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COMPUTERS: With its winnings from the IBM settlement, Control Data is taking off

Why Bill Norris is

When William C. Norris, chairman of Control Data Corp., settled his company's antitrust suit against International Business Machines Corp. last January, he called his 1968 move to sue the big computer maker the "best business decision" he had ever made. The settlement brought CDC \$101-million, plus IBM's subsidiary Service Bureau Corp., a going business that last year had sales of \$63-million and profits of \$1.5-million and seemed poised for rapid growth.

After the settlement, CDC employees celebrated Norris' victory by presenting him with a giant ship's wheel with a brass plaque engraved "to the Skipper." A more accurate symbol might have been an engine-room telegraph with the control handle welded in the "full ahead" position. With IBM settlement as a kicker, Norris is hustling to bring the company back to the fast growth track that it had been on before the 1969-71 recession hit the computer industry. So far this year, he has made it: In nine months, the company's revenues of \$661-million, almost \$200-million more than the year-ago period, nearly matched the revenues for all of last year.

To keep the momentum, Norris has changed his management organization to put more emphasis on service and marketing, has reinvigorated an acquisition program, and has pushed even harder to get other computer makers to work cooperatively in solving what Norris calls "the unique problem of this industry," which he sees as IBM's dominance.

Norris' most controversial program is a combination of swap, joint venture, and technical cooperation with National Cash Register Co. The activity has kept merger rumors vibrating to the point where an executive of one competitor refers to CDC and NCR as "the Odd Couple." Both Norris and William S. Anderson, president and chief executive of NCR, deny any

present intention to merge. "We're cooperating," says Norris of his own company's intentions. And Anderson says, "There are a lot of ways to work together." He points out that joint ventures are nothing new or unusual. "If you want to see some real innovations in the way companies work together, look at Japan," he says.

Norris, 62, has proved to be one of the toughest among the founders of the computer industry—he is the only technical pioneer to end up operating a major company in the field. Educated as an electrical engineer, he got his first experience with computing machines at the Navy's Bureau of Ordnance during World War II. In 1957, after a five-year stint as general manager of Sperry Rand's Univac Div., Norris quit, taking with him a group of engineers to found Control Data. Working out of an old paper warehouse, CDC produced a highly successful line of solid-state computers designed primarily for engineering and scientific use. That path led to larger and larger machines, and the company won significant contracts from the Navy and the Atomic Energy Commission.

Norris had to run a tight, low-overhead operation, and he often grumbled about minor expenses, which gave him a reputation for being a dour and blunt manager. But now, with the windfall

from the out-of-court settlement and the new ventures with NCR taking shape, Norris "smiles a lot more than he used to," according to one of his executives.

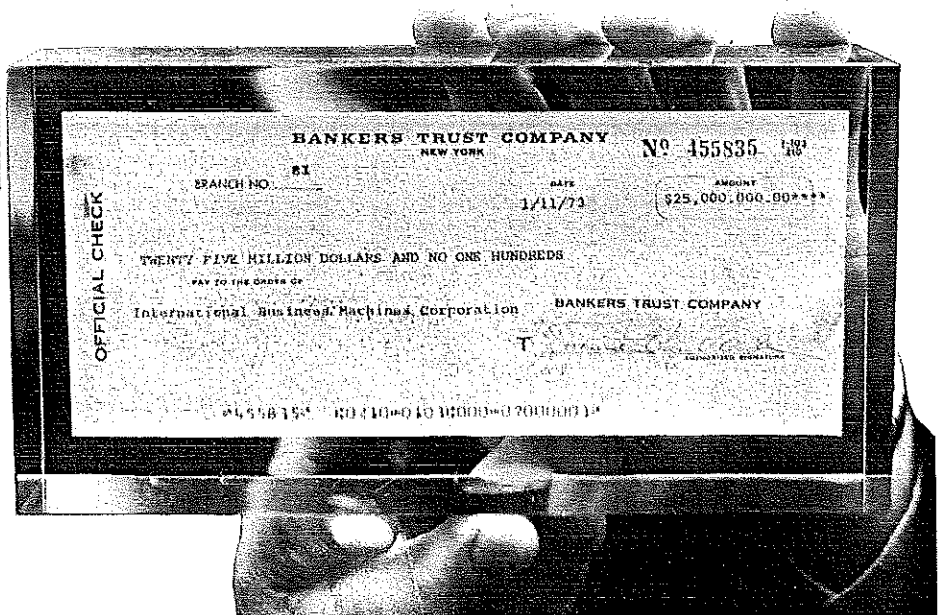
Three points of cooperation

NCR and CDC have had a close association since the middle 1960s, primarily as customers for each other's products. But three moves in 1972 rekindled merger speculation and resulted in some puzzlement among the companies' competitors and in the ranks of industry financial analysts. The triple agreement between the companies involves:

- Formation of jointly owned Computer Peripherals, Inc., which develops and manufactures high-speed computer printers, magnetic tape systems, and punch card equipment. The new company's products are marketed by NCR and CDC under their own labels. The two companies contributed \$30-million each to CPI, and they claim that the operation will produce \$100-million worth of products this year.

- Transfer of NCR's disk-memory manufacturing operations in Hawthorne, Calif., to CDC for \$20-million. Under a 20-year contract, CDC will fill NCR's disk requirements and CDC will purchase NCR's low- to medium-speed serial

Gerald Brimecombe



The winnings: Facsimile of a cashier's check for \$25-million turned over to Control Data by IBM in partial payment for their out-of-court settlement.

smiling

printers for use in terminals and computer consoles.

■ Cooperation in a joint advanced research and development program for new-generation computers. The two companies originally planned only to build a computer that would run either NCR or CDC programs, but two months ago the joint effort was expanded to include a complete line of new-generation computers. On Sept. 1 they blended their efforts in a joint Advanced Systems Laboratory to work on both hardware and programming plans for the new series.

The concept of pursuing a cooperative strategy is largely Norris' brainchild. He claims that it costs around \$750-million to develop a full computer line. Moreover, he points out, technological improvements have cut the hardware costs, so that software, which includes systems control programs and programming languages, now represents an ever-higher proportion of costs. "We are going through a profound change," says Norris. "The key to the future is software, but because of the historical development of the industry in the pattern of IBM, where software is included in the machine price, there is no viable software market yet." Norris would like to see hardware and software prices separated, or "unbundled," even further than they have been. "Customers should be able to see what they are paying for," he says.

CDC has now filled out its hardware products to include a full range of computers from small to super scale. Norris' determination to build a total service company is already reflected by a sharp increase in marketing expenditures, which are running at a rate nearly double last year's. But to stay competitive, CDC will not only have to continue these efforts, but bend into a development effort on a new generation of equipment as well. For that, teaming up to share costs and talents makes sense to Norris.

As a team, CDC and NCR make a formidable pair in the data-processing industry. Combined, their annual revenues for the 12 months ended in the third quarter of 1973 exceeded \$2.5-bil-

lion, nearly all of it in electronic-based products related to computing, data processing, and related services. Although both are intent on remaining full-line computer makers and are expanding in data services as well, their sales forces seldom cross paths, even when they are selling to the same industries or the same customers. Most of CDC's market base is in large and medium systems, while NCR's strength is in the small to medium category, growing out of its strong foundation in accounting and bookkeeping equipment. Thus a customer might well buy CDC equipment for its engineering or process control needs and NCR equipment for its administrative and accounting purposes without ever considering the two companies as competitors.

However, the basic and apparently inevitable trend in computer development is toward more general-purpose central computers—the industry calls them "soft" machines—that are tailored to their jobs by programming. And the best way to get to them is through special-purpose terminals, ranging from bank teller stations to consoles for use in engineering design. So Norris believes that, while it makes



Bill Norris: He is using the winnings, plus acquisitions, joint ventures, and cooperative deals, to build a multinational data-processing giant.

a lot of sense to team up to build general-purpose equipment, it also makes sense to continue independently when it comes down to tailored applications, programs, and customer services.

Carrying the fight against IBM

Even before CDC filed suit against IBM in 1968, Norris urged others in the industry to take action on standards that might help increase the interchangeability of computers, their accessories, and their programs. This, he believes, is one way to help loosen IBM's grip on its large segment of the market. But no other mainframe computer manufacturer joined Norris' campaign at the time. After CDC filed suit, the other major manufacturers watched from the sidelines as CDC, peripheral equipment maker Telex Corp., and the Justice Dept. fought it out with IBM.

But this could be changing. With the Justice Dept. suit dragging on and escalating into the largest and most complex antitrust action in history, top

As a team, CDC and NCR make a formidable pair in the data-processing industry

executives of three other full-systems manufacturers joined CDC last week in a formal request to the Justice Dept. to place specific inhibitions on IBM activity, immediately and prior to appeal, if the big computer maker is found in violation of the antitrust law. The three others are Sperry Rand, Honeywell—and NCR, as might be expected since Anderson and Norris are working closely together and IBM has now officially taken aim at NCR's retail market in cash registers. Burroughs Corp., the only other full-line computer producer that is wholly dependent on electronic data-processing equipment for its business, did not participate.

In asking for interim relief while the antitrust action goes through the courts, the four companies also agreed with the government's proposed relief measures, which would enjoin IBM from "bundled" pricing, predatory pricing, and premature announcement of new products. They added five other measures of relief from IBM: licensing of patents and knowhow; licensing of software; disclosure of full product specifications at the time of announcement or two years before delivery; discount prices to customers in the original equipment market; and strict limitations on IBM's growth in all markets. The requests for relief assume that IBM will lose its case, a matter that is unlikely to be resolved for at least two years, according to the most recent Justice Dept. estimates. But the material backing up the requests is also meant to guide Justice Dept. lawyers if they and IBM try to work out a consent decree settlement.

A structural shakeup

With powerful new recruits for his IBM vigilantes, and with the IBM suit off his back, Norris is paying a lot more attention to the management structure of his company. In April, he announced a major reorganization of top management that many, both inside and outside CDC, felt was long overdue. He switched from a monolithic structure with himself at the top to an arrangement of four major groups, which he calls companies. Each company is semi-autonomous, has a reasonably clear mission, and a president who acts as chief executive. "I don't run things any more," says Norris. "I can spend a lot more time on long-range problems and matters that affect the company's outside relationships." The outside relationships include the antitrust environment, cooperative ventures, and acquisitions.

CDC's internal reorganization is still shaking down, but there is a noticeable improvement in the degree of en-

thusiasm in top and middle management offices at the company's new gold glass-sheathed headquarters in suburban Minneapolis. The reorganization left Commercial Credit Co., which merged with CDC in 1969, virtually unaffected, although Donald S. Jones, chairman of Commercial Credit, joined veteran CDC executives Norris, William R. Keye, who heads the corporate budget and plans committee, and Robert D. Schmidt, who heads international development, in the company's four-man corporate office. In the corporate hierarchy, Commercial Credit simply becomes one of four operating companies. The computer side of the old CDC—information systems operations—is split into three parts:

cdc Marketing Co., headed by Paul G. Miller, handles both domestic and international sales, except sales to original equipment manufacturers (OEM).

cdc Systems & Services Co., under Robert M. Price, not only handles hardware and software development and manufacture but also includes the operations of the computer network services and specialized product and programming development groups that tailor data-

processing and computing systems for 14 different industry groups, ranging from atomic energy to education.

cdc Peripheral Products Co., headed by Thomas G. Kamp, includes the joint venture with NCR, Computer Peripherals, plus the company's manufacturing operations in terminals, memory products, and business forms. Kamp's company also handles sales of peripheral equipment to other manufacturers and is the largest OEM supplier in the computer industry.

Overdue realignment

The change at CDC brings the company into line with similar management organizations at other mainframe computer companies, all of which have more or less autonomous marketing divisions separate from manufacturing—a pattern that IBM set in 1956 with notable success. At CDC, the shift has been accompanied by a corporate-wide program emphasizing a full range of customer service. Says Price, "If you stick around CDC for any length of time, you'll get pretty tired of hearing the word 'service.' But we

Anderson of NCR: Teaming up with CDC in peripherals and advanced computers.



mean it. Things have changed, and we are not just selling hardware any more."

The change at CDC was overdue. By the end of the IBM antitrust action, CDC's business was in desperate need of management attention. The court fight had drained \$15-million from operations at a time the company could least afford it, and it distracted the company's thin layer of top management as hordes of its own lawyers and those of IBM shuffled and reshuffled every file of records in almost every office. The toll was more than monetary.

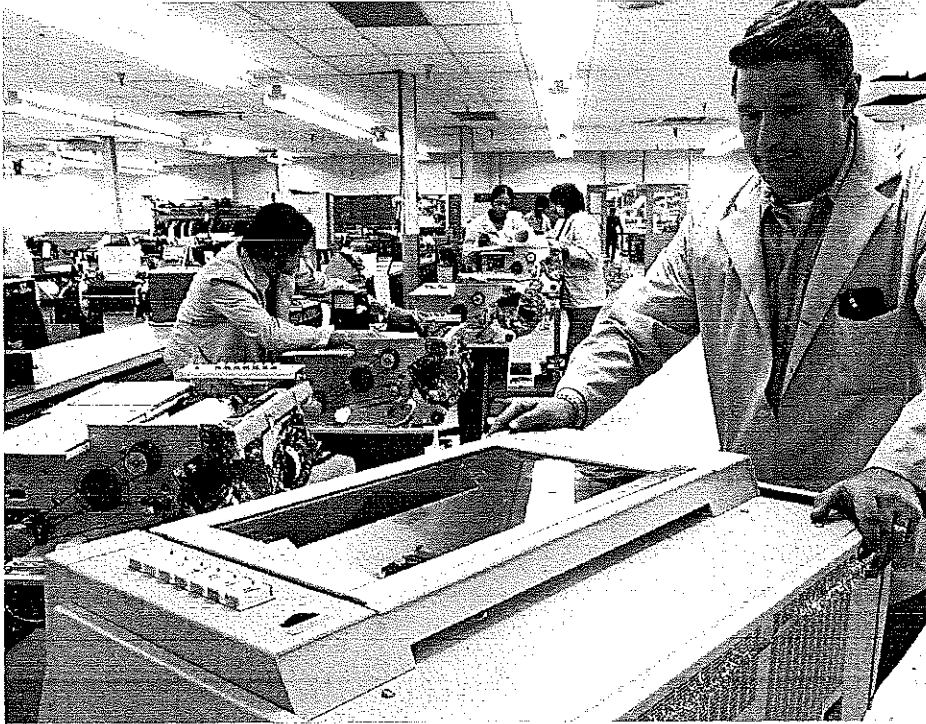
It included the loss of CDC's ebullient and creative treasurer, Harold Hammer, whose indiscreet memoranda concerning reciprocity pressure on CDC's financial underwriters proved embarrassing when IBM made them public in its countercharges to the antitrust action. Hammer's eventual resignation was over policy differences with Norris that neither man has discussed publicly.

Financially weakened, CDC was in poor condition to roll with the economic blows of 1969-71. The severe recession in the computer industry hit CDC par-

ticularly hard. The company was over-dependent on the volatile government markets for engineering-type computers. In 1970, the company had a \$27-million operating loss on revenues of \$539.5-million, a sales decrease of \$40-million from the previous year, and the first year in the company's history that it had failed to show revenue growth. On top of that, CDC was tooling up to make its newest supercomputer, the 7600. This was by far the largest and most costly engineering and production effort that the company had ever undertaken. And at the same time, it was developing two major supercomputers, the Star-100 and the 8600.

Morale plummeted as the company laid off employees, trimmed budgets, and cut costs by asking its workers to take an extra two-week unpaid vacation. The market value of CDC stock mirrored morale, dropping to a low of \$29 per share from its heady 1967 peak of \$166. Security analysts circled the injured company like vultures, pecking at its "one-man rule" under Norris, its single-minded pursuit of supercomputers under its reclusive computer design genius, Seymour Cray, and its quixotic—and, in financial circles at least, unpopular—attack on giant IBM.

Under such pressures, CDC did seem to be coming unglued internally. Cray, who had been responsible for designing all the company's supercomputers, resigned in the middle of the development of the 8600 computer, another super-scale machine four to eight times as powerful as the 7600 and considered by many to be the company's future hope. Perhaps even worse, the development work on the Star supercomputer



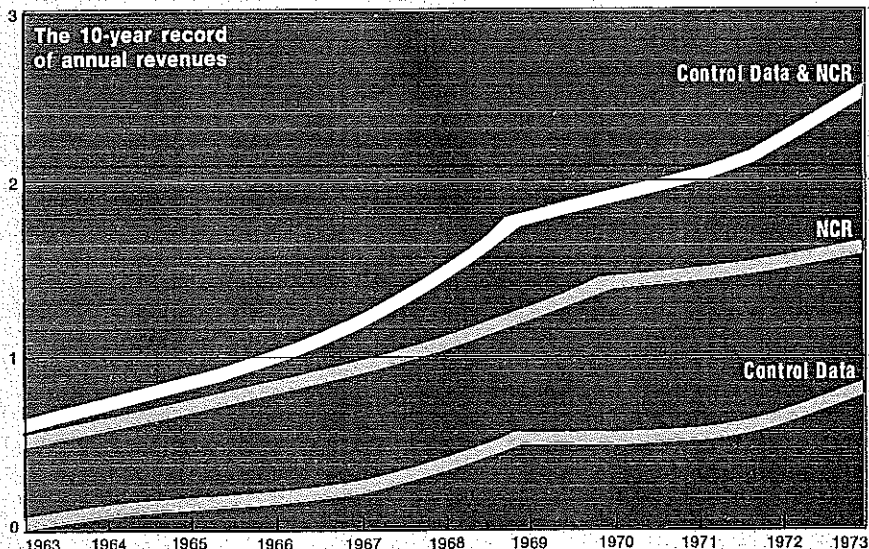
High-speed printer: One of the first products to come from the NCR-CDC deal.

Robert McAuley—BW

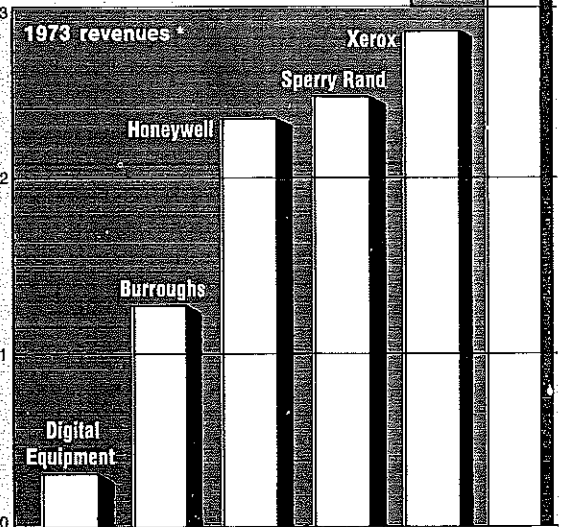
The 'Odd Couple': New strength in data processing ...

... to battle giant IBM

IBM



▲ Billions of dollars



▲ Billions of dollars.

*Annualized sales—12 months through September, 1973

In 1970, security analysts were circling the injured company like vultures

ran into prolonged programming delays under the direction of James Thornton, a colleague of Cray and the company's alternate technical hope.

Penalty payments on the first Star, which had been ordered by the Atomic Energy Commission, were inevitable, and CDC found itself in deep trouble with its best customer. The AEC re-opened bidding on follow-up orders for the Star, and General Motors canceled its order for a smaller version of the computer, which CDC had hoped would pave the way for many commercial sales of the system. Thornton, then vice-president for technology, went on indefinite leave and now has only a consulting relationship.

Bucking a tough market

It is not inconceivable that CDC's internal troubles weighed heavily in IBM's decision to settle out of court with CDC on such favorable terms. Control Data is the only full-line computer manufacturer, other than the much smaller Digital Equipment Corp., that started from scratch in the industry. All the others, including IBM, had going businesses to help support their computer efforts. Says CDC's Robert Price: "We had to seek out the points of greatest leverage, and in the late 1960s there was one—large scientific machines. It was a tiny point that a gnat



Paul G. Miller heads CDC Marketing Co., one of Norris' four structural groups.

could get into and exercise itself." From there on, until 1969, it was a bootstrap operation, Price concedes. Then CDC merged with Commercial Credit and, for the first time, says Price, "we had a sister business, valu-

able in its own right, that provides an additional leg of stability."

Even with Commercial Credit providing profits that could be plowed into computers (the merged company has not yet paid dividends), CDC still had to hustle in high-leverage areas. A key one was the OEM market for computer peripherals. Because none of IBM's competitors had as much as 10% of IBM's volume, it was almost impossible for them to compete across the board in all computer products. Without high-volume production, the manufacturing costs of precision products such as line printers, disk files, and sometimes even computers themselves exceeded the going market prices. To get production volume up, CDC concentrated on selling its peripherals to other manufacturers. NCR even bought numbers of CDC's small-scale computers for a few years and remarketed them under its own label. CDC's biggest success was in tape transports, printers, and disk files. Thomas Kamp, who now heads CDC Peripheral Products Co., recalls a number of times that other mainframe manufacturers decided to make their own disk files, only to find their actual costs were higher than CDC's prices, so they kept CDC as supplier. The operation was a steady profitmaker, and Price admits: "We never would have survived without the OEM philosophy."

That "philosophy" paved the way for

Fast action on the international front

Control Data's acquisition of Service Bureau Corp. in January, as part of the IBM settlement, lifted CDC into the top rank of data-processing service companies, with revenues of more than \$100-million from services. Soon afterward, Norris accelerated his acquisition program in the services area.

In March, CDC acquired IRT's Data Service Div. in Britain, picked up the Brazil segment of that operation in June, and collected IRT's domestic Data Service Div. in September. In May, Norris picked up Systems Resources, Inc., of Dallas, a relatively small company specializing in data service and computer facilities management in the health insurance and utilities fields. Also in June, he acquired Greenwich Data Systems, Inc., a programming and software house with wide experience in large, complex teleprocessing systems. In October, CDC picked up Comma Corp., one of the major independent field maintenance companies for computers.

Also this year, Norris bought up the 50% outside stock of Ticketron, Inc., increasing CDC's holdings of that operation to 99%, and bought out General

Telephone & Electronics' 50% share of Brokerage Transaction Service, Inc., a joint venture of CDC and GTE that specializes in teleprocessing services for brokerage firms.

Pressing overseas. In addition to these acquisitions and consolidations, Norris has been almost hyperactive in pushing joint ventures and cooperative projects in the U.S. and abroad. Most recently, CDC inked a 10-year pact with the Soviet Union that is a complex horse trade involving the swap of CDC's skills in computer-making for Russian research and development in computer programming. The deal could amount to as much as \$500-million over the life of the contract, according to Russian sources. The Soviet pact is not CDC's first venture with Eastern-bloc nations. The company also has a joint project in Poland to make disk files, and last summer it came to terms with the Rumanian government to build a jointly owned factory to make printers, tape units and card equipment.

CDC also has a joint venture going in Japan and a couple of smaller partnerships in Israel. In Britain and Europe, CDC's Senior Vice-President Robert D.

Schmidt has dickered at one time or another with virtually every computer and office equipment maker and has struck cooperative deals with Germany's Nixdorf, France's CII, and Britain's ICL. CII and ICL are both favored by their governments as computer suppliers. CDC, of course, also has its own operations in Europe and has been dickered for a role in Interdata, a consortium of Germany's Siemens, France's CII, and Holland's Philips.

To promote industrywide international standards that would permit interchange of programs between computers of different manufacturers, CDC in 1971 organized a joint "study company" called Multinational Data, with ICL and CII. Last month NCR, which is a powerful marketing and manufacturing presence in Europe, also joined the group.

Norris argues that the lack of adequate standards in the data-processing industry allows IBM to go its own way and create de facto industry practices that others are forced to follow. So far, Multinational Data has concentrated on standards for programming language, but it is now also investigating some approaches to standardization of hardware.

More than a couple of dwarfs

Norris' cooperative strategy, which is most clearly exemplified in the NCR relationship. For many years the idea of close cooperation with another company went against the grain at NCR. The company virtually owned the market in mechanical cash registers, and its management was certain that it could easily afford to enter the computer market through its base in accounting machines. It turned out to be much harder. The combination of industry recession, conversion from mechanical to electronic products, and the constant R&D costs involved in electronic data-processing systems drained NCR's resources until in 1972 it was forced to take a writedown that showed up on the books as a \$107-million nonoperating loss. For the first time in decades, NCR, instead of ending a year in the black, showed a \$60-mil-

lion loss.

The less desperate way

Inevitably, some in the industry have characterized the CDC-NCR match as a desperation move. But Norris points out that it is not nearly so desperate as the decisions of General Electric and RCA to chuck the entire effort and sell their computer operations. He believes, as does Anderson, that joint ventures and cooperative projects are far less disruptive than merger.

Besides, since their trials at the turn of the decade, both NCR and CDC have turned into tighter, harder-hitting operations. Between them, the Odd Couple of the computer industry cover a very significant portion of the computer market and do it in depth. In addition, both can go into computer network and data-processing services, which, though smaller than the sys-

tems market, are the fastest-growing segments of the industry. Importantly, IBM has agreed to stay out of services for six years.

With its big computers put to work in services, particularly the Stars, which will be able to handle as many as 10,000 terminals, CDC has much more room in the market than the "gnat-sized" corner it started in. NCR with its terminal-based systems and widespread marketing force at the customer level, is stronger than it has been in years from a market strategy standpoint. Together, the two companies are still only one-fourth the size of IBM. But that is bigger than any others except Xerox in the office equipment and data-processing industry. If cooperation works, the Odd Couple could very well turn out to be much more than a couple of dwarfs in an industry that still faces great changes and great growth. ■