ate a problem before hu-
help is required. The sys-
ould also broadcast mes-
like, "We shipped a bad
of batteries; please
ge your battery imme-
ly."

itive Reaction

So far, according to
, salespeople using the
helds like them. "We
l that the fear of using
helds was bigger than
xperience" has warrant-
adds.

Fred Carman, a former
salesperson now in-
d in handheld testing,
ating, and training for
-Lay, says that one of the
st advantages is that the
e cuts an hour of paper-
out of the day. It also
salespeople find out
e they are either over or
in cash.

"After using the hand-
I wouldn't want to do pa-
ork manually anymore,"
an says.

In the future, Jones sees
rtunities to apply "Just-
e" principles, such as al-
ons based on orders, to
nack food business. For
ple, types of potato
will be prepared based
mand determined by or-
received from the
es. Additionally, sales
l be broken down by
ct and location, some-
that is not possible now.

Indeed, there are wide-
d applications for hand-
computers in other fields
tilize route sales, such
e beverage industry.
Pepsico also owns
Cola and the procedure
s route sales force is
the same, handhelds
urn up in that division,
der says.

Will handhelds enjoy the
arity of Nacho Doritos?
time will tell if this de-
will keep its place in the
-Lay hall of fame with the
charter member, the
van. ■

APPLICATIONS

Marathon Mania

An OLTP maker runs a race in Los Angeles.

BY EDITH D. MYERS

Tandem Computers Inc. is betting big on the March 1 Los Angeles Marathon.

The 12-year-old Cupertino, Calif.-based firm does not feel that it has been running a good race in the lucrative Southern California computer market and hopes its costly venture into marathon sponsorship will enhance its presence on the course. Tandem paid a fee of $150,000 to be the official computer sponsor for the marathon and is tying up an additional $400,000 worth of computer equipment for six months in support of the event.

"A gold mine," is how Ralph Chiarella, Tandem's regional business development manager for the southwest district, of which Southern California is an important part, speaks of the "Los Angeles basin." Tandem had revenues of $757,793,000 in fiscal 1986, ended Sept. 30, 1986, with profits of $63,766,000, but "the southwest region accounts for 5%," says Chiarella, "and we're a California company."

This won't be Tandem's first marathon. It reported times and handled other computer-based chores for the London Marathon last April. Los Angeles Marathon officials also attended "and saw what we could do," says Chiarella. The London Marathon this year had 22,000 entrants and 18,120 finishers.

Fault tolerant has been Tandem's watchword since the company was formed, and Los Angeles will see one of

Tandem's EXT25 system will be used to score the L.A. Marathon, the same system used in the London Marathon pictured here.

the first uses of Tandem's EXT25 distributed fault tolerant computer, which was introduced last August. Tandem will install an EXT25 near the finish line (in early December it hadn't been decided whether that would be in the Los Angeles Coliseum, where the actual finish line will be, or in the nearby Los Angeles Sports Arena), as well as one at television station KCOP, which will be televising the marathon.

Faster Results Planned

One of the things Tandem is planning to do is to get race results out faster than ever before—15 minutes or less for early finishers and in no more than one hour for the laggers. A "clicker" tied to the computer will be pushed by a volunteer as each runner crosses the finish line.

Each finisher will be led into one of three chutes, where bar codes from bibs will be collected in order, scanned, and matched with the finish times. Complete results should be available within one hour of the last finisher's crossing.

Chiarella acknowledges that making Tandem a household word in the Los Angeles area is really not what it's all about.

"We want to reach the business community, business leaders. It's our assumption that sports like golf and running attract these people. We're basing this assumption in part on who ran last year. We have no way of knowing who watched."

Tandem's president and ceo, James G. Treybig, and vice president and chief operating officer, Robert C. Marshall, will be among a contingent of runners for Tandem that numbered 140 employees and 30 customers in early December, when applications were still being taken.

Although it is using a sporting event to get attention, Chiarella says that Tandem isn't looking at sports as a market for its fault tolerant computers, which are characterized as OLTP (on-line transaction processing) machines. "But," he adds, "this is a great way to show what they can do." ■

FINANCIAL MISWeek 1/26/87

Tandem Net Zooms 133%

CUPERTINO, Calif.—Tandem Computers Inc. last week reported that net income for the first quarter of fiscal year 1987, ended Dec. 31, increased 133 percent to $27 million, or 50 cents per share. That compared to a net of $11.64 million, or 28 cents per share, in the same period last year.

Revenue for the first quarter increased 40 percent to $238 million. Last year's revenues for the same period totaled $170 million, the company said.

Tandem supplies systems and networks for the on-line transaction processing market.

James G. Treybig, Tandem president and chief executive officer, said, "Our performance comes from continued strength internationally, as well as marked improvement in our domestic business. During the quarter, we achieved strategic wins both in the United States and abroad. For example, Texaco Oil AB in Sweden chose Tandem to implement a point-of-sale application for Sweden, Norway and Denmark."

George Weiss, an analyst for the Gartner Group in Stamford, Conn., said Tandem's market can expect high growth for the next five years.

He said Tandem offers a broad range of transaction-processing equipment at a good price. As the cost per transaction drops, the market for new applications will expand.

"Tandem will continue to do well as long as they are technologically savvy in keeping up with the requirements in price and performance," Weiss said. "They have been aggressive in bringing applications into their hardware platforms."

He said the market for on-line transaction-processing equipment totaled an estimated $30 billion last year and is expected to grow 25 to 30 percent next year.

Oracle Posts Record Profit

BELMONT, Calif.—Oracle Corp., developer and marketer of the Oracle relational database

Apple Computer Inc. vi
shares between $42.63 ar
holds 147 shares. Vice pr
of by gift 7,000 shares at $
from Dec. 3 to 24. He
Michael H. Spindler sold
He no longer directly ow

Amdahl Corp. director E
shares at $11.13 per shar

Boole & Babbage Inc.
purchased 37,375 shares
22. He now indirectly ho

Contel Corp. vice presid
$31.13 per share on Dec.

Data General Corp. vi
shares at $34.13 per shar

International Business M
exercised an option for
He now holds 1,834 shar
sold 2,500 shares at $12
17,099 shares. Vice presi
by gift 1,000 shares at an
now holds 3,427 shares.
shares at $121.29 per sha
Officer and director **Dea**
shares and disposed of
unreported price per sh
directly shares. Director
shares between $128.38
He now holds 10,725 shar

Information Science Inc
purchased 293,700 shares
24. He now indirectly ho

ITT Corp. vice president
shares at $56 per share
shares in the company.
option for 5,500 shares a
7,389 shares.

McDonnell Douglas C
shares at $76.75 per s

Motorola Inc. vice
option for 10,513 sha
holds 15,010 shares.
$37.88 per share on L
Marshall, vice presi
Dec. 31 and holds 2,
exercised an option
8 to 29 and now hol
president, sold 2,000 i

Micropro Internatio
sold 10,839 shares at
shares in the compa
at $2.44 per share from
shares in the compan
shares between $2.31
now holds 32,839 sha

Nynex Corp. vice presi

LEVEL 1 - 12 OF 12 STORIES

The New York Times

January 20, 1987, Tuesday, Late City Final Edition

SECTION: Section D; Page 6, Column 5; Financial Desk

LENGTH: 122 words

HEADLINE: PROFITS SCOREBOARD

BODY:

	Net Income Oct.-Dec. 1986	Net Income Percent Change From '85	Percent Change
Bowater Inc.	$13,900,000	-	32.9
Burlington Northern Inc.	76,300,000	-36.8	
Champion Intl. Corp.	64,500,000	+69.3	
Corning Glass Works	33,100,000	+12.6	
Johnson Controls Inc.	22,700,000	-35.9	
Kaiser Alum. & Chem. Corp.	(18,300,000)	-	
Microsoft Corp.	19,700,000	+80.7	
NCR Corp.	134,100,000	+0.7	
Russell Corp.	12,900,000	+10.3	
Tandem Computers Inc.	27,100,000	+133.6	
Tandy Corp.	103,800,000	+19.2	
Westinghouse Electric Corp.	203,200,000	+11.0	

See accompanying notes for special items.(Loss) * Loss in year-earlier period.

TYPE: Statistics

SUBJECT: Terms not available

Tandem Lands $18 Million Air Force Pact

CUPERTINO, CALIF. — Tandem Computers Inc. last week said it has been awarded an estimated $18 million portion of a U.S. Air Force contract to provide its NonStop VLX mainframes as part of a system to track and study the components of Air Force weapons and aircraft.

Tandem's bid was subcontracted through Litton Computer Services, Mountain View, Calif., the main contractor for the Air Force Logistics Command's Reliability and Maintainability Information System (REMIS) project.

Altogether, the contract could be worth $115 million over a 12-year period to Litton and its subcontractors: Tandem and SoftTech Inc. of Waltham, Mass., a Tandem spokesman said.

The number of NonStop systems to be used in the project will depend on whether the Air Force exercises various options in the Litton contract, the spokesman said.

If the Air Force exercises all options of the REMIS contract, Tandem will deliver $18 million in equipment during the next four years, the spokesman said.

Tandem already has shipped $2.5 million in hardware for the REMIS network control center at Wright-Patterson Air Force Base in Dayton, Ohio, and could draw another $8.2 million from the contract during calendar 1987, the spokesman said.

Plans call for the REMIS network to be spread over five Air Force industrial plants in Utah, Oklahoma, Texas, California and Georgia. The computer system would help Air Force officials keep track of and analyze equipment used in making, maintaining and upgrading weapons systems.

Tandem also said its NonStop systems have been chosen for a personal computer and terminal network by Colonial Penn Group Inc. Terms of the deal were not disclosed.

Computer Systems News 1/19/87 p62

LEVEL 1 - 4 OF 8 STORIES

Data Communications

January, 1987

SECTION: NEW SOFTWARE; Pg. 259

LENGTH: 383 words

HEADLINE: Tandem Nonstop exchanges documents with Wang, IBM DCA, and Multimate

BODY:

Tandem Computers is further adding to its interconnection stategy (see New Products, p. 223) with software that transmits documents from its Nonstop machines to IBM DCA (Document Content Architecture), Multimate, and Wang word processors. Wordlink programs are licensed from Soft-Switch. Standard Tandem data rates of 56 kbit/s are supported.

Worklink programs are being fitted into Tandem and PS Mail programs, operating under both batch and interactive conditions. Document distribution is managed by the vendor's Transfer software, providing filing, retrieval, and delivery.

The base Wordlink product includes a batch gateway using IBM 2780.3780 communications, a Tandem PS Text Format translator, and an ASCII translator for creating final-form documents. Documents can be exchanged written in British or American English; Swiss, Canadian, or Standard French; Swiss or Standard German, Dutch, Swedish, Finnish, Italian, Danish, Norwegian, and Spanish.

Wordlink supports Wang OIS and VS devices, IBM Displaywriters, Tandem editors, and IBM PCs using Multimate, DisplayWrite 2 or 3. Wordprocessing features not directly implemented on a device and not simulated by the new software are not supported so that, for example, footnotes (which are supported by Wang but not by Multimate) will not be received if sent from a Wang device to a machine using Multimate.

Wordlink programs use intermediate codes, translating characters into its own universal format. This allows for simulation of missing word processing features where possible, so that when simulations are created in a transmitted document, they will appear in documents when they are returned. Successful round trips between document authors and recipients require that the same formatting codes be supported by both devices.

Base price is a $4,000 initial license fee (ILF) and $150 monthly license fee (MLF) for Tandem Nonstop VLX, TXP, and II computer room machines. There is a $2,000 ILF with a $75 MLF for EXT, EXT10, and EXT25 non-computer room equipment. The separate Wang, DCA, and Multimate translators have a similar price schedule ($4,000 or $2,000 ILF, $150 or $75 MLF) for computer room and non-computer room gear.

Tandem Conputers Inc., 19191 Vallco Pkwy., Location 4-40, Cupertino, Calif. 95014

11/22/87

LEVEL 1 - 4 OF 7 STORIES

January 20, 1987, Tuesday, Late City Final Edition

SECTION: Section D; Page 6, Column 3; Financial Desk

LENGTH: 42 words

HEADLINE: TANDEM COMPUTERS INC reports earnings for Qtr to Dec 31

BODY:

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

Qtr to Dec 31	1986	1985
Revenue	238,035,000	170,061,000
Net inc	27,097,000	11,648,000
Share earns	.58	.28
Shares outst	46,793,000	42,177,000

TYPE: Statistics

SUBJECT: COMPANY REPORTS

LEVEL 1 - 5 OF 7 STORIES

January 19, 1987, Monday

DISTRIBUTION: Business Editors

LENGTH: 643 words

HEADLINE: TANDEM-COMPUTERS; (TNDM) Tandem strengthens line of programmable communications controllers

DATELINE: CUPERTINO, Calif.

BODY:

Tandem Computers Inc. (OTC:TNDM) Monday announced a VLSI-based communications controller for Tandem NonStop systems that extends its 6100 family of programmable controllers.

The 6106 Asynchronous Communications Controller (6106ACC) is a single-board microprocessor-based controller that manages data communications between a Tandem computer and remote devices such as terminals and printers. It offers a lower cost per line than previous Tandem asynchronous controllers.

As with all controllers in the Tandem 6100 product family, part of the communications software that operates the 6106ACC is loaded into it by the Tandem system. Communications lines can be individually set with the 6106ACC to run a variety of asynchronous protocols, including custom protocols created by third-party software firms using a protocol development facility from Tandem.

Lawrence A. Laurich, Tandem vice president of engineering, said, ''Tandem engineers developed the 6106ACC using our own computer-aided-design system and prototype integrated circuit fabrication line. The ability to design and incorporate custom gate array logic devices in-house enabled our engineers to accelerate the development schedule by three months.''

The 6106ACC uses four separate microprocessors, each with its own memory, to support 16 separately configurable communications lines that run asynchronous, point-to-point protocols. Dual ports connect the 6106ACC to the I/O channels of two processors in the host system, providing a backup path to each of the lines.

The 6100 product family consists of the 6100 communications subsystem (6100CSS), designed for systems with heavier communications requirements; the 6105 communications controller (6105CC); and the new 6106ACC. Like the 6105CC, the 6106ACC uses the latest VLSI technology and CMOS process to achieve compact size and low cost per line.

The 6106ACC controller runs on all Tandem NonStop systems and can coexist in a processor cabinet with all other Tandem controllers. Its size and cost per line make it well-suited to smaller Tandem systems. The single board design of the 6106ACC also saves system cabinet space.

VLSI technology and more reliable components enable the 6106ACC to offer up to 300 percent better reliability than the asynchronous controller it replaces. Overall availability has increased dramatically as a result of the compact

size and innovative 6100 architecture used in the 6106ACC.

On-line diagnostic support and hardware self-tests improve fault isolation over previous asynchronous controllers. ATP6100, terminal and printer access method software which helps users take maximum advantage of the 6106ACC flexibility, is required to operate the 6106ACC and must be licensed separately.

The 6106 is available in the first calendar quarter of 1987 and is priced at $5,760 (U.S.)

ATP6100 is currently available for the 6100 product family. For NonStop VLX and NonStop EXT systems, initial license fee is $500 (U.S.) per system with a monthly license fee of $80 (U.S.) per system. A one-time paid-up license fee of $4,180 (U.S.) per system may be selected. For NonStop TXP and NonStop II systems, initial license fee is $500 (U.S.) per processor, with a one-time installation fee of $50 (U.S.) per processor and monthly maintenance fee of $20 (U.S.) per system.

Tandem Computers Inc. manufactures and markets computer systems and networks for the on-line transaction processing marketplace. The company is headquartered at 19333 Vallco Parkway, Cupertino, Calif. 95014. Telephone is 408/725-6000.

Note to Editors: Tandem, NonStop, NonStop EXT, NonStop II, NonStop TXP and NonStop VLX are trademarks of Tandem Computers Inc.

CONTACT: Tandem Computers Inc., Cupertino
Tom Waldrop, 408/725-7191

LEVEL 1 - 6 OF 7 STORIES

January 19, 1987, Monday

DISTRIBUTION: Business Editors

LENGTH: 994 words

HEADLINE: TANDEM-COMPUTERS -2; (TNDM) Tandem Computers financial results

DATELINE: CUPERTINO, Calif.

BODY:

Tandem Computers Inc. (OTC:TNDM) Monday announced that revenue in the first quarter of fiscal 1987, which ended Dec. 31, 1986, increased to a record $238,035,000, a 40 percent increase of over $170,061,000 achieved in the first fiscal quarter of 1986.

Net income for the first fiscal quarter increased 133 percent to $27,097,000, or 58 cents per share, vs. $11,648,000, or 28 cents per share, earned in the same quarter of fiscal 1986.

Commenting on the quarter, Tandem President and Chief Executive Officer James G. Treybig said, ''We attained substantial revenue and earnings growth this quarter. Our performance comes from continued strength internationally, as well as marked improvement in our domestic business. During the quarter, we achieved strategic wins both in the United States and abroad. For example, Texaco Oil AB in Sweden chose Tandem systems to implement a point-of-sale application for Sweden, Norway and Denmark.''

''Products that Tandem has introduced over the past year contributed to the quarter s success,'' Treybig stated further. ''Our high-end, gate array-based NonStop VLX system and our NonStop EXT Systems for low-cost distributed processing enjoyed broad market acceptance. In addition, during the quarter we introduced products that reinforce our leadership in networking. MULTILAN hardware and software products allow Tandem systems to connect to any local area network that supports IBM NETBIOS protocols.

''These products preserve customers' investment in personal computers and workstations, increase productivity and provide the first fault-tolerant distributed file server in the industry. WORDLINK software allows transparent document exchange between normally incompatible word processors. New systems software for disaster recovery, called RDF, offers the ability to bring critical on-line transaction processing applications back up within minutes, rather than hours or days required by conventional backup schemes.

''During the quarter, we strengthened our organization,'' Treybig added. ''We created the corporate position of vice president, International Sales Operations to provide a strategy focal point for our increasingly important international business. We also created the position of vice president, new ventures to support our emphasis on creating business relationships with other organizations.''

''One example of an alliance created in the first quarter is a joint venture with VOLMAC Group, Utrecht, the Netherlands,'' Treybig continued. ''This venture, called Twinac, provides Tandem customers with project management and consulting services for large on-line application projects. In addition, Twinac assists members of the Tandem Alliance in distributing and supporting their software packages in the Netherlands.''

Treybig concluded, ''We feel positive about the outlook for the rest of the year. This quarter's results support our belief that we will achieve our 1987 plan for significant revenue and earnings growth.''

Tandem Computers Inc. is a leading supplier of computer systems and large networks for the on-line transaction processing marketplace. The company is headquartered at 19333 Vallco Parkway, Cupertino, Calif. 95014. Telephone 408/725-6000.

NonStop, VLX, EXT, MULTILAN, WORDLINK and RDF are trademarks of Tandem Computers Inc.

Tandem Computers Inc. and subsidiaries
Financial Highlights
(unaudited)

(in 000s except per share amounts)

	Three Months Ended 12/31/86	12/31/85
Revenue		
Product revenue	$198,725	$140,293
Service and other revenue	39,310	29,768
Total revenue	238,035	170,061
Costs and expenses		
Cost of product	53,581	43,310
Cost of service and other	27,837	22,821
Research and development	24,315	19,847
Marketing, general and administrative	86,761	64,768
Total costs and expenses	192,494	150,746
Operating income	45,541	19,315
Interest income, net	2,847	1,673
Income before income taxes	48,388	20,988
Provision for income taxes	(21,291)	(9,340)
Net income	$27,097	$11,648
Earnings per share	$.58	$.28
Weighted average shares outstanding	46,793	42,177

Certain prior period amounts have been reclassified to conform with the current period presentation.

Balance sheet available upon request.

LEVEL 1 - 7 OF 7 STORIES

January 19, 1987, Monday, BC cycle

SECTION: Regional News

DISTRIBUTION: California

LENGTH: 129 words

DATELINE: CUPERTINO, Calif.

KEYWORD: Earn-Tandem

BODY:

Tandem Computers Inc. announced Monday revenue in the first quarter of the 1987 fiscal year increased to a record $238,035,000, a 40 percent boost over the same period in 1986.

Net income for the first quarter increased 133 percent to $27,097,000, or 58 cents a share, compared to $11,648,000, or 28 cents for the same period a year ago.

James J. Treybig, Tandem president and chief executive officer, attributed the increased business to ''continuing strength internationally as well as marked improvement in our domestic business.''

Treybig said Tandem management ''feels positive'' about the outlook for the rest of the year.

''This quarter's results support our belief that we will achieve our 1987 plan for significant revenue and earnings growth,'' he said.

LEVEL 1 - 6 OF 16 STORIES

Financial Times

January 20, 1987, Tuesday

SECTION: SECTION I; Lex Column; Pg. 36

LENGTH: 248 words

HEADLINE: Computers;
Index Fell 6.0 To 1397.0

BODY:

How nice it is, at them moment, not to be president of IBM, whose stock price has been sliding back to where it was in 1983, when the Dow was barely half its present level. As IBM readies itself for today's announcement that it experienced a fall of perhaps Dollars 1 bn in net income last year - and for the first time thinks seriously about cutting back its labour force - other parts of the computer industry have been enjoying a period of something that looks suspiciously like growth. While the cat is away learning about retrenchment, some of the mice have been playing happily at making money in selected areas of the market, as a clutch of their quarterly figures showed yesterday.

Tandem, the specialist in fault-tolerant systems, more than doubled its earnings for the last quarter, thanks largely to the success of new networking products; the shares were up the best part of 15 per cent yesterday. In a less exalted segment - cheap IBM personal computer clones - Tandy was also able to show serious gains; market share appears closing rapidly on the 20 per cent held by IBM, and net income for the last quarter was up by a fifth. On a slightly broader front, NCR is also showing up well, increasing earnings and reducing debt despite a Dollars 240 m share repurchase programme. It is impossible even for IBM to huntdown all these competitors at once; but it they are doing so well, investors may soon start to reason that IBM will once again do better before long.

LEVEL 1 - 7 OF 16 STORIES

Financial Times

January 20, 1987, Tuesday

SECTION: SECTION I; International Companies & Finance; Pg. 19

LENGTH: 482 words

HEADLINE: NCR, Tandy And Tandem Show Significant Growth

BYLINE: Anatole Kaletsky, New York

BODY:

Several leading US computer manufacturers reported good results yesterday, reinforcing the recent bullish reappraisal of high-technology stocks on Wall Street.

NCR and Tandy both enjoyed increasing sales and significant earnings growth, while Tandem Computers, a specialised manufacturer of fault-tolerant minicomputer systems, announced sharply higher sales and profits.

NCR, one of the five major US manufacturers of mainframe computers, announced net profits of Dollars 134.1 m in the fourth quarter and Dollars 336.5 m for 1986 as a whole. The fourth-quarter result was hit by year-end tax changes, and rose by only 1 per cent on the previous year's Dollars 133.2 m.

The profits for 1986 as a whole, however, were 7 per cent higher than the Dollars 315 m reported in 1985. On a per share basis, NCR's 1986 net earnings were up 9 per cent from Dollars 3.15 to Dollars 3.42, while the last quarter's results showed a 4 per cent improvement from Dollars 1.34 to Dollars 1.39.

Revenues grew by 13 per cent in 1986 to Dollars 4.88 bn, while its pre-tax income increased by 10 per cent from Dollars 562.8 m to Dollars 619.7 m.

Mr Charles Exley, chairman, predicted "another record year" for the company in 1987, and maintained that NCR's product position was now "the strongest in history with new-generation systems available in every major product category." He said that order growth in Europe was particularly strong, although US orders had declined last year "reflecting the continuing slump in the domestic market."

Although NCR's results were equal to or slightly lower than most analysts' expectations, they were well received on Wall Street. NCR's shares rose Dollars 3/8 to Dollars 54 1/2 yesterday morning, despite the stock market's general decline.

Tandem announced a 133 per cent jump in net earnings, from Dollars 11.6 m to Dollars 27.1 m in the December quarter, the first of its fiscal year. Per-share earnings increased from 28 cents to 58 cents per share and revenues grew by 40 per cent to Dollars 238 m.

Tandem attributed the strong results to the introduction of new products allowing extensive networking by large numbers of minicomputer users, a business in which Digital Equipment Corporation is the market leader. Tandem's shares leapt Dollars 6 1/4 to Dollars 49, a gain of nearly 15 per cent, early

yesterday on the announcement.

Tandy, a leading manufacturer and marketeer of cheaper personal computers for the low end of the business computer market, announced a 19 per cent gain in net income to Dollars 103.8 m, or Dollars 1.16 per share, in the December quarter, the second of its 1987 fiscal year. Sales in the quarter were also up 19 per cent to Dollars 1.20 bn. For the six months to December, Tandy's net income was up 15 per cent to Dollars 147.5 m, or Dollars 1.64 a share, while its sales increased by 17 per cent to Dollars 1.94 bn.

LEVEL 1 - 8 OF 16 STORIES

JANUARY 20, 1987, TUESDAY

LENGTH: 91 words

HEADLINE: TANDEM COMPUTERS TO SELL COMPUTERS TO SEIYU

DATELINE: TOKYO, JAN. 20

BODY:

TANDEM COMPUTERS JAPAN LTD. ANNOUNCED TUESDAY IT WILL SELL 17 U.S.-MADE FAULT-TOLERANT COMPUTERSBRAND OF "TANDEM NONSTOP COMPUTER," WILL BE USED FOR A COMPUTER NETWORK CALLED "SEIYU TOTAL NETWORK SYSTEM" WHICH THE GROUP PLANS TO START OPERATING IN MARCH 1988, A SPOKESMAN FOR THE COMPANY SAID.

THE SALE CONSISTS OF THE "NONSTOP VLX" HOST COMPUTER FOR THE SYSTEM, "NONSTOP EXT25" AND "NONSTOP EXT10".

THE SPOKESMAN DECLINED TO DISCLOSE THE PRICES.

TANDEM COMPUTERS JAPAN IS A LOCAL SUBSIDIARY OF TANDEM COMPUTERS INC. OF THE UNITED STATES.

LEVEL 1 - 12 OF 16 STORIES

January 7, 1987

SECTION: SUPPLIERS; Vol. 7, No. 1; Pg. 8

LENGTH: 589 words

HEADLINE: TANDEM TARGETS DISASTER-RECOVERY OPERATIONS WITH NEW SYSTEM SOFTWARE PROVIDING ELECTRONIC DUPLICATION

BODY:

Vying to build a better mousetrap to protect critical business operations from disastrous situations, Tandem Computers Inc. has taken the wraps off a new disaster-recovery software system.

Dubbed the remote duplicate data base facility (RDF), the new system software aims at providing extra data protection for financial institutions and other businesses in situations where an entire computer facility is damaged or inaccessible, Tandem officials say.

While most major organizations have disaster-recovery plans that include storage of duplicate data base tapes at a remote location, such tapes generally are updated only once a day, Tandem officials note. Thus, in a disaster situation that destroys a bank's main computer facility or renders it inaccessible, such a back-up capability may not provide sufficient protection for critical business operations such as wire transfer or ACH transaction processing.

"Under the existing 'hot sites' technology, businesses can have service restored within 1-2 days following a disaster," Jerry Reaugh, Tandem product manager for security and disaster recovery, noted during a recent interview. "But our customers tell us that with critical applications, having service restored within 1-2 days is totally inadequate. That's where RDF comes in."

Unlike tape archiving, under which banks or businesses place data tapes in storage at a remote location, RDF electronically duplicates a data base onto a second Tandem computer at a remote site, eliminating the need for hand carrying tapes to an alternate site.

"RDF moves data off the system as it's created, making a duplicate copy at a remote facility, in as little as one second," Reaugh explained. "In a disaster, it does 2 things: it limits the amount of data lost, because it's only one second old, and it substantially reduces the period of time it takes to reinstate service."

EARTHQUAKES AND NUCLEAR WAR UNLIKELY, BUT DISASTERS CAN TAKE MANY FORMS

Although some businesses view disaster-recovery plans as critical to dealing with catastrophes such as floods, earthquakes and nuclear holocausts, more common disasters can be equally if not more devastating to critical bank operations, Reaugh said.

"There are a lot of things that can spell disaster," he said. "A flash fire in the computer room 5 minutes before closing could potentially lose one day's data that would be very time consuming to recover. When you think about how the software failure at Bank of New York in November 1985 caused them to have to borrow $22 million from the Fed, you can see how this type of thing could turn into a major problem," he remarked.

Other more common disaster scenarios that could imperil critical operations include terrorist attacks, fires, bombings, toxic chemical spills and any other event that would destroy or prevent access to an organization's computers.

"Dropping a nuclear bomb on New York City is not really a problem because there's nothing you can do about it," Reaugh said. "In our conversations with banks, the business people are frightened about losing the computers at the bank and losing the bank as a result."

RDF, which plans to begin testing during the first quarter of 1987 with several businesses (including at least one bank), is priced at $27,500, with a $300 monthly license fee for Tandem NonStop VLX, TXP and II systems; the price is cut in half for EXT10 and EXT25 systems. (Tandem Computers Inc., 19191 Vallco Parkway, Location 4-40, Cupertino, CA 95014-2599, 408/725-6000.)

LEVEL 1 - 14 OF 16 STORIES

December, 1986

SECTION: NEWSFRONT; Short Blocks; Pg. 70

LENGTH: 156 words

BODY:

Though cellular modems are appearing (see "Firms finding solutions to problems of data via cellular radio," DATA COMMUNICATIONS, October, p. 74), so far there has been no broad application of cellular radio to data communications. A Buffalo, N.Y., start-up company, Bydatel, plans to change that with a line of equipment called Datamover, consisting of 9.6-kbit/s cellular repeaters and multiplexers.

In a bid for the low end of the market for packet-switching services, AT&T filed a tariff last month for analog or digital 2.4-kbit/s access to its Accunet packet service. It already has 4.8-, 9.6-, and 56-kbit/s access.

Tandem Computer is moving aggressively into local area networking, introducing a product called Multilan that links its fault-tolerant computers to LANs compatible with IBM's Network Basic Input Output System. IBM's PC Network and token ring run under Netbios, and Ungermann-Bass's Net/One is compatible.

PR Newswire, January 21, 1987

CONTACT -- F. Michael Faubert of System Integrators, 916-929-9481

LEVEL 1 - 3 OF 16 STORIES

PR Newswire

January 21, 1987, Wednesday

DISTRIBUTION: TO BUSINESS DESK AND COMPUTER EDITOR

LENGTH: 420 words

DATELINE: SACRAMENTO, Calif., Jan. 21

KEYWORD: SYSTEM INTEGRATORS INTRODUCES OPERATING SYSTEM

BODY:

SACRAMENTO, Calif., Jan. 21 /PRN/ -- System Integrators, Inc. (NASDAQ-NMS: SINT) announced today the release of Ring, a multi-user, multi-tasking, distributed operating system, by its wholly owned subsidiary, Ring Computers, Inc.

Ring provides ultimate compatibility by allowing the interconnection of a wide variety of off-the-shelf products; processing load and files are fully distributed without regard to the hardware characteristics of the individual microcomputer.

The Ring Operating System combines the portability of Atandt's Unix and fault tolerance of Tandem's Guardian with the ease of use of the Apple Macintosh, according to SII Chairman James P. Lennane. ''Ring, for the first time, provides a seamless interface between IBM PCs, IBM compatibles, other high-end workstations and proprietary, special function computers.''

''Recent industry press has cited the lack of operating systems and software which take full advantage of the capabilities of the Intel 80386. Ring, which is entering the market far ahead of Microsoft's DOS version 5.0, offers users the opportunity to use the 80386 to its full design potential.''

Lennane continued, ''Applications developers can now create programs which will yield identical window interfaces and results whether they are operating on an Intel 80386, Motorola 68020 or a Fairchild Clipper.''

Ring's products consist of an operating system, network software, window management software and basic applications for standard microcomputer platforms. Target machines for Ring include Compaq's 80386 PC, Apple 68020-based Macintosh PC, future IBM 80386-based PCs and System Integrators' 68020-based and clipper-based products.

Ring development systems using System Integrators workstations will be available immediately. Releases of Ring, operating on the Compaq 80386 workstation, will be available in April 1987.

Ring Computers, Inc., a wholly owned subsidiary of System Integrators, Inc., develops operating systems and desktop applications software for corporate electronic publishing environments. System Integrators, Inc., designs, manufactures, markets and services computer-aided publishing systems for newspaper, news wire service and catalog publishing applications worldwide. The company has installed more than 180 publishing systems throughout North America, Europe, Australia, Southeast Asia and the Middle East.

SAN JOSE MERCURY NEWS - TUESDAY, JANUARY 20, 1987

Computer profits hint at turnaround

Sun, Tandem set record; Amdahl expects big gain

By John Schneidawind
Mercury News Business Writer

Silicon Valley's sluggish economy got some more unexpected good news Monday when two more local computer makers posted record quarterly earnings and sales and a third promised to announce similar results later this week.

After the three reports, from Tandem Computers Inc. of Cupertino, Sun Microsystems Inc. of Mountain View and Amdahl Corp. of Sunnyvale, the companies' stocks gained several points in heavy trading.

Coming on top of last week's 716 percent second-quarter jump in profits at Seagate Technology, a Scotts Valley maker of hard disk drives for personal computers, some industry analysts were predicting the beginnings of a recovery in the computer industry.

But other analysts and computer industry officials say that it is too early to say that the battered computer industry is poised for a rebound.

Many computer companies are reporting higher earnings because they have succeeded in carving out

■ *More earnings, Page 3F*

niche markets that satisfy specific customer needs, said John Jones, an analyst with Montgomery Securities Inc. in San Francisco.

"This is a very product specific rebound," Jones said. "There is no general indication (of recovery) across the board that we can find."

Indeed, even officials at computer companies confess puzzlement at the positive quarterly results. As Tandem Computers' director of investor relations, Cacey Tangney, put it: "This was really a surprise for us."

Tandem reported a 133 percent jump in profits to $27 million during its first quarter, which ended Dec. 31. Per-share earnings jumped 107 percent to 58 cents from 28 cents the year before. Sales jumped 40 percent to $238 million.

Sun Microsystems Inc. of Mountain View continued a string of favorable quarters by posting second-quarter profits of $8.5 million, a 400 percent jump in profits over the second quarter last year. Per-share earnings jumped 300 percent to 28 cents from 7 cents during the second quarter of fiscal 1986. Sales jumped 174 percent to $115 million for the period.

And John C. Lewis, president and CEO of Amdahl Corp. of Sunnyvale, said the company expects to report Thursday that profits grew by more than 80 percent in its fourth quarter and reached to at least $25 million. Sales for the period are expected to have jumped 30 percent to $334 million.

Tandem's results triggered a buying spree in the company's stock, which closed up $7.25 at $50 per share in Over-the-Counter trading. It was the second-most active OTC issue, as more than 2.1 million shares changed hands. The stock is up 46 percent for the year.

Shares of Sun Microsystems also jumped, closing up $2.50 a share in Over-the-Counter trading to close at $29.38. On the American Stock Exchange, Amdahl closed up $2.88 per share at $30.13.

See EARNINGS, Page 3F

l to fall

he world's premier sales, ser-
e and marketing organization.
re IBMers are drumming up
es as thousands of employees go
k to the field.

✓ Customers reportedly have
ered tens of thousands of the
'0 computer, IBM's new weapon
inst Digital Equipment Corp. It
a midsized computer that works
npatibly with IBM's biggest
inframes. Shipments will begin
the second half of the year.

✓ Other new products are
ely, including two new models of
big Sierra mainframes and
obably a personal computer with
cial features that will be diffi-
lt for competitors to copy.

Computer companies' profits
d to rise and fall along with the
e of their product cycles, which
plains why Digital, with its
ewed line of VAX computers
d software, is doing so well.

Digital has been taking sales
m IBM in midrange computers,
ere IBM has a tangle of incom-
tible machines and Digital offers
single line of compatible VAX
achines, said Bob Djurdjevic,
esident of Annex Research Inc.
Phoenix.

Record earnings, sales hint at computer turnaround

EARNINGS, from Page 1F

Tandem, which makes fail-safe mainframe computers, saw domestic sales jump more than 33 percent to almost $138 million during the period. International sales grew by more than 50 percent during the quarter to $100 million.

But it is the domestic sales figure that is particularly heartening, Tangney said, because "business in the U.S. has been kind of cruddy for a while."

Tandem for the past year has been bucking the computer industry's downturn by introducing new products and enjoying a phenomenal record in repeat sales. According to Tangney, 75 percent of Tandem's sales are to existing customers.

Analysts who follow Tandem also point to the fact that the company received a $7 million order for computers from General Motors Corp. and the rapid acceptance of VLX mainframe computer and its EXT minicomputer, introduced in August.

At Sun Microsystems, a maker of personal computer work stations, president and CEO Scott G. McNealy cautioned against investors expecting the same kind of results for the rest of the year.

McNealy said that much of the sales increase during the company's second quarter was due to a new production facility being able to operate at full capacity "a little ahead of expectations."

Some analysts say the rebound is for specific products.

Jones, the computer analyst at Montgomery Securities, said that the basis for Amdahl's predictions of an 80 percent jump in fourth-quarter profits was the rapid acceptance of the company's 5890 mainframe computer, a machine that is compatible with IBM's 3090 mainframe system.

Jones estimates that Amdahl shipped at least 45 of these mainframe models to customers during the fourth quarter, at prices that range from $5 million to $6 million.

Jeffery Canin, a computer analyst with Hambrecht & Quist, said the results at Amdahl portend good results for the company's first quarter as well.

"It might be a bit premature to be looking a bit too far in the future, but it doesn't appear that the positive news is restricted to the December quarter," Canin said. "(Amdahl) did not ship everything they could have."

1/19/87

CORPORATE INFORMATION CENTER

1/1
/TNDM /EDP /
01/19 TANDEM COMPUTERS INTRODUCES
(DJ) NEW COMMUNICATIONS CONTROLLER
CUPERTINO, CALIF. -DJ-
TANDEM COMPUTERS INC. INTRODUCED A VLSI-BASED COMMUNICATIONS CONTROLLER FOR TANDEM NONSTOP SYSTEMS THAT EXTENDS ITS 6100 FAMILY OF PROGRAMMABLE CONTROLLERS.

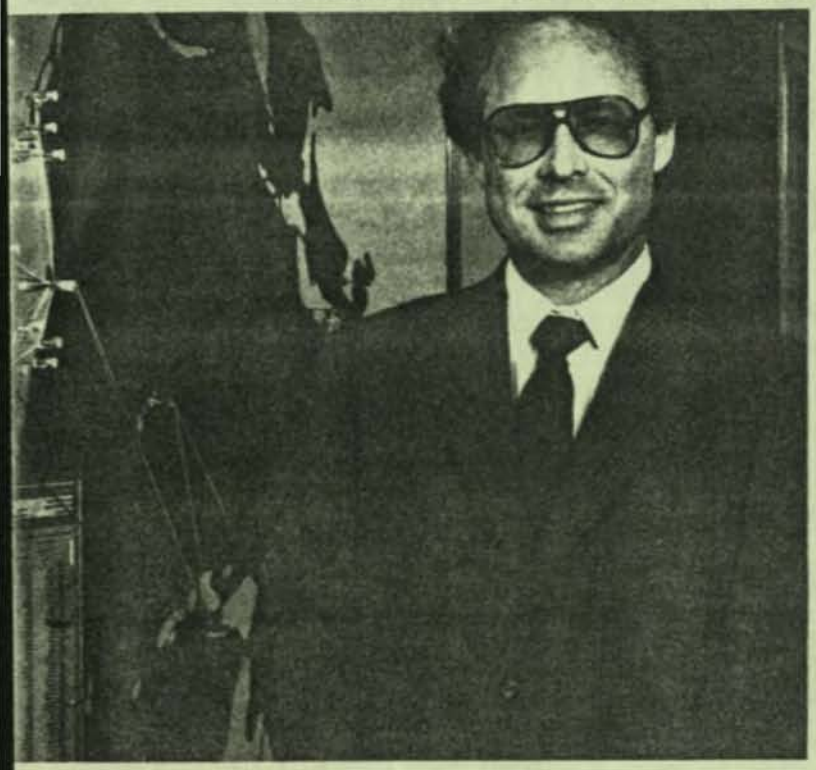
THE 6106 ASYNCHRONOUS COMMUNICATIONS CONTROLLER MANAGES DATA COMMUNICATIONS BETWEEN A TANDEM COMPUTER AND REMOTE DEVICES SUCH AS TERMINALS AND PRINTERS, TANDEM SAID, ADDING THAT IT OFFERS A LOWER COST PER LINE THAN PREVIOUS TANDEM ASYNCHRONOUS CONTROLLERS.

THE SINGLE-BOARD, MICROPROCESSOR-BASED 6106 IS PRICED AT $5,760.

CORPORATE
INFORMATION CENTER

TANDEM COMPUTERS INCORPORATED

JAMES G. TREYBIG



In the coming year, more large users . . .will develop technology strategies driven by long-term business strategies.

PHOTOGRAPH BY EARL MILLER

There are many significant factors that will affect growth in the industry in 1987, but the key issue is how well we satisfy customer demands.

While Tandem's revenue grew 23 percent in 1986, industry growth slowed. But it wasn't because the demand for solutions declined. Demand for solutions increased, because users must run their operations more efficiently to remain competitive. Consequently, they are buying technologies that enhance the productivity of existing devices.

The primary demand is for technology that will connect a user's various departments and locations, link incompatible devices and manage the flow of information throughout an organization.

Businesses, which are composed of distributed operations, know they can manage their operations more efficiently with up-to-the-minute information from all locations. They cannot afford to wait for traditional, overnight batch processing reports. Thus, more and more businesses will turn to distributed on-line transaction processing systems.

These systems will not stand alone, running isolated applications. They will be linked together to form the heart of the company's mainstream data processing.

Accomplishing this goal requires more than networking and physical connectivity. It requires information delivery software, distributed databases, software technology that helps reduce application backlogs, network security, and the ability to process a growing number of transactions.

There will be market opportunities in all of these areas during 1987.

We will continue this year to see big changes and dislocation in technology. It starts with the microprocessor generating transactions from personal computers, cash registers, ATM machines, robots on the factory floor, and many other devices. Once the transactions are generated, they have to be delivered somewhere, or they are meaningless.

The battle then will center on whose system the transaction will move through—which system can guarantee the delivery of the transaction to any other device or program, regardless of its location. That is where the processors, memory, disk drives and other peripherals are going to be sold.

Also in the coming year, more large users than ever before will develop technology strategies driven by long-term business strategies.

They will defer purchases of stand-alone hardware devices until they have a strategy for integrating those devices into their other data processing environments. They will look for systems that blend communications, computer and database technology in a single system.

The trend toward using technology to offer computer-based, fee-producing services will continue. Until recently, companies used centralized, mainframe batch computers to automate back-room functions that had little to do with customer service. That is changing.

Successful companies are using technology to help gain a competitive edge. They are beginning to offer new computer-based services and products and delivering them to customers electronically.

New computer applications will demand new technologies. For instance, many of the new computer-based services are transaction-based; consequently, demand will increase for systems that lower the cost per transaction.

In 1987, the marketplace will demand technologies that keep computer-based customer services running. What good is a teller machine if it fails to deliver the money a customer wants? Availability and data integrity will be key customer requests.

The market for fourth-generation programming languages and other application development tools also will grow in 1987. End users have to find ways to make their existing systems and personnel more productive, and these software tools help.

The trend toward distributed systems will create new challenges in how companies service and support large networks. Vendors will rely more on the use of new technology, not only to improve hardware reliability, but also to reduce service costs.

The use of expert systems and artificial intelligence technologies will be key in providing large distributed systems.

In summary, 1987 brings great demand in many product areas. There will be good growth opportunities for companies that can satisfy their changing customer demands.■

Treybig is President and Chief Executive Officer at Tandem Computers Inc.

Jan 1987
Computer Systems News, Supplement

LEVEL 1 - 5 OF 5 STORIES

January, 1987

SECTION: BANKING APPLICATIONS; Pg. 70

LENGTH: 679 words

HEADLINE: MoneyMaker/Tandem Give "Anytime, Any Card" Cash

BODY:

Patrons of 7-Eleven stores throughout Texas are now getting cash quickly and conveniently by using automatic teller machines (ATMs) located right on the premises. Owned, installed and operated by MoneyMaker EFT Services, Inc., a subsidiary of First Texas Savings Association, Dallas, each of the more than 700 machines can be accessed 24-hours-a-day, 365-days-a-year, allowing customers to withdraw cash, check account balances or transfer funds between different accounts.

"The goal behind our joint venture with The Southland Corporation of Dallas, which owns the 7-Eleven stores, is to offer the types of financial services consumers want and need right where they shop," said Scott Engle, president of MoneyMaker. "It can be frustrating if a customer happens to be short of cash after banking hours and can't find a place to cash a check."

MoneyMaker's ATM network accepts virtually all bank debit cards in Texas, such as First Texas MoneyMaker, MPact, Pulse and Teller 24, as well as ATM-activated American Express, MasterCard and VISA.

MoneyMaker currently operates the largest off-premise network of ATMs in the nation using an eight-processor "NonStop TXP" system from Tandem Computers Inc. Tandem manufactures and makes computer systems and networks for the commercial on-line transaction processing market, with applications in factory automation, networks and retail financial services.

MoneyMaker also operates two other systems on Tandem equipment. The Quality Assurance or Certification system, which runs on a two-processor TXP computer, is used to test all additions and changes to network software. A third system, used to develop new programs as well as revise and enhance current software, consists of a dual processor "NonStop EXT" computer.

According to Engle, MoneyMaker selected the Tandem systems for two major reasons: Reliability and modular expandability.

"Tandem's parallel processor architecture is very important to us because it provides virtual 100% system availability, and because we can easily add new processors, disk drives and memory as our electronic banking business grows," he says. "We are continually bringing new ATM units and new software products on-line, and the Tandem equipment allows us to expand incrementally without interrupting our daily production."

To minimize ATM downtime, MoneyMaker maintains 24-hour monitoring of each machine using four shifts of operators who man computer consoles located in the master control room at corporate headquarters. This "predictive maintenance"

approach not only instantly alerts the operators to any problems that occur, it also allows them to anticipate component failures and dispatch service personnel to replace vulnerable parts before actual malfunction.

"If a machine goes down because of a currency jam, a card jam, a broken printer or some other malfunction, the problem needs to be corrected very quickly, and this is where many banks and institutions experience difficulties," explained Michael Shea, MoneyMaker's vice president of operations. "Our concept attempts to maximize the number of transactions between failures on a machine. In addition, since we can send repair crews out with replacement parts during off-peak hours -- say, at 10:00 in the morning or at night -- we inconvenience very few people."

A further safeguard against loss of service is the company's ability to monitor each unit using more than 500 "self-diagnostic" error codes, a type of electronic intelligence that allows the machines to pinpoint problems and report them to the monitoring center. For example, a machine that runs low on cash will automatically notify a control room operator, who in turn can dispatch service personnel.

"The Tandem system is essential to this overall operation," Shea said. "Not only do the computers coordinate the workings of the ATMs, they also assist in maintaining a permanent service record on every machine that makes it possible to average out the expected working life of each major component in our ATMs."

LEVEL 1 - 1 OF 1 STORY

January 14, 1987, Wednesday

SECTION: TECHNOLOGY TODAY; Software; Pg. 15

LENGTH: 549 words

HEADLINE: TANDEM BACK-UP SOFTWARE

BYLINE: David O. Tyson

BODY:

Tandem Computers Inc. has introduced a duplicate backup system so critical computer operations can be running again within 30 minutes of a massive disruption.

It said the remote data base facility, or RDF, has applications in reservation systems, stock and commodity trading, funds transfer, automated teller machine networks, and point-of-sale networks.

The system keeps a duplicate copy of a data base at a remote site, using standard communication lines. If needed, the back-up site becomes the primary site for critical on-line processing.

''This product enables users to implement a disaster recovery plan that can get applications back on line within minutes instead of the hours or days that conventional back-up site schemes permit,'' Dennis L. McEvoy, Tandem vice president of software, said in the announcement.

Tandem noted that many large data processors have ''hot sites'' of their own or rely on outside service organizations to store back-up copies of data, usually on magnetic tape. But Tandem said the data in these facilities may be updated only once a day, reloading a large data base from tape is a long process and often error-prone, and the integrity of data stored on magnetic tape for long periods may not be reliable.

''The only way to ensure that critical applications can be running again in less than one hour is to keep a very current and accurate copy of the data base at a remote site, available so that operations can be resumed on an alternative system as soon as possible,'' the Tandem announcement said.

Tandem said RDF will be available in the second quarter. The initial license fee is $27,500 with a $300 monthly license fee for Tandem NonStop VLX, TXP, and II systems. The initial license is $13,750 and the monthly license $150 for NonStop EXT10 and EXT25 systems.

MSA GENERAL LEDGER: Management Science America Inc. has announced that its first application using DB2, IBM's two-year-old relational data base, will be the MSA General Ledger System, which it claims is installed at more sites than any other mainframe general ledger product.

''MSA has long recognized that the relational technology is the way of the future, and our strategic plans closely parallel those of IBM,'' John Imlay, chairman and chief executive officer of the Atlanta-based company, said in the

announcement.

''General Ledger was the obvious choice for our first application using DB2, as it represents MSA's largest installed base, and it is also the cornerstone of MSA's Expert Series.''

Users of a relational data base can create a new file with data from more than one related file. Since IBM introduced DB2 in 1985, it has become one of the most widely-used data base systems by data processors.

MSA said its General Ledger System with DB2 is in beta test and will be available in mid-1987. ''A full line of MSA applications for DB2 will be developed for delivery in the next two years,'' it said.

Simultaneously, MSA introduced Financial Controller, mainframe software that provides a single integration point in the interchange of data among various applications.

The company said Financial Controller is in beta test at Bankers Trust Co., New York, and at two other sites. It will be available in the first quarter.

Software Publishing

(Sales and earnings in thousands)

4 Qtr 9/30	1986	1985	% Chg.
Sales	$6,429	$7,121	-10
Earnings	454	845	-46
Per share	0.16	0.12	+33
Fiscal year to date			
Sales	$23,600	$37,181	-37
Earnings	700	5,843	-88
Per share	0.10	0.83	-88
Employees	**1986**	**1985**	**% Chg.**
Worldwide	204	176	+16
SC County	200	176	+12

Stock price last day of year

1981	—
1982	—
1983	—
1984	10.13
1985	8.25
1986	7.00
Accumulated cash dividends	—
Rate of return ('84-'86)	-30.90%

Heavy spending on research and marketing coupled with lower sales depressed Software Publishing Inc.'s 1986 profits. Research and development costs increased to 25 percent of sales, and marketing and sales expenses jumped to 45 percent of revenues.

But the investments were necessary to revamp the Mountain View company's older line of personal computer software, Chief Executive Fred Gibbons said.

Responding to a demand for high-performance software, Software Publishing, which has been a leader in certain markets, redesigned and split its pfs line into two lines — one for novices, the other for experienced computer users.

In another move to branch out, the firm introduced its Harvard brand in three specialty areas: project management, presentation graphics and desk-top publishing. With more high-performance software to offer, the company increased its direct sales to businesses.

And although the company has been selling its pfs products in Europe since 1981, last year it opened its first international office to help that part of its business grow better, Gibbons said.

Sun Microsystems

(Sales and earnings in thousands)

1 Qtr 9/30	1986	1985	% Chg.
Sales	$91,600	$33,700	+172
Earnings	6,700	1,000	+570
Per share	0.24	0.04	+500
Employees	**1986**	**1985**	**% Chg.**
Worldwide	2,900	1,300	+123
SC County	2,300	1,100	+109

Stock price last day of year

Tandem Computers

(Sales and earnings in thousands)

4 Qtr 9/30	1986	1985	% Chg.
Sales	$220,522	$173,831	+27
Earnings	21,584	11,117	+94
Per share	0.47	0.27	+74
Fiscal year to date			
Sales	$767,793	$624,138	+23
Earnings	63,766	34,374	+86
Per share	1.44	0.82	+76
Employees	**1986**	**1985**	**% Chg.**
Worldwide	5,719	5,494	+4
SC County	2,500	2,336	+7

Stock price last day of year

1981	27.75
1982	25.38
1983	34.88
1984	19.50
1985	22.13
1986	34.13
Accumulated cash dividends	—
Rate of return ('81-'86)	22.99%

A growing market and new products helped make Tandem Computers Inc. of Cupertino successful in 1986 while so many other manufacturers were in the doldrums.

Tandem, which makes fail-safe minicomputers for on-line, or current, data processing, such as banking and reservations, operates in a niche in the computer business.

Analysts credit Tandem's 23 percent sales increase in fiscal 1986 in part to its aggressiveness in selling additional products to current customers.

While Tandem leads the fault-tolerant market, industry giants such as DEC and IBM loom as stronger competition this year.

Although Tandem's U.S. business improved in 1986, international growth was much stronger.

Last year, Tandem filled in gaps in its product line with computers designed with new semiconductor technology that lowers costs and increases performance at both ends of its product line.

To combat criticism that it wasn't moving fast enough into new technology, Tandem in the past two years has spent more than $10 million designing its own chips. They showed up for the first time in the company's computers last year.

Products scheduled for introduction this year will emphasize networks, data bases and productivity.

Coupled with its stream of next-generation computers, Tandem last year significantly raised its profit margins by implementing several cost-cutting programs.

Teknowledge

(Sales and earnings in thousands)

1 Qtr 9/30 1986 1985 % Chg.

TeleVideo Systems

(Sales and earnings in thousands)

4 Qtr 10/31	1986	1985	% Chg.
Sales	$23,327	$25,464	-8
Earnings	(1,905)	412	
Per share	(.05)	0.01	
Fiscal year to date			
Sales	$91,462	$103,088	-11
Earnings	(2,272)	(19,184)	+88
Per share	(.05)	(.46)	+89
Employees	**1986**	**1985**	**% Chg.**
Worldwide	698	728	-4
SC County	405	512	-21

Stock price last day of year

1981	—
1982	—
1983	15.75
1984	3.13
1985	3.00
1986	2.00
Accumulated cash dividends	—
Rate of return ('83-'86)	-87.30%

After astounding growth in the early 1980s, TeleVideo spent much of 1986 struggling to rebound from a disastrous foray into the IBM PC-compatible market.

In 1985, the company moved most manufacturing operations to South Korea, laid off 800 employees and sustained more than $19 million in losses. Through the nine months ended Aug. 31, the flood of red ink had subsided somewhat, but TeleVideo was still reeling, having piled up $367,000 in losses.

With $70 million in cash on hand through three quarters, the company remains cash-rich and hungry for acquisitions. But even here TeleVideo has faltered.

In October, TeleVideo canceled plans to buy money-losing Alpha Microsystems Inc. and announced that three of its four directors had resigned. A fourth director had quit earlier this year. The company said it will continue looking for acquisitions.

On the new-product front, TeleVideo this fall introduced its PC Station, a $629 IBM PC- and AT-compatible terminal that also can operate as a TeleVideo 905/925 ASCII terminal. TeleVideo also announced a family of file servers.

Founder K. Philip Hwang, described by competitors and TeleVideo watchers as a survivor, now has a new goal: a $500 million company by 1991. With annual sales of $100 million, down about 40 percent from peak sales in 1983, Hwang has his work cut out for him.

Triad Systems

(Sales and earnings in thousands)

4 Qtr 9/30	1986	1985	% Chg.
Sales	$32,045	$33,420	-4
Earnings	1,538	(517)	
Per share	0.20	(0.07)	

LEVEL 1 - 1 OF 2 STORIES

January 12, 1987, Monday

DISTRIBUTION: News/Business Editors

LENGTH: 239 words

HEADLINE: TANDEM-1; (TNDM) Tandem donates computer equipment to UC Berkeley library

DATELINE: CUPERTINO, Calif.

BODY:

Tandem Computers Inc. (OTC:TNDM) announced Monday it has donated computer equipment valued at $350,000 to the University of California-Berkeley library to aid the expansion of its computer-automated library services.

The donation will help the library expand its on-line catalog project called GLADIS, or General Library Automated Database and Information System.

Library staff developed GLADIS on a five-processor Tandem NonStop II/TXP system, according to Bernard J. Hurley, director of the library systems office.

The donation adds two NonStop TXP processors, 40 computer terminals and other equipment to the system.

University librarian Joe Rosenthal commented, ''There is a direct relationship between the level of automated services we can provide and the funds available to support those services.

''Tandem's gift will provide a service of very great value to the campus community and to all users of the library.''

Tandem Computers Inc. manufactures and markets computer systems and networks for the on-line transaction processing marketplace.

Note to Editors: Tandem, NonStop, NonStop II and NonStop TXP are trademarks of Tandem Computers Inc.

CONTACT: Tandem Computers Inc., Cupertino
Tom Waldrop, 408/725-7191 University of California-Berkeley
Bernard Hurley, 415/642-5168

LEVEL 1 - 2 OF 2 STORIES

January 12, 1987, Monday

DISTRIBUTION: Business Editors

LENGTH: 478 words

HEADLINE: TANDEM-2; (TNDM) Tandem Computers supplying systems to U.S. Air Force

DATELINE: CUPERTINO, Calif.

BODY:

Tandem Computers Inc. (OTC:TNDM) announced Monday it will ship Tandem NonStop VLX transaction-processing mainframe computer systems to the U.S. Air Force Logistics Command to handle the tracking and analysis of components used in advanced weapons and avionics systems of Air Force aircraft.

The shipments are under a one-year, $12,377,623 contract, with options for 11 more years, awarded Litton Computer Services, Mountain View, Calif., to develop the Air Force Logistics Command's Reliability and Maintainability Information System.

The goal of REMIS is to improve the availability, accuracy and flow of essential reliability and maintainability information. Air Force Logistics Command officials announced the selection of Litton on Sept. 30.

Headquartered at Wright-Patterson Air Force Base, Dayton, Ohio, the Air Force Logistics Command operates five large industrial complexes, called Air Logistics Centers, at Air Force bases in Utah, Oklahoma, California, Texas and Georgia. The centers are responsible for all major maintenance, overhaul and upgrade of Air Force weapons systems.

If all options under the contract are exercised, Tandem will ship systems worth $18 million in the first 40 months, including a seven-processor Tandem NonStop VLX system at each Air Logistics Center and an 11-processor system at headquarters, with about 20 percent growth in each of the next eight years. The value of the pact could be over $115 million to Litton, prime contractor for the project.

REMIS is part of the Logistics Management Systems Modernization Program for automating and integrating Air Force systems for the 1990s.

REMIS will integrate existing incompatible and outdated systems into a cohesive, on-line unit, according to Duane Tucker, REMIS deputy program director. ''Some of the benefits are increased responsiveness, improved asset visibility and increased productivity,'' said Tucker.

''The reduction in aircraft grounded due to parts will improve the readiness of the combat forces,'' he added.

Colonel William Beckner, REMIS program director, said the Litton/Tandem solution won the award in open bidding among more than 190 sources. ''REMIS

program requirements emphasized on-line transaction driven systems, with distributed processing capability to cut communications costs, and a high requirement for survivability,'' said Beckner.

System development of REMIS will be by SofTech Inc. of Waltham, Mass., and Litton.

Tandem Computers Inc. manufactures and markets computer systems and networks for the on-line transaction processing marketplace.

Note to Editors: Tandem, NonStop and NonStop VLX are trademarks of Tandem Computers Inc.

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LEVEL 1 - 1 OF 1 STORY

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HEADLINE: TANDEM-COMPUTERS; (TNDM) Tandem Computers system selected by Colonial Penn for multi-system networking

DATELINE: CUPERTINO, Calif.

BODY:

Tandem Computers Inc. (OTC:TNDM) Tuesday announced that Colonial Penn Group Inc., Philadelphia, Penn., has selected Tandem NonStop systems for a network that will provide connections for over 1,500 personal computers and terminals to its host systems.

Colonial Penn Group is one of the largest direct response insurance companies in the nation with more than $1.2 billion in assets. The first phase of the new system provides its sales and service employees throughout the country a transparent means to access its Honeywell and IBM host systems from a personal computer or terminal.

Commenting on its reason for choosing the Tandem system, Colonial Penn's executive vice president, Ron Glidden, said, ''Our primary goal is to achieve a leadership position in personal lines insurance and related financial services business. Tandem NonStop systems offered us the flexibility to use a wide variety of acquisition and distribution methods in order to achieve a competitive edge.

''The Tandem system provides easy access to our multiple hosts and allows us to integrate data from separate business areas for the strategic deployment of information,'' Glidden continued.

The full network configuration, planned to be in place by the end of 1987, consists of a combination of Tandem NonStop TXP and NonStop II systems with application software developed in part internally by Colonial Penn employees and in part by XRT Inc., Wayne, Penn., and Zintech Corp., Fairfax, Va.

Colonial Penn Group, a subsidiary of FPL Group Inc., Juno Beach, Fla., is a provider of property, casualty and life/health insurance. It employs 3700 people including sales and service personnel in more than 85 locations throughout the country. The company is headquartered at Colonial Penn Plaza, 19th and Market streets, Philadelphia, Penn. 19181. Telephone is 215/988-8000.

XRT Inc. develops and markets application software for the financial services industry and networking software for the general data processing market. It is headquartered at 989 Old Eagle School Road, Suite 806, Wayne, Penn. 19087. Telephone is 215/254-0300.

Zintech Corp. develops custom application software products for Tandem NonStop systems. It is headquartered at 3607-D Chain Bridge Road, Fairfax, Va.

22030. Telephone is 703/273-5966.

XRT and Zintech are members of the Tandem Alliance, a program to encourage the development of application software that runs on Tandem systems.

Tandem Computers Inc. manufactures and markets computer systems and networks for the on-line transaction processing market. The insurance industry utilizes Tandem systems to provide on-line network access to multi-host systems and for applications such as claims processing, rating inquiry and automated underwriting. The company is headquartered at 19333 Vallco Parkway, Cupertino, Calif. 95014. Telephone is 408/725-6000.

Note to Editors: Tandem, NonStop, NonStop TXP and NonStop II are trademarks of Tandem Computers Inc. Honeywell is a trademark of Honeywell Inc. IBM is a trademark of International Business Machines.

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