

TANDEM COMPUTERS, INC.

Booth D4022

Tandem Computers, Inc. will exhibit its Nonstop TXP system, said to address high-volume transaction processing needs. Features of this system include 32-bit native addressing, 64-bit memory and 64K bytes of cache memory per processor.

The Tandem Nonstop TXP system includes two CPUs, each with 2M bytes of main memory; two 128M-byte disk drives and controllers; a 45-in./sec tape drive; four I/O power supplies; an operations and service processor; and system software, including the firm's Guardian operating system, Encompass data base management system and Cobol. The system costs \$328,550, the vendor said.

In addition, Tandem will show its 653 series terminal family. These terminals incorporate ergonomic features such as nonglare screens; low-contrast colors; and detachable, low-profile keyboards with palm rests and two-position tilt adjustment.

The 6530 terminal is the original in the family. It features a standard tilt-and-swivel screen and measures 15 in. diagonally. The price of the 6530 is \$2,300.

Two more recent models are the 12-in. 6531, which costs \$2,100; and the 6532, which features a 9-in. screen and costs \$1,950. Both offer detachable CRT monitors, which can be placed either on top of or six feet away from their corresponding electronics boxes. The tilt-and-swivel screen is optional.

Demonstrated along with the 653 series terminal family will be a voice input option that allows terminal operators to use speech as an alternative means of entering data into Tandem Nonstop systems. Its price is \$1,800.

Also exhibited will be the EM3270, which allows 653 series terminals to access concurrently bisynchronous 3270 applications running on IBM-compatible hosts (via a Tandem system) and application programs running on any model of Tandem system. The product includes host software and special terminal key caps. Pricing for EM3270 for a Nonstop 1+ system is a basic monthly maintenance fee of \$50/system; for Nonstop II and TXP systems there is a one-time license fee of \$500/processor plus a \$20/system basic monthly maintenance fee.

In addition to these products, Tandem will show the Model 5530 letter-quality printer. It is a 55 char./sec daisywheel that features multinational character sets, programmable line spacing and automatic paper feed for unattended printing. The Model 5530 is compatible with Tandem Nonstop II and Nonstop TXP systems and is priced at \$3,950.

Tandem Computers, 19333 Valico Pkwy., Cupertino, Calif. 95014.

LEVEL 1 - 5 OF 9 STORIES

Copyright © 1984 CW Communications/Inc.;
Computerworld

July 2, 1984

SECTION: NEWS; Pg. 43

LENGTH: 508 words

HEADLINE: News service's computers speed futures info to brokers

DATELINE: LEAWOOD, Kan.

BODY:

Commodity futures brokerage firms, grain elevator operators and livestock feeders and processors often make split-second decisions that can spell the difference between profit and loss in the commodities market.

A news service based here is responsible for fast and reliable delivery of the information that those businesses need to make key decisions. Commodity News Services, Inc. (CNS), a subsidiary of Knight Ridder Newspapers, Inc., feeds to 8,000 subscribers futures quotations, news stories and analyses tailored to particular businesses.

"Commodities futures markets are highly volatile. It is therefore imperative that we send information fast and efficiently to customers so they can keep pace with market changes and, as a result, make profitable trading decisions," said Paul Tucker, senior vice-president of technology at CNS.

Six years ago, CNS scrapped several different stand-alone systems in favor of a Tandem Computers, Inc. Nonstop I processor to handle all of its business. Today, CNS relies on 14 Tandems -- six Nonstop II superminis and two TXP mainframes for production and four Nonstop IIs and two TXPs for software development and business functions. A variety of disk drives hold more than 760M bytes of data for the information network.

"We simply cannot be down," Tucker said. "Even if we are down for a minute in the middle of the trading day, we're in trouble."

CNS officials report that the Tandem systems allow for the company's growth. "As our business has grown, the Tandem system has grown right along with it. It's simple to add new processors onto the existing systems -- the last two processors we installed were delivered on a Friday, installed on Saturday and in production on Monday morning," said Craig Duvall, staff administrator for technical administration.

CNS operates six instant quotation systems and 17 individual commodity news wires that cover events affecting the futures market. The Tandem system receives prices from the exchanges via ticker feeds. The information is processed in a ticker network interface, placed in the computer data base and transmitted by drivers to subscribers' terminals throughout the U.S.

Customers receive data in video or printed format. That data is transmitted by telephone lines, FM radio sideband and satellite.

LEXIS NEXIS LEXIS NEXIS

© 1984 Computerworld, July 2, 1984

"Many of our customers, particularly those who live in farm-belt areas, are isolated, so we are rapidly expanding data delivery via the Westar IV satellite," said Barbara Ostwald, CNS' managing editor for operations. "The information is beamed to 2-ft receiving dishes installed at subscriber locations and instantaneously displayed on VDTs.

"Because it's a much more efficient and cost-effective way to send data than by phone lines, we plan to use satellite delivery even more in the future," she added.

CNS subscribers can use their personal computers to receive, store and display information. CNS provides a hardware and software package that decodes the transmission signal and presents it to the personal computer in Ascii.

LEXIS NEXIS LEXIS NEXIS

LEVEL 1 - 6 OF 9 STORIES

Copyright © 1984 CW Communications/Inc.;
Computerworld

July 2, 1984

SECTION: NCC '84 PREVIEW; PREVIEW/7

LENGTH: 571 words

HEADLINE: Peripherals to Abound;
But users can expect few big system surprises

BYLINE: By Tom Henkel, CW Staff

BODY:

The National Computer Conference has always been a venerable occasion for hardware announcements. While major system announcements at NCC have generally been on the decline, there are traditionally countless introductions of new peripherals to take up the slack.

Don't count on seeing many big systems however. Vendors seem to be bringing smaller and smaller systems to the show. One such example is NCR Corp.'s plans to unveil an integrated office automation system based on its Tower 1632 supermicrocomputer. The system is said to use a version of the Unix operating system and feature windowing capabilities.

Some industry watchers speculate whether Burroughs Corp. may choose NCC to unveil the next model of its A series of mainframe processors, just as IBM picked last year's NCC to announce its System/36. But chances are good that there will be few, if any, big system surprises this week.

Instead of announcing major products at NCC, many vendors opt to announce products prior to the show and display them at NCC. For example, Data General Corp. will show its newly announced GW/10000 and GW/8000 graphics workstations at Booth A1522. A spokeswoman said late last month that the firm will probably show its newly announced Distributed Systems line of products.

Tandem Computers, Inc. is showing its Nonstop TXP fault-tolerant system, unveiled last October.

Canaan Computer Corp. is using NCC '84 to display its newly announced IBM-compatible Model 5400 Departmental Mainframe. The \$27,000 unit offers support for IBM's VM/CMS operating system.

One large vendor planning an NCC announcement is Charles River Data Systems, Inc., which said it will introduce this week a VME-bus-based addition to its Universe line of 32-bit superminicomputers. The firm said it will also unveil a local-area networking product at Booth C4498.

Peripherals are king at NCC, and will undoubtedly keep up that tradition during the conference this week. If you are in the market for disk drives, printers or terminals, bring a wheelbarrow to carry home the new product literature.

LEXIS NEXIS LEXIS NEXIS

© 1984 Computerworld, July 2, 1984

If you're in the market for storage products, drop by the Panasonic Industrial Co.'s Booth C3588. The firm said it plans to announce a family of 3 1/2 -in. micro floppy drives.

Or you can try Alpha Data, Inc.'s Booth A1146. The firm plans to announce a family of disk drives that feature a storage capacity of 160M bytes. Meanwhile, Lapine Technology is slated to introduce two 3 1/2 -in. Winchester disk drives at Booth H352. Emulex Corp. will unveil a mass storage subsystem at Booth A2524, and the Kennedy Co. will announce an 8-in. Winchester disk drive at Booth A1344. Those are just a sampling of vendors planning to announce new products.

If it's a terminal you want, stop by Espirit Systems, Inc.'s Booth B3732. The firm plans to announce a \$495 EXP 6110 CRT terminal. Telray, a division of Research, Inc., will unveil both Digital Equipment Corp.- and Honeywell, Inc.-compatible terminals at Booth A1858. Or try Falco Data Products, Inc. at Booth B4538. The firm will introduce the Fame 100, a terminal that emulates DEC VT100 and VT52 terminals. Again, this is only a partial listing.

Want a printer? Try Genicom Corp. at Booth C3308, which will announce two shuttle matrix printers, which operate at 300 and 600 line/min, respectively. And Delphax Systems will exhibit its S 6000 ion printer at Booth A2542.

LEXIS NEXIS LEXIS NEXIS

can use mercury news 7/20/87 P11

Computer that backs itself up

Tandem's 'non-stop' system gets a rival

The New York Times

NATICK, Mass. — Keith Johnson suggested looking at one of the computers in the demonstration room. Nothing outward about it seemed especially unusual. The inside was another story. It was two computers nestled inside one frame — data-processing Siamese twins. When one twin malfunctions, its sibling takes over its chores.

It is known as the Stratus Continuous Processing System, a computer that never stops.

"In this system, a component fails on average once every six months," explained Johnson, the product marketing manager of Stratus Computer Inc. "But then its duplicate takes over while the component is fixed. The odds are that the total computer will never fail. The odds are some ridiculous number."

Hot prospect

Four-year-old Stratus Computer has attracted notice as a hot prospect among the cluster of high-tech industries along Route 128 outside Boston. Stratus exclusively makes so-called fault-tolerant computers, systems that contain their own backups so that they never shut down and cause disruptions in a company's operations.

"It's an emerging growth company that's doing very well," says Ulrich Weil, a computer analyst at Morgan Stanley & Co. "Fault tolerance has become a growing requirement at a lot of companies."

Although Stratus likes to style itself as a major challenger to Tandem Computers Inc., the innovator in fault-tolerant computer sales based in Cupertino, Tandem executives believe that such positioning is disingenuous.

Robert Ariko, Tandem's director of marketing, says: "They're not our chief competitor. Our chief competitor is IBM. They were smart to talk about competing against Tandem, because that gave them visibility. But they sell more for small applications."

He added: "They have a nice little box and I think they're going to be successful. But not at our expense."

The need for fewer computer breakdowns has grown with the increasing use of "on-line" com-

Continued on Page 2F



The New York Times

Stratus president William Foster holds a semiconductor chip board

Brokerage houses use Stratus' system

Continued from Page 1F

puting, in which the actual end user — often a customer — deals directly with the computer.

For instance, the person who uses an automatic banking machine to get some cash is using an on-line computer, and it can be costly and embarrassing to the bank when the computer breaks down.

"Today, you have terminals on everyone's desk," remarked William E. Foster, the president of Stratus. "If the computer stops, a piece of the company stops. So there is this concern for 'What if the computer fails?' We're in the business of making sure the computer doesn't fail."

Uses Stratus

Morgan Stanley, for example, uses a Stratus system to flash stock prices to its traders and investment advisers. "You use fault-tolerance when you can't stand to be out for even five minutes," said William Cook, who is in charge of the company's computer operations. "If the machine is down for five minutes and the market moves the wrong way and the traders don't know it, that can cost us a nice piece of change."

Achieving fault-tolerance, though, does not come cheaply. Cook estimates that it might tack 30 percent to 60 percent onto the price of a system.

Nonetheless, sales of fault-tolerant computers are widely expected to mushroom. Peter Lowber, a senior market analyst at the Yankee Group, estimates that the market for fault-tolerant computers, which he defines as about \$400 million right now, could grow 30 percent to 100 percent a year over the next three or four years.

Not individual computers

He is not counting individual computers connected to each other to achieve fault-tolerance, as are those sold by the International Business Machines Corp. and other major computer companies.

The potential is the entire market for on-line transaction processing, which is currently estimated by Lowber at about \$16 billion. IBM controls the bulk of it. Unlike Tandem and Stratus, IBM offers no general fault-tolerant solution but will also produce custom-designed systems, as it has for use in air traffic control and for military applications.

Thus far, Stratus has been experiencing rapid-fire growth. After attracting sales of \$5.5 million in 1982, the company soared to \$20.6 million last year and expects to hit \$30 million in 1984. It recorded its first profit last year, of \$2.2 million. Its average system — it currently offers three models — sells for a little over \$200,000 and has been bought by such companies as Bank of America, Merrill Lynch, Eard and Xerox.

Failing computers

Companies using computers for vital functions have always found it necessary to address the problem of the computer failing. The initial solution — even by the space program — was to buy two of everything and hook the pairs together. It was both expensive and cumbersome.

In 1974, Tandem was the first to present a single system that incorporated a backup. It reasoned that if the customer needed the safety of two computers, it was better to buy one with two inside that would "talk" to each other. If one of the computers tells the other it is sick, the healthy one will step in to help.

The product was called Tandem's Non-Stop, and it has blossomed into a line of systems that last year earned Tandem \$30.8 million on revenues of \$418.3 million.

Worked at H-P

For seven years, William Foster worked at Hewlett-Packard Co. of Palo Alto, where he was in charge of research and development in the computer systems division. The people who started Tandem Computer worked under Foster and, when they decided to leave, they asked him to join them.

He remembers: "I was safe and had a fat job and was 30 years old. I was totally unfamiliar with starting a computer company. It seemed like basically an impossible thing to do. I guess I didn't have the guts to do it. So I didn't do it."

He went on to work for the Data General Corp. as the vice president of advanced computer architecture. While there, he kept an eye on his friends at Tandem. "They had the right idea all right," he said. "The idea of making a computer that never stopped. I followed them closely and they had no competition and it clearly was an exploding market."

They (Stratus) have a nice little box and I think they're going to be successful. But not at our expense.

— Robert Ariko,
Tandem

In the late 1970s, Foster had a notion that seemed to him a better one than Tandem's. Tandem used a software approach to its nonstop computer, incorporating complex programs to detect errors and keep the system working. Foster decided to use a hardware solution, in which two computers did everything in parallel.

Economic reasoning

The reasoning, in large part, was economic. When Tandem was started, hardware was expensive relative to software, so it made sense to rely on software to produce a nonstop computer. Since then, hardware costs have been tumbling, while software costs, because of the programming labor involved, have been climbing.

Foster quit Data General and resolved to give his idea one year. Robert Freiburghouse was hired to take charge of software development and Gardner Hendrie to oversee hardware engineering. In May 1980 the trio founded Stratus Computer and 21 months later the first product was ready to be shipped — to the West Lynn Creamery, a nearby dairy, which wanted it to handle its orders and the routing of its milk trucks.

Brokerage business

"The biggest market so far is the brokerage business, which was one of the first to clamor for this," Keith Johnson said. Other applications are banking, air traffic control, manufacturing, communications and hotel reservation systems.

LEVEL 1 - 1 OF 3 STORIES

Copyright © 1984 CW Communications/Inc.;
Computerworld

July 9, 1984

SECTION: NEWS; Pg. 18

LENGTH: 661 words

HEADLINE: Expert system helps guide hospital's physicians through life-and-death decisions

BYLINE: By Edward Warner, CW Staff

DATELINE: ELMIRA, N.Y.

BODY:

It is a choice that could mean the difference between life and death: What drug should a physician prescribe and how much of it?

With an unusual illness or with new or obscure drugs, the decision becomes even more difficult, but doctors at Arnot-Ogden Memorial Hospital here can get an expert's advice in seconds -- and never meet their benefactor.

The advice comes via the hospital's Help system, a computerized medical expert system that links the hospital's testing facilities, pharmacy and patients' rooms. When it is fully operational in August, the Help system will not only advise physicians about drugs, but will also consider preliminary data entered about a patient and suggest the proper tests to run and what that patient's illness might be.

Such a system has been in use at Latter Day Saints Hospital (LDS) in Salt Lake City in various forms since 1973. A team of doctors from the hospital and the University of Utah School of Medicine, led by Dr. Homer Warner, developed the Help system to integrate all of a hospital's computer application needs, from mundane patient account keeping to critical, on-the-spot advice on each patient's care.

Over 350,000 patients have received the Help system's benefits, Warner said, including Dr. Barney Clark, the recipient of the first artificial heart. Data on Clark's condition was transferred over phone lines to LDS from the University of Utah Medical Center, where Clark was being treated.

In 1980, the Help system went public. Control Data Corp., in exchange for a grant to LDS, gained the right to market the system to hospitals such as Arnot-Ogden Memorial, the first hospital other than LDS to implement it, and the University of Utah Medical Center, which will bring a Help system on-line this year.

Arnot-Ogden Memorial paid \$1.5 million for its Help system, which it began to implement in October 1983. Hardware for the hospital's Help system includes 90 CDC Viking 754 terminals; 60 printers; and five Tandem Computers, Inc. Nonstop II computers, each with 2M bytes of internal memory -- all linked by 10 miles of cable. <

LEXIS NEXIS LEXIS NEXIS

© 1984 Computerworld, July 9, 1984

The system will pay for itself in less than a year, said William Ritter, the hospital's treasurer, because of its accurate tracking of each test performed on a patient. This will ensure correct billing for all of a patient's tests, he noted. The hospital, like all others nationwide, is now under the pressure of recent federal Medicare guidelines that ban payment for tests that the patient's illness does not usually warrant. As a result, the Help system "is a real cost-containment mechanism," warning physicians against wasteful testing, Ritter said.

That cost-containment benefit is also extended to the patient. When an Arnot-Ogden physician prescribes a drug for a patient, he does so generically; the Help system responds with the brand name of the cheapest version of that drug available in the hospital pharmacy. The doctor then orders the drug from the pharmacy via his terminal.

The best feature of the Help system, though, is that "it gives [doctors] an important second opinion," according to Dr. Gerald Schneider, an Arnot-Ogden physician in the intensive care unit (ICU). The ICU, where critically ill patients are treated, requires fast responses on often technical questions, Schneider said. The Help system provides those answers automatically, at the instant it receives data from tests being conducted on patients throughout the hospital. The attending physician, Schneider said, can then choose to accept or ignore the Help system's recommendations.

Those recommendations are accepted in 80% of all physicians' interactions with the Help system, LDS' Warner reported. Calling it a quality control tool, Warner said the Help system acts "as an adjunct to the physician's own knowledge base.

"Most of the errors we make as physicians," he said, "are errors of omission. Maybe we were tired. Maybe we just didn't notice things."

GRAPHIC: Picture, A help system terminal in use

LEXIS NEXIS LEXIS NEXIS

LEVEL 1 - 2 OF 3 STORIES

Copyright © 1984 CW Communications/Inc.;
Computerworld

July 9, 1984

SECTION: NEWS; Pg. 18

LENGTH: 315 words

HEADLINE: Utah facility relies on Help

DATELINE: SALT LAKE CITY

BODY:

The Help system is pervasive at the Latter Day Saints Hospital (LDS) here.

Electrocardiograms (EKG), which test for heart ailments, are input directly from the EKG machine into the Help computer and, within seconds, are analyzed and provided to the attending physician's terminal. Blood gas readings, which tell of heart ailments and test respiratory functions, are also entered directly to the Help computer from the testing machine.

"It's as though [the doctor] were consulting with others as soon as he gets back from the lab," said Dr. Homer Warner, leader of the team of LDS and University of Utah School of Medicine physicians that developed the system. Warner is chairman of the hospital's department of biophysics and the school of medicine's department of biophysics and computing.

When a doctor at LDS orders X-rays for his patient, the Help system considers all the data regarding the patient in question and advises the doctor as to which X-rays will be needed and even what the X-rays might find, Warner explained. A similar course of action occurs when the Help system responds to a doctor's prescription for drugs. The Help system reminds the doctor of the drug's potential side effects, considers the patient's other data and can recommend that lower dosages be administered or that the drug not be used at all.

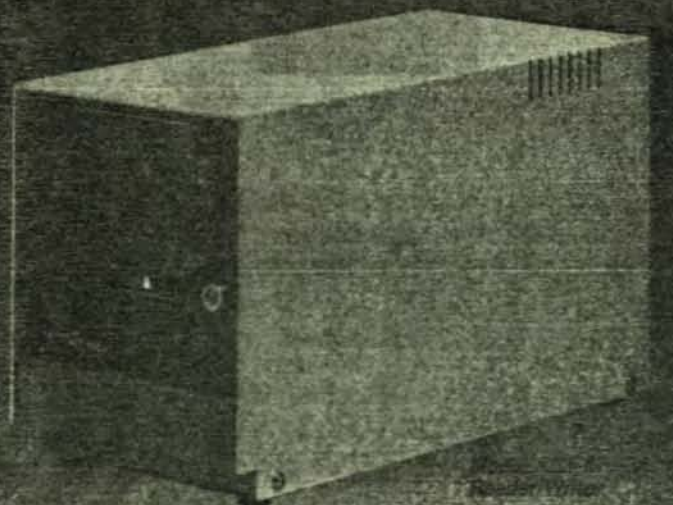
Such an extensive data base requires a massive storage capacity and extensive hardware. LDS houses its Help system on six Tandem Computer, Inc. Nonstop II CPUs, with 1.3 billion bytes of disk storage and 250 terminals.

The only hang-up with Help at LDS, Warner said, is that it has come to play a key role in the work of physicians there. When the hospital shut down Help a few years ago to reconfigure its computer system, Warner said, LDS doctors took a vacation from performing surgery for two weeks until the Help system came back on-line.

LEXIS NEXIS LEXIS NEXIS

NOW TWO SUPER CHOICES!

A New Magnetic Card Reader/Writer with RS232C Interface for Direct PC Connection.



SRD places the popular NEURON family in a fresh dimension with the RS232C interface-equipped ACT-670 Magnetic Card Reader/Writer.

Minor drive size and speed blend with superb performance to match diverse needs.

The compact ACT-270, an economical read-only manual unit with RS232C interface, is also available.

Advanced SRD technology achieves extraordinary reliability and cost performance. Every member of the NEURON family is designed for lightweight handling ease, minimal power consumption and dependable long-life service.

Contact us today for complete information on the new ACT-670 and entire NEURON family.

SRD CORPORATION

SRD USA Office
2250 E. Imperial Highway,
Suite 252
El Segundo, CA 90245-3501
Tel: 213/417-5114
Telex: 664474 SECIMP

Marume Bldg., 3-7-16
Iwamoto-cho,
Chiyodaku, Tokyo 101, Japan
Tel: (03) 863-0051
Fax: (03) 866-7486
Telex: 265-5006 SRD CO J

7.5 inch floppy disk with 720KB of back-up storage, and a six-terminal cluster controller. The system supports up to 7 PCs.

"We see Point 7 as a direct competitor to established multi-user systems such as those from Altos, ICL and Fortune," Mr. Foster said. A four-user system is priced at approximately \$9,450 dollars.

The Apricot Point 32, to be available in September, handles up to 32 users and supports a maximum of 200MB of mass storage. A 10-user configuration is priced at about \$27,000, the company said.

Corona Licenses Materials Devel.

THOUSAND OAKS, Calif. — Corona Data Systems, Inc., has signed a 3-year agreement with Materials Development Corp., Chatsworth, Calif., that licenses MDC to manufacture industrial rackmounted versions of Corona's 16-bit IBM PC-compatibles and market them under private label.

Under the agreement, terms of which were not disclosed, Corona will supply printed wiring boards and components to MDC where they will be assembled and remarketed as MDC's RM-1600 line, Corona said.

According to MDC, a 14-year-old manufacturer of automated test equipment and measurement systems, shipments under the Corona contract could reach 1,000 units per month. Shipments have already started, Corona said.

MDC will market the RM-1600 line through its international sales organization to OEM, government, laboratory and industrial markets.

In an unrelated matter, the microcomputer manufacturer named Marvin M. Miller product manager working with new product introductions.

Mr. Miller, who in the new position reports to Lawrence Lotito, vice-president of marketing and strategic planning, was most recently employed by IBM as a marketing support representative.

Tandem Let \$1.6M Order From Bank in Scotland

LONDON (FNS) — Tandem Computers, Inc., said the Clydesdale Bank of Glasgow, Scotland, has ordered two Tandem Nonstop 11 computers valued at about \$1.6 million.

The systems will be used to provide the backbone for the bank's network of teller and back-office terminals and automatic teller machines.

The two Tandem systems will be installed in September, 1984, at separate sites in Glasgow. The processors involved will run Base24 software supplied by Applied Communications Ltd. of Watford.

LAS VEGAS — Digital Equipment Co. recent introductions to its VAX family VAX-11/785 and Version 4.0 of the VAX this week at the National Computer

The 11/785, rated by DEC at 1.5 MIPS, is said to provide 1.3 to 1.5 times the performance of the VAX-11/780 in commercial applications and 1.5 to 1.7 times the performance of the older model in computer-intensive applications, timesharing and real-time environments, the company claimed at the system's unveiling last April. The computer, priced at \$195,000, is scheduled for shipment in September.

DEC will be demonstrating Version 4.0 of its VAX/VMS operating systems, which includes extended features for VAXclusters.

The enhancements to the VAX-cluster included in the new version are the Distributed File System, which manages all files as a single entity; the Distributed Lock Manager, which synchronizes resource use; a Terminal Server that connects terminals to VAXcluster systems;

Wang to Demonstrate

LAS VEGAS — Wang Laboratories its office automation systems — incl 15 small computers — this week at Conference.

Wang said its NCC exhibit will mark the first public display of the recently introduced VS 15. The entry-level business system for commercial data processing, distributed data processing and office automation supports up to 10 users and is priced at \$13,500.

The 32-bit VS 85 to be displayed at the NCC will include Wang Office, WangNet, FastLAN, Wang Systems Networking, VS Multistation, Pace (Professional Application Creation Environment), PC workstation emulation and 4245 color monitor, Wang said.

The VS 85 is priced at \$63,000. Wang will also demonstrate its PIC image processing system, which is based on the 16-bit Wang Professional Computer. The PIC includes a desk-top scanning device that digitalizes images from paper documents, a high-resolution monitor capable of displaying images and image processing software that can scan, digitalize, create, display, alter, merge with text, receive and transmit images.

The 16-bit Wang PC to be displayed will include PC Office, PC Local Interconnect Option, VS, OIS and Alliance workstation emulation, PC color monitor, IBM monochrome monitor emulation option and 30-megabyte Winchester drive.

Wang also plans to demonstrate several software packages on the PC, including its PC/VS Multistation, VisiCorp's VisiOn, the MS-Windows from Microsoft, the integrated 1-2-3 package from Lotus Development

Mass S provide connected cluster provide the nu

At it Dancy ing m priced license ember

DEC demon Ethert 4 DEC operat

Arco confer 100, th with f and th

Corp. Arts.

Two DVX Profes ment,

The which proces monst works

K C

CON Chri Com 783 Cust

Tel: Tx: See

CON Chri Com 783 Cust

Tel: Tx: See

CON Chri Com 783 Cust

Tel: Tx: See

CON Chri Com 783 Cust

Tel: Tx: See

Business Journal 7/16/84 P1

Coyote delays frustrate developers

Apple, others blame red tape, foot dragging in city hall

By BOB WEBSTER

Delays in the development of a high-technology neighborhood in rural Coyote Valley have caused frustration among two of the area's major developers and at least one future tenant: Apple Computer.

The once-promising area in south San Jose has become hampered with delays which the developers say were caused by red tape and foot dragging in San Jose's city hall.

"I think it's important that the city be a major player. They need a stronger leadership at the point of identifying Coyote Valley as a priority," said Roger Buckhout, manager of architecture, design and construction for Apple Computer Inc. of Cupertino.

"I have a feeling Coyote will never occur unless there's a strength to make that happen," Buckhout said. "That strength isn't there."

San Jose's mayor and city manager, Tom McEnery and Gerald Newfarmer, were on vacation last week and aides said there would be no comment on problems in Coyote.

Last year, Apple purchased 645 acres in Coyote Valley and announced plans to build a corporate headquarters among the area's gently rolling hills.

Apple wants to remain part of a prestigious high-technology community planned for Coyote Valley, with IBM, Verbatim Corp. and Tandem Computers Inc. as neighbors.

Long negotiations on the construction and financing of an infrastructure of roads, sewer and flood control systems to accommodate the new buildings have hampered construction efforts, he said.

"It's getting there but believe me, it's been incredibly frustrating," said Steve Speno, vice president of the Koll Co. of San Jose.

Koll is developing the site for Tandem. And Speno has emerged as a sort of "clearing house" for some of the interests in Coyote.

Tandem and Koll have begun proceedings to secure the zoning needed to develop the land, Speno said. Preliminary plans and a draft of an environmental

Please turn to page 31

hours before the commission ordered the here before the

'Believe me it's been incredibly frustrating'

Continued from page 1

impact report have been submitted to the city.

Speno said he expects the environmental report will be heard by the city in September and the zoning request by November.

"Frankly, we had expected to have our zoning by the first of this year," Speno said.

He attributed the delay to the project's large scope and "the need for more direct and active participation by the city administration."

"We have a major commitment to the north Coyote area and we fully intend to go ahead with a high quality high-technology project," Speno said.

The delays have prompted Apple executives to look for a "short-term" manufacturing site to handle increased orders for the Macintosh personal computer, said Apple's Buckhout.

"If you got a hot box, you gotta sell it," Buckhout said.

Under ideal conditions, Buckhout said, Apple would have been able to build more Macintoshes in Coyote Valley.

Now, Buckhout said, Apple executives are looking for a "short-term" manufacturing site elsewhere in the bay area, and most likely could expand Apple's Fremont manufacturing plant.

"If development had gone smooth in Coyote Valley, then there wouldn't be a

need to find other land," Buckhout said.

He said the search for additional property "is not in conflict with our plans for Coyote. No matter what, we would have needed more manufacturing space."

Apple's proposed Coyote corporate headquarters facility would be used primarily for corporate functions and research and development. A small portion of the headquarters, Buckhout said, has been reserved for manufacturing.

"If somebody would tell us we couldn't build for five years, we'd start aggressively looking elsewhere," Buckhout said.

He said an acceptable time to begin construction would be within two years.

"We're very interested in pursuing that land," Buckhout said. "But presently our activity with the city has centered on the infrastructure development. We feel we've arrived at an acceptable plan. The big question is financing the infrastructure."

Apple had complained previously that plans for sewers, roads and flood control work had not met the standards originally prescribed by the San Jose City Council.

The delays in Coyote have prompted another developer to concentrate on east bay sites.

"I've focused my attention in Newark. That's going to happen long before Coyote," said John Sobrato of Sobrato Development Co. of Cupertino.

"I think Apple is feeling the same level

of discouragement that Koll Co. and we are feeling," said Sobrato. "Now that Apple is pleased with the planning, they'd like the city to get on with it."

Sobrato is developing Verbatim's Coyote manufacturing facility. He said he had planned to begin construction there this fall. Delays in zoning and infrastructure construction, however, have pushed construction to the spring of next year, he said.

"City staff is stretched to their limits," Sobrato said.

"It's a damn crime. You pay the highest taxes and review fees and you get the worst service."

Speno, of the Koll Co., said two major needs must be addressed before an assessment district can be formed to help finance improvements in the 1,300-acre Coyote Valley.

The first obstacle centers on determining how the area's improvements will be built during the various phases of construction. Once that has been determined, Speno said, a comprehensive financing plan must be drawn—the second need.

"It's expected that the users of Coyote will be required to pay for the infrastructure they will utilize," Speno said. "How that will be done needs to be addressed. We're talking about an assessment district calling for over \$100 million worth of improvements."

350,000 SQUARE-FOOT
E/R&D COMPLEX
TIME, ON BUDGET.
NOW, THE DEVELOPER
WANTS US TO DO IT AGAIN.

BILL BEST
PROJECT SUPERINTENDENT



With his 30 years of experience to work, expediting the job. Once completed, the developer awarded us a contract for second and third buildings. Thanks to Bill, our new business relationship is a smooth business. Bill Best is the kind of professional that makes a difference.

F A HATHAWAY AND COMPANY □ 565 LAURELWOOD RD □ SANTA CLARA, CA 95050 □ (408) 988-4200

Business Journal
7/16/84 p24

Representatives plan to visit valley companies

By JAN C. SHAW

The U.S. House and Senate Joint Economic Committee will visit Sunnyvale next month to hear testimony from the high-technology community on the current federal industrial policy movement.

John Mercer, Sunnyvale vice mayor and National Semiconductor Corp. lobbyist, said the questions to be raised at the hearings are: What is Silicon Valley? How did it happen? And how can the federal government encourage it to happen?

Mercer said he invited the committee to Sunnyvale "because you can't find out what Silicon Valley is all about by holding meetings in Washington."

He attributed part of his successful invitation to his long-standing friendship with Rep. Dan Lungren, a conservative congressman from Long Beach and a member of the committee.

The lineup for the hearings includes Robert Noyce, vice chairman of Intel Corp.; Charles Spörck, president of National Semiconductor; Jerry Saunders III of Advanced Micro Devices Inc.; Kenneth Oshman, president of Rolm Corp.; James Treybig, president of Tandem Computers Inc.; and Regis McKenna, president of Regis McKenna Public Relations, Mercer said.

Also invited are Steve Jobs of Apple to talk about his start-up experience and Sandra Kurtzig, president of ASK Computer Systems, he said.

Topics will include management and labor, employee incentives, why certain companies are good to work for, production increases and working conditions, Mercer said.

"They are curious how management around here has made a whole company feel like part of a team rather than 'us vs. them,'" Mercer said.

The committee also is scheduled to take several tours, one at National Semiconductor, one tentatively at Rolm, "and we're trying to get Apple to let them into the Macintosh factory," Mercer said.

LEVEL 1 - 4 OF 9 STORIES

Copyright © 1984 CW Communications/Inc.;
Computerworld

July 23, 1984

SECTION: COMPUTER INDUSTRY; Supershorts; Pg. 74

LENGTH: 72 words

BODY:

A. O. Smith Data Systems announced that it has signed an agreement with SPL International to market its EFT software programs in the UK and Western Europe, using hardware designed by Tandem Computers, Inc. A. O. Smith Data Systems is a division of A. O. Smith Corp. SPL International is a distributor of computer hardware and software overseas, with headquarters in London and offices in Sweden, Holland, Belgium and Luxembourg.

LEVEL 1 - 9 OF 9 STORIES

Copyright © 1984 Financial World Partners;
Financial World

July 24, 1984

SECTION: COMPANIES IN THE NEWS; Pg. 61

LENGTH: 219 words

HEADLINE: Tandem on the rebound

BODY:

If one measure of a company's strength is its ability to withstand shocks, investors will soon find out how sturdy Tandem Computers really is. The manufacturer of computer systems suffered an abrupt setback in its fiscal 1984 second quarter as sales stalled and earnings tumbled. Specifically, sales fell 12%, to \$111.2 million, and earnings dropped from 24¢ to just 5¢ a share from the previous period. In addition, the company's overall growth remained flat, at about 35%, below Wall Street's expectations.

But Tandem may be primed for a rebound. For one thing, the second-quarter shortfall was partly due to an extended selling cycle and to the company's decision to pursue large accounts. For another, sales of a new system -- the NonStop TXP -- were slow because representatives needed more time to become familiar with the product. Finally, Tandem's decision to operate without a shippable backlog will allow faster revenue growth and speedier cash buildup, though at the risk of possible shortfalls.

Still, analysts have cut their estimates of Tandem's earnings, projecting 90¢ a share in fiscal 1984 and \$1.50 a share next year, down slightly from 95¢ and \$1.60, respectively. The current estimates, however, still translate into a 67% potential increase.

OTC (TNDM) 20, no dividends.

LEVEL 1 - 2 OF 2 STORIES

Proprietary to the United Press International 1984

July 25, 1984, Wednesday, BC cycle

SECTION: Financial

LENGTH: 75 words

DATELINE: CUPERTINO, Calif.

KEYWORD: Earn-Tandem

BODY:

Tandem Computers, the mainframe computer company, boosted revenues by 29 percent in the third quarter.

Tandem reported revenues of \$141.9 million, up from \$110.2 million in the third period of 1983. Net income came to \$9.2 million or 23 cents a share compared to \$8.4 million or 21 cents a share in the same quarter a year ago.

A new computer system, the NonStop TXP system, helped increase sales, according to Tandem president James G. Treybig.

LEVEL 1 - 2 OF 3 STORIES

Copyright © 1984 The New York Times Company;
The New York Times

July 26, 1984, Thursday, Late City Final Edition

SECTION: Section D; Page 15, Column 1; Financial Desk

LENGTH: 65 words

HEADLINE: TANDEM COMPUTERS INC reports earnings for Qtr to June 30

BODY:

**** COMPANY REPORTS ****
TANDEM COMPUTERS INC (OTC)

Qtr to June 30	1984	1983
Revenue	141,925,000	110,291,000
Net inc	9,250,000	8,441,000
Share earns	.23	.21
Shares outst	41,039,000	41,009,000
9mo rev	379,530,000	300,432,000
Net inc	21,278,000	22,018,000
Share earns	.51	.54
Shares outst	41,558,000	40,669,000

TYPE: Statistics

SUBJECT: COMPANY REPORTS

Brokerage firms report losses

Four of the nation's largest mass-retail brokerage firms reported losses for the quarter ended June 30—E.F. Hutton Group Inc.; Paine Webber Group Inc.; Merrill Lynch, Pierce, Fenner & Smith Inc., and Dean Witter Reynolds Inc., all with branches in Santa Clara County.

All reported losses nationally that officials from the companies said reflected a slow or bearish market and rising interest rates. And it was a particularly rough time for offices specializing in high-tech issues, according to some brokers.

E.F. Hutton officials, citing expansion costs, said the company lost \$7.8 million in the second quarter, compared with \$44.5 million a year earlier. Revenue was \$592 million, compared with \$574 million at the a year earlier.

Paine Webber reported a loss of \$3.96 million, compared with net income of \$23.8 million, or \$1.44 a share, a year ago. Revenue for the 1984 quarter was \$377 million, compared with \$413 million a year ago.

Merrill Lynch reported a \$32.8 million second-quarter loss, its largest quarterly loss on record.

Dean Witter, a subsidiary of Sears, Roebuck & Co., reported a second-quarter loss of \$22.7 million.

Bogus report stings Tandem

By CLIFF SAUNDERS
and AMELIA CRAIG

Tandem Computers' stock dropped \$4.75 a share last week after the Dow Jones wire service incorrectly reported the Cupertino company's third quarter earnings.

The stock last Thursday hit \$16.63, close to its 52-week low of \$16.25.

The erroneous report may have caused a lack of confidence within the company and scared investors, said a source at Tandem who did not want to be identified.

With the correction from Dow Jones and the accurate figures reported in the Wall Street Journal last Thursday, Tandem stock should be up again, said the source.

Dow Jones & Co. Inc. publishes the Wall Street Journal.

Bob Reddig, assistant editor of the Dow Jones financial wire, said "My understanding is we mislabeled nine months reports as third quarter reports."

The source at Tandem said the figures were too low because they reflected product line revenue only, excluding service and other revenue.

Pat Becker, a Tandem spokeswoman, said market analysts' projections have been high. Another Tandem employee said, "The price-to-earnings ratio is lower than expected, and that is why the stock is now around \$20 and not \$40."

The company reported quarterly revenue for the period ending June 30 at \$141.9 million, up 29 percent from \$110.3 million last year, and a net income of \$9.2 million, up from \$8.4 million for the same period last year.

Alliance between area hospitals moving forward

By SUSAN M. ROBINSON

The long-expected alliance between San Jose Hospital and Good Samaritan Hospital of Santa Clara Valley has moved closer to reality after nearly a year of negotiation, hospital officials said last week.

The boards of both hospitals were to meet last Friday, with approval of the alliance deemed likely.

Currently, Good Samaritan is involved with Wheeler Hospital of Gilroy in the creation of South Valley Intercommunity Hospital. Though the plans aren't complete, when the new South Valley hospital is built, Wheeler probably will be converted into a convalescent or emergency treatment facility.

A premier Mountain View address



Middlefield Business Park is a 16 acre development located in the heart of Santa Clara Valley.

Each building faces a tree-lined boulevard within a campus setting of rolling lawns and accent fountains.

Earnings

Tandem sales climb

Tandem Computers Inc. Wednesday reported higher sales and earnings for the third quarter. However, Dow Jones & Co.'s news service mistakenly sent two reports of lower earnings and sales figures over its news wire, which is a main source of financial information for the investment community.

"This caused some confusion on Wall Street," said Pat Becker, a spokeswoman for Cupertino-based Tandem. Dow Jones later corrected its reports.

Tandem's stock price dropped \$4.75 a share to a closing price of \$16.63, which is close to a 52-week low.

The non-stop computer systems maker reported that quarterly revenues rose 29 percent to \$141.9 million compared with nearly \$110.3 million for the same period last year.

Net income was \$9.2 million, or 23 cents a share, compared with \$8.4 million, or 21 cents a share, for the comparable quarter.

James G. Treybig, president, said, "Tandem enjoyed a quarter of good revenue growth. We also added a significant number of new customers."

Becker wouldn't say whether Tandem believed the drop in its stock price came because of the erroneous Dow Jones reports. She said Tandem wouldn't comment on whether third-quarter results met management's goals.

During the quarter, the company introduced T-TEXT, a new product that integrates word processing into the non-stop computer.

Tandem manufactures main-frame computer systems for the commercial on-line transaction processing market.

Businessland's loss

Businessland Inc., a San Jose-based chain of computer retail stores, announced a fourth-quarter loss despite sales growth that quadrupled.

Sales were \$30.6 million for the quarter ended June 30 compared with \$7.1 million for the compara-

Reid profits up

Reid-Ashman Inc. of Santa Clara reported Wednesday higher sales and profits for its third quarter ended June 30 compared to the year-ago quarter.

Profits were \$278,000, up 42 percent from the \$196,000 of the year-ago quarter. On a per-share basis, earnings were 13 cents in both quarters because the company issued more stock in its initial public offering last December.

Sales were \$1.3 million, up 71 percent from the \$739,000 of the year-ago quarter.

Reid-Ashman makes equipment used in testing semiconductors.

Quantum profits up

Quantum Corp. of Milpitas reported Wednesday higher sales and earnings for its first quarter ended June 30 compared to the year-ago quarter.

Profits were \$4.3 million, or 45 cents a quarter, more than twice \$2.1 million for the year-ago quarter, or 22 cents a share.

Sales were \$25.4 million, double the \$12.5 million for the year-ago quarter.

Quantum makes high-capacity Winchester disk drives for small business systems.

Varian profits up

Varian Associates Inc. of Palo Alto reported Wednesday higher sales and profits for its third quarter ended June 29 compared to the same quarter a year ago.

Profits were \$15.7 million, up 24 percent from the \$12.6 million for the year-ago quarter.

Per-share profits were 71 cents, up 22 percent from the 58 cents for the year-ago quarter.

Sales were \$235 million, up 21 percent from the \$194.8 million for the year-ago quarter.

The company said the semiconductor equipment group experienced "exceptional growth" with 95 percent growth in orders and 63 percent growth in shipments from 1983 levels.

Orders in the instrument group grew partly from a surge in orders for nuclear magnetic resonance

NonStop word processing

WORD processing capability is available with NonStop II and NonStop TXP systems, Tandem Computers announces.

A word processing option, called T-Text, can be supplied with Tandem's family of 653X keyboard/display terminals, with menus to guide users.

Documents created with T-Text can be distributed via Transfer-Mail, Tandem's electronic mail facility, to other users, whether local or across a worldwide network.

Tandem Computers (CW),
13/14 Buckingham Gate, London
SW1E 6LB. Tel: 01-235 7040.



Tandem now offers word processing through T-Text.

COMPUTER WEEKLY

JULY 26, 1984
p. 34

Tandem Computers, Incorporated

RESEARCH LIBRARY

19333 Vallco Parkway Cupertino, CA 95014-2599 (408) 725-6000

Orderperson:

I would like to order a copy(ies) of the following
publications:

If this publication is not available, please let
me know as soon as possible.

Thank you.

Jean Caltagirone

Tandem's slide ends

By Christopher H. Schmitt
Business Writer

A weeklong slide in the stock of Tandem Computers Inc. of Cupertino finally came to a halt Friday, but not before a \$335 million sell-off that analysts say was sparked by disappointing quarterly results.

Tandem stock closed Friday at 15 3/4, up a point from Thursday's closing price. But since Monday, when Tandem opened at 22 3/4, the stock's price has fallen by 32 percent.

Though Tandem Tuesday reported higher income and sales for its third quarter ending June 30, analysts said they expected higher growth.

"I think the company is going through a transition from a super growth company to a good growth company," said John C. Levinson, an analyst for Goldman Sachs & Co. in New York. "I think Tandem's going to remain a good growth company, but I don't think they're going to go back to 40 or 50 percent growth."

Tandem reported quarterly net income of \$9.25 million, up 10 percent from a year earlier. The company reported revenues of \$141.9 million, up 29 percent from the period a year ago.

Jeanne Wohlers, Tandem's vice president of finance, said the market overreacted.

"I think it was a disappointing quarter, but not a hugely disappointing quarter," she said. "We've been pretty surprised this week."

Tandem's slide may have been exaggerated because an estimated 60 percent to 70 percent of the company's stock is held by large institutional investors like mutual funds, pension funds and money management companies, Wohlers said.

"When everybody decides to run for the door at the same time, I think you see that," she said.

Despite the slide, analysts said Tandem remains a fundamentally sound company.

The slide brings the company's price-earnings ratio to about 10, in line with the minicomputer industry's average, said Aharon Orlansky, an analyst with Sutro & Co. Inc. of San Francisco.

"The first reaction of the market was to reassess the price-earnings ratio and bring it in line with the minicomputer industry," he said. "Investors will be more focused on the fact there is a respectable growth rate of 20 to 25 percent."

San Jose Mercury News 7/28/84

Tandem Computers, Incorporated

RESEARCH LIBRARY

19333 Vallco Parkway Cupertino, CA 95014-2599 (408) 725-6000

Orderperson:

I would like to order a copy(ies) of the following
publications:

If this publication is not available, please let
me know as soon as possible.

Thank you.

Jean Caltagirone