Minicomputers Workshop:
DEC-DG Business Growth

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Minicomputer Workshop: DEC-DG Business Growth

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Abstract: This workshop explored various ways in which small software and services companies who served the minicomputer market started their businesses. There were a variety of business models ranging from being focused on a particular application or utilities areas, to a specific vertical market, or to timesharing on one platform. In most cases the companies morphed into different areas by covering more platforms, adding software products, or becoming a VAR by selling hardware along with their applications. Later, there were various kinds of joint business ventures and then mergers and acquisitions.

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
John Phillips	Creative Socio Medics
Jan Phillips	DEC
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

Doug Jerger	SI SIG
Ed LaHay	SI SIG

Burton Grad: The topic for this workshop is how the companies grew after they were founded. How and when did things change? Was there a particular period where the business shifts from one mode to another?

John Phillips: By mode are you talking about in relationship with the vendors?

Grad: Relationships, sales, the whole thing. Is there any breaking point where the business changes character?

Changing Business Models

John Phillips: I can't picture a radical breaking point. But I do know that the minicomputer was the major evolution in the technology of the business for us. When all of a sudden you could build something and ship the whole thing to the client. For us it was a godsend in those early days. It was so good.

Doug Jerger: It was a turnkey idea.

Grad: So does this change at all for you over the 1980s or does it stay pretty much the same kind of business?

John Phillips: I think it stayed pretty much the same. The company was still supplying hardware in the form of PCs and servers from IBM, HP, to its clients.

Karol Hines: For us at Ross it really changed when the PC came around because the major product we had that we were then selling as well as offering in timesharing was our matrix manipulator. And the PCs were coming onboard and the very first thing I remember was going into Intel to help them work on this huge forecasting model that we did for them and there were PCs on people's desks.

Grad: When was this, mid 1980s?

Hines: It was maybe 1982, 1983, something like that.

Grad: Luanne?

Luanne Johnson: For us at Argonaut it would have been late 1970s, early 1980s. It was when this model of being so platform independent no longer became viable because it was no longer just straight VAX systems. People wanted to be able to interact at entry and no longer was it possible to support it on a different platform and therefore everything went over. I pulled out of it and ultimately the products got sold to Ross then. That was probably the mid 1980s, but it was during that period of time with more of a focus on the DEC platform.

Grad: Here's what I'm going to do. Let us focus on the period of time, we've now covered pretty much how the companies started, where they got going, and a little bit into that. Let's see then that first period. How did the companies grow, getting staffed? What happened there? What new products came out? Did you change platforms or change those when you started to hire your own salespeople and marketing people? Was it a different market? Those are the things we want to explore now. So I have a series of those questions and we'll probably stay more on a topic and all chip in on that rather than go company by company this time and see how that works. I'm focusing now primarily on the business aspects. In a later session we will talk about what evolution took place on the technology and maybe what the crossovers were. But here I'm looking at business issues. Starting from one of the earlier ones, by 1981–82 how many products were you selling that you had developed yourself, Bruce?

<u>Wild Hare Products</u>

Bruce Ray: We had about six products at that point, so we transitioned from primarily consulting to a product based business model. That was a great growing period in terms of personnel, so we went from one to three people to almost 30 people.

Grad: By what year did you have 30 people?

Ray: That was about 1982 I think. We had a few more software products and we ventured into hardware and that was all within the 1981 to 1983 timeframe.

Grad: You had six primary products. Were they all systems products at that point?

Ray: The products were, with the exception of one, all aimed at enhancing the performance of Data General equipment. We call them RAM discs nowadays and it was a very significant product in that it made systems competitive performance wise when normally you'd have to upgrade hardware. So you'd add a RAM disc. You'd keep or improve your current system's performance rather than having to upgrade to the next generation of DG equipment.

Grad: Were the RAM discs a piece of hardware as well as software or was it software only?

Ray: It was primarily hardware so the operating systems automatically recognized the RAM discs. Instead of having to listen to the Data General salesman say why you have to upgrade to the next latest and greatest DG to get better performance, you'd pop in a RAM disc and you'd extend the time for that decision.

Grad: So now you had moved from essentially a consulting and a software business to one where you were selling a RAM based hardware-oriented product, including software.

Ray: Well no that was just one series of products. We also had the timesharing system that enhanced Data General's primarily single user operating system, made it multiple users. People loved that, more productivity for the users. Data General salesmen hated it because you wouldn't upgrade to the latest and greatest Data General whatever. And then our final venture into the hardware marketplace was something that we called a Hare Brain which nowadays would be considered a workstation and we actually competed on a system level with Data General.

Grad: That was hardware?

Ray: Hardware. That was hardware.

Grad: So you had a mixed business then.

Ray: We had a mixed business and again it was love/hate with Data General because Data General salesmen would say, "We did an upgrade to this client who's thinking of moving off our equipment because our stuff is not performing anymore for their application. We proposed a $50,000 hardware upgrade but we know that you can sell them a $4,000 board that will keep them in the DG fold." Does the salesman love you or hate you? He hates you initially and he loves you if the client still stays with DG.

Grad: Instead of going to somebody else.

Ray: Yes.

Grad: I don't remember any of the mainframe software companies or services companies going this route. National CSS tried to put out a computer at one point in time but very few people were interested; you were either in the software business in the mainframe world or you were doing hardware pieces for it. Any of you know of any other examples outside the mini area where people might have done something like this? It's novel.

Oscar Schachter: Who was building the hardware for you?

Ray: We looked at getting what would be now considered off the shelf components, commercial off the shelf components, and doing a system integration in Boulder. There was a small company called Sun that had a board, 68,000 board. There was Charles River Data Systems in 1981 and a few others and we opted for a company in Utah and we OEM'd their boards. We OEM'd CDC drives because they were the best drives in the market at the time. So we were able to pick and choose the hardware components, that we wanted and some of our proposed clients were going to use these on factory floors so they had to be extremely well built, able to take abuse both electrical as well as physical. It was component selection from available sources and then put into our custom cases and sold from Boulder, Colorado.

Grad: With CSM [Creative Socio Medics] did you ever do any hardware on your own or was it strictly using whatever hardware you were working with?

Creative Socio Medics Products

John Phillips: We never did any technology of any kind -- hardware, operating systems, utilities. We wanted everything as much as possible to be a black box and we wanted not to get inside it at all and build the application on top.

Grad: What happened in your business? What did you have in the way of products that you were offering by the end of the 1970s?

John Philips: By the end of the 1970s we had very limited products. We had the original system that Oscar mentioned earlier, the methadone clinic system and that led us to the basic community mental health system which was very popular across all types of mental health. And then we had special projects which were the way we would develop new functionality. We had a contract with the federal government to build a database that they still use for collecting all of the drug information. We had our first contracts with state agencies but we were taking our stuff but really re–expanding it, rebuilding it and so forth.

Grad: When you installed one of your systems during this period did this require custom programming in most cases or was that pretty much packaged already?

John Phillips: Well as you know already at that stage the issue of customizing was a major element in discussions. We tried to rely on the regular products and as much as possible avoid it but we were considered an organization, as competition started to form, that would customize. It was also easier to customize by our selection of MUMPS. You could customize MUMPS and still have the basic product be the same product. So we were able to minimize it but, yes, I would say up until extremely recently there was almost always a piece of customization in an activation.

Grad: And in the 1970s up to the early 1990s what hardware were you delivering your products on?

John Phillips: Well as I said to you we probably never standardized on any one hardware system.

Grad: So you kept delivering on multiple platforms?

John Phillips: Yes, but during the golden days of Data General and DEC they would have been the major vendors that we worked with and laid out forecasts with and so on and so forth.

Grad: How did you decide which one to work with because you were being brought in because of your application knowledge?

John Phillips: Right. Well the first way we did it was we always made joint marketing plans with them and we always got them to pay for the joint marketing. And so what we would do is if they created a lead, we would do everything to sell their hardware and if something happened, which was very rare, that someone said, "I know that we found you through Data General" and blah, blah, blah, "But someone told us we got to use a VAX," we would actually go back to the vendor we were working with and tell them what we were running into. Do they have a solution? If they do we'll stay with them. I can't picture, maybe there was one time maybe, very rare that that all didn't work out all right. So that was not our conflict ultimately with the hardware manufacturers.

Grad: How many employees did you have by the early 1980s?

Schachter: Well I tend to think in terms of ACT rather than purely Creative. I would imagine Creative had about 25 or so employees in the early 1980s.

John Phillips: I would have thought it was more than that. I would have thought it was closer to 40 or 50. I would say something between 25 and 40. I'm not exactly sure.

Grad: Karol, what was going on at Ross up to the early 1980s there?

Ross Products

Hines: We had, as Ken was saying, the timesharing on VAXs and we were selling Maps and Intac. Maps was the matrix manipulator modeling product and Intac was the database product. We were selling those as timesharing and selling it to customers, but not a whole lot of sales. We also had consulting that went along then too. I don't think he mentioned that but that kind of went hand–in–hand. Our consultants implemented these systems for people. I was just looking online at the Computer History Museum's site with our timeline because I'm not good at remembering dates and it was 1983 where we really were making that transition and we started selling general ledgers. So in the late 1970s, early 1980s is when we were beginning to see the transition that we needed to make to become a software company rather than just a timesharing company.

Grad: So you were really still predominantly a timesharing company from an income standpoint?

Hines: Yes. I think it was probably around 1982 or maybe 1983 that that transition started happening.

Grad: And you, of course, still you remained on DEC machines?

Hines: Always on DEC. We were developing on the VAX.

Grad: Luanne, you were there certainly. How long did you stay with Argonaut?

Argonaut Products

Johnson: It's kind of hard to answer because I kind of gradually phased out but by the early 1980s I was really much more in a consulting role.

Grad: Bill Hixson had bought the company and by that point was in there.

Johnson: Yes. It's all hard to pin down because the first expansion was primarily bringing in additional support people, people to support the customers because as the customer base grew there were more and more phone calls from people asking for help. But I really felt the need for somebody with more background experience than I had in the marketing area. Bill had another company which was a VAR with General Automation computers. He was re–

licensing the Argonaut software to sell it as a VAR on the General Automation computer. And we ended up with a very close working relationship between the two companies. I have a hard time remembering actually whether some of the people were working for that company or for Argonaut but eventually it kind of all came together into one company. That was happening in the late 1970s and into the early 1980s and that's about when Joe Hensley came in which was in the early 1980s, and he came in initially in support but then got changed over to marketing. So the real transition was to have much more of a professional marketing focus than I had been able to bring to the company.

Grad: How many employees did you have?

Johnson: What did we have about ten, that many?

Gustafson: Two of us came on in one day and we were eight and nine.

Johnson: So it stayed very small during that period.

Grad: Karol, I didn't ask you the question, number of employees?

Branch Locations

Hines: We were about 50 employees in 1980 and we actually had four locations. We had an office in Palo Alto that was headquarters and San Francisco but we opened a branch in Dallas and in Los Angeles to bring in more timesharing. Those ended up closing when we got into software and we ended up being just in New York.

Grad: Any others of you have branch offices at that point? I assume you were all in a single location.

John Phillips: It so happens that we had one branch office at that particular time based on a service bureau contract in San Francisco; but we actually did a batch processing of that methadone system which included Greyhound buses, airplanes, and a young man in California who would then deliver all the stuff and pick it up and so on and so forth; so, in effect, we had a small branch office.

Transitioning from Batch to Online

Grad: Are these essentially all batch applications? Yours certainly was at that point continued as a batch application. So let's talk about that next time period.

Jerger: In 1984 we had what I called a bet your company meeting at Fortex. We were going to take 47 batch applications and figure out how many teleprocessing monitors we were going to run it on.

Grad: Any other thought on that on the timing of this transition?

Ray: I just remember we were doing character based screens in the beginning portions of the use of minicomputers. We were doing character based applications and so we had some generic screen routines. I remember we supported Tandem and General Automation and a whole slew of different machines and PDP–11 and it would basically draw the screens and that again gave us the hardware portability. But we were really kind of spread way too thin in terms of the amount of hardware that we were supporting.

Grad: Karol, you were providing timesharing but these were still batch applications primarily; is that a fair statement?

Hines: No, VAX wasn't batch. I mean it was online.

Grad: Were your applications online? You were running financial applications and the financials are just naturally done on a batch basis.

Hines: But we were running modeling and database which were interactive applications.

Grad: So the person would actually get feedback. So that was truly interactive at that point.

Hines: Yes.

Grad: Okay. John, How about your applications in the medical area; were they basically batch or were they online?

John Phillips: Well as I said they started out as batch with COBOL. The minute we were able to do anything else we moved them to MUMPS, but the Cobol programs that were built in 1968–1969 is essentially still running in some of our service bureau clients. It has been updated with some new technology but basically it's the same application. But we make a living since around 1990 from turnkeys really. And at that point the client wanted a terminal on their desk so the clinician, for example, could look at the records, could enter information, et cetera.

Grad: So that's the transition time then.

John Phillips: That's right.

Grad: Ian, did it have any meaning in DEC?

Ian Walsh: Not really industry or applications specific.

Marketing and Sales

Grad: Now I'd like to talk about marketing and sales. How did you sell? How did you advertise, joint work and so forth? How did you pay your salespeople? That was a major change that was taking place in yours. Let's start with Argonaut.

Johnson: I really tried to avoid the whole marketing issue for a long time.

Grad: So you successfully kept the business small!

Johnson: It was an absolutely brilliant strategy for keeping it small. The way I dealt with that was we did a lot of re–licensing. In other words, somebody else would pick up our code and use it and sell it as their code and paying us a royalty because that took it off our backs. They have to do the sales. I'm very proud of the fact that there was one point in time, this was I guess late 1970s and early 1980s in which there were five companies, software companies in the United States that were major competitors selling payroll systems on an HP 3000. They were all selling exactly the same payroll system because it was ours. We were one of them. And then all the other four that were selling were re–licensing our code. It was really interesting because it really made you think about what a software product really is because if anybody would have taken the major payroll calculation program from all of those five and lay them side by side the code was exactly the same but it was all packaged differently. I mean Ask was selling the payroll integrated with their manufacturing program. Software International was integrating it with their general ledger. At HP they had nice binders. I don't know what they were doing with it. But anyway we did a lot of those kinds of agreements. And then when Bill came in he carried that on and did some major agreements. So that was really how I kind of avoided the whole direct sales thing. We were really working through others.

Grad: So you didn't have a direct sales force in the 1970s?

Johnson: No, not until really Bill [Hixson] came onboard and that was really late 1970s when he began really creating a marketing strategy and a sales strategy for Argonaut.

Grad: Did you have any marketing during the 1970s?

Johnson: Well it was all done through putting listings in the ICP directories in Larry Welke's publication [ICP Directories] that went out to everybody and we would put in our listing of payroll and people would see that and they would see our price was good and they would call or write and ask for information and we would send out just a package of material saying, "This is what our products do." And we never followed up on it until they came back to us the second time. If they were interested enough to come back and ask me then okay now we have a potential sale.

Grad: Paul, you were involved primarily from the technology standpoint. Did you get called in on any of these to try and show that the products would work or not work or was that not your role?

Paul Gustafson: Well, I was involved in sales situations. I think a lot of times they ended up with customizations and so it was trying to deal with the customer's specific set of requirements and showing how you were going to meet or not meet those requirements and what it would take in order to make modifications in order to give them what they needed.

Grad: So you did get pulled in on some of those.

Gustafson: Yes.

Grad: Karol?

Hines: Ken was never a marketing person, but he always believed he was and we did marketing right from the very beginning. We had brochures that we produced from the very first year that we were around even when there were just three of us. We started the two branch offices with salespeople and so we had salespeople from like the mid 1970s.

Grad: What was your formal role in the company during this period of time-- 1970s, early 1980s?

Sales Compensation Plans

Hines: Well that was actually when I did a lot of transition. I remember that when we were starting to do the transition from timesharing to software, Ken put me in charge of the software group. We were kind of in a little skunk works in another building and we were building software out of the view of the salespeople so that they didn't worry about their job and try to sell something we didn't have yet. But we had a sales force at that point. And I don't know why this happened but somehow I got tagged with writing the first compensation plan for the salespeople. Ken used to throw stuff at me that he didn't have anybody else to do because I remember doing that and doing some studies to figure out what the heck am I supposed to do here? That was when I learned you had to be careful about how you compensated salespeople because they were going to read the compensation plan and do what they thought was going to make the most money for them. But we had formal compensation plans. We did bonuses.

Grad: Did they get a base and a commission?

Hines: The salespeople did. Then I moved into development and from probably 1982 or 1983 on I transitioned to being in charge of the technical side, the development side. But, prior to that, I ran a branch office when we were selling timesharing and consulting so I had salespeople working for me at that point too. So we always had formal sales. If you look online you'll see our brochures got more and more sophisticated and it was also in that transition time that Ken decided to hire a PR agency and we had an ad in Fortune magazine.

Jan Phillips: Wow, Fortune magazine.

Hines: Yes. There's a big controversy over it because of what it looked like but the ad ran in Fortune. I'm thinking it was in like 1981 or 1982; it was when we just had Maps and Intac.

Thomas Haigh: I've got a follow–up question. How did commissions work with the service bureau type stuff? Did you get a lump sum for bringing in a new customer and did you get a cut of the revenue from the customer on an ongoing basis?

Hines: Yes, they got an initial commission for bringing in the customer and they got a little bit ongoing, but they also got a percentage of the consulting too because they were never incentivized to sell timesharing by itself. But what they got for the timesharing differed whether based on whether they also sold consulting. They got more and I don't remember the exact numbers. We didn't want the sales reps to go out and sell pure timesharing because we were getting more by having them use the products that we built on our timesharing system and we had all these consultants that we had to pay, so we wanted to keep them busy.

Consulting Services

Grad: Do you remember what the consulting percentage of the revenues might have been during that period? Was it as much as 20 percent do you think?

Hines: Oh, yes. Consulting was at least 20 percent of the total revenue.

Grad: And, Luanne, go back to you. Did you get any consulting revenues to speak of?

Johnson: Oh, we had some. We did some customization.

Grad: But that was minor.

Johnson: I don't really remember.

Jerger: In Fortex I'd say it was a fair amount. It drove product direction a lot of times. We would do what the customer wanted and then incorporate it back into the program.

Grad: Would you get paid for doing that?

Jerger: Right.

Johnson: Yes.

Grad: John and Oscar, how about CSM.

Sales Models

John Phillips: In the dates you mentioned, 1970s to 1980s, there wasn't much marketing. I think the RFPs came a little later when that industry started to have some competition. The principals did the selling. The basic selling techniques were twofold. One was the conferences of the industry, the behavioral health and the drug treatment and the other was networking of existing clients. We were very big on taking existing clients and having them introduce us to other organizations. That's basically it.

Grad: So by that point there were just the two lead people.

John Phillips: That's all. I would say the sales activities were just two or three salespeople while there were 40 in the company. I would say that didn't change until mid–1980s I would think.

Schachter: Mid to late 1980s.

Grad: How about you, Bruce. What was going on in Wild Hare?

Ray: The 1970s to the 1980s was a transition from almost all consulting driven to the ramp up of the product orientation. So I think our mix was 80/20 and then it just swapped.

Grad: Who was doing the selling?

Ray: Initially I liked that strategy that Luanne had --- the self qualification strategy.

Johnson: Yes that's right.

Ray: If you aren't bothering us enough, if you don't want our product bad enough then why should we deal with you? And that worked through about 1980 and then as we had more products so that we had to hire a couple of salespeople; but that was after 1981 as I recall.

Grad: Were you re–licensing your products to other people to sell?

Ray: We didn't have a resale license because it wasn't an application but we did have distributors, both nationally and internationally, some of whom were invited to this meeting but unfortunately aren't here.

Grad: So that was your mechanism, to choose a distributor?

Ray: Because it wasn't really an application but we found that actually the distributors we had were originally clients who liked the product so much and more importantly they knew how to use it because they had the technical staff and we wouldn't get the phone calls about, "Why is not my machine plugged in," kind of thing? So we had up to five distributors at one time plus the in–house sales.

Johnson: I remember one aspect of our unique marketing that we used an incremental sales process where we sold the customer the documentation. Our first thing over the phone was to convince them to pay $150 to take a look at our documentation and that would convince them to buy the software and so we had to convince that person to write us a check for $150 just so they could look at our documentation to review it.

Grad: That's a real qualifying challenge.

Johnson: We would spend days in negotiation on the non–disclosure.

Ray: The self qualifying aspect went away when we doubled our prices to build credibility.

Grad: Then you had to work harder to make your sales.

Johnson: That's what happened when we brought in professional marketing, double the prices to build credibility.

Walsh: Burt, one of the things that's interesting to me as I hear about this lack of customer marketing in these early days is that it doesn't sound like it's very different from the way DEC and DG worked in those days either.

Grad: We have a very interesting contrast. The software products companies are really evolving during the l970s in the mainframe world as well, but there they were appealing to broader audiences and to big companies. So the MSAs and the McCormick and Dodges and so forth did need more than just a listing in the ICP Directories and they did sell with salespeople out on the street.

Johnson: They modeled their whole sales process on IBM. I mean they were selling it to IBM customers and they were very aggressive and I mean basically from my perspective I didn't even want to bother with that. I didn't want to try to compete against that because their prices were a lot higher because they had to pay for all that sales effort.

Ray: Well we also had the time factor. We had our payroll to meet every week or whatever the schedule was, and it in fact may have slipped because clients didn't pay. The long lead times either with large companies or, heaven forbid the government, would kill a software company that was self financed.

Grad: This is a point I think you're both making. Esther Dyson and I wrote an article once for Datamation Magazine on just this point. The mainframe software companies developed in a certain model, an IBM–like model in terms of who they called on, how they sold, how they advertised, how they priced, how they supported, all those kinds. Later the PC software companies created a similar kind of a model but it wasn't an IBM–based one. You had these millions of customers potentially. But the minicomputer software area developed with a very different character. The companies were much more specifically oriented toward the applications or the systems that they were working with and they didn't adopt that IBM model and they never transitioned to the PC model per se.

Jerger: But from the standpoint of sales, I guess that maybe it is the IBM model but in our case, we were competing with MSA and McCormick and Dodge and we had an online real time mainframe accounts receivable system in the late 1970s. It worked, contrary to MSA's, who still outsold us even though most of it didn't work as well as ours did. But the problem was with people talking about alternative distribution channels. We couldn't figure out how to do that so our salespeople really had to have significant applications knowledge of the product, how it worked, although not the technical parts of it. And we made presentations to 15 or 20 people and the sales guy would be leading that presentation with a couple of technical support people there. A couple of our salesmen didn't believe that they would have to do that and they didn't believe they had to practice their presentations and they failed. And the ones who practiced before us and took the criticism, they worked and they were able to sell the product. But our problem was we didn't know how to simplify it and it was too complex to try to sell easily.

Product Pricing

Grad: What was the typical price of a sale? How much money did you get? What was the value of a sale during this period in the 1970s, early 1980s?

Johnson: It was like about $5,000, $6,000.

Jerger: We went from five thousand dollars to ten because I remember when I first came onboard and we were selling applications for $5,000. It was like, wow, because I had come out of implementing an MSA application that was tons more money than that. It was really an eye opener.

Grad: Were you selling a single application by that point or were you selling multiples?

Johnson: We had multiple products.

Grad: That's what I mean. So when you made a sale did you often sell three or four at one time or did you sell one at a time?

Johnson: No, no. It was really one at a time but usually what would happen then is that they'd get one product in and then they wanted to add others, but I don't think we ever had a situation where we sold a suite of products.

Jerger: Didn't payables and general ledger go together?

Johnson: That's true, yes.

Grad: What was a typical sale for you, John?

John Phillips: In that same period, I would say the service bureau versions were from as low as a couple of a hundred dollars a month to maybe the highest at that time with a few exceptions would have been maybe $10,000 a month. We had a client that was over $1 million a year, the New York City methadone system, but for the most part it would have been hundreds to thousands.

Grad: Per month?

John Phillips: Yes.

Grad: How about when you sold the system to someone that was going to install it themselves?

John Phillips: The sale of the product didn't start until really just at the end of the period you're talking about. The nice thing about the turnkey portion of the sale I would say in those days was in the $50,000 to $250,000 range but you made more money on the hardware.

Grad: So if you broke even on the software you weren't unhappy?

John Phillips: We would not be unhappy if it included the hardware and, of course, then you lived off the maintenance contracts. Our most important measurement every month was what was the ongoing residual revenue, because, as I mentioned, some of that residual revenue is 30–plus years old.

Johnson: I was just going to throw in a comment here to kind of put into perspective what Doug was saying about the difference between selling in the mainframe market and the fact that our strategy was selling to the smaller companies that turned out to be selling into the minicomputer market. But we used to operate in what I called the win apps window. And win apps is the point in time when the company says, "We need a payroll system" and if we got them from the time they said, "We need a payroll system" until they made a decision, that was the timeframe that we were working at. Now I had companies out there like MSA and McCormick and Dodge who were doing all kinds of advertising to get people to the point to say, "We need your payroll system." Once they got to that point, then we came in and we had a lower price so once they got through that window then they were going to choose between different products. Sometimes, of course, they bought the MSA product because it's obviously got to be better since it costs so much more but we never invested in trying to get people into the window.

Grad: So you made sneaky sales?

Johnson: Yes exactly, yes.

Jerger: Guerilla marketing before it became called that.

Grad: Let me pursue this. What was the typical sale price? At Ross you were still selling primarily timesharing at that point?

Hines: Yes. I did the financial statements and it was very clear as to what things I was being measured on.

Grad: What was your typical sale value?

Jerger: Can I ask on your timesharing, on the services, what was the termination period? Was there a month–to–month with like a three month termination? I'm just curious.

Hines: No, we typically would sign people up and they would pay on a monthly basis. Every now and then we would negotiate a lower rate if we could sign them up for a longer period of time, but it was typically just month–to–month but our clients went for a long period of time, years.

John Phillips: The service bureau contracts that CSM had were renewed automatically on an annual basis.

Hines: Ours were too.

Jerger: Okay, so yours were pretty much on an annual basis then.

Grad: But you probably only lost a very few customers. Once they signed up with you, they didn't have a lot of options.

Schachter: As John said, some of them have been customers for 30 years and they feel that there's no sense in doing their own system.

Grad: Having a financial application you have some alternatives, but the CSM application was very particular to a market.

John Phillips: As a starting point. Later on there was competition. If you look at the company now there are customers that ultimately leave, but one of the measurements is obviously why they left.

Grad: Yes, studying the loss rate.

John Phillips: And that measurement of the monthly guaranteed income, of course, is the biggest measurement you have.

Grad: How about you Bruce? What was the typical sale?

Ray: Say $3,000 to $6,000 was a typical quantity one purchased for the hardware or the software.

Grad: One of the concerns I have in the numbers, these were small sales. How could you afford direct sales time, face–to–face time when you were making a sale? In your case maybe it's $500 a month, $1,000 a month.

Schachter: Well that's very interesting. There were really two aspects of the business. The service bureau was part of the business, but it was really not the major part of the business. The major part of the business was more the product sales and there the sales ran in the hundred thousand, two hundred thousand dollar range.

Grad: But that's at a later point in time isn't it Oscar?

Schachter: No, I think it started in the early 1980s, when we were selling DEC and DG equipment; once we were selling that we were talking about sales in the $250,000 range.

Grad: So that's a real change in the business isn't it?

Gustafson: Yes. Before you leave it, some of us were talking about the issue of people from the 1960s and 1970s, the group that's represented here, started companies in the late 1960s and so forth. Well I think we were a very optimistic group. And the fact of the matter is that when we started and it was service bureau first, the fact of the matter is you didn't have marketing research. You didn't have any of those things, sales and that. You didn't have a lot of anything. You just kind of went out and hit the pay dirt you could hit and made the networks you could make and so on and so forth. So honestly you're right. You might spend time with someone and wind up with a $400 a month sale, but you only came back to the office and said, "Let's see. We're still spending this much a month on the company and we just added this much revenue with only this much added cost. We're better this month than we were last month." That's all you did. You weren't doing this major analysis. All you were looking for was more revenue and sometimes, of course, you made a sales call and get something quite substantial.

John Phillips: In response to your question about the size of the typical sale, we had a more sophisticated qualification system than what Paul talked about. The $150 deposit on documentation was just the starter kit. If the prospective client wanted us to come on site and make a presentation they paid our expenses to do that and on the flipside of that was because the credibility thing around pricing we would have an awful lot of people want to come to visit us because if you're only charging that much you got to prove to us. So we would have somebody there. We would put a notice in our office. They didn't have stickies back then. There would be a piece of paper with some Scotch tape that said, "Tomorrow's a dress up day. We have clients in house."

Haigh: And how much did you charge them to read your advertising?

John Phillips: No, we would send the ICP booklet for no charge.

Schachter: We would list anywhere you could list for free.

Advertising

Haigh: We didn't hear much from Bruce on this subject and it's interesting that what you were selling had to emulate the product in the operating system.

Ray: The emulator was not a big part of it in the 1970s. It was not a big thing from 1975 on. We originally were doing the consulting and then we had a timesharing product, in the late 1970s. We tried different blind ads. We advertised in Datamation, Computer Design, ComputerWorld. DG didn't have any DG specific magazines at that time so there was no market focus that we could say we would donate our advertising dollars to and that didn't come along until the 1980s. So we had hundreds of leads every month and you know the guys in high school were circling in crayon every one of the reply cards in every magazine and so we would get overwhelmed with paperwork every month. Of course we eventually realized that. Being a techie it took a little while to figure out which magazines did produce some and which magazines produced no revenue. So initially we had ads in the big magazines and then narrowed down our focus to the DG specific magazines once they came out in the 1980s.

Haigh: Were you selling exclusively to end user companies?

Ray: There was no market distinction. If you had a computer and you needed either a faster application or you needed more users you could use the product, so it wasn't specific.

Haigh: What I mean is you'd think with the emulator that lets you run DEC software on a Data General with the operating system, a market might be companies that make DEC software and would like to sell to a broader market; you'd think there might be some bundling with the applications themselves and maybe the operating system would be bundled with the hardware, but you weren't selling to software companies and hardware companies. You were selling just to the user companies.

Ray: I'd shift that just a little bit. With the PDP–8 emulator that was our original package, people were moving away or had already moved away from the PDP–8s so that wasn't a key part of our market. We were selling a couple of packages like that. Maybe I'm not answering your question correctly, but that wasn't a big issue.

Grad: It sounds to me like by the time he gets to the early 1980s he's making most of his money off of the RAM discs and things like that, not off the software.

Ray: Right. Well the PDP–8 simulator was a non–issue by say the mid–1970s. That's because the PDP–8 market pretty much went away.

__Maintenance Revenue__

Grad: I want to ask around the table about maintenance revenue. Now if you're in a timesharing area you're just getting automatic recurring revenue but once you start selling product, what were you charging for maintenance and support? Do you remember, Luanne?

Johnson: I don't remember. At the beginning it wasn't very much. It was a couple hundred dollars a year. Do you remember Paul?

Gustafson: I'm not sure that we charged in the beginning. We just sent out fixes for a while and then we started charging.

Johnson: Yes, I think we did that at the beginning but that was very early on. Then we started charging.

Gustafson: Ten percent, it was like ten percent.

Johnson: Something like that and because one of the main things that we charged for was because of the payroll system we had the tax updates and I know that we had some. As a matter of fact that's how I first met Karol. She was working for Ken Ross and they bought just the tax module and they installed that; they were running an IBM System/3 or something.

Maybe not from day one but very early on we were charging people to send them changes to the tax tables.

Grad: That would sort of change fairly regularly.

Johnson: Fairly regularly.

Grad: So you got an automatic pick up on that.

Gustafson: It would also bring them back. The government was a wonderful partner of ours because we had people who would go off maintenance and the government would do something crazy and we'd be getting all these calls from all these people who wanted to get back on maintenance.

Grad: They had to pay all the back maintenance in order to get it all?

Gustafson: Sure, of course.

Johnson: Yes, absolutely, yes.

Gustafson: When we install the software, maintenance starts. That was a good thing.

Grad: Bruce, did you have a maintenance charge of any kind?

Ray: Yes it was about ten percent per year originally. Then it was upgraded to 15 percent. I think that was through the mid–1990s.

John Phillips: In your work do you have to do what we did which was to answer the phones?

Ray: Yes.

John Phillips: Work online with the client, see the screen maybe even look into the work?

Ray: Not so much on the screen.

John Phillips: Ours was heavy duty so we needed a 20 to 25 percent maintenance charge.

Ray: We had pretty qualified, pretty intelligent customers I'll say and the 80/20 rule was pretty common. Eighty percent had no real problems.

Haigh: And lots of the revenue is coming from the RAM disc hardware. Did you charge maintenance for hardware and software on the same kind of basis or were there different issues with hardware maintenance?

Ray: We charged a fixed fee for the hardware just like we did for the software so again the software may have been 10, maybe up to 15 percent by the mid–1990s. I don't recall what the hardware maintenance was but it was a fixed fee because the systems were so reliable we factored that in so it may have been still about 12 percent annual cost.

Johnson: I want to add one thing more on this support discussion because our support requirements changed dramatically from the beginning of the 1970s to the end of the 1970s. In the beginning of the 1970s we were dealing with data processing departments and they pretty much took ownership of the software. We would never hear from the end users. We would hear from the programmers and they usually would try to solve the problem themselves. They pretty much took ownership of that. As the clients got smaller they had much smaller data processing departments so toward the end of the 1970s that one of the reasons that Joe came in initially was supposed to be in support because he had an accounting background. We now had to deal much more with end users who didn't have the in–house technical resources to help them solve the problem. We all know that 95 percent of the problems they have are their own user problems. They are never program problems so that increased our support need. And we had to increase the amount we were charging for maintenance as a result because we had to spend a lot more time on the phone with the customers when we were dealing with those kinds of companies and the end users as a result.

Growth in the 1980s

Grad: Anything else to clean up the 1970s? We've spent quite a bit of time there. I want to now spend the next period on the business aspects and what happened in the 1980s because dramatic changes are happening. Some of you are growing. Did all of you essentially continue to grow during the 1980s? And some of you shifted your business to a products business.

Hines: Right, somewhere in the middle of the 1980s we had a down year and we had a cutback and then when we made the total switch to software we closed some offices. But then we did continue to grow. And then Ross got sold in a management buyout in 1988.

Grad: When was the management buyout?

Hines: There was a management buyout by Dennis Vohs and his associates; where were they come from?

Phillips: Atlanta.

Hines: MSA, right?

Grad: It was MSA, yes.

Johnson: It wasn't MSA that bought them out though.

Hines: No, but Dennis Vohs headed a group. He came from MSA and they bought out Ross in 1988.

Grad: Did you stay with Ross at that point in time?

Hines: No. Ken and I both left then.

Grad: Was that part of the deal?

Hines: They tried to keep Ken. They didn't try to keep me. Just a couple of years before the buyout, we had started developing alliances with other companies to expand our software product line. And after the buyout they actually bought some of those people that we had formed alliances with. Argonaut was one of them or part of Argonaut and there was a company back east.

Ross: Cardinal.

Hines: Cardinal did manufacturing?

Ross: No, distribution.

Hines: They eventually bought a process manufacturing software company from Australia and grew that way.

Grad: They kept the Ross name during this period?

Hines: They kept the Ross name all the way until they got sold out to china.com in 2004.

Grad: How did your marketing change? How did your sales change prior to the buyout?

Hines: Well we transitioned the sales force from timesharing to selling software through clever compensation plans. We switched our marketing at the same time. There are a couple of brochures that you'll see where we were talking about both and then we were talking only about software. We got much closer with DEC because we needed to reach clients in a different way. We weren't bringing them into our home. We needed to get closer with DEC to sell the products when they sold their computers.

Grad: How did you do that? How did you get DEC to help you make the sale?

Hines: Well, I wasn't very involved in that. But Ken and the sales force that we had in our office back in Boston and in New York and those folks were at DEC all the time. They worked very closely with the DEC sales force and the DEC marketing people.

Grad: Was it at the DEC corporate level or was it the DEC sales level?

Hines: I remember going back to DEC several times; we worked very closely at the corporate level and then formed alliances at the local level with the local sales offices.

Sales Partnerships and Support

Grad: You're speaking of an alliance like with Argonaut. What was the nature of that alliance?

Hines: Well, there were two things we did with people like Argonaut. With Argonaut we bought the accounts receivable package.

Johnson: Initially I guess, yes.

Hines: And converted it and sold it as our own. But then we also developed some marketing relationships for some of the other products so that we never delivered those products, but it was like joint marketing type agreements.

Gustafson: The situation was that customers were looking for a total solution. They would go to the various vendors and say "What are your options?" And Digital would propose Ross and Ross needed to basically provide a complete suite of applications and they filled in the gaps with partners where they didn't have their own software applications. And the Digital people loved Ross because they were exclusive versus when they would contact Argonaut, which supported other platforms. DEC would always be a little reticent in contacting Argonaut because we could also offer that same solution on an HP 3000.

Grad: Did Ross became a "systems integrator" in the sense that they delivered a group of packages not just their own?

Hines: No, because our consultants didn't deliver the Argonaut products. Their consultants worked together as a team. We never actually did the installation.

Grad: Did you buy the product from them and resell it?

Hines: No, no.

Grad: They actually closed the sale as their own? Who would maintain the product for the customer?

Gustafson: The customer would sign multiple licenses. They would sign a hardware agreement with Digital. They would sign a software agreement with Ross, a software agreement with Argonaut and with someone else.

Grad: So it was not a true one stop shop?

Hines: Well it was one stop in terms of figuring it out, getting the products that worked together, all that stuff but they would end up having to sign different contracts because they were going to end up working with different companies.

Grad: If something went wrong they've got to go back to the vendor of that particular product?

Hines: Yes, of that particular product.

Grad: It's not going back to a single business.

Hines: Right.

Grad: And you didn't from a consulting standpoint tie the pieces together or do that kind of consulting work?

Hines: No.

Gustafson: I don't think customers were looking for single point of responsibility back then. They just were looking for a solution.

Grad: I don't agree with you. I think one of the arguments that VARs made during that period, and back me up John since you were heading that VAR group, the customer wanted one guy, hardware, software, consulting. If something went wrong, you had one person to call not three or four or five. Am I correct on that, John?

John Phillips: Absolutely.

Grad: So maybe it wasn't in your areas but I'll tell you, in a lot of others that was a critical issue.

Gustafson: Can I just ask a follow–up question? Did this create any kind of like ping pong game with customers?

John Phillips: Absolutely.

Gustafson: There was, "No it's DEC's problem. No, it's Ross' problem." Were there like a lot of those issues?

Hines: I don't remember that we had a lot of issues like that with the clients that we sold through the agreements. Of course I was gone from the company soon after we started forming a lot of these agreements, but I remember I was also at some point in charge of the support group. I don't recall that that was an issue.

Jerger: It was pretty clear what was a hardware failure or what was a system problem and what was an application problem.

Hines: Right. And I think that the partners we had like Argonaut and like Cardinal were very responsive and so a client would pretty well know if the problem was in GL or in payroll. But we also didn't point fingers. We tried to make the connection. We would get them transferred to the right people.

Schachter: I think it depends on what the clients were like. If the client is non–technical, for example, the worst thing in the world is having to call a couple of organizations and try to figure out is it hardware/software. Even if you don't know whether it's hardware/software, you have got to solve that all back there and tell them this is what we're going to do. You couldn't have them talking to the hardware guys. You couldn't. But if they're very technical they might understand exactly what they should do. I guess there are two extremes.

John Phillips: A follow–up on what Karol was saying and it will be interesting for her validation, but we were still selling into an environment where there was a data processing shop. So there was a hardware proposal going on that Digital was proposing, but again, I don't know what it was called, an IT shop or data processing shop, but there were technical people definitely involved in the sale. We were not selling just to the CFO. The CFO certainly was in the room during the presentation but there were IT people also that were there.

Hines: Well when we switched to software we were much more involved with IT than we were when we were doing timesharing and selling the modeling. Then we were hardly ever talking to IT.

Changes in Hardware Performance

Grad: Let me take a related question. During this period in the 1980s the power of the minis had increased dramatically. You have much better systems. We're going to talk about the technology, the system software. You have a lot of things happening during that period of time. Did that change your pricing structure? Did that change the way you built the applications? Are there any significant changes as a result of the more powerful machines?

Hines: There is something about how we made the decision to go to the VAX and why we made that decision rather than going somewhere else outside of Digital because of the power of the machine and the virtual memory and everything. It was like a no brainer. We bought a software package from Price Waterhouse --- the general ledger. That was our first besides the modeling and database and it was built on, I don't remember what it was built on, but it was a simple decision. We were going to convert that to the VAX because we realized that that was where the future was going to be and we already had a lot of experience with that technology. We could see where the technology was going.

Grad: Let's ask that same question about Argonaut.

Gustafson: We saw Ross charging an exorbitant amount for their products so that gave us the rationale to say, "Hey let's raise the price of ours as well."

Grad: Now the platforms are getting more powerful. Does that change what you do or your pricing? Paul, Joe, you were involved in that period. Did you double prices, quadruple prices, what did you do?

Gustafson: We had to bring them parallel to Ross because we were selling side–by–side and so we raised our prices. And then all of a sudden we realized what the market would bear and so even when we weren't selling with Ross we would continue to sell under those prices.

Grad: What are we talking about: $10,000, $20,000 a package?

Gustafson: We were talking about going from $10,000 to $15,000 to the $30,000, $40,000, $50,000 range.

Grad: By the latter part of the 1980s it was $30,000, $40,000?

Gustafson: By the middle part of the 1980s when we started going into the online real time world.

Grad: Were there major changes in your programs to "justify" the change of price or just simply different market perception?

Gustafson: There were no major changes. It was the same functions. It was just more established in credibility.

Grad: I want to turn it backwards. The hardware could perform more. Did you change your prices based upon the performance of the hardware or how functional or how good the hardware was?

Gustafson: Digital and HP were making entre into much, much larger organizations so we were talking to considerably larger organizations that had deeper pockets.

Grad: So it's value–based pricing in some sense? But what did you do with that— did you give up the lower end then at that point in time? Did you still raise the prices for them too?

Gustafson: Well no; the price was based upon the number of employees that they had. It was value priced.

Grad: You were really value pricing.

Gustafson: I mean there was some component to it and then there was also what the market would bear, what we perceived the market would bear.

Grad: And let's finish up with you Karol on this.

Hines: I'm not real clear on this and these guys might correct me, but there were different machine sizes and there was a different price based on the machine size. There were also a number of machines you were on because remember DEC was great at networking and so if they were going to install it on one machine— I don't think we got into user based pricing. We might have towards the end of the 1980s but I don't recall that. We might have been toying with that but I don't think we got there --- the number of users. It was just the size machine.

Grad: Let me switch over to Bruce. What happens to you during the 1980s?

Ray: Wild Hare did raise prices. It had nothing to do with performance of the hardware. Through about 1985 it looks like we raised our prices twice and just continued on in that vein. As a company, Wild Hare imploded because of the shifting market. This was a strategic downsizing strategy. We thought it was popular and we went from about 30 people to four people.

Grad: That's serious.

Ray: And it was serious. It was a fun time in life. But in the 1986, 1987, 1988 time period our biggest market was replacing VAX hardware with our "Hare-brained" workstations. So we became unwillingly a VAX replacement company. And at the same time that bought us time to strategically refocus on the part of the market that we knew best as we paid off the bank loans and stuff like that and that was software. So the software could be developed in conjunction with our hardware workstations. It emerged as the resurrection in the 1990s.

Grad: And that's where you went into the 1990s with that kind of thing.

Ray: Right and in the 1980s we expanded from just DG (Data General) to everyone with our software so during those three years we were developing new products, still DG oriented, but it was geared toward moving from DG to anything else and then the sustenance of the company came from selling VAX replacements.

Grad: What happened? Did your RAM disc stop selling in the 1980s? What went wrong?

Ray: The market complexion in DG land went from 16–bit to 32–bit. Our workstation was also competing directly with an entry level Data General machine which was a big disappointment to everyone, but everyone had to wait until DG announced its products before they would buy our product. So sales were underwhelming.

Grad: But it was mostly hardware sales that died. The software was not a significant factor?

Ray: No, the switch from 16–bit to 32–bit decreased the value of our timesharing product so with a virtual memory machine you're almost implicitly timesharing or you have the capability for running more than one or two users. That was one of our key benefits in the software from the 1970s and early 1980s.

Grad: So it was the time sharing product that died?

Ray: That was our main revenue stream that paid the bills so we had to scramble.

Grad: You survived though.

Ray: Oh, yes, and in very unusual ways too.

Grad: Using your hardware.

Ray: Never thought we'd be replacing VAXs since we're a DG company. You're smiling over there.

Haigh: I've got a follow–up on price raises. So the late 1970s, early 1980s are a period of high inflation. When you say you're raising prices are you raising them in real terms plus the inflation or are you just trying to keep the real value constant?

Gustafson: We used raising prices as a closing technique. Because of the inflationary pressures it was kind of normal that prices would just move up and so we would say, "You need to close. We need to close by the end of the quarter or the end of the month because the rumor is that our prices are going to go up next month."

Changes in the CSM Business Model

Grad: That's interesting. John we haven't asked you about it. Now let's talk about the 1980s and what's happening?

Phillips: Well it's a profound time. That was the time that DEC had the best marketing campaign I think of any hardware manufacturer where they basically said, "You can go from here all the way up to there and it's unchanging." We used that in our marketing and it affected us three ways. One, we had larger sales. We found ourselves all of a sudden competing with the IBMs and the Ross Perots and so forth in like statewide systems. And the second thing is that it was the start of the age for us of increased computing power for less money. So although that might add to the revenue line it did reduce the margin line on the hardware. And then of course came the age of PCs that we hated, but that's what happened.

Grad: Talk more about what goes on. Did you change your prices or was it simply more functionality, more capability?

John Phillips: I think at that point we were starting to get more into answering RFPs from larger organizations, from state organizations, from county organizations. And so the competition was really what kind of pricing did we think our competition was going to have? And so it became an adjustment of pricing to win a particular contract. There was no user–based pricing probably until the mid–1990s to the end of the 1990s. So it was really what do you think this organization has in terms of budget to spend on buying a system? How much can we bid and what is our competition likely to bid on that job?

Grad: In making a sale let's take a half million dollar sale as an example, is that a good number?

John Phillips: That would have been like a county, a small county.

Grad: What percentage of that value was in the software? Was the hardware was outside that price or inside that price?

John Phillips: Hardware was probably inside that price of the half million.

Grad: So we got consulting; we got hardware; we got packaged software.

John Phillips: Right.

Grad: Any idea of the ratio?

John Phillips: We just described the hardware, which was not a large percentage of the sale then. We tried to make the license something like 50 percent of the total application sale and we tried to minimize the customization. Depending on the time we are talking about the customization might be priced equal to the license. We were looking for reducing the customization until it was like maybe one–fifth of the license. In those early days of doing it when there were still large margins in the hardware, but we had some installations where the customization took up everything. There was no license by the time you finished.

Grad: Because you're saying you put a price cap on as to what you thought you could bid and therefore the software was what was left over after your hardware and your customization.

John Phillips: Well we were looking for Oscar too in terms of writing the contract aspects of the proposal to try to make sure that everything you could do, I mean the art of responding to an RFP in a given marketplace is a whole business unto itself. How you meet all the criteria of pricing and structure and competition and yet maybe leave out the portions of ultimate cost that are going to be there. They don't have to be specified in the initial phase.

Grad: Here's my concern with the VAR model. Maintenance on software is what you make your living off of pretty much.

John Phillips: Yes.

Grad: That was certainly true in the mainframe world and it was true in most cases in your world. If you under priced your software how the hell do you charge enough for maintenance?

John Phillips: Well, as Oscar said, in RFP work it isn't as clear cut on those ratios as it is in your product pricing. In your product pricing which is what you start with, even in your RFPs you start with your product pricing. If you're going to cut something for some competitive reason that was mentioned you have to have an explanation that justifies it. So you haven't cut your product price.

Grad: But what you said before is what I'm concerned about. You were saying that effectively if you had a total price cap and you had to keep the price of your hardware and customization, you'd squeeze the amount of value of the software.

John Phillips: Even if you priced it properly in the reality of execution you could still use up all the license value.

Grad: But you still put it on there.

John Phillips: Oh, yes you still put it on there and hopefully you learned as you went along. But still, when you go through the years, you're talking about was all like one of a kind experiences --- even the example I gave of improving a contract. So for years you were continually trying to find out how to become more consistent, more effective, in your contracting and pricing and so on?

Grad: Oscar.

Schachter: I think what was also happening to be honest was that we were building the product client by client. It just wasn't a finished product like a payroll where you could say this is a finite kind of product. Yes, you can add some bells and whistles, et cetera, but this was a product that was being built client by client as clients were thinking about what they needed to run their clinic, their hospital, the entire mental health department of a large county with dozens or hundreds of providers out there providing services. We had to build that as we went along. This is why so often --- what we thought of as the license fee --- was used up actually in customizing the product or building additional functionality into the product. It wasn't until the mid to late 1990s that we arrived at a standard product that we could say, "This is really standard. You can change the forms. You can change the reports. You can change the screens up to a point but the baseline product has all the functionality that you need."

John Phillips: And that worked out. That company has now about 40 of the 52 states and it is the same system. I think that last point that Oscar mentioned is critical. When we started this work the only thing anybody cared about in these medical systems was billing and so that's why you saw a lot of accounting departments involved, although still no IT. Now we were installing systems where there was no paperwork in the whole hospital for the patient. No paperwork whatsoever. So, think of how that application rolled into medical and all the parts of medical and then rolled right up to the desk to the point where the desk was thrown away and anything a doctor or anybody had to do had to be done on the device. So think of the size of that applications change --- where before all they cared about was the billing. I mean you could talk about medical systems. All they originally wanted was the billing.

Grad: It's fascinating to me. I don't know what the rest of you think but they were able to take a fairly baseline product with that particular function and over a 30–year period, were able to keep enhancing it, modifying it, extending it, until it's become a true full functional capability for these medical facilities.

Value Added Resellers (VARs)

John Phillips: But I think that's the difference between whether you were --- let's call it a VAR that was in the application vertical market issue --- or you're a VAR into the technology and solving hardware issues, operating system issues, communications issues.

Grad: I'm not sure there were many VARs in those areas.

John Phillips: In this area we had lots of VARs in vertical markets.

Grad: Verticals but I'm saying not in the horizontals.

John Phillips: Well we knew a lot of VARs in what I would call utilities and horizontal markets. We used to call them horizontal markets instead of vertical markets.

Grad: So they were developing and delivering systems software in addition to hardware?

Ray: Many of the horizontal ones didn't deliver hardware, I don't think.

Grad: I'm sorry. Bruce, please clarify.

Ray: Right, I just think about different companies. He's saying that typically a company will specialize in either a vertical or a horizontal. What Data General would consider a VAR is typically a vertical marketplace. You have cemetery management systems. You have account management systems.

Grad: My picture of the VAR is vertical.

Ray: Right and I guess we wouldn't consider in the DG world of the universe someone like us as a VAR because we're not— technically a VAR is a value–added reseller. We're not adding value and reselling Data General gear. We're adding value to DG but that's not what's in the definition.

Grad: You don't resell hardware?

Ray: We don't resell hardware.

Grad: John, you were in charge of that VAR group in ADAPSO. Were there any VARs whose products were systems or utilities products where they resold hardware with it?

John Phillips: That's why I said when I called them horizontal VARs where they're going across applications and dealing with efficiencies or compatibilities or virtualizing or assisting with communications and so forth. Usually they didn't sell the hardware.

Grad: So you would still call them a VAR? My definition of a VAR is they almost invariably sold the hardware along with software and services.

John Phillips: Well that's one subject you may want to discuss. In our work at ADAPSO we were heavily involved with the VAR Business magazine and the first article I wrote for VAR Business magazine we got them to start surveying the hardware manufacturers. We got the magazines to do a survey of all the manufacturers and we got them all to participate because it would help them sell. If they weren't there they were not responding to this so it wasn't good. At that time it was clear that it was a definitional problem so I wrote an article called What's in a Name? When Comdex started the first session it was called ISOs, Independent Service Organizations and that became the distributors, the VARs, whatever other names there were and the issue was why not consider them all value–added in one form or another? And that's the way the association was formed. The intent was that the middle man, so to speak, between the client and the manufacturer was to be called a value–added reseller.

Grad: Tom you've looked at some of these things. My mental definition of a VAR invariably implied that they delivered hardware along with their software.

Haigh: Yes, that's how I would see it. In that sense I think it is similar to the idea of turnkey systems, but they're selling a whole package and it's possible that they're reselling hardware. Now, as you were saying, vertical market industry specific is the obvious core of that. But I wonder if you had a VAR that was selling a word processing system, say based around hardware, that would be horizontal in the sense that there are many industries that have word processing needs. So you're addressing a functional activity that takes place in many industries and not bundling together a bunch of functionalities in a way that targets one specific industry.

Ray: The same is true of payroll. Payroll is across every industry. CSM's application was very uniquely vertical because it was industry specific.

Grad: I don't remember many people on horizontal applications, cross industry kind of things, being VARs. That's an interesting difference. I assumed they were primarily ISVs. They sold their software and it could run on particular hardware or across many others. That's an interesting thing. We'll talk about that maybe a little later but I just had always thought of VARs as being industry vertical rather than application oriented and that's the point you're making I think. My point is though I thought of those as being horizontal, the ones that crossed industries.

John Phillips: I think the issue of the definition is a good point but in all of the association activities, all the VAR business activities and all the Comdex activities, it was all of these people. For example, the CSM systems right now might have as many as ten subcontractors of things, word processing, report generation, hardware, communications, payroll, accounting systems and all of those people ultimately if you've got control of the vertical market are paying you money and supporting the marketing effort and so on and so forth. And the client is seeing just one representative.

Grad: Who's the license with?

John Phillips: The license is with CSM [now called Netsmart].

Grad: And you sublicense? You have a sublicense that you make with the other suppliers?

John Phillips: We have a general ledger package for example. We didn't write our own. That's sublicensed to us and we have the right to resell. Oscar did a lot of work on those agreements let me tell you.

Schachter: We have a pharmaceutical package that we can sell as a licensor. We have a company behind us who licenses the product to us.

John Phillips: By the way; during the early days the idea of Oscar writing contracts with all those subcontractors I think would have been impossible. There were so many incompatibilities, undefined things in this work that I think it would have been very, very hard but now it can be done. And once again it's that issue of the vertical market.

Grad: Bruce, where were you were working as your business built back up again? Did you stay primarily with utilities and that kind of product?

Later Developments

Ray: When we introduced our hardware, the workstations, the Hare Brains, we realized that no one would buy from a small company when DG, which was our great big marketing umbrella under which we had to fit and which we had to fight for the sales. We had to have some special thing to entice people to move away from Big Brother IBM or Data General. So we developed programs such as Hare Net, a networking system that allowed us to communicate from our workstations with DG machines. We developed converters from Data General FORTRAN to ANSI FORTRAN. We developed converters from DG COBOL to real COBOL, et cetera. Those were the products that emerged after our hardware division was long gone. Those were the ones that were enhanced and, in fact, it was COBOL in more business applications that survived in the late 1980s. Those were the applications. Again they were COBOL runtimes, database runtimes that we ported to all popular machines, NCR, AT&T, HP, DEC, et cetera.

Grad: Did you develop these yourselves or did you acquire them from others?

Ray: These were all developed in house. They were the sweeteners that supposedly helped people move from Data General to our stuff.

Grad: Joe?

Joe Hensley: To go back. You were asking Karol about the relationship with Argonaut. It's kind of interesting if you look at the history when Ross was marketing. They came up through the mini world and we came up kind of through the mini world and it was kind of "Let's get together and see how well we can jointly go out and make this thing happen for ourselves." But at the point in time that the IBM experienced software boys came in and purchased Ross Systems then it became an orientation of "We're going to go out and acquire you and generate the control over you." So Dennis [Vohs] and his boys started doing the acquisition thing so they had complete control over everything they were doing as opposed to the two of us just getting together saying, "How are we going to win this piece of business?"

Mergers and Acquisitions

Grad: One of the areas I was going to ask about and this may lead into it, merger and acquisition work that took place during the period of the 1980s. I guess there was very little or nothing in the 1970s.

Schachter: We acquired CSM.

Grad: But you didn't integrate them. You bought them and you kept them separate.

Schachter: Yes we kept them as a subsidiary.

Grad: You didn't try and pull them into the company?

Schachter: No, there was no basis for combining the things. John has just reminded me that ACT itself had two VAR sales. One was a unique sale and the other one was a product that we developed --- a network processor using Honeywell equipment. The Honeywell 6000 and that network processor was sold as a combination of software and we resold the hardware as well. We also developed for a particular client, in this case it was Pinkerton's. We developed one of the first online networked payroll systems, kept track of all their guards around the country. They had something like 40 offices in the 48 states. It was the early 1980s. And we sold the combination of the DG hardware and the payroll system, the record keeping and payroll system to Pinkerton. So we made money on the hardware as well as the software but that was totally a custom job.

Grad: Okay. So you were a VAR in that sense, but it was not a packaged product.

Schachter: It wasn't a packaged product.

Grad: Others? Now Bill Hixson, Argonaut was acquired by Ross? Go ahead.

Hines: Ross did product acquisitions. We did the general ledger and then we did the accounts receivable and we built some from scratch on our own. So that's what we were doing through the 1980s. And in 1987, we did a merger. It was an acquisition of a company called Virtual Microsystems and they were developing a desktop solution to connect PCs and VAXs. I think we only owned them for a year. It became Ross Data for a short period of time and then the next thing that happened was we sold out to Dennis Vohs. And at that point Virtual Market Systems went back to being Virtual Microsystems because Dennis Vohs didn't buy them. So that was really all we did. We did the marketing relationships, you know, the joint marketing relationships for products to expand our product line.

Grad: When you said you bought a product, you didn't buy the company? What did you do?

Hines: Well, we bought the product outright.

Grad: They couldn't market it anymore to anybody.

Hines: No.

Grad: You had an exclusive ownership.

Hines: I don't remember with Argonaut. But with the general ledger we bought the rights to that product on the VAX. They never did anything with it on IBM or anything else but we didn't buy the rights to it on any other computer. I believe we did the same thing with Argonaut. Argonaut could have gone ahead and done something else with that product if they wanted to, but not on the VAX.

Johnson: That's not correct.

Hines: No?

Johnson: No. You bought the software.

Hines: Yes.

Johnson: And we still had the right to sell the same software on the VAX.

Hines: On the VAX as well?

Johnson: You bought the right to sell the product. But to go back to some historical perspective on how a small company buys your product for a huge amount of money, I remember walking into the development shop at Ross at the time that I think the agreement was they would pay us when they got it converted and delivered it. And I remember walking into the development shop as they were just fixing to deliver it and they gave us this great big, huge check that they had gone out and made. But I sat there and counted the number of boxes on the floor and figured out that the income from their initial shipment of their converted product was going to more than pay for the software they bought from us. And I sat there and I went, "Oh, we probably could have got a little more out of this deal."

Hines: Yes. We certainly did well with it.

Johnson: It was a smart way to go about acquiring new software product and a new revenue stream.

Grad: So it was a non–exclusive license?

Hines: Right.

Johnson: Bill actually kept Argonaut going for a long time and I don't know whether it was the same payroll system or whether he rewrote it substantially, or what.

Gustafson: You're describing two agreements. One is the agreement that Joe Hensley was describing as the receivables.

Johnson: The receivables package.

Gustafson: And at that point in time that was a non–exclusive agreement between Ross and Argonaut. So Argonaut could continue to sell that in the VAX environment and the two companies could co–market and Ross could sell it.

Hines: And we bought a product that wasn't finished. The product wasn't totally finished so we took it, finished it, and made it our own. I mean it didn't look anything like it. By the time we got it ready to deliver we sold more copies than we needed to.

Grad: Paul what was the other example?

Gustafson: The other part was the payroll HR where in essence they bought the exclusive rights to the VAX product but it was not an acquisition of Argonaut. It was rights to that product and then all the staff that was associated with the VAX came and joined Ross as employees. But the actual HP version of that product continued to live on as a separate company.

Grad: That's a very good point.

Hines: So that's what happened after the Vohs acquisition.

Gustafson: After the Vohs acquisition and this was in preparation for an IPO.

Hines: Right.

Grad: Did Argonaut to your knowledge buy any other products or merge with any other companies?

Johnson: I don't think so.

Gustafson: There was some activity that I vaguely remember with a company up in Michigan. I don't remember the details of it but what we did in anticipation when Dennis et al bought Ross one of the conversations we had was "Those guys cut their teeth on payroll at MSA way back in the beginning years." We thought there might be some entre coming from Ross and that was the point in time we actually took Argonaut and divided it up into four different companies. Each company represented a separate platform so we would have a nice, neat package that we would be able to market.

Grad: When does this take place Joe?

Hensley: That took place in the late 1980s. It was 1988, 1989 because it was 1988 that Dennis came and bought Ross and I think it was January 1, 1990 that we all became Ross employees.

Gustafson: It was our belief that by dividing the company into parts, and selling the parts of the company separately, they were worth more than selling the company as a whole. So selling the VAX line to Ross and selling the HP line to another company, et cetera. Each one of those was worth more than just trying to sell Argonaut and supporting multiple platforms in the market. You wouldn't find a buyer that would pay as much.

Grad: Who did they sell the other pieces to? Do you remember?

Gustafson: Well I do remember that eventually Ross decided they wanted to go into the HP world so they had to come back and buy another piece of Argonaut to get the HP version of the product. And then it evolved into a kind of educational product. I think it was an educational company in Michigan, but I'm not positive.

Grad: We thank you very much.