



Oral History of Duane Whitlow

Interviewed by:
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Duane Whitlow

Conducted by Luanne Johnson

Abstract: Duane Whitlow, the developer Syncsort, describes the founding of Whitlow Computer Systems which was later renamed Syncsort and how he came to develop a sort product which was much more efficient than the sort available from IBM at the time. He describes how they were able to use demos to sell very effectively against IBM at a time when independent software vendors found it very difficult to get into IBM's customers' shops, a success which paved the way for many other software companies. He talks about why he felt it was important to patent the product although patenting software was very difficult to do and about the difficulties he and the other founders had in financing the start-up company.

Founding Whitlow Computer Systems

Duane Whitlow: Hello.

Luanne Johnson: Hi, Duane. This is Luanne Johnson calling to interview you about the founding of Syncsort.

Whitlow: Ok, sure.

Johnson: When was it that Syncsort was founded?

Whitlow: September 1, 1968.

Johnson: In our correspondence you also mentioned Whitlow Computer Systems.

Whitlow: That was the name of the company at the time.

Johnson: Okay.

Whitlow: It later changed to Syncsort.

Johnson: When did it change to Syncsort?

Whitlow: I'm not really sure. I wasn't involved at that time.

Johnson: Okay, so the company was Whitlow Computer Systems and Syncsort was the product.

Whitlow: Correct.

Johnson: As I understand it, when you started out you were attempting to market a database program to the military and doing an airline reservation system for Control Data, so did you start out with the idea of doing custom programming services?

Whitlow: It wasn't clear what we were going to do. I just knew that the reservations system I was working on at TWA was going down and I had had the experience of developing a data management product for TWA. Of course, it was never successful because the computer never arrived. The original contract with Burroughs called for a computer that couldn't do the reservations system because it didn't have the capacity. So I made a demand upon them to exchange it for a computer that would work and they claimed that was what caused the delay. That's a story unto itself.

But they later privately said to me that they agreed that there was no other path for them except to make a change to the computer. So it never arrived and I knew that in time the project would be discarded. So I had to leave TWA and that was a shame because there were very competent people there that I was managing and a lot a people were going to be in trouble. A new president of TWA came in by way of American Airlines and I knew what his job was. I speculated that it was to shut down the Burroughs system and that he wanted to collect evidence to sue them which it was successful.

Stan Rintell, who had some experience in a previous software company, had kept after me for sometime to start a company and so we did.

Johnson: So you and Stan Rintell were the primary motivators on starting a new company?

Whitlow: We were the founders.

Johnson: Okay. When you said he had been with a previous software company, was it just a small operation?

Whitlow: Yes, it was a small company.

Johnson: And he went to work for TWA from there?

Whitlow: Yes.

Johnson: So when you started out you were really continuing to do similar things to what you had been doing at TWA, is that right?

Whitlow: It sounded reasonable. It was a good data management product. It was a hierarchical system which is not in favor today, but in those days it was the only system that would work because the current method of forming databases requires much more memory than was available then. I had so much detail when I designed the system that we thought that maybe the government could use it. And we had a lot of good reviews. But we wanted some development funds and that didn't work out.

So, among other things, I got a contract from TWA to do a reservation system study in which I concluded that it could be done. I knew that beforehand, but I confirmed it by going to the reservations school. That contract with TWA expired, however, Control Data convinced themselves – and I think rightly so – that they could provide a common service for all airlines. They had a powerful computer by comparison by standards of the day. And we were then contracted to produce that system. Stan found a couple of fellows who had just received their doctorate degrees from Columbia, and they were assigned to that program along with a fellow whose name I can't recall from TWA, and they designed a nice system. We then hired some other people then to implement it.

Johnson: Was this about the same time that the Sabre system was being developed for American Airlines?

Whitlow: The Sabre system preceded all of it. It ran on an IBM 709.

Johnson: Okay.

Whitlow: It was one of the reasons I certainly knew that I could be done. It was a difficult situation because of overseas requirements; there were several complications. There was a fellow named Fish who studied the problems for about four years for companies they called the “five blind mice.” They were the five major airlines.

Johnson: Five blind mice, I like that.

Whitlow: They contracted with Mr. Fish to just design the system. He took so long they finally gave up on it. And that’s when I got involved.

Johnson: Okay.

The Origin of the Syncsort Product

Whitlow: We developed it for Control Data which was the strength of the people that were hired and because of the competence of this fellow that worked with TWA. And then, I happened to find this manual. I don’t know what it was, but it had timing charts in it for sorting. I had had previous experience with sorting many years ago in the late 1950’s and early 1960’s when I was in Orlando, working for Martin Company.

They had to have a justification for the 704 computer and that meant commercial programming had to share the computer. And no one had ever written a commercial program because technical people then were very rare. There were all kinds of people at Martin – librarians, philosophers, it was just a mixture of people. But not many of them took the time to understand the computer. So I wrote that program but it had to use a sort. And the 704 computer didn’t haven’t parity checking. The tapes would break. There were false end of files which means if there were four tapes coming in and tape two had a false end of file, it would abort and call for tape three. Half a tape’s information would be lost and nobody would know about it.

In doing this sort, I had to take into account that it may lose records, it may do all sorts of things, because there was a memory problem that wasn’t covered because of the lack of a parity check. So I had to rework the sort and in order to rework the sort, I had, of course, to understand it. That was my initiation into the sort field. And from that time until I designed the sort for Syncsort, I never looked at another sort.

Johnson: Okay. So Whitlow Computer Systems was developing a reservations systems for CDC and you’ve got several people working on that. Apparently you were able to find some really good people to put that together.

Whitlow: Yes.

Johnson: How did it happen that you decided to create a sort product?

Whitlow: I had several options. One was to continue marketing the database, of course. Another was to determine how to compare computers properly. A lot of manufacturers made compatible computers and no knew how really to evaluate them. Evaluation is quite expensive. I could mathematically do it if they had to obey the same rules. If the structure of the computer itself was different, then this wouldn't apply, but if they had to obey the same rules, then I could mathematically determine which computer was better down to the eighth decimal place. It was really quite accurate.

Another option was performance testing. Everyone started wondering what their response time was and how much more capacity they had. So I had an option to write a program which could evaluate that. I wrote some dummy programs which would steal cycles and by stealing cycles and finding out how that affected the program going through the system, I could determine how much capacity they had. So that was another possibility.

Then I happened to run across this sort manual. I don't know if it was a manual, but there were timing tables in any event. I calculated how much I/O time would be needed to complete the sort versus the elapsed time of the sort and there was a wide discrepancy. So I studied that and thought I knew why that happened and as a result I could produce a sort that was about twice as fast as the IBM sort. I ran it past Stan because I thought this was a good idea but I did want someone to confirm it. And, of course, Stan would say anything I said would be just fine. He was really an agreeable person. So I launched into it and, sure enough, things sort of evolved.

Obtaining a Patent on Syncsort

Johnson: Obviously it was successful. Tell me about the decision to go through the patenting process.

Whitlow: Well, I had much earlier in my life – fifty years ago in my high school days – read about the importance of getting a patent. As I recall, it was the telegraph system that there was more than one competitor for and the first one to get to the patent office turned out to be Western Electric. And so if there were other people out there writing a sort that came to the same conclusion that I did, I wanted to be in the patent office first.

Johnson: Okay. What year was it that you got the patent? Do you know that?

Whitlow: Yes, it was July 1, 1980. but it was started much early than that.

Johnson: Yes, that's was what I was leading up to because I know that there was a period of time when the patent office wasn't issuing patents for software. Marty Goetz got the first patent on software in the late 1960's and then there was a period of time in which the patent office became very reluctant to issue patents on software. They got quite skittish about it.

Whitlow: That's the problem we faced. Marty's patent was for a sort. He really had a desire to show that software could be patented. Not that the product itself was terribly meaningful, but if it could be patented, he would break some ground and Marty is that kind of person, as you would know.

Johnson: Yes, he is.

Whitlow: So, yes, that was the theme. In fact in the patent, there were certain things like signals, which mean nothing. The idea was that the software itself was a machine. And we had to couch it terms of being like some sort of electric machine that worked like a computer.

Johnson: You were obviously out there in the marketplace with this sort product before you had the patent, so by declaring that you were going through the patent process, is that what you were using for intellectual property protection?

Whitlow: Yes, patent pending is pretty strong. We had the basic characteristics of the patent in front of the patent office quite early. A fellow named Toomey, who is a very powerful attorney, had one of his fellows working on the patent, and this was just a young kid, and that's when I left. I was going to leave to the company by the year after that. It took a long time for this patent to get started and worked on. The result is, we had a patent applied for very early and that was enough protection because if the patent did go through then we'd be protected.

Early Marketing Strategy

Johnson: So you had that activity going on as part of your long-term strategy to protect this product, but in the mean time, you were gearing up to sell it?

Whitlow: Oh yes, it was being sold quite early.

Johnson: Mario Marino [former CEO of Legent Corporation] told me that his early partner, Bill Witzel, was involved in that marketing effort. It sounds like you tried to gear up with one type of marketing activity that just really didn't fit the culture of the company.

Whitlow: Well, the people we had were very good, but they were young. They didn't have a great deal of respect for someone else coming in and telling them how to do things. But Bill Witzel was very gracious and I did adopt the principles that he set up.

Johnson: How did you find him in the first place? Did you know him?

Whitlow: You know, that's a curious thing. Why did I know him? I don't really remember.

Johnson: That's all right. Mario told me that Witzel had an interest in lots of small entrepreneurial firms. It was something he was doing quite a bit of in the 1970's – going out and advising firms. Witzel, himself, is kind of elusive, he's not anxious to seek out publicity. I've talked to him a little bit on the phone but he wasn't forthcoming about how he got into that mode. So I was kind of curious if maybe if I could get it from your end.

Whitlow: Well, I think the relationship with Whitlow Computer Systems was sort of embarrassing for him. It's not something that he'd like to put out to the world. But I would simply state that we followed the rules that he set up. The rules are pretty simple. Make sure that you stage people through the process of purchasing. Keep calling people and follow a set of procedures until they make a decision one way or another. His point is – which is consistent with what we've all heard before – if you have enough people in the pipeline things are going to fall out the other end.

Johnson: Sure.

Whitlow: So we did it. But it wasn't acknowledged.

Johnson: Was telesales your complete marketing strategy?

Demos as a Sales Strategy

Whitlow: Pretty much. Then, of course, if they were interested, one of the next stages is to set up a demonstration.

Johnson: Okay. So, you did do demos once they got to the point that they were pretty seriously interested.

Whitlow: About 100% of the time, almost. Until the reputation of the company got better. And it still is practiced.

Johnson: Yes, demos have always been sort of a critical component of any kind of software sale.

Whitlow: The nice part about this sort, it's so easily demonstrated. We'd go to a company – the marketing people would -- and ask what sort they wanted to test against. They'd set it up according to IBM specifications, set up it up according to our specifications, and run it both ways. And we would win handily. Those were the days of stand-alone sorts, incidentally, there were no programs involved but that quickly changed. So we would run very fast. And then we could say, "Well, look, we also used half as much storage as they did." And disk storage was quite expensive. And we used less CPU time. We used much less resources. So we could write the report for them effectively, but the justification would be quite simple. And every time we demonstrated, I don't know of any failure.

Johnson: Once you could get on site and do the demo, you pretty much had a sale.

Whitlow: Yes, in fact, I hate to say this, but the people that would be watching the sort and set it up were pretty naïve. Let me give you an illustration. We had a thing called bias detection. We could determine if the data had a tendency to be in the proper order or not. And if it had the proper order, that would reduce the number of strings produced so the merger of them would go more quickly.

So one of things we would do, we would run the sort and then ask the IBM sort to sort it backwards. And it couldn't do it. It would really grind. Then we'd ask our sort to sort that tape backwards, and because we could recognize a negative bias, we would just reverse the nature of sorting. We could sort it in one pass. Now we weren't hiding that fact. We told them, "Look, we'll just run on one device and we can beat the IBM times if you have a lot of bias in the sort." But they didn't understand that. I remember one fellow saying, "Oh, you can run as fast on one device as they can run on six." Now what do you say to that person? You're wrong? We just let it go.

Johnson: So how many marketing people did you have? Did you have a big sales force?

Whitlow: Oh no. Aso [Tavitian] was the primary salesman for really some time. After a year, he hired a couple of people, but he wasn't satisfied with them.

Johnson: So, initially, he was the one that was doing the demos.

Whitlow: Yes, he was very powerful in that area. And he's developed the company into quite a large corporation and he is very good. Let me illustrate that. There were all sorts of problems with the sorting. Generally, they were undocumented by IBM. IBM would say if you do this, that's an error. If you're doing this, that's an error. IBM would let it slip by until we'd get a flock of calls. Harvey Tessler, who did the interface with the customers, did a wonderful job of keeping them pacified. The consequence was that we had a good many problems that had to be overcome. I went to one installation with Aso and this fellow was inflamed. He said, "Look I have four errors. I have a lot of problems with Syncsort." He mentioned one of them and I interrupted and said, "We have that solved." And Aso said, "Just be quiet."

The guy came up with a second one. I was inclined to answer that one, but I just bit my tongue. When he'd finished, Aso just sat there for a moment and said, "Well, this is what we can do for you." He gave an explanation of what we would do to fix the problem and that fellow calmed down and everything was fine. Which means he had the personality to influence people and he still has that.

Johnson: Yes, it's an important factor.

Whitlow: Oh, yes. We were saved by a lot of people. One of the development people, Azra Sassoon, was awfully strong in integrating the product when he came off of the reservation system. The key personnel we had were very good and hard workers. But we'd all get exhausted especially when the sort skyrocketed in the year that I left. It really blossomed.

Johnson: Let me go back to the marketing issue because that was always a big issue for most software companies back in those days. Because people like you and me, we started out knowing a lot about programming, but not very much about marketing.

Whitlow: Sure.

Johnson: Did you have national coverage? When you were doing these telesales, were you buying lists nationally, or were you focusing regionally? How were you doing that?

Whitlow: It was just calling companies and asking for the technical people, and that was Bill Witzel's idea.

Johnson: But was it all over the country?

Whitlow: Oh, yes.

Johnson: So then when you had a demo to be done, that meant that Aso or somebody had to get on a plane and go out and do a demo.

Whitlow: Oh, yes, there were scheduled trips. And they would include several demonstrations along the way.

Johnson: Okay, so they would plan it so that they would get a bunch of customers lined up in an area and go do a whole bunch on a trip.

Whitlow: Yes, that's right.

International Expansion Resulting from *Computerworld* Article

Johnson: Was it just U.S. or did you go international?

Whitlow: Well, when the sort came out, *Computerworld* wrote an article which got on the front page. They were just a start-up company themselves. But they wrote this story. I was interviewed and they put the story on the front page and talked about the sort's performance. And, wouldn't you know, there was a fellow overseas that read that and he wanted the marketing rights for overseas sales. So we sold it to him for \$250,000.

And it got further publicity because it was designed to optimize either the I/O requirements, the CPU requirements, or the throughput requirements. There was a meeting that he attended in Europe, and the people there said, "How can they do that? How is it possible?"

So it startled the computer world and the sort was starting to sell. But that was a complicated issue because you have to learn how to deal with Europe. Aso started about six different sub-companies to handle the European area.

Johnson: Do you know the approximate year of that *Computerworld* article?

Whitlow: Well, how old is *Computerworld*? It's right about in that era.

Johnson: Oh, it was about when they were just starting out, too?

Whitlow: Yes.

Johnson: But was it in the mid 1970's or earlier than that?

Whitlow: Oh, early 1970's.

Competition With IBM

Johnson: Okay, let's go into a discussion of IBM. You indicated to me in our earlier conversation that they reacted very strongly to competition from Syncsort.

Whitlow: Yes.

Johnson: You said they had an unofficial policy about non-IBM products in their customers' shops. How did you know that? Did you hear that from the customers?

Whitlow: We sort of gleaned it. There was no official policy. We were told by some source – that's going back thirty years and I just don't know exactly it came about. But more than once, we understood that if IBM lost to anyone, then they would open the market. They wouldn't defend it any more. And we opened a lot of those markets.

Johnson: So, Syncsort was the first non-IBM product in a lot of customer sites.

Whitlow: Yes, that's my understanding.

Johnson: Well, Larry Welke [founder of International Computer Programs, Inc.] told me that you attended some meeting where he was giving a speech and that he diverted from his prepared text to tell everybody what you had done for the industry. He said that it was such an important contribution because it really opened the market for a lot of software products. But this is the first time I've heard that there was sort of an unofficial policy on IBM's part.

Whitlow: It seemed to be true. I have no confirmation in any sense, but that's the assumption we were working under. We knew we were in for a fight. But the sort had these wonderful properties of having the patent applied for and of being able to demonstrate its performance that seemed to be unique to the field. And it's probably one of the few survivors, as a matter of fact.

Johnson: Is the company in essence the same corporate organization that it was years ago with just a name change or is it a whole new company?

Whitlow: It's the same company. It was renamed Syncsort which is appropriate.

Johnson: There are very few companies that have survived in their original form.

Whitlow: Yes. The company tried other markets. One of the differences of opinion we had when I left is that they wanted to expand to other products. I only wanted to focus on the sorting and they wanted to expand the company. My feeling was that we had an anchor and it was one of things I couldn't explain to them.

Johnson: So far, I've only been able to identify three companies that started in the 1960's that still exist in their original form. One is Cincom and that's a privately held company that Tom Nies is still running. One is Boole & Babbage which has been through many management changes but is still essentially the same company. And I guess then Syncsort is the third. The others have been bought up by either Computer Associates or Sterling Software or went out of business. So it's pretty rare that a company survives in its original form that long.

There's an apocryphal story about Syncsort that's been around for a long time which is that when you brought out Syncsort and it was so much faster, within months IBM introduced a faster sort. And the way the story goes is that IBM had that product available all along, but they didn't want to release it because obviously they got paid based on the number of machine cycles. And when you used less machine cycles, that was not to their advantage. Do you think that story is true?

Whitlow: No.

Johnson: Did they write a new sort after competition from Syncsort?

Whitlow: Yes. It was written over in Sweden, I think it was. And no, they had no other sort. They brought out SM1 which really just a refinement of SM023. And they had the PEER

sort which was announced but not yet available and that prevented people from buying a sort from another vendor. That was a common complaint. IBM would say they were going to have something and people would wait for IBM to release it. [Editor's note: PEER was the sorting technique that was used by the SM1 sort. Mr. Whitlow referred to it as the PEER sort and I have retained that usage.)

So we don't know what kind of effect that on our sales, but when the PEER sort came out, it was not competitive in any sense. And it was just error prone. We happened to see a list of the errors on the PEER sort and it was just incredible. I've never talked to anyone that tried the PEER sort, but from that information I assumed it was unreliable and it certainly wasn't competitive from a performance standpoint.

Johnson: Was IBM charging for sorts at this point or were sorts still bundled?

Whitlow: SM1 was the last free sort.

Johnson: Okay. So PEER was charged for?

Whitlow: Yes.

Johnson: How did it compare price-wise to Syncsort?

Whitlow: I don't know what their charge was. We didn't really care because we could justify our sort and so that was sufficient from our point of view. From my point of view anyway.

Johnson: Yes, I've found that to be generally true with people in the industry. The myth is that it was IBM's unbundling that created the industry. And I think it certainly created an environment where customers were more attuned to the idea of paying for software. But most people I've talked to didn't find IBM's software to be much a competitive problem because their own features were so much better that people were willing to pay for them. In your case where you demonstrate that they could save money by using your sort, the cost of IBM's sort, even after they unbundled, wasn't that much of an issue.

Leasing as a Marketing Strategy

Whitlow: Yes. One of problems many people had was the initial cost. To justify the purchase of the product, they had to go through several levels of management. We didn't have

that problem because of the leasing process which made it a monthly payment rather than an upfront cost, so we could float through a lower level of

Johnson: So leasing was a good marketing strategy because it allowed the data processing manager to make a decision without having to go to upper management.

Whitlow: Yes. Another problem that other people had with software that had many more features than a comparable IBM product is that IBM would generally upgrade those systems and then be compatible with their system. And they faced some pretty severe difficulties. IBM might come out with a new feature for example. Now every time IBM sold one of those, if the competitors didn't have that feature and they didn't know about it in advance then they were sort of hamstrung. In our case, it was one glove fits all and we never had that problem, because a sort is a sort. And that was a tremendous advantage.

Financing the Start-Up Company

Johnson: Another issue that I run into when I talk to people who started companies in the early days of the industry was financing. People have said to me that if you were a software products vendor in the early 1970's and a venture capitalist saw you on the street, he'd cross to the other side. There was just no external source for financing at all. People were scrabbling to come up with ways to cover their costs.

Whitlow: Yes.

Johnson: Can you talk about that a little bit?

Whitlow: We had \$90,000 to start, but that didn't last very long. And we got the \$250,000 from overseas which was very nice but that didn't last very long either. Yes, we were always scraping. I never took a salary in the company and neither did Stan.

Johnson: Oh, really?

Whitlow: Yes, we even mortgaged our houses. So it was a tough time. We didn't pay competitive salaries. One fellow came to me and said he wanted a raise because his friends all were making more money and he felt that he was better than they were. I said, "Well, that's fine, but what are we going to pay you with?" I asked if he would change places with any of his friends knowing the future of this company and he said no, he wouldn't. So, yes, it was a constant problem. We weren't paying competitive salaries and we were still running out of

money. We had a bank loan twice and that took a lot of convincing, Stan tried it several times, and finally I went down there, not that I speak better, but I had a more prestigious position, I guess. And we got the bank loan twice. We paid off one and a few months later we had to get another then we paid that off. Then the sort started to take off.

Johnson: I'm very intrigued by the issue of the difficulty of getting financing because, based on the research I've done, I believe that the first software product was ADR's Autoflow which was released in 1965. A lot of people have contested that and said that they were selling a software product before Autoflow came out. But my argument is that Autoflow was the first one because ADR was the first company that set up a business model based on selling a product as opposed to selling a service. A lot of people had what they called software products but they were really selling it in a services kind of environment. They were using it as a way of selling their services. The first software product company that went public was Cullinane in 1978. So that was thirteen years from the time the first software product came out in 1965 until a software product company, as opposed to a software services company, was able to go public.

Whitlow: Cullinane had the same focus for databases that I had. I think the genesis was from the same place. I talked to him once, nice fellow. The wonderful part about the sorting system is that it evolves as the computer system evolves. If you talk to Aso, you'll learn that he has sorts that run on just about every platform now.

Johnson: Does he?

Whitlow: Because Unix is pretty common, I guess, and NT is there, and the foreign market is there. But other companies as the technology changes, it just destroys them. That's what happened to Cullinane.

Johnson: Right. But with the sort you were able to keep changing with the times.

Whitlow: Everyone sorts.

Johnson: With all those years of going without salary and so on, did you eventually get some financial benefits out of all that.

Whitlow: Yes, in about 1983, I guess it was, I had 10% of the stock and I was paid a fee for that.

Johnson: They bought out what you owned at that point?

Whitlow: Yes, that was part of the settlement.

Johnson: What about some of the other people that hung in there with you getting a salary that was less than they could have gotten elsewhere? Did they have stock that got bought out?

Whitlow: Yes. They also had the 10%. That was the agreement in leaving, we'd all get the same 10%.

Competition With IBM (cont.)

Johnson: I'm going to turn back to IBM for just a little bit. They created a platform which made it possible to get a lot of unit sales of software because there was now a standard platform out there with the 360's and the 370's. But at the same time, they made it very difficult for the small software vendors to operate.

The question that comes up is to what degree were the obstacles that they threw up really deliberate or was it just part of IBM pursuing other strategies? Do you have a view on that? Were they really out to get Syncsort or were they just going about their business and created problems for Syncsort as a result? What's your view on it?

Whitlow: That's really subjective, isn't it?

Johnson: Yes, it is.

Whitlow: My feeling is that Syncsort was becoming very strong and that would encourage other companies to become even stronger to enter the market. And IBM didn't want that to happen. So they used devices that were legal to dissuade companies from using Syncsort or even being invited to try it out. But that's highly speculative.

Johnson: Sure, and some people believe that IBM wasn't even very conscious of the independent software industry. They were focusing on their own strategies and they just ran over people as a result. Other people think that they had a very deliberate policy of not wanting independent software vendors in their customers' shops.

Whitlow: The way I've looked at it is that IBM had a lot of smart people. They envisioned what the market would be and I'm sure that some of them speculated that software was going to

be a very large industry at some point. And the more that they could control that industry, the better off IBM will be.

Johnson: You said that there were some things that at least appeared to be deliberate on IBM's part to discourage their customers from bringing in Syncsort?

Whitlow: They would pre-announce a product and that was very discouraging to a lot of companies. It certainly hindered us though I don't know how badly. People would always bring up the PEER sort and we would just indicate how long it had been since they heard about and that we were ready to compete with them. Just give us a chance, when they have it ready, we'll run against it. And until that time, you can use Syncsort and if you like the PEER sort better, then drop the Syncsort for Peer. But it was a hindrance.

Johnson: Did it help you get into those companies because with the leasing option you could convince people they might as well go ahead and install Syncsort because they could always drop it later if they didn't like it?

Whitlow: Absolutely. That was a fundamental part of the marketing. You could make a three-year lease, or a five-year lease, those are the ones we encouraged. And you're not going to lose because you know it's a good performer. And at the end of that time, if someone outperforms it, you can replace it. But because of the patent, we don't think that it will ever be surpassed. So we had some pretty strong points.

Johnson: Well, you've been very helpful. This is really very interesting stuff.

Whitlow: Well, I wish you success with your project.

Johnson: Thanks very much. It's been great talking to you. Bye now.