Hewlett Packard Software Workshop - Session 3: ISV and VAR Technologies Up to the mid-1980s

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Table of Contents

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Conducted by Software Industry SIG – Oral History Project

Abstract: Representatives from software product companies that developed and sold software for Hewlett Packard computers along with ex-HP employees, historians and journalists discussed the evolution of HP as a hardware/software company in the 1970s and 1980s. They talk about co-operation/competition with HP, licensing, maintenance and other issues relating to the development and marketing of software products over the period. This session focused on the technological aspects of building systems, application enabling and applications products using HP interfaces. The direct relations between HP and the ISVs and VARs as to functions and performance were covered as well as the economic considerations for using these HP systems products. HP's support (or non-support) of the ISV and VAR R&D activities were debated. The session also considered how the software companies insured product quality before release and provided technical assistance to their customers.

Participants:

Name	Affiliation
Burt Grad	Moderator
Rick Bergquist	American Management Systems
Marty Browne	ASK Computers
Steve Cooper	American Management Systems
Jack Damm	Palo Alto Group, Quasar and Cognos
Steve Dennis	Smith, Dennis and Gaylord
Grace Gentry	Gentry Inc.
Martin Gorfinkel	Lark Computing
Chuck House	HP
Mark Klein	Abacus and Urban Software
Doug Mecham	INTEREX
Bruce Ray	Wild Hare Computing

Alfredo Rego	Adager
Phil Sakakihara	HP
Ron Seybold	HP, 3000 Newswire
Stan Sieler	HP, Allegro
Harper Thorpe	HP
Fred White	HP, Adager
Rene Woc	Adager
Doug Jerger	Software Industry SIG
Michael Adamson	Historian
Gerard Alberts	Historian
Glen Bugos	Historian
Michael Mahoney	Historian

Burton Grad: I'd like to start this afternoon session with something totally unrelated. Steve Cooper, you were going to tell us a story about Vladimir and Eugene Volokh.

Vladimir and Eugene Volokh

Steve Cooper: I would be glad to do so the best I can. They're amazing characters, the entire family is. They were “Refuseniks” all born in Russia, in Leningrad. They knew they had something unusual in their first-born, Eugene, when he basically taught himself to read at two and by three he could name every country and capital in the world. So they made sure he didn't enter kindergarten until they were able to move here. They eventually did move here. Let's see. There are so many stories. His father became a computer programmer. Eugene tagged along. Somewhere around the age of eight or nine one Saturday his father was trying to work. Eugene would say, "What's this, dad?" He said, "It's a computer. Leave me alone." "How does it work?" "The manual's over there. Go read it and leave me alone;" and within a few months Eugene was programming the HP 3000.

Shortly after that they formed VE Software, Vladimir and Eugene Software. Vladimir quit his job to do that. I first met Eugene at a user group meeting. It was a birds of a feather session in the evening where HP had the architects, the people writing the operating system, and there were a bunch of us diehards who hadn’t had enough meetings all day long and wanted to spend the evening talking about memory management and dispatcher routines. Here's this 13-year-old kid carrying on a debate saying, "Well, if you had chosen this other algorithm I would expect things to go five or ten percent faster.” It was just amazing. Many of us met Eugene at that point. He got a summer internship at HP where Stan Sieler was his mentor. It was kind of interesting, HP would often bring summer interns in, but this was the first one who needed his

grandmother to drive him back and forth to HP each day because his license was still a few years away. Of course Eugene went on to become the youngest graduate from UCLA, and the youngest graduate from UCLA law school, and then to become the youngest tenured professor at UCLA. He clerked for Sandra Day O'Connor. His birthday like everything else is unusual. Eugene's birthday is February 29th so he turned ten this last leap year.

Grad: VE Software is one of the companies that was on our list. We tried to get someone to come. Grace Gentry worked on that and didn't succeed.

Grace Gentry: Yes. I communicated with Eugene. He had a seminar or something. Does everybody remember his mother serving piroshkies at their booth at the conferences, and the two proud parents and this 12 or 13 year old kid?

Fred White: Eugene's kid brother Sasha was a great person too.

Cooper: Sasha has an IQ that just starts with a one, so he's sort of the idiot of the family, but he also now has a number of advanced degrees and is quite successful as well.

Jack Damm: I left my salesman at the booth at Interex for just a moment and said, "Mike, just remember the things I've told you about spreadsheets. Nobody will ask you in depth questions." In the three minutes that I was gone Eugene showed up and started asking him about how the software was implemented. When I got back Mike was totally frazzled. "This kid came up and asked me all these questions. I didn't know any answers." That was Eugene.

Ron Seybold: So I just wanted to pose a question that maybe either Stan or Steve can answer. If you could characterize why MPEX exists, because as I've met with Vladimir I get the impression that they've always thought this is what MPE should have been, or should have been able to do.

Stan Sieler: I can shed some light on that. Somewhere around 1979 or 1980 Walt McCullough of HP lab actually wrote something like MPEX. Eugene saw it and then implemented the idea outside. He may not remember it. Walt remembers it, and I actually found Walt's MPEX on a tape about ten years ago. So it didn't originate with him. The idea of being able to do wild carded demands was a very common idea and I think HP decided we have other things to work on rather than small enhancements. Let's do major enhancements. I don't think they realized how important the small enhancements can be when you factor it times everybody.

Competition

Grad: We're going to finish up a couple of items from this morning's session, which was primarily business oriented. I then would like to switch, because a number of you have good strong technical backgrounds and so you'll put me to shame, but I've got Bruce Ray here to help me. We will talk about some of the technical issues in building your products, some of the things that worked and the relationships with HP products. Were there major competitive companies that you were dealing with? Did you run into a lot of competition when you were trying to sell your products or was it pretty much you were the only guys in town with that particular function or that particular application? Anybody want to comment? Did any of you have serious competitors you had to deal with?

Sieler: Twice for two products. Once Hewlett Packard became a competitor of ours, which was really annoying because we had briefed them saying we planned to come out with a particular product, and they had nothing like it, and they indicated no plans to do anything like that, so we spent a lot of R&D time. When we let our displeasure be known, and some of the other users let their displeasure be known, they backed off on their public claims for what their product could do and wrote a letter saying that they're not a competitor. In another case we had a very successful product that another third party started competing with, and that was hard for us to handle because we don't do marketing, so it was just word of mouth. Having a competitor was a significant problem for us, particularly since even if our products were better, it didn't matter, because we couldn't market as well.

Grad: In that context name a half a dozen companies that you either competed with or you felt were complementary to what you were doing that are not here. Go ahead.

Cooper: Well, in the software support business there was Beechglen in Cincinnati, Ohio. I believe the one Stan may be referring to is Solutionsoft with similar sorts of tools.

Grad: How about for you Steve?

Steve Dennis: Well, it's kind of complicated because, for example, when we were dealing in the manufacturing arena we were competing heavily with ASK. We didn't have manufacturing software, but we had all of the financials, and order management and project management software. Our financial software was much stronger than theirs, so the competition was: would the company go all ASK or would they split and use their manufacturing software and our financial software? In the healthcare field, the more we got into the vertical side in the healthcare field we had a competitive situation in every single deal, but we didn't have any HP competitors. We had DEC competitors, IBM competitors, we had general competitors.

Grad: That was the point I was trying to get at. Were the competitors using DEC, DG and other hardware or was it other people using HP?

Dennis: Both situations depending upon the circumstances.

Grad: Who had HP competitors? .

Mark Klein: For ORBiT our top competitor was Tymlabs Slantrock. Joerg is the creator of ORBiT. He also wrote the product that Tymlabs was selling, so the competition was of his own making. We also took the Robelle model where we created a paid for product competing with an HP free product that came on the platform and we were very successful, so HP could be considered a competitor as well though they were giving away their product.

License Fees

Grad: How long did HP keep giving away its software? When did they start charging for it? Did HP charge for its operating systems?

Harper Thorpe: The operating system was bundled with the hardware in almost all cases and the maintenance was what was charged for separately. I don't know if that's changed.

Grad: How about the database system?

Cooper: That's actually quite an important story in HP 3000 history, I think. Image was always bundled with the operating system until...

Seybold: No it wasn't.

Cooper: Well, very early on it wasn't, but from late 1970s onward it was bundled. Then HP unbundled it at one point for marketing reasons that we could go into if you want. But there was quite a user uproar over that. At the Boston User's Group, we called it the Boston Tea Party. I personally met with John Young and John Doyle of HP over this very subject.

Grad: What was the issue you were concerned about?

Cooper: We all believed that Image was part and parcel of the 3000. It didn't make sense to be selling a 3000 without Image. As tools and utility people we wanted to be able to write our tools knowing that Image was on every single machine. As soon as a machine was out there, without Image on it, that lowered the value of everybody's 3000.

Grad: Do all of you agree with that comment?

All: Yes.

Grad: That's interesting. So none of you wanted to compete with them on the operating system? You didn't want to produce a better Image?

Cooper: No. What many of us intended to do was take a look at what HP's offerings were and find holes in it and then write products to fill the holes.

Grad: Then why didn't they fill the holes to keep expanding the functions of the operating system?

Cooper: I think to some degree HP's focus was always on the hardware and not so much on the software.

Phil Sakakihara: I think HP has always been focused on hardware. A number of us tried to develop value added on top of the base system, and a lot of it has been successful in the market, but it's never taken off, so the focus has always been on hardware

Grad: Does HP make any money off its software?

Sakakihara: There was one division that I was part of that was making money, but we ran into a tiff with Bill Gates because we shared license rights to it and then Dean Martin who was running it as an operations manager at the time decided to cancel that software group. But we were profitable. We had built that to about a $300 million dollar business. OpenView was profitable a year and a half after release and it was actually a leader in the market two years after that, but HP just didn't have the marketing know-how or the focus on software products and that's why it was dropped.

Unix

Grad: When HP produced its first RISC [Reduced Instruction Set Computing] machine it had a UNIX operating system on that. I think I'm correct.

Sakakihara: Yes. I think when the industry standardized on open source things with LINUX then HP made the switch and leveraged that.

Grad: No. That's much later. I'm talking about the early 1980s; isn't that when you produced the RISC machine? Chuck, do you know?

Chuck House: Yes, the first APPC [Advanced Program to Program Communication] machine was issued under UNIX not under AP.

Grad: Was UNIX sold separately or was it bundled?

House: It had to be bundled.

Sakakihara: It was bundled.

Bruce Ray: We had to pay for it.

House: Well, you probably had to pay for it, but you couldn't buy the machine with any other operating system. They probably charged you more.

Grad: Hold on. Was it bundled with the hardware or it wasn't? That's a yes/no.

Ray: We had to pay for it but I don't know how they charged.

House: You couldn't get the computer without it. It's like buying a car without tires, but you had to pay for it.

Sakakihara: It was the bundled price.

Thorpe: So it might have been a line item on an order, but it was effectively bundled, and that was a reason that we didn't develop more operating systems

Grad: If it's bundled then no one else can compete with it. If it's not bundled, someone can put a UNIX system running on it to compete with you. You block off a certain part of the market by bundling.

House: It was bundled.

Grad: Thank you, and you could get away with it, but IBM couldn't. I understand that.

Seybold: It may have been bundled, but I believe it was only a one user license.

Grad: So if you went to a second user you have to pay extra?

All: Yes.

Seybold: There's a whole other tier that goes beyond one and so on.

Strategic Partnerships

Grad: Interesting point. Go ahead, Harper.

Thorpe: A couple things. Of the ISVs that are represented here, who is not here are the companies like Oracle, Sybase, Informix and so forth, and as HP began to embrace strategic partnerships with those kinds of strategic ISVs including Microsoft I think that there was going to be a lot of pressure coming back from those kinds of companies not to get into the space that they were pursuing or that they may have dominated.

Grad: We had an RDBMS pioneer meeting last year, in which we had fairly high level representatives including the founders of a number of those companies. Larry Ellison didn't make it because he was out on his boat, but they said that almost all of them started building their products on DEC equipment and I don't think any one of them mentioned starting with HP to my knowledge, neither Informix, nor Ingres, nor Sybase nor Oracle. To my knowledge none of them started there.

Seybold: I just want to share a story. I talked to one of the vice presidents in Oracle in 1985 and he said to me, because they hadn't come out with an HP 3000 version of that database yet, "Let me get this straight. Every HP 3000 ships with a database, right?" I said, "Yes, that's correct." He said, "Why in the world would I want to build a product to move into that market?" Nevertheless they did do so within a few years, but it seems as if Oracle never had any expectations that that database was ever going to be a significant factor in their product line or take serious market share from the 3000, and it was like a self-fulfilling prophecy.

House: I don't know who you had from Informix, but I think Informix always viewed HP as a major, if not the major player, but that was the 9000 line not the 3000.

Grad: Not the 3000. That's exactly right. We have quite a bit of information from them as to what platforms and why they chose them. I didn't push very hard to get them here because we have that story on tape.

House: The other group you don't have is the Cadence, Valid, Mentor, Calma, all the engineering software people, which was twice as big as this whole community for HP.

Grad: We tried to get them. That's a very good point you're making because those were big companies, weren't they?

House: Yes.

Sieler: Were they on the 3000?

Damm: Quick technical question. Did anybody write using C on the HP 3000 instead of SPL for the stuff they implemented?

Ray: Tymlabs did. We used Pascal because C was not available when we were doing our ports. We would have used C had it been available.

Gentry: We also used Pascal.

Damm: I think that one thing that prevented "outside" companies from bringing their products over to the HP to especially the MPE box was a language issue. Everybody was writing stuff in SPL instead. As far as I know PowerHouse on the HP MPE based machines never got away from SPL.

White: I never got away from SPL.

HP as a Software Company?

Cooper: I always thought an interesting question is what would have happened if in the late 1970s or the 1980s HP decided they were not just a hardware company, but a software company too and then put Image, for instance, on the IBM 4300, on PDP 11s?

Grad: Not one of the manufacturers of the major systems was interested in moving their primary software to run on any other company's hardware. They didn't want to help the customers migrate away from their hardware. At IBM we had CICS running as the transaction processing system on every major IBM product. It was my product as a director of software for certain industries. I said, "I'll put CICS on these other competitor's machines to build the software business." They damn near shot me. "Why would you dare do that?" IBM eventually did it, but it was 25 years later before they saw that opportunity. Each company was protecting its hardware base as best I can tell, and didn't see at that time that software was a major revenue source in itself, not just a means of selling hardware. Jack?

Damm: The decision that I made to sell my company to Quasar Systems was based on the fact that I didn't believe that Hewlett Packard was going to be truly committed to the software business, and therefore I would do better going with a real software company with my software. Personally, it was a difficult decision because I'm an HP guy. I mean, I worked there. I met my wife there. But then I went and sold my company to a bunch of people from Canada.

Grad: The Canadian dollar was cheaper then too.

Damm: Sixty-nine cents, actually.

Doug Mecham: I think it's very interesting that over the long period that I've been involved that HP's expertise really was engineering and hardware. While we did buy some software, every time HP came out with some software it wasn't as good as what you people were making. In fact I can remember now some software they retracted. They were not a software company, except for Image.

Grad: Let's ask a question. You've all mentioned working with Image and using it; how good was it?

Sieler: For what it did it was excellent.

Mecham: Excellent

Grad: Then HP did produce some good software?

Sieler: Yes.

Mecham: Image was a hierarchical database and people did all kinds of relational things with it, I know I did. It worked very well. It was clean. Alfredo [Rego] solved 99 percent of the issues and problems with it, so why not use it? It was simple, easy and there was a lot of software built around it.

Grad: HP produced that quality software themselves, right?

Mecham: Yes, well that was systems level software not an application in that sense. HP was not an application software company.

Grad: Not one of the manufacturers, to my knowledge, was an effective application software company. We've looked at mainframes. We've looked at PCs. None of the manufacturers became significant in application software. I tried to do it at IBM. I fell on my face. I blamed it on other people, obviously. We had hundreds of programs out there. I could not make any money except out of CICS which was not an application.

Cooper: I think you touched on maybe the reason why earlier. We didn't sit in a vacuum and try to design a product. We had a customer with a real need. We solved the problem and then said, "Hey, maybe we can sell this somewhere else."

Dennis: Another aspect of it too is that in spite of the fact that HP didn't develop much application software they did try to put some of our software on their pricelist. We thought when HP selected our system to put on their pricelist for order management I was ready to go to the bank but they hardly sold any of it. I think they even had Manman was on the pricelist at some point, but I don't think HP sold very many of those.

Market Channels

Grad: That raises a subject that I missed. Let's discuss channels; how did you sell? Did any of you use distributors?

Gentry: Yes, we used distributors.

Grad: To do what?

Gentry: You mean distributors that just sold software?

Grad: Yes, distributors who took your software and resold it.

Gentry: No, we didn't.

Grad: How about in Europe? Any place outside the United States?

Gentry: No.

Grad: Did any of you sell outside the United States besides those who sold in South America?

Alfredo Rego: We sold in Europe too.

Grad: How did you sell in Europe? Who did you sell through?

Rego: We sold directly and we still do sell directly; and then we also had distributors, so we used both; they were nonexclusive distributors.

Grad: Not exclusive. They would peddle a lot of products besides yours?

Rego: Yes, and many people would sell in the same area.

Grad: So you didn't give them geographic exclusivity?

Rego: No, no. It was all flexible.

Dennis: We did the same thing. We had, I think, three distributors, one in the Middle East, one in mainland Europe and one in England.

Grad: Odds and ends?

Dennis: No, we had a few very big clients, big dollars from a small number of installations.

Grad: Anybody else? Go ahead, Jack, did you use distributors?

Damm: Well, putting my Quasar hat on for a moment, and at Cognos, absolutely. Quasar and Cognos had distributors all over the world and did a fairly substantial business.

Grad: Did anybody have distributors in the United States?

Damm: Quasar.

Ray: Again, not necessarily in the HP world, but primarily in the DG world we had distributors who usually started out as customers of ours. Very sophisticated customers who were expanding their own businesses and they used our product which was a systems tool so it was not competing with any application. They actually grew into a distributorship.

Grad: Did they sell your product independently or only imbedded with and only related to their own?

Ray: Independently.

Grad: They did sell it independently. Who else had done that?

Klein: ORBiT started in Berlin and moved west toward this country, so Europe was their main marketplace to begin with. One of the things that they initially tried to do was work with distributors until they found out that distributors were raping them. Number two, a distributor outside of countries say like France, had a very difficult time selling into the French marketplace. You needed French people selling into the French market place. ORBiT ended up opening small offices in all the various countries where they actually wanted to sell. They had a one or two person operation throughout Europe before moving to the United States and got rid of all the distributors at that point.

Grad: Martin, did you do that?

Martin Gorfinkel: Yes. We had word processing which was not widely used through Europe, but we had a number of European customers who found us, I guess, at user groups or through other customers and we sold direct.

Grad: My understanding is that, in general, distributors of products in the United States, unless they were VARs [Value Added Resellers], weren't a very successful channel here for software. But in Europe and Asia, that was the only way to go. I was just wondering in this market place was that different from mainframes and PCs? Doug?

Mecham: Interestingly enough, I'll speak from the consulting point of view. I got Cognos into a number of companies because I wanted the work. I didn't get a commission or anything, but I moved that product in because I wanted the work just like everybody here did too.

Grad: You weren't a distributor. You were simply recommending.

Mecham: I wasn't a distributor, but I sold the customers on the software, got it in there and then I became a consultant to go solve their application problems. I think this happened probably a lot with independent contractors and consultants.

Grad: Let's ask again about HP. Did it then resell any of this software or did it simply have a list of what they were? Can anybody answer that question?

Thorpe: I can help you a little bit with that. First of all the attempt to put ISV [Independent Software Vendor] software on our pricelist had more to do with offering a customer a one-stop-shop than it was strategically positioned as a product that we were going to align our sales force with. So it was a very opportunistic play and generally speaking didn't work. My view is that moving application software through distributors is not too dissimilar from that. First of all the kind of software that most of these people built was what I would call a living, breathing organism. It's not the refrigerator; so having another sales force and support organization represent your application who might not be dedicated to reselling and supporting your software generally means that you can't be very successful. You certainly can't get any volume out of it.

Development Tools

Grad: Okay, good point. I'm now switching and for the next 30 minutes or so I have a series of questions about the technical issues and I need a lot of help with this from all of you. First of all, you said before that you put yourselves into an HP platform, an HP environment, database, operating systems and languages. Is that pretty much correct around the board

here? Anybody who didn't do that? Did any of you build portable products and port them over rather than build under the HP environment?

Ray: Yes

Grad: Bruce, you of course are an exception, because you came from the other direction, but none of the rest of you went that way, I believe. Did any of you build products for the RISC machines under UNIX? You did? You didn't use portable tools? You used HP stuff?

Ray: That was later.

Sieler: I used portable tools.

Grad: So SPL was no longer your language.

Sieler: Not SPL, no. I got to the point where I ended up porting the Free Software Foundation's new compiler, GCC Suite, to the HP 3000 so I could use that as my language and my platform upon which we wrote all our software.

Grad: Did you swing that back and use that for the HP 3000 or not?

Sieler: I ported it to the 3000 and used it under 3000, but the product that we were doing at this point in time never made it back to the 3000.

Grad: I see, so it didn't cross over.

Sieler: You mentioned SPL. We ported SPL or SPLash to the 9000 so we could use it there. We also used HP's Pascal, HP's C and GCC on the RISC 9000.

Rick Bergquist: The reason why we did that is back then hardware was much more precious and so you would actually spend a lot more time optimizing and you'd pick the native tools to get the highest level of performance out of it. So it was, I think, a matter of if you want to optimize the hardware, you use the native tools. So if you're on the IBM 360 you use Assembler; if you are on the 3000 you use SPL.

Grad: The bulk of the applications on the 360 and 370 were written in COBOL. They were not written in Assembler.

Bergquist: Yes, we would do COBOL, but then we'd drop down to Assembler to get the high performance stuff. You do the optimization layer in the native tool set. If you were writing things

near the hardware and the operating system you would do it in SPL which was non-portable; Assembler is non-portable and so that was a sign of the times. It was later when you had hardware that was cheaper you could afford the inefficiency with going with the common language.

Grad: We're moving from the 1970s to the 1980s now to the later time periods. I know that a lot of these companies that we talked to at the DEC/DG meeting built their things in such a way as to be portable. That was their objective to move to every platform and not be locked into and get trapped by DEC or get trapped by DG [Data General]. They wanted the opportunity to go where they wanted to go. You apparently didn't feel that way.

Dennis: We did. We went exactly that route, but we started with a blank sheet of paper and completely rewrote the application from the bottom up.

Grad: What did you use?

Software Portability

Dennis: We used C, C++ or whatever, and we used the Sybase database management system, and we set up a skunk works operation and said, "We don't want to be any influence from what we've done before or even to think about a port. We want to optimize on total portability." That was later, though.

Grad: Again, did any of you end up using the relational database systems?

Bergquist: That was probably in the 1980s when you could afford to do that. It was timing and transition.

Dennis: It was actually early 1990s, late 1980s.

Grad: This technology discussion is over that period of time. In the 1970s apparently almost all of you worked with HP only. As you go into the 1980s, by the mid-1980s you start to a least consider some other alternatives. Jack?

Damm: Quasar developed the SPL to C translator in order to move to the VAX, to the Data General machine and I don't know where else they went because I was not involved in that, but that was absolutely in an attempt to be portable.

Grad: With the UNIX introduction coming in the 1980s, 1990s you have this not quite but fairly common platform and the use of C and C++ as standard languages, right?

All: Yes.

Cooper: My recollection is in the 1970s was that you were vendor locked. In the 1980s there was this promise of portability if you worked on it, but the result typically meant your software worked equally poorly on several platforms, and true portability arguably didn't come until the 1990s or maybe we're still waiting for it.

Grad: Did HP give you any special application development tools that you could use?

Sieler: A management system, an operating system, the languages, FORTRAN, COBOL, SPL, were used on all of the HP platforms

Grad: I'm thinking about the 4GLs [Fourth Generation Languages] that were used to write applications, that kind of thing. You never went that route?

Damm: There was Transact for a while and we did one major application in Transact, but again, it was very platform specific.

Bergquist: Was it OpenView or something like that? It worked on their terminals and so forth. They had some tools, but they were never robust. They were written by people who didn't know the business.

Sieler: This isn't 4GL, but perhaps actually a better answer to your question is, mid to late 1980s HP on the 3000 said, "Gee there are a lot of vendors who need access to system information at a low level and they're all doing it in an ad hoc potentially dangerous manner." They actually sat down and developed an API [Application Programming Interface] to let the vendors get information. That's the only instance I can think of where they said, "Oh, wow! We have vendors. Let's make their job easier." Nothing else that they did fell into that category, but that was an amazing thing they did.

Customer Development Tools

Grad: You're talking about it in terms of what developers use, but I was thinking about it in terms of what customers use. What were the tools that HP provided to customers to make it easier for them to write their own applications?

Damm: I think Fred already nailed it.

Mecham: Let me speak for Dave Dahmer who did Data Express and SPL, and then subsequently converted it to C. He did the manual conversion and it was not necessarily helped

by HP. In fact he ended up writing a number of subroutines to satisfy the needs for Data Express. He has done some things in Transact also.

Damm: You asked about 4GLs. The product that Cognos sold, PowerHouse, was a 4GL. We did enable our customers to be platform independent. Many of them liked staying with the HP boxes, but there were plenty of customers who moved to VAX and went to other platforms because the bulk of the applications were written in PowerHouse.

Grad: That's a very good example. Were there many competitors to PowerHouse?

Damm: Well, Transact was a competitor, but again, since it came from HP, it wasn't much of a threat.

Seybold: Speedware, Protos, all were like 4GL's for a while. HP was in the 4GL business, but it never took off. These were the kinds of things customers could use allegedly.

Grad: Did you get any of the Ramis, Nomad, Focus, or any of those products to run on HP?

Seybold: Focus.

Grad: So Gerry Cohen did implement it.

Damm: Some of those guys were direct competitors of my spreadsheet; Foresight Systems Application was. The problem with the people who came to the HP world from the mainframe world was they were coming from boxes that cost a million dollars plus. People had this thought that software ought to be proportionate to hardware. Simple fact is as a developer it's more expensive to develop for little boxes than it is for big ones. So when they came into the HP world all of sudden they're trying to sell into a market where people's budgets are way smaller. I don't know that we ever lost much business to those people.

Grad: What was the typical price of your products?

License Fees

Dennis: Our average healthcare product software and services was about $500,000 plus the hardware. Our commercial software, the financials and project software and order management, was module priced. The typical modules were $25,000 to $35,000 each.

Grad: That's pretty good prices.

Dennis: Yes. Well, we had high level clients.

Grad: Martin, prices for some of your stuff?

Gorfinkel: Well, the word processing sold for $6,000 and that lasted from when we introduced it until HP bought it from us.

Grad: Alfredo?

Rego: Seventy-five hundred dollars for Adager.

Sieler: It varied between $1,000 and $10,000 depending on the product.

Damm: We rented Dollar Full for $5,000 a year. You could only rent it. You couldn't buy it. I don't remember what people paid for PowerHouse.

All: A lot.

Seybold: It cost enough for people to have a constant complaint about what it cost.

Klein: Based on tier and based on the features of the product it cost from about $3,000 to $50,000.

Cooper: Environment 3000 I believe was $35,000. Does that sound right?

Gentry: Twelve thousand dollars for our product and then of course there was the annual maintenance fee.

Grad: Bruce, what kind of price?

Ray: Sold for $4,000 to $10,000.

Maintenance Pricing

Grad: Let's talk about maintenance prices just for a second. Did you all have maintenance fees? Those of you who were on a lease basis didn't do that, right?

Damm: That's correct. It was just re-up the lease.

Grad: How about the rest of you; what were you doing, 10 percent, 20 percent?

Dennis: I think it was 12 percent. I was looking back in there because I knew you would ask the question. I think it was 12 percent annually, like 1 percent a month kind of thing.

Grad: Mark, maintenance?

Gorfinkel: Ten percent.

Grad: Did you ever goose it up any? Alfredo?

Rego: One thousand a year, $1,000 maintenance. The basic license was $6,500, so one year maintenance was included in the $7,500 price.

Grad: It was built into it. So one sixth, so it's about 16 percent.

Rego: Yes.

Grad: Stan?

Sieler: What's maintenance?

Grad: What's maintenance, nothing ever went wrong with your products? You never needed to fix or enhance them?

Sieler: Ask that of Steve because I don't remember.

Grad: Steve?

Cooper: We originally were at ten percent and then we upped it to 15 percent.

Grad: You were really brave souls.

Klein: I think we stayed at ten percent.

Grad: Did you not license anything on a front end and maintenance? You did everything on lease?

Damm: The only one that I recollect was DuPont refused to rent our software from us so we did sell it to them and then we did charge them an annual fee. Instead of paying $5,000 a year we charged them $25,000 dollars a copy to buy the product.

Gentry: Then $5,000 for maintenance.

Damm: It was pretty close to that, actually.

Grad: Grace, what was your maintenance?

Gentry: It was ten percent, $1,200 a year.

Grad: What a bunch of cheapskates.

Gentry: I remember having read around then that after, I think, three years of selling your product, the maintenance fee should pay for all of the technical support, enhancements, etcetera. Unfortunately we were so proud of our ability to do these incredible enhancements the maintenance fee just didn't touch it.

Grad: Bruce?

Ray: Ten percent.

Grad: Interestingly enough in the mainframe software world as a model our maintenance revenue for four or five years basically equaled our initial purchase price. The typical numbers started around 15 percent. We were up to 20 percent pretty consistently of what was the then current license fee. Of course every year the current license fees went up 5 to 10 percent, so essentially we would get that extra on the maintenance. Most of the mainframe software companies have argued that they made no money on the initial sale. They had a very expensive initial sale for these large mainframe packages. They felt that was a breakeven at best. They made their entire money on the maintenance. We felt our maintenance costs ran about ten percent of what we were charging so we made a hell of a lot of money on maintenance.

Gentry: I think that's the article I read. It never quite worked that way for us.

Grad: I think there may be a different model here, again, in the area. Yes, Chuck?

House: I'll give you an Informix number. We were at 12 percent at Informix and then we got an IBM guy in to run it and we promptly popped it to 18 percent.

Relationship Between Maintenance Fees and Renewal Rate

Grad: Did you lose any customers?

House: We had more people renew than we ever had before.

Grad: We found there was absolutely no relationship between the maintenance fee and the renewal rate, although everyone threatened to do so; they said, "Oh, you're going to go to 20 percent?" We said, "Fine, but what is your alternative?" Did you have loss rates of any significance, any of you?

Gentry: No.

Grad: Did you lose customers, 3 to 5 percent loss? I was in the business of doing customer service measurement and so forth. If anybody lost more than 3 to 5 percent of their customers in a year, and most of those would be because of mergers and acquisitions, going out of business, that kind of thing, not because the customers went to an alternate product. We had the ultimate view that once they buy it they don't ever let go of it.

Damm: Well, they're quite locked in when they buy your package.

Grad: Yes, and the more you depend upon it and use it the more locked in.

Thorpe: I was just going to comment, and I'm not sure if this would be a universal perspective representing HP, but HP 3000 to a great extent was a middle market kind of offering. It was certainly sold to the Fortune 1000s, but a lot of us had success in the middle market. I would say that if 1980 is about the timeframe you're looking at it was still about a $250,000 system on average. The software sold by third parties I would say ranged from $50,000 to maybe $250,000, but very typically the entire initial outlay for a customer was less than $500,000 as compared to what our competitors were selling. I'm not sure how many times we replaced or displaced a computer system with software that was previously sold by a competitor. Very often we were the first system into a young company.

Grad: That's interesting because that's one of the things you mentioned earlier that I'll come back to. You were going in often as the first computer that they had. You weren't displacing existing systems in many cases. They were a first time buyer. Now the big companies like with Hughes it was a different ballgame entirely, of course, but even there I would guess that some of the places you put them in was the first time they had computerized.

Mecham: Well, yes and no. Like in my area we used the 2116 in the instrumentation area, so we needed general computing power for the engineers. We were the first 3000 in Hughes.

Then the Hughes business section that had been using IBM computers began to pick up the 3000 as the business software became available for manufacturing and other things, because it was a more cost effective solution.

Grad: Mike, you had a question you wanted to ask?

Definition of "Software Maintenance"

Mike Mahoney: Yes. This is, I think, for the record, but I want to rephrase Stan's question when he asked, "What's maintenance?" He meant it as a joke, and yet everyone around the room seems to understand the same thing about maintenance. I'm not sure what maintenance of software means. I can understand what maintenance of hardware means. When you say maintenance do you mean repairing bugs? What do you mean? What did you understand as maintenance of your software on a yearly basis? What were you doing?

Sieler: The environment changes. Let me use a recent example. I sell stuff that runs on laptops and I had to change my code to get it to work under Window's Vista. It used to work just fine on Windows XP.

Mahoney: So what you mean by maintenance is you're helping a customer who may change his hardware platform?

Sieler: I get customers out there all the time who buy new stuff and just expect it'll continue to work and it won't necessarily, like Palm software which just stopped being backward compatible.

Grad: Let's back off. Customer support is the term that most of us like to us rather than maintenance in the software world. We have absorbed the term maintenance from the hardware world and it's a lousy term, Michael. Customer support includes fixing bugs, what else?

Gentry: Unlimited help line and extensions. We were forever improving the product and if you paid your maintenance fee you got all those improvements that any new purchaser would get with their new version that they purchased. So it kept you up to date.

Grad: The other term is currency. As the operating systems and other things like databases change you had to make your product so it would still continue to work with those products.

Gorfinkel: The issue of upward compatibility doesn't exist on the 3000. There are people still using programs that were written 20 years or more ago, 25 year ago.

Grad: The operating system hasn't changed?

Gorfinkel: The operating system has changed but HP, which seems to me to be a no brainer but also seems to be unique among computer manufacturers, HP's got this crazy idea that if something worked on version one of the operating system it also has to work on version two, three, four on up.

Grad: What a terrible idea!

Gorfinkel: Backward compatibility.

Grad: How do you get them to upgrade if you make it easy for them to use the old software?

Gorfinkel: In my terms, maintenance and support means we answer questions relating to use of the product and support of the product and mail out updates. We then got to mailing out updates only on request. Originally we mailed updates once a year and found out that most people didn't install them.

Grad: Just a piece of statistics. I produced a customer support newsletter for a few years. About 80 to 90 percent of all phone calls or information requests our subscribers got were for problems that were caused by the customer not having opened the manuals to read them. Less than 10 percent of them were really to deal with a bug in the sense that the product didn't do what the book said it should do, what the specs said it should do.

Damm: The first group is called RTFM calls. Read the [bleep] manual.

Grad: I remember this wonderful cartoon with a customer support guy on the phone: "I think I hear him opening the manual." But the point is bluntly, except for enhancements, the cost was not very great to provide customer support. Do you agree with me?

Cost of Providing Maintenance and Support

Klein: You've got to mitigate that statement by who the vendor is, because the tools vendors who are coupled very closely to the operating system are very dependent on an operating system change that the users might not see. When the kernel changed we had to adapt to whatever happened in the kernel such that our application would continue to run and the customer would never see the difference.

Grad: That's a good point.

Rego: Especially if you were in privilege mode. Let me repeat that. Especially if you were in privilege mode, down at the very low level of the operating system.

Klein: That is where we were.

Rego: By the way, there are two different perspectives, I guess, in this room. You have the application vendors and then you have the tools vendors. The tools vendors depend on the application vendors to sell the 3000s and they depend on us to keep the 3000s running properly. To answer your question, you are right about the paradox. All of us, even though we may complain and bitch and blah, blah, blah, we really deeply love the 3000 and all of us helped make this machine a great success. HP helped us. We helped HP. There is some high HP management here, so maybe I should not say this, but thanks to Interex and all the meetings, we, the system guys, got to know the low level stuff from systems engineers from HP, sometimes late at night.

Co-operation Between HP and Vendors

Mecham: Well, we actually met with them quarterly. Remember quarterly we'd go over the different design aspects and solve problems, and answer questions that they'd ask and I know Ross Scroggs led that for a couple of years.

Rego: Yes, and we sometimes knew more than the HP guys, and sometimes they knew more than we did, but we both really improved each other's approach to solving the problems, and that's very important. I don't think that happened in any other user group.

Mecham: There's one great anecdote. The 3000 when it first came out had a hardware terminal as a console. In order to get an I/O mount for a tape, out would come this number. Then HP decided, "Let's put a CRT there," and they did. The number would go off the screen and you didn't know what it was because nobody tested it. I remember talking to Jean Michel Chabert. "We need to solve this problem." Within a very short length of time they came up with the recall so you could see what numbers were staying there. It's one of those idiosyncrasies, but because of the communication we solved the problem very fast and a lot of users were very grateful because when it went off the screen it was gone. It was most interesting, and like you say it was a collaborative effort.

Grad: The synergy here seems to be fairly good. Whether consciously or unconsciously HP wasn't competing and depended upon the HP software vendors to do the extensions. They seemed to be very cooperative with them, and part of the Interex mechanism seemed to work here. It's very different.

Klein: We may be fierce competitors out on the street, but we would support one another if there was a problem.

All: Absolutely.

Grad: Bruce, is this similar to the DEC and DG relationships with their vendors or were they different?

Ray: In all the minicomputer areas we've seen the self-preservation aspects kick in with the user's group and to a greater or lesser extent the informal approach by the vendor is cooperation, but it can get antagonistic from the formal aspects like the vendor user group antagonism. Users want one thing. The vendor says, "No, we don't want to put that in the operating system, or we don't want to do whatever the user's group as a collective agrees that it wants." But at the same time in various meetings the DG or the DEC people would have drinks together and get things done. That's how they survived.

Grad: One of the characteristics that impresses me from hearing you here and from the DEC DG meeting and what I know, the mini computer world was a synergistic world between the manufacturers and the system software and application vendors. That was not the case in the mainframe world.

Gorfinkel: Not true. Not universally true. In the Burroughs mainframe world things were very, very much like they are in the HP world.

Compared with the Mainframe World

Grad: You have reflected my bias. Seventy percent of the mainframe world was a three letter company.

Gorfinkel: That was a four letter word where I came from.

Grad: But 70 percent of the business was there and who survived besides HP?

House: I continue to be struck that we uncover more things that are different in places. I think, Michael, your question about what's maintenance, we haven't talked much about standard software. But I ran Informix Technology for several years in the early 1990s, and our claim to fame was that we ran on every UNIX platform out there. Let me size that for you. We built our product to run on four specific machines, and the idea was that the code base would be the same on those four. We wrote changes daily and we checked all four nightly. We had 18 dialects to run on the major platforms out there. We supported over a hundred dialects beyond those 18. As manufacturers would change the OS and flip things around we had a major

problem just keeping track of our dialects on stuff, and the best story was when a plane was shot down in the Mediterranean the Navy called us and said, "We've had a problem with your software." We said, "So why don't you send us a copy of your source trees so that we can just make sure we're checking against what it is you've got." The answer, of course, was we didn't have any idea of what we had shipped them.

But I don't think you can appreciate this unless you've gotten into an environment like that. Let me talk about the comment about forward and backward compatibility of an HP 3000. I ran an HP software division before I left HP and we ported to four other machines, and at least they were stable machines except for Sun. It worked out. It was a tolerable problem, but a lot of these worlds are very different from what I'm hearing described here. I think the loyalty in part was built because this was relatively possible. Is that fair? Some of these environments were very, very hard to call stable.

Fred White: The fact that Burroughs and HP were quite similar is not an accident. A lot of the people that were in the original HP 3000 lab were from Burroughs and had experience on the Burroughs 5500 and all those machines, the Burroughs 5000 series. The stack architecture which is on the HP 3000, was in the Burroughs. At least one or two of the guys in the lab were originally Burroughs employees.

Grad: Phil had mentioned before about that Burroughs connection. Let's move ahead and talk about your development procedures and your quality assurance procedures. Again, you had relatively small shops, did you do anything formal in the way of either development methodology or quality assurance, any of you?

Development Methodologies

Klein: ORBiT did. We had a test suite that was almost the same size code base as the Phonic. It got to the point where in the end it took seven days on top of the line hardware to run the thing start to finish, so we couldn't check it overnight every single day. Although we would run a small portion of the suite against that day's code fixes to see if we had a successful regression or not. Once we got ready to do a release then we would run the entire suite. We would do that twice. We'd run it once to make sure things worked. We would freeze the source control tree, check everything out and then run it again just to make sure that we didn't screw something up in that process and then release. It took a fair amount of hardware to do that.

Grad: Did you have a formal development process also?

Klein: Yes we did.

Grad: Sort of a waterfall kind of thing?

Klein: It was stuff that I had learned in various projects. We haven't really talked about this. I'm more a consultant than an employee of these companies and I've done quite a bit of consulting with HP labs as well as other companies, and I picked up the processes that they were using. I'd pick from that what I thought were the best of these processes in our environment. So I can't say it's anything like extreme programming or some of the newer technologies, but I picked up what I thought worked well and managed to make it work well within our area.

Grad: So there was a formal process.

Klein: It was formal, but it wasn't a published process by somebody else.

Sieler: We were pretty informal, but Robelle is extremely thorough in their testing suite. They have a large test suite. I think they run it every night. I think they rebuild their product every night as well, so those were different ends of the spectrum.

Dennis: We were very, very strict about development process and in fact we actually published a product based upon our development process, because we allowed our clients to customize our own software, and we even supported it as long as they stayed with our development technology.

Grad: Did you give the customers source code?

Dennis: We gave them source code, and what was really interesting about that is the way that started. I called our whole development team together. This was in the early days. I said, "I want to implement a no bug policy in the company." They said, "That's impossible." I said, "Well, tell me if it were possible, how would you do it?" They said, "Well, you'd have to give the clients source code and if they ever found a bug we'd fix it by dialing in and correcting it and recompiling it on their system." I said, "Well, why don't we do that?" They said, "Because nobody does that. Nobody gives up source code." So I said, "Well, we'll just have to be the first company that does." So we implemented that and it was rigid. In fact every bug that came into our support services was fixed in real time and then put into the next release of the software. If it was a critical bug, especially in our healthcare, it went out to all clients that night.

Grad: Did you ever get burned because you gave out source code?

Dennis: Never.

Sakakihara: This was under an NDA [Non-Disclosure Agreement]?

Dennis: Yes. Well it was in our license agreement and we had all these Fortune 1000 clients. Who was going to rip off our software and who could implement it anyway?

Grad: Who else gave away source code to their clients?

Dennis: I know we were unique. But it worked.

Grad: It worked for you.

Dennis: It worked, and I'll tell you in healthcare it really helped us because we had the highest quality reputation because of that.

Grad: You had a very formal quality assurance program.

Dennis: That was the other thing that was interesting. I had quality control report directly to me as the CEO. I split the quality control from our technical staff and we hired in users to do QA, not technical people. It was really amazing because they would do quality control and they'd go to the technical staff and the technical staff would say, "Well, who would ever use it that way?" Funny, end users would use it that way because they would go into it logically rather than the way the software manual was written or the technical specs were written or the programmers would think.

Grad: My wife [Carol Anne Ances] used to do this kind of testing. She was a knowledgeable programmer, but she would look at the manuals and everything they said not to do she would do, and people loved it because she broke the codes. Anything she was given she could find a way to break.

Rick, what did you do? You were doing a lot of custom programming. Did you have a formal development methodology installed for any of this?

Bergquist: Yes. We had a development methodology and so forth. Although they were all custom systems so we didn't build up a regression suite or anything else.

Grad: If the systems were going to be improved, enhanced and changed didn't you have to build a test base as well?

Bergquist: Yes, we did.

Grad: Were there areas of serious technical conflict between you and HP, areas in which you felt they weren't responsive or you couldn't get the kind of cooperation we talked about here; were there areas in which they just didn't listen to what you said?

User Groups

Cooper: What bothers me is we're talking about HP in the singular, because HP often seemed to us like a multi-armed monster where one arm didn't know what the other arm was doing. If you didn't like HP, well wait a year they'd reorganize and it would be a different company you're presented with. So you almost have to talk about which HP and which year, but certainly I'm thinking now as chairman of SIGIMAGE, the Special Interest Group for Image; there were times when the user community was asking for features like critical item update and a few others that to HP's credit ultimately did come out, but it was often a painful process depending where the pendulum happened to be at the moment for convincing them, the advocacy element of the user's group.

Grad: Where there was direct interaction, was there an ombudsman inside of HP or did you have to work with each different group individually?

Cooper: There definitely was. Orley Larsen, who was somebody on your list to invite, I guess couldn't be here; he was definitely an all-around liaison for many years. But as chairman of SIGIMAGE I had a direct link to Jim Sartain the head of the Image lab, and we would see each other regularly, and there was a very close relationship.

Sieler: For me the further you got from the operating system lab the less cooperative people were. We had very good relationships with Tsai in the operating system lab, but if you moved over to networking even the operating system people had troubles with the networking group. They were just weird. It took years to get some things implemented in networking. If you moved further afield to the compiler group, forget about it. They were not interested in helping the users. There's always been a problem for a lot of us with the compiler group.

Grad: This has turned out to be essentially an HP 3000 meeting. Was there a lot of support for the other machines, for instruments and things like this?

Sieler: Oh, I have one quick comment on that. The HP Lex group, forget about it. You're not going to get any help from them on anything as far as I can tell.

Grad: How about the 9000 series?

Sieler: That is the 9000.

Grad: So that did not work well in terms of relationship.

Sieler: No.

House: Let me just check on that. You mean the 9000 out of Fort Collins. You don't mean the HP PPA stuff.

Sieler: I mean HP PPA-RISC and Itanium. But there are a few good people.

Mecham: That's today's HP.

Sieler: Yes. They will help you solve problems, but they will not listen to enhancement requests. They will not consider reengineering things.

Mini Computers

Grad: Doug, hold just one second. I wanted to make the point here that this changes over time. What we defined as a mini in the 1970s and 1980s was a fairly clear thing in terms of price, performance, functionality, external capability, application software. As you get into the mid-1980s and later and into the 1990s these machines are much more powerful than the old mainframes were and they start to have so much more functionality and capability. We really are now focusing more on that period rather than the 1970s and 1980s. Stan, you were commenting that the size of some of the 3000's was just enormous.

Sieler: Yes. Even in the early 1980s there were 3000s with hundreds of users on them. They were the big ones and they were unusual and in some cases they had to have help getting that many users on, but even now we know of one customer with 2,000 simultaneous users logged on. There are darn few computers that can support that.

Cooper: Do they have keyboards?

Sieler: I believe they have keyboard, yes. They're willing to sell you stuff too because it's a mail order company.

Grad: We also had a comment earlier when we talked about first machines. You said Weyerhaeuser was a different experience?

Cooper: Yes. We were talking about how in many cases this was the first computer in the shop. Well, Weyerhaeuser had computer rooms much bigger than this filled with WACOS and GCOS [General Comprehensive Operating System] mainframes. But I remember meeting with

people from the division that had to develop this system; we needed to present in front of the board and to what would today be called the CIO. I remember these old folks, who look a lot like us now, listening to our whole presentation of how we were going to build this system. Then sort of the head guy shook his head and said, "No. We don't want to do that." We were stunned and wanted to know why, and he asked, "Well, have you considered the ramifications of putting the system in?" We asked what he meant and he said, "Well, if we do this, pretty soon everybody is going to want an interactive system." Everything they had was batch oriented. Nobody had a terminal and it was kind of like building the Great Wall of China there. He was terrified with the idea of having an interactive system brought in house.

Grad: Well the important thing is that what happened with the minis, as someone has mentioned already, is that they moved down the market. They moved down to a whole new class of customers, or in the big companies you were able to do things department by department, or by department instead of in the glass house. You got around the glass house in a lot of areas. IBM was, of course, terribly conflicted in that kind of thing as you can guess. The General System Division loved to go into these individual locations and the Data Processing Division said, "Stay the hell out of my customers. You're taking business away." At IBM the System/38 and then the AS/400 were their break through machines; suddenly they were able to sell 400,000 of the AS/400's. How many 3000s were sold? Anybody know the number?

Number of 3000s Sold

Seybold: Total ever?

Grad: Total ever.

Seybold: Forty thousand?

All: No, no, no, way more than that.

Seybold: Eighty thousand?

Grad: Does anybody know the numbers?

Cooper: I was at the party where the 100,000th machine shipped.

House: I think it's less than 200,000 but well over 100,000.

Grad: How many are still installed?

All: I don't think anyone knows. I don't think that even HP knows.

Seybold: HP has lost track.

Grad: Don't they get revenue off the damn things?

Seybold: No, they disappear. They go off of HP support. They're resold by resellers and HP doesn't keep track of the resellers.

Grad: I have an interesting thought then. You license your software, right? None of you are actually selling anything to anybody, right?

Cooper: Correct.

Grad: It's all license.

Cooper: Special licenses, yes.

Grad: It's all licensing, so you should know everybody who's still on maintenance.

Cooper: This is actually a subject of great debate that I've engaged in on a weekly basis. I think the number of active 3000s still in use today, several years after they've been obsolete, is in the 10,000 to 20,000 range.

Grad: I was given the figure the other day, and I don't know if it's right or not, that the AS/400 is still heavily used, particularly in Europe, that there are still over 300,000 of these machines installed.

Seybold: IBM likes to say 450,000 when they're talking about iSeries and everything else.

Grad: Incredible. To my mind software never goes away. CICS is still being used more than 40 years after we first built the damn thing. Some of you, I assume, have your original customers still working with your software. Which brings me to my next question; all of a sudden in the late 1980s we get a new set of machines that do to you what the minis did to the mainframes, right? They're real Personal Computers, not the little machines that we started out with. What did that do to your business? What effect did that have? Did you still continue to be 3000 focused? I'm looking at this from a technical viewpoint. What did that mean to any of you?

Impact of PC/Client-Server Penetration

Damm: Well, as a spreadsheet guy, I mean, the reason I sold my business to Cognos was that even in the 1980s it was clear to me that PCs had done away with the need to do spreadsheets on terminals and HP 3000s. Cognos realized that a little after I did, fortunately.

Grad: You were just ahead of their realization. Is that when you sold it?

Damm: Yes.

Grad: Grace?

Gentry: Yes, same thing. My technical team came to me. They had done the estimate for what it would cost to port our product to the PCs in which case, of course, we would be competing with Microsoft. They said, "We're not even going to present this report to you. We should not do this." But we stayed with the HP 3000 and the third party products and the OEM channel and still focused on our report writers.

Grad: Something you mentioned earlier I think happened again. Mainframe software cost hundreds of thousands of dollars, and you went down in the $20,000 to $50,000 range in most cases. You had a complete system. So one zero got dropped. Now when you drop down to the PC you drop another zero. In some cases you drop two zeros, and it's a very different market and financial model. Which of the others of you did something with the PCs?

Dennis: We more than did something with it. We set up our second skunk works and completely transformed the entire company over to PCs; and we changed our complete distribution model to dealing only with resellers and then dropped down in the market to sort of the lower end of the midmarket so that we weren't competing with our HP 3000 business. Then as the HP 3000 business tailed off the other business went up and then actually grew much faster and much quicker.

Grad: This is a client/server environment you went to?

Dennis: Client/server environment.

Grad: Who else?

Mecham: It was interesting. You asked a while back if there were any contentious issues and there were. In the early days HP would get up front of the user's group and talk about serious things. One subject that Ross Scroggs brought up was the type-ahead capability that terminals didn't have, and so he came up with a type-ahead engine. Of course when you get to

the PC a type-ahead is already built in. So things change over time. I saw Cognos products shift from a number of the functions that worked on the 3000 to suddenly go to the PC, or for a lot of the functions work in some cooperative fashion. So I think things just shifted and they took advantage of that new capability more than just obsolete the other.

Klein: We made a foray into the PC business and found that we were very unsuccessful with it. The mindset of the PC user was completely different from what we experienced on the 3000 and it got to the point where we just gave up the whole project. We couldn't quite make it.

Grad: Let me ask my question differently. I shouldn't have said the word PC. We're really talking about a client/server environment as being a next step in dropping down in price but still having good performance. That was still business usage. It wasn't an "individual" buying a PC. You were stuck because of the spreadsheet thing.

Damm: Right.

Grad: You were hung out. The others could move down, as they were saying, to another level in the marketplace with the same kind of functionality, but now we had a price performance level that was different.

Klein: In our marketplace, though, we were a backup vendor, and the same problem carries down to the PC. It needs to get backed up, but we ran into this whole mindset of these end users, even on the smaller UNIX boxes because we did have a UNIX product as well, they didn't back them up. That was a mindset that they didn't have. They didn't care about their data until they had a problem.

Grad: One short question before I forget. You went to Tandem on some stuff?

Dennis: Yes, that was earlier.

Grad: So what did you do? Did you have a comparable thing when you went to the client/server? Did you do non-stop operation at all?

Dennis: Again, we completely rewrote our software strictly for the Tandem operating system.

Grad: That was a separate ballgame.

Dennis: Separate ballgame.

Klein: That was the point. For our business model the smaller machines just didn't work because of the mindset of the customer base.

Cooper: I'm amazed and maybe appalled at how many problems that we already solved in the 1970s the world now faces. The idea of buffer overflows didn't exist in the 3000. You could pull the plug and the power can come back on in 15 minutes and everything was fine. We had data integrity. Viruses and worms, you could do a backup and it honestly backed up. All of these problems are back again today.

Grad: This is really a question for HP. The system 3000 is defined by a set of functionality and capability. Did you re-implement or consider re-implementing the 3000 on this totally different platform, with a totally different technology? I've wondered about this. For example, IBM took the AS/400 and re-implemented it on a completely different set of technology so that it still looks like, smells like, tastes like the AS/400.

Cooper: I'll say what nobody wants to say here. HP made the movement from the classic 3000s to the PA-RISC. There was a major investment. That's why we're all still here and the PA-RISC version of the 3000 was a smashing success. Now, at a user's group meeting in April HP committed, in front of everybody, that they will port MPE to the Itanium architecture. That was a commitment that they made and then on November 14th that same year they canceled the platform.

Grad: What year?

Cooper: Two-thousand-one. So it's still a sore subject.

Grad: If they did that it would have kept your market open.

Cooper: Absolutely.

Grad: But your price point might have had to drop.

Cooper: That's a whole other discussion.

Bergquist: I think you confuse price point with the platform that you're on. I left the HP world and went off to a startup called PeopleSoft to build applications. Our price point rose. We were able to sell a client/server application that could run completely on a PC platform, but because of the value we provided we could charge more. So it's the application value. It's not necessarily the hardware platform. Actually hardware became a smaller percentage of the cost and we got a greater share.

Grad: What does that do for the system software? I think that for the utilities and system software the prices do tend to drop as the hardware drops. Am I wrong?

Bergquist: I think over time that stat flattens out. The operating system becomes the client part. It's embedded in there. LINUX is free and so forth. It's there, but there are still pieces that the PC, any PC platform doesn't do today. You've got to fill in the gaps. Even if you look at the Web 2.0 stuff you've got gaps all over the place so there's always an opportunity for someone to go in and fill those gaps. That's my view. Here again, there is still value that you're providing and you can charge for it, but yesterday's technology is not going to sell at the same price.

Grad: I know that SAP, for example, tried to move down its technology to run on client/server, but I think that they were consistently unsuccessful to my knowledge.

Bergquist: That's a market issue I think. There's a different set of software that's needed for the small to midmarket than there is for the large market. That's a different discussion, but it is functionality based.

Dennis: One of the huge changes is that most of us went and licensed our application software without regard for how many users were using it. So then when you look at the way it's shifted now, the way you deal with it is if you had a client that had 400 users even if it's a client/server PC base, if it's still based upon the value, it’s going to be huge software dollars. But it opened up the market of the two, three user company that wasn't there before. So the market basically exploded for the application.

Gorfinkel: There is a group that's actively trying to extend the 3000 use. At least to my understanding, they've got an outfit that has MPE running on a PC. I don't have any clue how effectively, and they are fighting with HP to try and get source code for MPE so that they can move the thing further and HP, as far as I know, has been refusing.

Building Replacement Products

Seybold: They just haven't made a decision in time to make a difference in the marketplace. They want to hold out until the time seems right.

Grad: One of the debates we had in the DEC/DG meeting was the innovator’s dilemma. When you have a large profitable installed base no one has the guts to produce their own replacement product. There are exceptions, but almost every company lets someone else come and take that market away from them rather than displace it. IBM is a wonderful example and many, many others. We try to hold it the way it is; we don't have guts to kill it. Ron, do you disagree with me?

Seybold: Well, I'm just going to say that IBM is a perfect example of a company that was able to look out into the future and say, "We have a 400,000 user base in the AS/400 and we're going to redesign the product so that we can move it onto a different hardware platform and price it down so that it can work with other operating systems.

Grad: The only reason they did it is because they had a different CEO named Lou Gerstner. If it had still been under the previous guys I think that they would never have done it because they blocked the movement before. They kept saying we're making our money off the iron and we won't go away from it.

Seybold: Strictly a business personality thing.

House: You said an important thing there. You said with a large profitable successful line. HP never felt it had that.

Grad: So why does it bother to be in the computer business? Why doesn't it just stay in the printer business and stop wasting its money on computers? They could sell if off to somebody who cares.

Seybold: Because there's weight to it. There's integrity to it. If I come in the door and all I've got is the world's greatest printer line you're going to pigeonhole me, but if I come in with an entire product line you're going to consider me differently.

Profitability Sources

Grad: Do you make any money off your PCs?

House: Seven percent net.

Grad: Is that good?

House: I think that's an interesting question. I've listened this whole day and I've been thinking of a paradox. HP is an interesting hardware company and that's the way to think about it. They're the largest PC hardware manufacturer vendor in the world. They're the largest peripheral manufacturer in the world by a factor of two. They're the second largest mainframe, mini, or however you want to call Enterprise, backbone hardware vendor in the world. Only shy of IBM by 10 percent today, and yet nothing worked.

Grad: And HP is one of the smallest in the software and services arena.

House: On software we make less than what IBM makes. I've been 17 years gone from HP, but it's still we when I talk about HP. HP sells less software today than IBM makes in interest on their bank cash.

Grad: Two issues. On services you make practically nothing and on software you make practically nothing.

House: No, no, no, no. You've got that completely wrong. We make 11 percent net on services and that's an $18 billion dollar a year business. I wouldn't call that chump change.

Seybold: It's one of the faster growing parts of the company.

House: Yes, and they just bought some little company that is actually at 6 percent net, so we'll see how that works out.

Seybold: They added what, 140,000 employees?

House: Yes, but HP is a company that will be 25 percent larger than IBM after they buy EDS. It's larger in every category than anybody else in the field, practically, and yet as we're listening today they didn't know they were in the computing business. They didn't support it in any particular way. They didn't have any product line that was overly successful. There are no big companies represented here. I mean, what the hell happened?

Damm: Cognos was just bought for $5 billion dollars. Yet I'm here.

House: It's was IBM that bought Cognos, not HP. HP didn't make Cognos successful.

Gorfinkel: I think the people around the table here would tell you that HP was very good in the computer business, and the comments that HP is lacking in computer savvy or business sense came mostly from HP. If HP understood what they had of value in the 3000 we wouldn't be lamenting the loss of the HP 3000 today. It would be outselling all the other computers of that size around.

House: So they could have been really successful.

Gorfinkel: They could have been wonderful.

HP's Vision for Its Future

Seybold: In 1990 I went out on an HP press junket in San Francisco Bay and one of the PR contacts there said that the company had a vision. Ultimately he said we don't want to make any more hardware at all. All we want to do is sell services and some software. So maybe the vision is actually coming together where the services are concerned. I don't know about the software. In the meantime what Chuck talks about here when he says they made all of the wrong choices, well all of the wrong choices float on a sea of ink, because this is what generates more of HP's profit than anything else. No matter what they do in software or in systems this [the printer business] floats all those mistakes.

Grad: Alfredo?

Rego: Yes. I have a little story to tell you because Ron was part of it in a way. HP announced the end of the 3000 on November 14th, 2001. That day I began driving from Sun Valley to HP to speak with Winston Prather who was the manager of the HP 3000 division. I spoke with him on the cell phone on the trip. I was very, very happy because HP had told me before, about the 30th of October, that this was going to happen. So I said, "Great, HP is getting out of the 3000." So I contacted many of my friends in the industry and I told them, "You guys know me. You believe in me. I cannot tell you what's happening, but there is a great opportunity for a nice business, and we were able to raise commitments for about $200 million dollars which is nothing in HP's big budget, but to me it was significant." So I arrived at HP and I had lunch with Winston Prather. I said, "Winston, we have--," and I spoke to the engineers by the way before I spoke to Winston since they were my friends. I guess I spoke with you, Ron.

Mecham: In the airport, yes.

Rego: You were going to Australia with your son.

Mecham: Yes.

Rego: I went through Los Angeles, met this guy, so I had arranged all of that. I had all the engineers, all of them were very, very happy to work with me and my group. So I go to Winston and I say, "Here we have it," and he says, "I'm not interested." MPE remains with HP and that was it. So I said, "Well, that's too bad." So for some strange reason HP was not interested in releasing MPE to a group that could and would make it successful, and I never understood why. Winston never told me why and that was it.

Grad: Phil, do you have any insight?

Sakakihara: I have no insight into this latest stuff. I wasn't there.

Rego: That was management. All the lab guys were great, but it was Winston and above and I have no clue what happened there.

Sakakihara: I've recently been at HP to do some next generation system on the fault tolerant side, and I made a pitch on how they can really be a market leader and go forward, and the upper management bought off on it. But there's a lot of what I call politics going on in there. They keep changing things. We got a go ahead with this major project just a year and a half ago, and then other divisions got involved in it and said, "I should be doing this. They should be doing this," and it just came to standstill. That is very frustrating.

Thorpe: Can I ask something? I want to back up only slightly. We heard that Hewlett or Packard at one point slammed his fist down and said, "We're not in the computing business." It's my opinion that we were in the computing business but he didn't want IBM to know it. Seriously, the strategy at that time was what we called the flanking strategy, which is we were going to come around the edges and eat away at their base as invisibly as we could do it and not raise their hackles because we knew at that time they could drown us with their marketing money alone.

The other thing I want to comment on is there's a backdrop to all of this discussion which is companies delivering proprietary operating systems with their hardware moving to UNIX; HPUX was UNIX, but it was still HP's version of UNIX and only delivered by HP coincident with our software to a point where the operating systems of today, to a great degree, are delivered by a separate company from the hardware company.

I'm just sort of laying his out, maybe for discussion this afternoon if it make sense, but there's a backdrop of the evolution of the industry and how we've each had to adapt to what none of us control. When we went to UNIX the whole strategy of our computing business changed to openness. That was the mantra. The same sales force at HP was representing both the 3000 and 9000, but if you were in the field at HP the only story you heard was UNIX. I believe that those making the kinds of decisions that might have lead to not offering MPE to a third party was someone had aspirations of replacing everyone of those HP 3000's with a UNIX machine and didn't imagine that that the 3000 would continue to have a life.

Grad: I see. They thought there was a migration path that you could lock.

Thorpe: Absolutely.

Grad: Instead of putting it at risk with other people.

Gentry: It would be my guess that that's what was going on.

Ray: Mine too.

Grad: Okay. This is the end of session 3.