



Interview of Matt Kinney

Interviewed by:
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Recorded March 9, 1988
Sunrise, Florida

CHM Reference number: X5671.2010

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James Pelkey: My intention is to explain how the industry came about, what its roots were and how things happened and why they happened with technology, government, people and so on. Milgo is a very important player in the game, and I appreciate your time. Milgo started off doing government contract work in the '60s, right?

Matt Kinney: Well actually, the company was formed around 1955, '56 by two fellows; one named Monroe Miller and the other named Lloyd Gordon, hence Milgo. They moved from Long Branch, New Jersey. Both of them had been working for EAI. They came down here and were primarily involved in NASA type activity. They were in -- did all kinds of modem work long before we developed the commercial modem, mostly having to do with range activity --

Pelkey: Telemetry, sure.

Kinney: -- and telemetry kind of things. They were both extraordinarily technical, and as a result, the company was innovative, but it never really realized its early potential. I can tell you that, away from the communications area, we developed the first automatic teller machine, back in the early '60s. They developed here a horizontal plotter. They developed analog computers that are still being used in the government and IBM, 20 some odd years later. They developed a device called the Mate, which is a typing machine with memory. They were inventors, but they were not exploiters. In the mid '60s, they acquired an engineer from Brooklyn Poly Tech who was a genius in filter design, and just put him off in a corner. He had theorized that the limitations of Nyquist were only limitations because the filters weren't sharp enough to accommodate telephone lines at the time and allow you to get more data down them. He managed to put together some filters using some techniques -- he was a mathematical genius. He managed to put together some filters that allowed you, for all practical purposes, to send three bits per baud. That made 4800 bit per second transmission on those existing telephone lines a practical application, because instead of utilizing, one of a three kc band -- I say "kc", I drift backwards in time, it was kilocycles in those days -- that was three kilohertz band. Instead of using 2400 kc then, this used 1600, with the three bits per baud, which meant you could scoot it down the center and you'd have plenty of -- you could change your center channel to be 1600 or so, and you'd have plenty of room on the edges, and then utilizing these filter techniques, it sent nice clear no-problem data down the center of the channel. That was the first practical 4800 bit per second modem. There were other people that were building modems, but they were not utilizing this kind of technology. Rixon was in business then building a 4800 and Collins Radio was in business then, building a 4800, and they were reasonably decent for the time, but Sang Wang's particular way of putting things together allowed 4800 reliable, over almost an unconditioned line, or C-1 conditioning was the worst you needed to run 4800 bits per second.

Pelkey: And his name was?

Kinney: Sang Wang, a Korean engineer, and extraordinarily good, in fact.

Pelkey: And when was that 4800 baud modem introduced?

Kinney: Well, it was -- the filter development and the hardware were developed in 1966 and half of 1967, and the company was still, as I say, militarily oriented. They started casting about

to find somebody to do something about commercial peddling at the time. You had said before you turned the recorder on that the industry starts in 1968. I beg to differ with you, and I'll tell you a little bit about that in a moment, but they were looking for somebody that had some kind of contact, knew something about the commercial side of the industry, and I got a call from them when I was sitting in the middle of a snow storm in New York, in December of 1967. I was living in Massachusetts at the time, and they called my wife, because Logan Airport was closed and there was no way I could get home, and the phone went off and it was these people from something called the Milgo Electronic Corporation. They asked me if I'd like to come and talk to them about a job, and I said: "Where are you?" They said: "Miami, FL," and the answer, of course: "You bet your sweet life!"

Pelkey: How about right now? What were you doing at that time?

Kinney: I was working for a small company out of Massachusetts called DASA, which was in the data communications business, as was the company before it, DCI, which was acquired by DASA in the data communications industry, as was the company before that, Track Electronics, which you know today as Wiltec, which was in, amongst other businesses, the data communications business back in the early '60s. That's why I think it's a little misleading to think it started in '68.

Pelkey: Absolutely, and I've already learned a lot.

Kinney: Been around for a long time in one form or another. We were in --

Pelkey: But only, really in the military and government, because none of the commercial --

Kinney: No, I'm talking about the commercial side. Yes, sir, in 1963.

Pelkey: So they were selling commercially even -- I thought AT&T was the only one to sell --

Kinney: Well, no, I'm sketchy in my memory, and you'd have to verify this a little bit, but the 201B data modem, came out about 1964 or so, '63, and the company I was working for at the time had a digital tape recorder that recorded information parallel across the piece of tape, and could store as many as 30 or 40,000 eight-level characters of information. It was done with a little Slauson stepping motor, where you could step the tape. Now, if you look at clocking the modem, at 2400 bits per second, you divide eight into 2400, that's three hundred steps a second, which was just the way this little devil could step, so we could store information on this digital tape recorder, use that modem, send it to another recorder that could then sit on the outside of a 2701 interface to a 360, and then wait to be interrogated, to be pulled in, kind of a store and forward device, and this was in the early '60s. So that kind of stuff existed then. There were people that were making electronic reperforator transmitters for use in Teletype traffic that existed then. There were people like Fredericks Electronics that were making storage devices, solid state storage devices for use in data communications technologies, commercial as well as military, that existed then. The catalyst, the thing that allowed the industry to realize its potential was the Carterfone decision. And that wasn't so much because of the access to the public net,

what the government said to the consuming public, what government said to business, was that the phone company no longer has a monopoly on technology, that's all it really said.

Pelkey: No were you aware of that at that time, even though it was this little radio oriented thing off in Texas. Some people said they weren't even aware of it until years later. It didn't have --

Kinney: Oh, well I've known Tom since 1967, and Tom Carter is one of my oldest and dearest friends, so --

Pelkey: So you were aware of the implications of that --

Kinney: Oh, yeah. We knew, if it broke -- hell I knew in '66 that if it broke, that if Carter prevailed, which seemed highly unlikely at the time, that if Carter prevailed, that the industry would take off. I moved down here before the Carterfone decision. I arrived here on the 15th of December, 1968. The Carterfone decision was in October. I'm sorry, the 15th of January, 1968, and the Carterfone decision was in October of 1968.

Pelkey: At that point in time, did you think that it was going get approved.

Kinney: I'd have given it 3 to 1. I really believe that --

Pelkey: So you felt: "Wait a minute. This is looking pretty good to get approved. If it gets approved, this industry takes off -- "

Kinney: This industry takes off, and what's the first thing that's going to take off, it's modems. Why, because when I got down here, these people convinced me, not that I claimed to be a technologist or anything like that, but these people convinced me that they did indeed have a technology which would allow reliable 4800 bit per second data transmission over existing telephone lines. And with the advent of the Carterfone decision, that opened up the industry, because you could go twice as fast as anybody else reliably, and not too much more expensively.

Pelkey: So Collins and Rixon at this point were 2400 --

Kinney: No, they were both at 4800, but their devices were both developed primarily for military applications and then modified, as I remember it, for commercial use. They used a different kind of technology, which required very highly conditioned telephone lines: C-3, C-4. Now this particular technology, this particular adaptation allowed you to get on unconditioned, or at worst C-1 conditioning, which was very inexpensive, so the cost effectiveness of 4800 suddenly became highly practical.

Pelkey: Now did Wang's innovation get patented?

Kinney: Oh, yes.

Pelkey: Did it ever accrue an advantage to Milgo from having been patented?

Kinney: It gave us a running start in the commercial business. If you say that there are only a few of us that were around that were around then that have been successful, you can count them on the fingers of one hand, less than the fingers on one hand, particularly in the modem business. You can say, well Collins is no longer in it, for all practical purposes, Rixon has changed hands many times. It's now Case, but you couldn't say that they're in it anymore. You could say ourselves and Codex and --

Pelkey: But Codex wasn't in the commercial sector at that point.

Kinney: Yeah, they were. They were just forming. Codex was a brand new company in 1968. They were, and have remained, primarily -- don't forget the driving force of Codex at the time is another old friend, Art Carr, and he was commercial, boy. He was not a military. Anyway, I came down here and landed on the 15th of January, '67, and was tasked with setting up a distribution channel for this new modem, which they were starting to announce. Now I think my title was Marketing Manager Data Communications Products, which meant that I was chief cook and bottle washer with a sales force of one, and I went around the country and put on a manufacturer's rep organization. In October of that year, two things happened. Am I getting my years right? Sorry, it was '68. Where I had said '67, I meant '68. October of '68 was the Carterfone decision. January of '68 was when I got here. That makes just 20 years now. If this seems a little confused to you, you'll have to excuse me. Two things happened in October. The one a monumental thing and another thing of lesser significance. The monumental thing was the Carterfone decision, and the thing of lesser significance is Milgo spun a subsidiary, called ICC, International Communications Corp., which I and Ed Bleckner and several other people ended up in, and the object was to give us some stock participation, but that didn't work out because of various SEC things. To make a long story short, by 1970, ICC was wagging the dog. The tail was the dog, and Milgo, who had been 95% military and 5% commercial in 1968, by 1971 was 90% commercial and 10% military, and by 1974 or '73, it was 100% commercial, and we stayed out of the military business in any form until 1980 again. I wanted to see the company get up to be about \$100 million a year before we went back into that arena. It was too tenuous otherwise. You wanted a good solid commercial base to keep you breathing, and then you can afford to steer around in it a little bit. And that's what we did. We took the company and started building it. As a matter of fact, we kind of backed into some areas of the technology. You might find it amusing. Our first real successful product was a 4800 bit per second modem. Our second real successful product was a 2400 bit per second modem.

Pelkey: So you went back and filled in.

Kinney: Yeah, and the reason we did that was again, if you remember at the time, phone companies were selling two modems. They were selling a 201B at 2400 bits per second and if you wanted dial back-up, you had to rent from them a 201A, which gave you 2000 bits per second, and you had to have these two devices on your premises to have dial back-up. Well that didn't seem to make a whole hell of a lot of sense to me, and I sat with our engineering people and we kind of scratched around about it a lot, and it was a question born of ignorance, which said: "How come you can't use one modem in both cases?" Forgetting that your going from a full duplex to a half duplex environment, you just dial up twice, or whatever the heck it is, and engineering people said, best they could figure, there was no reason we couldn't do it. So we did

not spend a whole long period of time. Engineering managed to crank out a piece of gear pretty quick which we called the 2200-24, which was a 2400 bit per second device that worked both dedicated and dial-up. Now, was it cumbersome to dial if you lost your dedicated line? Yes, but you were paying one price for the two modems and furthermore, your speed stayed at 24, it didn't back up to any lower speed or anything like that, so for space considerations alone, as well as the double cost on the thing, you can imagine we had an extraordinarily successful product in a very short period of time.

Pelkey: And when did you introduce that product?

Kinney: That was in 1969 or '70.

Pelkey: '69 must have been a -- you must have had a ball in '69, having this 4800 baud that really worked. You were at a competitive --

Kinney: Yeah, you tend to remember how wonderful things were. You forget about difficulty making payrolls and you forget about the troubles that many small organizations are suffering from today. Large user looking at you and saying: "We'd love to do business with you, but you're too small, and we don't know if you'll be in business next week or not." It was a lot of effort to convince the user community, not as to the viability of the technology, that was the easy part; but it was the company. Would it last?

Pelkey: And how many people were in the company at that point in time?

Kinney: Good gosh. I think my badge number was four something, so I guess there were maybe -- if there were three or four hundred people in the company there were a lot of people.

Pelkey: Now this was in both Milgo and ICC?

Kinney: Milgo and ICC, and ICC we had 20 people, maybe.

Pelkey: 20 people?

Kinney: Yeah, total. That was everybody. Clerks and --

Pelkey: And when did ICC -- did you market in '69 and '70 under the name ICC?

Kinney: We marketed from October of 1968 to February 1977 as ICC.

Pelkey: Then you took over the name Milgo?

Kinney: No, we were acquired by Racal Electronics in February of 1977, I think it was, and Racal wanted to drop the ICC name, and as a matter of fact, moved us, the officers in ICC, we became the surviving officers, many of us became the surviving officers in the new entity, called Racal-Milgo, and ended up on its board of directors, and it's been that way ever since. But by

that time, ICC -- the name Milgo was a paper name, in terms of Milgo itself didn't do any business. ICC did all the business.

Pelkey: And your customer base knew you as ICC?

Kinney: -- Knew us as ICC.

Pelkey: Going back to '69, '70, your competition then was Collins and Rixon --

Kinney: Collins, Rixon, a company up in the Detroit area called Datamach, they've gone defunct. Ann Arbor, Michigan I believe they were in. A bunch of other little companies that were around from place to place. By '70, Codex --

Pelkey: Now, their first product was the 9600 baud modem?

Kinney: You'd be better off asking the Codex people that. My version of the story and their version of the story don't line up with one another. It seemed to me that their first product was a 48 too, and then they admittedly built a 96 that -- we had a 96, but the one that they came out with was a little bit better than ours, and we had to scramble like mad to come out with one that matched them, but as I'm sure you know in this industry, if you've talked to enough of us, this is a very leapfrogging technology. If today I'm in front of the pack, a year from now somebody else is in front of the pack. Three years later, I'm back in front of the pack again. And that primarily has to do with development times. It takes you so long to develop, and then you've got to market that product for a period of time. In the meantime, a guy that started in a development cycle a year or year and a half after you has the advantage of the newer technology, that ensuing 18 months, so he comes out a couple of years later with a product that now puts yours on the back burner a little bit, but had started about a year before he came out with his new product on your new product, using the technology that was available then, which is not 18 months beyond the technology -- it's amusing when you look at in retrospect, but that's life and that's the way it happens.

Pelkey: During this period in time, and through the '70s, you stayed primarily a rep organization, in terms of --

Kinney: Absolutely.

Pelkey: And that's been a great strength of Racal-Milgo, the loyalty of the rep organization and how competent they became over a period of time.

Kinney: Well, I've always believed -- you'll get me off on a tangent now; that's talking about distribution channels. I, to this day, believe that a properly treated and properly motivated manufacturer's rep organization is one of the finest sales organizations you'll find in the world. They are, in most instances, abused and misused by their principals, but if you put together and give them the same support and dedication you give a direct person, you'll find, more often than not, that they perform in an exemplary fashion, and their extraordinarily loyal over a long period of time. We ran this company from zero to \$100 million with virtually no direct people at all.

We did it all with manufacturer's reps., and a few of them are still with us. The only reason we lose one around here now is they retire. They're all getting a little long in the tooth like me and some of the others around here, and they retire over a period of time, but they have -- I look around this place, and you commented on this facility. I look around this place and I say: "In great part, the reps built this place." It's funny, as you arrived; I was talking to one of my old reps on the phone; who subsequently went into his own business. You probably know of him, a fellow named David Kirby of TP Products. Dave and I have been friends 20 some odd years now. He hasn't rep'ed us; he's been in his own business maybe eight or ten years. We still get together. We go out to dinner with our wives. We kid around with one another.

Pelkey: Let me switch back. Codex, when they came out with their modems, they went direct.

Kinney: They went direct, right.

Kinney: And here you were, you were going reps. Codex went direct. When did Paradyne get into the business? I understand they got in it through being an OEM supplier?

Kinney: Well, Paradyne -- there was a Scandinavian fellow that was one of the founders of Paradyne. He founded another company in the Tampa area some years later, the name of which I can't remember. His name, I think, was Nordham, but I'm not really sure. He put together a company to get into the modem business up in the Tampa area, and they also put together a thing called PixNet. Paradyne didn't really become a factor in the modem business until the mid '70s, when there was a change of management. The new management decided to exploit.

Pelkey: Right. Was that Wiggins?

Kinney: That was the Wiggins group. And they decided to exploit the modem area, and that's when they got into it. They were direct for a long period of time. Let me tell you, one of the reasons that we did not go direct for a long period of time, and still have a fair number of manufacturer's reps, is the loyalty factor. It's an interesting thing, in a direct sales organization, and this is not to deprecate or denigrate direct sales organizations, but you have a higher turnover rate than you do in a rep organization. You see, I've got me a rep in Chicago, let's say, and this fellow is active in the community. He and his wife and his family live in Chicago and they love Chicago and they have no intention of leaving Chicago, and he doesn't want to be my district sales manager, and he doesn't want to be my regional sales manager, and he doesn't want to be promoted so he can live in sunny South Florida and be my national sales manager and director of sales and what the heck have you. He wants to live in Chicago and run his own little business. So whereas in a direct organization where the people that are successful in it, if they don't see opportunity for advancement in that organization, move to other organizations, or if they do move ahead in your organization, you've got to replace them with somebody else. It's "do not pass go, do not collect \$200." The reps is there year after year after year, dealing with the same base, with his customers year after year, and there's a loyalty that's built up between he and his customer base, between he and his principal, us in this instance, which makes for a stability and a continuity which a user loves. So we quite deliberately stayed with a rep force as long as humanly possible, which is today, in part. We started going direct as reps would leave us or retire in the early '80s, and the reason we did that, is we were too big by that point in time to

start training a new rep organization, because we trained the old rep organization. I guess you could say they trained us a little too. It was a little late in the picture to start training new rep organizations. But with very few exceptions, we have not let reps go. They have retired, but we have not let them go.

Pelkey: Going back to earlier, when Codex introduced the 9600, you had a 9600 at that time.

Kinney: Yes we did.

Pelkey: There's, if I understand, from their perspective at least, there's was a better product than yours.

Kinney: I wouldn't deny that, at the time. Because it was that same leapfrogging technology that I told you about. We started development on our 96 in, I think, 1969 or '68, and they started development on theirs a year or too later, and again the technology had changed. So they had the advantage of the newer technology. And of course, the moment they came on the street, we recognized that they were coming on the street with something that was superior, and we were already in a new development cycle to get another product that would hopefully be the superior of that. I cannot emphasize too strongly that if you take all the people that have been in the game over the years, and you say: "Who is the one company that has consistently held the technical edge?" the answer is nobody. Because it keeps trading back and forth because of development cycles times and where you are and changes in technology and the rest of it. I think we have all been extraordinarily good at recognizing marketplaces and market opportunities and providing product to satisfy the users' growth requirements. And I think we have all been contributive to convincing the user that communications is a strategic tool, and should be treated as a strategic tool in the growth of his business. I would have to, on an apples to apples comparison, I would guess that we are probably still the largest. Now, I'll give you an explanation of that, of non-carrier owned data communications equipment suppliers, and Codex nudges us a close second, and then everybody else falls in under that, because our friends at Paradyne have lost a little ground as I'm sure you're aware. The reason I say that, and say apples to apples is, when you get Codex's results, you get their world-wide results, and when you get our results, you're getting one element of something called RDCG, and RDCG is comprised of ourselves, Racal-Milgo Ltd. in the UK who covers Europe, and Racal-Vadic on the coast. Now, if I did that kind of a comparison, if I consolidated all three of those companies' results together, then I would be reporting the way Codex reports, and we would be bigger by a little bit.

Pelkey: Now in the early '70s.

Kinney: I'm sorry, to make my point, the reason I think we achieved that size and I think we managed to keep the dominance for as long as we have is for two reasons. First of all, there was this continuity in the sales organization that I was talking about, this stability in the sales organization. Secondly, I think we were the very first to recognize and still believe we do a better job than anybody else, in the service element of supporting our equipment after it's been sold, and I think the user community is much more appreciative of good service than it is of good salesmanship, and we have spent, and continue to spend, an extraordinary amount of money keeping the most capable service people in the field that money can buy.

Pelkey: Now, in the early '70s, ICCC was more dominant than Codex.

Kinney: Yes.

Pelkey: And I guess Codex got their first real spurt when they introduced their LSI chip that they developed with Rockwell into their modems.

Kinney: No, we were there before them with our 24 LSI, 2400 bit per second chip.

Pelkey: So you were to the market before them --

Kinney: I believe, if my recollection serves me, with a 2400 bit per second LSI modem. I would say, and I don't want to sound as if -- I get nervous when I start to discuss the competition in one way or another --

Pelkey: I'm not asking you to deprecate or depreciate the competition --

Kinney: I would attribute some of Codex's growth -- I will preface this by saying I think, despite some differences of opinion between the two organizations over the years, we both have a great deal of respect for one another, but I would attribute some of their growth, and frankly ours too, to the fact that the market was so damn big, and there was so much potential that there was no way that one single organization could grow fast enough to accommodate the entire thing. You could not move fast enough to dominate it. There were literally a few years when Codex's sales group and our sales group never touched one another, never bounced off of one another at all, never saw one another at all. They were exploiting one set of opportunities. We were exploiting another set of opportunities. They were strained to the maximum to be able to grow at the rate they were growing, as were we. It wasn't a question of competition (unintelligible). It was as if you had the English and the French having everything west of the Mississippi to settle, hell the likelihood of them ricocheting off of one another in those tens of millions of square miles of space was next to nothing. It wasn't until there were bunches and bunches of others out there that that started to happen. I don't think competition as such became a real factor in this industry until the mid '70s.

Pelkey: And what caused that? You were starting to get to the scale where you were starting to run into each other?

Kinney: No, there were more players. By the mid '70s -- between 1975 and 1980, I guess dozens of new people entered into the marketplace.

Pelkey: But the companies are struggling on the multiplexer side.

Kinney: No, just taking modems of and by themselves. Multiplexers too, but modems, of and by themselves, the competition -- before the two viable suppliers were ourselves and Codex, and then Paradyne started around 1975 to be a factor and then Infinet was in there as a factor, and GDC started to become a real factor, and you can start naming them. Where there were two of

us dominant before, there was more and more coming in. Then another thing started to happen. The latecomers -- Paradyne is a good example, because Paradyne considered itself a latecomer into the marketplace and did what most latecomers do, and started slash, cutting, burning the prices. So that opened up the users' awareness that they can get equivalent products for a lot less money, so they started playing us one against the other as you would expect, and it wasn't until the mid to late '70s that competition became a real factor in the industry. Up until then, it was almost cream skimming. You could pick your customer.

Pelkey: I guess why Vadic and UDS got to be the companies they did was largely because you and Codex were so busy in your leased line business, just keeping that growing, that going over to the dial-up business was kind of a different channel, a different kind of customer requirement -

Kinney: It was a different customer.

Pelkey: -- and you were just so busy doing what you were doing that going off and picking those things up just seemed like you didn't have to have the resources.

Kinney: Actually, it was a different customer.

Pelkey: You were in the IBM Big Blue shops, and they were over in the minicomputers and timesharing.

Kinney: That's a good way to put it. Our customer bases weren't even the same. Our distribution channel was different. We used manufacturer's reps and directs, they used distributors. They never even knew who their customer was. Their customer was the distributor. The same thing I believe was true with UDS. We were dealing with the Fortune 1000; they were dealing with everybody else. We were in the network management business in 1975, '74, '75. We started getting in a very primitive tech control and network management applications, primitive by today's standards. Those kinds of companies, if they are in it at all, are just starting to come into it today, just edging into it. Our entire business, if I were to take you over to the demo room, is predicated on network management, control of the communications environment, and the user being able to monitor his up time and his service requirements and dispatch time. We do most of the major airlines' reservations systems in the world. We provide the equipment in most of the sophisticated banking systems and ATM networks around our equipment. That all requires large network management facility, and those kind of companies didn't provide that, so it was really, for all practical purposes, two different marketplaces that we were serving.

Pelkey: A lot of people have told me that they see Infinet as being the one who really innovated network management with their multi-drop modems.

Kinney: (Laughter).

Pelkey: Your view is that ICC at that point in time.

Kinney: NO! Not at all. Quite the contrary. I'm laughing because there's a funny story that I don't know if I even want you to use it.

Pelkey: If it's a great story, I'd love to hear it. As long as its --

Kinney: Well, it's in good taste and all but -- Jerry Holsinger spun away from Codex to put Infinet, they called it Intertel in those days, put Intertel together. Jerry was, and I guess remains, a very capable communications application engineering type. He recognized, I would say before the rest of us, and I'd be the first one to admit it, he recognized that network management was the wave of the future that was going to -- and so, I don't know what the Codex folks would tell you, but I would have to tell you that, to my recollection, he was the first one on the street with it.

Pelkey: Yes.

Kinney: Well, we weren't rolling off the cabbage truck that morning, and we recognized pretty quickly that, yes indeed, this was it, and we wanted to climb on the bandwagon. We put together a little system; I think we called it the 180 at the time, which was a very sophisticated little system. It could match anything that anybody, including Jerry, had but we couldn't convince anybody that we had it, that we could really do it. It looked like Jerry was getting a lock on the market.

Pelkey: Why weren't you able --

Kinney: I don't know. It's just that Codex wasn't having a whole heck of a lot of luck too and when we (unintelligible) a trade show, and pick up a trade magazine and there in the trade magazine is an ad run by Intertel. Jerry had ok'd this ad, and this ad said: "Ask your --" I can't remember the sequence of it, but it says: "Ask your Milgo salesman if they can do this? Ask your Codex salesman if they can do this? Ask your AT&T salesman," and there was somebody else in there too, and of course the answer was yes, but I don't think he realized it at the time. When we got to this show, I made a bee line to go and thank him for legitimizing my company in the network management business, because he said the leader of the network management business said that we were in it. I chased down Art Carr and the two of us went off and we had a beer together and roared, and Holsinger, I think he must have shot the ad agency. I would have. I think he must have gone back and said: "Why did you people let me do that? I put the 'Good Housekeeping Seal of Approval' on Milgo and Codex. Why didn't I leave well enough alone, damn it? I was leading the pack and now I've got to contend with these guys." And after that, it was funny, because he was indeed the leader in that thing. After that, we blew his doors off. It was -- we were legitimized for some reason or another, and we couldn't sell them fast enough, and to this day, we dominate that industry. Again, that's not unusual in this industry. If you look five short years ago, General DataComm dominated T1. Today you'd have to say they're an also ran.

Pelkey: That's right.

Kinney: They're not in it anymore.

Pelkey: Timeplex. Milgo distributed Timeplex products in Europe in the early '70s?

Kinney: Well we distributed them here for a few years and they distributed in Europe up until about five or six years ago. Maybe it's a little bit longer ago than that. I got to get the dates straight for you. Call it eight years ago. Truthfully, because of the agreement between Timeplex and our sister company in the UK; that inhibited us here. That's why we were a late entry into the multiplexer business, and once that relationship was severed and taken care of, then we were allowed to go full speed ahead in the multiplexer business, and now we're --

Pelkey: Severing your responsibility to distribute their products into this country?

Kinney: No, Racal-Milgo Ltd. was distributing Timeplex products throughout Racal-Milgo Ltd. territories.

Pelkey: So you're saying you never became a factor until after 1980 --

Kinney: Well, we couldn't participate. We couldn't do the development here to allow us to get into the business because of contractual reasons. So it wasn't until about 1980 that we were allowed to even have a development program of any consequence.

Pelkey: Then, this may be too far down the organization, but Bill Drambracus was recruited from Infotron as I recall.

Kinney: That's correct, and he was one of the driving forces behind our multiplexer development program, before he started Equinox.

Pelkey: And he could only be brought on board once the relationship with Timeplex between Racal --

Kinney: There were business, legal and ethical considerations, and until of those had been resolved, there was nothing we could do here.

Pelkey: So you were in -- what was the next product after the modem set, did you stay all modems and network management until --

Kinney: Network management and modems, but don't forget modems covered a pretty broad base. There was everything from 2400 bits per second to 14.4. There were hard wire modems. There were many different varieties of modems. Multi-port, that were a form of multiplexer, and that did not infringe upon any agreements or anything like that. There was a little bit of entry level stuff into encryption technology, and because we couldn't sink vast amounts of money into multiplexer technology, we did sink it into network management systems, which frankly I think was the driving influence in allowing us to dominate that marketplace. That's where we put our R&D money; to have the most user friendly, most technically sophisticated network management system available.

Pelkey: Now were you, during those days, constrained in the late '70s in R&D dollars available?

Kinney: In terms of what?

Pelkey: In terms of the number of projects you could take on?

Kinney: That's always been a percentage of revenue. As a matter of fact, there were years we couldn't spend it. Couldn't spend it fast enough. We couldn't get the people on board to spend it for us. We were not constrained in that sense.

Pelkey: Now one of the more famous or interesting issues around intellectual property in this industry was the lawsuit that existed between yourselves and Codex. That was a long protracted affair that finally got resolved in the early '80s?

Kinney: '82, '83. That was a lawsuit -- I can't even remember the details. Are there any specifics you wanted to know about it?

Pelkey: No, I just learned about it when I was at Codex, actually. It wasn't a big thing to them either, other than for the fact that it was an eight year process --

Kinney: Well, it was a big thing for me. They skunked me in Europe for a couple of years because of that goddamn thing but --

Pelkey: They didn't make a big thing of it.

Kinney: No, there was a difference of opinion on some patents and things and there was -- it went back on to the early days, and it was finally resolved in the courts to both parties' satisfaction and we shook hands and came away reasonably friendly. I don't think Pugh has anything bad to say about me or us or the company --

Pelkey: Absolutely not.

Kinney: -- and I certainly don't have anything bad to see about them.

Pelkey: There were no mean spirited comments at all in any of that.

Kinney: I think we rather like one another.

Pelkey: Well, you have a good deal of respect for one another.

Tape Side Ends

Kinney: We had a jousting with AT&T and with IBM and with others and we've always managed to settle everything very amicably, where there were cross agreements of one kind or another. It is, however, a great argument, to produce as many patents as you can, because they're playing cards. You need them -- it's like baseball cards when you're a kid. It's a trade back and forth thing.

Pelkey: Why was the group of you so successful? Why didn't AT&T, which was the dominant supplier of modems in the mid '60s, why weren't they able to be competitive?

Kinney: Oh, good gosh. That's a question that's been asked -- I'll tell you how I've answered that question before. You've got to realize that we were a group of young men, all in our early thirties or late twenties, Oldai was maybe in his mid thirties, and it was the difference between a merchant ship and a privateer. Hell, I think when we started; we were like pirates. We developed into privateers, and here is AT&T, it's this great big merchant. Couldn't corner. Were in these little swift sailing vessels that can get over sandbars real quick and hide in coves and come out when nobody expected it, manned with young, healthy guys with cutlasses, and here our competition is in a boat that draws thirty feet of water and can't turn in its own length and can't hide anywhere, and is run by people that have a book that they have to read. They can't make it up as they go along. They've got to follow certain rules and stuff like that. It's no competition. It was a lot of fun out there. It was --

Pelkey: Hard work, but a lot of fun.

Kinney: Oh, yeah, but it was the difference between a privateer and a merchant. A lot more fun to fly an F-101 than it is a 747.

Pelkey: When you saw the first Micom ads, their orange juice can, I guess probably in '77; did you have any reaction to those?

Kinney: To the ads themselves?

Pelkey: Yeah, to Micom, to the ads, to what they were doing.

Kinney: Well, I had known Roger Evans for quite a while, and I thought if Evans was involved with Micom they were going to be successful. I don't think their ads made them successful.

Pelkey: Did you know him through the case?

Kinney: I had met him before. Roger was the kind of guy -- he was another pirate. He was a privateer. If you knew Roger, and you knew he got involved in something, you knew he was interested in it, you knew he could be a catalyst. Every company has their own catalyst.

Pelkey: It strikes me, looking back on the industry, what Micom did, in coming out with their product and their channel, making the stocking rep, their advertising with the orange juice can was a very innovative type of advertising campaign at that point in time --

Kinney: See, we didn't see them that much. Vadic saw them a lot. UDS saw them a lot. Codex didn't see them. We didn't see them.

Pelkey: Codex saw them a little bit, but they thought it was wrong. Codex was talking to the big shops and their statistical multiplexer was big systems oriented --

Kinney: Well, I'm not so sure that Codex observation that they were wrong isn't right, because if you look at -- I am hoping for a record year in orders. Although I don't think I'll have a record year in shipments, I'm going to have darn close to a record year. I continue, the company continues to be, very profitable. I couldn't live here otherwise, and I'm not so sure a lot of other people can say that. I follow their results as well as mine, and there are a lot of companies out there right now that are revolving doors with people. There are shake-ups all the time. There are significant management changes all the time. Their results are abysmal. Their stock holders should take gas. Maybe Codex was right on their observation.

Pelkey: Local area networking have obviously become a significant part of what is now perceived as the data communications industry --

Kinney: If you can define exactly what that it for me. The industry as well as --

Pelkey: Both definitions, but Racal-Milgo had -- was one of the few companies that, in fact, tried to do something in local area networking with your Planet product line.

Kinney: That was a product that was developed and produced in the UK by our sister company. In fairness to RML and in fairness to the LAN industry here, that product was not designed for this marketplace. It was not designed for our customer base. It was designed for more of a Vadic or a Micom customer base. A smaller user. The thing that I mentioned before we started this recording session, on the sales force being able to sell a product that has synergy to the same person who is buying the other product from them right now, that didn't exist. It was a different customer base, prospect base that our sales organization would have to have gone into. So we had conversations with RML and we told them that if they'd like to try to continue it on their own here, fine. We won't interfere with them in any way, shape or form. We ourselves did not feel that that particular product lent itself to what we thought we had to accomplish. Let me hasten to add that we have by no stretch of the imagination abandoned that marketplace. We are still interested in that marketplace. It's just that at the time, it did not fit into our short term strategically plan.

Pelkey: Why did the modem multiplexer companies, with the exception of the Planet product, never develop a local area network?

Kinney: I think -- that's a hindsight answer that -- we had a fellow here a few years ago that had some questions about the local area network marketplace, mostly because he couldn't see where he could make any money on it. A lot of it required your having to pull cable. I'll give you an example. Not in that area (unintelligible) at all, but we, for some years, attempted to become a factor in the communications terminal marketplace. When I acquired this job --

Pelkey: Which was when?

Kinney: Which was four or five years ago. When I got this job, one of the first things I did was get us out of that. The reason for that was, it was a marginally profitable business. It was extraordinarily service intensive, not so much for the components or the system that we were

providing, but you also had to provide printers -- at that time primarily electro-mechanical devices, prone to failure. The keyboards, there were difficulties with that. Some of the other electro-mechanical components there were difficulties with. It took the efficiency of the service organization to build it, hell in a hand basket. The user base was not the same user base; the same company but a different kind of person was the technical representative for that kind of product, within the user group. Although on the surface it appeared to have synergy, merely because it's a communications terminal with it, in truth it didn't. It became too much of an overhead to continue to bear when there were other things that we could do far more profitably, and we are in the business to make money here. So I decided to withdraw from that particular marketplace. Now, in fairness, when we did that, we notified all our users that we were withdrawing. We told them that we would support the product with spares and service, or whatever they wanted for as long as they wanted us to do it. No two or three or four or five years, for as long as they wanted us to do it. And we have continued to do so, and that installed base has been winding down, which is just the way we wanted it. The analogy that I'm trying to draw, the simile I'm trying to draw is the LAN business represented something along the same order. Yes it is in the communications business, but the guy that buys that is not the guy that buys our kind of stuff. It's somebody else that's sitting out there. It involves putting us in businesses, if not actually as an overseer, for instance if not actually doing it but as an overseer pulling cable is a good example, and the returns, what I like to think of as the drag -- for instance if I sell a network management to a major bank, it drags with it multiplexers, it drags with it modems, it drags with it hard-wire modems, it drags with it encryption gear, it drags everything that we make around here. LAN doesn't necessarily do that. It dragged a bunch of OEM product, which is not very profitable, along with it, and which I'm stuck with having to support, which is not necessarily a profitable thing. And so the synergy is not quite there. Now, with the thing that I was talking to you about earlier in some of the futures that I'm planning on, if I can fill in a couple of the gaps that I think that we have here, then it becomes another issue. Then it becomes something worth looking at again.

Pelkey: Now, one of the product categories, and I'm mindful of your time --

Kinney: Harriet will cut me off. Have no fear.

Pelkey: The T1 multiplexer was really to the heart of the market. GDC and Infotron were kind of in there early, although they're not factors at this point. And Timeplex is the only one within the industry who really made something of it.

Kinney: Oh, gee whiz. I don't know if that mantle isn't being passed off too.

Pelkey: And I'm not sure that's not either. I think it is. I think that's why Timeplex to some extent is not part of Unisys because in fact that mantle was in the process of being passed, and NET is obviously the darling of the industry, for the moment.

Kinney: With Cohesive coming up fast, DCA-Cohesive coming up fast.

Pelkey: DCA is certainly doing everything they can to but their way into the business. They're being very aggressive, in pricing and everything. I'm somewhat like Paradyne. I think that

analogy holds, at least from the data I see. Why did others of you Milgo, DCA had to buy their way into the business, why did the other companies -- Codex is OEMing a product. T1 multiplexer is right in your bread and butter.

Kinney: We are, you see.

Pelkey: But you weren't the leaders. You were the -- was it a development timing schedule?

Kinney: Well, no, as a matter of fact, speaking for ourselves, I don't know why Codex didn't do it. There was a difference of opinion of what technologies to pursue. There were some of us here that were in favor of going after T1, this is some years ago, and there were some of us here that did not believe that T1 would be a decent marketplace. There was a knock-down drag-out about it. Those of us that are still here are the ones that believed that T1 would be a half decent marketplace. None the less, we made a strategic mistake in not going after that. As I said, there were two schools of thought, and you're going to have a winner and you're going to have a loser, and I happened to lose that one. That was before I had this particular function. So I can't really say that I could blame that on technology jumps. That was just an error on our part. However, I can say that we have taken a somewhat different approach to that marketplace, and I'll tell you what we're doing. If you view the T1 marketplace as a triangle, it's called an applications triangle. I found out a few years ago that if I want to simplify things so that I can understand them, I put everything in terms of an applications triangle. If makes marketing presentations to ignoramuses very simple, because they can see. It's very graphic and they can see it. At the tip of that triangle, right up there at the very top, you have the ultra-sophisticated user. You've got Merrill Lynch, you've got the Fidelity Funds, you've got Citibank, and you have those kinds of people. In that little portion up there at the top, you can put NET, you can put DCA, you can put what Timeplex says they're going to have, which was supposed to have been out last month, though I haven't seen anything yet. Who else? At the moment, I can't think of anybody that really has it.

Pelkey: BBN?

Kinney: Well, maybe. I know the people that can install right now today are NET and DCA. I'm installing DCA, alright, and NET is installing their own. That accounts for maybe 15% of the totally available marketplace. This super sophisticated stuff.

Pelkey: Certainly in terms of customer base it does.

Kinney: Let me come back to the 15%, because there's an interesting thing. I'll draw you another analogy. I'm great at analogies and parables. Then you've got the next section of the triangle, which is maybe 60%. Maybe 65%, and in there are a bunch of people. There's the existing Timeplex equipment up maybe in this part of it, there's

Pelkey: Micom.

Kinney: -- I don't know that the Spectrum thing really works yet. I haven't seen that many of them, but let's assume that they're in there.

Pelkey: Stratacom?

Kinney: Stratacom is just starting to work. There's, down here at this edge, there's Avanti, maybe here. Down in here there's GDC, who have tried to hype what they've got, but it's still down in here, and in there is us, with our own product, which is, even as we speak in beta test. Our product is flexible enough so that it allows us to cover all of it, not just this much of it or that much of it or there or there, so our strategy was, I did not want to spend the \$25 million that it takes to service 15% of the marketplace. It didn't seem sensible to me. What I wanted to go after was the 65% or 70% of the marketplace, with a very flexible device that gets me in somewhere above the Amdahl, Aiden, Bell type point to point entry level device, and certainly less than the NET, DCA type device. We wanted to go after that part of the marketplace. So I cut a deal with DCA, and they're very happy with the deal because we're selling their stuff to our more sophisticated customer. I'm buying equipment from them and they are buying service from me. So we cut this kind of a deal, and we've exchanged network management information and that kind of stuff, with their foreknowledge that I was headed after this part of the market. I can't say they were happy about it, but they needed to get in bed with somebody like us, particularly after the NET IBM thing. So that was our strategy. This is an in-house developed product, every piece of it, done here over several years. We have done it very quietly. We have, because we are late into the marketplace, we are going to put something out there that's going to knock people's socks off. We already have a backlog that would boggle your mind on the thing from our users, because they believe if we're producing it it's going to be ok, and besides they know we stand behind it and they've seen the specs. Now, let me draw you my parable. Here it is. It's in between baseball and football seasons and there's nothing else on television and Ferd Farkle realizes that he needs a new car. So Ferd takes Frannie and his son Frank and daughter Flo and the Farkles go on down to the local Chevrolet distributorship because they have to have new wheels. They walk in the door, and Ferd goes right to the Corvette. He looks at that Corvette, and you can see him start to salivate. He pats it and strokes it and plays with it and all the rest, and plays with it and all the rest of that kind of stuff, and then he turns around, and he counts ears, including his own, and he divides by two, and he looks at the Corvette and realizes he can't get them in there. Besides, it's \$36,000, and he drives out in the station wagon. Now me, I want to sell a station wagon. If I can buy my Vette from somebody else, and I'll sell a lot of Vettes --

Pelkey: And get the margin and sell the station wagon from your own research budget --

Kinney: You got it.

Pelkey: It's the best strategy.

Kinney: So that's what we did.

Pelkey: Makes a lot of sense. During this period of time, the user requirements have changed as well. In terms of how the user looks at the marketplace, there was only AT&T, then they realized they could buy hotter boxes or better products from ICC or Codex or they just couldn't get the product from the slow big merchant ship of AT&T. Then they started to put more demands on you, in terms of them starting to change the organizational structure, how they made

decision, what they made decisions on. Has that process been important in terms of how the industry has evolved and who has been successful? Or had everybody kind of ridden that the same.

Kinney: Well, it's either more or less complicated than what you just outlined. There are other factors. I was talking in front of a group of people some months ago, and I said that the day of the technology toy collector is over. Finito. Gone. Financial people are now involved in the decision making process. The reason they are involved is that the toy collectors, the technological toy collectors, were out there buying every cute idea that happened to wander down the pike, paying a lot of money for it, and they were always buying it for future requirements. Only the future never materialized. So that's a factor that an equipment and service supplier has to take into consideration now. He is going to have to go to the prospective user and convince them of the economic viability of the goods or services that he is attempting to get installed in this particular prospect's base. That's a factor that was non-existent five years ago. The tech people determined what it was going to be. Five years ago you didn't have divestiture, so you didn't have the confusion that exists as a result of divestiture. Ten years ago you could expect to get five years out of a product minimum, if you put it into an operating environment. Today with technology moving so rapidly, God knows what's going to turn up tomorrow afternoon that could change your mind, so that's another part of the decision making factor. Although I said to you earlier that users talk about a "uni"-vendor, but when push comes to shove they tend to deal with multi-vendors because they can get better this and better that and better the other thing from individual vendors than they can from any specific vendor. They are going more towards dealing with people that can do a systems integration. In other words, instead of they having to buy from five different companies, they'd rather that the systems integrator buy from five different companies and take the responsibility for it. They, the user, are now on the horns of another dilemma. That's what's so confusing right now. They're on the horns of another dilemma. After 1968, they actually got control of their own communications environment. This is the first time they ever had it, and they found out just what a worthwhile thing that is. Now they're starting to think about people that will do facilities management, but the danger with that is that they are losing control of their own communications environment, and that's a very iffy thing to deal with. There are as many schools of thought about that as there are people that sit and chit-chat about it, and it's a tough determination to make. Now you're going to give up control of that environment. That could be real tricky. So they've got that thing, what kind of compromise can they hack within there, and then you've got two or three other things you've got to look at. There is, in my opinion, and I'm doing a talk in just a couple of weeks in front of another group of people and then one at the ICA, but there is -- I have erected another hypothesis that says we have an over-abundance of data and an under-abundance of information. So we're data rich and information poor, and we are passing over communications facilities billions and billions of bits of data that, when they become assembled into intelligible data at the other end, you find out that nobody can use it because there's just too much of it and they can't cull through it. I think there is a transition that is starting to take place, where people will say: "Wait, we have gone too far. There is too much. We are going to have to re-think and start culling information out of data, so that when we get it to the places that it is supposed to end up, the people that are there can actually use it," as opposed to having everyone have a magna cum laude degree from the Evelyn Wood School of Reading, they get just what they need to run their business. So it's a form of simplification. They're looking at that. So you

start taking all of these little factors and you're putting them together and you say: "Good gosh. Everything is in a great state of flux at the moment," and the user community is starting to draw its horns in a little. The last thing, I can tell you from personal experience, there is a lot more attention being paid on the part of the prospective user to: "Can I make do?" We put together, and I think we were one of the first people to put together, a network optimization program for our users and prospective users. I don't know what you know about us. When I do a talk in front of a TCA or an ICS or something, I never mention this place at all.

Pelkey: I know you don't, and you've done well because of that.

Kinney: Well, they know who the hell I am and they know who the company is, so why should I bother them. So I'm there to give them something that they can take away that's useful. Well, we try to carry that over into everything. Our network optimization program's sole purpose is not to peddle our equipment. We're in there to really help them. We just got a nice write-up someplace about that, incidentally. Somebody said we were the best they had ever seen. We didn't try to push our product at all. What we tried to do was give them a very objective look see at what they were doing and tried to help them, rather than hammer them over the head. Well, I think that comes back in terms of orders and stuff like that, because people trust you. In any event, we have our network optimization program. As I said, we've got a group of people that are dedicated solely to doing it. It's not a kiss and a promise. They use the latest tools that are available, and it's done as objectively as humanly possible, and I can tell you that some results of that in places that we have been that there are just too many people that have practiced overkill over a period of years. They don't need half of what they've got, let alone getting new stuff. They've got to consolidate and start to get true utilization out of what they've got. Now, you take all of those things and you lump them together and you say: "Wow, it is confusing." So I think the user community is being much more cautious than it's been in the past, and it should be. It's about time. So I don't think that the industry has slowed down. I think the users have smartened up, and I'm all for it. I think that it's just great, because it's better for everybody.

Pelkey: What companies spun out of Racal-Milgo in that period of time. Equinox is the only one I'm aware of. Are there other companies that have spun out of Racal-Milgo?

Kinney: Oh, I would have to say Teleprocessing Products spun out of Milgo. David Kirby was a rep or ours and John Scott was an engineer of ours. Oh there were three or four. I can't really remember off hand.

Pelkey: If any others come to mind, that would be helpful. When Part 68 registration got resolved, did that have any impact on your business at all? When they got rid of the DAA, Data Access Arrangement?

Kinney: Sure, it was nothing but beneficial to us.

Pelkey: But you were in the leased line modem business, so did it still --

Kinney: Well, don't forget, we needed them for the dial back-up on our dial back-up equipment.

Pelkey: So it was positive.

Kinney: It made it tougher to sell the dial back-up capability of what we had, so it had a good positive affect on it. It had a much more positive affect on a Vadic or a UDS or somebody like that. And that DAA was a crock. You know it, I know it and they knew it.

Pelkey: Western Union was in the modem business and then they sold out to Halcyon right?

Kinney: Gee, that's a good one. For years and years we were a modem supplier -- for years and years Western Union bought their modems from other people. For years they bought them from us, they bought them from GDC; they bought them from Codex, then from us again. I don't know if we still don't sell them some modems. I can't answer your question. I really don't know.

Pelkey: What did they sell to Halcyon? The multiplexing business?

Kinney: I have no idea. I really don't know. Western Union is a subject all by itself.

Pelkey: Were there other companies during this period of time -- GE was in the modem business for a period of time.

Kinney: Yeah but, there's the modem business and there's the modem business. There are maybe 85 people in the modem business of one kind or another, and there's maybe half a dozen of us in the analog equipment transmission business, and that implies so much more than a modem. If you look at a modem today, and compare it to a modem 20 years ago, it's like looking at a Taurus and comparing it to a Model T. They're both cars.

Pelkey: When AT&T announced digital Dataphone service in the '70s, I have to believe that that was the best thing that could have ever happened, because it kind of kept a lot of other competitors out of the market, because they said: "I don't want to get into the modem business. The analog modem business is going away."

Kinney: Not to anybody that knew AT&T.

Pelkey: So you don't think it had --

Kinney: I think it might have had some negative affect, but I don't think it was significant. Don't forget, AT&T has had a habit of announcing stuff prematurely, and taking much longer --

Pelkey: So you don't think it kept the competition at bay, in terms of new entrants?

Kinney: It might have slowed down a few people that were thinking about it. I think it might have slowed down some of the bigger guys who thought they might take a flyer at it, and got them to consider buying from us, but it hurt us too. It hurt us and it hurt the Codex's and the rest of it. As a matter of fact, in my lease contracts, at the time, I built a clause into the lease contracts with the user that effectively said that: "Well, when digital service becomes available in your area, and if you decide to take it, we'll let you cancel this contract at no charge at all, no

penalty whatsoever," and I must have written thousands of those contracts, and I can't remember but two that were cancelled. Frankly I'm doing the same thing with ISDN right now.

Pelkey: Did any other competitors out there raid Racal-Milgo for talent?

Kinney: All the time. Half the service organizations in this industry are people that were raided from us. Every sales organization out there in this industry has people that were trained here. I don't think there's any exception at all.

Pelkey: Was Racal-Milgo -- did you raid much from other people?

Kinney: Whenever possible. Don't we all? Of course, there were two companies in this industry, and I say this in a friendly way, I think we and Codex are so convinced of our own superiority that we don't run around trying to raid a whole lot of people.

Pelkey: I think you get raided, and you don't raid too much.

Kinney: Yeah. That happens to them and it happens to us more than we go raiding, although they have been, from time to time, known to raid me. They did about six or eight months ago, and I have, from time to time, raided them, but for the most part, we're getting hit on rather than doing the hitting, by and large.

Pelkey: Do you know of any example -- DCA, when it bought the IRMA product line, was either as brilliant or as lucky a decision that has been made in this industry. That product decision, an acquisition --

Kinney: I personally know Bert. I've been in the industry a long time, so I guess I know a lot of people, and they know me. I know Bert, and he has always struck me as a very smart man. I'll tell you, I think it was both. I think it was brilliant of him to recognize the opportunity and take advantage of it, and I think it was lucky that the opportunity turned out --

Pelkey: And that it blew up the way it did.

Kinney: But that's being in the right place at the right time.

Pelkey: Are there any other examples of that?

Kinney: Sure, us in the modem business.

Pelkey: What was another one?

Kinney: Well, in the industry?

Pelkey: I'm thinking more acquisition than raw start-up.

Kinney: Good gosh. Racal acquiring Milgo. Motorola acquiring Codex. I'll bet you that Milgo and Codex have thrown more into the bottom lines of Racal and Motorola, as a percentage, than almost any other acquisition either organization ever made.

Pelkey: When Racal bought Milgo, they turned around and bought Vadic shortly thereafter.

Kinney: Vadic solicited them, within a year and a half or two years later.

Pelkey: And you were distributing the Vadic modems?

Kinney: No, never have.

Pelkey: So there was no relationship between you and Vadic?

Kinney: Absolutely. They were just a low speed modem supplier as far as we were concerned.

Pelkey: Ok, so Vadic went and sold themselves independently to Racal?

Kinney: We had nothing to do with it in any way, shape, manner or form.

Pelkey: And they're run separately today?

Kinney: Absolutely.

Pelkey: Motorola bought Codex after Racal had bought you?

Kinney: Yeah, about the same time that Racal bought Vadic, maybe a year later.

Pelkey: Which would have been in '79?

Kinney: '79.

Pelkey: International competition hasn't really been a big factor. Case has kind of been in and out, particularly in their early years, but the data communications business is a US business.

Kinney: In the US, yes.

Pelkey: What about overseas? It's so different because of PTTs and such.

Kinney: I was going to say, you've got a different operating environment.

Pelkey: But in terms of product innovation and the size of the industry and so on, the US has been where innovation has come from. Other than X-25 --

Kinney: We are a major supplier to Nippon Telephone and Telegraph, and we have, as a matter of fact, skunked Codex out of that one. I was very proud of that. NTT looked at all of their

domestic suppliers, and realized that the quality of the technology and the quality of the network management for the technology was unsurpassed. They didn't have it in Japan, so they bought from us, because they believed that we did have it, although I'll tell you a funny story about that, little anecdote. I was over there and talking to the chairman, a fellow who was just about to retire, of NTT. It was a typical Japanese meeting. There were four or five very senior people at NTT and four or five senior people from this organization, and after some lead up to the subject chat, we discussed the subject, which is quality, equipment quality, of which the Japanese are justifiably quite proud of the quality of the stuff that they manufacture. And they wanted from us the same kind of quality that they were used to giving to us in their product, a not unreasonable request. So now, on the way back, I'm sitting on the airplane, and I've made a couple of jaunts out there and I'm taking that long ride back, and I'm not one of these people that sleep real well on airplanes, so I get to cogitate a lot. I was thinking, when I get back, what I'm going to have to do is I'm going to have to get together with my manufacturing people, my QC people and the rest of them, and what we'll do is we will set up a separate line, and we will make sure that everything that comes through this line for NTT is absolutely perfect. And I stopped, and I had been thinking about this for half an hour or so, and I stopped and I said: "Well you fool. Of all the dumb things in the world. If you have so little confidence in what's going out your door now that you believe that you have to set up a separate quality arm to satisfy your Japanese customer, something is wrong." I came off that airplane and I came in and had a meeting with my people, and I told them exactly that. We all sat and laughed about it for a moment, and we decided there would be one quality control line in this company, and everybody was going to get that level of quality and that level of quality would be certainly more than enough to satisfy NTT, and if it satisfied them it was going to satisfy everybody else too. And that's the premise under which we operate.

Pelkey: Fantastic.

Kinney: But it was an interesting little come up'ins to sit on that airplane and say to yourself: "I think I'll set up a separate line."

Pelkey: Yes, it's very revealing. Were there during the '70s and early '80s, were there any get togethers' that you were aware of where people got together. Something spontaneous happened or there was an important meeting or something unusual happened that was important to developments within the industry?

Kinney: Sure, there was a meeting – at a trade show held in Atlanta where Ed Bleckner and me and Chuck Johnson started a thing called IDCMA, and we started it -- we contacted our attorneys.

Pelkey: That was the early '70s.

Kinney: Yes sir. It was a trade show in Atlanta.

Pelkey: It was '70?

Kinney: I can't remember, '72 maybe. It was in the early '70s.

Pelkey: That became the lobbying body for the industry.

Kinney: Well, you can look at it is a lobbying body. I look at it as a protective organization. When you say -- you can't lobby against AT&T, that's a gnat on an elephant's rear end. It's just trying to protect ourselves. We're were sitting up there at this trade show -- Oh I remember what triggered it was this DDS thing, and the phone company people running around and carrying on about not making any long term commitments to modem manufacturers or word to that effect. I don't know if you know Chuck.

Pelkey: I interview him Friday afternoon.

Kinney: Well, he's an interesting man, and he's a little on the volatile side. Chuck was receptive. I said: "You know, what we ought to do it form a trade association." We got Bleckner and the three of us talked about it, and we didn't know if it was legal or not, because you had monopoly in restraint of trade laws, and we didn't want to get ourselves in any kind of hot water, and we contacted our various legal people, and we were told that it would be ok. We got a hold of Art Carr and a bunch of other people that we knew at the time, and I think it was either in Bleckner's suite or my suite, we had a bunch of competitors sitting around the room saying we got to protect ourselves from AT&T, and we put together the IDCMA, named it on the spot. And that has probably kept the wolf away from the industry's door for a lot of years, and by that I mean not just us. We have protected the user, because we have continued to be able to stave off legislation that would be nothing but detrimental to the user, because the way it exists now, with the competition, the user has access to the very best there is, and can make his own choice, whereas with legislation that continues to rear its ugly head, it does nothing but put the user in the back seat again. So IDCMA was this spontaneous thing that I think had a great deal of favorable and positive effect on the industry.

Pelkey: Absolutely. I agree completely. Any other events that come to you?

Kinney: Be more specific.

Pelkey: I have this view that there are times in which people do interact and something like IDCMA comes out of it, or something happens that wasn't expected and that became important. In the local area networking side of the business there have been a couple of events like that when people got together, and it became very important in terms of the history of the industry.

Kinney: There are probably those incidents, but I can't bring any to mind. If I come up with one or two --

Pelkey: I've asked other people, and everybody else has come back with the same response in this part of the industry.

Kinney: We have been pretty independent of one another.

Pelkey: The modem business and this portion of Data Com, you really were kind of islands unto yourselves. You got impacted in terms of product development and people changes and technology, but you grew your own businesses. You went to trade shows and Interface and whatever they were together but --

Kinney: Again, this industry has had an interesting evolution, because in 1968, we were telling the user what to do. In 1988, the user is telling us what he needs. And in those 20 years, the pendulum has swung from here to here. Another point I wanted to make early and I lost it had to do with the facilities management thing and users starting to consider that. The only real reason that a user would even consider doing that is the availability of sophisticated data coms management talent at the moment is not great. There are an incredible number of requirements, or positions that require people, and not an incredible number of people to fill them. Schools are just starting to turn them out, and I had a hypothesis -- I'll give you a spontaneous thing. Kinney's hypothesis of why the data communications environment is not staffed with the kinds of people that should be readily available and aren't. In communications as a tactical weapon, as opposed to a strategic weapon, started to emerge after World War II, but it was not considered important enough in the hierarchy to be taken seriously by senior management. So the people that had to control it were usually the people who had been put in charge of interfacing with the telephone company, and they may have taken care of the secretarial pool, and three or four other odds and sods type things. Call it mid-level administrative management type jobs. And these people were in their late 20s. Out of the army, stuff like that. They were not technically sophisticated. They were reasonably well educated, but they certainly didn't come out of Harvard Business School or anything like or MIT or that kind of thing. They're in that job --

END OF THE INTERVIEW