Minicomputer Software Workshop: DEC/DG Session 1 - Origins

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Conducted by Software Industry Special Interest Group

Abstract: This first session of the pioneer meeting on minicomputer software, held on March 3, 2008, covers the origins of the minicomputer software companies (including ISVs [independent software vendors] and VARs [value-added resellers]) that produced software that ran on DEC and Data General (DG) computers. This meeting specifically focuses on how the industry grew, how it was created, and what the people did from both technological and business standpoints. The representatives from Argonaut Information Systems, Creative Socio-Medics, Ross Systems, and Wild Hare explain when and how their companies were founded in terms of initial products, services, staffing, and funding. They also profile their respective competitors and customers. Following a discussion of the companies' relationships with DEC and DG, the session concludes with the participants explaining their transition from service bureaus that offered timesharing services into software houses.

Participants:

Name	Affiliation
Burt Grad	Moderator, SI SIG
Paul Gustafson	Argonaut Information Systems
Joe Hensley	Argonaut Information Systems
Karol Hines	Ross Systems
Luanne Johnson	Argonaut Information Systems
Jan Phillips	DEC
John Phillips	Creative Socio Medics
Bruce Ray	Wild Hare
Ken Ross	Ross Systems
Oscar Schachter	ACT, Creative Socio Medics
Gerard Alberts	Historian
Thomas Haigh	Historian
Michael Mahoney	Historian

Ian Walsh	Historian
Len Shustek	Computer History Museum
Doug Jerger	SI SIG
Ed LaHay	SI SIG

Burton Grad: It is March 3, 2008 and we are at the Computer History Museum in Mountain View, California. This is our first pioneer meeting on minicomputer software. This session will focus on the origins of those minicomputer software companies which specialized in producing software for DEC and Data General [DG] computers.

There have been six previous Software Industry SIG [Special Interest Group] pioneer meetings. In 2002 we did the first one, which was concerned primarily with mainframe software and services companies. It was conducted in Washington DC, and the focus was on the industry trade association ADAPSO [Association of Data Processing Service Organizations]. Out of that meeting came a book covering the workshops edited by Luanne Johnson. This meeting also gave us a chance to record several oral histories. The next two pioneer meetings were done in 2004 on PC software. One was held in Needham, Massachusetts, and the other one was at the Computer History Museum. Out of the workshop recordings and transcriptions from those meetings two special issues of the *IEEE Annals of the History of Computing* were produced: one on spreadsheets and one on word processing.

We then had two meetings, one in 2006 and the other in 2007, on professional services companies. One was for the employee-based commercial-type companies; the other was for those companies who used brokerage-type independent contractors to do the work. And finally, in 2007, we ran a meeting of the relational database management systems [RDBMS] companies, covering the five that were the principal competitors: IBM, Oracle, Sybase, Ingres, and Informix. From that meeting, we're going to get another special issue of the *Annals* on the RDBMS companies [Ed. Note: This special issue was published in two parts: October–December 2012 and April–June 2013]. Edited transcriptions of all of the oral histories and workshops will be posted on the Computer History Museum website.

So, this is number seven. I guess that's a lucky number.

This meeting is for the minicomputer software companies (including ISVs [independent software vendors] and VARs [value-added resellers]) that produced software that ran on DEC and DG computers. While the software often ran on many other computers, we are focused on the software vendors and their relationships with DEC and DG. On Thursday we will be meeting with software companies who supported HP platforms as their principal offerings. Many of you

may have also supported HP, but this meeting addresses those where DEC and DG were the original focus. The purpose of all these sessions is to collect historical information from the pioneers in these areas; the information will be used by historians—present and future—to help them better understand how this incredible industry grew, how it was created, and what the people did from both technological and business standpoints.

Clearly, this works only if you share your thoughts, your feelings, good and bad, about what happened and why it worked. Share your insights as to why things succeeded and why things didn't succeed in some cases. And the good news is that we have four historians here who have joined us today; one of them is even from Holland. Also here is Ed LaHay, who is a member of the Software Industry SIG and will be working with us as well as Luanne Johnson, who is participating today as the founder of Argonaut Information Systems and not just as the co-founder of the Software Industry SIG.

First, we want to talk about each of the four companies that are represented here, how they got started, why they got started, the beginnings of the business, their origin. The second workshop will be on how they grew, where we talk about the companies from a business standpoint: finances, sales, and marketing. The third session will cover technologies. Where did they come from? What did they do? Did you use technologies from the manufacturers? Did you help influence those technologies? Did they help you in technological development? Those are some of the issues we'll look at there. And then finally we'll do a wrap-up session about the relationships with those manufacturers, both DEC and DG, and with some of the others if you work with them. What was good about it? What was bad about it? What kind of contracts did you write? What kind of discount structures did you have?

I'd like to start by going around the room and asking you each to identify yourself, who you were affiliated with during that time, and what you are currently doing.

Introductions

Bruce Ray: I'm Bruce Ray. I have been with Wild Hare Computer Systems for almost 40 years, working with Data General primarily, although there are a large amount of DEC and HP and a few other ISV programs we work with. We were more systems oriented for the first couple of decades. Then we expanded into business applications and business software like Cobol and database systems for Data General. We're still doing Data General work as of this morning.

Grad: We'll give Bruce a chance to talk more a bit later. He is an incredible collector of materials and information about Data General and its whole history. He has set up a great website, and he's done quite well. Tom.

Thomas Haigh: I'm Thomas Haigh. At the time we are discussing, I was in kindergarten and elementary school. I'm now a historian of computing, and I have an assistant professorship at the University of Wisconsin, Milwaukee and offer historical consulting services as the Haigh Group.

Grad: Tom has been an incredible ally of ours from our beginning, and he is incredibly prolific in the number of articles that he has written. He writes a lot of things for the *Annals*. He's in charge of the biography department of the *Annals*. He's been a great help to us. And here's the more senior member of our historian team.

Michael Mahoney: At the time I was not in kindergarten. Actually, a little bit before this time I had a job while I was a senior in college, programming a Datatron tool for Melpar Electronics. That experience led me to believe that computers were not very interesting and had no future, so I went off and became a historian of science. About 20 years later, I discovered that computers had a history, so I'm back doing a history of computing as well as a history of science at Princeton, where I've been all this time. And I plan to retire next year after 45 years.

Grad: And Mike again has been one of our incredible supporters from the beginning, has been with us at the pioneer meetings, has done oral histories and been a real contributor to the whole field. Jan.

Jan Phillips: I'm Jan Phillips. My claim to fame is that I spent 10 years consulting at DEC from 1980 to 1990. While there I managed to convince others at DEC to join ADAPSO, and until that time, ADAPSO was solely an IBM hardware-focused organization.

Ian Walsh: My name is Ian Walsh. My first job out of college was actually at Data General. That's not what brings me here today though. I worked at Data General in the mid-1990s for two years. I am now a doctoral candidate at Boston College, with a Tomash Fellowship studying the legacies of both Data General and DEC.

Grad: Being a Tomash Fellow means that you have a grant from the Charles Babbage Institute, with your subject of interest being DEC and DG.

Doug Jerger has been involved with us since the beginning of the Software History Center; before that he worked a number of years at ADAPSO after he sold Fortex, which he founded and ran for many years. Doug's in charge of our collections work that goes on in SI SIG, and he has been doing that for at least six or seven years.

Doug Jerger: We not only sold Fortex, we actually sold it twice. And I'm here to help out for the next couple of days.

John Phillips: Our company, Creative Socio-Medics, started in 1968. It's still operating today. It's been brought private, and we used most of the manufacturers. In fact, I was the chairman of the ADAPSO VAR Committee. Our philosophy was to keep our stuff totally independent of the manufacturer who would screw you at a moment's notice, as we will find in the discussion later on. We're going to have a DEC representative here so that's the background.

Oscar Schachter: I'm Oscar Schachter. I was with a company called Advance Computer Techniques [ACT] when I first met John [Phillips]. That company was founded in 1962 as a consulting and systems development company. They weren't into applications. At the time, we acquired Creative Socio-Medics [CSM] in 1973. CSM had been around for five years, and we wanted to diversify into applications, and they were in the medical systems area. I was actually dealing at that point with methadone systems.

ACT eventually disappeared. The mainframe systems business went away. We were also developers of compilers, language translators, etc. CSM, now called Netsmart Technologies, has remained as the survivor of Advanced Computer Techniques and is now an $85 million company. It has grown very nicely, largely in the medical systems applications area. I recently have retired as general counsel for the company. I'm still special counsel.

Gerard Alberts: I'm Gerard Alberts. I'm at the University of Amsterdam teaching and doing research into the history of computing. The history of computing in Europe has also picked up the trend of addressing issues of the history of software. In fact, we are having a major research undertaking Europe-wide on the history of software in Europe. It has just started, and it's a very exciting thing, and I'm discovering how much you in the U.S. have already brought to the table in terms of the history of software. I'm pleased to be here and pleased to learn more.

Ken Ross: I'm Ken Ross. I started Ross Systems in 1972, and we got involved with DEC computers in 1974, first in timesharing and then selling software on the VAX. Our software ran exclusively on DEC equipment. They used to screw us all over until the mid-1980s. We became very successful right about the time when they began their decline; they realized the value of software companies, but a little bit too late.

But a couple of interesting things: one, we have a rich database on the software history on the Computer History Museum website. But I really screwed up because there are some really great videos of VAXs and stuff and the DEC Pro 350 that we should have shown here. Ross Systems actually still exists as an independent subsidiary of the CDC Corp. And lastly, I have started a lot of companies since then and just a few months ago I started another new company. It's a private social networking site for CEOs. It's called expertceo.com.

Grad: Can you tell us what Ross Systems was?

Ross: Yes. Ross was always into financial applications. We developed a spreadsheet predecessor with a financial modeling language, and there were other timesharing companies that did that as well. But we were the first to go on the minicomputer so people could buy the computer with software. When the PC came along, we sort of morphed into using Cobol for accounting and ERP [enterprise resource planning] applications.

Paul Gustafson: I'm Paul Gustafson. I started my career in the software industry in 1974 while I was going to Cal [University of California, Berkeley] and I went and worked for Argonaut. I think I was the third employee, maybe even the first full-time employee, and I worked there for about 15 years, after which I worked for Ross Systems for about eight years.

Ross: I was gone by then.

Gustafson: You were gone, but when I worked for Ross Systems for about eight years, I saw the rise and fall of Digital in the marketplace. Then I went to work for PeopleSoft for 10 years and saw the rise and fall of PeopleSoft. Then to Oracle for two years, and now I'm at a startup SaaS [software as a service] company founded by Dave Duffield [former PeopleSoft CEO].

Luanne Johnson: I'm Luanne Johnson, and I founded a company called Argonaut Information Systems in 1971 to sell accounting applications, starting with payroll and accounts payable initially on the small IBM DOS machines. We migrated that software onto a lot of different platforms, including both Digital and DG. After I sold the company to Bill Hixson, he sold the applications to Ross. So, the core group of people, including Paul, ended up going over to Ross, and they were really focused on the DEC platform after that.

Ed LaHay: I'm Ed LaHay, and I started off in my career in IBM and that's where I met Burt Grad. When I decided to go out on my own and set up a project management company, the first project I managed was a DEC replacement of the Digital system. Now I'm working for Oracle, having recently been part of an acquisition. I continue to manage projects, generally managing projects that are at least not doing well or perhaps in crisis.

Grad: You were in about seven or eight different companies over your career.

LaHay: Well I was in IBM, and we formed a company called Art Benjamin Associates. We built screen painter systems for the 2370s, and I ran my own project management business. I worked for an insurance software company and also worked for Logica**,** SPL Group, and Oracle.

Grad: What I wanted to do in this first session was to ask each of the four companies represented here to talk about how they started: What were their initial products and services? How did they select the platforms? What platforms did they select? Where did their funding come from? How did they staff it, and what was their organizational structure?

Argonaut Systems

Luanne Johnson: I started Argonaut in 1971. I had been working for another company that was selling the payroll and the accounts payable applications. I had gone to that company to develop the accounts payable system. Our marketplace was the low-end IBM 360s, the 360-30, 360-40, running under DOS.

The company that I was working for went out of business simply because they just were very poor businessmen. They had created a good product. So, I formed a new company, acquired the rights to sell those products, and started out really just by myself. At the time, my daughter was small. I had a family. I had this great idea that if I had my own company, I would only work the hours that I'd want to work. That turned to be about 18 hours a day, but yes, I was very naïve about all that.

The payroll system that I acquired had been written by two guys. I'll call them Bill and Tom because those were their names, and they had written a payroll system in conjunction with a customer—very common practice then. You got together with a customer. You wrote the system, and then you went off and sold it as a product. Tom wrote very crisp, clean code. It was all Cobol. Bill wrote what was much more typical at the time, what we called spaghetti code, and they used a lot of the special IBM compiler extensions and so on.

I was developing the accounts payable system, and even though I wasn't directly involved in the payroll, I realized that in terms of the support calls that were coming in, they were all about Bill's programs, not about Tom's programs.

In those days, your customer was the data-processing department. They would buy the software. We'd give them the source code. You never talked to the end users. The end users would complain to the programmer. The programmer would call us, and they were always calling about Bill's programs, not about Tom's programs.

So, I very deliberately, in developing the accounts payable system, used Tom's model—nothing unusual, very simple, straightforward Cobol code. And then, once I acquired the payroll system I rewrote all of the programs that Bill had written using the same type of very simple code, because if the programmers who were supporting it at the customer site opened up the listing

and felt they could understand it, they would try to figure out on their own how to answer the user's question instead of calling me. The whole idea was to keep it very simple.

The result was that I ended up with basically programs that were written in a Cobol subset. This was not strategic. This was accidental. But because we were listing the programs in the ICP [International Computer Programs] directories, we began to get calls as the minicomputers began coming out. People would ask, "Will your payroll system or your accounting system compile on these computers, Data General, DEC, and so on?" We found out that yes it would; because it was just this Cobol subset, it would compile. It would run on these smaller computers. So, we just fell into that market and began selling into that market.

The big problem you always have when you have multiple platforms is how to maintain the programs on all the different platforms, and that's where Paul comes into the picture, because I did hire him when he was a student at UC [University of California] Berkeley. We maintained everything on these little IBM Model 30 machines in a service group, and he would write a filter program where we would have the source code, the Cobol source code, all on tape, and he would write a program that would analyze it and make the necessary changes to make it compile. I think at one time were there 17 platforms, Paul?

Gustafson: Yes.

Johnson: You know it was DEC, DG, Perkin Elmer, General Automation. I don't think you could think of a system that had a Cobol compiler that we couldn't make it work on. So that was really Argonaut's basis of operation throughout the 1970s.

Grad: Where did your original funding come from to start with?

Johnson: I didn't have any funding. It was sweat equity, really. The deal I made with the guys who had the other company was that I would pay them royalties later for the use of the program, and it was just basically my deciding to keep a record of what my salary would eventually be. So, it was just really my expense.

Part of the thing was that there was so much pent-up demand for the payroll system that these guys had not been following up with the marketing. I had this file drawer stuffed full of call slips from people who called. When I started calling, I was just overwhelmed. The people said, "Oh, I've been waiting for you guys to call back. Send me the payroll system." So, I had the ability to bring in a lot of income right at the very beginning.

Grad: Your cash flow was positive.

Johnson: The cash flow was very positive. Never had really any outside funding of any kind.

Grad: So, you really never worried much about which platform then?

Johnson: No.

Grad: It wasn't a choice: "I want this rather than that"?

Johnson: No, nothing strategic about it. We had figured out how to compile on just about any platform that had a Cobol compiler and moved from there.

Now that was only good through the point in time in which we were still having basically batch systems. Once it got to the point where people needed interactive, and you had to build that ability into the Cobol, then it wasn't standardized in the same way.

Grad: How many financial applications did you support?

Johnson: We started with payroll, accounts payable, and a general ledger, and then an inventory control and accounts receivable too. Then, as I said, eventually the applications got sold to Ross Systems and went strictly DEC.

Grad: Staffing and organization?

Johnson: In those days, when you sold a system you almost always included some amount of installation support. Since I really wasn't prepared to deal with having full-time employees, I was using independent contractors. I would teach them enough to allow them to go off and do the weeks of installation, but I was responsible for paying them only for that period of time and, of course, got that right back from the client because we always charged them for that.

The first real employee I had was an admin assistant who came because I needed somebody to cover the phones. And then Paul came around when he transferred to UC Berkeley as a junior. He was looking in the Yellow Pages, if I recall. Paul, you taught yourself to program right over at UC Berkeley?

Gustafson: Right, yes.

Johnson: I was looking for someone to do a programming job. One advantage of having a company name like Argonaut is it's at the head of the listings. He came knocking on the door, cold calling.

Grad: Aardvark would have been better, right?

Johnson: Aardvark would have been better, yes.

Of course, I wasn't there because I was never there. But my assistant, who happened to be my sister, was sitting there and she started talking to Paul. I had no plans to hire a full-time programmer, but I came back from whatever trip I was on and she told me, "I met this great guy. He came in looking for a job. You've got to hire him." I said, "I don't need somebody else." "No, you're making a big mistake. You've got to hire this guy."

Finally, just to get her off my back I hired him. It's the best hire I ever made in my life because he really was the one who made it possible for us to cost-effectively support all these different platforms. So, it worked out great.

Creative Socio-Medics

Grad: John, you and Oscar. I guess John you're the one to talk about Creative Socio-Medics.

John Phillips: It's interesting to think of the history of the people in this room in the 1970s and 1980s versus the history of the people I know doing this work now. There's no similarity. The first thing that always comes to my mind is, who did we compete against when we started? We didn't compete against other companies. We competed against, "Will you use automation, or won't you?" That was the big thing you had to convince the prospect of, and they all have horror stories.

We started as a service bureau in 1968. It was just another gentleman whom Oscar knew, Gerald Coop, who is just retiring from the firm at the end of this year, and myself. We started in a classic way—with no money—by doing all the things that you did in those days. We used a timesharing data center, where you got on the machine after you keypunched everything. It was all serial. Our first system, as Oscar said, was a methadone system, which we got through doing research work for the City of New York. Mayor Lindsey was going to build one of the first methadone clinics in New York. We got that contract; we'd mount the urine tape and we'd mount the dosage tape and we'd mount various things, and they'd run through in a serial way. That was the starting point.

Grad: And that was a custom contract for a particular client?

John Phillips: That first contract on the first methadone system was custom, but we built it in a very logical way. Methadone clinics were a good medical place to start, because you would have 1,000 patients with 10 transactions a week that were always the same; you could use input by exception. You could do a lot of interesting things, and we did that. Nobody else had done it. I don't know why.

Grad: What platform were you running on?

John Phillips: Well that's the only time that we ran on the system that we later had for the rest of the 40 years. We ran Cobol batch, and we kept the programs simple. They were simple programs, very simple programs. The exciting part of it was turnaround documents for all the activities that got the input back in simply. We started there, and sure enough there were a lot of methadone clinics. We were very popular for that application, so that really took us from having no money to having let's say $1 million a year, or something like that.

At the time, the only data center computers that were around were the IBM mainframes, the 1400s. We didn't use the 7094s, the engineering ones. It was all base serial processing, but the company then did go through every phase of technology. I wrote a list before. I don't have it in front of me, but batch with keypunching, batch with tape, remote job entry (RJE) with dumb terminals, the intelligent terminals later on, minicomputers, networking the minicomputers, adding PCs to the network, putting software down on the PCs on the network, and building a front end in the Internet and then later on a lot of the applications run on that.

In the service bureau, of course, we had no choice, but once we started when the minicomputer came along, we made two decisions: First, we'd stay specifically in the area where we were, which was behavioral health only. We became quite expert in the application, which was the heart of it. The technology was never the heart of it. It was always the application and being experts in the application.

And the second thing was multivariate analysis on computers, that were nonproprietary public domain, government-funded things. You may remember that SPSS was originally in the public domain, and then some smart people took it over. Well the one that interested us was called MUMPS, which was an application language and an operating system all in one. It was "independent of the hardware." Our philosophy from that point on was to be independent of the hardware, the operating system, and then later on communications if we could, so we could go to a client and say, "If you have any preferences, we assume we can drop the application on top" and that worked almost entirely.

That didn't make it easy with the manufacturers, but we all have touched on the relationship with the manufacturers. No matter how much we did in the VAR group at ADAPSO, most of the manufacturers—the worst as far as I'm concerned being IBM—were never easy to deal with. Only the have-nots were easy to deal with. When Texas Instruments was trying to get into it, they were wonderful. When DG was trying to get into it, they were terrific. And I have a list of maybe eight or nine manufacturers that we had relationships with.

In the relationship with the manufacturers, we were only concerned about three things: One, how much money could we make on the markup? We found in the early days you make more money on the hardware markup than on the installation. Later on, there came the maintenance and the service. That was the real business. But in terms of the installation, when we first started, the deals we could make with the manufacturers were wonderful, and the support was sufficient. The more you didn't need them, the better off you were but they tried to help, especially if they were have-nots.

Later on, we'll get into the issue of the relationship with DEC. DEC was the most important to us because they were the ones most connected with our kinds of applications. The original MUMPS was developed at Massachusetts General using the PDP-11. We started there. DEC was really important, and we worked with them all along as best we could.

Grad: Let me ask you a couple of specific questions. When did you put out your first actual product that you sold as a package or you sold along with the hardware?

John Phillips: I have to tell you one vignette on that. I used to do a lot of chairmanships for Interface, that later on did the Comdex show. I chaired a lot of sessions. We first installed our first five or six methadone systems. I was chairing a session and there were people on my panel who had reproduced some number of software applications, 10, 20, but one person had reproduced almost 100 and we had the session. That was a good session and we kind of joked about him—very lightly, friendly jokes—because he looked about like a high school nerd. It turns out I should have been nicer to him. It was Bill Gates. He was up to about 100. He was ahead of all of us in his original application.

Grad: So, it was in the mid-1970s when you started to put out actual product delivery?

John Phillips: Yes, around 1974.

Grad: Two other questions. Building up staff: Did you start hiring fairly soon, or did the two of you do it all?

John Phillips: No, no. When you went to the service bureaus, they sold you machine time by the minute. They answered your phone. You got a little desk and everything, so you sounded like a company, and they would do your office work and so on and so forth. They were so hungry for the business.

Grad: So, you didn't require staff.

John Phillips: That's the other thing about that time. The data-processing industry wasn't very big. It was not in the newspapers. There were no advertisements for it, as you remember, and finding a programmer was very unusual. "I think I know a guy. We'll call him. We'll see."

The first programmer we hired, we'd give him work to do. He'd go away, and we couldn't find him. We finally found him. It turns out that he was an alcoholic, and he never finished anything we gave him. We only used part-time people. We had another guy who could program the Cobol for 36 hours in a row.

Grad: Did you need any extra funding at any point in time during those years?

John Phillips: No. Even when we were acquired by Advanced Computer Techniques, which was a much bigger company than we were. They were very famous and a popular company; Charles Lecht as you may remember, a very colorful guy, was in charge. We had just signed an SBA [Small Business Association] loan that came out of the woodwork. We never thought we were going to get it. One of the things they got in our acquisition was a long-term, low-interest SBA loan.

Grad: They had some financing that way.

John Phillips: But, no, we didn't use funding up until that day.

Grad: What year was it acquired by ACT?

Schachter: 1973.

Grad: Was it then continued, Oscar, to be run as a separate organization?

Schachter: Yes, it continued to be run as a separate organization until ACT was no longer in business in 1988 or 1989. Then CSN continued to operate as an independent company thereafter.

John Phillips: Even now Netsmart is only CSN. The existing company is only CSN.

Haigh: Just to clarify, when you started off in the late 1960s, were you selling turnkey systems or were you selling a service?

John Phillips: All that existed then was service bureaus. To the best of my knowledge, other than major one-of-a-kind projects, there were no turnkeys. There were only service bureaus.

Haigh: Into the 1970s, did you go with a turnkey model or a software on its own model or both?

John Phillips: The funny thing is, as we sit here today, we have service bureau clients that we had in 1968, but the bulk of the business now is all turnkey. The only difference is a client's desire to accept responsibilities. You can give them a lot. You can give them a medium amount. You can give them practically nothing.

Grad: Argonaut was never a turnkey business. Is that a correct statement?

Johnson: Never.

Grad: It was strictly a software company?

Johnson: Software, yes.

Wild Hare

Bruce Ray: It seems I have a little different take on the computer industry than everyone else here. People have alluded that the early days of minicomputers was more a matter of pushing iron, the DECs, the Data Generals, to a lesser extent the Varians, the HPs, etc. They were interested in moving iron. They didn't have an IBM-ish, if you'll excuse the expression, type of marketing campaign. They saw their profit margins in how many machines they actually moved per quarter. More importantly, the salesmen's commissions were based on that. I'm not sure how it was in the old days at DEC, although I did work with DEC on a consulting basis in 1968, programming those nifty PDP-8i machines. A company announced something in August—I think it was 1968—from Hudson, Massachusetts, a company called Data General. They had a different take than DEC did on the 16-bit market and what it should be, and they delivered their first machines to Colorado, which I worked on in 1969.

Grad: For whom?

Ray: I worked at the Biomed Research Center in 1969 and 1970 in Colorado. The attitude of both DEC and DG marketing at that time was pretty aggressive by today's standards. The DG marketing seemed to be a lot more aggressive eventually than DEC. They had the "We are the bastards" approach to marketing. DEC said, "We're the nice bastards."

The reason I bring this up is I didn't start out with a company. I was going to college and didn't realize what was actually a great resource at the University of Utah. My professors were David C. Evans, Bob Barton, Elliott Organick. You may have heard of some of these folks, the Bendix 315. I of course totally ignored all of that and programmed Data General Nova machines on a consulting basis.

The reason I bring up the brashness in the marketing, and it's reflected here, is the salesmen of that time had to make numbers, and they made numbers by selling iron and promises. Many people that I know, including myself, were the ones who had to make good on those promises. That is, the DEC and the DG salesmen would say, "Hey, I have this wonderful system I can sell because I need whatever, new whitewalls for my car. If I could promise the customer more of a solution than just shipping iron, I can make the sale, and you can make money and the customer will be happy." This is how I perceived it, and this is how Wild Hare was funded in the late 1960s and early 1970s.

Grad: When did you form Wild Hare?

Ray: It was officially 1973, but I was doing consulting under the name before that.

Grad: You were using that as a DBA, doing business as, with that name?

Ray: Right. It was just a sole proprietorship.

Grad: So, you were doing consulting and special project work?

Ray: Right.

Grad: No packaged software at that point?

Ray: There was no official packaged software until 1971 because I did work on a variety of machines at the Fall Joint Computer Conference [FJCC]. We demonstrated FOCAL running on a Nova machine. We demonstrated DEC software running on a Data General machine.

The first Wild Hare product—the official you buy it we ship it product—was a PDP-8 system that ran on Data General machines. We demonstrated it sub rosa at the FJCC in 1971, and I guess to us techies it was really exciting, and it was a very profitable product. I mean it was the best or easiest $100 per copy I ever received.

Haigh: Its purpose was to enable people who were running software on DEC to be able to run it on DG?

Ray: Right.

Haigh: Which was a much less expensive machine than DEC machines.

Ray: That product came out in 1971, and again it was just a little play project for me. But I did realize that other people wanted it, and it allowed the PDP-8 software to run on Data General Nova machines.

Grad: Was it PDP-8 application software or systems software or both?

Ray: It was what would be considered now a virtual machine solution. It was in 1971, and by that time, the DEC heads around here probably know that the PDP-8 was very popular. In fact, in some ways it was cresting by 1971, being eclipsed by the PDP-11, especially from the marketing standpoint within DEC. So, you had a large base of, I don't know, 30,000 machines for the PDP-8, and Data General was still trying to be the brash new guys on the block.

Grad: You were selling software.

Ray: Well, doing mostly consulting, and one software package. We did a lot of system work, a lot of real-time systems, some military class stuff, so we got involved with creating operating systems or modifying operating systems.

Eventually in the mid-1970s, I wrote an operating system that was very similar to but not a copy of the Data General operating system.

Grad: When was this?

Ray: This was 1974 and 1975, and we sold that, licensed that to some of the Data General competitors. By the mid-1970s, Data General, like other computer vendors, IBM and DEC to name two, had knockoff companies building identical hardware that ran the exact same

programs as the original vendor. That is, DEC had DCC, copied the DEC instruction set for the PDP-8 and the PDP-11. Data General had several companies. DCC was one of them, a small company called Fairchild, Scitronics, etc. There was a whole submarket, a subculture of knockoffs or look-alikes. We sold operating systems to them. At the same time, we were dealing with Data General.

Grad: Let me ask you three questions. Then we're going to proceed. One, did you have any outside funding or need any outside funding at any time?

Ray: Not at that time.

Grad: Did you have any partners or other people who were in the business with you at that time?

Ray: No.

Grad: So, it was pretty much your own business then at that point?

Ray: Yes.

Grad: When did you first get additional employees?

Ray: That was probably late 1970s when we started. It was 10 years before we actually had to have employees.

Ross Systems

Grad: Ken, how did your business start? Where did it start? What did you do?

Ken Ross: The business started in August of 1972, and I really started it by myself. We were going to do consulting, programming, etc. Actually, I think Karol [Hines] joined around 1973, but for two years we were just a regular old services, programming, consulting company, doing mostly mainframe kinds of activities.

I remember very distinctly that we were hired by a really large company in San Francisco called Itel, which is not Intel. It was a computer leasing company, and we were a consulting base just to develop a budget and financial model using GE timesharing. It had a language called FAL that was like a spreadsheet predecessor. We were making, I don't remember, let's say $10,000 a month in consulting fees, and they were paying GE timesharing $50,000 a month in service

fees. I said, “This doesn’t make any sense.” I figured we ought to be able to write a computer program and basically let us get into the timesharing business and that there would be a big advantage to us because we were going to key off of a commercial timesharing computer. We didn’t have to spend any resources on the operating system level. We could spend all our resources developing applications and services. And we looked around, and of course, we were in HP territory out here.

We ended up choosing DEC rather than HP because it just seemed to me it had a better timesharing capability, and that’s what we were going to do.

Grad: So, you were deciding to build a timesharing system. You were not talking about the application itself.

Ross: Yes, and that was that. This was 1974, and we actually built our stuff. Other people had DEC computers here. Then we actually got our own computer in September of 1975, and then we were basically in the timesharing business. I think it’s pretty much déjà vu now that there’s so much hype about this software as a service today which is like, “Hey it’s no different from timesharing.”

Grad: What platform did you actually use? What DEC platform?

Ross: It was [PDP] 11-70 running P/OS.

Grad: So, you had picked an operating system that you were going to run under specifically?

Ross: Right.

Grad: Why?

Ross: Well again, we wanted to be in the timesharing business. That to us seemed like it had the best balance of technical features that we needed to develop the products as well as the economics of a minicomputer. I think it was the right decision back then.

Grad: Funding: where did you get your money from?

Ross: Self. We were actually profitable. Honestly. We generated services. I remember Karol was working consulting at some place, right, generating cash while we were programming.

Hines: Yes, Avantec or something like that.

Ross: Yes, we were profitable.

Grad: You never needed money influx even to build your timesharing system or to buy your computers? You didn't need outside money?

Ross: Right. We did get venture capital in the early 1980s, but that was later.

Grad: Organization: hiring people, what did you do?

Ross: We actually wanted to build an organization from the start, so we hired people. I don't remember the head count, but I'm thinking by the time that we had the timesharing system up and running we had seven or eight people, including the guy running the data center and a couple of consultants.

Hines: We all took turns emptying the water from the air conditioner. We put the computer in an office building right down in Palo Alto, and we had to put a special air conditioner in. It was a home air conditioner that dripped water.

And we would also take turns going in and switching the modem for people who wanted to come in at 1200 baud instead of 300 and give them a special number.

Ross: This is really the early days; the stuff that we take totally for granted today. You took nothing for granted back then.

But we ended up building a big client base. I mean Itel did all of their budgeting and planning on our software. Wells Fargo Bank and Crocker Bank, Crown Zellerbach and people who are gone.

Grad: You had your timesharing system as the first product. You were running that for yourself, but you were selling that timesharing system to other people as well?

Ross: We actually sold our first package in 1976, and this was a key part of the strategy. It sounds like strategy now; but it was luck back then. But we could sell timesharing to people because we offered the option of buying a computer and bringing it in-house so people didn't feel they were locked in. The first time we did that was in 1976 to Crown Zellerbach, which was a large pulp and paper manufacturer that is now gone.

Grad: What were your next products after timesharing?

Ross: We were initially selling timesharing and financial modeling and budgeting. Then in the late 1970s, we developed a database system.

Grad: You were actually selling a financial package as well?

Ross: We were selling this timesharing service, but virtually everybody that used the service used a package that we developed, so we weren't selling raw time. We were selling the package. We then developed a database system in the late 1970s that we then also sold. I actually remember meeting Larry Ellison back in the late 1970s, and they were developing an RSX-11 for the CIA. I went to meet with him with our technical guru and I said it would never fly. Little did I know.

Grad: What was your database system called?

Ross: Intac. Manuals for all these things are on the Computer History Museum website.

Hines: That was short for Interactive. We tried different names. We were going to call it Orbit, as I remember, and then the gum came out.

Ross: Yes, we got sued. That was a very successful business, and that kept going until the early 1980s.

Grad: Did you support any other platform besides that?

Ross: No, we were always DEC-exclusive, and that came back to roost. Again, it was one of these lucky strategies that turned out to be a great strategy in the mid-1980s and I'll explain why. But in the late 1970s the PC started coming along, the Mac and then the IBM PC and Lotus 1-2-3. A big part of our business was this kind of application as well as the financial statements that we have on the website. You could see that starting to taper off, and we were fortunate to run across a big general ledger application that was written by Price Waterhouse (today called Price Waterhouse Cooper), and we licensed that as a Cobol-based accounting application. We had the VAX-exclusive version.

Then the company had to transition between timesharing and selling an application software package. That's a huge cultural shift, and very few companies ever accomplished that. We're proud that we actually did accomplish that over a number of years. We fought the battle with a lot of the people inside the company. To their chagrin, they couldn't see it.

Grad: What time period are we talking about when that transition takes place?

Ross: We probably released this general ledger package in 1983, but the company didn't become successful I would say until 1985 or 1986. What we ended up with was mainframe-class financial software for the VAX, and the VAX obviously was a very successful high-end business machine.

The other part of this was we were VAX exclusive, so we had a phenomenal relationship with the DEC sales force for a long period of time. There's a whole different set of stories about DEC screwing people and DEC not being willing to recognize the value of software vendors. I mean they were a hardware company until the endgame. They recognized our value too late. But they would recommend us everywhere because they knew that if their prospect liked the Ross software, they had to buy VAX, whereas if they liked Argonaut then they could get an HP or VAX.

Grad: That was an exclusive relationship then?

Ross: Right, but there is one other good part about the strategy: the exclusivity was a tactical exclusive. I mean we didn't need to have an exclusive, but we ended up focusing on the technology so we could develop for the DEC environment. We didn't have to do filters, and we didn't really have to do what amounts to be the lowest common denominator. Honestly, we could do it that way so that we could key our screens into the VT-100 and whatever.

Grad: Did you ever try and sell hardware along with your software?

Ross: We talked about it a lot, but we never did it.

Grad: You never did?

Ross: Yes. It's hard to remember all of that, but I mean DEC liked to sell their own hardware especially as they got into the bigger systems.

Grad: I think it's one of the most interesting things we'll explore because we have some different points of view here: bundling the hardware with the software, and for at least a while, making money off it. What happens when they start to try and take those sales away from you. Does that hurt you?

Ross: Yes.

Hines: Yes.

Grad: To your DG affiliation, but you were really helping move people off of DG at the same time you're putting people on DG.

Ross: Yes.

Grad: You weren't selling hardware with it. Is that a correct statement? Luanne is software pure all the way along the line.

Ross: Yes.

Grad: There's a very nice mixture of different ways of doing business here.

Haigh: Was the choice of language a consideration?

Ross: Yes. We were definitely going to do it in Basic, but honestly and you could look at it. I still look at it today. The DEC Basic-Plus was just the best Basic around. It was more flexible and more sophisticated and less restrictive.

Ross Systems' Competitors and Customers

Grad: I'd like to cover two other areas this first session. First, I would like you to talk about what other companies were out there, and were they the same or different? Did they compete? Did they complement whatever you were working in?

Then, the initial relationships with DEC, DG, or other manufacturers: what was going on? I'm focusing on these early periods, your beginning periods, not what happens later on. Let's start with you, Ken: who were you competing with?

Ross: Our competition was actually very clear. There were three big ones: General Electric timesharing, very expensive; IBM, which was Service Bureau Corp., SBC; and then there was a company in Atlanta called Rapidata. They offered timesharing on a PDP-10. Those were the big ones.

Grad: This was timesharing competition.

Haigh: Xerox: didn't they have timesharing back then?

Ross: No, not really. They were in a different market though.

Hines: Yes.

Haigh: How about Data Resources Inc., D.R.I. timesharing, in Lexington, Massachusetts. They had timesharing financial modeling systems.

Ross: Yes, I remember, but we were sort of more at a lower level, practical, budgeting. I remember who they were.

Haigh: They were actually doing financial.

Hines: Yes.

Ross: Yes.

Hines: Tymshare was a little bit of competition, but not a lot.

Grad: Whom did you sell to?

Ross: I made it very clear. We sold to end users. We sold to financial managers.

Grad: Who in the end user did you sell to?

Ross: Financial guys, controllers, budgeting managers.

Grad: The IT guys?

Ross: Absolutely.

Grad: That was what I was asking.

Ross: People bought our services for the same reason they buy SaaS today. They want to bypass the IT.

Other Companies' Customers

Grad: On that, let me ask each of you, whom did you sell to? John?

John Phillips: Our marketplace was all behavioral health. We defined it. We defined behavioral health as addictions, mental health, retardation. Over the years, we've expanded that definition with social services.

Grad: There's a particular market. Whom did you sell to in those companies?

John Phillips: In the golden years of the late 1960s and the mid-1970s, you could go to almost any place in our marketplace and talk to the head person on the issue of automating.

Grad: You weren't selling to an IT director?

John Phillips: No, no. In phase one, there were no such thing that I'm aware of in our marketplace as IT directors.

Grad: Luanne, whom did you sell to?

Johnson: Clearly, it wasn't even an IT director. It was a data-processing manager.

Grad: Not to the accounting manager?

Johnson: No.

Grad: How about you Bruce, who was your client?

Ray: Consulting would be almost anyone. There was no hierarchy for our timesharing systems. It was usually the guy who ran the computer or the IT or data-processing manager.

Grad: In your case, with systems programs particularly, that would have been your end user.

Ray: And then with vendors.

Ross: I would say this. Later on, in our evolution, because we were working in the mainframe, in the main line business with bigger companies, it was a more traditional sale, because the IT director was involved in the hardware decision.

Grad: The reason I'm bringing this up is that one of the arguments that was made, one of the reasons for the DECs and the DGs going into departments and not going into the IT organization. And I was wondering to what extent you're bridging a little bit here, to both ways.

Ross: But again, I think that with the bigger minicomputer decisions IT people were always involved. With the ones I can remember early on, the users of our system were spending a lot of money, for a lot of usage. They just said, “This is what we’re going to do. We need to buy one of these computers.” But the DP department had to set up the infrastructure.

Johnson: It has to do with the application too. A division or a department wouldn’t buy a payroll system. A payroll system would be a company-wide thing, so you’d have to deal with the central office. But there were smaller companies. As the size of the company buying computers went down, because of the minicomputers, we were still dealing with a DP manager. Now sometimes in these small companies, the DP manager was also the lead programmer and the computer operator, but it was still the centralized DP department that we were dealing with.

Haigh: Were you selling it to replace the existing in-house payroll systems, or was it mostly to new automation?

Johnson: What would usually happen is they would get a computer for some application that was central to their business and they would have excess computer time. They would decide, “Okay, let’s put our accounting application” and we would often take them off the outside service. They would be doing their payroll through ADP or one of those, and they would bring it in-house to use the excess computer capacity they had.

Grad: Let me introduce Len Shustek, who is the CEO, chairman, and chief bottle washer here at the Museum. Thank you for joining us.

Shustek: Thank you for coming and creating history.

Schachter: Even today, the application kind of directed you, whom in the organization to go to. Today, for example, Creative or Netsmart Technology sells these behavioral healthcare systems to large state organizations or county organizations. There, the driving force—correct me if I’m wrong—is the people who are going to use the system. Those are the people who determine which application they’re going to buy from the various competitors in behavioral health. The computer people are important in terms of assisting them or consulting with them, but the drivers of the purchase are the people who are going to be using the system.

Ross: Like Bruce.

Schachter: Even in multimillion-dollar sales.

John Philips: They were the PCs of the 1970s, so you got a minicomputer because you couldn’t afford a main frame computer.

The majority of our consulting work just was applications that did not exist before, whether it was online biomed research or some military application or some educational system. Those applications were not handled up to that point by any computer system.

Competitors

Grad: Let's go ahead with competitors. Who were your primary competitors when you started to sell the applications?

Ross: In the application, MSA was a big one, but mostly mainframe, but they started moving into the minicomputer; McCormick and Dodge; and General Electric had a division called Software International that we competed with. Then there was a raft of people on the HP platform that offered the same: Argonaut, but others too.

We were fortunate to ride the DEC wave. In other words, when DEC VAX really started accelerating, we became the market leaders because we were the leaders on the VAX.

Grad: Luanne, how about you? Who were some of your competitors?

Johnson: A lot of the same in terms of the accounting applications, although for the most part MSA was targeting bigger systems. We had a lot of competitors on the HP, although at one point they were all selling a version of our software. Then when it got to some of these others, like Perkin Elmer or General Automation and so on, we didn't really have any competitors; we owned the whole market, all five or 10 of them. <laughter> It was pretty much the same for anybody who was out there selling accounting applications.

Grad: John, did you have any competitors, or did you have this marketplace sort of to yourself?

John Phillips: Well, I don't want to exaggerate it, but when we started, it was much more than "Will you automate?" As time went by, as Oscar and I were talking about it before, because of the nature of the people we dealt with—psychiatric social workers, psychiatrists, all that group of creative kinds of people—they started in many cases to try to develop their own, and that created tremendous horror stories. But for the most part, I'd say that for a number of years, maybe 10 years, our competition was doing something rather than the issue of "There's somebody else who's like you."

Grad: So in-house was your competition, rather than another software service company?

John Phillips: I even almost hate to call it in-house, but yes, in-house people in the building deciding they have something else, or they have a relative that knows about computers or whatever their assumption was.

Working with Data General

Grad: Did you have any other particular competitors that you were running into as you started to sell product?

Ray: Mainly ignorance, optimism, and Data General.

Grad: I see. In which order?

Ray: Usually in that order. Going back to the consulting: a client has high expectations, and the DG salesman is selling something that he doesn't have to provide, doesn't have to deliver on. So, you have the naivety of the customer, the optimism of the customer believing a salesman.

It was certainly a love/hate relationship between anyone who did consulting in those days and the primary vendor. The salesman thought you were to be scraped off the shoe, but you were the key to closing the deal in both the DEC world and in our case the DG world. That was very common.

Grad: Who did you deal with at DG? Did you have specific people you contacted or worked with there?

Ray: In the early days, it was word of mouth. The Data General organization through about 1970 was only two districts, like east of the Mississippi and west of the Mississippi, and some people were still undecided. It was a very loose organization. They didn't have an ISV program just like anyone else or just like any of the other vendors initially, so it was more salesman to salesman. Let's maybe call it survival instinct for the salesman. One salesman would talk to another salesman, "Hey, we got this hot prospect in the federal systems division" or "We got something in El Segundo, and they need this. Can we do it?" Well, of course not. "We've already sold it. How can we get it done?" So, there'd be word of mouth, and that's why we would actually network informally with the DG salespeople.

Grad: Was there any kind of a loose organization, user type organization, or people providing software in that field at that point during the 1970s?

Ray: There was a users' organization, again out of self-preservation for us users, because we were users, as everyone else was. By 1971 there was an official users group meeting. I think the first official users group meeting was in Las Vegas at the Fall Joint Computer Conference.

Again, going back to the question, it was word of mouth initially, and then users having to fend for themselves when they realized that they would have to get their own applications.

Grad: There was no particular person or division or group at DG?

Ray: Not initially.

Grad: Up to the end of the 1970s?

Ray: Oh, no. I'm talking just 1971.

Grad: How about going from 1975 to 1978?

Ray: They expanded as the company expanded the support, or lack of support, organization for the users. They had an official users group organization that had national meetings, and they also had regional meetings.

Grad: What was that called?

Ray: North American Data General Users Group, Data General Users Group.

Hines: Can I ask a question of Mr. Ross? At your high point at DEC in 1985, were DEC salespeople selling with Ross salespeople?

Ross: Absolutely. We had a very symbiotic relationship then, but it certainly wasn't always like that. It was like pulling teeth most of the time. I was amazed.

Johnson: I was creating programs so that that would happen, you understand.

Ross: It always amazed me that it took so long for them to realize that their success was going to be dependent upon the software that was going to run on the platform. They never did realize that.

Grad: Can we get back to Bruce just on that point? Is there some point at which Data General realized that their success depended on people like you making their systems work out in the field?

Ray: I would say no. They went through cycles and also the DEC salesmen were not on commission at least while we worked with them. Data General people were on commission and they knew it, and there was a big difference in take home pay based on that. In working with both groups, we did work with the DEC folks. There was a big difference in their attitudes.

Grad: Was anyone else working with DG during that period of time?

John Phillips: DG, yes.

Grad: What was your relationship with DG then? Let's close that up.

John Phillips: With all the computer manufacturers in the original phase of all this, it was great. We would have marketing meetings where the salesmen, whether they were under commission or not, would want to sit down and go over forecasts. They would then bring them back, and say you had a forecast meeting, and you'd promise to do this and that; they promised to do all kinds of wonderful things. As I say, it was a major part of the P&L [profit and loss] of a year working with them.

With the exception of IBM, across the board, they were very helpful, very supportive. They never had channel conflict, which was the big issue in the ADAPSO sessions that we had. We'll go over that later, but then things started to change.

Grad: Give me some time period. When does it change?

John Phillips: It would have changed in about the late 1980s.

Grad: So, this was still from your standpoint a positive relationship.

John Philips: Very positive, no problems. When you made a promise of $10 million, they gave you a discount based on that. They always worked through you because they recognized at the time that that was how they were going to sell hardware.

Grad: I know there's a difference with HP. Did the salesmen on DG get a commission on hardware that you sold?

Ross: Yes, actually almost all the salesmen we dealt with got commissions. I had forgotten that there had been a time when DG didn't, but there was a time when DG did, and they all worked under commission.

Grad: I'm trying to say it correctly. Did the DG salesmen say that if you sold the hardware, it was your hardware, you were bundling it?

Ross: Absolutely, yes.

Grad: They still got a commission?

Ray: You were his client. A VAR was his client, absolutely. That was the business. I hope I made that clear. Actually, salesmen had VARs for clients.

Grad: I've heard a number of complaints of software companies who also could sell the hardware with their software: that if there was a sale of three or four or five machines—I heard this about DEC, I don't know about DG—they would take the sale away and price it down.

Ross: That isn't the way it was in our experience. I can't speak for everybody because we were in a vertical market where they might have felt screwing us was going to cost them more money.

Grad: It probably would have.

Ross: Especially since we could sell more than one piece of equipment, which was also a problem later on with the manufacturers.

Grad: Bruce, one more comment on DG.

Ray: The margin difference might be 20 or 30 percent on a piece of hardware. Again, we're talking about $20,000, $50,000 in 1970 dollars. If you're saying you might be able to sell four pieces of equipment, the Data General salesman's commission might be 30 percent less of that, so he has a decision to make. He can go to the customer and say, "You can buy the software from so and so instead of the whole system," and the salesman could make more money, maybe once or twice.

Grad: I've heard this comment. Now your point is that, being a VAR in that situation, there might have been a different commissioning situation.

Ross: That was true.

Grad: Luanne.

Johnson: Paul may be able to get the timing on this one. We were emailing about it, and he remembered a situation with Bill Hixson, who was our marketing guy at that point, where he had sold the systems to a company called Rucker and then discovered that the DG computers couldn't run our applications. Do you know when that was?

Gustafson: I think it was in the early 1980s.

Johnson: I wrote to Bill [Hixson], since he wasn't able to be here today, to ask about this situation and he said it happened because there was a lack of a Cobol compiler on the lower-end DG machines. The client assumed that the Cobol would be available based on Data General's representation. This incident probably could have been avoided if Data General had a relationship for software vendors other than the software vendors selling the hardware as part of the bundle. Since Argonaut didn't want to sell the hardware, the disconnect occurred. He was saying, too, that if they'd had a VAR relationship, they probably would have gotten more information.

Ross: We actually had examples though, where our sale was, let's say, $500,000, and with the hardware markup we received $1 million. You wanted that. That's the way you find the business.

Grad: But you were a VAR. A salesman was selling the hardware to you.

Ross: Absolutely.

Grad: So, he was getting commission.

John Phillips: It was even a better relationship than that. They would help you in your installation closing totally. It was just that was the way the money flowed. That's all.

Working with DEC

Grad: Ken, you're saying in the 1980s DEC certainly recognized your value, but I have the impression they really weren't terribly supportive earlier on.

Ross: Yes. Early on we bought computers, and we were just a regular old customer, and they didn't really see the value. The only other example I can remember of DEC just being horrible to us was with the DEC Pro-350. Anybody remember the Pro-350? That was their first PC.

We had one of the few applications that would run on the Pro-350. I remember the hoops they made us go through, but I sort of felt they ought to be bowing and scraping and giving us money and helping us. What they were telling us was how much money we had to pay them. It was a classic example. But the relationship evolved, and then in the later 1980s again we catered to the DEC sales force and let them sell their own hardware, get their own commissions. We sold the software, and it worked out really well.

Grad: You weren't competing with them?

Ross: We weren't competing. We were highly complementary.

Grad: Doug, you have interviewed or gotten surveys back from a number of DEC and DG people. Is this an area you've asked questions about in any of your surveys?

Doug Jerger: I have asked people to talk to me about how they saw it, to answer questions about their understanding of what DEC was, as an organization, to answer me in an open-ended way up to 10 times: "DEC was fill in the blank." Now I have 2,200 responses to go through.

Grad: Have you analyzed them all yet?

Jerger: I have not. But I have actually started to riffle through them a little bit, and I'd be glad to share them with people here when I've got something more meaningful to offer. There are definitely responses about people's relationships with the software and third parties as being difficult.

Grad: I think that would be an interesting addendum to what we pick up through this meeting. Jan, you come into ADAPSO in 1980. When did you start working with the software companies?

Jan Phillips: I think around 1983 or 1984. Then at one point I worked with the internal DEC group who were selling to the VARs and the other was for MCAD [Mechanical Computer Aided Design] and applications in the MCAE [Mechanical Computer Aided Engineering] organizations.

Grad: At that point were they consciously thinking about what to do to be supportive of software companies or VARs?

Jan Phillips: Well somebody was. I was.

Grad: Good point.

Jan Phillips: I mean I had spent time creating programs to bring those two sales forces together, and I thought it was all working.

Jerger: One of the survey comments was that DEC always had an arrogance. It probably started from the top.

Jan Phillips: To say the least.

Jerger: An arrogance about aiming for the hardware. That's what people wanted. We were an afterthought, and I think the arrogance started from Ken Olsen and carried on down. But the arrogance unfortunately was their undoing, with open source. It was going to be "VMS all the way and forget Unix," and I think that showed an unwillingness to listen to what was going on in the market.

Grad: Were there DEC user groups by that point? Was DECUS in existence?

Jerger: I remember. When was the classic "Ships in the Harbor"? 1987?

Jan Phillips: Boston, yes, big DECWorld as I recall. It's an indication of where they thought software companies belonged.

Haigh: In the 1960s, minicomputers were extremely marginal in data processing; scientific applications were the initial market. As you get this transition, how much of it was that DEC didn't care about software companies, and how much of it was that they still didn't have data processing at the middle of their world view of what the company's about?

Ross: I think that's exactly it. When they started, they were about hardware, and they were about laboratory equipment. The problem was that they evolved into normal business computers because somebody else was working on the labs, and they never got their mindset around that evolution.

Grad: Is that what happened with DG also, do you think?

Ross: Take DEC's attitude, shift it by two years. DG's approach to the business, not just pushing iron but a more general focus, is two years behind DEC.

Transition from Service Bureau to Software House

Haigh: I hear you consistently describing yourself as a service bureau, whereas software house would be the upcoming term.

Ross: Yes.

Haigh: Were you calling yourself also a software house, or did that depend on the client you addressed? Did you take on different profiles toward different clients?

Ross: Yes, we were a service bureau early on, and then we transitioned into a software house.

Haigh: When was that?

Ross: In the early 1980s.

Haigh: Did you take on that new profile of software house toward different clients? I thought of this question when Burt was asking you who the people were, you addressed within the company of a client. I can imagine that toward some people you would humbly call yourself a service bureau and toward others you say software house.

Ross: During our transition, I'm sure that was the case.

Hines: Yes, that's right.

Ross: We were wearing two different hats, but we were trying to move toward the one hat. I would say the transition occurred in the very late 1970s and very early 1980s. If you look at the brochures, which are actually on the website, you can read about what we said about ourselves. You can see the stuff that was said more in the later 1980s.

Hines: Yes, our brochures actually show that transition because there's one—and I don't remember what year it was—where you saw the timesharing revenue and the software revenue. We had that in there. Then the next year we didn't show the timesharing revenue anymore. I mean we still had timesharing even into the 1990s. After we left, they still had a little bit of timesharing, but there were fewer and fewer machines, and it was primarily software. It

was a software company, and the timesharing was done because we just didn't want to put somebody out in the cold.

Grad: I think one thing to also remember is they were not selling the timesharing as raw service. They were selling applications.

Ross: Right. We actually always had that same focus about the application. The other thing I would say is that the timesharing was an incredibly profitable business. We were trying to milk everything we could out of it while we were investing and transitioning into the software product business.

Grad: Thank you very much.