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For The Computer Products Group

June 1991

Control Data Germany finds working CDC 1604

"CDC's highly qualified and experienced staff has designed this system for maximum reliability..."

When Control Data stated this in its CDC 1604 product brochure in 1959, no one probably envisioned that maximum reliability would mean the CDC 1604 would still be processing data in 1991.

Vivid proof of Computer Product's reliability comes from Germany where until several months ago a CDC 1604 —Control Data's first computer system—was still processing data for Metallaufbereitung Cottbus.

The company did all of the metal recycling for the former government of East Germany. The CDC 1604 processed all of the company's accounting, invoicing and financial data until last month.

The CDC 1604 didn't quit working. Unfortunately, the company closed its doors because of the effects of the East and West German reunification.

Control Data began manufacturing the CDC 1604 computer system in 1959; it was billed as the first solid state supercomputer in the world.

Dean Witter & Co. Investment Bankers wrote in a February 5, 1960, research department report that the CDC 1604, "is a large scale, fully transistorized, electronic, high speed, digital computer which incorporates the latest advances in electronic digital computer design..."

"The 1604...[sells] for about half of the price of computers of comparable performance now being offered by other leading manufacturers..."

The German recycling company, however, didn't purchase the CDC 1604 based on Dean Witter's advice. The computer system actually came delivered on a platform truck.

Three 1604 systems were sold to Germany: one to the chemical industry located in Leune; a second to an institution concerned with metallurgy called the Zentralinstitut der Metallurgie in Leipzig; and a third to a ship building company in Rostock.

At the end of the 1970s, these three companies had to change to GDR technology; so the 1604 was loaded on a platform truck, covered with an awning, and transported to a depot in Cottbus, the town where the recycling company was located.

There the Control Data 1604—all 3,300 pounds of it—sat unattended for three years taking in the sun, heat, wind, rain, snow and air.

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The cover from a CDC 1604 product brochure. Control Data was informed of the working CDC 1604 by the Cottbus company, who addressed the letter to CDC/USA. The letter first arrived in Minneapolis and was sent to CPG's German sales office.

CDC 1604 compared to CYBER 2000

To give you an idea how far computer technology has come, here's how the CDC 1604 compares to the CYBER 2000.

Circuits: The 1604 had all transistorized circuits and magnetic core memory; that is, 28,000 transistors and 7,000 boards. The CYBER 2000 has 14,000 ECL integrated circuits; in 1604 terms, that's 2 million transistors and 44 boards.

CPU clock speed: The 1604 ran at 6.4 microseconds. The CYBER 2000 runs over 1,400 times faster at 9.4 nanoseconds.

Memory: The 1604 could store 32,768 words. The CYBER 200 can store 64 million words.

Operations: The 1604 could run .1 million operations per second. The 2000 can run 81 million operations per second.

Dimensions: The console for the 1604 is 156 inches long, 29 inches high, and 30 inches wide. The 2000 is 16 x 14 x 15.

Another perspective. The clock speed for the CDC 1604 was .6 Mhertz. A personal computer runs at about 5 Mhertz.

Stechmann's paper, titled "Degraded Device Detection," was published in the Digest of the 10th IEEE Symposium on Mass Storage Systems, May 7, 1990.

Stokes wrote two papers. The first was titled "SI-Grid Worksheet: A Systems Integration Planning Visual Management Method" and the second was titled "IGES Success on a Shoestring: A Case Study of CAD/CAM Data Exchange."

Both were published in the Proceedings of the Design Productivity

publish technical articles... Control Data products would become more well-known in the process..."

Arneson's paper, titled "Development of Omniserver," was published in the Digest of Papers, Tenth IEEE Symposium on Mass Storage Systems, May 7-10, 1990. Arneson wrote about the

Says Arneson, "I think more Control Data people should publish technical articles and attend symposiums in their professional area of expertise...

Control Data products would become more well-known in the process, and it helps the individual expand his or her knowledge base by interacting with professionals in the field."

The Byliners' Club rewards individuals who author articles published in leading industry trade magazines and scientific journals.

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Working CDC 1604

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After that time, the company's data center decided to get it running. They did minor repairs, powered it on and it worked.

With the company's closing, the Control Data 1604 will be moved to a transportation and technology museum in Berlin called the Museum fuer Verkehr und Technik. The 1604 won't be shown until next year as the museum is being partly reconstructed.

Shown are some 1604 users and R. P. Freitag, sales manager, East Germany (far right) and F. Krämer, Professional Services team leader, Frankfurt (third from right). The 1604's console is in the foreground and the central processor in the background.

Medical Emergency

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transport," says Sergio who admits he was getting anxious. "We knew we had to fly out by 6-6:30 because the airport had one runway and no lights."

Shortly after 5 p.m. the Lear jet arrived. The medical team was transported to the clinic where they picked up Craig.

"The medic was never 20 paces from Craig during this whole time," says Sergio. "They did a tremendous job."

Sergio was also impressed with how easily the SOS medical team was able to get in and out of Valera. Instead of the normally slow paperwork process, the medical team simply gave their names verbally.

The plane lifted off at 6:30 p.m. "We may have had 15 minutes to spare," say Sergio. The team refueled in Maracaibo and then landed in a cargo terminal in Florida. They were at the hospital by 10:30 p.m.

Although Sergio has traveled a lot in his 19 years with Control Data, he has never used SOS to this extent before. "SOS works," he says. "It's a story with a happy ending."

Evelyn Groe, Expatriate Relations, says Control Data views the SOS relationship as vital. "We view it as a need when our people do a lot of traveling and especially when they are in a remote area or in an area where medical care is less than desirable."

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