

SPECIAL EDITION

OUT-THINK™

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"Out-thinking our competition to help your customers out-think theirs"

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A Look into Datapoint's Future

An interview with Ed Gistaro and Victor Poor



The OUT-THINK editorial staff was recently able to interview both Edward P. Gistaro, Senior Vice President and General Manager of Datapoint's Data Processing Division, and Victor D. Poor, Senior Vice President, Research and Development, concerning Datapoint's present and future product and marketing strategies. Excerpts from that interview follow.

OUT-THINK: The first thing I'd like to ask is, what is in the future for processors? The largest machine in Datapoint's current processor line is the 120K 6600; what are your plans for the large processor market?

Processor Size:

"We're in the large processor business already."

POOR: First of all, we're in the large processor business already. If you add up the instruction rate and the memory capacity of even a medium size ARC™ system, it is comparable with any name brand on the market, both in terms of cost effectiveness and raw computing power. It is hardly to be expected that the 6600 is the end of the road as far as individual processor sizes are concerned. We are definitely working on something beyond the 6600, but I don't believe that the time is right to declare our intentions in this respect.

GISTARO: Why the concern about large processors? In business, there are only problems and solutions to those problems, and ARC solves those

problems in a superior way compared to a conventional computer.

OUT-THINK: The concept of having one processor per partition, as in the ARC system, seems to have a lot of benefits that people are just starting to realize. Could you comment on those benefits?

POOR: Well, the main benefit is increased throughput. Historically, the concept of using one processor per partition, or attached processing, has been impractically expensive. But with the advent of very inexpensive memory and processors, attached processing is an idea whose time has come. Its real benefits are probably still to be realized. We've demonstrated already, though, that a typical ARC system can compete very successfully with a mainframe of comparable memory size and processing power. Another benefit of attached processing is lower overhead. The overhead required to administer a multiprogramming system is extremely high; in some machines, this overhead can take up as much as half of the available resources. The overhead penalty in a comparable ARC system, however, is insignificant.

Timesharing:

"In a sense, ARC is the ultimate timesharing system, since every terminal can do every task."

OUT-THINK: One common reaction to ARC is that it's the ultimate timesharing system. Is this true, or is timesharing dead because of ARC?

GISTARO: Neither is true, actually. ARC is certainly not a timesharing system. It can be used to solve the same problems as a timesharing system, though far more efficiently. Because of the intelligence contained within the interprocessor bus, ARC performance does not suffer with the addition of another terminal as does a timesharing system. In a sense, though, ARC is the ultimate timesharing system to the user since every terminal can do every task. Conventional timesharing isn't dead, though, at least not until we can find a way to link ARC processors five or six hundred miles away.

Database Management:

"Many of the features of database management systems already exist in our current product line."

OUT-THINK: Datapoint's processing power is getting more and more impressive. What are the plans for new and bigger disks?

GISTARO: Well, as you know, we've just introduced what you might consider our next generation of disk memory with the new Storage Module Drives. This is certainly not the end of additional disk power in our product

line, as we will be coming up with not only larger capacity systems but also with different architectures to accommodate what we see as the requirements of large disk files in different types of applications. We don't want to talk about anything beyond this yet, but it's certainly safe to plan on our having increased disk capacity and performance in the future.

OUT-THINK: One of Datapoint's strongest suits has always been its philosophy of compatibility. Users are demanding more complex operating systems and even database management systems along with the bigger processors and disks. What are your plans here?

POOR: Anyone at all familiar with our product line is aware of the limitations of the current Disk Operating System. DOS was designed for the small 2.5 MB disk and has been expanded through several generations of disk technology. I think that DOS to a large extent has reached the limit of its capacity in terms of how large a disk it can support. With the arrival of the larger disks that Ed alluded to, a new generation of operating system is clearly called for and will be available in due course.

OUT-THINK: Why do we need a database management system?

POOR: Well, we don't need one nearly as bad as many companies do! Many of the features of database management systems already exist in our current product line.

OUT-THINK: Such as?

POOR: The ability to deal with files transparently in any processing language, the dynamic allocation of space in our disk media, the compatibility between files in all of the various applications, the interchange between disk, magnetic tape, and the various modes of transmitting our files are all things that are characteristic of database management systems. The one thing we lack is the ability to deal with our existing file structure in a totally symbolic way. The user still has to have some fundamental knowledge of how files are structured on disk. It's only one more step to what you might call "data independence," and that will come with the next generation of operating systems.



Next Generation of Operating Systems:

"We've always been able to provide our customers with the widest possible choice, and this will be no exception."

OUT-THINK: One of Datapoint's strongest selling points is the software compatibility, the ability to expand operations without software revision. How will the new generation of operating systems affect this?

GISTARO: We've always been able to provide our customers with the widest possible choice, and this will be no exception. It will not be mandatory for customers to change from DOS to the new system; however, they have

the ability to do so if they wish. The customer's circumstances are really the key issue, so it will be incumbent upon our sales force to make a proper judgement with their customers as to whether they should stay with DOS or go with the new system. There won't be any changes to hardware configurations, so the question will just be who stays with DOS and who doesn't, with the judgement resting with the customer and the salesman.

OUT-THINK: Will the new system be a radical change, or are you willing to tell at this date?

GISTARO: The change will be a radical one, although I don't care to say much more than that.



Office of the Future:

"We already have both ends of this spectrum of applications. It remains for us to add

two steps - word processing and the electronic mailbox system."

OUT-THINK: Judging from the last annual report, the office of the future has a large role in Datapoint's future plans. What are Datapoint's plans, and how does word processing fit in?

GISTARO: There are two considerations here; namely, our product strategy and our perception of the market. Datapoint is in a unique position from a product standpoint. What is called the office of the future is four different applications: gathering and processing data, putting that data in a report or letter or other form useful to people, storing that data, and distributing that data to the locations that require it. There are other tasks, of course, such as telecopying and so on, but those four are the main functions. We already have both ends of this spectrum of applications: a very powerful and sophisticated means to gather and process data in the ARC system, and an efficient, versatile way to distribute this data in the INFOSWITCH™ family of products. It remains for us to add two steps -- word processing and the electronic mailbox system. Obviously, the architecture of the ARC system is the key element. When we add word processing and the mail box system using ARC-compatible processors, we will be able to fulfill all four major functions working from one common database. Then we can say that an ARC system with those four major applications operational is truly the integrated office. As far as the market for such a system, we're still working on that. If you were to try selling this integrated office system today, you'd have to talk to the data processing manager, the telephone manager, the mail manager, the word processing manager -- it would be a very cumbersome, difficult sale. The questions that remain for us are how are we going to market this system, to whom, and how much do we have to educate potential customers. We'll be back in the same type of missionary work that we were in when we first started marketing dispersed data processing. But the payoff is going to be as big if not bigger than it was with

dispersed data processing and it'll be worth the effort we're going to have to put in.



Office of the Future:

“Our long-range goal is simply to provide in a single system everything that can be automated in an office.”

OUT-THINK: What's the status of word processing?

POOR: Before I answer that, I'd like to comment from my point of view on what Ed just said. Our long range goal is simply to provide in a single system everything that can be automated in an office. In other words, whatever facility or characteristic of an office that can be automated will be automated by Datapoint and provided within a single system. And of course, that includes word processing and that brings us back to your question, where is it? Well, it's been said that the best way to deal with a new system is to design, build, and implement the system and then throw it away and do it again. And while it was not our intention to do so, that's basically what we did. We went through the design and development of word processing software that we thought would be best suited to our product line and our customers, but as it progressed, we decided that we had been wrong. We have revamped the design and are doing it a second time, a much wiser organization in the process. We'll see the fruits of this effort before the year is out.

OUT-THINK: Will electronic mail be a part of word processing, or will it be a separate offering? It would be a big advantage to permit a customer to take all of the system or just part of it at his option.

POOR: Electronic mail and word processing are two different things, there's no question about that. I would think, though, that most word processing users would find the electronic mail facilities an attractive additional feature. I expect that most of the people who use Datapoint word processing will also use Datapoint electronic mail, too.

OUT-THINK: What are Datapoint's plans for a word processing printer?

GISTARO: The servo printer, while it was a good device for us, is clearly too expensive to be an effective word processing printer and to be sold in great quantities. This falls into the category of products that are coming but that we don't wish to give specific commitments for. Datapoint's plan is to have two versions of a character quality printer: a full-featured version and a less expensive yet capable version. This will allow us to cover the broad range of applications that we see. They'll both be in a very competitive cost range.

OUT-THINK: I'd like to talk about languages now, specifically COBOL. A lot of vendors have gone to the '74 standard; what are your plans for Datapoint COBOL?

POOR: At the time we developed our first COBOL, the '74 COBOL was still not through its standards activity -- it was, after all, 1974. But more important, we felt -- and this has since proven to be true -- most business COBOL users had their programs already written in '68 COBOL, and they understood the features and facilities of the 1968 version better. And that's what was released. Since then, we've faced the choice of adding interactive or '74 features to COBOL. Since we were going to do both, it was more a question of in what order. We felt that with the introduction of ARC and the 1800 and 3800 processors, the interactive COBOL was the more appropriate package to release. We're now following that up with plans to bring out a compiler with the '74 features; if all goes according to plan, the new compiler will serve for both '68 and '74 COBOL. The customer would then decide which version to use from one program to the next.



New Languages:

“When we introduce a language, we're committed to support it forever. We have to be sure.”

OUT-THINK: Do you see Datapoint adding any other languages?

POOR: Let me say this about languages in general. When we introduce a language, we're committed to support it forever. It isn't something you can introduce and then cancel a year later after a mediocre showing. I would estimate that to support a major language like BASIC, RPG, or FORTRAN, which is one that's mentioned a lot, costs us about a hundred thousand dollars a year -- now that's a hundred thousand dollars off our bottom line. We have to be sure that when we bring out a language that we have a continuing flow of revenue for the life of the company that offsets the additional expense. We are seriously considering offering new languages. And whether or not we do add languages in the future is very much a function of the marketing inputs that tell us whether or not they're a good payoff for us.

OUT-THINK: How successful has COBOL, or BASIC or RPG, I might add, been for Datapoint?

GISTARO: I think the real benefits of those languages are still before us. I think that they've added a great deal of dimension to our product line and that they've given us the credibility of a true going concern in the computer industry. That credibility is just not there if you don't have that kind of language support. As for how successful they've been, the field sales force would be better able to tell you. I don't know how many customers use them but I think a considerable number do. Languages are becoming more and more important as the dispersed data processing area moves closer to what might be called conventional data processing. Not that we're moving into the computer room, but because dispersed data processing is getting

(continued on inside pages)

more sophisticated. And as it does, customers are not going to want to deal with their machines in assembly language or anything like that; they want sophisticated languages tailored to what they personally want to do.

POOR: I might add here that something that entered the market last year and has since become quite popular is a language called Pascal. I don't think it's any secret that we use Pascal internally to develop much of our system software. And that's a language, which if the trend continues, could well become part of our public software catalog.



3270 Products:

“We have two different product offerings in mind: 3275, implemented on the 1500 processor, and 3270, which will incorporate DATASHARE®.”

OUT-THINK: IBM's 3270 series of communications processors and terminal equipment has been supporting a large number of vendors, especially since IBM delivery seems to be so bad. What are Datapoint's plans here?

GISTARO: The requirement for 3270 support at Datapoint goes back at least as far as I do, but until the advent of the large screen processors, it was impractical. Now that we have the 1500 processor, we have definite plans. We have two different product offerings in mind. The first is 3275, which will not be a direct emulation of a 3275 but closer to it than anything else we've done up to now in terms of direct emulation. This would be implemented on the 1500 processor. The second product is 3270, which will incorporate support of that discipline with DATASHARE. This will be coming somewhat after the 3275. As with any other product that we bring to market, it isn't our intention to directly replace IBM installations but rather to augment our present product line with regard to business data processing requirements.

OUT-THINK: Will any hardware modifications be required to run the 3270 or 3275 products?

POOR: The 3270 product line uses a keyboard that is radically different from both the standard ASCII keyboard and the ASCII keyboard as is implemented on our product line. So we will be offering a new keyboard arrangement that's particularly suited to 3270 and 3275 applications. It won't be required, that's too strong a word, but it will be highly recommended for users that wish to run either of these two packages.

Future Communications:

“We are looking forward to providing some relatively novel and exciting new communications facilities through the use of the X.25 channel.”



OUT-THINK: IBM's SNA communications discipline, along with the X.25 standard, is becoming very popular. What is Datapoint's commitment to these standards?

POOR: Well, X.25 is something we'll cooperate with because we have no choice. X.25, however, does not tell the whole story as to what software support is required. X.25 is, in a sense, the definition of a communications channel that is provided by public carriers. So who you communicate with and what subdisciplines you use are still up to the individual user. Neither SNA or X.25 are widely used systems, and as things stand today, they have very little impact on the market. But as that market develops, we certainly have a commitment to support it. As a matter of fact, we are looking forward to providing some relatively novel and exciting new communications facilities through the use of the X.25 channel.

OUT-THINK: It seems as if Datapoint would have no compatibility problem with ACS or any of the other packet switch networks that are gaining in popularity.

POOR: Well, first of all, X.25 is a packet switch network. And as far as I can tell from the documentation that has been put out by the Bell System, ACS encompasses all of the facilities of X.25 plus everything and anything else you could possibly name. In a nutshell, if you have a communications system that works today, you'll have one that works on ACS. But since ACS seems to encompass everything but the kitchen sink and accommodates all disciplines, it's very difficult for us to focus on what new developments we have to provide in order to operate using ACS. Apparently there is none at all.



Marketing Strategy:

“As with any marketing strategy, there are exceptions that the sales force finds for us every day.”

OUT-THINK: Datapoint's direct sales force seems to be targeted at the Fortune 1500, if I might call them that. How do you handle small business users, and in that light, what are your plans for applications software?

Marketing Strategy:

“The most precious and expensive resource we have is our direct sales force. But it wouldn't be efficient for us to have them function in the small business market.”



GISTARO: As with any marketing strategy, there are exceptions that the sales force finds for us every day. But it's our general strategy to commit the direct sales force to solving the dispersed data processing problems -- and, in

the future, the integrated office problems -- of the Fortune 1300, the Fortune 1000 combined with the 300 largest utilities, banks, and insurance companies. This is simply because our product line really was initially intended -- and still is intended -- to be a dispersed data processing product line. Since very few smaller companies are engaged in dispersed data processing, our typical customer is fairly large. And it takes the sales and support expertise found in a well trained sales force and support organization to successfully penetrate this market. On the other hand, the small business user has a very real requirement for products of the type Datapoint provides. That's simply because to penetrate the dispersed data processing market, Vic elected to build a series of general purpose business computers which, by their very nature, are attractive to smaller users. The most precious and the most expensive resource we have is our direct sales force and support organization, and even though they could function very well in the small business market, it wouldn't be efficient for us to have them do that. We're a relatively small company in the industry, and therefore I believe that the third party organizations, the OEMs and the Representatives, is the appropriate way to solve the small businesses' problems. These outfits have found an application or a market niche of their own, ones that Datapoint could not find or serve on its own. In that light, I don't think that Datapoint today is in a position or has a need to offer a library of applications software. The Texacos, the Uniroyals, and the Chase Banks of the world have their own, very professional data processing departments and don't look to the vendor for specialized applications software. Now this type of specialized software is very much needed when trying to penetrate the small business market; but since we're going at that market through third party organizations, it would be redundant and probably counter-productive for us to offer applications software. That's the general strategy, as I see it, for the next four or five years.

Small Systems:

“I think the really exciting future in these machines lies not in the machines themselves, but in the additional software and the new peripherals.”



OUT-THINK: The 1500 and the 1800 processors, the small end of Datapoint's product line, have been doing very well. From a technical point of view, where do you think these machines will go?

POOR: Anyone that is familiar with Datapoint's architecture recognizes that the 1800 is not limited by the 64K memory capacity. At the present time, we have chosen not to support software that requires more than the 64K, but that may happen as time goes on. We've already announced the 64K version of the 1500, and I believe that we will also see more software enhancements that take ready

advantage of the available memory. I think that the really exciting future in these machines lies not so much in the machines themselves, but in the additional software and, even more importantly, the new peripherals that will be associated with those machines. The new printers that Ed referred to earlier is an example of the kind of devices that will make these smaller processors more attractive in the market. Of course, technology is moving on and I can see continuing improvements in the diskette; ultimately, the possibility of having a low cost hard disk on the small processors is a very real one. I don't think that the technology is in place for that yet, but the time is coming when it will be.

Future Product Compatibility:

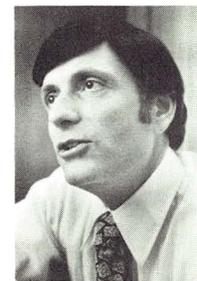
“Compatibility is a way of life at Datapoint. In fact it's sacred. We hope to add to the products



without taking away anything that's already there.”

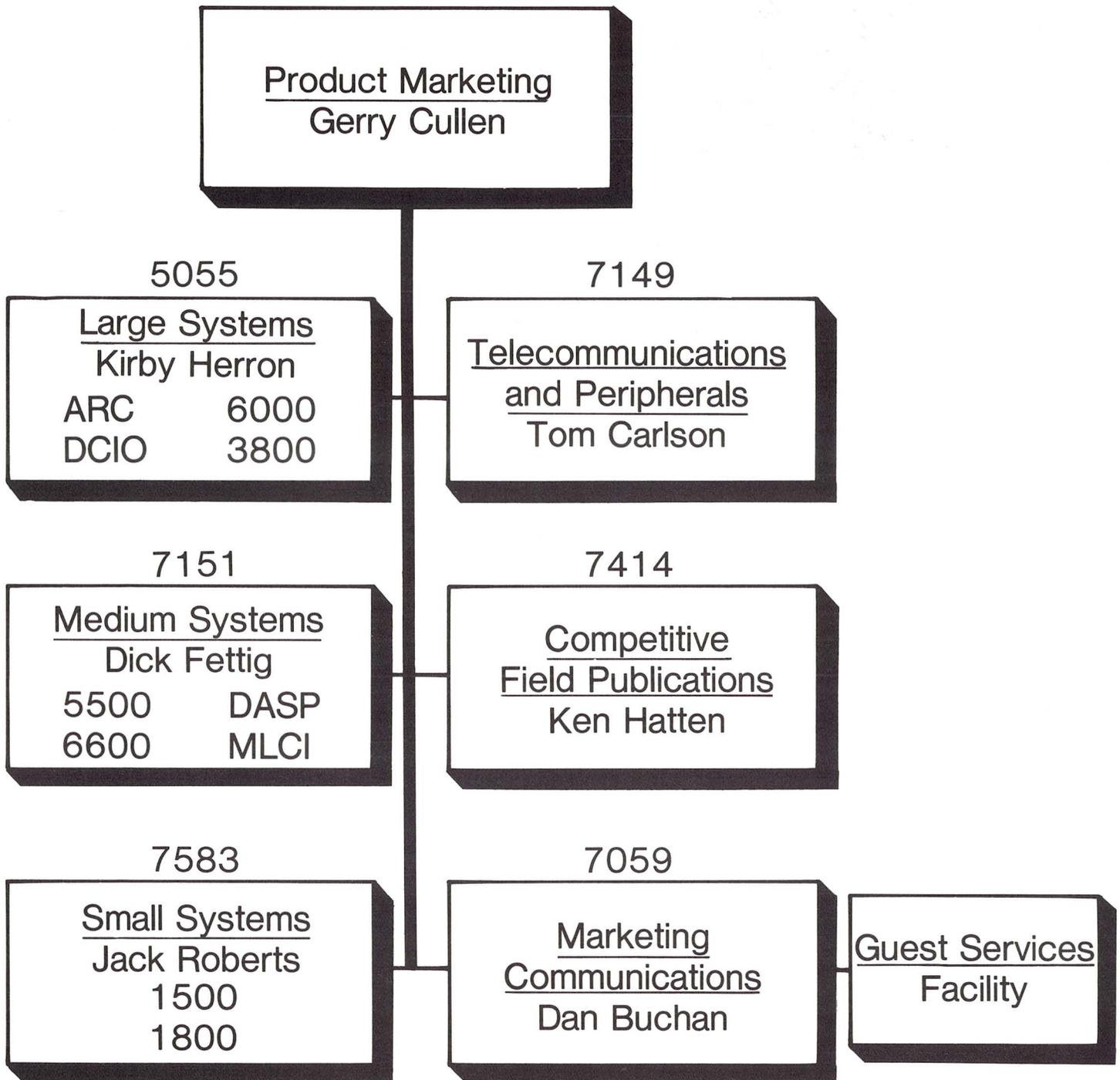
OUT-THINK: Will there be any trouble growing with these processors for the people who already own them?

POOR: Compatibility is certainly a way of life with Datapoint, in fact, it's sacred. And we are not going to add anything in hardware or software that will obsolete or render unusable any software the customer already has. We hope to add to the products without taking away anything that's already there.□



The editors of OUT-THINK extend their thanks to Ed Gistaro and Vic Poor for their cooperation in this article. By taking time out to discuss their plans for Datapoint and its product line, they help to equip our sales team with the perspectives needed to out-think their competition.

Datapoint Product Marketing



The chart above illustrates the organization of Datapoint's Product Marketing group; telephone numbers of principle field contact personnel are listed. (Note: these telephone numbers do not go into effect until March 31, 1979.)

DATAPOINT CORPORATION



The leader in dispersed data processing™