into the market from individuals and the growth of margin debt.

Conclusion.

When so much of the value of the American economy is tied up in intangibles assets, how these assets are perceived is really the driver of value. If the market is being driven more by perception than by the principles and rules that government, industry and professionals have set out, then effective governance no longer works and the anarchy of the market has taken over. This is not fair to individuals and is not reflective of our nation's democratic values. Intellectual property is an extremely important part of our nation's export economy.

Whether it is Hollywood in southern California or Silicon Valley in northern California, ideas and intellectual property are drivers of our nation's economic growth and international economic influence. Valuation of intangibles like intellectual property must be grounded on sound public policy and democratic values.

In closing, I want to leave a clear impression with you. The current process is flawed and FASB needs to fix purchase accounting first before they do anything with regard to pooling or other rules. The big problem for high tech companies is the fact that current purchase rules do not provide investors with better or more useful information. The high tech community has been engaged on this issue through organizations such as TechNet but to date the feed back from FASB has been less than satisfactory. While I am not in favor of any new governmental role here or in any new body charged with setting accounting standards, we do need to work together in a new way to develop a better method for measuring intangibles such as intellectual property.

FASB's proposal to require all companies to use purchase accounting will only make these issues worse and will not improve the flow of information to investors, especially the individual. I am pleased that Congress has chosen to exercise its proper oversight over the FASB process on this important economic issue and look forward to working with the Congress in the future on this issue.

PREPARED STATEMENT OF JUDITH HAMILTON, CEO, CLASSROOM CONNECT

Introduction

Good morning, Mr. Chairman. I would like to thank you and the Committee for providing this forum and for the opportunity to participate in this discussion about High Technology and its role in the new economy.

It is my privilege to represent the education technology industry to discuss the impact technology has for developing an educated workforce in this new economy. Specifically, the Internet has the potential to dramatically improve the educational opportunities and outcomes of students from all backgrounds and needs.

My goal today is to identify the key benefits today's technology plays in the education process and the role of the Federal Government can play in moving this to a higher, more pervasive and sustaining plateau. The critical question is: How can you, Congress, provide the leadership to offer our children the opportunity to benefit from best teaching and learning practices that education technology can provide to prepare them to be educated, productive members of the new economy?

Over the past two days, you have heard a great deal of rhetoric and even alarm about the state of our education system and its ability to produce the workforce needed to grow our new economy. Yet I will proudly note that we see many incredible successes taking place in the schools. Some of these I will share with you briefly to encourage you to increase your attention and support, to make these experiences pervasive throughout our country.

In preparing for this testimony, we asked educators on our online discussion boards, "what are the one or two most compelling challenges confronting the success of using technology in the classroom?" I will share some of the input we received in 24 hours form nearly 300 educators.

Classroom Connect

But let me step back and introduce my company as an example of the new publishing world producing high quality digital content for the schools. I am CEO of Classroom Connect, a company that was started with the promise of customizing content and training to provide new learning strategies using the Internet. Our goal is to connect classrooms and learners of all types, from any location with external, dynamic resources within a global learning community. We develop curriculum and training products for the K-12 community: 1) Internet literacy; 2) subject specific curriculum using the Internet; 3) interdisciplinary adventure learning Quests connecting students, teachers and actual teams of scientists on 4-6 week expeditions; 4) online professional development through our accredited Connected University; and 5) over 10 conferences a year around the country where educators share their successes, skills and knowledge using the Internet with other educators. All of our products and activities are closely aligned with the standards teachers must address around the country. Our ultimate goal is to move students down the path to succeeding in the new economy.

I will share one interesting aside about our company. Much of what we hear these days is that our public education system is not producing a competent workforce for the new economy. I conducted a poll of our own employees in our relatively new technology based company. Out of 130 people, 87% are products of public education as I am, and 46% are former educators who are helping us create high quality, pedagogically sound products. Just as we have success in the new economy, so can other students across the country if given the skills and knowledge necessary to achieve as we learned. Our company's goal is to help make that happen. We are very bullish about the potential of schools in our country to fill the workplace pipeline if we all work together to address some of the issues I will identify today.

The Importance of Education Technology

The Internet is now an indelible fabric of American society. With it comes a tremendous responsibility to understand it, manage it, and use it effectively in all we do. Its role in education is critical not only for managing the business of education but also for enhancing and extending teaching and learning. The products of education, our children, must have the skills and knowledge of the use of this technology in order to be productive in the workforce of this new economy where the majority of jobs will require its use.

Given high quality content and used effectively, the Internet is a *dynamic tool for teaching and learning*. Students can access information as a resource as an event is happening. While a volcano is erupting, students around the world can watch the event taking place through streaming video, access statistics comparing scientific data with similar volcanoes and the impact on the environment, and they can collaborate with students from the area to learn what it is doing to heir homes, their schools, their communities. Rather than learning about volcanoes in a vacuum, this is live, relevant. The substantive knowledge accrued has the potential not only of being retained more indelibly but it often stimulates awareness of new career options.

Research has shown thus far that in the learning process technology increases *critical thinking skills* in exciting new ways. With the vast amount of information available to us increasing at exponential rates, we can no longer expect our students to learn through rote memorization. They must apply higher level thinking skills to search and analyze the vast repositories of information now available on CDs and the Internet, to formulate questions, construct meaning, and measure their solutions against standards or benchmarks that provide them a roadmap to academic success. And they need to communicate this learning. It is significant that the International Reading Association has established a new communication skill–presenting–that is required along with the basic skills of reading, writing, listening and speaking. Technology enables this to be done professionally by learners of all ages.

The Internet can *empower* students to act on their learning–ask questions of experts; seek corroborative information; present information with graphics, sound, and video; and collaborate with a targeted group working on the same problems to reach a solution. With access to standards and benchmarks, they can use diagnostic tools to assess their own progress. They can receive constructive feedback from instructors and mentors in a timely manner to avoid gaps in their learning that may prevent progress. Teachers can provide *individualized/personalized learning* in ways they could never do before to strengthen students' weaknesses and enhance their interests. They can tailor feedback to children within minutes so they don't lose the critical momentum that happens when learning something new.

And one can never underestimate the benefit that the Internet provides for *collaboration*. Despite physical handicaps, regardless of socioeconomic status, students in rural settings can now study courses with students in large urban districts or in other countries. *Distributed*

learning allows students to participate as part of a learning community no matter where they reside *anytime, anywhere*.

They can complete their homework, which may include interactions with their families, making it richer and more relevant than ever before. Recently a national survey released stated that 89% of parents say Internet access helps their children with homework. I would like to quote a teacher from Loudon County schools in Virginia: "Making sure the students learn technology skills they can take home...is an important way to break down the ubiquitous digital divide. Students can inspire their parents to gain skills by their own excitement in learning and using technology."

The Challenges

The Internet can transform education in many ways. But significant barriers must be overcome. As one teacher said to us: "Educational technology can be the most important change in education in the last 200 years or the biggest blown opportunity." We must ensure the former.

1. High speed connectivity- First we must make this technology accessible to all students in all socioeconomic areas. This is a key role for you to play. The E-rate has provided connectivity for nearly all schools. But just as legislation helped make cable television available to all schools, we must provide low-cost, wide spread availability of broadband, high-speed Internet access. To date, only a handful of wired classrooms have adequate bandwidth to receive images or streaming video rather than only textual information. Today much of our learning fits the old proverb, "a picture is worth a thousand words."

2. Technology and support- Next, for teachers to take advantage of the Internet, it is implicit that they have access to the technology and infrastructure capable of performing the state-of-the-art operations, the support–both technical and mentoring–to use the technology, access to high quality digital content, and tools to monitor their and their students' progress.

From Springfield, Massachusetts, one teacher wrote "Many teachers have had their interest in using the Internet daunted by out-of-date equipment, unreliable connections, and frustratingly slow access speeds."

You must ensure an ongoing investment in providing access to technologies capable of performing these state-of-the-art operations that can enhance and improve teaching and learning and support to use them. 80% of computers in schools cannot show a live image from either a CD

or from the Internet. They are as obsolete as a Model T. Equipment upgrades for schools are not factored into the financial models at the Federal, State or Local levels.

We receive wonderful e-mail from teachers using our products that make tremendous progress under even the most adverse conditions. In Dallas, TX, a sixth grade teacher using one of our adventure learning products–MayaQuest–wrote: "MayaQuest is the project that got our school into the technological age. The project is so interesting, educational, and easy to use that it was the first activity our school tried online. We did it with classes sitting in the hallway, crammed around the only computer in the school with a modem connected to the principal's phone." Can't we all address conditions like this to bring these schools into the new digital age without such adversity?

3. Teacher Training- Finally, although I have stressed technology so far, let me assure you that technology is not a panacea for learning in our schools. On the contrary, it is merely a tool that students must learn to use effectively and responsibly in order for it to make a positive difference in their education. The key to making this happen is the teacher.

It is critical for all of us to address the issue of teacher training. In a report released by the National Center for Education Statistics, teachers with more than 32 hours of professional development are twice as likely to use computers as teachers with no such training. If we are to invest in putting hardware and infrastructure in schools, we would be totally remiss if we did not provide the professional development that enables teachers to use it effectively.

An elementary teacher from Brunswick, Georgia states: "School districts can purchase millions of dollars in equipment, but if teachers don't know how to use it, what good does it do the students...My dream is that the Federal Government would fund teacher training programs in schools throughout the nation so that teachers can effectively prepare children for their future."

In companies like ours, a basic tenet for our economic success is an educated workforce. We hire people with a required baseline set of skills and knowledge but the rate of change in the technologies and their applications they must use is exponential. This implies a fundamental ongoing investment in professional development to ensure each employee is up to date on the technologies we use, the skills they need to use them,

a common set of understandings about their potential, the goals we wish to achieve, and feedback as to how well they are doing.

Education has not been a business known to be revolutionary in character. In fact, much of how it works has not changed for a century. Yet we have introduced a revolutionary tool into an evolutionary workplace. The majority of teachers now in our schools did not learn to use technology until they were already teachers. In the NCES study mentioned above, virtually all full-time regular public school teachers reported that they now have access to computers or the Internet. BUT two-thirds of teachers also said they are not well prepared to use the new technology for classroom instruction. Add that to the nearly 2M new teachers that will enter the teaching ranks over the next seven years, there is a huge training challenge before us.

At the beginning of this testimony, I mentioned that we had polled educators to give us input of the key challenges they faced in using technology in instruction. Nearly 70% said professional development was their top issue. They clarified two ways: 1) continuing education to increase the skills of the innovators and 2) education for new adopters who were just beginning to integrate technology into their curriculum. The operative word is continuing professional development. Just as industry provides ongoing education for its employees, we too must do that for our teachers.

A teacher form California shares: "...teachers need to learn to implement technology daily into their curriculum without even being aware that they are doing so. Once this is done, technology will become effective in a daily use and not seen as something 'special' but as something useful."

The Internet can help by offering online professional development to allow teachers to learn anytime, anyplace. In our Connected University we have learned that teachers take their courses on nights and Saturdays which should be no surprise given their work schedules. Add this to time for ongoing face-to-face training and mentoring, our teachers can all learn to teach effectively using technology. Finally, ongoing research to ensure its effectiveness and that of subsequent student competency using technology will facilitate our students becoming successful using technology to become productive members of the workforce of the new economy.

An educational technologist from Wooster, Ohio summarized this issue so aptly: "...one of the remaining barriers I see to bridging the

Digital Divide is getting teachers prepared to use the computers as an integral part of their daily lessons...With a large percentage...still teetering on the brink of technological illiteracy, the challenge is to address their needs and thus affect what students can do with computers in their classrooms.

Role of the Federal Government

The Federal Government has traditionally demonstrated its leadership by providing a vision, serving as a catalyst for new initiatives in the nation. You have invested in the research to prove the efforts have merit for pervasive use. You provided communities with resources necessary to take advantage of new proven tools to seed their introduction, thus encouraging state and local entities to assume ownership over time.

Technology in education falls into the realm of new initiatives. You have taken some initial steps to seed this initiative. The E-rate has provided connectivity for nearly all schools in the country.

You have also established initial research efforts such as those conducted by the Department of Education providing models for schools to replicate. The Web Based Education Commission chaired by Senator Kerrey serves to gather information to define a roadmap for lawmakers and education decision-makers to assure access and educational excellence through web-enabled learning. Senator Bingaman is also a key member of this Commission.

These efforts are a great start but now is the time to invest in a major effort to take us from the first plateau where we are now to the next level, where technology will be pervasive, accessible, and used effectively.

A technology coordinator from Warren Township in New Jersey summarized what this effort will produce: "...The ultimate goal, of course, (is) the use of technology in teaching students. Students will be the ultimate beneficiaries of their teachers' skills with technology."

Call to Action

In preparing for today, the question was what one challenge I would give this Committee to address. It is very clear what that must be: develop and fund a national initiative to provide ongoing professional development on the integration of technology into the curriculum. This means provide them the skills and knowledge to use and teach with technology, access to the technology capable of performing what they have learned, and the ongoing research to monitor the effectiveness of the training and its subsequent implementation. Ongoing research should

monitor how the students perform as a result of the teacher training–the ultimate measure of success.

Close

Members of the Committee I thank you for this opportunity to provide this testimony. Remember, if used effectively technology continues to provide tools for teaching and learning that can be an extraordinary positive force for improvement in our schools and for increased success in the new economy.

PREPARED STATEMENT OF DR. ANN BRYANT, EXECUTIVE DIRECTOR, NATIONAL SCHOOL BOARDS ASSOCIATION

Good Morning, Mr. Chairman. Thank you for the opportunity to speak before your committee. High Tech Summit III is important.

From what you have heard and I have read over the last one and a half days, we should have some serious concerns.

In a Wall Street driven-world, it is easy to forget the realities behind the super stars and the super stories.

Reality Number 1. For high-tech companies to survive and thrive, the people they hire have to be smart, skilled, and flexible.

Reality Number 2. Hiring workers from overseas is a short-term solution. The harder and better long-term solution is providing excellent, intelligent, and technology rich schools where children are inspired to learn and do so in a highly competitive culture that is world class.

Reality Number 3. Our nation's public schools are not all there yet. Many are, and we have to learn from the successes at the Bronx High School of Science, Midwood High School in Brooklyn, Thomas Jefferson in Fairfax, VA, Montgomery Blair in Montgomery County, MD and the Advanced Technologies Academy in Clark County, Nevada.

Reality Number 4. With some notable exceptions, the leading tech companies and the start-ups are not sufficiently worried about our nation's future to be true partners with our community's schools. We don't need a software company that sees the $360 billion education market and creates a fun game-like learning experience and gives it free to teachers–with no training.

Reality Number 5. It is just plain wrong that in the 21st century in the United States of America, children go to schools that have leaky windows and roofs, toilets that don't work and where wiring the Internet is the last thing on a teacher's mind because she can't get sufficient textbooks or supplies to begin the year.

[I do not believe that any dot.com–no matter how quirky or how small–would allow their highly qualified employees to work under the conditions that many of our students experience every day at school.]

Reality Number 6–which promises us hope. Schools that have fully integrated technology find that test scores and student achievement go up, student motivation improves and behavior problems decline.

But, according to a new report[1] issued last month, more than 20 million children attend schools that are not equipped with classroom computers because the school lacks the wiring and infrastructure.

This is a case of the technology haves and have-nots.

Some schools have almost no modern computers, limited software and no possibility for professional development for teachers. Other schools have top of the line laptops loaded with the latest software and teachers who actually know as much as their students do about the Internet.

This digital divide must be closed if we are to ensure that all students–boys and girls; rich and poor; black and white–obtain the educational benefits of technology. Schools can make technology accessible to all. But we need support from policy makers and the high tech industry.

This digital divide exists even as the U.S. economy continues to expand. The National School Boards Foundation completed a nationwide survey earlier this year and found that 70 percent of high-income parents said their children were online. Only 35 percent of low-income children use the Web, and three-fourths of them logged on at school.

Schools can level the playing field.

One of the ways of bridging the gap is through the E-Rate [-the Congressionally approved FCC program that gives discounts on telecommunications services to schools and libraries.]

In 1998, 68,220 schools participated in the E-rate. Year two, the number increased by 15% to 78,722. In its first two years in operation, the E-rate helped connect over one million classrooms. This year, applicants have requested $4.72 billion in discounts, but only $2.25 billion is available.

Clearly, there is a huge demand for these services–and more.

In depth corporate partnerships with schools–not donating used computers–is a way to make sure the full range of technology is available. These partnerships are already working. In rural western New Jersey, a partnership between high tech businesses, including Bell Atlantic and AT&T and Hunterdon Regional High School has given

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[1] "Modernizing Our Schools: What Will it Cost," National Education Association, May 3, 2000.

students new learning tools that has resulted in an increased number of students passing state-mandated tests, higher overall achievement and a reduced drop out rate.

The "Buddy" technology project in Indiana is another example of a business partnership that worked. Students who participated showed an improvement in writing skills three times higher than those in schools that did not use technology.

We need equity of access to technology. Learning is becoming a 24 hour-7 day a week process. We have to move beyond the typical 9-month school year and 6 hour school day. Growing school enrollments are dictating more flexibility since many schools are bursting at their seams.

Our ability to raise the productivity of the education system is at stake.

Congress and the Technology Industry must take a leadership role and we need this leadership now, today.

First, Congress must stop using education as a campaign sound bite and instead put up the money to fully fund our children's education. The paltry 2.5% increase in the House Appropriations bill does not cut it. Along with full funding, school districts need the flexibility to use the money in a way that best meets the needs of their students–for computers, curriculum or professional development.

Second, we must expand the E-rate. The need is there, the demand is there. Now we need more and continued funding.

Finally, the next time tech executives come to the Hill talking about software privacy issues or visas, ask them what they have done lately for their community schools.

July 20, 2000

The Honorable Connie Mack
United States Senate
Washington, DC 20510

Dear Chairman:

Excellence and Equity in Public Education through School Board Leadership

It was a pleasure to have the opportunity to testify before the Senate Joint Economic Committee on June 7, 2000 regarding barriers to the new economy and the importance of providing excellent, intelligent, and technology-rich schools for all of our children. During the course of the hearing, I made reference to the reauthorization of the Elementary and Secondary Education Act (ESEA). Unfortunately, due to the Senate vote, I did not have the opportunity to share with the Committee the concerns of the National School Boards Association. Therefore, I wish to submit additional comments for the record.

As you are aware, school board members across the nation are being challenged to establish more rigorous standards, realign the curricula, expand professional opportunities for teachers and other school leaders, and hold all stakeholders more accountable. These challenges require stronger partnerships with the business community, more intensive public engagement, and increased financial commitment from both our state and federal leaders. The reauthorization of ESEA, with its expanded technology provisions, is critical to meeting the educational needs of America's children.

As you continue the debate before the full Senate on S. 2, The Educational Opportunities Act, the National School Boards Association urges you and your colleagues to build upon your strong support for technology in our public schools. Key provisions of this legislation:

- Authorize increased funding to support technology programs.
- Targets funding to those school districts with the highest concentration of students in poverty. We support the various provisions within S. 2, such as Title I, to ensure that the needs of student in poverty are addressed.
- Expands professional development opportunities for teachers and administrators that accelerate the integration of technology into the curricula. Provisions under Title II that would direct 95% of professional development funds to LEAs As you are aware, the reauthorization of ESEA is critical to meeting the educational needs of America's children.
- Enables local school districts to more effectively implement technology programs that meet the local academic needs while supporting more rigorous standards and realigned curricula.

National School Boards Association
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- Authorizes research to fully understand the impact of technology not only in the classroom but also in creating alternative approaches in the delivery of public education.

At the same time, NSBA opposes legislation that mandates or requires the use of filters as a condition for federal funding to local school districts. Apart from its school technology efforts through ESEA, Congress is commended for creating the E-rate program which is proving to be enormously successful in providing equity in learning opportunities for the nation's neediest children.

If you have specific questions regarding these issues, please contact Reginald M. Felton, director of federal relations, at 703-838-6782, or by e-mail rfelton@nsba.org.

Sincerely,

Anne L. Bryant
Executive Director

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