



Interview of Philip (Phil) Nyborg

Interviewed by:
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James Pelkey: You were heavily involved in the process of these data communication companies coming together to try to deal with the problems of AT&T --

Phil Nyborg: Are you primarily interested in the CCIA period, as opposed to MCI.

Pelkey: I'm less interested in MCI. I can't deal with telecommunications per se, so I'm more interested in the process of the data communications companies and how they came together, dealt with standards, and applied pressure regarding issues such as the DAA.

Nyborg: Well, let's see. I should tell you, briefly, a little about CCIA and its genesis, which you may know about very well, but CCIA, back when it started, was known as the Computer Industry Association, just CIA, and it was founded by a group of the -- almost all of the plug-compatible peripherals manufacturers in the computer industry. Telex, Greyhound, Memorex and several others got together, primarily with antitrust concerns about IBM. Many of those companies later sued IBM individually in antitrust suits, but collectively formed a trade association to deal with the political aspects of industry structure at that point as well. That was CIA's primary mission back in the early days before I got there.

Pelkey: Do you know when that was formed?

Nyborg: Let's see, I came there in '78, and it had been going on several years at that point. I really can't tell you the exact date, but CIA then became CCIA because of an emerging set of issues in the communications industry that related primarily to the Bell System. CCIA had become -- it had developed a reputation as the trade association that was fighting for "competitive conditions" in the computer industry, and it was later -- what started out as plug-compatible peripherals manufacturers were later joined by plug-compatible mainframe manufacturers like Amdahl in that sector of the industry. As digital technology became more important in the communications industry, it became recognized that there was a whole series of issues relating to AT&T and a monopolistic industry structure that were a natural extension of the kinds of positions that CCIA was taking in the computer industry. There were some associations to deal with it at that point. There was the Independent Data Communications Manufacturers' Association, which is exactly what its name implies -- modem makers and things like that. There was the North American Telephone Association, or NATA, which was primarily concerned with the interconnect portion of the industry, PBXs, keysets and that sort of thing, and of course both those segments existed at that point. There was some business in them, but a great deal of the world belonged to the Bell System, and certainly all of the carrier switching and carrier apparatus kinds of manufacturing was almost entirely resident in the Bell System and in GTE and so forth. CCIA tried to become the lightning rod for the emerging group of more computer-like communications manufacturers, and it was working toward the objective of creating as competitive as possible conditions in the communications industry for those companies. General DataComm was a member at that time --

Pelkey: Now, this is '78?

Nyborg: Yeah, this is around '78. Now we're up to where I came in. General DataComm was a member, Digital Communications Associates was a member, and one of the things that made CCIA an interesting and effective industry forum was that the CEOs of those companies were generally the individuals that represented the company on the CCIA board, which met quarterly, so it was a real on-line, real time, whatever you want to call it, industry forum when that group got together. Chuck Johnson came for General DataComm and John Alderman came for DCA. Telenet joined when they were just Telenet, before GTE bought them, and all focused on the

issues of whether, and under what conditions, the telephone companies would be allowed to compete in the data communications industry, both hardware and services. Another thing that gave impetus to the whole debate at that point was the so-called Bell Bill, which AT&T and the operating companies had pushed forward with its friends in Congress, to basically legally reassert what they viewed as the eroding monopoly position of the Bell System.

Pelkey: There must have been hearings on that bill.

Nyborg: There were hearings ad nauseam. At that point it became -- it was a very multi-faceted exercise in regulatory politics is what it really boils down to. We used to joke that Alexander Bell invented the telephone and Theodore Vail invented the AT&T monopoly. AT&T was a master of that game; of dealing not only with the business and technology environment, but dealing with the regulatory politics associated with the industry, and what a lot of these young companies were learning is that they had to be able to play that game effectively too, and CCIA was very actively involved in that process. The original Bell Bill was introduced, I'm not sure I can tell you the year, but I believe it was even before I got to CCIA. It must have been -- I'm thinking '76. I'm not sure that's right, but there were hearings on subsequent versions of that legislation virtually every year, and I, on behalf of CCIA, testified before both House and Senate Communications Subcommittees on those issues, and everybody in the industry did, virtually all the trade associations and most of the major corporations. It was a huge, lengthy set of hearings, and the multi-faceted debate was that part of it on the Hill. The Second Computer Inquiry at the FCC, which Dick Wiley had initiated on his watch back in about 1975, which was the FCC's effort to determine the ground rules for the carriers to play in competitive data communications and so forth, and then, of course, there was ultimately the MCI antitrust suit principally, because that was the suit that had the most impact at that point, and of course that ultimately got the third leg of the triangle going, which was Judge Green's court and the outcome of that proceeding. The antitrust suit was initially won, at the trial level, by MCI, during the period I was at CCIA, which was '78 to '80, and it was a major encouragement to companies that wanted to see a competitive portion of the industry, that there was progress being made, and I think it had a tremendous impact, both on the legislation and on what happened at the FCC. CCIA's position, and I still believe that it was a valid position, was that the FCC simply wasn't equipped to police the activities of rate of return regulated carriers in the competitive telecom industry. The proposals that were flying around in the various forums at that point were to have AT&T engage -- AT&T and the Bell Operating Companies -- engage in data communications equipment or services on a so-called separated basis, a so-called fully separate subsidiary and so forth, and there were also proposals from time to time advocated by AT&T for "accounting separation," and of course those debates still go on before the FCC particularly, but the position and the concern of CCIA was that the FCC simply wasn't up to the task of allocating costs, principally costs, in such a way as to insure that there was no cross-subsidization, and that the difficulty of the task I guess is manifested in the fact that virtually every cost allocation decision that's made in developing the carrier rate base, say at a central office level -- how much of the lighting system to you allocate for the competitive versus the monopoly services -- was susceptible to some judgment factor in how those costs were allocated, and given the relative size of AT&T's monopoly activities particularly, a very, very small error in those allocations could produce tremendous benefit to a relatively smaller competitive portion of what was in the Bell System, so the ultimate position of CCIA and others was simply: "It can't work that way. It would be better if the telephone company simply didn't get into those businesses." That objective didn't appear to be politically achievable. It appeared it would possibly be achievable in an antitrust court, which in some sense, it ultimately was, both in the earlier 1956 decree that kept the Bell System out of certain businesses, and the later

decree that emanated out of the government's case against AT&T. Guide me a little, Jim, on where you want to focus. There's a lot we could talk about.

Pelkey: I'm primarily interested in the datacom side of things, so in this case, there was the statistical multiplexer guys and the guys who were building datacom products where AT&T and the RBOCs weren't particularly a factor at that point in time, were they? They were trying to be in the modem business, but the modem guys had taken business away.

Nyborg: They weren't particularly a factor. The Bell System certainly made modems and sold them to their customers. They made very expensive modems and sold them to their customers. I guess the initially fray was in the areas of PBXs and keysets, the interconnect industry, and NATA and an attorney with the firm of Cohen and Marsh by the name of Ed Spivak, who subsequently became president of NATA, really did an excellent job in going to a number of state rate cases, and trying to uncover the evidence that supported the notion that these products were truly being cross-subsidized, at the real nuts and bolts level: depositions and interrogatories and all sorts of discovery of documents, and it was almost like some of the antitrust cases on a smaller scale. That was the level at which you really had to fight the issue on a factual base. When the issue got to Washington, it tended to be more political rhetoric than a real hard-core proceeding like that, but the -- that was where, I think, the fray got started, and of course the fear of the General DataComms and DCAs was that the Bell Companies and the AT&T -- at that time it was all one system with its captive manufacturer, Western, and Bell Labs at its disposal -- that they would get into increasingly sophisticated datacom equipment and do things to those companies similar to what NATA had shown they had done in the interconnect industry. So there was a real concern. It was, from the standpoint of the companies and the CEOs in that business, it was not the kind of thing that you view as a positive part of your business strategy. It was a necessary evil to worry about and defend against those kinds of cross-subsidy.

Pelkey: But AT&T had depreciation policies, for example, for its equipment that was very long, covered long periods of time, because they were always trying to increase the rate base at some level, and therefore -- at one level, you could argue that their cost of sales would be lower if they put it out and (unintelligible), but the other level was that it discouraged them from being innovative, because they didn't want to come out with products rapidly, because then they had this big write-off of all these capitalized assets. Were those kinds of things ever discussed?

Nyborg: Depreciation policies certainly became a part of the NATA cases. I can't really, without going back and reviewing it, get you into the nuts and bolts of it, but certainly it was the telephone companies were incented, really, by rate of return regulation, to write that stuff off over long periods of time, and to maximize its "useful life" by keeping it in the system as long as they could, and of course that's changing rapidly, and if I can just borrow one example from the phone industry: MCI, at the point I was there from '78 to '80, something like 70% of the equipment in its network was less than two years old, so that ultimately caused the telephones companies to start turning to the same kinds of technology changes. But that answer to your question is yes, the depreciation issues -- as I recall, there was a device that AT&T came out with called the DataSpeed 40 -- it's all coming back out of the fog as I have a few minutes to think about this -- it was a terminal device that would ultimately, in its higher configurations, have a fair amount of computing power, and I do seem to recall that the depreciation issues in that were fairly significant, but I can't piece it all together without going back and looking at it.

Pelkey: Do you remember anything about the DAA?

Nyborg: The Data Access Arrangement? That's another where, if I think about it long enough, I'll be able to tell you a little about it. My recollection of it, off the top of my head, was that the industry represented that this was an arrangement that AT&T and the Bell System used to make it more expensive to install competitive data communications products, and unnecessarily more expensive.

Pelkey: And it went to the universal jack.

Nyborg: That's right, and that was a big issue, to go to the universal jack. This whole thing was fought tooth and nail from Carterfone. There was a decision before Carterfone that even more, I think, showed the extremes of the Bell System's concern about this, which was the Hush-a-Phone, which was simply a little rubber cup that you put on the phone. They saw that as the crack in the dike, and perhaps rightfully so.

Pelkey: So, in your capacity, given that you can't remember anything about that, given then I've caught you kind of cold here, the process of the datacom guys who were part of the CCIA, the reason they joined this association was concern, first of all about IBM, but then it became AT&T in terms of what can AT&T do to prevent -- they went off and created new products and so on, and faced an unfair advantage and, 'what can we do to protect ourselves and allow for a free and competitive environment?' and they turned to this association which you were part of, to in fact represent them and fight for their rights.

Nyborg: Yes, in the case of DCA and GDC, I would suspect, although they had both joined before I got there, I suspect they joined entirely for the telecom issues. They had very little to fight about on the IBM front, but it was, for companies like that, the existence of trade associations became a very important factor, because it was -- the Bell System was reported to be putting very big bucks into this Communications Act rewrite, and they felt they needed a voice in that.

Pelkey: So it was the fact that AT&T was --

Nyborg: The GDCs and the DCAs saw the Bell System evolving increasingly sophisticated telecommunications products, and probably the focal point of that concern became the Dataspeed 40 at that point, in terms of hardware, that the Bell System was developing. They simultaneously -- In about the same period, they submitted a proposal to the FCC to provide -- I'm trying to remember what they called it -- it was in the nature of an electronic mail service, which they wanted to be given permission to provide on the basis that it was basically a telecommunications service, but built into that proposal were capabilities, and of course this is all a concept for FCC approval, it was never a system that got entirely built, where capabilities for transaction processing, timesharing, all kinds of sophisticated telecommunications services and computing services, essentially drawn into the intelligence of the network, and that was kind of -- the Dataspeed 40 and that particular service were the real fighting grounds, in terms of specific services. In terms of forums, there was not only the communications act rewrite, but there was the second computer inquiry that I mentioned, and CCIA was very much in the forefront of that particular debate, both at the FCC --

Pelkey: As well as before rewriting the Communications Act.

Nyborg: That's right.

Pelkey: Then MCI in '78 or '79 filed -- they filed and then the government joined the suit. How did that go?

Nyborg: MCI sued AT&T in a private antitrust suit, and then the government sued, in its own right, which it has the prerogative to do under the antitrust statutes, and much of the evidence in the MCI case was used as -- at least the same topical areas, were the fodder for the government's antitrust suit because MCI was an instance of the antitrust liabilities that the government was trying to prove.

Pelkey: Did the MCI suit get settled before divestiture?

Nyborg: No. Let me add one other point about -- I want to come back to the Computer Inquiry, but we can circle back to it in a second. The sequence was that MCI filed a private suit. I believe at the same point, Sprint filed a suit, and I'm not sure, I'm sure it was filed subsequent to MCI's suit. MCI won a trial verdict, and it was a jury trial, against AT&T I would say, I think it was about 1979, and it was what became the rather well known \$1.8 billion judgment against AT&T which was, at that point, the largest antitrust award ever made under American law. It has since been dwarfed by Texaco, but it was a 600 million treble damages suit, and it of course went to appeal, and on appeal, which itself took a couple of years, and by this time I was at MCI, on appeal the court upheld most of the liability counts, except for one or two, and remanded to the trial court on the issue of damages, and then there was a retrial -- MCI took the liability counts which it had won, and went back for a trial on damages, which was the second trial-level suit that MCI had, and it was in that suit where they relatively lost in that the judgment was ultimately reduced to something -- well, there were some settlements with the Bell Operating Companies, and the ultimate judgment in that case as it came out was, I seem to remember, about 120 million, which would have covered MCI's legal costs, but it wasn't a big win by any means for MCI. The government brought its suit. It was tried after the MCI suit, and it -- at the end of the government's presentation of evidence, Judge Green essentially, well not essentially, practically said it in the words I'm about to give you, said to the AT&T lawyers: "The evidence has been presented. If you fail to rebut it, it would show antitrust liability," and that's the point at which AT&T kind of threw in the towel, and said -- they realized that for all their political clout, they were up against tremendous forces in the communications act rewrite, because they were up against the rest of the industry and a good deal of the computer industry in the aggregate on the other side. Every time they wanted to get into something competitive, I think they felt like they were being unduly harnessed by conditions that were meant to prevent the cross-subsidies, and I think they ultimately believed -- all of this is my speculation -- that the only way they were going to go forward in the competitive segment of the business was to free themselves of the basis of the monopoly and be able to operate more freely, which is of course what they ultimately opted for in agreeing to the settlement. But the companies that belonged to CCIA belonged because they couldn't fight those battles individually, and CCIA not only fought it at the FCC, but we ultimately, and I personally, filed the appeal of the FCC's Second Computer Inquiry decision in the federal courts. If you look at that case in the law books, now, it's known as CCIA versus the FCC, and ultimately in that appeal, which was finally resolved sometime after I -- these things happen in decade long time frames in this industry -- was ultimately, the FCC was upheld in its decision, which basically let the telephone companies into competitive data processing under certain conditions, the so-called arms-length subsidiary and so forth.

Pelkey: AT&T, during this period of time, I have this image of wanting to be in the data processing/computer business, particularly as it comes to timesharing and things that use the network, and they were concerned about IBM getting into the voice business, and during the '70s you had this whole thing that AT&T and IBM are eventually going to square off against

each other, and communications versus the computer, and AT&T felt pressure to be in the computer business because of fears of IBM's dominance on the computer side, so there was a desire to protect itself through this monopoly, yet at the same time wanting to be in the computer side because that's where the growth and the excitement was.

Nyborg: Well, that's right. I was always kind of perplexed by the so-called IBM AT&T battle. I'm not sure I can even articulate to you why that argument sort of underwhelmed me, but I think the companies in reality have somewhat different objectives in their businesses, and while there has been some competition, it hasn't been what it was touted to be. In certain phases, for example the Communications Act rewrite, that was put forward as the ultimate solution to competition in both industries.

Pelkey: That Communications Act never got passed, right?

Nyborg: It never got passed. Actually, most of the battle on the Communications Act rewrite was fought in the committees, and it happened, in terms of the issues that really were being dealt with in the legislation it got down to some fairly technical and arcane kinds of things: some of the nuances of rate of return regulation and how accounting systems would be set up and how the regulatory process would work and, even more important, the virtually impossible task of defining the limits of communications and the beginnings of data communications and data processing.

Pelkey: Let me jump to another issue for a few moments. You then went to MCI and were involved in an electronic mail effort. Out of MCI there also spun out other datacom companies, Spectrum Digital for example, could you comment on that process of people getting to understand what was going to happen to networks by seeing MCI's example, and were there other companies other than Spectrum Digital that were created by people who had been at MCI?

Nyborg: There have been some other spin-offs out of MCI. There are relatively few hardware spin-offs out of MCI because it's primarily a services company, although there certainly have been some. MCI was a company that knew that a good deal of its future would be tied up in digital technology, but wasn't quite sure what that meant, particularly in 1978. What was happening in MCI, just as it was in other carriers at that point, was that the switches had, at that point, become digital computer-controlled switches switching analog channels. MCI spawned some start-up suppliers, not really spin-offs out of MCI but Danray was MCI's original switch supplier and it was a start-up which essentially grew up with MCI. There were no significant alternative suppliers of telco switches, especially long-haul type equipment, in the market because of Western's historical de facto monopoly in that area, being the sole source and captive supplier to the Bell System, so Danray kind of saw the opportunity as the MCIs of this world, and particularly MCI itself, started to achieve some measure of success, and of course, Northern Telecom ultimately bought into a position in the US industry, a very smart move I think which hindsight shows, by buying Danray and becoming a principal switch supplier to MCI. MCI did use other switches. They tried to have two or three competing suppliers of virtually every major component of the system, but MCI spawned a number of start-up companies, probably more in that way than it did in the way of direct spin-offs out of the company. As the network became increasingly digital, what really happened was that the next step that happened in the network technology was that fully digital switches were so much more efficient -- digital controlled switches switching digital channels -- were so much more efficient that MCI was using them switch analog channels by putting what they called a trans-multiplexer between the switch and the analog channels that came out of their frequency division multiplexed microwave links,

and essentially creating an all digital environment just inside the switch, and then, of course, the ultimate development of that was that the transmission path became digital, first in microwave . .

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