



Oral History of Warner Sinback

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Warner Sinback

Conducted by The Information Technology Corporate Histories Project

Abstract: Warner Sinback describes the creation of General Electric Information Services within General Electric, the development of a time-sharing operating system at Dartmouth, and the growth of GEIS into the world's largest time-sharing service.

Developments at GE that Preceded GEIS

Warner Sinback: I founded within GE, the first commercial online information service in the world. It quickly caught on. As one fellow said within a few years after that, if you said time-sharing on Wall Street, they'd throw money at you.

Luanne Johnson: Tell me how all that came about – how you got to GE in the first place and what year it was that General Electric Information Services got started.

Sinback: GE was very good to me. I worked for GE 50 years.

Johnson: You did? Wow.

Sinback: They let me do new things, and that's what I had gotten a real kick out of. I had just finished a big project with 600 people where we put in the air weapons control systems in East and West Germany and I was now between projects. GE had just gone into the computer business and they brought in a fellow named Louis Rader from Univac.

One of the things that he found in the Phoenix facility was an outfit that the hardware people had put together because they had trouble selling their new operating system, GCOS. A lot of people who were prospects wanted to see it work or wanted to run one of their programs on it, so they set up demonstration places for customers to come and bring their programs, do a conversion, see how they ran.

They ended up setting up computer centers in Phoenix, New York, Schenectady, and Chicago for sales purposes. This became a fairly big enterprise but it was all expense, it wasn't making

any money for them. So they decided to sell batch time on these computers when they weren't being used for demonstrations. This developed into a batch processing business, but it lost money. It was not reasonably priced. It had all kinds of problems. And, they had a computer programmer running it who had no concept of profit. Hell of a nice guy, by the way.

So, Rader, knowing I was between jobs, got in touch with me and asked me to come to New York to meet with him. I went to New York and he said, "Warner, you've been involved in marketing, sales and so forth, and I have this business that I'm not sure is a business. How would you like to take a try at turning it into a business?" And, then he said to me, realizing that in GE it's a real problem if you fail at something, "Warner, I'll give you six months to decide whether it's a business or not, and if it isn't, shoot it in the head and I won't let it fall on you."

Johnson: He sounds like a great guy.

Sinback: Oh, yeah, that's an offer you can't refuse. This was in December of '64, before Christmas. I'd been fretting about a new job, and my family heard this with mixed feelings because it meant moving to Phoenix from Syracuse.

So, I went out to Phoenix, and went around and saw all the computer centers and, in February, one of the guys in Phoenix came to me and said, "I want to show you something. Come down to the lab and let me show you something." And, lo and behold, they had a Model 33 teletype terminal. They sat me down, and with a couple minutes of instruction, I'm using the thing. And I thought, damn, that ought to have a commercial application.

Johnson: This was a teletype hooked up to a local computer?

Development of a Time-sharing Operating System at Dartmouth

Sinback: Oh, yeah, the computer was right there.

I had already decided that within six months, I was going to go back to Rader with a list of reasons why it either was or was not a business. So one of the projects that I put on this list of business possibilities was time-sharing.

Now, the way time-sharing developed was also very interesting, because we loaned computers to people so they could develop software and try them out. There was a professor at Dartmouth, John Kemeny, who had the problem of providing computer education to students. So the GE hardware group had given him our small computer, and, he was developing stuff for it. We had come up with a 20 channel communication device, the Data Net 30, that connected to the computer, so you could have remote access on a batch basis. John got excited about

that, and he decided that what he wanted to do was to provide all the dormitories access to the computer so the students could work at night.

He took six of his top students off for three or four days and they brainstormed the idea of, if you can get connected and do batch jobs, how can you connect and do interactive things? They came up with the idea that you need a little simple language so people can learn to program and you need an operating system to make this work. So John went off on a vacation and, in two weeks time, he wrote the BASIC language, and the operating system.

He came home from that vacation thrilled to death, installed this thing, put some Model 33s, in the dorms, and it was a huge success. BASIC was just a huge success. Kids could learn it in thirty minutes and he'd solved the problem.

Well, when I took the job, within a week or two, I went up to Dartmouth with one of our hardware people to see John, and I asked him some questions. I said, "Gosh, this thing appears to me to have commercial possibilities." As part of the agreement for the loan of the computer, we had the rights to any software that they developed.

He agreed. So, I went back to Rader in March and said, "I want to talk about our six month deal." I had ten possible projects and one of them was time-sharing. I said, "I think that some of these have the probability of developing to the point where we'll want to try them for a longer period." Rader agreed.

So, I came back and now we had BASIC and the operating system. Our guys quickly set up a system of our own in the engineering department, and that's what they took me down and showed me.

Offering the Time-Sharing System Commercially

I asked the guys, "Look, if we're going to offer this commercially, what would we have to do to pretty it up?" We decided to make it available to General Electric employees over our telephone network that covered all our GE locations. And that resulted in people that were really excited about this thing all over the country. They just went nuts over it.

The net result was that by April, this engineering system had loaded up our network. Our own network people were bitching about the fact that we were loading up the telephone network with all this data crap.

When I asked the guys what they thought it would take to commercialize it, they put a proposal together, and we costed it out at \$208,000. So, in April, I had a review with Rader and Rader's boss and my punch line was that this time-sharing project had enough potential that it could be

a ten or twenty million dollar business in a matter of ten years. In those days, that was a lot of money.

He listened to the whole pitch and said, "Warner, it sounds like a great idea." And I said, "Well, what about the \$208,000?" "Well," Rader's boss says, "what you'll have to do is you'll have to fund it from the revenues in your business."

This was already April 15 and the whole business at that time was \$5,000,000 so that was a lot to cover out of my business. And, what he didn't know is I'd already spent three-quarters of the damn money. But I made up my mind I was going to do it and I bet my job.

I went to the engineering manager and said, "What about moving the system into the field center which will allow me to offer it commercially?"

He agreed, and on Labor Day weekend in 1965, we moved that system, which was being used by all the GE people, into the Phoenix center where it was connected to telephone circuits so we could offer it commercially. And the first thing we did was to totally overload the telephone system in downtown Phoenix. The system was absolutely loaded and on its knees in a matter of days.

We had told the telephone people what we were doing. But they panicked and sent an enormous delegation over to see exactly what the hell we were doing. They decided to get Bell Labs involved to reengineer the switches to handle the load and they finally got the telephone systems in downtown Phoenix working again.

The next thing I did was appeal to the guy I worked for, for another system. The process of approving capital appropriations in General Electric is very precise, and I had no authority to actually do it. He did. So, we put the second system in Schenectady because we had a huge bunch of customers up there. Within two weeks the system was absolutely loaded.

Johnson: Wow.

Sinback: So I quickly went through and asked for three in one batch. They approved the three, and we put one in New York and a second in Chicago. And, I believe, we put another one in Phoenix.

Johnson: These were not, at this point, hooked up with each other?

Sinback: That's right. They were just serving customers in each area. But, we had people that were accessing these from a hell of a long way off. Simply because they wanted the advantage of having all of their files located in one place. And, we quickly discerned that that was our next

big challenge. To find a way to furnish accessibility to files from all over. The next big technical breakthrough was to provide that accessibility.

So, instant success. We ended up with 10 or 12 systems, all of which were loaded, all making money. By the way, at the end of the year -- you know, they told me I had to pick up the \$208,000 -- I had already picked up \$500,000 or more.

We continued to install those systems and finally had 29 or 30 installed in the United States and then began going international.

We had hardware distributors in various countries. Honeywell was doing the hardware distribution in Europe and Australia and several other places. Those distributors found out about this time-sharing thing and they wanted a system. So, we made deals and we started installing systems in Europe, Mexico, Venezuela and so forth.

These were still individual systems, and we quickly found out that we needed (a) a much bigger computer; and (b) a front end to this whole thing. I went to a staff meeting one morning in Phoenix and my boss said, "New York has decided that they want to give a larger computer to Dartmouth. And, we need to have a sponsor, but the hardware people don't want to have anything to do with it." I said, "Hey, we'll provide it." By that time, we developed another line of computers, the 600 series, which were much faster and, therefore, better for time-sharing.

Johnson: Did you mention the series numbers of the computers who had been working with until that point?

Sinback: The 200 was the first one. In fact, the computer was the 235, and the communications device was the the Data Net 30, so we called the time-sharing system the 265, the total of the two numbers.

Johnson: Okay.

Sinback: I went to Dartmouth and sat down with with John Kemeny and his assistant Tom Kurtz and said, "I'm in the market for a bigger time-sharing system. We're going to give you a bigger computer. What about a joint project to develop a time-sharing operating system software for the bigger computer?" And he said, "Well, gee, that's a good idea."

I said, "I'll contribute six people and you contribute six people and I'll send our people to Dartmouth for a minimum of six months, maybe a year." We set up the team and in a matter of two or three months, they came up with the combination operating system and time-sharing system.

We put an experimental commercial system together and offered it to our customers with the warning that it was not totally robust. We had a lot of problems with it, but finally got it to a really stable system.

And now we had two offerings. We had time-sharing on the bigger computers and time-sharing on the smaller computer. But people were really dedicated to the smaller one. We couldn't get them to move. They didn't want to move because they were happy with the service.

So for years we offered both services. Then, of course, the next step was that occurred to our people was that we should network the computers and offer a front end that integrated the services and could do the most efficient distribution of the work load. And on the back end, we didn't necessarily need to have all of the computer centers we currently had. It would allow us to coalesce this thing and be much more efficient.

The guys came up with a network design that allowed this, and we were able to coalesce this whole thing into one network, and customers could use either the 635 time-sharing service or the 235 time-sharing. Slowly, then, the 235 time-sharing service load degraded as, you know, people moved to the faster service. But it was slow to die. People loved it.

Oh, I want to tell you about e-mail. We invented e-mail.

Invention of E-mail

Johnson: Oh, you did?

Sinback: In the early days, when we first did the time-sharing system, as the software people got smarter and smarter, they came up with the idea of file creation with permissions. So, you could create a file and you could designate permissions.

This was a far-flung business at this point, over several time zones, and our guys started using this for communications. So if I'm dealing with you in Tokyo and there's 12 hours difference, you're sleeping when I'm awake and so forth. I would create a file and I'd give you the permission. Then, you'd create a file, and you'd create my permission. So, I'd come into the office in the morning, and I'd read this file, and the messages you'd left and I'd do the same thing in reverse at the end of my day.

We ended up using an extensive amount of our service to run the business. Then one of the guys in England said, "Well, damn, it ought to be easy enough to fix this so that when you put a message in, you could have this permission create a signal." And, out of that was born a thing that we called a cross-file or x-file. Then they started making cross-file more and more automatic. The first thing you know it working in real time -- you send a message...

Johnson: And you get a message back.

Sinback: That's right. And, so now, we looked at it, and said, hey, there's commercial possibilities. It's a damn nice thing. And so, we needed a name for it.

Battles with International Telephone Companies

Well, I was the guy dealing with all the telephone companies around the world. They were raising merry hell claiming that time-sharing constituted communications, and that was their domain, that we were not permitted to do that under the terms of our telephone service contracts, and so forth. AT&T was one of our very worst critics, and, of course, at that time, they had all the phone companies. After the experience in Phoenix, they came up with a scheme to have a special assembly for a time-sharing system that was about four times the price of ordinary telephone service. It would have bankrupted us.

Finally, we decided we had to do something about this, so in Cleveland, we filed a complaint with the utility regulatory people which finally became a court case, and we won. And, then we did it in Kentucky, and we won again. Finally, AT&T backed off and we got ordinary telephone service. But, it was a bitter, bitter fight.

Internationally, it was awful. Telephone companies were government monopolies. The guy at Belgian Telephone looked me in the eye and said, "We're going to cut off your damn service. I don't care what you think. You've got no right to do that."

So, we had a big conclave with the marketing people on how the hell do we merchandise this stuff. They brought in a consulting firm to come up with a name. Dave Sherman and I had talked about File Sharing and similar names, but to my consternation, they came up with the name Quikcom. The marketing people won and that's what we did.

I spent an awful lot of time negotiating with various governments. I personally negotiated with the Minister of Communications in Australia, and country after country. Each time when we'd get to the point where they'd threaten to cut off our service -- Belgium was the worst; we had to take them to court in Belgium -- we'd argue that we're a big revenue producer here. You may not be getting all the revenue but you're certainly getting a hell of a good share. Well, we eventually got the service approved all over but that was a big step.

Johnson: Up to the point where you had email, was it a pure time-sharing service? Were people buying computer time cycles, or did you have applications?

Sinback: Oh, application development started way back. We were developing applications the minute we offered the service. We had inventory applications, sales, where you handle prospects and orders and all that sort of thing.

Johnson: Oh, okay. So you were applications focused right along.

Competition with the GE Hardware Division

Sinback: Another problem was the competition we had with the GE hardware division. Once the business got going and I had the full attention of GE headquarters at 570 Lexington in New York, I went to Rader and told him that the hardware salesmen were undercutting the business because they wanted to use it to get customers started on contracts and then get them to buy a computer and take the work in-house.

Johnson: And there go your time-sharing customers.

Sinback: Exactly. So I talked to Rader and said that I wanted to move the business out of Phoenix to the Washington, DC area. Well, he agreed with the idea of a move but wanted to move it to the Jersey flats because he loved the Jersey flats. Thought it had the most convenient transportation in the world and lots of good people to hire.

His boss, Herschel Cross, wanted to move it north of Chicago, which he considered the center of the United States.

I had done a study that showed that the largest aggregation of people on earth with computer knowledge was the Washington D.C. region and I wanted to move it to D.C. I wanted to move it to Bethesda, because we had a time-sharing center there. So this debate went on for about for three or four weeks, and finally one night, I'm sitting there in Phoenix at 6:30, and Rader called and said, "Warner I've been thinking about this move of the time-sharing business. Goddamn it, go ahead and move it to Maryland." Within two days, I had bought a house and started to move the business to Bethesda. About a third of the people would not move out of Phoenix so we lost a lot of our technical staff.

Sinback: But, I didn't give a damn. And, by the way, almost forty years later, that was a very sound decision because we found a lot of talent here.

Johnson: What was the year of the move to D.C.?

Sinback: We announced the move in the third quarter of 1965.

Recruitment of Women in the Sales Force

On the subject of talent, a friend of mine called me one day from New York and said, "Warner, I've been hearing about this time-sharing thing. I have a daughter, who just graduated from college and is very smart in math, and she doesn't know what to do, job-wise. Do you think that there would be something in your business that she might be able to do?"

I said, "Oh yes, absolutely." And she subsequently got a job with us in New York. That got me to thinking that there were two groups of women who were potentially great sources of talent: those who were recent college graduates and didn't know what career to pursue, and those who had quit work to raise a family and wanted to get back into the workforce. So I wrote a memo that said: Let's focus on those potential sources. By about 1967 or 1968, I had the only 50/50 GE male/female sales force in the country.

Johnson: No kidding.

Sinback: It was an absolute innovation. People in GE were startled because they would not let women be equipment salespersons because they thought they couldn't pal around and bond with the mostly male customers. All the crap they would throw out supporting this view.

Johnson: Sandy Kurtzig, the founder of ASK Computer Systems, sold time-sharing services for GE early in her career.

Sinback: Yes, I think I remember that she did.

One time we were at a sales meeting down in Florida, and one of the senior GE executives that we reported to up several levels was there, and he walked over to me and he said, "Warner, what's with all these women. Can they sell?" I said, "Look at their record, that's all you have to do." He said, "Well, are they qualified?" I said, "Well, go and talk to them."

He goes over and talks with one very good-looking woman and she told me about it later. He introduced himself, and he said, "Now, what do you do, young lady?" She says, "Well, I'm a sales person in San Francisco." He said, "What's your educational background?" She says, "I have an electrical engineering degree from Stanford, and I'm working on a Master's." He talked to several other women and afterwards, he told me, "My God, this is just absolutely, you know, incredible."

So it turned out that our half and half sales force worked wonderfully well. We had our sales force divided into two groups. One group was the initial sales people looking to sell the initial contract. But, once you've got the order, the other group was looking to expand the customers' use of the system and assist them in developing new ways to use the system. We called those application specialists.

We had salesmen, application specialists, and application development people available. So, if I came to meet with you, and you had an inventory problem that our standard software didn't solve, for a fee, we'd bring in people who would sit with your people, develop the specs, and develop the system.

Johnson: In a case like that, would the software end up being owned by the customer...

Sinback: Yes.

Johnson: but run on the GE timesharing system?

Sinback: Yes.

Johnson: Whereas in the other case, if they were using the standard system, it was your software?

Sinback: That's right.

Johnson: Yeah, okay. That's interesting.

I don't really know much about how GE is structured. Was this a division of GE?

Sinback: We started out as the smallest unit in GE, a so-called business. That could be something that was just starting, and it was located in a department. And, a group of departments was located in a division. And finally, in a group.

Johnson: Okay. So, did this start out as a business?

Sinback: Yes. When I took the job, it was the information processing business.

Johnson: Okay. I interrupted your train of thought there, you were talking about the salespeople. So, you've got a sales force all over the country? All over the world?

Sinback: Well, all over the world, actually. Of course, the distributors owned, you know, the people outside the United States. Inside the United States there were all GE employees.

We had a funny problem because, in the early days, all we had was a Model 33 teletype. And, it's hard as hell to go to a customer's premises and take one of those along to do a demo. I was really puzzled about what the hell to do about that. And particularly with the women who were a little more frail.

So, one day I was talking to one of our administrative guys and I opened up a Model 33 and realized that most of the damn thing was the stand. Inside, if you look at the guts, it wasn't that big and I asked if we could package that stuff up and make it portable.

We got in touch with a plastics guy out in Maryland and he came in and looked at this monster and said he could make a carrying case for it. So we ended up with a carrying case with a plastic handle for the Model 33. But we had to send a helper with the women because they couldn't carry it. It weighed 80 pounds.

Johnson: Sort of on the edge of what you might call portable.

Sinback: So, what we'd do is, we'd send a man, when they wanted to take it some place and demonstrate it. And it wasn't too long before other terminals were developed, as soon as it looked like there was a market.

Johnson: So they would walk in and just plug it in the phone line and access the system. Is that right?

Sinback: Instead of plugging into the phone line, we had to take the receiver off the hook and...

Johnson: Oh, yeah. Those acoustic couplers.

Sinback: Yes.

Johnson: Yes, I remember those.

Sinback: But, anyway, the use of the salesmen and applications specialists backed up by these technical people really worked out a very nice arrangement. You could individually size the things that fit that particular set of customers and so forth. But we quickly developed some very big customers. We had customers who were spending as much as \$50,000 a month with us.

Integration of Local GEIS Centers into One International Network

Johnson: At what point did you start to get all this integrated into one network. About what time frame was that?

Sinback: Well, let's see. The first experimental system that we put in, tying in the whole country to it, Mark 1 AX. That first went into service on computers located in Cleveland in 1969.

And then, the next thing, our U.S. salespeople came to our English distributor and said that could develop a hell of a market for people who had affiliates in England if we had a tie. So we wondered if we could use a satellite to send data.

It had never been done. So, in 1970, in September, we rigged up a satellite circuit from Cleveland to London and we successfully tied them together. And now we knew we could do satellites.

Now the satellites created a real interesting problem because, as you know, there's a delay up and back, so you've got to redesign the software to take into account that you've pushed buttons and it's delayed, and when you go back it's delayed, so the software has to take that into account. And that's quite an interesting little problem.

But we got it working fine and after that, the sky's the limit. We tied the whole world together. And then, of course, we coalesced the centers. We started closing out the little ones and moved down to three: Cleveland, Teaneck, New Jersey, and Los Angeles. And then, finally, we closed Los Angeles and Teaneck and put everything in Cleveland.

Johnson: In Cleveland. I didn't know that.

Sinback: It was the largest computer center in the world at the time. It was enormous.

Johnson: At what point did you finally coalesce everything in Cleveland? Do you remember about what year that would be?

Sinback: It was probably in '71.

And at that point we had literally 24-hour service operating. But we ran into a problem with centralizing everything in Cleveland. I'll tell you a story about that.

One time a reporter in Malmo, Sweden, decided he would go down and interview the fire department. So, he picks out a fire department location, and he's interviewing this guy about how you fight fires. Suddenly an alarm went off and the firemen grabbed their hats and were gone. So he waited until they came back and asked the guy he was interviewing, "What I don't quite understand, when the alarm went off, one of these fellows went over to that telefax machine over there. What was he doing?" "Oh," the guy said, "he was finding the way to the fire." So he goes over and puts in an address and it gives him complete instructions on how to get to that address.

The reporter says, "My God! That's stupendous. Where's the computer that does that?" "Oh," he says, "it's in Cleveland. The United States." So the reporter wrote this article and it created a

storm, a furor: Here we are, totally dependent on this U.S. computer to fight fires and so forth and so forth.

That was just one example of negative publicity. So we finally decided that it would be more efficient and better marketing-wise to have a second center. So I went over and found a place in Europe. In Amstelveen, The Netherlands. That's not Amsterdam, that's Amstelveen. It's on the same river. It's an older city than Amsterdam. Actually, Amsterdam was having its 400th anniversary, and Amstelveen its 600th.

I found a place and we built a center in Amstelveen. Now, by proper use of sizing and so forth of international telecom facilities, when the heavy load was in Europe, which is six hours different from the USA, we could optimize the use of very expensive telecommunications facilities. The two operated really as one center logically so far as the software was concerned. But they were physically separate and that worked out quite well.

Johnson: Can you remember the year when that was built?

Sinback: The coalescing would have been '73 probably. And then the European center was late '75. I think I went over for the dedication of it in early '76. The Dutch were very nice. We shopped all over Europe for cities where it could be located: Geneva, Rome, London, Amsterdam. But the thing that sold me on Amstelveen was the Dutch government. The Dutch were dying to get nonpolluting manufacturing in there and we didn't pollute a thing. So they made it very financially attractive for us. So that worked out quite well.

Application-wise, after the beginning of '75, we were really focused on business-to-business applications, all kinds of applications for optimizing business-to-business transactions. One of our marketing slogans in the early days was: We are changing the way America does business. And we really did.

GEIS's Role in the EDI Movement

Johnson: Wasn't GEIS one of the leaders in the whole EDI movement?

Sinback: Oh, yeah. Oh, absolutely. We didn't invent EDI but we sure as hell were right there at the beginning.

At one point, something like 90% of all the trading in Eurobonds between Europe and the United States was handled in our network.

Johnson: When did GENie come in? And what was the story on GENie?

(Ed. Note: GENie stood for General Electric Network for Information Exchange. It was a consumer service.)

Sinback: GENie? Well, that was sort of a deviation. The marketing people, thought there ought to be a market for that kind of service so we put a little team on it and they developed GENie. But it was a different marketing problem, completely, from the other service. Management never really grasped what it would take to set up the kind of marketing effort that was needed to develop it. It developed kind of nicely, even on its own. But it just was sort of an orphan. It didn't fit, you know? And the first thing you know, they found somebody to sell it to.

Johnson: Did they sell it to CompuServe?

Sinback: I can't remember who bought it, but it was a very interesting service if it had been properly approached.

Johnson: The same old story. You lose your focus and it just doesn't work.

Sinback: Yeah.

Johnson: What would you say was the next big milestone? You're here in the '70s and you've got a worldwide network and customers everywhere. What was the next big milestone beyond that?

Sinback: Well, EDI certainly became one of the big moneymakers, revenue producers. The electronic messaging certainly became a very large segment. And the business-to-business applications — inventory and all that sort of thing. We had some major, major accounts in terms of size. Of course, we never published or announced the revenues for GEIS as a separate number but the business got to be very close to a billion dollars.

Johnson: Wow.

Sinback: Very close. In fact, I had high hopes that it would get to that point, but...

Johnson: What happened?

Sinback: We got a succession of people who really didn't understand the business. And that creates a hell of a problem.

What are some of the other time-sharing companies that you are going to cover in your project?

Johnson: Tymshare, Comshare, and National CSS.

GE's Role in the Founding of Tymshare

Sinback: I'll tell you an interesting story about Tymshare. Tom O'Rourke worked for GE. He was a salesman.

Johnson: Yes, I know that.

Sinback: My timesharing software, the 265 software -- when the hardware people saw that it worked, they to my boss and said, "Look, if we had that software, we could really sell a hell of a lot more computers." My boss called me into the meeting. And I said, "Look, we developed this thing, it's ours, it's the only thing we have. If that's given away, forget it."

So he put out an order to the hardware salespeople that you may not offer that software or tell somebody you will find a way to make it available.

Well, one of our salesmen in Detroit really didn't agree with that. We had to use the hardware field engineers in our center and this salesman sent one of the hardware field engineers in in the middle of the night and make a copy of my 265 time-sharing software and gave it to -- I don't remember now -- Ford, I think. And I found out about it the next day and I absolutely blew my cork.

I went to my boss and said, "Look, here's what happened." He immediately got on the phone and, "You get that deck back and you tell those people it was illegal to give it to them or you're fired." So they did.

In the meanwhile, we also found out that Tom O'Rourke had somehow gotten a copy of the software and given it a customer. When Van Aiken found out about it, he got in touch with him and said the same thing. Pull that out of there or you're fired. This is a violation of a specific order.

Tom, meanwhile, had already been talking with Bank of America about financing. And Van Aiken said to me, "Why don't you call Tom and offer him a job? See if you can't bring him into the time-sharing you're doing." So I called Tom and got him in for an interview. And we had a long conversation and so forth. And Tom said, "Well, I really feel I could do better starting my own time-sharing company."

Sinback: But they had, I'm sure, a copy of the stuff we did. They did enough changing and they got a system which they claimed was theirs. It was mostly ours.

Anyway, that's how Tymshare got started.

Johnson: They did a good business. But in terms of reach and coverage, I'm sure GEIS held the lead for a long, long time.

Sinback: Oh, yes.

Competition with IBM

Johnson: What about IBM?

Sinback: Oh, let me tell you about IBM. We ran some early ads, not in the high-priced newspapers but in some of the professionally-oriented newspapers for accountants and so forth, because it was cheap. I didn't have the money to spend a hell of a lot on advertising. So we ran a full-page ad in one of these publications one time, probably in '66. It said: Would you like to access a million dollar computer? IBM felt so perturbed that they ran one in *The Wall Street Journal* within a month that said, "Would you like to access a five million dollar computer?" Our advertising guys said it's the first time he'd ever seen IBM led.

They also developed some defensive stuff. They had one ad where they talked about accessing a computer that some people are offering through this "college boy's language." Had it in quotes. They were talking about BASIC. And saying that they have a far more sophisticated language.

Johnson: But they never really had a good time-sharing operating system.

Sinback: No, this was a batch-connected kind of thing, I've forgotten the name of the software now. Quick...

Johnson: QuickTran?

Sinback: QuickTran. That's it. QuickTran.

And it was awful. Absolutely awful. But, that was funny. Our advertising guy was ecstatic when he came in and showed me the IBM ad.

Johnson: Yeah, that you could get IBM to act defensively like that.

Sinback: But they never believed in the service business. They're hardware-oriented to the core.

Johnson: Yes, until very recently.

Sinback: Until very recently. But we gave them a hell of a time in the hardware business. If we had had the guts to stick it out, I think we could have given them a really hard time in the hardware business. But they had such a hold on the companies, on the corporate management that they could almost threaten the corporate management if they talked about using somebody else's hardware. We knew of cases where they did that.

The other thing that was interesting, when Honeywell decided to make the offer for our hardware business, one of the early things that was apparently discussed was whether the time-sharing business was part of the deal. And very quickly the GE people said no, absolutely not. So we were retained.

One thing I'm pretty proud of is that I instituted a policy that required that whenever someone brought me a promotion list they had to include at least one woman and one minority on it. It was really pioneer stuff in those days but it got some good people the promotions they deserved and wouldn't have gotten otherwise.

Johnson: You were way ahead of your time on that.

Thanks so much for your time Warner. It's been really interesting and I'll be getting back to you to get more information about GEIS for our Corporate Histories project.

Sinback: Alright.