



## **Oral History of Robert Price**

Interviewed by:  
Gardner Hendrie

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**Gardner Hendrie:** With us is Robert Price, who's very graciously agreed to do an oral history for the Computer History Museum before he gives a lecture this evening. Thank you for joining us. I think maybe it would be good for us to know just a little bit about your personal history, maybe something about where you grew up and what your parents did and, you know, what siblings you had and sort of where you got started in life.

**Robert Price:** Well, I was born in North Carolina, New Bern, North Carolina to be precise. And I have one sister who's deceased now. My father was a Methodist minister and a member of the U.S. Army. He was a minister in civilian life but he was called up in the early 1930's to run a CCC camp after they were established. And then, although he was out very briefly for a couple of years, he was called up again in the mobilization prior to World War II and then he was in the service for the rest of his life. He was in the First Infantry Division, and then two years into World War II, he knew he was going to be in the service probably for the rest of his career decided to transfer, and he became a Chaplain in the Army. So, we lived all over, and Army camps being located where they are, that was mostly in the South, Southeast, a little bit in the Southwest, but we also lived in Hawaii and in Europe.

**Hendrie:** Oh, very good.

**Price:** I went to Duke University, majored in math. I was actually interviewed while I was a senior at Duke to be a programmer, mathematician at Oakridge National Laboratory, which I'd never heard of and declined that in order to go to graduate school at Berkeley and then ultimately ended up getting a job at Lawrence Livermore Laboratory, which is when I really went into computers. I actually went to Lawrence before they got their first electronic computer, which was UNIVAC I, and we programmed originally on the IBM card program calculator.

**Hendrie:** Now, going back to when you were in high school, was math your favorite subject?

**Price:** Yes. Yes, it was.

**Hendrie:** And so, it was just natural for you to go on to...

**Price:** Yes, right.

**Hendrie:** To go to college and study math. Did you think of other places that you might want to go to work or...?

**Price:** No. It was – I wanted to go to work in Berkeley. I wanted to go to work nearby Berkeley anyway. And it was very exciting. Of course, the lab was only formed in the previous October, Edward Teller was, as you know, its first Director.

**Hendrie:** So what year might this be?

**Price:** That would have been 1952, fall of 1952, the lab was established, and I went to the laboratory in February of 1953. And my first -- they thought, first of all, they said, "Where have you lived?" And when I listed all the places, they said, "You'll never get a clearance. You'll be retired before you get cleared." But it turned out not to be that way because, of course, with my dad in the Army, there was a very good track record.

**Hendrie:** Yes, exactly. That was okay.

**Price:** That was okay.

**Hendrie:** You lived in the Army.

**Price:** Right. So I did get cleared fairly rapidly. And we got our first electronic computer, the UNIVAC I.

**Hendrie:** Now, did you have a specialty in terms of the kind of math problems or the section you were working in?

**Price:** No, but it turned out that I ended up having a specialty. The very first thing that I worked on was a Monte Carlo method of calculating, not cross sections, but calculating neutron activity with a given cross section. My project leader was a man by the name of Harold Brown. And the consultant on our project, whose mathematical model this was, was John von Neuman. And, of course, Edward Teller was head of the laboratory at that point.

**Hendrie:** Yes, so you had some -- you rubbed elbows with some very interesting people.

**Price:** That was very high powered company for a 21-year-old mathematician. But it was great fun. I enjoyed it immensely. I did always enjoy solving problems, and I liked what we were doing. And then, one of my older colleagues left Livermore and went to Convair in San Diego, who were setting up a new computer center.

**Hendrie:** Okay. What were they going to do at this center?

**Price:** Designing airplanes. I did wing design.

**Hendrie:** Design, okay, so this is using computers to help design airplanes.

**Price:** Right. So, you still had a lot of equations of fluid flow that you were concerned with. But they were getting a brand new machine called the ERA 1103. So, I worked on that, worked on wing design. We worked in pairs. I worked with an engineer, whose name, by the way, was Brown Herschoff. Brown was from New England and his family were famous yacht and boat designers. A lot of sail work, of course, which is the same kind of thing. And he was an interesting, eccentric kind of person. But then I decided I had interrupted my master's degree work at Berkeley, and I wanted to finish that up, so I went back to my wife's home town of Atlanta, Georgia, went to Georgia Tech, and finished my master's degree.

**Hendrie:** Now, when did you meet your wife during this early...

**Price:** Well, I met her while I was at Duke.

**Hendrie:** While you were at Duke, okay. All right, very good. So, you went back to Georgia Tech.

**Price:** I went back to Georgia Tech.

**Hendrie:** And you got a master's degree.

**Price:** Got a master's degree at Georgia Tech.

**Hendrie:** Now, in what?

**Price:** In math.

**Hendrie:** In math, still.

**Price:** Applied mathematics. Same old partial differential equations. And then, returned to California, which I loved, and went to work for Standard Oil of California.

**Hendrie:** Oh, okay. And now, what kind of computer work or math work problems were you solving there?

**Price:** Different kinds. We did a fair amount of linear programming, distribution kinds of problems, but we also did seismic analysis.

**Hendrie:** I was going to say whether any seismic work was done in California.

**Price:** One of the huge projects that was not one that I worked on, but we actually did a refinery simulation project.

**Hendrie:** That must have taxed the capacity of computers at that time.

**Price:** It wasn't that much of a computer, either, because it was -- I think that machine we had at that time was an IBM 701.

**Hendrie:** All right.

**Price:** So, in any event, so I was at Standard Oil of California, and my office mate and good friend as it turned out over the years, was a man by the name of Richard Zemlin, Dick Zemlin. And Dick had worked -- he was from Minneapolis, he had worked at ERA, before he joined Standard Oil. And he was recruited by Control Data shortly after Control Data started up, not too long afterwards. I guess it was a year or two, maybe three years, after the company was founded. Control Data wanted to start a West Coast software development group.

**Hendrie:** Now, when was the company founded?

**Price:** 1957.

**Hendrie:** 1957, all right.

**Price:** And so, Dick joined Control Data because he knew a lot of the people from having worked at Remington Rand, and before that Engineering Research Association. And he recruited me to join Control Data. And that was in 1961. So then I was with Control Data for the next almost 30 years, 29 years.

**Hendrie:** My goodness. But you started out, you were still...

**Robert Price:** I was still a programmer.

**Hendrie:** Still a programmer, knowing how to program scientific applications.

**Price:** Yes, that's right. And one of the very first applications I did for the Control Data 1604 was linear programming, because that's what I'd been working on at Standard Oil of California.

**Hendrie:** So, now did you do this application in the sense of set up a general way to do linear programming and write a framework for people to do linear programming as opposed to working with an early customer and <inaudible>.

**Price:** No. It was general purpose software.

**Hendrie:** It was general purpose software.

**Price:** It was general purpose software.

**Hendrie:** Very good. All right. So, what happens next?

**Price:** Well, what happened next was I was, because of my family background, I was always interested in international work. And I had lived, while my dad was stationed in Germany after World War II, I had lived over there for a year, and so I was very interested in doing things in the international arena.

**Hendrie:** Now, had you learned any foreign language?

**Price:** German.

**Hendrie:** You did. So you had learned enough German, so you were reasonably fluent in German?

**Price:** Right.

**Hendrie:** Oh, very good.

**Price:** So, Control Data was really -- and this would have been 1963 by then, and Control Data was just the previous fall had gotten started doing something in Europe and, you know, getting its toe in the water and in the international water.

**Hendrie:** Yeah, because their early markets were certainly in government and, you know, in the U.S.?

**Price:** Right.

**Hendrie:** Okay.

**Price:** Any way, Bill Norris who was the founder and CEO of Control Data, thought -- well, things were a little, as you might guess, a little disorganized [-- that I could help both in the home office organization and in the technical support operations in Europe].

**Hendrie:** Well, it was growing very fast. That causes disorganization?

**Price:** And he wanted someone in the home office to tie up loose ends and handle all of the support and administrative matters.

**Hendrie:** Now, had you gotten into any management roles?

**Price:** All right. My first management role in Control Data was Manager of Application Services, which is basically customer support services, software support services.

**Hendrie:** Okay. Now, was this still while you were...

**Price:** In California.

**Hendrie:** You were still in California?

**Price:** Right.

**Hendrie:** Okay. So, you went from doing, providing packages to a developer...

**Price:** To a customer services, application services. So any way, Bill Norris came and asked if I wouldn't be interested in doing this job, which he described, and it was a bit ill defined. But I figured that if the founder of the company wanted me do that job, it was probably worth while to do it. Didn't make any difference whether [it was well defined or not].

**Hendrie:** It wouldn't hurt your career.

**Price:** It wouldn't hurt my career. So, I said I would do that, but on one condition only, and since I was going to be supporting stuff in Europe and in the U.S. and I was going to be doing a whole bunch of other things any way, it didn't make any difference where I lived. So, I said I would do it provided that for the first year of the job, so that I really got a good feel for what was going on, that my family and I could live in Europe, which we did.

**Hendrie:** All right. And your wife thought this was -- she was pretty supportive? She thought this was a good idea, too?

**Price:** She thought it was a great idea.

**Hendrie:** Okay. Very good.

**Price:** It turned out that my family lived in Europe for a year and I lived on airplanes for a year.

**Hendrie:** It didn't turn out that a lot of your work was based in your home town, in Europe.

**Price:** Right. But, that was a major step. I was Director of International Operations in Control Data.

**Hendrie:** Now, you know, was this a conventional sales role where, you know, you eventually had, you know, sort of target objectives, that type of thing?

**Price:** There wasn't anything conventional about my job whatsoever. Because at the same time that Bill recruited me to come and do -- what he wanted me to do was to organize the programming and hardware maintenance services for the European operations, which I agreed to do. But in the meantime, Control Data acquired the computer division of the Bendix Corporation. And with that, we acquired a distributor in Mexico, a distributor in Japan, and believe it or not, the Western Region Sales Manager for Control Data decided that Australia should be part of his territory.

**Hendrie:** It's in the West.

**Price:** Right. And that's what he said. Someone asked him, "Ray, what is the Western Region?" He said, "Well, it starts at the Rocky Mountains and it goes all the way around the world to the East Coast of the U.S."

**Hendrie:** I like that expansive view of life.

**Price:** So, anyway, there were a number of loose ends. So we had a distributor, a manufacturer's representative in Australia, and distributors in Mexico. We also acquired an interest in Canada at the same time, through the Bendix acquisition. And in Japan. So my job was to be the sales manager for non-European operations. The technical support manager for the European operations and the home office administrative manager.

**Hendrie:** All of those.

**Price:** All of them. All at once. And it was even more complicated than that because I was assigned to work for the Vice President of Marketing, U.S. Vice President of Marketing who had no international responsibilities.

**Hendrie:** Who had no other connection with international.

**Price:** But there had to be some place for me to report other than to the CEO.

**Hendrie:** Now, who was that at that time?

**Price:** Who was which?

**Hendrie:** The head of marketing?

**Price:** Oh, George Hansen.

**Hendrie:** Okay.

**Price:** Okay. And meanwhile, the person who was running Europe [was Ed] Strickland, who got the European operations started, actually had been the treasurer of the company. So we had a financial guy who was [running] Europe, I was located in Lucerne. And I was working for George Hansen and, of course, Bill Norris had a firm hand in everything. So we had a thing called the International Policy Committee, which Bill himself chaired, and I was the secretary of the committee. And not only that, my boss George Hansen and Ed Strickland didn't get along too well.

**Hendrie:** That always helps.

**Price:** So, it was to say the least, a difficult situation, organizationally, but I learned a lot. I learned a great deal about executives and human nature, and all those things as well, which has stood me in good stead all these years. Anyway, not long, a year later, the company actually hired a man from outside the company to run the European operations. And so, I no longer had the technical support function in Europe. I did have the home office administration. And I did have the rest of the world marketing operation. And that went along reasonably well for a while.

**Hendrie:** That was not quite such a confused reporting...

**Price:** Not quite. Not quite. But then there was a bigger reorganization within Control Data and a couple of the founding executives had left at that time. This was now 1969-1970.

**Hendrie:** Okay. So you had been at Control Data for seven years now?

**Price:** Right.

**Hendrie:** Now, who -- could you just tell me a little bit about this sort of, the out, what happened then?

**Price:** Oh, what happened was very straightforward. The company had gone from zero to a billion dollars. It was a big company with lots of products and lots of product lines. It was just more complicated. And it, of course, had grown like crazy. So, there was discontent. And two of the key executives, Frank Mullaney and Bob Kish, who were both very close to me, as a matter of fact, left Control Data because they decided they wanted to be associated with a smaller company. Must have been '67. Because the reorganization actually took place in 1970, and there were four groups set up within the computer business, one of which was services, which I ran, and the others were the computer systems business, the peripheral products business, and marketing. And at that point, those of us who



were appointed to head those organizations became senior vice presidents and the only person in an equivalent job, previous was Tom Kamp, who was head of the peripherals business.

**Hendrie:** Head of the peripherals and had been in charge of the peripherals forever?

**Price:** Right. From the beginning.

**Hendrie:** From the beginning, right. Did he -- just a quick question. Did he come with Cedar Engineering or was he a CDC person?

**Price:** No. He came with Cedar Engineering. He came with Cedar Engineering. So, there was a brand new face, if you will, in the top management ranks of the company at that point. And so, the 1970s were a time of transition. First of all, Seymour left in 1972, and Jim Thornton left, it was either -- I think it was in '73, because it's not quite clear because Jim actually had stayed as a consultant to Control Data for a year. He worked on a consulting basis to Control Data, but ultimately, in 1974, he and Gary Christianson set up Network Systems, Inc.

**Hendrie:** Ah, okay, that's when that happened. Okay. Now, what had his role been before he left?

**Price:** Jim Thornton is one of the unsung heroes of Control Data. First of all, he was the -- actually, he was the co-designer of the 6600. He did all of the logic, detailed logic design for the 6600. So, he was, in a sense, he was Seymour's right hand man, but he was more than that because Jim Thornton was a very likeable and a very good manager, very likeable person.

**Hendrie:** An approachable person.

**Price:** An approachable person. And he had learned that the hard way, by the way, because Jim Thornton was the project engineer on the 1103 at Convair when I went to work.

**Hendrie:** So, you had first met him...

**Price:** I'd met him at Convair, and he really had his hands full in dealing with our data center manager at Convair. It was -- cantankerous would be kind -- little bit more than that.

**Hendrie:** Yes. A pain in a lower body part.

**Price:** Pain. And Jim handled that very beautifully. He just handled the whole customer relations thing fine. But, Jim was the kind of guy that he greeted everybody with a smile. He had a big family. His children loved him, customers loved him, and guys liked working for him. But he had a good fine touch of dealing with the engineering creative instinct. He knew how to help without intruding. He knew how to give freedom to innovate without just letting people run off and, you know, run amok so to speak. So he was really the glue that kept Seymour's little team of people together. So he was really extremely important in the company. And of course, he was the designer of the star -- the string array computer.

**Hendrie:** So, he had very strong technical ability.

**Price:** Very strong.

**Hendrie:** Seymour let him do all the detailed logic design. Seymour would not delegate that to somebody he thought was a fool.

**Price:** No, he absolutely wouldn't.

**Hendrie:** And can deal with difficult customer situations.

**Price:** Exactly.

**Hendrie:** That's a remarkable person.

**Price:** Right. It is remarkable.

**Hendrie:** Technical ability and personal – interpersonal skills.

**Robert Price:** So, in 1974, Jim and Gary founded Network Systems, which had a great success. It was the Cisco of its day. And Jim, then he was Chairman, and ultimately he retired and devoted himself to trying to payback to his community, Saint Paul, what he felt he had been given, you know, as a child and as a young man growing up and his education and so forth. The latter part of his life wasn't all that happy -- his family life was always very happy -- but first of all a couple of the things that he was trying to do in terms of economic development, downtown development in Saint Paul, just didn't work out very well. But more than that, he had a stroke ten, eleven years ago, about 1995 or '96. We just didn't have the medical technology then that we have today, so Jim was pretty much an invalid for the remaining ten or so years of his life. He just died in early 2005. But a remarkable life and a remarkable guy, and a remarkable legacy. Anyway, Jim left, Seymour left, but more than that, the company was by then beginning to move into Information Services – and that's what I was doing – I had become, as I said, head of the services group. So we were building Control Data's information services business.

**Hendrie:** Okay. Which, at that time, was, you know, everybody latched onto that idea by the '90s, but we're talking the '70s now, early '70s.

**Price:** And people just looked at you cross eyed. In fact, see, I was head of marketing. And when the reorganization came and I became the Senior Vice President, Group Executive for Services, my colleagues in marketing all my marketing people had a little get together to wish me well and so forth. It was more like a wake than it was congratulations, because they thought I'd been put off in Siberia.

**Hendrie:** Yes. Put into a no-win situation in a no-win division.

**Price:** Put into a no-win situation.

**Hendrie:** Now, I missed that you had been head of marketing for a while. Can you go back and sort of weave that in?

**Price:** Oh, well, I was – let's see, where did with leave off the story? I was head of international operations and then, and after that I became the general sales manager for the United States. So I flew from Hong Kong through Europe to Minneapolis and the guy who had just replaced George Hansen as head of marketing, Bob Schmidt, met me at the airport and took me to a Twins baseball game. And we were – here I'd flown all the way around the world. I was sitting in the sun, drinking beer and having a hotdog with Bob Schmidt, but I wasn't so far gone I couldn't bargain a little bit. And I said, "Bob, I like international work. And so, I am going to be – you can be the head of marketing. I am going to be the general sales manager but it's going to include international operations as well, but what I do, I will promise you that for the first six months – and if you're good, even the first year – I will not venture outside the United States. You can go and roam the international operations to your heart's content and I won't even be there." And we did that. And we had a great partnership, wonderful guy. Wonderful guy. And then, subsequent to that, I became head of marketing.

**Hendrie:** Now, head of – in Control Data – what did worldwide mean?

**Price:** It was marketing.

**Hendrie:** It was marketing – that meant marketing in the traditional sense of what marketing is?

**Price:** Yes.

**Hendrie:** And sales?

**Price:** And sales. Marketing and sales.

**Hendrie:** So that would be viewed as head of sales and marketing in today's parlance?

**Price:** And it also included most of the international subsidiaries, because they were fundamentally sales and marketing organizations.

**Hendrie:** Yes, of course.

**Price:** There were manufacturing operations, and there were, in Holland and in Asia and first at Hong Kong and then in Korea. So, there were manufacturing operations outside the United States, but they worked for the product divisions in the U.S.

**Hendrie:** Okay. Were there any development operations outside the United States at that time?

**Price:** No formal development organizations.

**Hendrie:** Yeah, there might have been partnerships but not...

**Price:** And there was certainly skunk works development or, you know, sub-rosa development. Things were done.

**Hendrie:** Things happened. When you're a billion dollars company, you can make things happen if you're out of the boonies.

**Price:** That's right. Things had to happen.

**Hendrie:** Nobody will know until you spend serious money.

**Price:** So, anyway, and then it was just a matter of a sequence of steps after that. I was head of service and then systems and services.

**Hendrie:** Now was systems and services, were they computer systems?

**Price:** Computer systems and the information services. And then subsequent to that, the head of all computer operations, including peripherals and then president and chief operating officer, and then chairman and CEO.

**Hendrie:** That's some very nice steps there. Now, when did you eventually become the president?

**Price:** 1980.

**Hendrie:** After you, you know, came back to the home office and started doing these operations?

**Price:** That's true. That's true. It wasn't that long.

**Hendrie:** Yeah. What did you ascribe as to why you got chosen by Bill to go and do these things? Why did you think that happened?

**Price:** Oh, I think it was, well, I'm a very task oriented person, so I didn't spend any time doing anything except to see that the task that I was given at the moment was done as well as it could be done. And clearly I'm a pretty good people person and reasonably articulate. So, I think those traits, plus, well, another thing, too. This may be a little more subtle than that. Bill Norris is one of the 20th century's premier innovators. He absolutely, unless you've worked with the man and for him, and just can't appreciate what an incredible insight and ideas that he has. Bill was frequently, with some derision, called a visionary. Bill's not a visionary. What he is – and I use mathematical terms to describe that Bill is a person who has an intuitive feel for the second derivative of a function in life, even the third derivative. That is to say, most people observe a scene. A few people are able to see how the scene is changing and is going to change. Very, very few people can see the things that are going on that are going to cause change that will cause the scene to change. That's the second derivative. And Bill Norris could see fundamental things that were going to change the way we do things. So he could anticipate those things. Well, some people call that visionary, but I call it being able to have really deep insight into human nature. Now, the other thing is he's very obviously a very strong-willed person. You don't build a five-billion-dollar company and not be. So, if you went to him with a problem, he didn't explore the problem with you, what are the pros, what are the cons, what do you think? He said, "Well, here's what you do."

**Hendrie:** Oh, really.

**Price:** Yes. Here's the answer. And most people who worked for and with Bill made the mistake of saying "Yes, sir," and going off and trying to implement what he said to do, which didn't mean it was necessarily the right answer. Because as you well understand, there is no one right answer to anything that complicated. But I always tried to understand why he gave me the answer that he gave me. If he said, "This is what we should do," I didn't take that at face value. I tried to understand why.

**Hendrie:** Yes, get him to understand what led him to say that.

**Price:** Right.

**Hendrie:** Where that came from.

**Price:** Where did that come from. So, we had a great ability to communicate. Perhaps we were able to communicate to a fault because, if there was something that he wanted to do, my reaction was, "Okay, how in the hell are we going to get this done?" And it should have been – sometimes, not all the times – but sometimes and more frequently, it should have been, "Do we really want to do this?"

**Hendrie:** Are you sure about this? Right.

**Price:** So, I was not questioning enough, I think, in that regard. But still, we accomplished some incredible things.

**Hendrie:** So, because like many people who are very quick and pretty darn sure of themselves, they're right an awful lot of the time.

**Price:** Awful lot of the time. So, we made a good team, and then ultimately, of course, I became chairman and CEO.

**Hendrie:** Yeah, Bill decided it was time to – did he retire because of failing health or did he just decide it's time.

**Price:** No. It was a sequence of things. He, and we, we had worked out an office of the chairman – or chairman's executive office or whatever we called it. And it was himself as chairman and CEO, and me as president and chief operating officer, and Norbert Berg as deputy chairman. And we had worked out a succession plan in which if something happened to Bill or if he retired, I would become president and CEO, and Norb would become chairman, because he would still be an executive of the company. But what happened was in 1985, the company got into a severe liquidity crisis. The headlines routinely predicted the bankruptcy and ultimate demise of Control Data. It was really very, very tense, very tough times. And the board who had agreed with this kind of succession plan said, "We want one focal point, we want one person so that we know precisely who to blame. And so when it came down to it, I would be president, chairman and president and CEO.

**Hendrie:** And Bill stepped back.

**Price:** And Bill did stay on the board, but he did step off all his executive positions, and he was in a lot of other things. He was really very, very good. He never intervened. Hardly even spoke at board meetings.

**Hendrie:** So he was able to step back?

**Price:** He was able to step back.

**Hendrie:** And let go when it was the right thing to do.

**Price:** Yeah.

**Hendrie:** That's really good. We need to stop for a second and change tapes.

**Price:** Okay.

**Hendrie:** We had just talked a little bit about uh... Bill Norris' leaving and then when Control Data had run into some difficult times, could you tell us just a little bit about what happened at that time and, you know, what were the events that transpired to put a lot of pressure, financially on Control Data?

**Price:** Oh the principle thing was cash flow. First, Control Data is a very diverse business, I mean if you take peripheral products, computer systems and information services and financial services, you have quite different dynamics, financial dynamics in all those businesses. The peripheral products had been very profitable but it was also very capital consuming, a capital intensive kind of business and at that point the computer systems business was pretty much—we designed our last computer and I don't remember exactly but it had to be in the early 80s, early 80s was the last real computer design that we did. We were selling computer systems and we were still building, manufacturing computers and assembling them but we were much more a systems integrator then we were a systems design house. And we were making good progress as a matter of fact, but it was a small—it was a relatively small business.

**Hendrie:** It was a modest fraction of total revenue.

**Price:** Of everything and the services business was a whole collection of start up businesses which have great potential but also have big up front operating losses because of marketing expenses and so forth. On the one hand although the service business wasn't nearly as cash consuming as the hardware business, it was in terms of the operating statement of the company. There weren't huge amounts of profit.

**Hendrie:** It's not really a super high gross margin business.

**Price:** Once you get the critical mass it's very, very lucrative of course but while you're building up to critical mass you're investing a lot in sales, marketing, building the market place and so forth. So we had a combination of things that made on the one hand not a great balance sheet. On the other hand, the problem of generating quarter-to-quarter earnings improvement and stock growth was really tough. But it was not a crisis in terms of the company not having valuable assets, it had enormously valuable assets

and it was pure and simple a liquidity problem and we solved that problem. First of all we did the IPO [of Commercial Credit] and that generated, I think it was either the largest or second largest IPO at that point in history. It was a total value of something like 800 million dollars or something like that. So it was a big—and Control Data kept 20% interest. There was a big infusion of cash into the company and we also had done a lot to stop marginal operations, things that were simply cash consuming without being profitable outlook in the reasonably near future. So we did that, and we actually, from September of '85 for about the next 9 months, we lived day-to-day off the cash we generated in the company. Then in the summer of '86 we did a debt and equity offering and the company was in great shape. It had a great balance sheet and a good outlook. What we did simply addressed the problems that needed to be addressed.

**Hendrie:** When did the company divest itself of its disk business, because certainly it was a great leader in the disk drive business, well in the peripherals business but disks were a major?

**Robert Price:** Disk drives were the heart and soul of the peripherals business. We actually had been looking at the disposition of the peripherals business since the mid 80s and the reason for that was by the late 70s early 80s the whole peripherals business strategically stood on its head. To explain that, you have to realize that we went in to the OEM peripherals business because we couldn't get high quality peripherals from anywhere else. You could get them from IBM, but you had to pay retail. So we wanted to do our own, but we didn't have the volume necessary. There was only one answer, and that was to sell the same peripherals that we were gonna use on our computers, sell 'em to our competitors, which is a leap of faith. The key is to have a very clear view of where the company derives its value-added, its competitive differentiation. For Control Data that was not disk drives. But by the late 70s, the peripherals business, with the advent of first, mini-computers in the early 70s, and later, the pc business, the whole dynamics of the thing changed, I mean the volume and so forth was all in the low end computers. So most of the peripheral products OEM volume was not coming from Control Data, it was coming from outside Control Data.

**Hendrie:** Control Data was using a smaller and smaller proportion of it.

**Price:** So what we had, in my terminology the peripherals business was a necessary technology—something we needed, but it wasn't the distinguishing characteristic of the company. So it wasn't sufficient to make us the superior competitor, but it was something we had to do. By the early 80s—actually middle 80s it was, that was no longer true. The peripherals business was in business to service all these other people and it was a commodity hardware business that simply didn't fit with the value added kind of culture that was basically Control Data. And even if you think about super computers and you think of them as hardware, but actually the distinguishing characteristic of a super computer is the value added engineering that goes into it. So Control Data basically was a value added company, not a commodity company, so we knew strategically that we didn't really need the peripherals business. The difficulty was by that point in time other people had entered the disk drive business, peripherals in general but disk drives in particular. The Japanese manufacturers had become very, very good at disk drives and there were new start up companies in the United States, especially here in California who were very good at that. So the peripherals market share had eroded, and although it was marginally profitable, it was not an attractive business on the auction block.

**Hendrie:** It didn't look like an opportunity for profit growth.

**Price:** Right. It was very difficult. I mean we couldn't get what we wanted for it, that we felt that we needed and I don't remember the numbers exactly but when we looked at trying to sell it, in the condition that it was in, it looked like we could probably get like 50 cents on a dollar for what we expected. So what happened was that we had to fix the business. We spent '85, '86, '87 really grooming and pruning and fixing the peripheral products business. Some new management and a lot of cost cutting and shedding of extraneous stuff and so it wasn't until 1988 that we had the thing in condition to sell. So it took 5 years from the time we really wanted to sell it until the time we could get a reasonable price for it and that's when we sold it to Seagate.

**Hendrie:** And of course all this time you have to keep up with the product, you can't stop doing product development or it won't be worth anything.

**Price:** That's right, absolutely.

**Hendrie:** So it's just making it a better run, more efficient business, one that is more competitive?

**Price:** Yep.

**Hendrie:** After you got it in position to sell, did you ever have second thoughts?

**Price:** No, no. No in fact if we hadn't have sold it we probably would have spun it off as a separate company.

**Hendrie:** Because it just didn't fit into the services sort of framework.

**Price:** Right, we had done that successfully with Commercial Credit so we felt pretty good about the IPO kind of approach to things, if we needed to, of course it wasn't entirely clear that an IPO of a disk drive company in 1986 or '87 would have been very successful but, it was still an option.

**Hendrie:** Another course, you know, famous episode in CDC's history that I was wondering whether you could sort of fill us in a little bit about the story at least from your perspective and you probably weren't totally involved is the litigation with IBM.

**Price:** Oh well that had its roots all the way back almost to the beginning of the company and without going into any huge detail, the company had kept a very detailed record of the marketing abuses that we felt subjected to by IBM going all the way back to the early, very early days or the first 5 years of the company.

**Hendrie:** Oh really, when the principal products was the?

**Price:** Was the 1604.

**Hendrie:** Was the 1604. Well IBM has certainly has a classic reputation for very aggressive marketing.



**Price:** Very aggressive.

**Hendrie:** Almost anything that you could get away with.

**Price:** And the key to their tactics was the so called paper machines.

**Hendrie:** Well the 90 series were.

**Price:** Paper machines, fighting machines. We kept very detailed records of that. We attempted to gut the Antitrust Department, the US Government to bring a suit and they were about as aggressively competent in that regard as they have ever been on anything except way back in Teddy Roosevelt's day. So finally we simply said we'll just have to do it ourselves, so we did a private antitrust suit.

**Q:** Now when was this in?

**Robert Price:** This would have been, let's see '69, let's see, when was Lyndon Johnson president? '61-'68?

**Hendrie:** Kennedy was elected in...

**Price:** '60.

**Hendrie:** In '60 okay, and he didn't serve out his term, his first term. Johnson was then elected in '64 and then he decided not to run in '68 and Nixon was elected in '68.

**Price:** Okay, so it was in the final months of the Johnson administration, which would have been after the 1968 election right?

**Hendrie:** Yeah so it was late '68, early '69.

**Price:** Right, exactly. We had filed earlier in '68 and the government then did file an antitrust suit at the very waning days of the Johnson administration. So that whole lot of agonizing detail, the key factor in the IBM lawsuit was first of all the facts, and we had well documented facts. But the second and equally important thing was a computer based information retrieval system that we had developed that allowed our tiny little band of lawyers to deal very, very effectively with IBM's hoards of legal people.

**Hendrie:** And this had been CDC, programmers had written this?

**Price:** Had written it for this purpose.

**Hendrie:** For this purpose, yes? This is a purposely written piece of application software, running on CDC machines?

**Price:** Absolutely, and it worked marvelously, it really did. Ultimately settlement negotiations began.

**Hendrie:** Relatively quickly or?

**Price:** No. It was well, I don't know. Everything is relative in law. We settled the lawsuit in 1973, the settlement negotiations probably and I don't know precisely, but I think they probably began in 1971, so the lawsuit was 3 years old, at least and it may have been a little bit later then that but anyway it was settled in 1973 and the interesting epilogue to all of that, well, there are several interesting epilogues, but one of them is we took that piece of software and started a new business. As part of the settlement, IBM insisted that we destroy the database. But not the software.

**Hendrie:** The data base of all their egregious, monopolistic practices?

**Price:** Yes, but we kept the software that we had used and we turned it into a business, Quorum Data Systems became the leading antitrust legally assisted computer system around.

**Hendrie:** Oh my goodness.

**Price:** But that's true, we actually established a business on the base.

**Hendrie:** Based on this because you knew it was good and it worked and everybody else knew it worked.

**Price:** That's right, Quorum Data Systems.

**Hendrie:** But you had to destroy the record?

**Price:** Right.

**Hendrie:** So what were some of the other factors in the settlement?

**Price:** Well the absolutely key element of the settlement was the acquisition of the Service Bureau Company by Control Data on very favorable terms and I don't have those numbers on the top of my head. But that provided almost instant critical mass to our own Cybernet data, data services business. So that was good and then we got a number of other things as well like the credit union services that SBC had and their payroll services, which Ceridian still operates today and so the Service Bureau Company became technologically or product-wise I guess is better, the core thrust of the data services business in the company. That was truly important. Maybe equally important again were the people who came with the Service Bureau because the number 2 man in the Service Bureau was a man by the name of Henry White who had been, before SBC, in IBM's Federal Systems Division. He worked with Bob Evans—a name that a lot of people know, and Henry was a class addition to the Control Data executive ranks and ultimately he became head of the systems. Hank worked for me after I became CEO and he was head of computer systems and computer services at Control Data. So he was a key executive in the company but there was another one too, a man by the name of Dave White, and Dave ultimately became head of the data services part of Control Data. So we got some absolutely outstanding executive talent as well and that was as important as anything.

**Hendrie:** Were they part of the settlement or they just decided, no the business was moving?

**Price:** No, the people in SBC were not given a choice. They were with SBC at that point in time and they had to come with it, and we couldn't say they couldn't leave, but they could not go back to IBM for I don't know, 3 years, 2 years, 3 years, something like that.

**Hendrie:** A fairly long time.

**Price:** A fairly long time yes and they all elected to stay.

**Hendrie:** Very good, well that's pretty interesting.

**Price:** Yeah, lots of twists and turns.

**Hendrie:** Exactly. So now tell me about when you—let's continue with your story to where you got to then. When did you leave Control Data?

**Price:** Well another interesting twist to the IBM lawsuit; I was on the settlement negotiation team.

**Hendrie:** Oh you were.

**Price:** And with that I became very familiar with IBM's policy that its executives, its top executives had to relinquish their positions at age 60. They could stay with the company as consultants or, you know, as operational managers but as far as being executive positions they had to leave at 60. And I thought that was a very enlightened view. Now they had the luxury of having a big stable of executives so they could easily afford such a thing.

**Hendrie:** They had plenty of very able people anxiously climbing the ladder.

**Robert Price:** Anxiously climbing the ladder, but I still thought it was a good idea so I made up my mind in 1973 that I was going to retire at age 60 and I did.

**Hendrie:** And that was what year?

**Robert Price:** That was 1990, so that was it, but also it was time to move ahead and we did, you know, a thorough internal and external search for a successor CEO and we had Larry Perlman who was one of our key executives in the company, so he succeeded me and my actual plan was that I would stay as chairman for 2 years, but as it happened with the ETA and other difficult problems, it made more sense just to transition out right away, so I actually stayed only as chairman for—we appointed Larry as CEO in January, and I only stayed as chairman until the annual meeting in May and then I resigned from the board as well.

**Hendrie:** So you cut all your ties?

**Price:** Yes, and that was not as prevalent a practice then as it is now. It's much more prevalent now that when the chairman CEO leaves, he leaves in maybe 6 months. But it's pretty much cut your ties and let the new guys take over, which all in all is probably a better system. Not many people have the degree of

equanimity and self confidence that allows them to do what Bill Norris did, which is to resign as chairman and CEO but stay on the board.

**Hendrie:** And act like a board member.

**Price:** And act like a board member. Very few people are that talented.

**Hendrie:** When did he leave the board?

**Price:** You know, I don't know.

**Hendrie:** It was after you?

**Robert Price:** It was afterwards.

**Hendrie:** After you resigned?

**Price:** Yes, he was probably on the board for 5 years, something like that, probably until about 1995.

**Hendrie:** So did you retire to golf and sun or did you discover another career?

**Price:** Well I didn't exactly discover. My intention was to build a second career by working with small business, start up businesses and smaller businesses both as a consultant and as an investor, and I started to do that and I'd had a lot of experience in building small businesses, especially in the services area in Control Data because that's how we built our services business. But at the time I was and had been for a number of years on the Board of Visitors of the Fuqua School of Business at Duke University, and so the summer that I retired from Control Data I was down at Duke and the then Dean of the Business School, Tom Keller, suggested that maybe I'd like to try teaching. I had not even thought about it. But I said sure, that sounds interesting, so I spent the next year basically talking to a number of the faculty people and, you know, tried to see what it was all about, and then in the summer of 1991 I taught my first class at Fuqua and it was a fantastic experience, just a wonderful, wonderful experience.

**Hendrie:** You really enjoyed it?

**Price:** Great students, just remarkable students, and although I taught in all parts of the business school, most of the time I taught in the Weekend Executive MBA program. I was not resident at Fuqua, I commuted from Minneapolis to Raleigh, Durham.

**Hendrie:** So go down for the weekend class?

**Price:** Right, 15 years fabulous experience, now I'm looking for a new career.

**Hendrie:** Okay you've stopped doing that.

**Price:** I haven't stopped doing it entirely, I'm doing some seminars and some guest lectures, I'm an adjunct professor in the Pratt School of Engineering at Duke so I'm doing some seminars and guest

lectures and that kind of thing and some internet discussion group kinda stuff. But I'm looking for a new career, writing books I don't know for sure.

**Hendrie:** Exactly, very good. Are there any areas that maybe I should have focused more on or that you'd like to—or comments you'd like to make about your career?

**Price:** Well I just feel—I'm enormously grateful. I feel so incredibly fortunate. Not only did I participate in the birth of a company, and a fair number of people do that, but I also participated in a birth of an industry and that's an opportunity that very, very few human beings experience. Although the ENIAC and all the early computers, the stuff in World War II and so forth, all the real guts pioneering was there, there was no computer industry, there was no computer business.

**Hendrie:** It wasn't a business.

**Robert Price:** It was not a business and I actually joined the computer business before it was a business and that's just an enormous, enormous opportunity. I feel so very fortunate.

**Hendrie:** Something you couldn't plan but you were fortunate enough that you were in the right place at the right time.

**Robert Price:** Right, wouldn't change a thing.

END OF INTERVIEW