Oral History of Dave Schmidt

Interviewed by:
Luanne Johnson and Ann Hardy

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Dave Schmidt

Conducted by Information Technology Corporate Histories Project

Dave Schmidt, circa 2002

Abstract: *Dave Schmidt describes his career with GE and the founding of Tymshare in partnership with Tom O'Rourke. He talks about developing the time-sharing operating system on the SDS computer at UC Berkeley and the acquisition of Dial Data, the first of Tymshare's acquisition which established its growth by acquisition strategy.*

Career at GE

Ann Hardy: I want to start with pre-Tymshare information. You were at GE. What were you doing there? How did you and Tom get together? How did Tymshare get going? What was it called in those early days? I know that by late 1965 it was Tymshare…

Dave Schmidt: 1964.

Luanne Johnson: Tell us about your background before that.

Schmidt: Well, I joined GE from Burroughs. Burroughs wanted me to live in Detroit and I was not going to live in Detroit. So, as a new engineer with GE, the first thing I did, I ran the B of A computer center, simply maintaining it for the Bank of America.

Johnson: What was that system called? ERMA or something like that?

Schmidt: Exactly. And one thing led to another and I got more interested in programming than the hardware side.

So I started off writing diagnostics for computer maintenance. Like, how do you write a script that will break the tape drive? That's what I did. Then I started teaching. I became the instructor for teaching software to our clients. And all of that finally ended me up in the Sunnyvale Computer Lab of GE. Which was basically a research facility where they were involved in all kinds of interesting stuff like computers that ran off of air pressure. Pneumatic computers. Never did work but…

So while I was there, I was assigned to the Western Regional Sales Division. And that was run by Tom O'Rourke. He was the Western Regional Manager out of San Francisco, right in the Financial District. The way we really got to know each other was Lockheed. There was a Lockheed division in Sunnyvale. Lockheed Missile and Space Command.

They had a big square building with a bunch of big antennas. They became one of our first customers. We had some GE computers installed there that didn't have an operating system to do what they wanted to do. They were using 1401's, old IBM 1401's, and we came in and sold them at a couple of the GE 415's and 425's. And the operating system wouldn't handle a multiplex operation.

That's an interesting story in and of itself, because GE built the 425 first and, in order to get into the lower price market, they had to add things to the machine so it would run slower. What they did was add what was called a flip/flop in those days so it cut out every other computer cycle. That's what made it slower. It was actually was more expensive, but it sold for less. So I got tagged with the task of finding out what we were going to do about the operating system. They knew I was close to the hardware and could write code for things like tape drives and drivers and that sort of stuff. And so I got a hold of Vern Van Vlear.

Hardy: How did you know Vern?

Schmidt: He was employed as a field engineer, or whatever GE called him at that time, and was stationed in Sunnyvale. And I talked to him and realized what a brain he was. And grabbed him out of the hardware stuff and stuck him into my very small group to get this problem solved. That's when Arden Scott came into the picture, because there weren't enough of us to do ..

Hardy: So you know Arden from back then?

Founding of Tymshare

Schmidt: He was already in the software area and they sent him over there to help me. By that time we'd decided to write a little operating system so we could do this multiplex operation. We spent, I don't know, three or four months sitting there drawing flowcharts of what we wanted to do, because we didn't have anything to work with. Well, we put that together, and installed it at Lockheed, and ran into some horrendous installation problems, but got it to work. And many people had said we would never get it to work. The regular operating system people couldn't do it. So we did that and it got Tom O'Rourke's attention, because we'd pulled his fat out of the fire. He had sold the machines and couldn't make them work. So that's how I got to know Tom O'Rourke.

Okay, then, I went home one evening and I told my wife, my former wife, that I was really getting tired of this rat race and wanted to be in business for myself and blah-blah-blah. And she said, "Listen, I'm getting tired of hearing that. If you're going to do it, do it! If you're not, shut up!" This was Pat.

Hardy: I could believe that of Pat. I knew Pat.

Schmidt: Yeah. So the way that Tymshare got started was I decided to go do something with the new technology, which was time-sharing. By this time, I'd learned something about it.

Hardy: Right, having written this multiprocessor thing for GE.

Schmidt: So I went home and sat at the desk and started grabbing envelopes. I started thinking of the logo and that's where the Tymshare logo came from.

Hardy: And when was that?

Schmidt: That would have been early '64…yes, it must have been.

Hardy: June of '64.

Demo at the Cow Palace in 1964

Schmidt: Yeah, something like that. But the first time Tymshare did anything as Tymshare was when we demonstrated in the Cow Palace to some engineering convention and we were trying to get people interested in time-sharing services. Tom O'Rourke and I were there, Vern Van Vlear was there. Arden wasn't in the picture at that time. I mean he was around, but he wasn't involved with us yet.

Vern Van Vlear and I built the booth in my garage and went to the Cow Palace. And we set up our teletype, which is what we demonstrated on in those days. And we had our first real live demonstration to the outside world.

Johnson: So when you did the demo in '64 you had a teletype and you were hooked into which machine?

Schmidt: I think it might have been the Berkeley system but I'm not sure.

Hardy: Was it the GE time-sharing system at Dartmouth?

Schmidt: Yeah, it was. That's right. Because we started out with the Dartmouth system, and I don't quite remember how we ended up getting the contract with the Berkeley system.

Johnson: I interviewed Tom a couple of months before he died and his story was that Art Rock got him in touch with Max Palevsky. The connection was with looking for venture money but it was through Palevsky that he heard about the work that was going on at Berkeley to write a time-sharing operating system for the SDS940.

Hardy: So the demo at Cow Palace was on the Dartmouth system in late '64..

Schmidt: As I recall, it must have been in late '64. What year was Tymshare incorporated?

Johnson: 1964.

Hardy: No, because it was Tymshare Associates when I joined in '66.

Schmidt: That's right. It was formed as a company in 1964 but it wasn't incorporated because we had to get some money first.

Hardy: Okay.   And this would make sense since you were still looking for money at the time. So, you came up with a logo in early '64 and sometime in '64 you joined up with Tom.

Schmidt: What happened was I had this notion of starting a company, so I came up with a name and I came up with a logo. And then I went out and tried to hire another guy from GE, not Tom, to come in and be the head of sales, because I didn't have any sales experience. He declined and that's when I got a hold of Tom. I was quite surprised that he was interested, but he was.

Hardy: Tom was going to leave GE.

Johnson: That's right. Tom had been offered a position in DC with GE and Marge didn't want to move again. They had moved all over the place with GE and then GE had some big military contract in DC and they were going to send Tom back to head that up. But Marge said "I've moved enough, I'm not going to go."   And so he was looking for another opportunity because she wasn't going to move.

Schmidt: What I recall was Tom was very much at odds with the current management of the GE computer department. So that's what really precipitated it.

Hardy: So that gave you a chance, an opening to say, "Why don't we do this?"

Schmidt: Right.

Hardy: And that was mid-'64.

Schmidt: It was in '64.

Johnson: Tom did, by the way, say that he was at odds with the management, but the solution was to send him to DC rather than throw him out.

Schmidt: At that time, Tom was about three levels above me. So until I got to know him better I didn't know a lot about that stuff.

Johnson: It was obviously one of those serendipitous opportunities; it was just at the right time.

Schmidt: Yeah. If I hadn't had the opportunity to pull the fat out of the fire on the Lockheed thing, we never would've gotten together.

Initial Financing and Development of the Time-sharing Operating System

Hardy: So it all came together. And then you guys went out and looked for money.

Schmidt: Yep.

Hardy: So the demo was in the fall of '64 with the Dartmouth system. And then after that, in early '65, you found Art Rock and Max Palevsky.

Schmidt: Well, it was SBIC actually. It was George Quist when he was working for the Bank of America.

Hardy: Okay. So that was early '65 probably.

Schmidt: Yeah, that's about the right timeframe. This was before Hambrecht and Quist. He was with B of A.

Hardy: You must have had a machine before you went to Quist.

Schmidt: Well, we did sort of. We were negotiating with GE to use their machine. The way I remember it now is that we were having struggles getting GE to do anything with us. We didn't have the financing but we were trying to buy a machine. When SBIC finally, with George Quist, got us together with some money, by that time we had started looking at the Berkeley system. And we decided that that was a better system for us than the Dartmouth system anyway.

We had a guy from Dartmouth out to see us – I don't remember his name. I remember he smoked a pipe. He wasn't a professor, he was just a lab guy.

Johnson: GE had put a lot of funding into the computer lab at Dartmouth, I think.

Schmidt: I believe that, yes, that's right. So he was our contact there.

Hardy: Okay, so you got the money, but Berkeley wasn't up and running. I mean it was running, but…

Schmidt: It was an experimental thing …

Hardy: Even when I got there in February of '66, Berkeley still had no disks. They were using a mag tape for swapping.

Schmidt: I don't remember that.

Hardy: Well, you probably didn't have to deal with that. You probably let someone like Vern or me deal with that.

Schmidt: That could be. I do remember there were a number of people that I brought in with some seed money, and Tom invested some money, too. Pat's folks were involved in that, and one of the farmers up in that area put some money in.

Hardy: So you got money from a lot of friends and relations.

Schmidt: Yeah, it was a small number, but it was quite a bit for us at the time, and that's what kept us going until we could get the SBIC money lined up. And they did quite well with their stock, too.

By the time you joined the company we were already set on the SDS system, the Berkeley system right?

Hardy: You were set on SDS and the Berkeley system.

Schmidt: That's where the code was written.

Hardy: You were set on SDS and Berkeley, but there was no machine at Tymshare and Berkeley used the tape for a swapping device.

I got there in February of '66 and Vern told me that in the fall of the previous year there was a conference at which you demo'ed a time-sharing system. I think it was some kind of computer conference. That would have been '65 and the Cow Palace demo was in '64, so you must have done more than one demo.

Schmidt: I don't know what conference that might have been, but we did quite a bit of demonstrating in that period between when we raised a little seed capital and we when we got SBIC aboard. Was SBIC aboard by the time you got there?

Hardy: Yes, by the time I got there.

Johnson: Was that because the concept of time-sharing itself was so new that you were doing demos to show what time-sharing is all about?

Schmidt: Yeah, it was very new at that time. We were in the innovative, early-adopter market at that time.

Johnson: So you were giving demos to engineers or computer-type people.

Schmidt: Yeah. All the engineers at Lockheed Missile and Space was one of the first places.

Hardy: Every engineer had a FORTRAN program to do whatever they did. And they had to wait for 24-hour turnaround. It was so much faster with time-sharing so it was a slam-dunk that that would use Tymshare.

Johnson: So you had this teletype machine and you were showing these people that you could enter the FORTRAN program and…

Hardy: And your answer came back.

Johnson: While you standing there, the answer came back. And I bet it blew their minds!

Schmidt: It did. It was every bit as innovative as when the personal computer came in.

I'm trying to remember the name of one of the guys from…was it Michigan?

Johnson: Comshare, Rick Crandall.

Hardy: Rick and Louise.

Schmidt: Rick and Louise, right. Do you when they came in the picture?

Hardy: Yeah. They came for two months in the summer of '66.

Schmidt: As you recall, we got together with Comshare and Rick was there, and we were all trying to get the Berkeley system to work.

Hardy: And it just couldn't, it just didn't. We didn't have the hardware. So they went home, the machine got delivered, and then shortly after that it took off.

Johnson: So you worked on developing the operating system at Berkeley. When was there actually a computer at Tymshare for you to sell services on?

Hardy: Late summer of '66 was when we finally got the computer. And there was still no swapping drum. At least by that time, the computer came with disks.

Schmidt: That's a total blank for me. I can remember running around and doing ridiculous things all night, but I can't remember why.

Hardy: Well, there I was trying to get this stupid thing swapping and there's no swapping drum. But the disks were a lot better than the mag tapes so we got something running and then about a month later they came in with a Vermont drum. And every time you a wrote a sector, it did a complete revolution before it would write the next sector.

Schmidt: I don't remember that.

Hardy: Oh gosh. You nearly died.

Schmidt: Is the Vermont drum the one that stood on end?

Hardy: Yeah.

Schmidt: Okay, I remember that now.

Hardy: And I remember when we figured that out, you were so angry. I remember that part.

Schmidt: Well, I have this vision of this drum standing on this thing and being very unhappy with it. That I do remember.

Hardy: You do remember, and now you know why. So you got some engineer out there, and told him it was going to write continuous sectors whether he liked it or not. And, sure enough, eventually they figured it out.

Johnson: So during that period of time was Tymshare not selling any time-sharing services, or were you selling them on GE or…

Hardy: Two weeks after we got the Vermont drum up and running, we were selling time-sharing services.

Johnson: So in other words, the salespeople were out there, lining up their customers, getting them ready.

Schmidt: Well by this time, John Jerrehian must have been aboard, wasn't he?

Hardy: Chuck Emery.

Schmidt: Oh, yes, I remember him. He went off and sold shirts or shoes or something after that, didn't he?

Hardy: I remember Chuck Emery, he was unforgettable. I don't really remember when John Jerrihian came.

Early Customers

Johnson: Do you remember who that first customer was that was actually up on that system?

Hardy: I don't remember. It was some guy in New York.

Schmidt: Lockheed was early, and some guy in New York was very early, but I can't remember if they were first or not.

Have you had a chance to talk to Arden about any of that period of time?

Johnson: What was Arden's role during this time?

Schmidt: Well, he came in as a programmer. I know he was working on the application side of the programs, not the operating system. And he was the one that was behind the new Basic we wrote, along with a couple of other guys.

Hardy: We definitely need to talk to Arden, because he was involved in a whole different area. We had our first computer center there on East Meadow Drive, with all the ants. Where was the second computer center and when did it go in?

Schmidt: Well, the only other computer center that we ever put in was one in New Jersey. I don't remember the date, but I hired two guys, both of whom were completely insane, and they had different diseases. Different failures.

Hardy: I remember that, how awful that was.

We did have a computer in L.A. With Ray Wakeland. And we had one in Paris. And what was really irritating was we brought up that whole computer and I didn't get to go to Paris. Remember Roger Lamadu? He went to Paris and brought up that machine.

We also did an acquisition in that period.

Schmidt: Yeah, we did the group at Harvard. They were out of the Harvard Computer Lab. And they were selling time-sharing services to Harvard, if I recall.

Hardy: We did that sale of the operating system to Harvard, which was somewhere around June of '67. My recollection was that SDS was trying to sell a machine to Harvard to give some class to their 940. I went back there and Harvard had an acceptance test, a bunch of applications that they ran against the operating system. And SDS had to pass the test, or Harvard didn't have to take the machine. SDS had tried virtually every other 940 operating system that was then in existence and they had all failed Harvard's acceptance test. Why we

were last on the list, I don't know.

But they had spent the last six months trying to get this machine accepted and nothing passed. You sent Dave Carter and me back there, even though Dave was brand new. SDS pulled out all their top guns at this show. We went back and there had been only one error on the first day, and by the second day there were no errors in their acceptance test.

Schmidt: This was written by Dan Osmond.

Hardy: Right. SDS was so happy, because they finally found an operating system that would pass Harvard's test. So Harvard bought the machine and SDS then paid something for the operating system, at that point.

Dial Data Acquisition

Schmidt: And then there was Dial Data.

Hardy: Dial Data was a completely different thing.

Schmidt: I can remember the guy.

Hardy: Right, Lou Clap.

Schmidt: Yes, Lou Clap.

Johnson: Was Dial Data a time-sharing company?

Schmidt: Yeah. They were using the same operating system we were. One of the reasons it made sense.

Hardy: They had one of the operating systems that didn't pass the Harvard test. So that was handy because then when we acquired companies, we said, "Well, you didn't pass, so we'll use our OS, not yours."

Johnson: So it sounds like that growth-by-acquisition strategy was pretty much in place early on?

Hardy: Very early on.

Johnson: Do you recall, did that initial acquisition strategy have to do with acquiring customers? Like, Dial Data had some customers and this was a way of building the customer base?

Schmidt: Yeah, that's what it was about. It didn't really work out that well. We didn't make that much money on it. But it was a good idea at the time.

Hardy: We got some good people out of Dial Data. Dale Jordan and Bill (inaudible).

Johnson: So during all of this, what part of the company were you running?

Schmidt: I had what we called the Technical Division.

Hardy: Which was everything but sales.

Schmidt: Sales and marketing. It was good job, I liked that.

Hardy: Yeah, we liked working for you.

Johnson: When you bought a company like Dial Data, at what point did these things start to get networked together? Or was that a stand-alone center with customers dialing into that center?

Schmidt: Networking really didn't start happening until we opened our first big data center as I recall. We had 19 computers in the first data center.

Hardy: Well, eventually we had quite a few computers in there, yeah.

Schmidt: Well, I'm not saying it happened in this timeframe.

Johnson: We're still in the 60's here, I think.

Career After Tymshare

Hardy: When did you leave?

Schmidt: '69. Because in 1970, I formed Mascor. Actually, I was working at Mascor in '70, so it probably got formed in '69.

Johnson: Okay. So you were at Tymshare just for those first few years…

Schmidt: About five years.

Hardy: Getting it all organized… and left us holding the bag.

Schmidt: That was a really messy business. At Mascor, we were trying to get Tymshare to buy computers from us. We were going to build a bigger and better time-sharing system. When I left, I expected that we were going to be selling computers to Tymshare, so I wasn't really pulling that far away. But that didn't work out for a lot of reasons. So that started a whole new chain of events.

Johnson: I didn't realize how compressed this time frame was. So that computer center in Paris was very early then.

Hardy: Very early. It was in the 60's and the computer center in L.A. was in the 60's, and New Jersey was in 60's.

Johnson: This company really took off from a standing start pretty fast.

Schmidt: The market was really hot in '68. And all that period building up to it was kind of like the dot.com's, but it didn't exactly burst the same way. That was a very hot time.

Hardy: It really grew very, very fast. When I joined the org chart fit on a quarter of a page. A year later it was on a big spreadsheet.

Schmidt: I used to keep all of the telephone directories as an historical record.

Hardy: Do you still have them?

Schmidt: I may. I used to keep them. Talk about something that will trigger your memory, that would.

Hardy: And they're all dated, so then you finally know when somebody was there or not there.

Johnson: Historians love that kind of stuff. You think nobody would care about a list of people's phone numbers. But they find them really useful. So you must have brought in quite a lot of technical people during that period of time.

Schmidt: We did, we went through quite a few.

Johnson: Where did they all come from?

Schmidt: People came in from GE and people came in from SDS.

Hardy: Some of us off the street.

Schmidt: Ann came right off the street. Where did Dave Gardner come from?

Hardy: Dave Gardner wandered off the street.

Schmidt: With his dog.

Johnson: I was a programmer then and that's when everyone was talking about the programmer shortage, that there just were not enough people who understood how these things worked. So with a company that was growing that fast when there was a scarcity of human resource out there, it must have been a pretty big challenge bringing all those people in.

Hardy: Well, a lot of them were the acquisitions.

Schmidt: As I recall, we were talking to people from India. So, we were one of the first to consider outsourcing.

Hardy: The market changed. Was that while you were still there? Was that change from engineering to business?

Schmidt: I think it may have been just starting that transition while I was still there because we still had a lot of engineering customers. We were beginning to get interest from other areas.

Hardy: There was kind of a recession in 1970.

Schmidt: Well, yeah, in 1970 the proverbial you-know-what hit the fan. We were trying to finance Mascor and we couldn't do it.

Hardy: And Tymshare was going to do a IPO and had to put that off ..

Schmidt: Well, they did go public in '68. And I left in '69.

Hardy: So Tymshare had done an IPO in '68?

Schmidt: Yes, because '68 was almost the peak of the market. And we did do pretty well in that.

Hardy: Okay. And then there was another public offering in '74 or so.

Schmidt: That was after I left. That must have been not long before they sold to McDonnell Douglas.

Hardy: Well, they sold to McDonnell Douglas in '84.

Schmidt: Was it that far down the road?

Hardy: What other things do you remember from those days?

Schmidt: I think this pretty much taps me out, until I look at something to jog my memory. I remember when you went in to do the programming for our infrastructure. That sticks out in my mind. Because at that time you'd been doing one thing, and you shifted. A lot of things shifted at the same time.

Hardy: It helped a lot to get the machine.

Schmidt: Yeah. Definitely.

Johnson: Were you living down the peninsula and commuting up to Berkeley to do this stuff? Is that what you were doing?

Hardy: No, time-sharing. We called in to the computer.

Johnson: So what did you have?

Hardy: A teletype Model 33.

Johnson: And you were working in the Tymshare office on…

Hardy: Distal Drive and then, once we got our machine, over on East Meadow, way down at the end of East Meadow Drive. A big, old warehouse.

Schmidt: Do you know what happened to the woman who was my secretary, Barbara Mennell? She would remember a lot because she had to do all the paperwork.

Hardy: She might be a really good source. Did she come out of GE with you? I think I remember that she was at GE.

Schmidt: I don't think she worked around me, she must have worked around Tom. I can't place her at the computer lab or any of those places.

Hardy: I think when I came Pat D'Agati was still running her own business. She had a business center…

Schmidt: Yeah, secretarial center.

Hardy: Secretarial service center. And Barbara Mennell was the only secretary for Tymshare. And so I bet she did come from Tom's office. Tom would have brought her from his sales office. They hired Pat D'Agati later. Do you hear anything about Vern?

Schmidt: I talked to Vern about fifteen years ago. He changed so much I couldn't recognized him. I contacted him because the company I had at the time had a project that we thought he might be able to help with. He came in and worked on the project for a little while and that's the last time I ever saw him.

Hardy: Anything else you can think of that we should add to this?

Schmidt: Nothing comes up right now but I'll let you know.

END OF INTERVIEW