Computer History Museum

Interview of Edward "Ed" Botwinick

Interviewed by:
James L. Pelkey

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James Pelkey: I'm with Ed Botwinick, now with Unisys, currently president of Timeplex

Ed Botwinick: No, wrong again.

Pelkey: Of Unisys Networks.

Botwinick: Unisys Networks. Vicki Brown is now president of Timeplex.

Pelkey: Timeplex well preceded your joining Timeplex, and was a company that, when you joined it, was struggling.

Botwinick: That's a half truth. I was one of the founders of Timeplex. I don't know if you're aware of that.

Pelkey: I was not aware of that. No one else is aware of that.

Botwinick: Well, it was in every proxy statement and prospectus, including the three that Montgomery did for us. It identifies Edward Botwonick as a founder of Timeplex.

Pelkey: And when did you found the company?

Botwinick: In '69.

Pelkey: To do what?

Botwinick: To build data multiplexers.

Pelkey: Time division multiplexers?

Botwinick: Time division multiplexers.

Pelkey: But you weren't actively involved with the company?

Botwinick: Well, I wrote the original business plan and raised all the private money for it, and I was a director until they went public in '73.

Pelkey: And you were a research analyst with Solomon?

Botwinick: I was with Goldman. I was doing both research and venture capital. What happened was the Timeplex was a deal -- there were a group of engineers from Western Union and Bell Labs who had been -- or Western Union, with the guys from Bell Labs coming via Western Union, who had been around for about a year with a business plan trying to raise some money unsuccessfully. I took a look at it and it happened that it was a business that I knew about, because I had been looking at another start-up a year earlier, which was, I think, the first company in our business, called American Data Systems. American Data Systems was started by a guy that I know very well, Art Wilkes, and he started it in the office of a manufacturer's rep in Los Angeles, who is a very close friend of mine. In fact, when I was in the semi-conductor business and he started his rep company, I was the first line that he represented. I put him in business. So it's a closed circle kind of thing. So I had looked at ADS, and I had not participated in that, but I had learned something about this new business that was coming along, and I had sort of kept track of it. When these guys came, their business plan didn't really make sense, but their product plans made sense, so I became a member of the founding group, and I rewrote the business plan and raised all of the start-up money, including putting up a chunk of it myself, and I was very active in the first 24 months of the company. We did a couple of additional rounds. The numbers then were very different than the kind of numbers people start companies with today. We started the company with $210,000 and we eventually raised a total of $800,000 prior to going public, and I think the IPO was a million and a half net to the company, so a million or a million and a half. It wasn't very big, but those were tough numbers to

achieve in this kind of an industry in 1969 through '70 -- you'll have to check the date but it was either '72 or maybe it was '73.

Pelkey: What was the competition? Why did you see this as an opportunity for TDM's at that point?

Botwinick: Well, what was happening was that there was an evolution going on in the technology, and what was coming to market from the semi-conductor houses were MSI functional chips, and it was making it much easier to design systems, systems that would have been, I don't know, you'll have to figure out the ratios, but would have been thousands of SSI integrated circuits became hundreds of MSI circuits, and the design became much easier. Also, the manufacturing cost was much lower -- power requirements and everything else. Time division multiplexing, up until then, had been accomplished by taking minicomputers with a lot of ports on them and programming them to do the TDM function. They were soft multiplexers. The old Interdata, which became Perkin-Elmer and now, what are they called, Convex? [Concurrent] That was a very big part of their business, selling to the communications industry, using these as port concentrators over remote communications lines. They were $60 - $80,000 kind of systems, and we could now sell $20 - $30,000 kind of systems to replace those, so that was the breakthrough that started the thing. Data communications was just emerging. The modem business, if I recall, the high-speed modem business, was $10 million when we started Timeplex.

Pelkey: And high speed was 4800 bps.

Botwinick: (Affirmative).

Pelkey: Now, who else was in the TDM business at that point in time?

Botwinick: ADS was in it and I think TDC started about the same time. I'm not exactly sure of what the genealogy was.

Pelkey: Then you put a marketing agreement together somewhere along the line with Racal?

Botwinick: Infotron started sometime in the same time frame, and I don't really remember when Codex went into the business, but they went into the business someplace along here too.

Pelkey: And then, somewhere along the line you put a deal together with Racal, correct?

Botwinick: We had a series of deals with Racal. The first deal was a worldwide, nearly exclusive reseller agreement. The exceptions were the common carriers and the federal government in the US. Racal-Milgo had the exclusive distribution rights to every place else in the world.

Pelkey: And was that agreement with Racal Electronics?

Botwinick: Yes, it was with Racal Electronics. It was prior to --

Pelkey: They didn't own Milgo at that point.

Botwinick: No, the agreement was with Milgo Electronics. Racal was a sizeable UK company, principally in the defense systems business.

Pelkey: It was Milgo Electronics.

Botwinick: And Milgo had a joint venture with Racal, called Racal-Milgo Ltd., which was the distribution arm for direct in the UK and as a middleman for Europe, the Mideast and Africa.

Pelkey: When did you sign your first deal with Milgo?

Botwinick: Probably about mid 1970.

Pelkey: Mid '70?

Botwinick: That's my recollection.

Pelkey: And that deal persisted until about 1980 or so?

Botwinick: Well, it changed. The first deal had a take or pay on a bunch of equipment, and Milgo was a giant $10 million company at the time, and they didn't move the product, and for the same reasons that OEM deals aren't working today. There was not enough margin for double mark-up. So, with a lot of negotiating on credits and take-backs and so forth, the deal was restructured the following year. My recollection -- I don't remember all the details, but my recollection is that we agreed to -- it wasn't just we agreed, we thought it was a good idea, to sell in parallel with Racal through their US distribution organization, which was all independent manufacturer's reps, so essentially, all their reps took on our line. So we worked together on system bids. So Racal-Milgo Ltd. became our exclusive distribution agent for Europe, the Mideast and Africa, and Milgo Intl., located down in Florida, became our export representative for the rest of the world.

Pelkey: Ok, why did you do that deal with Milgo at that point?

Botwinick: Well, because these guys knew how to build a product. They had hired a guy that I considered very weak to run marketing --

Pelkey: This is at Timeplex.

Botwinick: -- at Timeplex, and they were unable to generate any business on their own. They didn't know how to do it.

Pelkey: And you were on the board at this point in time?

Botwinick: Yes. I was pushing them very hard to do something. What I was pushing them for was to get in somebody competent, to get somebody in to run --

Pelkey: The company.

Botwinick: The company and marketing both. Anyway --

Pelkey: Because the TDM marketplace was growing at that point, with more competition? As you said, Infotron, GDC --

Botwinick: Yes, and I think Amdahl and a whole bunch of people. Every month there was a new start-up. It's like the T1 business today.

Pelkey: That was a hot technology at that point it time.

Botwinick: So Timeplex went on really under the umbrella of this Racal-Milgo deal, and then in '73, but check the records, check some of the files that you must have in the investment banking department on the public offerings you did for us. All the history is in there, because I think the first deal you did for us was '81. There must be history going back to this stuff in there.

Pelkey: I haven't looked, but I will. When did you come in to take over?

Botwinick: I resigned from the board when the company went public. That was in '72 or '73.

Pelkey: Who took you public?

Botwinick: Philips, Appel and Walden. It was one of the crashes in the IPO market. We were literally the last high tech new issue before the window closed completely for an extended period.

Pelkey: And, did that close because --

Botwinick: Probably because of Timeplex going public (laughter).

Pelkey: There was a high tech company -- I've lost it now, but a computer company -- the Rare Company, Viatron. Viatron kind of collapsed around there.

Botwinick: I wish you hadn't mentioned that. I was an investor in that company.

Pelkey: Some people believe that the demise of Viatron was what really helped close the IPO high technology window.

Botwinick: I don't really remember the timing. That was a company that did its first public offering, which was actually a convertible debenture, and they never met the first interest payment on the debenture. They did $25 million convert and never met the first interest payment.

Pelkey: Why did the window close?

Botwinick: It was just one of those periodic things, where the market had gotten over-valued and the issues were coming out at ridiculous multiples, and all of a sudden some selling hit and nobody could sell anything.

Pelkey: So you resigned around '72, '73.

Botwinick: Incidentally, that was also the period of dislocation caused by the oil crisis. So there was a lot of stuff going on at the time. In fact, my recollection is we changed underwriters within 30 days of becoming effective, because the original underwriter said he couldn't sell it. And then Allen & Co. was an investor, and they put huge pressure on Philips, Appel to do the deal.

Pelkey: When did you come in full time with the company?

Botwinick: The company essentially was insolvent at the end of the '76 fiscal year, June of '76. What had happened was that the auditors had come in and finally figured out that the assets were significantly over-valued. In fact, as I go back, it doesn't take a very detailed analysis to see, if you look at the write-offs that were taken then, plus the stuff that I wrote off after I came in here, the company had never made money, even though it had been reporting profits. All of the profits were sitting in overstated assets, and there was no management in here. It was a simple as that. Anyway, they struggled through '76 with Allen & Co. pounding on Chemical Bank to keep the doors open, and then, in the spring of '76, I bought out a number of the founding shareholders, I bought a lot of stock in the open market, and I came in as chairman and CEO.

Pelkey: This is you personally?

Botwinick: Personally.

Pelkey: And on the back of the ownership you came in as chairman and CEO?

Botwinick: Yes.

Pelkey: Was that contentious?

Botwinick: Yes. The guy who had been president since the company was founded wanted to hang on to the reins, and the guy from Allen & Co. wanted to come out and run it too, so we had three more or

less equal groups. We had the management, the Allen & Co. group, and myself and my group, which were the founding shareholders, and no one could control the company, so two of us had to get together.

Pelkey: And you got together with Allen & Co.?

Botwinick: No, with management. The guy from Allen tried to screw me. I did get together with the guy from Allen & Co.. We had agreed that we would assume control of the board. I would go back on the board. We would put in a couple of extra directors. I think he had Fred Atler set to go on the board, and that he would be chairman of the board and I would be chairman of the executive committee, and we would jointly select a new CEO for the company. As soon as I agreed to that, he calls up the management and says: "Botwinick is supporting me. I'm going to come in and run the company, and you guys can make a deal now, or you can go through a proxy fight and get thrown out on your ears and sued." At that point, the management, neither one of us were too happy with that, so the management and I sat down and we made a deal.

Pelkey: Now Timeplex at this point in time was still just in the TDM business.

Botwinick: Yes. Timeplex was making -- well, I came in on July 1st. I joined the board in May of '77. I was elected chairman in June and I came on full time as chairman and CEO July 1st of '77. That was the first day of the new fiscal year. In the '76 year, we had done $8 million of sales, reported a $300,000 profit. The year before we had taken something like a 6 or $700,000 write- off. We had a net worth of a million and a half dollars, at least on the books. We owed a million seven to the banks and were unable to pay the interest and were in default. I sold everything that was liquid that I had to acquire control. Allen & Co. was threatening to proxy fight at the time, so I called in Jorgenson, and when I found out what it was going to cost, I said: "Fuck it, I'm going to go out and buy some stock and save money." They're going to cost a couple of hundred thousand dollars. I said, "Screw it. For a couple of hundred thousand dollars, I can buy the sweet factor in the stock." The company didn't have it. I was going to have to pay it myself, so I sold everything that I had that was liquid. I borrowed on anything that was mortgageable, and I bought every share I could lay my hands on. When the proxy came out in the fall, Allen had no idea how much stock I had accumulated. When they saw how much stock I had, they capitulated and they sold out to the company.

Pelkey: That's a great story. Good for you.

Botwinick: Understand, the stock was selling adjusted at 35 to 50 cents a share.

Pelkey: Which would have been a market capital of what?

Botwinick: Let's see. It was a buck and a half and I think there were a million and a half shares outstanding, $2.25 million. You could have bought that -- both of us would have sold, both the old management and ourselves, would have sold the company for $2.50 a share, which was whatever 2.50 times a buck and a half is, 3.5 or 4 million, something like that, under $4 million. I think $3 million would have taken the company, as a matter of fact, and Milgo was screwing around with it, and we had Codex down to look at it.

Pelkey: A number of people came and looked at it at the point in time. My recollection is that Codex came and looked at it.

Botwinick: Art Carr came down in a secret trip one weekend, because Sid Kaplan who was running the company was paranoid about anyone seeing Art Carr in the place.

Pelkey: And they came to the conclusion that there just wasn't enough here?

Botwinick: Well, Timeplex had a new product that had been announced called the DynaPlexer, which was basically a statistical multiplexer hub, that used our existing TDMs as terminal concentrators. It had no direct terminal or computer port connections on it. It worked with the TDMs. They had announced it.

It was well behind on development, and Art Carr concluded that, quote, "it was a paper tiger," and that was the only thing that was really interesting. Timeplex at that point had the largest installed base of TDMs, and if they could upgrade that installed base to StatMuxes, which was the emerging technology then, that was very attractive. So the second week I was here, I went out to lunch with the guys from Chemical and United Jersey, and at the end of the lunch they said to me: "This is all very interesting. You're the first guy we've ever talked to in this company that seemed to know what he's talking about, but we've had it. You have 60 days to tell us how we're going to get our money back or else." I don't know what the 'or else ' would have been, because there was nothing there if they wanted to shut it down. So I didn't take that terribly seriously. On the other hand, I was in imminent danger of going broke personally.

Pelkey: I was going to say, you had a lot riding on the line at this point.

Botwinick: I was really exposed, and there were a lot of 18-hour days in there. Anyway, there was no financial officer in the company. There was a guy in on a consulting basis who had been put in by the banks who had retired from -- he had been at Mennon and Ronson for a long time, and he was retired, and they brought him back. Sid wouldn't even give him an office. He had a desk in an open area. This guy had been VP of Finance for both Ronson and Mennon, very nice senior kind of guy.

Pelkey: How many employees at this point?

Botwinick: About 300. The vast majority of them were hourlies on the production line. There was no automation at all. The receivables were enormous, and the overdue receivables were enormous, and it turned out that the management was afraid to call customers and ask for the money because they were afraid they'd lose the customers. So over great objections from the management, I did probably the most innovative piece of management strategy that has ever been done. I hired a young lady with some collections experience. I gave her a telephone. I gave her a list of accounts. I said: "Call them and ask for the money." We collected $600,000 in overdue receivables in about 90 days. That took care of the banks, at least for the time being. But there were structural problems that were much more serious. Number one, the assets structure was indefensible. There were overvalued assets up the yin yang. Number two, they had been shipping defective equipment for some time just to get revenue, and I had to either repair or replace a million an a half dollars worth of power supplies alone over the next two years. They were in fact dangerous, physically dangerous. There were real problems out there. In point of fact, when you get done, the company had a negative net worth of a million and a half, not a positive net worth. After a year of dual management, Sid Kaplan resigned and sued us. That suit is still going on. What he's really suing us about is that he resigned, told everybody the company would fail, and while he was telling them that, he was trying to sell all his stock in the marketplace. What he did is he left $30 million at current market on the table. I think he probably got a million bucks out of the thing, I don't know.

Pelkey: Shortly after you came aboard, you initiated a statistical multiplexer development project, or was that ongoing when you joined?

Botwinick: We had this DynaPlexer thing going that I told you about. I got a close look at the DynaPlexer and I realized that it was conceptually flawed. First of all, they had no capabilities to develop it. It was too complex. They had no software skills. They didn't understand microprocessor software development. It was an old icon of a hardware company. Second was that the concept was flawed, because, I told you they were going to use the old TDMs as concentrators. One of the big things people were looking for from the next generation -- we're going back to the same concept as the old Perkin-Elmer thing -- you were going to have a stored program machine that was soft programmed to do the job. That's how the initial StatMuxes started. One of the things that went along with that is that you can configure the ports, both locally and remote, through software commands. The TDMs which were in the remote sites were all hard wired. There was no way to remote configure them.

Pelkey: It didn't solve the need that was being --

Botwinick: It wasn't going to shell. Also, they were never going to get it to work. They had announced it twice by then, so I brought in an outside industrial designer, redesigned it physically into the most

beautiful piece of packaging that anybody had even seen in the industry. It had a keyboard. (Showing JLP the keyboard). That keyboard saved Timeplex.

Pelkey: That's outrageous. I've never seen this.

Botwinick: Right. We showed it at trade shows.

Pelkey: For the purposes of the tape, this is a blue going to a kind of yellow at the bottom, green, aqua -- it's really gorgeous. For then -- products were just kind of metallic looking and ugly.

Botwinick: Huge advertising campaign. We pushed the delivery schedule out considerably. We said we were redesigning the product, putting in all kinds of hot new features. In the meanwhile, I got a group of competent guys in a room, usually in my office starting at 6 o'clock, we designed the Series I Microplexer, which was the first of our StatMux product lines.

Pelkey: Now those guys, if I understand correctly, Western Union was getting out of StatMux and closing down --

Botwinick: Not yet. Shortly after that. These were people that were in the company, but I changed the whole architecture. I got in a couple of software people. The original design basically was mine. We worked it through and we did it. We brought a product to market in less than a year, and I think we finally delivered three DynaPlexers. We took two of them back and one of them may still be out there running. It worked fine, but it was a bitch to reconfigure.

Pelkey: Isn't that something. So your first StatMux was introduced when?

Botwinick: '78.

Pelkey: Now, by this point, Codex had introduced their --

Botwinick: They had been out for several years. They were the most successful StatMux company.

Pelkey: DCA introduced the first one?

Botwinick: DCA was off in left field. They were never a factor in the industry. In the StatMux business, they never did become a factor.

Pelkey: So Codex was out there, but they had this great big box.

Botwinick: Well, they had a series. They had the 6000 series and they were doing very well with that. It was a good product. It worked well and it was the standard of the industry because they had a big, loyal modem customer base that they treated very well. Codex was riding high.

Pelkey: Who else was coming out with it now? Micom came out.

Botwinick: Micom came out with some low-end units. I actually had lunch with Bill Norred and Roger Evans in '78 and I tried to buy them.

Pelkey: Had they announced their product?

Botwinick: I don't know if they had announced it formally or whether there was just information floating around, but --

Pelkey: Do you remember that meeting?

Botwinick: Oh, sure.

Pelkey: What was it like?

Botwinick: We went to some lunch place in the valley. They were very reticent. Roger later told me that the mistake I made was talking to Bill instead of him at the lunch. I think he's full of shit, but that's beside the point.

Pelkey: They wouldn't sell, and you wanted to do a distribution agreement as well?

Botwinick: No, I wanted to buy them. Codex did a distribution agreement with them, incidentally. They had announced their product. We had not yet announced Series I, and I told them about it and I figured it might shake them a little bit, but they decided to go their own way.

Pelkey: So you thought that what they had was kind of interesting?

Botwinick: Yeah, it was exactly what we were doing with Series I. Now, Series I came to market and it held the doors open. In fact, it stimulated sales of our old TDMs, which were still the bulk of our business. At that point, we did get some people from Western Union because they had gone out of the StatMux business. They came in and did the Series II. Now, the Series II was the first networking unit that we did, and that's what we built the company on, the Series II and eventually the Series III, which is still in production.

Pelkey: And the Series II came out when?

Botwinick: We announced it in '79. I think we shipped it in early '80.

Pelkey: I understand you're credited with putting in a supervising port.

Botwinick: That was actually in Series I.

Pelkey: That was your innovation?

Botwinick: It sure was. I said: "I can't believe what you guys are doing to program these things." They had little keyboards and little monitors. I said: "Put a terminal interface on and do it in English." The engineers said: "Who the hell is going to use a terminal to program a TDM?" Engineers are very conservative.

Pelkey: During this period of time, how were you distributing? With your StatMux, you didn't have a relationship with --

Botwinick: Yes we did. We still mostly sold through Milgo distributors. Racal had acquired Milgo along the way and we still had --

Pelkey: Do you recall why that happened?

Botwinick: Yes. Milgo was being raided by a company called ADS. Applied Digital Systems, a terminal company? I think NCR eventually bought them. The management of Milgo didn't own any stock, so ADS raided the company, and Racal came in as a white knight to take them over.

Pelkey: Milgo was public at that point?

Botwinick: Yes. They had been public for a little while.

Pelkey: They were selling under the name ICC right?

Botwinick: ICC was the data communications division of Milgo. Milgo also made some plotters and some other things. It turns out that the management of Racal-Milgo Ltd., which now ran Milgo, had already put, which was I think 32% of our business at the time, had already put Sid on notice that they wanted to terminate the relationship. Sid didn't bother to tell me that. That was another thing I found out after I came in. So I made a trip to England. I met the guy who was running Racal-Milgo at the time, Leighton Davis, who I had met before in the negotiations for the distribution. I said: "Leighton, look, I know you've got some problems. Give me a year to get this straightened out. We'll be a very good supplier for you and we'll have a good relationship," and he was kind of non-committal. Later I found out that they already had a development program underway to do a competing product, which was probably, incidentally, they were stealing stuff directly from our product line. It was probably in violation of the non-compete stuff that we had. In any event, we started to make plans to separate. When did we separate? Well we knew by 1979 that they definitely had a product in planning and development and --

Pelkey: This is when they hired Drambracus?

Botwinick: Yes. Bill Drambracus. Now he's running Equinox.

Pelkey: So you know about that?

Botwinick: Well, we knew about it before that. They brought him in to fix a project that was going sour. So we said: "Screw it. We can't live with this anyway," and I gave Leighton one last chance. I said: "Let's enter into a long term agreement or buy our company, or let's separate, but let's do it like gentlemen," and he wouldn't do any of the above. So, in the fall of '79, we set up Timeplex Ltd. in the UK, staffed entirely with Racal-Milgo people. Well, they all wanted to come to us -- by then, our product was doing well. We had taken the leadership in the industry. Things were really going well. These guys wanted to work for us. We started signing up independent reps in the US. We had to rebuild the whole distribution organization in a two year period.

Pelkey: Now those reps in the US, did you go after any of the Milgo reps or were they loyal to Milgo at this point?

Botwinick: It wasn't a matter of loyalty; it was a matter that two thirds of their commissions for most of them were Milgo commissions. Not only would they lose those; there was an annuity on the residuals. Everything was lease, and there was an annuity on the residuals. They would have left a lot of money on the table.

Pelkey: Even in those days customers didn't buy modems, they leased them?

Botwinick: Yes. AT&T leased, so that was the style in the industry. AT&T was not allowed to sell.

Pelkey: Where did everybody put the paper? Local leasing companies or banks?

Botwinick: Gross profit margins were enormous. I believe that ICC had its own finance company. I think they handled it themselves. That's my recollection. I know Codex did.

Pelkey: But you sold TDMs?

Botwinick: We sold TDMs, essentially, but because AT&T was the competition -- all they were doing was coming in under the umbrella, and the gross profit margins were huge, so we could afford to lease. Plus, once people put them in, they never took them out, so the economics were very strong for those reps to stay with Milgo.

Pelkey: Where did you get the reps, then? What reps did you pick up?

Botwinick: Well, we picked up other competing data communications reps. Some of them had smaller lines. Some of them had been representing Codex and Codex was going direct. We started putting in some direct people too.

Pelkey: And you were selling to AT&T? You had maintained exclusive to sell to the government and --

Botwinick: No, that ended in 1970, '71, whenever that thing fell apart.

Pelkey: So they had exclusives.

Botwinick: The reps had geographical area exclusives. Milgo didn't have anything whatsoever. We had a direct office selling to the federal government, mostly to the intelligence community. Anyway, what happened was that Milgo finally gave us notice that they were -- they had to give us notice -- they were not going to allow the contract to self-renew. I think the contract ran in five-year segments. We already had Timeplex Ltd. formed, and I had been doing a lot of selling with their independent distributors in Europe, who were most of the business we were doing through them, and I signed most of them up directly. They said: "Screw it. We don't want a Milgo product. We don't like doing business with Milgo. We don't want to get any deeper in bed with them."

Pelkey: That was an important period of time?

Botwinick: The only down earnings year we had was either '79 or '80, I don't remember which. Our revenues went up 19%, but earnings were down like 10%. That was the year we were building a direct sales force.

Pelkey: I'm mindful of your time.

Botwinick: Where we went from there was that, over the next few years, we built a very powerful direct sales and service organization in the US, and we built the product line, and that got us up to the early '80s when the Series III came out, which by then added end-user switching, the data PBX functions. At that point, in the early '80s, we started developing the link family, which of course is the new story as the T1.

Pelkey: You were the only one in this business who early on picked up on T1. General DataCom and Infotron did, but they didn't --

Botwinick: They did point to point systems.

Pelkey: You were the only one who went beyond that.

Botwinick: Because we saw it was going to be a networking market. Everybody said --

Pelkey: Why, how did you see it?

Botwinick: Because it was simple. It wasn't very hard. Everybody said T1s are very expensive, so nobody's going to have very many of them. I said: "I don't care how expensive they are, if you fill them up, they may represent a major savings, in terms of getting rid of lower speed lines. Communications needs are going up and we're going to put voice on these things." We were the first ones to put voice on.

Pelkey: Ah, so everybody else was just data oriented and they didn't see the bandwidth requirements because you said we'll put voice on it.

Botwinick: That's right, and we said we're going to provide PBX tie lines. I announced it at our annual meeting one year and everybody laughed. The industry laughed.

Pelkey: The next conversation we have I will be interested in why the PBX guys missed out on that, and I have all kinds of questions for you, but thank you very much for your time.

END OF THE INTERVIEW