SCOTT MCNEALY
ORAL HISTORY

COMPUTERWORLD HONORS PROGRAM
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**Edited Transcript of a Video History Interview
with Scott McNealy
Chairman and CEO of Sun Microsystems**

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                &
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DSM: Today is Thursday, April 9, 1998. We are interviewing Scott McNealy, the Chairman of the Board and CEO of Sun Microsystems for the permanent Research Collection on Information Technology and Society at the Smithsonian Institution's National Museum of American History. Unless Scott McNealy says otherwise on the tape or after he reviews the transcript that we submit, this material will become part of the public record held in trust by the Smithsonian, that the tapes will be submitted for your review.

I'm going to start by just asking you to tell us who you are, when and where you were born, and give us your parents names. Then we'll go forward from there.

SM: My parents are Marmaline McNealy and R. William McNealy. I was born in Columbus, Indiana in November 1954.

DSM: Tell me a little bit about growing up. Let's talk about going into grammar school, first grade. Were there teachers early in your career that really made a difference?

SM: Not many that I can remember. Probably my favorite teacher was my 6th grade science teacher. He was the first male teacher I ever had, and that was the first teacher that I really was fascinated with.

DSM: Do you remember the name of the school or the teacher?

SM: His name was Mr. Hayes, and the school was Valley Woods in Birmingham, Michigan.

DSM: Were you as interested in sports when you were a little kid as you were in high school and college?

SM: Yes, I think all through my life all I can remember is wanting to go out and play football in the back yard, or baseball, or ice hockey on the pond. We used to spend the summers putting up boards in the summer during the warm sun so that the boards would freeze into the ice during the winter. We'd flood the ice and then spend all of our time outdoors.

DSM: Who taught you how to play?

SM: If anybody has seen me play, they would think nobody. We learned by getting out there. I actually went to hockey camp in Canada for a couple of summers, and had the Canadians beat me up for being a Yankee.

DSM: When you were a little, who were your heroes? Did you have a best friend or somebody like that that really made a difference when you were growing up?

SM: I get asked that a lot, and no name really ever jumps out. I moved many times. I was in eight schools by 8th grade. Everywhere I went, I always had two or three really, really good buddies, but I wouldn't be around very long and would move again to a new school. Even throughout my career, I've never had any one person that was an idol or a mentor. There are certainly people I admire like crazy, but nobody's been a mentor.

DSM: So you were always the new guy?

SM: Always have been.

DSM: Did sports help in that regard, by always providing a way to fit in?

SM: I used to talk about sports analogies until one day I went back and read my application to get into Harvard College, and I talked about how sports was like life. It was one of the dumbest, most naive sounding documents I had ever seen written anywhere. I can't believe I got into Harvard having written that essay. So I don't really talk abut that anymore.

DSM: You talked about your 6th grade science teacher. What about coaches, are there any coaches that really stand out in your mind?

SM: There's no question. There was one coach, my summer swim coach at the club that our parents belonged to when I was growing up in Michigan. His name was Jim Downs. He knows how I feel about him. This would not be new news to him. He was an awesome coach.

DSM: Let's talk about your swimming coach. What made him a great coach? What are the things you remember?

SM: He was tough, noisy, and enthusiastic. I can remember my two brothers and I showed up late for swim practice. From about 400 yards away across the lawn, he barreled from the pool, screaming at us because we were walking instead of running to practice. He started screaming at us, and he hauled us aside after we got our suits on and said, "Don't you ever be late for practice again." He made us feel about two inches tall, and didn't want to hear any excuses about how our mom didn't get us there on time or whatever. He said, "It's your responsibility to the team to be here on time for practice. If you don't want to be here on time, don't be a part of the team." Then he'd throw us in the pool and kicked our butts. I'll tell you what, my parents loved it. We loved it, and everybody on the team loved it. He was just a great coach that way.

DSM: I've heard you describe Sun as being a 17,000-plus man team that kicks but and has fun.

SM: It's 25,000.

DSM: Is there a particular game or sporting event that you remember from when you were a young person that really stands out as the time when you really did "kick butt" and had great fun? Was there a big game or an event? Tell me your favorite.

SM: I don't know if there's a favorite, but with the bases loaded, I hit a home run over the centerfielder's head in little league to win a game in the 6th or 7th inning. That was when little league played six or seven innings to a game.

During my senior year at Harvard, I played in our house hockey league, and I scored a goal against an undefeated opponent in the last minute. That gave our team the chance to go play Yale in the inner-collegiate house league championship. I also won a golf tournament in Michigan after college by winning three straight overtime matches. I won in the seventh extra hole. The next round I won in the third extra hole. Then in the finals, I won in the first extra hole of the match. So I was kind of the overtime kid in that particular event. Those are three that stick out in my mind.

DSM: You went to Cranbrook Academy. What was it like?

SM: Cranbrook school is a great place because they treated you like a college kid even though you were in high school. You picked your classes. You didn't have to sit in study hall. You were allowed to leave campus between classes if you wanted. They treated you like an adult. You went to the library and studied, or sleep if you wanted. You could go home. You could go to the gym and work out if you wanted, but they gave you a ton of work, and you were around a bunch of very bright people. So when I went to college it was not a big deal. I had been on my own for three years, and treated like an adult for three years already, so it was no big adjustment. I saw a lot of people who couldn't believe after class was over they didn't have to go to study hall. They couldn't believe that they were allowed to sleep during the day. I had been doing that for years.

DSM: So you had already had that freedom?

SM: Yes. It was really a college prep from that perspective.

DSM: Those of us from North Carolina know that the game of basketball was like a game of life, not the game of football.

SM: I don't like basketball because nobody's ever accused me of being "Air-McNeal" out on the court. I am seriously vertically challenged in terms of leaping ability. I can't breathe and dribble at the same time, so I've always stuck to things like hockey and golf and tennis.

DSM: Despite this egregious error on you part, you got into Harvard anyhow. Tell me about being at Harvard.

SM: I'm not a particular fan of undergraduate institutions. I think they're far too narrow and far too biased in their perspectives. I don't think they reflect America or the way the world runs today. I think they are far too planned-economy and liberal in their bent and in their perspectives.

I think if you look at the make-up of Congress or the make-up of the American people, politically and philosophically, and then look at the make-up of tenured professors and administrators on campus, they couldn't be farther from the center line of where America is and where the world is. I found that what I studied had very little to do with what I would need to do as I moved forward in life. I couldn't wait to be done with my four years.

I was very happy to have the diploma because anybody who saw that I had a Harvard diploma thought I was smart whether I was or not. Just having that assumption was always a step up, but very little of what I experienced at Harvard was valuable or useful or required, I believe.

DSM: There are, of course, a lot of colleagues at your level who feel precisely the same way about higher education. A lot of them dropped out.

SM: I got behind. Steve Jobs, Bill Gates, Steve Ballmer, were all contemporaries or classmates or whatever, and they all dropped out. They did way better. I stuck it out and got behind.

DSM: You were going to be pre-med. I understand, and then switched to economics.

SM: I was going to be an eye doctor. About 60% of my class was pre-med., so I just decided to get into business.

DSM: Tell me about the switch to economics.

SM: Bill Reduchel was my economics 10 Professor. He was fascinating and made it a very interesting topic. I switched my major after taking that class from Bill Reduchel. He has been my chief information officer for the last seven years and heads up my corporate strategy and planning group.

DSM: Do you remember what he said to you that made you switch goals?

SM: It's a social science, so it takes into account the social aspects of being human and the unpredictability and the randomness and the behavioral aspects in psychology and psychiatry. It included the aspects of being humans, having a soul and having the ability to think on your own. But it was also a science, and you could actually apply logic and reason and understanding to the whole ecosystem, the economic ecosystem of this colony of humans on earth.

I thought it was a very fascinating subject. To this day, it staggers me to see how many folks don't understand the basics of microeconomic or macroeconomic theory; don't understand the difference between a balance sheet and an income statement; don't understand the difference between capitalization and cash flow; and don't understand the difference between market economies, planned economies and what the anti-trust laws are all about.

Yet it seems you'll go around the world and everybody's an expert on all of that without ever having been trained. My wife just graduated from Stanford recently and said, " I would take all different courses and all different classes if I had to do it over now that I've lived out in the real world." If you look around, I think a lot of people wish that they had taken far more economics and business classes because everybody's dealing with business people everywhere and all the time. I think that's a very, very important core component.

DSM: One of the questions that we like to ask is early experiences that might have given people a hint about what you're going to be like later in life. I gather from some of my reading, that you really wanted to have a machine shop.

SM: I think that people who have seen my professional persona and who know me personally would agree that they're very, very different people— that the person at home has been the same when my high school year book accused me of being quiet and unassuming, but somebody who could be trusted. I was explaining that this morning to some of my employees that I was shy, quiet and unassuming, and they started laughing. I think people don't understand that my public professional person is very different than the one I am naturally and normally at home and in my private life. I'm just not allowed to be me as CEO and founder of Sun. I am required to be a vocal, outgoing leader.

DSM: Because you're responsible for all those people.

SM: I've been elected by the shareholders, and I belly up to the job and the role and do it the best way I know how. I look at a hockey player. A hockey player's job may be to go out and cross check, elbow, punch, and scratch and claw their way to getting a goal. That's what they get paid to go do. It doesn't mean you go home and start beating the dog, right? You can have a professional and a private life as a very different person—a personality that's very different. I'm comfortable with that, but I think it always surprises people to think that maybe how I was when I was younger and how I am now as I'm older is very different from the public persona or theater that I have to portray as a leader of 25,000 employees.

DSM: Between Cranbrook and your time at Harvard, you had considerably more time to be on your own than most folks have. Then again, before you started working on the MBA in Stanford, you got out in the real world and did some real work with real people. Can you tell us about the work you did with Rockwell between Harvard and Stanford?

SM: Basically, I got on the factory floor with people who were doing real work. I was in a UAW shop in Central, Illinois. The factory was typically over 110 degrees at all times indoors, and they were carrying people out on stretchers with heat exhaustion. There was fiberglass dust everywhere. You literally had to wipe your shoes off from all of the dust during the day. It was a real saw dust on the floor, smoke billowing factory kind of environment that is very, very different from Harvard. It was quite a training ground. I worked in Ashtabula, Ohio and Troy, Michigan in just real heavy duty industrial worlds. I was a foreman, a plant scheduler, a liability engineer, and a sales rep in a two year time period, and I learned Management 101.

DSM: Were you involved in a strike?

SM: I was engaged in a lot of things, but one session was a UAW strike. We were working seven days a week, two shifts a day. I had to build up inventory for the strike. When the strike happened we actually brought down non-union folks from headquarters and got them out on the factory floor to build product. I don't think you wanted a car or a truck that had any product from that particular time period, but we made the best of it. It was quite exciting. There were bomb threats, and people were rocking the cars and all the rest of it. That was quite an education for a twenty-one, twenty-two-year-old.

DSM: Are you glad you did that before you went to Stanford?

SM: Yes, it was very valuable. When I went to class and somebody started talking about how to deal with unions in a very theoretical manner, I would explain that it wasn't really smart to necessarily have the bosses park their car out with the union folks unless you wanted to have slashed tires and beat up bosses. So you know, it helped.

DSM: I'm going to ask you one last question, and then I'm going to turn it over to Dr. Allison and this is about the difference between your personal life and your professional life. You are a new Dad. Which do you think is harder: being a dad or running a company like Sun?

SM: I don't really see too much difference. I don't mean it as in a negative sense, but managing 25,000 employees or managing two kids in diapers, what clearly shows is your character. It shows absolutely without any filters, without any way of hiding it, without any camouflage whatsoever, whether it's my 25,000 employees or whether it's my two kids. They see everything, they know everything, they feel everything, and probably more than anything, the only thing that really matters is your character, and the examples that you set and the leadership that you show. I take both roles just as seriously as I could possibly take it.

For some reason, unlike politics, character and the style and the way you act and carry yourself matters so much more in business and in parenting than it does in some other professions. I'm comfortable with that. It is hard work. It is not easy. It is very embarrassing at times and it is very humbling at times, but I'll tell you what, I sleep better at night because I think my kids and my job and my wife make me a better person. They force me to be a better person, and I think that's good.

DA: I wanted to pick it up with the creation of Sun and following on your work at Stanford. Did that prepare you to be an entrepreneur? What did you learn or not learn at Stanford that led you into creating your own company, creating a company with other people?

SM: I think being on sports teams and working at a car dealership and working as a foreman in a UAW shop and all the rest of it prepared me far more than anything that ever happened at Stanford or Harvard. I probably would be able to raise money because I went to Harvard and Stanford, but it was all of the other things. I always thought that Harvard and Stanford were great except for the classroom experience. The whole rest of the experience was actually very valuable. And by the way, I don't think anything can prepare you at the age of twenty-seven to go do what you're going to except being in good shape, not being married, and having the ability to work a million hours with lots of enthusiasm and the ability to relate to people and to have fun and make friends.

DA: How did it actually come about that you became part of this team that created Sun?

SM: To be quite fair about it, I kept showing up late and staying late at these parties that businesses throw, and I got to know a guy by the name of Vinod Khosla because he was always the last guy to leave the party. After we graduated, we kind of stayed in touch. I moved out to California, and we got back in touch after business school a year-and-a-half later. He had just left a start-up that he had been involved with and wanted to go do another one. I spent a lot of time with him and he finally found this guy and said, "Let's go start a company with him." I said, "I like my job." He says. "You can't back out on me now, you're a founder."

So, I quit my job, and we started Sun, the three of us. We recruited Bill Joy to go along with Andy Bechtolsheim, who had invented the original Stanford University Network Sun Workstation at Stanford. We got Berkeley, Unix, Stanford Workstation and a couple of Stanford MBA's. The four of us were twenty-seven. We got about $4 million worth of venture capital the first year. I had three years business experience, which was more than the other three founders combined, so ignorance truly loves bliss. We didn't know we couldn't do it. We didn't know any better. We just decided we'd go for it. We also knew that economies in scale were setting in and that scale didn't matter big time in the computer industry.

There were no small telephone companies. There were no small car manufacturers. There weren't that many small computer manufacturers. We decided to go big early, and we sacrificed our lives, sleep. We sacrificed profits and some process early on just to get as big and as broad as we could, as early as possible. I think it's paid off long-term.

DA: What was the thing that really motivated you? Was it the business side or starting a company, or were you sold on the technology that you were developing?

SM: I don't really think that I ever think that far enough ahead. I'm just not a visionary. When there's something to be done, I just did it and just worked very, very hard at it. I wanted to do the best job at whatever I was doing, whenever I was doing it. This seemed like fun; it was interesting. It was rewarding. It was better than building tanks like I did at FMC Corporation before that, and it certainly beat being a lawyer who didn't ever create the pie, but just sliced it up and took a piece for himself.

It was way better than being a broker like an investment banker who doesn't do anything but takes a piece for himself. It was way better than being a consultant where you stand around and tell people what to do without taking responsibility for it. I like manufacturing and engineering. I like creating product and seeing it go out the back door and making customers happy. That gave me a big kick. It was fun to see people get new jobs, get salaries, and have the honor and the pleasure of paying outrageous taxes to the government who would redistribute wealth and spend it in all the wrong places. There were a lot of rewards to doing it.

DA: Were there some really critical decisions at times that you remember in those early days that shaped the future of the company?

SM: Oh, there's so many, and we're facing them every day. We're always facing super critical endeavors. There were times when the product didn't work. There were times when we were running out of cash. There were times when we were practically, technically bankrupt. There were times when we had to get rid of the chairman and the president and put me in as temporary CEO. There were times when we had to go public. There were times when the stock crashed. There were times when IBM and Hewlett Packard, and Apollo and Microsoft would all introduce supposedly Sun-killer products and none of them ever killed Sun.

DA: The thing that you're known for particularly in those early days is getting into the workstation market and establishing that. What, from your perspective, characterized your workstations compared to others?

SM: I'm not a technical; I'm a golf major. When we started Sun, I was absolutely a neophyte. Ten months before Sun, I didn't know what a disk drive did or D-RAM did or OS was. I couldn't program anything. I still can't program anything. I wasn't the technical guru. I wasn't the visionary. I was kind of the glue that kept everybody together and helped enunciate what our goals were, how we're going to get there, and kind of cleaned up after the engineers and made sure the customers got what we promised them.

That's really been my role, so I'm not really the person to talk about products or technologies or whatever. Even today, Bill Joy does that and all of the other guru's who have invented things like Java, the network file system, and Unix and Sparc microprocessors and all the rest of it.

I'm not the product guy. In fact, I think one of the advantages is that I've never tried to invent the product and I've really counted on the gurus to go invent the product.

DA: So you spend your time talking to the lead people in your customer base and building the relationships with them?

SM: I spend time in front of my customers, and my shareholders, our suppliers, our partners, our resellers, and lots of time with customers.

DA: And it seems to me the ability to enunciate and really clearly explain how you're different sets you off.

SM: I speak in analogies apparently. Some people have accused me of that. I don't know why or where it came from. I think my dad used analogies a lot. Everything is like something else and I spend a lot of time trying to explain the computer industry in terms and in analogies that people can understand because we have made computing too complex.

DA: One of the things that has characterized Sun over the years is really staying active with so many different parts for the business from software to hardware. Some people say you spread the company too thin. What's your answer to that?

SM: I would say we've actually stayed quite focused. We don't do silicon. We don't do disk drives. We don't do power supplies, keyboards, monitors. We don't do sheet metal or plastic. We subcontract all of that. We don't do distribution. We don't do systems integration. We don't do applications development. We don't do networking products. We don't do service provider environments. There are far more companies we don't compete with than there are companies that we do compete with.

I would say at this stage we're down to two competitors, basically Intel and Microsoft. Everybody else has become a computer reseller. Look at Hewlett Packard—they're in a car analogy. You can't owe him your engine, your drive train, your transmission, your suspension, your body and dashboard and call yourself a car manufacturer. At some point you are a car dealer. I would say that's where Hewlett Packard and IBM and Compaq, all of the European and Asian companies have now become dealers. It's only Intel, Microsoft, and Sun that are really creating the core computer technologies. We're doing Sparcs, Solaris and Java and Intel and Microsoft are doing Merced and NT.

Those are the two strategies. Those are the two options. It's kind of a Coke/Pepsi thing. It's like saying Coke is too defocused. No, it's not true. They are very focused and I think we're very focused on Sparcs, Solaris, Java.

DA: If you really are two separate companies with competing strategies, does that mean that the people who would try to compete have a harder time almost than the two big boys? Is that part of the strategy?

SM: I would say everybody else has given up. Everybody else has given up doing their own microprocessors, or the own operating system, or their own networking interfaces, or whatever, and have either partied the reselling Sparcs, Solaris and/or Java or reselling Intel and/or Microsoft. That's kind of where we are. The consolidation has happened; it's over. At least I hope it's over. I think it would be a real tragedy if it consolidates even more because I would really hate to see Intel and Microsoft go out of business.

DA: The war that you're winning is for global integration and it seems to me that's so ideal because of your theme at the network is the computer. How does that theme play itself out in the way that Sun looks at the world?

SM: I just believe in a large service and client model, the utility model. In the past we've had all kinds of utilities—water, electricity, dial tone—that have been distributed through large servicing and client models. A large water reservoir connected with pipes to a water tap. It's a very easy on/off kind of use at the client's site. You don't need a manual to take a shower.

Or you have a large telephone switch connected to wires or wireless and connected to a very easy to use device called a telephone. Do you know how you boot a telephone? You pick it up and you've now booted the most incredible system on the planet—dial tone. The same is true with electricity. You have this huge nuclear power plant or Hoover Dam connected with wires to a thin client. That thin client is a hairdryer or a light switch. Do you have manuals for light switches? It's up or down, on or off.

We believe Webtone, or Computone ought to be as easy to get at as any of the other utilities that you have. That requires very large servers and very thin clients. That is very different from the Intel/Microsoft Novell model of the last decade. That's so "last year."

The new strategy is to imbed computing in the appliances that you deal with on an everyday basis. Your camera, your thermostat, you game machine, your TV, your telephone, your car, you desktop environment should all be appliances that do computing as opposed to computers that do appliancing. It's a very different strategy.

DA: I just visited the media lab at MIT and they have a new consortium there called "things that think" of trying to imbed intelligence even at a more distributive level than what you're talking about. It seems like this is a metaphor that a lot of people are talking about now.

SM: Computing is being imbedded all the way down into smart cards. Someday somebody's going to watch this and go, "Uh, how stupid was this?" But it's our new deal now, that you can actually run a Java virtual machine on a microprocessor on the ultimate thin client. I don't have my Java ring now, but we're all wearing Java rings now and you can actually run on Java virtual machine on an environment like that. In fact, there are prototypes of cards that actually can have multiple personalities. They can be a key card, or a medic alert card, or a cash card, or an employee card, or whatever. These kinds of environments are very new today and haven't been totally discovered here in the U.S. They're much more prevalent in Europe.

DA: What are the things that are standing in the way of this vision being realized?

SM: The Microsoft monopoly.

DA: Is that also the way people think, or is it more of a business plan that you see that has to be fought against? In other words it seems to me that part of it may be just the way everybody looks at computing. Part of what you're doing is a business plan, but part of it is a way that the world thinks of computers has to look if you buy one.

SM: Oh yes. I think the preconceived notion with 97% of the desktops going out the door as being this Intel/Microsoft hairball. When you say computer, that's what people think of. You think of ten million lines of code, NT, Office 95, Office 98, ten million lines of code just to type your name. It's kind of crazy when you think about it. Just to send an e-mail, look how many hours it is before they can connect to the Internet, to put in a fax modem, boot, enter. It's an unbelievably staggering mess. The complexity is stunning.

People don't know any better. People don't know there's a better way. When you have a monopoly like that, you're not willing to experiment. You're not driving the experiment. I think it's very important that the Java thing happen.

DA: One of the things I was wondering about is: most computing is still in the rich part of the world, in the developed world. Is the spread of computing to the less developed part of the world something that's going to provide new opportunities for the model that you've outlined?

SM: Absolutely. I don't think you can afford to give everybody ten million lines of code and their own mainframe, a mini mainframe called a PC. I think you're going to want to imbed in the appliances that they deal with and give them access to the Internet through these appliances. That's the way it's going to happen. It isn't going to happen for a sub-1000 PC or whatever. It's going to happen through the appliances that they deal with, like a TV or set top box or a telephone or an automobile—the basic utilities and appliances that they need to operate as they move forward. That's how you're going to deliver the Internet to people. The network is the computer.

DA: You've been quite active, of course, in the investigations of Microsoft.

SM: I haven't investigated them at all. They don't let me in their shop at all.

DA: But you were involved in asking the government to look into the monopolistic practice of Microsoft. Why is this so important to them?

SM: I'm a believer in fair play. There are laws in our country that prohibit the use and abuse of monopoly power. There are actually very clear laws. In fact it's a felony to violate the Sherman Anti-trust Act. I just believe that if we have laws on the books, we should do one of two things: get them off the books or enforce them. But don't ignore them because somebody's paying you lots of advertising dollars or you've got their computer on your desktop or you're a shareholder or they've paid you a lot of money to help you run your next campaign. If there are laws on the books, enforce them. If you don't like them, change them. That's all we talk about and that's all we're focused on.

Now people wonder why are there are anti-trust laws, and there's a bunch of arguments about why there shouldn't be. Are these anti-trust laws effective and useful? I would argue that the US economy is the most competitive, market-driven, market- disciplined based invisible hand on the economy. For example, anywhere on the planet, there is no more competitive, no more successful, no more valuable economy and no higher standard of living anywhere on the planet based on how this non-planned economy. People who don't understand basic micro- and macro- economic theory and don't understand anti-trust theory and implementation are the major critics. There are still a lot of people who believe in planned economies.

We've run the experiment: East Berlin versus West Berlin, Moscow versus New York, Beijing versus Hong Kong, North Korea versus South Korea. All of the empirical evidences say that market economies win out big time over the theoretically perfect planned economies.

I'll give you the best example that I can give as an analogy of why we need to make sure monopolies don't happen. Imagine that there was only one car company that was shipping 97% of the cars on the road. They didn't own trains, they didn't own airplanes, they didn't own bicycles, but they owned automobiles—read desktop computers. Now soon as I own and run that company, I would immediately void your warranty if you ever replaced the radio in that car. I'd void the warranty on your engine, everything. You're not going to change the radio. And oh by the way, I've preset the radio to only play my radio stations that I own. I collect all the advertising revenue on those radio stations and I only play the artists that I want to play on that radio station. And by the way, the CD player only plays CDs that are my format and you have to go to may stores and get CDs from my artists. I collect all the royalties on that, and oh by the way, also on the tires.

Now the big argument is, look at all the R&D being done by the monopolists. As a monopolist I can use billions and billions of dollars of R&D and invent a new tire. Tire 98, it's way better than Tire 95. Tire 95 costs $3,000.00 a tire and needed to be replaced every 5,000 miles. I'm not going to raise the price of Tire 98 and it will go 6,000 miles before you need to replace it. Everybody says that's genius, that nerd, he is such a genius. He just invents great product, new product. Here we are three years later and he's improved the mileage on that tire so much. We're not running the experiment to see what Goodyear and Firestone and Bridgestone could have done had they been in business competing and providing an alternative tire. There's nobody out there competing and the alternative OS there's nobody out there who can even come close to.

Try funding an OS start up in the desktop arena today. That's the problem with monopoly power. That's the problem with time bundling, predatory practices, all the rest of it. The consumer looses out, doesn't get choice, and never does see what the benefits of competition would have provided.

DA: It seems to me that when you've developed your new systems you're really taking a much different approach in opening up the, the entry into other people developing, using your model. How does that work? What is your strategy?

SM: Our strategy is that you don't make money owning the language. You make money doing things in the language. Microsoft's strategy is to own the language and own the alphabet characters, grammar syntax, math, and be the major provider of applications and platforms in that language. In fact they charge an upgrade fee when they want to add new characters like NNT.

I'd love to own English. That would be way better than owning Windows. We believe with Java that the language ought to be open and anybody ought to be able to go out and create their own implementations, their own compilers, their applications, their computers, their microprocessors, or whatever to run Java applications. We shouldn't be the sole source provider. We've done that with all of our interfaces. We believe in open interfaces.

I grew up in the automobile industry. Ford didn't pay Toyota $5.00 a car to put the brake pedal to the electric accelerator. And Ford didn't change the location of the brake pedal with Car 98 or Car 99 and force everybody to upgrade. They didn't force you to buy a new house to park your car in it. That "house" that Intel is inside/outside and every time we get a new upgrade on the Microsoft operating system, you have to go out and buy a new house to go speak this new language. It is just an absolutely ridiculous scenario.

We think we're offering a better answer and in effect I think the right answer, long term. I don't believe this proprietary model will live long term. Either the government won't accept it cause it's a violation of the anti-trust scenario or the consumers will just say we've had enough of this. There is a better way.

DA: As you look forward to the next century, is there anything that worries you about the way that computing is going other than the possibility that it might go into the monopolistic direction?

SM: Am I worried about anything other than the Microsoft monopoly might spread? I wouldn't say that it is going; it is monopolized. The desktop operating environment is monopolized. There is no question about that.

DA: Are there other things that you think about, that you dream about, for computing in the next century?

SM: I think it's all upside. I think it's all a big opportunity: home shopping, home banking, home education, remote, mobile, safe encrypted environments. I guess if there's another area that would worry me is that we stifle the ability to encrypt. There's a lot of conservation right now that says encryption is bad because you can't wiretap encrypted communications and encrypted data. If you believe that more than half of the world is bad, don't allow encryption. That way on average more bad people than good people will not be able to take advantage of encryption. If, however, you believe that there are more good people than bad people, you ought to allow encryption because than more good people will take advantage of it than bad people will. That's a very simple argument, a very simple debate, a very simple resolution from that perspective.

Unfortunately if you're in law enforcement, all you do is deal with bad people so that you think that the whole world is bad. But I think there are a lot more innocent people. It's kind of like saying don't give anybody door locks, because if you give people door locks burglars will lock themselves in, or lock up innocent people, or whatever.

No, I think you need to protect yourself, and in fact that will allow people to get out on the network in a safe and a private way, which will expand the ability to do distance, distance medicine, distance learning, distance business and commerce. Yes, there's going to be people who will abuse it, but people abuse driving a car. Does that mean we want to take cars from everybody? There are probably some people out there that would say yes. But I don't think most people feel better about not having a car than they do having one.

DA: As a leader of Sun, what kind of company and culture do you want to build in this organization as compared to others that you know in the information technology business?

SM: I'm not very good identifying that. It's mainly a "have a lunch or be lunch" market economy out there. We say, "kick butt and have fun." We have a dress code. We say you must. If you don't dress, we send you home. It's that kind of a very casual, very professional, very focused organization in terms of we want to build a really great product. We don't run around and brag about it. We just like to go out and do it. We like to take care of our customers and really provide some value. Our real goal, our real mission statement long term, or our big very aggressive goal long term, is to have every man, woman, and child on this planet connected to a high speed, broadband network at all times in a safe, effective, easy to use manner, wherever they are, anytime.

Obviously we're not going to achieve that in my lifetime. But we can make a huge dent in getting that. I think the network allows everybody to stand on the shoulders of the collective wisdom, knowledge and capabilities of everybody else on the network. That moves a whole standard of living on the planet forward in a very positive way. We'll create all kinds of new learning and I'm not a great futurist. Unlike other folks I can't predict the future. I just know that if we get people to implement a technology that we have today that that will be a huge step forward.

DA: It seems to me that is a vision that probably unites your company of really sharing together to spread that in an open fashion.

SM: It's a good thing and we don't think anybody should own English. We don't think anybody should own the fact that you drive on the right hand side of the road. We don't think anybody should own where the brake pedal goes. But we think people should be able to compete and innovate and give consumer choice and drive productivity, drive prices down. I'm a true capitalist. I'm a believer in the market economy. I think it does great things. I'll tell you what, I'll take a market economy over a planned economy any day.

DA: If you were to advise a young person, maybe 26 or 27, who might be an entrepreneur willing to follow out to build his own business, what would you say to them? What's your advice?

SM: Just do it. Just try it. Go for it. Pick an idea, find some good buddies, go out and try it. There is no harm. You're not going to miss a meal. You're just not. Anybody whose is thinking about doing that, just go do it. If you work hard, it is absolutely amazing how little extra work it requires to work way more than average. And if you're working harder than the average person by a lot, you're going to be successful and more successful by the average person by a lot. Maybe I'm luckier than even I admit which is way lucky. But everybody I know that's gone off and started a company has never missed a meal. They have had a great time doing it, and have profited very nicely. But you do work harder.

DA: So work hard and take a risk.

SM: You don't take any risks. The risk is running the 25,000 person company and crashing that. There is no risk taking a four-person company and crashing that. If you hire the right four people there are all smart and find another job anyhow. But when you have 25,000 employees and dislocating them, that is a far riskier to do what I'm doing now than it was sixteen years ago when we started Sun.

There's no risk starting a company. All the risk is running a big company. The other risk is that you are successful. The time sync and the responsibility—if you have any feelings of guilt at all—are pretty stunning. And you better be prepared that if you are successful, that it could consume a major portion of your life.

DA: Tell us a little bit about working on the Bradley fighting vehicle.

SM: I moved out to California to be by a girlfriend who worked at the F&C Tank Plant out at F&C Headquarters. They build what was then called the M1-10 and the M2 armored personnel carriers, which were basically tanks that also carried people. I moved out here and I got into materials management and worked in the factory that built tanks. I got to test drive them and I was responsible for getting some of the parts in to make sure the product got built.

I'll tell you the psychic income on that was not nearly as great as the psychic income on building computers that allowed people to have reconstructive surgery, or brain surgery, or design new automobiles or new airplanes or whatever. The psychic income on distance learning and e-mail and building the Internet is way greater than thinking, "boy if we build this tank perfectly it will really kill somebody." That just wasn't the kind of psychic income that I particularly enjoyed. But it was a good training ground and obviously national defense is a critical component. But it's not something necessarily I wanted to do for the rest of my life.

DA: Could you be happy if your kids followed you out into the information technology business?

SM: I'd be happy as long as my kids enjoy what they're doing, do it with passion, do it with care, do it with a sense of pride, with a sense of craftsmanship and do it, more importantly than anything, with character, with honesty, with trustworthiness, with law-abiding and within their own set of morals, an honest set of morals. I don't care what they do. I don't care where they do it, and how they do it, as long as they do it with character. I think that is all the matters. And when you hit the pine box I think how they judge your character is far more important than how they judge your feats—what elections you've won, what wealth you've accumulated, what legacies you leave. I think your character is your only lasting legacy.

DA: What do you see as the landmark turning points in Sun's evolution. You've seen the evolution of Sun from the beginning and you've gone through a number of phases where you've had to turn and go in different directions. From your perspective, what are the most important of those turning points?

SM: There's a bunch. There's no one single turning point in Sun. Obviously early on I think a major turning point was hiring Bill Joy as one of the four co-founders and he was absolutely critical. He and Andy made a great Frick and Frack, Mutt and Jeff, Ying and Yang, combination of skills and capabilities that are still, I think, very, very unique; a lot along the lines probably of Hewlett and Packard of HP.

A second major turning point was in 1983 when we won the Computer Vision deal. At the time our major competitor, had Autotroll and Common and a couple of other major vendors. The biggest one was Computer Vision.

We were in a death star battle with big old Apollo to win Computer Vision. The purchase agent called us up and said they were going to with Apollo and they were formally severing all communications with Sun Microsystems and hung up the phone us. The deal was over, dead, and we'd have been out of business because we wouldn't have been able to compute. Some of our folks red-eyed to Boston; hung out in the lobby. We distributed a whole bunch of really crazy proposals offering equity in the company and all of our IP and actual property and doing custom products and all the rest of it. Within a couple of weeks we turned the loss into a win and launched a company in a major way.

I would say the next major turn around was launching our new Sparc microprocessor. Back then it was 8- and 10-bit microprocessor, which just blew away the industry. After that it was probably our shift to moving the commercial service—which was a big shift for the company—from just engineering workstations, and then finally, Java. It was probably the most recent lesson. Three years ago today we launched the Java programming language and I think it's been the biggest smash hit probably ever to hit the computer industry to date. I'm sure they'll be more and bigger ones, but I don't think anything has hit the market quite like Java. So each of those points were obviously turning points, but kind of, if you will, booster rocket or after burner ignition kinds of things that have launched us even more aggressively

DA: When you come to major points like that, do the senior people get in smoke-filled room? How do you make decisions about, for example, going to your new model on large services as opposed to workstations? What's your secret?

SM: There's no secret. The real secret is that I don't make all those decisions. I just support them and I let the team sort out and come to some sort of agreement about what their direction is to go. I just stand back and make sure that we've got a good plan, that we're resourcing it properly, and that it gets evangelized well. But the good news about being a golf major is that I don't pick colors, I don't design pipelines, I'm just not the decision maker on the product.

DA: So perhaps one of your strengths is letting people do what they do best so you can do what you do best.

SM: Absolutely. At this point I'm just a pure figurehead.

DA: I don't think anybody's going to believe this.

DSM: I have one last question. When you were talking about character and integrity and leadership, are there folks out there doing business right now that epitomize those qualities for you?

SM: If I were to pick an all-star team, there's clearly somebody who I think is got to be number one in the hall of fame; a kind of a Wayne Gretzky or Gordie Howe, and that's Jack Welch. You've got to meet the guy. He just has everything you could possibly imagine in terms of what you would want to see in a leader. He's just unbelievable. I've not met him very often or spent much time with him, but when I do I get totally blown away. I think his record speaks for himself and the way he handles himself is truly amazing. I wish he'd run for president of the United States. The U.S. would be a way better place if he could do that.

DA: It sounds like, from your perspective, the possibility even to engage in having values like that it's much more possible to do that as a businessman than as a politician though.

SM: I can be a politician. I just would never get elected. You know I think that's the real, that's the real shame. A lot of people are grumbling that we got the elected leaders that we deserve. I guess I'm just not that much of a pessimist, but I'm not a believer that that I can get elected. I'm just not made up that way. I'm not built that way. I don't like our system but there's none better. Somebody said that way before I did. I do believe that it's up to the population, the citizenry, the voting people to choose. The one thing you should vote on selflessly is your leader. I think too many people are one-issue voters or personal issue voters as opposed to thinking about what's right for the country. It seems to me that we ought to find somebody out there who has character, who has an understanding of how things should work and has a good blue print that will improve the standard of living of the planet as a whole. I think we have a hard time doing that sometimes.

DA: Scott thank you so much for your time and insights.

SM: Thank you.