Interview of Mark C. Smith

Interviewed by:
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James Pelkey: Before you founded UDS, which as when, 1970?

Mark Smith: Yes.

Pelkey: Do you remember what month it was?

Smith: It was in the summer. Actually, it really started in August of '70.

Pelkey: What were you doing before you founded UDS?

Smith: Well, when I was in high school I got involved in a science fair thing and ended up with part of that to give me the opportunity to come up to Huntsville and meet Werner von Braun, General Toftoy and General Madera, who were the real founders, you might say, of the space effort. So I then went to work for, at that point, it was ABMA -- Army Ballistic Missile Agency -- and that was pre-NASA. First summer I worked at The Cape, but then quickly realized that all engineering work was being done at Huntsville, so the next couple of summers I worked for ABMA. Then they changed the name to NASA. In the process, I met some individuals at NASA that were planning on starting a company in 1960 -- 1961, and so when I came back between junior and senior years, started then with a company called Spacecraft Incorporated, which now is called SEI Systems. The whole idea was to do engineering work for NASA, primarily in the satellite area. That's where these people had come from. So it was ten of us. SEI started in August, since I got there in June, why I was there before the rest of them actually left, that summer, NASA. So they had to pay me out of their pocket, and so they were quite happy when the company finally got started and picked up venture money out of Atlanta that they could then pay me my back pay where I could reimburse them. After working for them, then, of course, immediately out of school, after about six or seven years -- by that time, SEI was 17, 18, $19 million -- 100% government, either DOD or NASA. I realized real quick that I did not want a career in an engineering job shop for the government, which most government contracts, that's basically what it is, especially in the aerospace program where you do a lot of engineering and, if you're lucky, you can ship 10 or 15 items, and then you start all over again, because they basically have a new project, or changed their mind. It's just constant engineering, but never any production, and hence, never any potential for reasonable profit. So by '86, '87, -- no, '66, '67, I was looking for some kind of opportunity that would make sense. I was reading about Carterfone. It appeared to me to be that opportunity, because my impression, even at that age, was that any kind of regulated industry just absolutely had to be inefficient. So first thing we did then was to call the local phone company, asked to speak to a salesman to tell him that I wanted to learn something about modems, to use a modem. We had an office in Huntsville and one in Houston. When the, quote, salesman came out and explained to me the reason that AT&T's unit was more expensive and five times as big as the other units that were starting to show up on the market, was that it was a lot better because it had more resistors and capacitors in it. I figured that this might be a good business opportunity.

Pelkey: Now, was this post '69, January '69, when Carterfone became effective?

Smith: No, this was pre. So all the modems that were on the market were basically modems that were -- a number of them were built under license, they were being sold only to the independents, and --

Pelkey: Collins would be an example.

Smith: Collins was one example and the other one was Rixon, I believe.

Pelkey: Right, Rixon and Collins.

Smith: So that appeared, then, to be a business opportunity. Technology-wise, I didn't know anything at all about telephones. We had done a telemetry system for the Titan III that was handled with a central unit -- basically, a stored program computer -- with all the data acquisition systems sprinkled around the missile, with information being transported back to the central unit over twisted pair. The through process was that twisted pair is twisted pair and that if you know how to handle that technology, surely if it applies to the Titan it's got to apply to the telephone company. So at that point, then, I started attempting to develop a modem, or read about it first and figure out first what it was.

Pelkey: Had you left SEI?

Smith: No, still there, and so a friend of mine who had worked at SEI for five or six years had left, and working for another company in town half time and then was a consultant half time. So the two of us got together and decided that we would see if we could put together a new start company. Between the two of us we had $30,000. I had, I think, if I remember right, I had 25 and he had five, and I had gotten my 25 because when I left school and started at Spacecraft Incorporated, I picked up 1000 shares of stock in the process from a stock option, which had then grown to the point where it was worth $25,000. So we had $30,000, which our first activity, which took us probably four or five months, was that we purchased an oscilloscope, but all the rest of the test equipment -- we first designed and built all our own test equipment, primarily out of the Allied catalog.

Pelkey: So this would be '69?

Smith: This would be '69.

Pelkey: And when did you leave SEI?

Smith: August of '70.

Pelkey: August of '70. Was SEI aware of what you were doing?

Smith: Oh, heavens, no. I had a lab that was in a storeroom off the garage in my house.

Pelkey: And what was your role at SEI at this point?

Smith: I was manager of a telemetry engineering section, probably had ten, 15 engineers, maybe 20 towards the end.

Pelkey: So when you finished up with SEI at the end of the day, you'd go home and you and this other gentleman would --

Smith: Would work into the middle of the night.

Pelkey: -- trying to figure out how to make one of these modems.

Smith: I had bought my house from a gentleman who, it turned out by chance, was the manager for the North Alabama District of AT&T. When his house was built, he had a telephone outlet put in every room in his house, including the garage and also including the storeroom, so I had access to a telephone outlet even in the storeroom off the garage. So, by January of '70, we had finished the test equipment. We were starting on actually doing a modem, and we did the 202 for our private line, simply because it was conceptually, in every way, the simplest possible thing you could do, and we wanted to get started with something. By August of '70, we had, if I remember right, ten units that were basically complete. So we had our show and tell units, and the first of August I resigned, stayed on for a month to bring in the engineer that was going to take over that section, and then got started in mid-August. We still had 25 of our $30,000 left by that time.

Pelkey: Who was this other gentleman?

Smith: John Howell. We then moved into an office that was run by a friend of ours. He was in the component rep business. The office was a little larger than he needed, and so he had a semi-lab area that he had -- Beckman had leased a corner of the lab area and had a repair technician that was working there, so we then leased two offices from him, along with part time from his secretary for $50 a month, and moved in. At that point we started trying to sell stock, but in 1970, the market was terrible.

Pelkey: This was after when the market fell apart?

Smith: (Affirmative) so we couldn't raise any capital, which was alright.

Pelkey: Now, had you tried to raise capital just from friends, or had you tried to do something more sophisticated?

Smith: We did both. We went to some people that we knew in the electronics industry that had been involved with new start companies, but the overall composure of the market was so poor, everybody was death and gloom, so nobody was really interested, plus, at that point, the reputation of modems was black magic, and that it really wasn't going to be anything and it wasn't going to last and, from a business standpoint, did not have any where near the hype that some other industries did, so we couldn't raise anything. So was said: "Oh, to heck with it," we would see if we could land some jobs. We got one in Atlanta that was very small. Had one in Florida that we sold a couple of boards to on an OEM basis, but they were just getting started,

and by the end of '70, we had spent about 28 out of our $30,000 - - down to one or two thousand -- had about $1,500 in sales, and no real prospects for jobs.

Pelkey: Must have been a great feeling.

Smith: Oh yeah, real nice. Then, we had bid on a rather large job in Birmingham for Southern Services, which is the engineering arm of The Southern Company, The Southern Company being the major utility for the southeast. They were going to put in a very large, major data acquisition and control system for the entire southeast, being controlled out of Birmingham. We had been notified, probably in September or October, that we had lost the job because -- number one, the modems were a small portion of it and that a company in California, ADS, American Data Systems, which was going to supply all the front ends, had offered to supply the modems as part of it, and so it had all been combined together. We got a call around the December time frame that the program manager in Birmingham had gotten mad, for whatever reason, with ADS. Part of it is they called a meeting and they called and said they couldn't come because they had an earthquake in California, and so he was upset with them anyway, and called us and asked us if we'd like to supply the modems. We said: "Heavens, yes." He said: "When can you come down?" We said: "Well, it's four o'clock. If you want to wait, it'll take us an hour and a half." So he said: "No, morning'll be fine."

Pelkey: Do you recall what month this was?

Smith: No, it was towards the end of the year.

Pelkey: About the same time that you had no money left.

Smith: Oh, yeah, we were down to nothing. So we got a contract for him that resulted in about -- oh, over the next year and a half - - maybe 150, $200,000, and in addition to that, we got, as part of the contract, a $50,000 advance. So that put us in business. The reason for us getting the contract probably had very little to do with modems, in that The Southern Company manager involved, the companies that were doing the systems, were IBM, ADS, General Electric, somebody else, maybe Honeywell, I don't think so though. Anyway, he had no small companies involved. Hence, any time that he would run into a problem that they needed some small piece of hardware, no one would do it, so he wanted a small company involved. Obviously, anything - - and primarily the kind of things he ended up needing were in the test area. Of course we'd do it. So that really helped -- that really was the thing that put us in business. With that job, over the next year and a half, two years, we raised about $50,000. We were initially attempting to sell 30 or 40% of the company for $200,000. As it turned out, we raised outside, probably 45, $50,000, and ended up selling 10, 15% of the company. The balance of the stockholders -- every professional, and in the early days almost every employee, we gave stock options to. At that point in time, they were qualified with a maximum term of five years, and so we basically then gave all the early employees stock options. As the five years came up, we then would loan them the money from the company. They would then buy the stock and they would get no more raises, because what we would simply do is every time we gave them a raise, that would go to paying off the note on the stock option. Now, we didn't charge them any interest.

Pelkey: How about that. That didn't start to impact you until --

Smith: Yeah, that was '75 when that started.

Pelkey: That's a clever scheme, though.

Smith: Then, after they paid off the note, then they would, of course, take home their whole paycheck again.

Pelkey: Now, you wanted to raise $200,000. You say you raised 45 to 50. Did you not need the other 150?

Smith: Well, it took us a year, year and a half to raise the 45 or 50.

Pelkey: Even though you had this big contract and things were --

Smith: Things were still bad in '71, plus we didn't -- at that point, really spend (unintelligible), because we broke even in '71. I think we made, maybe, $100, but then from '72 on, we were making enough profit to be able to provide our own funds.

Pelkey: Did you ever raise capital after that?

Smith: Never did. The other -- the maximum invested capital in the company when we sold it was $110,000, but the other $60,000 was 100% exercise of stock options, which, really, that was our own money we put in into that exercise, from a cash flow standpoint.

Pelkey: What about the original $30,000?

Smith: Yeah, that's in there too. Well, I know that the total was 110, so we must have -- yeah, 110. Thirty in there to start with, forty, and then another forty again. So we self-funded ourselves.

Pelkey: That's an impressive story. When you started out, you were in the private line business, because it was easier. When did you start to move into the dial-up business?

Smith: The dial-up market was so terribly impeded with the DAA, in that in the early point in time, we did a 103, which was dial-up oriented, but a DAA would lease for $7.50, which is about what one should lease a complete 103 for. The net of it was that it was just an uneconomical situation. The DAA itself also introduced distortion and generated its own unique set of problems. At that point, we, rather than looking at the dial-up, rather than looking at any of the two-wire focus, we went from the 202 and went into the development on a 201, 2400 four-wire. Also at the same point in time, heavy, heavy emphasis on OEM, because we only had one salesman, George Goebel. He then set up our representative network throughout the country, and it was just easier at that point for us to generate OEM sales than it was end-user.

Pelkey: Now, at this point in time, if I understand correctly, there were a lot of modem companies, post-Carterfone.

Smith: Well, by 1972, you could put out a survey, if you had put a survey in, you'd find maybe 200 of them listed, except that at least half of them were a small group in a very large company that had -- the company said: "Hey, this is an opportunity. Let's set up a modem development group." The Frost & Sullivan type reports came out and said that the --

Pelkey: George was kind enough to make me a copy of this.

Smith: '72, yeah. That thing probably says that the modem market - - well, '72, I don't know whether they changed their mind by that time. In '70 and '71, why they were saying that the modem market was 30, 40, $50 million and was going to triple. Then, by '74, why then they were saying it was going into an immediate decline. So, when we first started out, Frost & Sullivan was taking a look at all the timesharing people in the business, adding up all of their wild projections of business, and saying that must be the modem market times two. Of course, it wasn't, because timeshare business never took off at that point in time, so when there wasn't enough business out there for everybody, then most of those larger companies, with their labs, just wrote off the scars and never took the time to really get into it, where only the independent companies, that that was their livelihood, stayed with it. We felt that in '70, '71, that the total domestic US modem market was about $20 million.

Pelkey: Now, around this time, there was also a view that the modem business was really an analog device and everything was going to go digital, therefore there was no place for modems long term.

Smith: Not in 1970.

Pelkey: In 1970, it was just a function of -- people just didn't see any demand for it.

Smith: Yeah, you had all these people that were saying they were in it, like I said, 200 plus. You had a market that in itself in the early '70s was probably $50 million. Everybody was screaming that the prices were going to fall from wherever they were down to 10% of it, that the volume would not be able to expand that much, and it was just a poor business to be in with no hope of profit and no hope of growth. When those reports started coming out, I don't know if it was '72 or later, then it scared people. Nobody else got in and half or three quarters of the people that were in had an excuse to get out.

Pelkey: What do you attribute -- were there specific events that allowed you to be one of the survivors. Certainly the Southern contract was critical.

Smith: Well, that was the thing that got us started.

Pelkey: That allowed you to be in business, but was there something that allowed you to rise above this morass of 200 potential competitors?

Smith: Well, yes, and I think that the biggest single thing was not being able to raise capital, because if we would have raise a million, or a half a million dollars, we would have turned around and spent it, and then, when it was gone, when the market wasn't as large as we thought, wasn't growing as fast as we thought, we would not have been able to get additional funds, plus we would have generated the overhead that we could not support. By not raising the money, by not being able to, then the only alternative was for us to generate a profit, and once you generate a profit, then you get stronger financially every day. If you lose money, you get weaker every day. So, once we were generating a profit every months, every year, then every day that passed, we continued to get stronger, to have more assets to be able to do different things. The only way you can do that, of course, is to be low cost, low overhead, and efficient. That fit real well with the low-speed business; if fit very well with the OEM business. We picked up about all of the modems, in the early years, from Texas Instruments, NCR, just a whole bunch of OEM accounts that, as their products grew in volume, did very, very well for us.

Pelkey: Now, at this point in time, it strikes me that somewhere along the line, maybe it was there from the beginning, but that the leased-line and the dial-up -- two things were happening. One is that the leased-line was a vendor controlling both ends of the line, so they really could be proprietary. They could set whatever the speed was, but it was really whatever your modems could do with each other, that was acceptable, so customers tended to get locked into a vendor. In the dial-up market, you really had to be compatible with AT&T. Conformance to a standard or an interface was much more critical. Plus, the DAA was there, which also introduced --

Smith: Well, the real market start-up, in the beginning, the real market was in the leased-line, private line. That's where, really, all the volume was. There you needed to be compatible. Very definitely you needed to be compatible, except that your test features, your whistles and bells, did not have to be. In other words, you could then start into a network diagnostic and control type of environment, and offer additional features simply because you had both ends of the line. The thing about it was, in the early '70s, modems, telephone lines; data communication was looked on as black magic. Everybody was scared of it. That was the biggest, by far, problem that we had in moving into the higher speed area, in that the customer base, at that point, was looking at a brand new exercise for him, and they wanted to have their computer system be IBM and IBM only, and would then look primarily at AT&T, wanting somebody to take care of them because they really weren't aware of what was going on -- would move from AT&T, but when they did, they wanted to move to as large a company as they could find, which at that point in time turned out to be Milgo or Codex. So the larger networks then would end up getting locked in with either Milgo or Codex. Then, as those companies progressed, they would add network control, monitoring, diagnostics, and once that was done, then it completely locked their customer base in too.

Pelkey: So for you, who were really under-capitalized, thinly capitalized, at a certain point in time, although you had been in leased-line to begin with, Codex and Milgo started to get too large, because of the phenomenon you speak of. Here you had this dial-up marketplace in which they weren't -- it was easier for you to go there than --

Smith: No, no, what we did is, as we said, we went from a 202 up to a 201, and 2400, in the early '70s, was reasonably high speed, because the 48 and 9600s, at that point, were enormous

things, and didn't work very well. The 2400 basically did, except even it had technical problems. During the mid '70s, the 2400 became, then, our big product. It was the big money maker. Certainly not the dial-up.

Pelkey: Oh, ok, so the dial-up only became -- now, UDS is (unintelligible) today, but when one glosses over the industry, you think Codex and Milgo leased-line, UDS and Vadic dial-up.

Smith: That's not true, and not true today either, in that you take UDS and assume that today it's a reasonable, even split between OEM and end-user. If you then go look at the end-user portion of that business, if you count units you might say it's dial-up, if you count dollars you'd say it's leased-line, and the reason for that would be the, still, very heavy volume of 2400 201Bs.

Pelkey: So UDS has always had a significant portion of the leased-line business, but it was OEM. It was OEM and some end-user, but --

Smith: Well, it started off, in the early years, 80% OEM, 20% end- user, and then only very slowly moved to the 50-50 split, and the lack of capitalization was the reason for that, in that an engineer could sell to an engineer, but if you attempt to distribute on a nationwide basis, then you have to have sales offices and we just simply didn't have the money to open sales offices. We were working through a rep organization.

Pelkey: It's interesting how the modem companies, during this period of time, the ones that were successful; you all find your niche. For example yourselves, very much OEM, and Vadic found, more or less, that they pushed the technology more on the dial-ups and really focused on the dial-up business in a very different way than you did.

Smith: Well, Vadic definitely went to the dial-up route, and they were our competition in the OEM business for years.

Pelkey: On both leased-line and dial-up?

Smith: Both. They were the big competition in the OEM world. By the time that we got really going in '72, they were quite well entrenched in the OEM business, so that was our competition during that time. Prior to the mid to late '70s, we had been very successful in the OEM area, and -- oh, at some time in there I would say we had 60, 70% of all the OEM volume, if one does not include the Rockwell OEM modems that Rockwell sold to Codex as the foundation of their modem line. So, if you don't include that, then we had probably 60, 70% of the dollar volume of all the OEM market.

Pelkey: You, UDS?

Smith: UDS.

Pelkey: Was it a big thing when you signed up Codex as a customer?

Smith: No, it was a small contract to fill in their lines, and their sales volume of the product was always very small. They were selling the large system with the large network control. Their interest in our products was only to be able to offer to a customer who wanted just a straight-forward point-to-point unit, or dial-up unit, either one, and their interest was in having it to offer to him, to where, if he was a long term customer, they would not force him to go to one of their competitors to buy. So the volume that Codex sold was always very, very low.

Pelkey: When did you get involved in the IDCMA? Was it early on?

Smith: Reasonably early on, probably '74, '75. We were a second tier member, which was the only membership we, obviously, could have afforded, and did not participate that much on an active basis because we were too busy, however we certainly supported the activity, because it was the strongest -- in fact the only -- group that was doing anything to attempt to slow down the AT&T moves that were constantly out there trying to be able to crush us and be able to take back all the data communications. So we continued to basically grow, through '79, in exactly the same mode. By 1979, 1980, we had 10, $11 million in sales, so we had gone in eight years up to about $11 million.

Pelkey: When did you sell yourself to Motorola?

Smith: December of '80, January of '81. Actually, it was the last day of December if I remember right, or the last week.

Pelkey: December of 1980, last day. Around this time you were doing 10, $11 million revenue? Why did you sell yourself?

Smith: Well, the employees of the company basically owned 85, 90% of it. We were all reasonably young. Kids were starting to get towards college age. The company, at that point, of course, was a heck of a lot more successful than we'd ever dreamed it would be when we started off, and we needed to generate liquidity. We basically had two ways to go. One is we could have generated a public offering, however, with 10, $11 million in sales, the company really and truly would have been too small, plus Motorola offered $22.5 million, split among the dozen stockholders, or so. It was an excellent deal. Now, what we did is we spent about a year in the acquisition mode, working with Merrill Lynch as our advisor. So we contacted Motorola, not the reverse, and in fact, when we agreed to sell UDS, we had two identical offers, because $22.5 million was our price, and so Motorola agreed to it and also Reliance Electric. In fact, I accepted Motorola's offer in Merrill Lynch's office in New York, then got on an airplane that evening with the representative from Merrill Lynch, flew to Cleveland, Ohio to personally then turn down Reliance.

Pelkey: That's a great way to do it.

Smith: We accepted Motorola simply because of the commonality of background, and we were lucky because, quite frankly, we had two excellent companies that we were talking to.

Pelkey: Also, Motorola's semiconductor side must have had some effect on your thinking.

Smith: No, we were not using hardly any Motorola components, and we were using Intel microprocessors, not Motorola. The advantage of Motorola was the advantage of the integrity of their top management, primarily Bob Galvin. If you're going to sell a company, then the most important thing is the integrity and the chemistry of the top management of whoever you're going to sell it to, and it would be very difficult to find a company with management any better than Bob Galvin.

Pelkey: Now, they already owned Codex at this point. Did that have any impact on your thinking?

Smith: No. It anything, it was negative, in that Codex and UDS had -- was moving towards a more competitive environment as we were moving up in the speed range, and so that was a negative, as far as the arrangement with -- the Motorola connection being a positive.

Pelkey: Did you know Art Carr before?

Smith: Oh, certainly.

Pelkey: One of the areas, if you could comment on, is the suit you had with Vadic. Intellectual property rights, in terms of how we deal with them, are a real critical issue for us in this country.

Smith: Well, it's a very messy issue. Vadic had designed a two- wire, full-duplex 1200 modem, and we had taken a different approach to the same problem. Vadic had filed for a patent, and basically claimed that the item that was patentable was the use of coherent demodulation. Well, coherent demodulation was probably first used in the early 1900s, was the standard known technique for demodulation of a modulated signal, and other than an FM or AM radio, everything uses, basically, coherent demodulation as the technique. The patent office has to process some 300,000 patents a year, and have absolutely no theoretical way of evaluating all of the patents. Hence it has become standard that if an application seems reasonable at all, and certainly if it's complex, that if the applicant is persistent, he will end up with a patent of some kind or the other, with the thought being that it will ultimately be decided in court. So as we continued to grow, and at that point in time were very, very successful in taking OEM contracts away from Vadic, they chose to sue us on patent infringement. Our defense was two-fold. One was that coherent detection, which was the basis of their patent, was well known and was the only inherent logical approach that anyone would use for a demodulator regardless; and the other defense was that the product had been on sale for two to three years prior to the filing of the application, where the law says it must be filed within one year after being placed on sale. The one thing we learned was the enormous cost in nonsense of patent litigation. It took four and a half years. The judge involved was in his '70s, and did not know and did not care what coherent demodulation was, and there was absolutely no way that their lawyers or ours, either one, were ever going to --

Pelkey: Make sense of this to this guy.

Smith: -- to teach him to be an electrical engineer. We won the suit simply because the product had been on sale for ages prior to the patent filing. All of the facts and all of the evidence showing it had been on sale had been gathered in the first six to eight months of the discovery process, however, in the court system, that didn't mean anything. We continued in the process for four and a half years simply because that's the way that the system works. So the attempts at summary judgment that we filed early were never really seriously considered because that's not the way the system works.

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Pelkey: You were saying that it cost you, probably, in excess of a million and a half dollars and it cost them well in excess of that.

Smith: They spent much more money on it than we did, in that when we went to trial, their attorneys were from Houston, and their lead attorney apparently, in early years had been a concert pianist, so he had a concert grand piano disassembled and hauled up to this suite that he had rented in the hotel where he could come back from the trial in Birmingham and play for an hour and a half to relax. So I don't know what it cost them, but I know it cost them more than it did us.

Pelkey: Thank you for sharing that. When they came out with their triple modem, was that a big event from your perspective?

Smith: No, because what had happened was that AT&T, during the trial, had come out with their own modulation technique, which was -- prior to that, we had one and Vadic had one. To this day, the modulation technique that we had -- and what it really meant was our technique in async to sync conversion, because a 212 is a synchronous communications device, but all of the data supplied to it is async, and so somehow or the other, then you have to go with async to sync conversion. To this day I think our technique was better, but it doesn't really make any difference. At that point in time, once AT&T brought out their 212, it became a standard. Now, when they did, we immediately, then, made the changes required in our 212, and we had two problems. One was a continuation supporting the original 212 that we had developed, which we called a 1212, and then we brought out a brand new model which was compatible with the AT&T unit, which we felt would really and truly set the standard. Vadic was in a terrible mess at that point, and so they had no alternative but to develop a unit that could either be compatible with their own standard or compatible with the AT&T, and the triple part, of course, was the Bell 103. We never did that because under no circumstance did we ever wish to provide an alternate source for the Vadic modulation technique, because that would do absolutely nothing more than enhance its lifespan, and by never bringing a product that was compatible with Vadic, the net result was that that technique went away quicker than it would have otherwise.

Pelkey: Did you ever introduce a product that was 1212 and 212 compatible?

Smith: No, we kept them separate because we simply felt that the 212 would become a standard, whether good, bad or indifferent, and it was to our advantage to embrace that standard and let the older, non-compatible hardware die as quickly a death as possible.

Pelkey: How about that. Now, you said that Vadic was in a terrible mess. From your perspective, why were they in a terrible mess at that point?

Smith: Well, what they had was that they had done quite well with the VA-3400, is what they called it, and had developed a large installed base. In addition to that, as that part of their business had grown, they had let other areas of their business decline, such as OEM, where we had basically taken that away. They ended up, then, with 60, 70% of their total business in a proprietary product, then now a new standard had now been developed, and any disruption in that market, which of course the AT&T unit caused, would be a serious impact to them. Their only hope was the winning the lawsuit, where, if they had won with us, they then would have immediately taken that court decision and attacked AT&T. So the only thing, then, that we really did with our lawsuit is to open the free market for full- duplex two-wire communications and open the market for the personal computer industry, and without our winning that case, the ability of Hayes to have gone into the business would have been basically zero.

Pelkey: When did you win that lawsuit?

Smith: It was in '80, '81. I don't know about you, but I'm going to get some coffee.

Interruption in the interview

Smith: . . . for Milgo, he ended up ruining his career.

Pelkey: Who?

Smith: Jones, the Milgo lawyer. The whole thing was absolutely crazy.

Pelkey: Yeah, that was a crazy lawsuit. The whole thing was kind of crazy. For this industry to have gone from where it has, there haven't been a lot of lawsuits --

Smith: No, really not.

Pelkey: -- which is somewhat amazing. One of the things, if I understand what you're saying about your culture, is that having kept that balance, having kept your lean and mean, having maintained that OEM business, even when the AT&T standard came out, you said: "Wait a minute, that's the way the world's going to be." You just moved onto that bandwagon very, very quickly, and just saw yourself right through that, and just continued to try to be the low-cost provider into the marketplace and focus on the OEMs, yet at the same time trying to build up your end-user to have a mix in your business. That was kind of the strategy during those years.

Smith: Right.

Pelkey: Now, George Grumbles joined you in '72, '73?

Smith: '73, '74.

Pelkey: Did he become the vice-president of sales and marketing, because George Goebel was in before that, right?

Smith: George Goebel joined us, if I remember right, in the summer of '71. George owned a rep company in Huntsville. In fact, he owned half of it, and his partner was in Orlando who owned the other half, and they basically had a partnership that provided representation in the southeastern states. First half of '71, George Goebel sold his half of the rep company to his partner in Orlando and entered into a one or two year -- I don't remember -- non-compete agreement. We had known Goebel for a long-time, good friend. He then agreed to go to work as our sales manager. For the one or two years that his non-compete agreement was in force, because he inherently had no intention of violating that agreement during the time frame, and so he did, and he was the one that set up our nationwide rep organization, which was tough, because at that point, we had sales of maybe $150,000 total. So he basically had to talk reps into taking the line and doing the missionary work, because they didn't have any business at all in the area, and did an excellent, excellent job for us. Some of those original reps stayed with the company 12, 15 years. He stayed, if I remember right, six months to a year after his non-compete was over simply because we were growing and he was having fun. However, at that point, since his original intent was to go back into the rep business, he decided that the time had come and that that's what he would do. So he moved back to Florida and then went back into the rep business because he non-compete agreement was over. Prior to leaving, he had known George Grumbles, who used to be also a rep in Huntsville before he moved to Boston. So I did not know George, but Goebel did. He contacted him and George was interested in moving back to Huntsville, and so simultaneously with Goebel going to Florida, George Grumbles came back to Huntsville from Boston and joined UDS. That was -- I don't know -- '73, '74. I'm sure George knows the date better than I do.

Pelkey: And he came in as VP of marketing and sales, do you recall?

Smith: I don't remember. I don't think so. I don't think we had - - at that point, I was president, John Howell was vice president. I don't think we had any other officers; maybe we did, but I don't think that Goebel or George were officers at that point. I think that was done mid '70s.

Pelkey: When did you leave UDS?

Smith: Let's close out. What we did is we sold UDS in '80. The company was, at that point $11 million in sales. We sold it for $22.5, however, once again, on the sale, it was not -- it was to gain liquidity for the stockholders. It was not a needing of funds, because when we sold it, we had $2 million in CDs. Over the next seven years -- six years -- they grew the company from $11M to approximately $100M, and the sale was in a tax-free stock exchange, which really worked out great for the investors. It worked out good for everybody because Motorola stock, during that time frame, went up by a factor of six or eight -- six. So the value, then, of the transfer, of the sale, since it was in stock, and part of the rules of the tax-free exchange is that the principals have to hold at least 50% for a period of five years. So, as the company went up in size, so did the value that they had received simply because Motorola stock went up. So I looked at that as an excellent financial deal for Motorola and an excellent financial deal for all of the

stockholders involved. Then I left, as I said, three years ago -- this would be January of '85, and when I left, we then had $25 million in CDs which exceeded, Motorola's purchase price of the company simply because UDS was always a cash generator.

Pelkey: That's an impressive accomplishment.

Smith: So then we decided to start ADTRAN for a couple of reasons, and all of them positive, none of them negative, in that, as I told you before, you couldn't find any top management of a company that's any more far thinking, high moral integrity than Bob Galvin. Motorola's an excellent company, no problems at all, however, I was 45, 46 -- 45 -- and I could really have made a choice to stay with Motorola and UDS for another ten or 20 years and attempt to take the UDS $100 million and turn it into 500, or whatever time would tell that you could do. I have no interest whatever in trying to move into the corporate structure of Motorola, and in fact, prior to the acquisition I told Galvin that that was not one of the things we were interested in doing. We were interested in staying here in Huntsville where we were, not moving to Schaumburg. So that was one option, and the other one would be to go start another small company. The choice was obvious, since we're here. We went and started another company simply because we thought that would be more fun. So a half a dozen of us did in January of '85, and this go around, obviously different in that where when we started UDS in a garage, we developed and had the first half dozen working products. This go around, we knew the general area of business we wanted to get into, but had no earthly idea even the exact products involved, and so when we started, we were starting really on absolutely ground zero simply because this go around we could afford to do so, and we just did not want any kind of inherent problem with Motorola, where if we stayed for a year and developed products at night, we probably would have ended up with conflicts of one kind or the other. So we started here in the end of January, went to a telephone show in February where a number of the new product ideas were actually being gelled as to exactly what we could do. Our first ideas were that we would be doing cards for the channel banks -- but our first ideas were in the voice termination business. After going through the show and seeing a very large number of suppliers already entrenched in that area, and after talking to some of the RBOCs, that didn't seem to make too much sense. Our timing was wrong. We were probably three, four years too late on that one. We did find out, however, that there was a serious need for office channel units that handled the DDS portion, and the suppliers were not entrenched in that area. So we then chose, as our niche, to supply hardware to the RBOCs that they would use in their transmission activities associated with the DDS network. The other thought of the product is that we had made a firm decision that we would not generate an initial product that in general would be competitive with UDS. There was absolutely no reason to do that. UDS sold to the RBOCs, but they sold modems, and primarily they sold modems for the RBOCs to resell through their unregulated subsidiaries, or for them to use for themselves in house. They did not sell products to the RBOCs that, in general, went into their communications network.

Pelkey: So this has been an opportunity to go out and find out what the marketplace needs, which plays off this OEM mental set that we talked about earlier.

Smith: Well this go around, the whole thing has been totally different. The biggest thing is the difference in capital. First company we had $30,000, which wasn't much, and this time we put $2.5 million into starting this one.

Pelkey: Was it just the founders that put the money in?

Smith: Only the founders. We have no outside stockholders.

Pelkey: Do you ever expect to have to have any?

Smith: Not financially. Once again, at some point, we will reach the point where we must generate liquidity. This company is growing fast enough that the time frame will probably be such that a public offering would make some sense.

Pelkey: Unfortunately, I must leave to catch an airplane. I thoroughly enjoyed this. Thank you very much for your time.

END OF THE INTERVIEW