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Venture Investment Opportunities In The Digital Age

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Alan Spoon: a rising tide

Good afternoon. If you pushed away the pumpkin mousse cake, fear not; the real dessert is being whipped up right now. It's a mouth-watering concoction made by shaking, not stirring, four choice new media morsels, putting them on the grill and serving them up for your tasting pleasure.

I'm Alan Spoon, president of The Washington Post Company. I'll be your moderator for this panel of four distinguished business dynamos. Their feast will be one of perspective and prophesy about opportunities in the digital age.

In the order of their comments, they are Bob Pittman, president and chief executive of AOL Networks, which as everyone knows, operates the world's most popular, and now profitable, online service. You doubtless also know that Bob was creator of MTV, proof of his unparalleled sense of consumer marketing and behavior.

John Sidgmore is CEO of UUNET Technologies and vice chairman and COO of WorldCom. In the past three years, UUNET has grown from $7 million to $300 million. Now, together with Bernie Ebbers, the two are set to be one of the intergalactic driving forces of the digital era. MCI, here they come. While Mr. Ebbers has made, I understand, over 40 acquisitions in 15 years, Mr. Sidgmore may have been his best one. John is a great example of someone who has built value on vision, especially his vision of Internet infrastructure. Hey, John, is this a great time or what?

Mark Warner, one of the leading entrepreneurs in the high-tech industry has been the consummate creator of wireless communications firms. As managing director of Columbia Capital, he has launched four public and ten private companies and one cliffhanger Senate campaign. He has proved he is a navigator without peer in both the technological and regulatory maze surrounding high tech.

Mario Morino is another of the country's most penetrating crystal ball gazers. Like Mark, he's someone who took a few hundred bucks of his own money and built one of the most successful firms in the industry, Legent Corporation. He is also someone whose sense of what is possible in the new information world is more expansive than just about anyone else's. As creator of the Potomac KnowledgeWay Project **<knowledgeway.org>** and its Netpreneur Program **<netpreneur.org>**, he has turned vision into reality, by helping Greater Washington become recognized as a global center for the knowledge industries.

As for your moderator, you probably want to know a bit about what The Post Company is pondering and investing in in the digital-networked world. Along the way, I need to remind you, we're still investing in analog in its various forms—television stations, cable in its current configuration, with excitement about the digital possibilities ahead, and newspaper assets. How about a quarter-billion dollars in new presses and plants, one of the biggest industrial investments ever in the Washington region?

But the growing potential of digital hasn't escaped our attention. Obviously, we have a big commitment to Web publishing, and we're capitalizing on the innovations it allows. Most visible in the region is Washingtonpost.com. This isn't our first foray into electronic publishing. Nor mine.

I did my master's thesis project entirely on what was then called time-sharing, 25 years ago. Online is not new to me or to us. Similarly, The Washington Post Company has long been a national electronic publisher of federal government information through our Legis-Slate subsidiary. But mainframes gave way to browsers and, voila, for the first time the Web now makes it possible for Legis-Slate to offer a 50-state legislative service as well. So what kind of broad opportunities are we looking at today in the digital world? Consider three broad areas.

First, we intend to extend our brands locally, nationally and internationally. Several facets of the *Post*'s brand transfer readily to the electronic environment. One is politics. The *Post* is the country's most authoritative voice on politics and the most efficient way to find out about it, whether in DC or now throughout the world. Our newspaper Web site, Washingtonpost.com is attracting millions of page views. It is number four in volume among news sites, according to *Forbes*, trailing only three national media: CNN, USA Today and MSNBC. We have long been in the business of informing consumers in print about what I will call "local brand transfer" in arts, entertainment and community information. We have done this in a big way in our Weekend and Weekly sections, helping consumers make choices. We're now doing that on the Web with much greater depth and customization and with much more on the way. Then there are classifieds. The *Washington Post* is the region's largest and most efficient market-place for finding a job, car, et cetera. This bazaar will be moving to the 'Net in a serious way. Make no mistake, we know classified is a large question mark for the print media. We and several other newspaper companies have formed partnerships to extend our reach and enlarge our share of the classified advertising market. In the case of recruitment, you're probably familiar with CareerPath, the classified Web site sponsored by over 40 newspapers. It's a huge jobs database that is now turning its attention to an aggressive marketing strategy. In autos, real estate and other categories, new joint ventures are being formed among newspaper companies to go on the offense to preserve and improve the position of each newspaper in its market as well as to offer a rich, national service. In venture capital metrics, the capital behind these classified partnerships is substantial. The emotional conviction even greater. We're confident that we'll be successful in these efforts as we grow our store of classifieds across the several media, new and old. We're less confident about what the character of the classified revenue pool will be.

In addition to the opportunities offered by brand transfer, we also see the need for new services that support publishing activity on the Web. That's the second kind of broad opportunity we intend to exploit. The Post Company has taken an investment position in a number of companies that provide such services. For instance, City Search, a company whose technology and production system allow us to best produce and display entertainment and community information on the Web. City Search, alone or in concert with other local newspapers, publishes Web guides in a string of cities across America and internationally. The City Search playbook has also opened up a new field, Internet directory sales. More than 500 Washington area retailer Web sites will soon be available through Washingtonpost.com's directory, and the number grows daily.

Junglee is another tools company we have invested in. Junglee technology transports The Post's and other newspapers' classifieds to the Internet in a way that takes full advantage of Web functionality. In addition, it enables us to pull in other classified advertising to perform a more powerful central marketplace for growing revenue. A third company is Personal Logic, a venture in which we're partners with Barry Diller, Vulcan Ventures, Softbank and American Express. This one helps consumers make informed decisions about important transactions in their lives, such as car and mutual fund purchases.

In all, investments such as these help us press forward in electronic publishing and serve as an interesting perch from which to study the seriousness of the evolution of electronic commerce (e-commerce) on the Web.

At the same time, I've got to tell you that while digital offers a lot of potential and software is a powerful means to inform and educate, our company's fastest growing business unit, Kaplan Educational Services is expanding by weaving digital into its growing mastery of the analog experience. Putting a CD for law board prep under your pillow doesn't achieve the same transfer of knowledge as going to class and interacting with teachers and students. Sure, we sell those CDs and books in stores across the land, but students still want to attend Kaplan classes and use our technology tools which supplement and reinforce their person-to-person learning.

Parents, too, are taking their children to Kaplan's new Score facilities which provide enrichment and remediation for kids in grades K-12. Score at Kaplan Centers combine personal instruction, high technology tools and a focus on building self-confidence to create an effective learning experience. We will soon have 40 of these open, on our way to doubling the chain in short order. Nicely established in California, we're bringing it to the East Coast this year. Between Kaplan, the *Post*, and *Newsweek*, we don't see a future where everyone sits in their private cave with a laptop.

Third and finally, we are investing in the Greater Washington region's own technology community where, as you know, there has been an explosion of Internet-based activity and growth. The *Washington Post* newspaper has bolstered its bench, skills and commitment to covering the high-tech industry here. Last year, The Post Company bought a small but high quality and growing trade publisher, Washington Technology. It publishes three trade magazines—*Washington Technology* and *Integration Management* for systems integrators, and *TechCapital* for the region's technology finance community. Just this week we reached a tentative agreement to purchase two additional technology publications from Reed-Elsevier, the powerhouse *Government Computer News* and *Reseller Management*. We've also agreed to acquire major trade shows, FOSE and FEDNet/FEDimaging here in Washington as well as a show called SCAN-TECH.

In short, the high-tech industry is the second largest and fastest growing employer in this region. Its health and welfare is a good business opportunity, and a force for the rising tide we hope will lift all boats. I'm sure after hearing our panelists today, you'll want to climb aboard.

Now, as I turn to the panel, I need to remind you, this is being taped, and we have distinguished media here listening to the comments, so as you ask your questions, just be aware of that. With that, I will turn it over to Bob.

Robert Pittman: **people buy brands**

From the perspective of the online service business—and I point out the consumer online service business that AOL is in—the key factor in evaluating winners and losers in the space for us, our competitors and the people who are servicing or are allied with us is to start with the fact that it's a consumer product. With a consumer product, at some point it becomes simple—what does the consumer want?

If you take two steps back and analyze the consumer from a "big trend" perspective, it answers an awful lot of questions about broadband or disaggregation or which kinds of services or products will the consumer want and what will they be willing to do to get them. Those big trends are the same whether you're talking about online service, fast food, real estate, theme parks or cable TV because it's the same human being. They don't change their behavior when they change products.

We are past the point in this industry of the early adopters, the people who don't have a life, who are computer obsessed. This is not the first industry in which I've encountered a vocal group of people who are obsessed with the product. There are a lot of people whose computer is their hobby. You have to discount them because they are not reflective of mass market behavior. When I was in the theme park business, we had a group of people who would buy a season pass, come 50 to 100 times a year. They would take every vacation at a theme park. They love theme parks, but you never listen to them about what you should do. They have their own publications and they rate theme parks in America. Disney was never number one. We all know what the best theme park is. It's Kennywood, right? In Pittsburgh, Pennsylvania. I know your kids are begging you to go there. But the enthusiasts rated it number one because they evaluated it on metrics different from what the normal consumer is looking for.

In this business, or in any consumer business, there are two big trends going on. One is that, in consumer products today, people are primarily buying convenience—save me time. If you think about it, leisure time in America leveled off in the 1970s. Products that were not an efficient use of time went by the wayside. Products that could maximize your use of time became a necessity. Boating, general aviation (I'm a pilot), fishing, hunting, basically dead industries. Why? Because they require too much time to consume the activity. Theme parks, microwave ovens, dishwashers, cable TV, VCRs are all products which have been on the rise.

Online service, if you think about it, is nothing more than a more convenient way to do things you're already doing. We're not doing anything new. We would like to crow and say, "Wow, isn't this new!" But, it's just an online version of something that already exists.

When the VCR and cable TV came out, making it possible for you to run Star Wars on your TV, it was an inferior experience to the theater experience, yet it was more convenient. Therefore, it was destined to succeed, and it did. Socializing is the number one activity in America. Is it any surprise that email, chat and instant messages (IM) do very well on AOL? They are nothing more than a more convenient version of that activity. You don't have to get dressed; you don't have to go out.

IM is better than the phone because you don't even have to pay attention. You can be doing something else and then answer a little slowly. I know because in our office everybody wants to get on IM instead of the telephone. If you think about the metrics we use to determine success, and we talk to our programmers, the metric really says: one, "Do people really wants to do that?" and two, "Is this really easier than picking up the phone or going out on the street?" If it's not, we may get initial usage just because it's a novelty or the press says, "Wow, isn't this neat?" But if it's easier to pick up the phone, that will be the winner. As you start looking at other businesses, is it easier to buy a book online at amazon.com and have them send it to you than to get in the car and drive to the book store? These metrics become easy. You can research them. It is understandable. It's not voodoo.

The second issue you find in this country is: brands win. People buy brands. If you think about it, 20 years ago a relationship could beat a brand, even though a brand has always been important. Today a relationship can't beat a brand.

I spent about a year in the real estate business, which I knew nothing about. What I did figure out very quickly is that brands were winning in that business, too, and it was turning the industry upside down. Twenty years ago, the real estate agent had all the power because he had the relationship with the home buyer or seller.

Today people care who the person works for. The brand means something. I get into these debates internally because somebody will say, "Wow, I've got this new feature that's going to revolutionize our product!" I remind them that Coca-Cola does not win the taste test. I remind them that Windows is probably not the best consumer operating system, but brands win. Consumers go to brands, and the reality is that it is hard to dislodge a brand.

Take the cable business. Why is it that for all these years you have had one music service, one news service? Because when you're building a brand and you're the first one there, you can spend what you can afford to spend. If you're the number two guy coming in, you probably have to spend two times what number one is spending to begin to overcome and erode that brand advantage. That's tough.

So I'm sure a lot of technology people out there will say, "I've got a new widget, it will just kill these people." Repeat to yourself, that Coca-Cola does not win the taste test. One of the best brands in America.

You also have to understand where we are in the industry's development. If you use history as a guide and you put some economic principles to it, industries generally start with many, many players all trying to do the same thing. One of them gets critical mass, forcing the industry into efficiency and usually forcing consolidation. After the industry gets large enough, it can support niche players, but you can't put a niche player down in an industry that's just going into consolidation.

The automobile industry began with about 100 automakers, then consolidated to the Big 3. People either had to join the Big 3, ally with the Big 3 or go out of business. Twenty or thirty years later, the market was big enough for niche players, the British, the Germans, the Japanese who all had niche products. Probably the Big 3 still have a huge market share. I worked for Steve Ross of Warner Communications who had a rental car company in the 60s. Everybody had a rental car company then, but the industry consolidated to Hertz and Avis. By the 1990s it was big enough for Enterprise to have the replacement car market and Alamo to have a nice business with weekend travel. By the way, Hertz and Avis still have about a 50% market share combined.

The TV business began with Dumont, ABC, CBS, NBC. Dumont went out of business. The industry consolidated to NBC and CBS. ABC almost went out of business. By the 1970s it was big enough for ABC to have a business; by the 1980s big enough for niche players to emerge.

I think AOL has critical mass now. The question is, who else will get critical mass and what alliances will emerge as people ally into these various consolidators? What's interesting to analyze is that the economics today are not about us trading dollars against Microsoft Network. Building the business is good for everybody. We begin to compete with each other when the industry gets really mature. Right now, we are competing with established media. We are trying to get dollars away from newspapers, television stations, radio stations. We are just trying to get money to the medium. If you go back to the Big 3 automakers, at a certain point they were just trying to get Americans to think they needed a car. We're in that stage today, getting people to think "you need connectivity," getting advertisers to think "you need to spend money here."

So as I look at predicting winners, it's: who serves a real consumer need? is there a business model to support it? —in other words, can you do it economically? and, three, are you at the right stage of the industry development to launch the product?

John Sidgmore: **overturn the competitive order**

I think Alan and Mario allocated me about four minutes to describe the telecommunications industry, the Internet, the trends I see in both those pieces of the larger industry and then the new opportunities for venture capital, so I'll give you just a few highlights.

These are very exciting times for our industry and for our company. Most of you probably have read about our acquisition announcement of MCI on Monday. By the way, this was the second time we announced it, in case you missed the first one. It was a little bit larger this time, but nevertheless, you have to say that an industry is exciting when a company can buy another company that's three times its size in a completely stock deal against a cash offer. That says a lot about our times, about how fast things are moving, and about what's possible in this industry that is changing in ways unlike any other, right now.

We see this as a period of continuous revolutionary change. It's not going to stop for the next couple of years, and I'll tell you why. There are two basic principles coming together at the same time.

One is historic deregulation in telecommunications. For a hundred years, this industry has been dominated by monopolies in every country throughout the world. Now, arguably, over the next two years, competition will be possible in every major country in the world. That's point one—for the first time ever, there will actually be competition.

The second thing happening at the same time, of course, is the Internet revolution and the new technologies brought on by the Internet. You take this historic deregulation, add the Internet technology revolution, and you have a landmark opportunity. We look at this as a time when new, entrepreneurial, young, aggressive, brash companies, like WorldCom, might have a chance to overturn the competitive order. We're certainly not done yet. You're going to see a lot of activity in this industry over the next couple years, as players scramble against a completely new opportunity base, a completely new agenda.

I'm going to try to give you a flavor for the new opportunities that might be available here by telling you about some of our problems. First of all, why is the Internet such a big deal? You've heard this a million times from different people, but my view is pretty simple. This is an industry and a technology that is growing like nothing else has grown in history. There has never been an industry or a technology that we know of or that we can find that matches it.

If you think back to the PC industry, which we used to use as an analog, the PC industry has always grown based on something called Moore's Law, with which many of you are familiar. Moore's Law says computer productivity—its performance relative to its cost—doubles every 18 months. That's why a computer is obsolete as soon as you buy it. It's been very consistent for 30 years.

Now, if you look at the growth of Internet bandwidth, demand is not doubling every 18 months; it's doubling every three and a half months. Three and a half months. That means that the industry's bandwidth is growing at a rate of ten times per year— 1000% per year! I don't know of any industry or technology that's ever seen anything like that.

Just to give you a flavor for what this means, if that growth continues, three years from now our network will be a thousand times the size it is today—more than a hundred times the size of the entire Internet. No one has ever seen this kind of growth. In fact, my network engineers tell me, "John, if you're not scared, you don't understand." This is mind boggling, explosive growth.

Some people say it's going to slow down. They say, "Well, you have the magic of small numbers working for you."

But you could make the argument that it's not going to slow down, that it might speed up because, I would argue, the growth of the Internet so far has been based solely on bringing in new subscribers, business and consumer subscribers. We haven't even seen the impact of the multimedia applications we keep talking about. That hasn't even arrived yet.

Over the next couple of years, it's clear you're going to see continuous growth. What rate that growth will be, no one really knows, but it's going to be continuously up and to the right, in my opinion, no question.

This creates a scaling challenge that is absolutely mind boggling. It has strained the entire telecommunications industry in ways it has never been strained before. Internet is different than voice. Voice grows with the population, basically. There are some things that change that, like fax, but it essentially grows with the population. The voice business—the traditional telecom market—is growing 10%. Internet is growing at a 1000% year; same band bandwidth in the backbone. It doesn't take too many years of that for the Internet to completely dominate telecommunications.

By the year 2000, 50% of all bandwidth in the world will be voice, traditional telecom; 50% will be Internet. If we continue the same growth rate, or anything close to the same growth rate, by the year 2003 voice and traditional telecom will be less than 1%. Actually, the math is it will be less than one tenth of one percent, but the point is we won't even know it's in there. It will be insignificant to the total. So the first problem that you need to look at is the scaling of this bandwidth. It's never been faced before.

From an opportunity point of view, new technologies that improve our ability to deploy bandwidth and create a different bandwidth availability curve will be extremely attractive. Dense wave division multiplexing was the premier example of that in the last two years. It fundamentally changes the curve, multiplies the amount of bandwidth available. That's why Ciena was such a spectacular explosion when it hit the market, and there will be many others. Quest is another example of a new company deploying huge amounts of bandwidth in the US. It's been very successful for the same reason. Anything that changes our ability to scale bandwidth will be welcomed with open arms at WorldCom. We were an early investor in Ciena. We are continuously looking for new technologies, new small companies which bring things that will help us deploy against that problem.

The second piece of the scaling problem is faster routers and switches. We are very concerned, given this 1000% per year growth on the backbone, about the ability of the switch and routing manufacturers to keep pace with us. Will the switches be on the market in a year and a half that can handle the awesome transaction loads we're going to be throwing at them? It's a big concern. Therefore, we are continuing to invest with Cisco and in the traditional manufacturers as they build the next generation of gear, but we're also investing in some start-up companies, trying to create the competitive environment that often leads to breakthrough technologies. We think the breakthrough technology this time will probably come from where it came last time—a new venture capital-backed start-up with some very smart people who are very, very hungry.

New optical technologies of all sorts, I think, are almost certain winners, assuming that they work. If you're familiar with some of the newer optical technologies, you know what I mean. Many of them don't work. But there will be a tremendous opportunity there.

The second issue on the application side of the spectrum is the whole arena of voice. We're not big believers that Internet voice is going to replace the mainstream circuit-switch voice network anytime soon, but it doesn't have to be a huge success. After all, 50% of the minutes that are counted as international voice minutes today are actually fax. So fax turns out to be a very important thing here. Fax is the low hanging fruit. Running fax over the Internet immediately takes 50% of the international voice market away—a huge, huge market. There are lots of problems with voice today, but if you think about fax as a starting point; messaging second; then voice mail and—all kinds of things that use computers to simulate voice today so that we can run it on a circuit switch network—they will go away. New technologies that create better and better voice quality and more efficient voice technology are going to be serious winners here. Over time, this is going to be a very competitive field. There is lots of software out there today, and I think the winners will be very, very big winners. There will be other multimedia relational technologies helping against the bandwidth problem, like multicasting and other things to help broadcast large amounts of data.

I think wireless will play a big role as time goes on, as we continue to get transactions closer and closer to the customer. That's going to be critical. We're not there today, but we will be. In the long run, I've got a slightly different bent on this than Bob—as you might expect— because we have focused on the business market historically. We think the big revenue streams on the Internet over the next couple of years will come not from grandmothers surfing the Web. They will come from big, boring corporate applications that already exist somewhere, migrating to the Internet from some mainframe or some large mini computer. That's going to be the big opportunity.

We were asked to talk about the e-commerce world which I think is going to be fraught with difficulty. At end of the day, this is going to be an enormous, enormous marketplace, but from the point of view of transactions on the Internet, I think there are going to be lots of ups and downs over the next couple of years. A lot of winners but a lot of losers.

The Internet has grown at an extraordinary pace. I leave you with the thought that this is still a very young industry. All this growth and explosion you've seen, it's all happened in the last three years. Three years ago, nobody knew what the Internet was. Now, everyone I meet is an expert. What you get from that, despite the fact we had this huge growth, is a lot more to come. Do you know where the growth is going to come from on the Internet? It's not necessarily going to come from IBM and AT&T and not necessarily WorldCom and MCI, the bigger players. It may come from new, young entrepreneurial companies like it did last time. The next Cisco is out there waiting to be funded. There are lots of opportunities for you guys. I would argue that the Internet has got to be the best place to put your capital. It's where the best and the brightest are going, and it's where the capital is going to follow. Thanks.

Mark Warner: **opportunity and challenge**

For somebody who's been in the technology field for the last 15 years—the wireless industry and others—it's exciting to look around this room and see how far we've come. The previous speakers are two of America's top executives with two of America's hottest companies. They're from right here in the region. My four minutes were allocated to wireless, and I will not miss my chance to make my pitch for the region, also.

As dramatic as the changes in the wireless industry have been over the last ten years, we are just beginning now to see it go into a high growth rate. Cellular was the first player in what is going to be multiple uses in wireless, where you can look at another regional company that has broken new ground, Nextel. At Columbia Capital, we see a great advent and great opportunity in some of the new high-spectrum plays, like Winstar. We see our friends Alex Mandl and others out with the Teligent IPO road show.

The FCC recently delayed the LMDS (Local Multipoint Distribution Service) auctions, but that is another wide, wide breadth of bandwidth that is about to be allocated, a wider swath of spectrum than has ever been allocated before. We don't really know what we're going to do with it yet, but I'm sure John and Bob will find ways to make sure it is utilized in an effective way to continue to build the networks that their companies require.

You'll see tremendous additional opportunities in this idea of last-mile solutions. How you take the fiber that last mile in a wireless solution, as opposed to a wired solution, is an area we are looking at and in which we have a series of investments.

Another area that we have made investments in—an area in which this region is second to none—is the satellite business. The satellite business has been around a long time, but the exponential growth of new satellite communication plays is an area I think we all need to watch.

At Columbia we started as telecom guys, wireless guys, but what we have found is that the old boundaries between telecom and information technology (IT) are breaking down constantly. There's not a deal in which we invested in the last couple of years that is not really a software deal, even though we initially thought they were telecom deals.

We do have that next generation router, John, that we're ready to take out from Torrent. We have an email company, an electronic commerce company and Spaceworks that we're also very excited about.

And we are also particularly excited about the growth in this region. As I said, I've been in the business for 15 years. Until three years ago we didn't have a single investment in this region. Now we've got four and we'll probably have another four by the first quarter next year.

This region is literally sitting upon the convergence location between hardware, software, telecom and IT. This room is testament to that. If we take a step back and look at it historically, the industry that started in Boston and migrated to the West Coast, has its next generation being created here by John and Bob and so many people in this room.

But before we pat ourselves too much on the back, we all know that Boston, the Research Triangle, the Silicon Valley and the Austins and Seattles haven't given up the fight. So what I hope we will focus on as industry leaders, and particularly as Capital region industry leaders, is what our assets are and how we strengthen them.

Clearly, we have the intellectual assets in the region and growing entrepreneurial assets. We need more capital. With the number of venture firms that have come to the area, that problem is slowly getting solved by these kind of activities and the kind of growth we've seen recently.

We also need visibility. Until a few short years ago when the NetPlex article was published in *Fortune*, I don't think anyone inside or outside the region realized that this region is the second largest in the country in terms of sheer number of firms. We need to continue to get that message out, that we are more than a government town. We need to encourage our companies in the region who have been body shops for the government to start thinking entrepreneurially. More and more of our companies are making that transition. There are some great success stories about to be born and some great opportunities for those of us in the venture industry, including those from the government service providers who are trying to transition into the entrepreneurial arena.

We should not forget the assets we gain from being located next to Washington. The fact that the FCC is right downtown, that the legal community and the engineers and the others who service that agency are all in this area make the entrepreneurial opportunities better here, in telecom particularly, than in any area in the country.

While some of our policymakers still don't get it in terms of the opportunities in this region, luckily we have organizations like the Mid-Atlantic Venture Association and the Northern Virginia Technology Council, and there are two others I want to single out who truly do get it and truly are leading the way.

One is Bob Templin and his team at Virginia's Center for Innovative Technology (CIT). The transformation that's taken place in the last couple years at CIT is remarkable. From the Virginia side, CIT is leading the charge to make sure that the policymakers understand the workforce shortage issues as well as the opportunities we have here in the region.

And finally, my good friend Mario Morino who almost single-handedly has taken the vision for this region's opportunities and, through his creation of the Potomac KnowledgeWay Project, given us a forum to come together beyond jurisdictional lines to make sure that we can become the world-class convergence location in telecom, IT and content. That's our opportunity and that's our challenge.

Interlude: **audience questions**

Mr. Spoon: Thanks, Mark. Now, we thought as a panel that we would go out to some questions at this point before Mario has a chance to wrap up, which he also enjoys doing. We have microphones spread around the room, and if there are any questions, we could take them now. Please use the microphone and let us know who you are.

> ***Mr. Deemer:*** *My name is Ron Deemer. I'm visiting from Atlanta. I have a question for Bob and John. Five or ten years from now, what do you think will be the dominant means of accessing the 'Net for consumers?*

Mr. Pittman: Well, I think there are possibilities that exist. I think if you analyze those, we're looking at DSL (digital subscriber line), we're looking at cable, we're looking at wireless, we're looking at satellites. If you're talking a mass market consumer product, it better be as simple as what they have been living with. There is, in my experience, no history of the consumer ever accepting something which is harder than what they've had or is worse than what they've had.

Today what we're looking at with cable and to a certain degree with DSL is somebody's got to come to your home and futz around with your computer to get you on. I don't think that's a mass market product. Whatever it is, it's going to have to be something which is invisible to the consumer. Everybody knows how to take the phone clip out of the back of their phone and put it somewhere else. That's probably not a big hurdle. Much beyond that, it's a tremendous hurdle.

AOL, which has a great deal of the home consumption of Internet online, is growing very nicely. Most of the people, slightly more than half, are now at 28.8 bps. We've still got almost half the people slower than 28.8. If you do research about why they don't get a faster modem, they say, "Why should I?" When you say, "How did you select your modem?" It was whatever came with their computer. Are there about 5, 6, 10 percent of the people who might be interested in speed? Yes. But that's probably not a big part of the market. Hard to get a return. We have to add other features and make it important to them.

As far as AOL goes, technologically we are completely agnostic. We will go where the customer goes. We will go there in a way which adds to our profitability and adds up new revenue sources for us. We look to folks like John to tell us what opportunities we might have and how we might get there. Indeed, one of the important things about the deal we did with WorldCom is that it's a relationship for the future. We made a bet that they're entrepreneurial enough to be out there and will figure out solutions to the issues.

Mr. Sidgmore: I want to wholeheartedly agree with Bob on the technology. I think in the near term, high-bandwidth in the home will be a reasonably small market. If there is a winner, it will be DSL in the next couple of years. Cable modems, in my opinion, are too far away. They work fine in the laboratory, but in reality most of the cable systems in the United States are one-way only. They are limited in bandwidth, they require a lot of work in the home to make them go, and I think it's going to take a few years to work through that. It doesn't mean they won't work ultimately, but they are probably three to four years away at best. I think DSL is here today.

The only other comment I would make is, in terms of what the ultimate market is, a lot of times that's determined by the applications that are presented as being feasible. As bandwidth becomes available, applications will develop. I think it will continue to cycle out that way for the next couple of years. As video becomes possible, becomes real, that will be a huge application. If there is realistically enough bandwidth out there to do it, people will buy it, though it's probably a few years away.

> ***Mr. Monaghan:*** *I'm Carey Monaghan from Korn-Ferry International. What do you see as some of the hurdles to the rapid development of e-commerce, other than the obvious one of concerns about security? Secondly, how do you see the emergence of branding being applied to the development of the e-commerce market?*

Mr. Sidgmore: I think the things that are holding back e-commerce are, first of all, quality and security. Whenever you talk about transactions that move money or change the financial structure of anyone's account, you're going to raise those concerns much more loudly than with typical applications. I think that's what you're seeing.

Also, you've got the issue of standards. Right now, there are dozens and dozens and dozens of platforms and software products and packages out there. That's not going to be scalable, in my opinion. You're going to have to have standards that work.

Then finally, a lot of these industries that emanated out of the old Electronic Data Interchange (EDI) theory take a while to develop. It requires a critical mass before people will start to use it in a significant way. My guess is we're going to continue to see progress year after year, but this nirvana of ubiquitous electronic commerce, digital cash and so forth isn't going to happen for a couple years.

Mr. Pittman: I think I'm going to go back to my model that you look at the consumer to determine what you should do.

No one wakes up one morning, turns over in bed and goes, "Honey, let's swear off stores." They develop a habit slowly.

We've begun offering commerce. I'll come in a second to what I think the advantage is because, remember, it is a whole lot easier to shop this way. It does win on the convenience spectrum. The research I have seen doesn't show security being the big issue; it's just comfort zone.

The way people begin the process is they do a little bit of window shopping, then they do a little more window shopping, then they regularly window shop, then they consider a purchase, then they make a purchase, then they make another purchase, and over time they're developing into a customer who will be using this product day in and day out as a replacement for something else.

Indeed, on AOL we show about 78% of our people window shop and about 38% have ever purchased. Almost no one buys something every day, but the process has begun. Now, if you're a merchant where do you get in? I hear some people say, "I'll wait until it's big enough before I play in that world." They don't understand what's going on.

The customer is developing their brand loyalties in the window shopping phase. They are developing their loyalties now. By the time they start making purchases, they are going to purchase from the people they've been looking at for all this time and window shopping and thinking about making small purchases. They're not going to do all that and then suddenly shift over and start buying from someone else.

You saw this in the cable networks business. The broadcast networks saw that there was a need for cable networks, a specialized news service, a music service, a kid service. You know what they said? "We'll wait until it's big enough." Suddenly it became big enough and guess what? CNN was there, MTV was there, Nickelodeon was there. They no longer had an opportunity because someone had filled the consumer need.

Why would you come to the 'Net instead of a store? Why, as a merchant, would you want to be here? Because online does something you can't do anywhere else. We collapse the entire marketing process into one place.

As a marketer, what am I trying to do? I'm trying to get your attention first. I'm trying to answer any questions you have or tell you more about the product, and I'm trying to get you to transact. Traditionally we do that in three different places. I get your attention with a 30-second TV commercial, I tell you more about the product with some sort of text-laden print ad or a brochure or salesman's call, and third I get you to buy by sending you to a store. That's a cumbersome process. Every time I ask the consumer to go from here to here, most people won't because it's too much work.

Online I can get your attention, tell you more about the product and get you to transact right there. If I can't get you to transact, I can send you to a store or I can give the store a qualified lead. That is a very efficient marketing process, and that's going to drive the merchant there for economic reasons. The consumer's going to go there because it is more convenient than going out to a store. And I don't think the hurdles we have are so much security as they are how to give people everything they get in a store in terms of seeing the selection, being able to know that they can make returns easily, that the product will get to them quickly—thereby replicating impulse.

Mario Morino: **a time of convergence**

First of all, I think we've heard some great insights and some wonderful advice, and I would like to give a very special thank you to Alan, John, Bob, and Mark. You have been a great panel.

On Saturday evening, NBC Nightly News ran a story calling Northern Virginia the next Silicon Valley. That story may have been a surprise to some of you, but we have known for a while that this region will be the leading center for opportunities of the digital age. Its importance to the venture community is here today and will only continue to grow.

Why? Because many of today's and tomorrow's most exciting opportunities are coming from a new convergence of communications, computing and content. Although the computing technologies have been the predominant opportunity engine in the last few decades, what we are witnessing in convergence will supplant that and provide a far greater opportunity. Mark is hitting it head on, and we are seeing the convergence with Alan's company, John's company and Bob's company. They are living the convergence.

In addition to the opportunities in each converging sector, we are seeing the creations of hybrids, of new business models like AOL, of cross-industry alliances like MS/NBC, of new products coming to be integrated like the Internet and telephony. Examples like these are going to open up wildly unimaginable new opportunities. As investments and as an economic case, they will fundamentally outstrip what we witnessed in the revolution around personal computers and work stations of the 1980s. Simply put, the context of this opportunity is far larger.

Greater Washington is at the center of this convergence because it's one of the few places in the world where we have strength in all three sectors—communications, computing and content. Most importantly, we would offer you the idea that we could own the bookends of the convergence, the communications and content which surround the computing platform.

The region already possesses a remarkable concentration in communications and is arguably the hub of the telecommunications industry. This distinction will only grow as deregulation satellite/wireless innovation redefine telecom as we know it today.

Then, look at the enormous, literally unmatchable opportunity at the other book end, the content, where the region will become the dominant producer of digital information products—databases from the government, online news and entertainment, bioinformatics, distance learning-based education are just a few of the slices we will see. That's because we are home to one of the richest sources of information and cultural objects in the world and a work force with a legacy and a talent that can develop it.

As the convergence continues and innovation flourishes, this is one of the few places in the world where you will find the people, the expertise and the critical mass in all three sectors, but with a distinct edge in the book ends of communications and content. It is in the convergence that we will witness the greatest innovation, the largest venture opportunities and where we will best play out the potential of the region.

Consider for a moment some of the hottest investment sectors and the region's strengths in each. In communication and telecommunications, the region is rich in all varieties of wireless, satellite, DBS, land-based carriers and communications adapters and services. This sector will see a solid decade of high growth, especially for the first five years. It will see new IPO opportunities, with Yurie, ACE*COMM and Ciena simply giving us a hint of what is yet to come.

I think what John said is right on the money. We don't know where the next Cisco will come from. Ciena was virtually unknown years ago, yet it broke the market cap on Wall Street. This sector, the communications sector, may be the region's most prolific investment opportunity as telecom deregulation hits and the momentum of critical mass continues to build.

The next area is Internet products and services which is already a solid area of investment and one that will continue to grow with the success of MCI, WorldCom, AOL, the strong concentration of ISPs and the formidable government underpinning that will play out in the long-term impact and potential of the region. Indeed, you have to factor in the very positive effect of the throw-off of the government and its Internet concentrations in DARPA, NSF and the FCC. It comes to bear in actions such as the recent IPO of Network Solutions which demonstrates the confluence of these forces.

There are our significant large niche areas that represent strong venture investment opportunities such as e-commerce with companies such as TNSI and CyberCash; health information with MMS in Charlottesville; global positioning systems (GPS) with Spatial Opportunities, OrbImage, OrbCom; security with Trusted Information Systems and IRE; and new mode integrators such as Proxicom, Electric Press and Concept Five to name a few. All are slices in which we have very distinct competencies.

Longer term we will see enormous growth and opportunity on the other book end, content—the digital information products and services sector. Although still in the formative stages, the digital mining, packaging and marketing of the region's information resources represents an evolving and massive investment opportunity that will span at least 20 years. The companies and investors who stake out this terrain will be well positioned for the future.

What do we watch in this area? It starts with the mining of the information banks of the federal government, areas like health, space, agriculture, commerce, environment, tourism, arts and humanities. This will be a massive market in and of itself, which is fundamentally business-to-business, but a distinct consumer market as well. For example, DC-based Aristotle Industries is an entrepreneur mining federal voter information for the direct marketing industry. You've seen the types of examples, how the federal infrastructure will spawn new entrepreneurship.

With the region's concentration in biotech, and with bioinformatics fast becoming an information products industry, the region will be a clear leader. Fueling the growth is the DNA R&D enabled by NIH, Johns Hopkins University and the new Maryland Information Technology Institute.

Publishing, media, and entertainment products are coming from the national news bureaus located here, from media giants like *The Washington Post*, Thomson Publishing, the new powers of AOL, Discovery, Black Entertainment Television and the burgeoning base of new entrepreneurs—netpreneurs—such as Motley Fool, Net.Capitol and Women's Connection Online.

Think about education products from over 40 major colleges and universities, the dozens of federal laboratories, research centers and education vendors from Computer Learning Center, Gestalt and the Learning Tree, all of which will be enabled and delivered by distance learning systems from Sylvan, America Online, University Online and newcomers like Blackboard and UOL Publishing, all centered here.

It is also clear that the growth and opportunity occurring in the region is sustaining. It reflects a systemic change that has transformed this region from the home of the federal contractors into a vibrant center of communications and Internet commerce. Three trends have driven this transformation and will continue to remake the region's reputation.

First, there is a distinct change in the region's personality that has its roots in the corporate and government restructurings of the '80s and '90s. I came here in the late '60s. It was very entrepreneurial in those days, believe it or not, but it died.

Today what is so pleasant is that you go into a restaurant and people from all walks of life are thinking new businesses. Terms like equity, stock options, start-up, entrepreneurs are actually once again spoken in this region. A new breed of successful individuals—Steve Case, John Sidgmore, Mark Warner—and successes-in-the-making—Susan DeFife, Bob Nelson, Rob McGovern—are inspiring people across this region to strike out on their own and create their business.

Second, an entrepreneurial social fabric is evolving quickly, one which is conducive to business start-ups and rapid growth. Silicon Valley has long benefited from such a social fabric where, as one person put it, you can have a great idea at breakfast and by late dinner you'll have a business plan and angel funding set up.

While not quite that fluid, Greater Washington is seeing a younger, faster breed of businesses and executives evolve. Ideas, people and deals are flowing more freely, at a faster pace and in a more open manner. It's making the region much more conducive to the start-ups and venture minds that we need to drive this region.

Third, we are a vanguard of high-tech companies like AOL, Discovery, Nextel, Teligent and scores more that are the beachhead of an entirely new entrepreneurial base and rapid growth. Like throwing a rock into a lake, the ripples are spreading, just like they did many years ago around HP and Intel in the Valley and, more recently, around Microsoft in Seattle.

With such transformation will come great opportunity. As you know, the greatest venture returns come from spotting a trend or an opening ahead of somebody else. Today in Greater Washington, that edge comes from being at ground zero in what Mark called the convergence. There are also some not-so-obvious reasons that provide a clear edge.

One, we have an abundant and growing pool of talent that is still coming to appreciate the importance of equity. What does that mean? I was with a leading publisher who said, "It is easier for us to acquire the talent here than any other place in the country today because we can get the people at a different equity cost and they will stay longer." It's a very significant point today.

Two, while some large firms feel the crunch of the work force shortage, I argue that the region's talent pool is very attractive to start-ups and the relocation of companies to this region.

Three, the deal intensity and competition is certainly growing, but it is still a long way from the almost stifling, highly competitive venture wars in the Valley. That's not meant to be critical. That's a fact. It's intense. The chance to find promising yet unknown opportunities remains quite high in this region, and with the growing volume and activity it will stay that way for a time to come.

Greater Washington is becoming a region of choice as our reputation grows. There are more and more firms locating here, especially in communications, for example Nextel, Teligent and Coherent. We are becoming a job Mecca, attracting communications, Internet, new media and computer workers who know that their opportunities, choices and safety net are almost unlimited because of the demand for their skills.

Those opportunities are helped by the entrepreneurial social fabric. That's what the Potomac KnowledgeWay and its innovative Netpreneur Program are all about—helping to crystallize this region. The Netpreneur Program was launched less than seven months ago and has already reached thousands of people, created a score of partnerships and directly touched over a thousand netpreneur businesses, many of which have participated here at the MAVA Fair. We welcome your involvement in the Netpreneur Program, to offer the chance to help you learn more about the region's opportunities and to better connect you with the exciting activity underway here.

Clearly, there is a new age of entrepreneurship and venture involvement occurring in Greater Washington. For a moment, I want to take you back to September 1994, when April Young convinced me to give a speech in which I tried to describe to a group of business people that this region would be the base for what we called network information products and services. Most people in that room thought I was a little crazy.

What can happen in three years? Well, let's suppose in 1994 I had told that audience that in 1997 America Online would control nine million subscribers to the 'Net. What if I had suggested that Rick Adams and UUNET were going to cook up some way to acquire MCI? What if I told them that the 'Net would be growing at the rate of 1000% a year? What if I told them that 800 people would show up for a venture capital conference in this region? Then, they would have really thought I was crazy!

That was 1994. If we saw that kind of change in three years, just imagine what we have ahead of us in the next five. It's all there for the taking. As one CEO recently put it at one of our conferences, "We are at the right time in history. We are at the right time for our markets and we are in the right place to make it happen."

Good netpreneuring, good investing and thank you.