

# my BUSINESS TV

## Businesses are plugging in their own in-house networks

By Mary A.C. Fallon  
Mercury News Business Writer

When Tandem Computers Inc. wanted to impress upon its employees the importance of keeping corporate secrets, Andy Rooney went on the air with the message.

But the Cupertino computer manufacturer didn't need to hire the wry "60 Minutes" commentator away from CBS. Instead, a Tandem employee spent six hours being made up to look like Rooney for a skit on "First Friday," Tandem's in-house television show.

"We wanted to make it light-hearted and not create a repressive atmosphere, but we still wanted employees to understand the need to protect proprietary information," said Daniel Kenney, Tandem's manager of employee communications.

### The TV generation

Tandem is just one example of how the generation that grew up with television is now taking it to work. Corporate networks are producing all kinds of programs from live news magazine shows such as Tandem's "First Friday" to tapes aimed at making sales training consistent throughout a company.

Experts agree that tuning in to employees with television not only keeps them informed but also builds a stronger sense of loyalty and well-being throughout the company. Many firms like television's ability to thwart the sense of isolation felt by workers in far-flung offices by letting them talk directly to corporate decision makers via call-in TV shows. For some companies, in-house television has been essential for boosting morale during rough times.

Corporate television — what people in the business call industrial television — grows stronger each year. In 1973, only 300 companies were experimenting with in-house TV. As the expensive equipment got cheaper, more portable and produced clearer pictures, more companies were willing to invest in equipment and staff.

Today, 8,500 U.S. businesses operate their own television net-

works, compared with 3,000 companies five years ago, according to D/J Brush Associates, communications consultants in Rochester, N.Y.

This year, U.S. companies will spend \$4.6 billion on TV equipment, staff and programs, twice the amount they spent in 1981, according to Brush.

"It is not tough to sell a CEO on this," said Judith M. Brush, who has studied private television with her husband for 15 years. "They are more familiar with television because they have video equipment at home. They aren't afraid of it anymore."

Tandem and other companies such as Hewlett-Packard Co. of Palo Alto and Pacific Bell of San Francisco are old hands at in-house television. Newcomers include Computerland Corp. of Hayward and Digital Equipment Corp. of Maynard, Mass., which are both just beginning to use TV to link offices scattered around the world.

### Improves worker attitudes

What sells cost-conscious executives on television is its ability to improve employee attitudes, and that often results in higher productivity.

"We've learned how to talk to senior management in their language. We tell them how TV is a tool to achieve corporate goals," said Jeannie E. Tasker, director of televideo services for National Advanced Systems of Mountain View.

Tasker, a director of the International Television Association, a trade group, recommends first assessing corporate needs, and then using surveys and other methods to measure whether programs having the desired effect.

If executives have any doubts, Tasker reminds them "to look how powerful television is in our homes."

Pacific Bell says it's convinced. Nine years ago, the telephone company used television on a "novelty basis" and tracked attitudes of those who watched its "On Line" corporate news program.

"We found that those people



exposed to 'On Line' had a more positive understanding of what the company was trying to do," said Jerry Ezrin, PacBell's employee communications director.

So, the novelty became a fixture. "We're finding more and more that television is a daily communication tool," Ezrin said. "Most of our employees are used to getting information off the job from television. So, we're seeing it as a natural way of communicating inside the company."

Typically, companies start out in television by creating videotapes for sales training, mostly because the payback can be easily measured.

A year ago, Tab Products Inc., a Palo Alto company that makes filling systems and other office products, started using videotapes to train its 600 sales representatives.

"Training tapes are more effective than any product manual we'd ever write because they never read them," said Gerald Hegel, Tab's training director. "They'll watch anything. They are conditioned to TV."

### Consistent training

Hegel said the videos ensure that training is more consistent because everyone hears the same lesson. Because of the televised lessons, Hegel says, Tab sales reps



stay with the company longer and are better able to make complicated sales.

Once corporations have tried video for sales training, they often expand its use. Showing prospective customers a videotape about the company can be much more exciting than handing them an annual report.

"It's easier to justify the bucks if

you're using it to introduce products to customers or press," Tasker said.

Getting started in private television can be inexpensive, and many outside television production houses are popping up around the country to fill in where companies don't have the in-house capabilities.

"A trip to K mart for a televi-

In a "First Friday" segment taped before an audience of Tandem employees, left, the guests included CEO James G. Treibig and Cacey Tangney, the company's investor relations director, above.

Len Lohman —  
Mercury News

sion and a videocassette recorder can get you in business," Brush said.

Besides television's universality, another reason for the medium's acceptance in corporations is its speed in getting news out to workers. Workers today insist on being well-informed about their employers.

San Francisco



Cover Story

# TV is in spotlight in times of crisis

TV from Page 1D

"In the past, employees were happy to have a job," Brush said. "Today, there's a great concern and a great uncertainty on the part of many people in many companies around the world. People are demanding to hear from the chairman and president what is happening to their company and how it is going to affect them."

Gregory L. Dougherty, Tandem's human resources director, believes that "television lets us portray a personality of the company to all our 5,500 employees worldwide better than any other medium."

Tandem executives host "First Friday," which borrows some zany-ness from the late-night comedy "Saturday Night Live" and mixes it with the format of a light day-time talk show.

By putting executives before a camera, sometimes in spoofs to introduce Tandem's "First Friday" show, "our people get to see them as approachable, fun human beings," Dougherty said.

Tandem went so far this year as to live up its staid annual shareholders' meeting for broadcast on its network with play-by-play commentary to make it more interesting for employees.

Some communications experts believe corporate television is at its best when soothing employees upset about company crisis or turmoil. When Tandem reorganized its 2,500-employee field service organization, company officials plugged into the TV network to answer questions telephoned in by employees.

"We were able to assuage fears. It wasn't just a cold statement in print," Dougherty said.



Jeannie E. Tasker  
... 'TV is a tool'

Sometimes television is used to hold employees together when a company is being battered publicly. Union Carbide Corp. of Danbury, Conn., relied heavily on in-house television to update workers after the gas leak at its chemical plant in December 1984 that left hundreds dead in Bhopal, India.

Warren M. Anderson, Union Carbide's chairman and chief executive, credits television with being "tremendously responsible" for unifying his 100,000 employees.

"Our people were deluged with information," Anderson said in a speech earlier this year to private television producers. "There was a need, instead, for understanding, a need to define ourselves in light of those headlines ... for that task, there is really no substitute for the TV camera."



Tyson: 'It really captures the imagination'

Special to the Mercury News

## Let your face do the walking ...

### Teleconferencing gains strength

Dan McMillan, a vice president of Lotus Development Corp., was busy in Boston with new product introductions recently when he needed to be in California to meet with directors of another company.

Instead of jumping on a plane, McMillan walked into the Boston office of investment banker Hambrecht & Quist Inc. and turned on its video teleconferencing system.

Like corporate-owned television stations, video teleconferencing — a system of satellite hook-ups and television monitors — helps companies stay in touch with offices and plants scattered across the country.

"Most of the time it works fine, and it sure beats getting on a plane," McMillan said. "There's a little time delay on the voice — like making a telephone call overseas — but otherwise it's OK."

Compression Labs Inc. of San Jose, a leading supplier of video teleconferencing equipment, has installed 350 systems in three years. "We've seen pretty consistent growth," said John E. Tyson,

Compression's president and chief executive.

He estimates that U.S. businesses will spend \$110 billion in travel expenses this year and that 70 percent of the cost will be going to sites within the same company.

High travel expenses coupled with the need for faster decisions and a fear of terrorism are encouraging more corporate buyers to give video teleconferencing another look.

At Hambrecht & Quist, for example, the video teleconferencing links stay on all day between New York, Boston and the home base in San Francisco.

Sears, Roebuck & Co. uses video teleconferencing for first-round interviews to weed out executive job seekers so it has to fly only a few top candidates to its Chicago headquarters for final interviews.

"It is the kind of technology that really captures the imagination of executives in business. They see it as a productivity tool," Tyson said.

— Mary A.C. Fallon



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INVESTEXT/COMPUTERS AND OFFICE EQUIPMENT  
November 10, 1986

Tandem Computers - Company Report  
PAINE WEBBER INC. - Smith, S.K.  
08-22-86 (RN=610947)

CORPORATE  
INFORMATION CENTER

Tandem Computers  
Neutral

IBM's XRF problems; good for Tandem?

\$38 OTC - TNDM 52-week range \$13 3/8-38 3/8

FY 9/30	1985	1986E	1987E
Q1	\$0.34	\$0.28A	\$0.44
Q2	0.16	0.29A	0.44
Q3	0.06	0.40A	0.47
Q4	0.27	0.48	0.50
Year	0.82	1.45	1.85
P/E	--	26.2	20.5
Dividend	--	--	--
Yield	--	--	--
Secular Growth Rate			20.0%

IBM (\$138) is finding it more difficult than it expected to provide continuous availability (fault-tolerance) on 3090 mainframes running its IMS/VS version 2 database/data communication (DB/DC) system. Originally scheduled for shipment later this year, the high availability feature (known as Extended Recovery Feature or XRF) has been delayed. Furthermore, IBM is not yet indicating to its customers when XRF will be available. At the very least, this should enhance Tandem's (\*) credibility and could eventually lead to competitive gains, particularly if IBM does not resolve the problem quickly. Even so, while this boosts Tandem's credibility, it is unlikely to have any substantial near-term impact, since most IBM customers would be too committed to IBM to do anything other than suffer the delay. Our EPS estimates consequently remain unchanged at \$1.45 for FY 86 and \$1.80-1.90 for FY 87. We continue to rate the stock neutral (3).

Excellent third quarter: have margins peaked?

Third quarter EPS of \$0.40 exceeded our \$0.35 estimate. Revenues grew by 39% over the prior year, and although this was against an easy comparison, revenues for the nine months increased by over 20% over the first nine months of 1985. The recently introduced VLX processor represented 5-10% of sales, and TXP sales represented a further 50%. Strong sales of these two high-end products helped boost gross margin from 67.1% in Q2 to 69.6% in Q3. This offset a large (\$10 million) jump in SG&A expense.



While we are very impressed with Tandem's recent performance, we are concerned that that expectations may be getting too high. Most significant, the product mix is likely to shift towards the low end of the product line over the next 12 to 18 months, putting some downward pressure on margins. Not only are gross margins lower on these models, but also the sales and support costs do not decline in proportion to systems cost. Furthermore, competitive pressures are likely to continue to build, with IBM in particular anxious to improve its position. Therefore, investors looking for a significant decline in SG&A costs to offset lower gross margins may be disappointed. Unless we see a further acceleration in its revenue growth, we believe that Tandem will have difficulty further improving its already impressive margins.

#### Tandem Computers

#### Quarterly Income Statement Model

(Dollars in millions, except percentages and per share data)

[Part 1 of 4]

Revised 8/21/86

	1982A	1983A	1984A
Product	\$272.59	\$360.13	\$448.61
Service	\$39.55	\$58.15	\$84.01
Total Revenues	\$312.14	\$418.28	\$532.62
Costs and Expenses:			
Cost of Revenues	\$109.31	\$168.71	\$218.81
Product Development	\$33.64	\$39.17	\$52.51
Marketing, G&A	\$128.49	\$160.64	\$210.20
Total Expenses	\$271.44	\$368.52	\$481.52
Operating Income	\$40.71	\$49.77	\$51.10
Interest, Net	\$6.03	\$0.73	\$5.18
Pretax Income	\$46.74	\$50.50	\$56.28
Tax rate	36.1%	39.0%	41.0%
Taxes	\$16.88	\$19.69	\$23.08
Net Income	\$29.86	\$30.81	\$33.20
Shares outstanding	39	41	41
EPS	\$0.76	\$0.76	\$0.81
DISC			\$0.24
EPS incl. DISC			\$1.05
Growth rates (% year-year)			
product revenue	46	32	25
service revenue	84	47	44
Total revenue	50	34	27
EPS	6	-1	7
Growth rates (% Qtr-Qtr)			
Revenue			

EPS

Ratios (%):-

Gross Margin	64.98	59.67	58.92
Product dev:sales	10.78	9.37	9.86
Mktg. G&A:sales	41.16	38.40	39.46
Operating Margin	13.04	11.90	9.59



[Part 2 of 4]

Revised 8/21/86	1985A				
	Q1	Q2	Q3	Q4	Year
Product	\$134.14	\$120.09	\$116.87	\$144.02	\$515.11
Service	\$25.52	\$26.40	\$27.29	\$29.81	\$109.02
Total Revenues	\$159.65	\$146.49	\$144.16	\$173.83	\$624.13
Costs and Expenses:					
Cost of Revenues	\$62.02	\$57.71	\$56.12	\$64.30	\$240.15
Product Development	\$15.13	\$17.08	\$18.03	\$21.35	\$71.58
Marketing, G&A	\$60.00	\$62.00	\$69.48	\$70.86	\$262.33
Total Expenses	\$137.14	\$136.79	\$143.63	\$156.50	\$574.06
Operating Income	\$22.51	\$9.70	\$0.54	\$17.33	\$50.08
Interest, Net	\$1.89	\$1.57	\$1.30	\$1.51	\$6.27
Pretax Income	\$24.40	\$11.28	\$1.84	\$18.84	\$56.35
Tax rate	42.5%	39.3%	NM	41.0%	39.0%
Taxes	\$10.37	\$4.44	(\$0.55)	\$7.72	\$21.98
Net Income	\$14.03	\$6.84	\$2.39	\$11.12	\$34.37
Shares outstanding	41	42	42	42	42
EPS	\$0.34	\$0.16	\$0.06	\$0.27	\$0.82
DISC					
EPS incl. DISC					
Growth rates (% year-year)					
product revenue	24	32	-2	11	15
service revenue	43	32	19	28	30
Total revenue	26	32	2	14	17
EPS	41	244	-75	-8	2
Growth rates (% Qtr-Qtr)					
Revenue	4	-8	-2	21	
EPS	16	-52	-65	369	
Ratios (%):-					
Gross Margin	61.15	60.60	61.07	63.01	61.52
Product dev:sales	9.47	11.66	12.50	12.28	11.47
Mktg. G&A:sales	37.58	42.32	48.20	40.76	42.03
Operating Margin	14.10	6.62	0.37	9.97	8.02

[Part 3 of 4]

Revised 8/21/86	current quarter				
	Q1A	Q2A	1986E Q3A	Q4E	Year
Product	\$137.23	\$142.75	\$159.24	\$173.40	\$612.62
Service	\$32.83	\$33.57	\$41.62	\$43.23	\$151.25
Total Revenues	\$170.06	\$176.33	\$200.85	\$216.63	\$763.87
Costs and Expenses:					
Cost of Revenues	\$58.84	\$58.03	\$61.03	\$66.72	\$244.62
Product Development	\$19.82	\$21.32	\$22.30	\$24.50	\$87.93
Marketing, G&A	\$72.09	\$76.99	\$86.92	\$88.80	\$324.79
Total Expenses	\$150.75	\$156.33	\$170.25	\$180.02	\$657.35
Operating Income	\$19.32	\$20.00	\$30.60	\$36.61	\$106.52
Interest, Net	\$1.67	\$2.36	\$2.05	\$2.30	\$8.39
Pretax Income	\$20.99	\$22.36	\$32.66	\$38.91	\$114.91
Tax rate	44.5%	44.5%	44.5%	44.5%	44.5%
Taxes	\$9.34	\$9.95	\$14.53	\$17.31	\$51.13
Net Income	\$11.65	\$12.41	\$18.12	\$21.59	\$63.77
Shares outstanding	42	43	45	45	44
EPS	\$0.28	\$0.29	\$0.40	\$0.48	\$1.45
DISC					
EPS incl. DISC					
Growth rates (% year-year)					
product revenue	2	19	36	20	19
service revenue	29	27	52	45	39
Total revenue	7	20	39	25	22
EPS	-19	76	607	80	76
Growth rates (% Qtr-Qtr)					
Revenue	-2	4	14	8	
EPS	3	4	41	19	
Ratios (%):-					
Gross Margin	65.40	67.09	69.61	69.20	67.98
Product dev:sales	11.65	12.09	11.10	11.31	11.51
Mktg. G&A:sales	42.39	43.66	43.28	40.99	42.52
Operating Margin	11.36	11.34	15.24	16.90	13.94



[Part 4 of 4]

Revised 8/21/86	1987E				Year	1988E
	Q1E	Q2E	Q3E	Q4E		
Product	\$167.42	\$171.88	\$181.88	\$194.21	\$715.03	\$843.73
Service	\$44.65	\$45.32	\$47.44	\$49.71	\$187.13	\$233.91
Total Revenues	\$212.07	\$217.20	\$228.97	\$243.92	\$902.16	\$1077.65
Costs and Expenses:						
Cost of Revenues	\$66.80	\$69.50	\$73.27	\$78.05	\$287.63	\$350.24
Product Development	\$24.18	\$24.76	\$25.19	\$26.83	\$100.95	\$118.54
Marketing, G&A	\$86.95	\$89.05	\$94.57	\$100.01	\$370.57	\$436.45
Total Expenses	\$177.93	\$183.32	\$193.02	\$204.89	\$759.16	\$905.23
Operating Income	\$34.14	\$33.88	\$35.95	\$39.03	\$143.00	\$172.42
Interest, Net	\$2.00	\$2.00	\$2.00	\$2.00	\$8.00	\$8.00
Pretax Income	\$36.14	\$35.88	\$37.95	\$41.03	\$151.00	\$180.42
Tax rate	43.5%	43.5%	43.5%	43.5%	43.5%	44.0%
Taxes	\$15.72	\$15.61	\$16.51	\$17.85	\$65.69	\$79.39
Net Income	\$20.42	\$20.27	\$21.44	\$23.18	\$85.32	\$101.04
Shares outstanding	46	46	46	46	46	46
EPS	\$0.44	\$0.44	\$0.47	\$0.50	\$1.85	\$2.20
DISC						
EPS incl. DISC						
Growth rates (% year-year)						
product revenue	22	20	14	12	17	18
service revenue	36	35	14	15	24	25
Total rvenue	25	23	14	13	18	19
EPS	61	54	16	5	28	18
Growth rates (% Qtr-Qtr)						
Revenue	-2	2	5	7		
EPS	-7	-1	6	8		
Ratios (%):-						
Gross Margin	68.50	68.00	68.00	68.00	68.12	67.50
Product dev:sales	11.40	11.40	11.00	11.00	11.19	11.00
Mktg. G&A:sales	41.00	41.00	41.30	41.00	41.08	40.50
Operating Margin	16.10	15.60	15.70	16.00	15.85	16.00

(\*) PaineWebber Incorporated and/or Rotan Mosle Inc., an affiliated corporation of PaineWebber Incorporated, makes a market in this security.



## LEVEL 1 - 3 OF 3 STORIES

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United States Banker

November, 1986, National Edition

SECTION: PRODUCT UPDATE; Pg. 110

LENGTH: 83 words

HEADLINE: POS System

CORPORATE  
INFORMATION CENTER

BODY:

Tandem Computers and two third-party software companies have announced the first on-line retailing system capable of delivering up-to-the-minute management reports that integrate data from virtually unlimited numbers of on-line NCR electronic point-of-sale (EPOS) terminals. Called StoreLink, the product provides the functionality of NCR's Stores product without requiring replacement of cash registers or the purchase of a separate nonintegrated minicomputer.

Tandem Computers, Cupertino, CA

**LEXIS NEXIS LEXIS NEXIS**



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ABA Banking Journal

November, 1986

SECTION: NEW PRODUCTS & SERVICES; Pg. 110

CORPORATE  
INFORMATION CENTER

LENGTH: 121 words

HEADLINE: Fault-tolerant minis are for smaller users

BODY:

Tandem Computers has introduced two new minicomputers that are designed for the low-end and mid-range end of the market. Called the EXT10 and EXT25 systems, they are part of Tandem's NonStop fault-tolerant computer systems line that is designed for transaction processing applications.

The EXT10 system, which can be easily expanded, processes 4.3 transaction per second, while the EXT25 processes 11 transactions a second. Both systems can be upgraded to process up to 8.6 and 22 transactions per second respectively.

Prices for the EXT10 system start at \$82,500. Prices for the EXT25 system begin at \$325,000.

Write: Tandem Computers Inc., 19191 Vallco Parkway, Location 4-40, Cupertino, Calif. 95014-2599, or

**LEXIS NEXIS LEXIS NEXIS**



## \$135M 9-MO. DEFICIT AT DEFENSE UNIT

**Gould Opns. Profit Drops 73% in 3d Quarter**

ROLLING MEADOWS, Ill. — Gould Inc. said third-quarter profit from continuing operations plunged 73 per cent to \$4.3 million, or 10 cents a share, while its defense business, now stated as a discontinued operation, managed to break even, but showed a 9-month loss of \$135.5 million.

The unit's loss erased Gould's 9-month profit of \$29.1 million, or 65 cents a share, from continuing operations, and plunged the bottom line \$106.4 million into the red.

In the year-earlier periods, the firm netted \$16 million, or 36 cents a share, in the 3 months and cut its 9-month loss to \$110.6 million.

Earnings from continuing operations in the 1985 quarter amounted to \$15.7 million, or 35

cents a share, while the defense business contributed \$300,000, or 1 cent a share. For the 9 months, Gould sustained a \$119 million loss from continuing operations, while discontinued operations had earnings of \$8.4 million.

Gross for both periods was off moderately with quarterly volume slipping to \$227.4 million in 1986, from \$230.1 million in 1985,

and 9-month revenues dipping to \$681.4 million, compared with \$690 million.

Sales declines from its semiconductor and industrial automation products were contributing factors in the 1986 third-quarter profit slump, Gould said. Other factors included lower domestic capital spending in the automotive, electronics and energy-related industries as well as increased sales and marketing costs for the Information Systems business section and the Industrial Automation Systems group.

The bulk of the 9-month loss stems from a \$130 million special charge taken in the first quarter in conjunction with cost overruns on fixed price contracts at one of its defense businesses, the NavCom Systems division. A smaller portion of the loss had to do with Gould's interest expense allocation to discontinued operations, the firm said.

Gould put its Defense Systems businesses on the block at the end of the second quarter (EN, Sept. 1).

Meanwhile, the 1985 loss stemmed from a \$159.2 million special charge taken in the second quarter of that year to downsize the firm's semiconductor operations.

All results were restated to reflect the discontinuance of the defense business in 1986 as well as the operations that were shed in 1985, Gould said.

**Interest Rate Hopes Spark Rally**

Hopes of lower interest rates helped spark a rally on Thursday that put most industry shares ahead for the week despite some profit-taking on Friday.

Merger-related issues Lear Siegler Inc. and Hazeltine led the winners as each jumped to record highs in 10-point swings. Early in the week, AFG Partners made an \$85 a share bid to purchase the all LSI outstanding shares in a deal valued at more than \$1.4 billion. LSI which was trading in the mid-70's peaked at 86-1/2, on a turnover 4.8 million shares. Settling to a closing of 85-1/4 on Friday, the issued picked up 8-3/4 for the five sessions.

Meanwhile, shares of Hazeltine reached 30, before finishing at 29-3/4, up 9-1/2 for the week. The issue advanced on the report that the Long Island defense contractor had agreed to be acquired by Emerson Electric Co. in a \$189 million deal. Emerson said it will pay \$30 for each outstanding Hazeltine share. Emerson closed at 82-5/8, up 1. The defense bloc, in general, posted advances for the five sessions with Litton up 5-7/8 to 81, while Litton gained 2-3/8 to 60-7/8. Ahead of 1 point put Lockheed at 46-1/2, Raytheon at 64-1/8, and Rockwell at 42-3/4. Up fractionally, General Dynamics went to 72-1/2, Loral to 41-1/8, and Martin Marietta to 39-1/4. While recent analysts' recommendations for this group have been mixed, Susan Pitts of Alex. Brown & Sons, views Marietta "well positioned for growth and margin improvement."

The computer group also recorded price increases for the five sessions with Burroughs tacking on 4-1/2 to 78-3/8, while 2-point jumps put Data General at 31-1/4, Honeywell at 70-3/4 and IBM at 123-3/8. A 1-point gain closed Control Data to 26-3/8, while fractional advances sent Digital Equipment to 99-1/4 and Hewlett-Packard to 39-1/2.

During recent weeks analysts have been putting out "buy" recommendations for stocks in the CPU group, noting that most issues are currently trading at discount prices, while forecasting improved margins for the near term. Wang, however, is one of the exceptions. Last week, Moody's placed Wang long-term debt and commercial paper under a rating review for possible downgrade because questions "Wang's ability to improve its competitive position, generate better earnings, and reduce its debt." Wang dropped to a 12-month low of 10-3/4, but recovered to 11-3/4 at closing. The issue was still off for the 5 sessions.

Meanwhile, AT&T shares advanced 1-1/4 to 24-7/8 as the firm disclosed it was restructuring its computer operations after being in the business less than 3 years.

— DOLORES KRECK

**Tandem Net Rises 86% to \$63M for Year**

CUPERTINO, Calif. — Tandem Computers Inc. reported a 86 per cent increase in profit to \$63.7 million, or \$1.44 a share, on a 23 per cent advance in revenues to \$767.8 million for the fiscal year ended Sept. 30.

This compares with the fiscal 1985 net of \$34.4 million, or 82 cents a share, and revenues of \$624.1 million.

Product sales rose to \$618.3 million from \$515.1 million, while service and other revenues went to \$149.4 million compared with \$109.0 million.

In the most recent quarter, Tandem reported a profit of \$21.6 million, or 47 cents a share, up 94 per cent from \$11.1 million, or 27 cents a share, in the final period of fiscal 1985, as revenues grew 27 per cent to \$220.6 million, against \$173.8 million.

Of the gross, product sales increased to \$179.1 million from \$144.0 million, and service and other volume to \$41.4 million compared with \$29.8 million.

Commenting on the results, James G. Treybig, president and chief executive, said "throughout the year, our international business has been very strong. Our U.S. business grew as well, although the domestic environment remains relatively weak."

"Customers have responded very positively to our VLSI-based NonStop VLX system," he said. Tandem's top-end VLX, introduced earlier this year, began shipping in the third quarter. "The VLX system was a very significant factor in our fourth quarter results."

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to start

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A spokesman for IBM said the company would not comment.

#### Volume Production

While Miniscribe has been producing the 3.5-inch drives in volume, analysts last week contended that Seagate could accelerate the ramp-up to high-volume production of a 3.5-inch Winchester for IBM should it get the contract.

Seagate previously unseated

first quarter next year, has been seen by analysts as a step to legitimizing the 3.5-inch form factor and leading a down-sizing for drives of up to 100 MB.

According to the 1986 Disk/Trend Report, IBM's last production of 5.25-inch drives for 286-based PCs is expected at the end of the year. In 1987, its shipments of 3.5-inch Winchesters will increase to 730,000, growing to 1.65 million in 1989.

## Systems Market Entered by AST

Continued From Page 16

controller and a 1.2-MB floppy disk drive.

Volume deliveries of all 5 Premium/286 models will be available on Jan. 1. Base prices are \$1,995 for the model 80, \$2,495 for the model 90, \$2,995 for the model 120, \$3,495 for the model 140 and \$3,995 for the model 170. The MS-DOS 3.1 operating system is included with all new systems, all of which are manufactured by AST in Irvine, Calif.

The model 80 includes 512 KB of RAM, while 1 MB of RAM is included in each of the remaining models. Also included is a 20-MB fixed disk drive on the model 120, a 40-MB fixed disk drive on the 140 and a 70-MB fixed disk drive on the 170. Any of these drives may be configured to the model 80 or 90 at \$545 for 20 MB, \$1,095 for 40 MB

and \$1,595 for 70 MB. A 360-KB floppy drive, priced at \$155, is optional on all models. A monochrome monitor is priced at \$195, while the company's enhanced-graphics monitor lists for \$695.

Meanwhile, AST said it will offer a choice of desktop publishing software with its turnkey system, such as PageMaker, Ventura Publisher, FrontPage, DPE and PageWork.

Model 1 of AST's desktop publishing workstation, priced at \$9,995, configures a standard 140 PC with a monochrome monitor, an AST TurboLaser printer and a TurboScan optical page scanner. Model 2 configures the PC, the monochrome monitor and the printer for \$7,995. Both workstations will be shipped in January.

— ADAM GREENBERG

## MSA Negotiates Buy of Comserv

ATLANTA — Management Science America (MSA) is negotiating to take over Comserv Corp., Minneapolis, which develops manufacturing software for IBM mainframes and compatibles, in a deal valued by Comserv at about \$24 million.

As envisioned in the talks, Comserv said, the deal would give shareholders \$2.21 a share, and holders of its 11 per cent convertible debentures

due July 1, 2002, about \$650 for each \$1,000 principal amount of the debentures.

At the week's end, no agreement had been reached.

Comserv said it initiated the talks this year with MSA, which also develops manufacturing and applications software for IBM mainframes, because it has been struggling financially and wants to link up with a stronger firm.

July filing, the climate for an IPO from a young technology company has deteriorated to the extent that Tolerant would have had to take a "deep cut" in the proposed \$10 per share offering price, said company president, chairman and chief executive David Caplan.

A number of institutional in-

## Tandem Drops Line Of Dynamite PCs

CUPERTINO, Calif. — Tandem Computers Inc. has dropped its 2-year-old line of Dynamite PCs in favor of a recently-introduced line of IBM PC AT-compatible computers, which the firm last week beefed up by cutting prices and adding new models.

The Dynamite PCs ranged in price from \$2,495 to \$2,995. Tandem assembled the Dynamite PCs at its Austin, Tex., plant, and stopped selling them as of Nov. 1.

The Dynamite PCs are no longer being sold because they were not price/performance competitive with the new IBM PC AT-compatible computers, and most customers wanted the IBM PC AT-compatible computers, a company spokeswoman said.

Tandem introduced and began shipping its IBM PC AT-compatible computers, called the 6AX line, in May of this year. All of the 6AX computers include 512 KB of RAM, one 1.2-MB floppy disk drive, keyboard, floppy/hard disk controller, system software, and Tandem's PC6530/IXF terminal emulation and file transfer software.

Prices on the two existing 6AX computers were cut. The 6AX/20, which has a 20-MB hard disk, was cut from \$3,995 to \$2,995, while the 6AX/40, which has a 40-MB hard disk, was cut from \$4,495 to \$3,895.

Tandem also introduced three new models, the 6AX/30, which has a 30-MB hard disk, priced at \$3,395; the 6AX/2, which has two 1.2-MB floppy disk drives, priced at \$2,595; and the 6AX/1, which is the base system, priced at \$2,395.

fiscal 1986, Tolerant had sales of \$3.5 million and losses of \$6.8 million.

Proceeds from the IPO were to have been used to repay a short-term loan and as working capital. Money for those purposes will now come from the new equity financing as well as from the agreement with RC Computer.

Participating in the third round of financing, which raised about \$6 million, were Adler & Co., Accel Partners and Helix Investments Ltd. Adler & Co. remains Tolerant's principal investor.

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# Tandem Computer Enters VAR Accord With Applied Com

By Ann Lowe  
CUPERTINO, CALIF. — Tandem Computers Inc. unveiled a value-added-reseller agreement with Applied Communications Inc. of Omaha last week aimed at small and midsize financial institutions.

ACI, a subsidiary of U S West Information Systems, will package Tandem computers with its banking-automation software and offer the complete systems to banks with

assets less than \$2 billion. Under a previous joint-marketing agreement, Tandem and ACI pitched their systems together but sold them independently, a Tandem spokeswoman said.

The VAR agreement enables ACI to buy systems from Tandem's entire line of fault-tolerant systems for on-line transaction processing, to bundle them with ACI BASE24 software and to resell them to

small and midsize banks. Tandem will take charge of selling its own computers to banks with more than \$2 billion in assets, recommending the ACI software as an alternative application package, the Tandem spokeswoman said. Neither company would disclose the financial terms of the agreement.

Up to now, ACI had targeted its software at larger financial institutions, marketing

its product with Tandem, IBM and Stratus Computer Inc. systems, said Dick Abramson, vice-president for business development at ACI.

ACI will continue to market IBM and Stratus systems to its larger customers, but will aim the Tandem systems toward the smaller banks, Abramson said.

An ACI spokeswoman guessed that there are 3000 to 4000 small to midsize finan-

cial institutions in the United States. Many of them need new automation systems—either because they have "home-grown" systems that don't work well anymore or because they contract their automatic banking systems from third parties instead of buying their own, she said.

"We should be able to do it for 75 percent of what it's costing them today" under a third-party contract, the ACI spokeswoman said.

Prices of the turnkey systems will vary with the size of the bank and the size and configuration of the system, the ACI spokeswoman said. For smaller banks, ACI will sell low-end Tandem systems for about \$100,000 and will lease the accompanying software for about \$3000 a month, she said.

ACI already has started marketing Tandem computers under the VAR agreement, recently striking a deal with a \$1 billion bank for a system with 25 to 30 automatic-teller machines, Abramson said. He gave no further details about the sale.

ACI is currently Tandem's only VAR in the banking industry. The Tandem spokeswoman said it is too soon to say whether Tandem will seek similar agreements with other resellers.

Separately, Tandem announced last week that it has signed Phitech Inc. of San Francisco as a member of the Tandem Alliance program for third-party software developers.

## Ryan-McFarland Tests Compilers

ROLLING HILLS ESTATES, CALIF. — Ryan McFarland Corp. said it is beta testing versions of its COBOL and FORTRAN compilers for Microsoft Corp.'s Xenix System V/386.

The V/386 will be employed with Intel Corp.'s 80386 microprocessor.

The company has already been approached by several OEMs to supply compilers for as-yet-unannounced 80386-based systems, including Compaq Computer Corp.'s DeskPro 386 personal computer, according to Ryan-McFarland.

Both RM/FORTRAN and RM/COBOL-85 will be enhanced to take advantage of the new instruction set and large address space of the new 32-bit microprocessor.

Current FORTRAN and COBOL applications written for any machine architecture will be able to transfer over to the new 80386 environment, including mainframe and mini-computer applications or MS-DOS and Unix programs, Ryan-McFarland said.

RM/FORTRAN is scheduled for general availability in March 1987, and RM/COBOL-85 will be released later next year.

**COMPUKATE INFORMATION CENTER**

11/3/86

COMPUTER SYSTEMS NEWS

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## Masscomp, Megatek In Joint Deal

WESTFORD, MASS. — Massachusetts Computer Corp. has reached an agreement to jointly market its MC5000 computers with a three-dimensional graphics package from Megatek Corp.'s Template software subsidiary.

The graphics package, also called Template, will be made available for Masscomp's GA800 and GA1000 Aurora independent graphics processors as well as the Helios

3D graphics processor that Masscomp markets under an agreement with General Electric Co.

### Key Business Factors

David Schell, manager of Masscomp's complementary products program, said there were "significant business reasons" leading to the agreement.

He said one customer in particular, which he declined to identify, was in need of the

Template package while other Masscomp customers have also expressed interest.

The Template software is designed for scientific and technical use, and provides features for 3-D modeling, perspective and orthogonal viewing, and hierarchical display list support.

Template also provides customers with access to its library of graphics device drivers.

## Datacorp Signs Agreement With Tandem Computers

CUPERTINO, CALIF. — Datacorp Business Systems Inc. has signed a joint marketing agreement for its Sales and Marketing System with Tandem Computers Inc.

Tandem will market the package under the terms of its Tandem Alliance Program.

As part of the agreement, Datacorp will develop software for use with Tandem systems.

tems that will be marketed worldwide by Tandem.

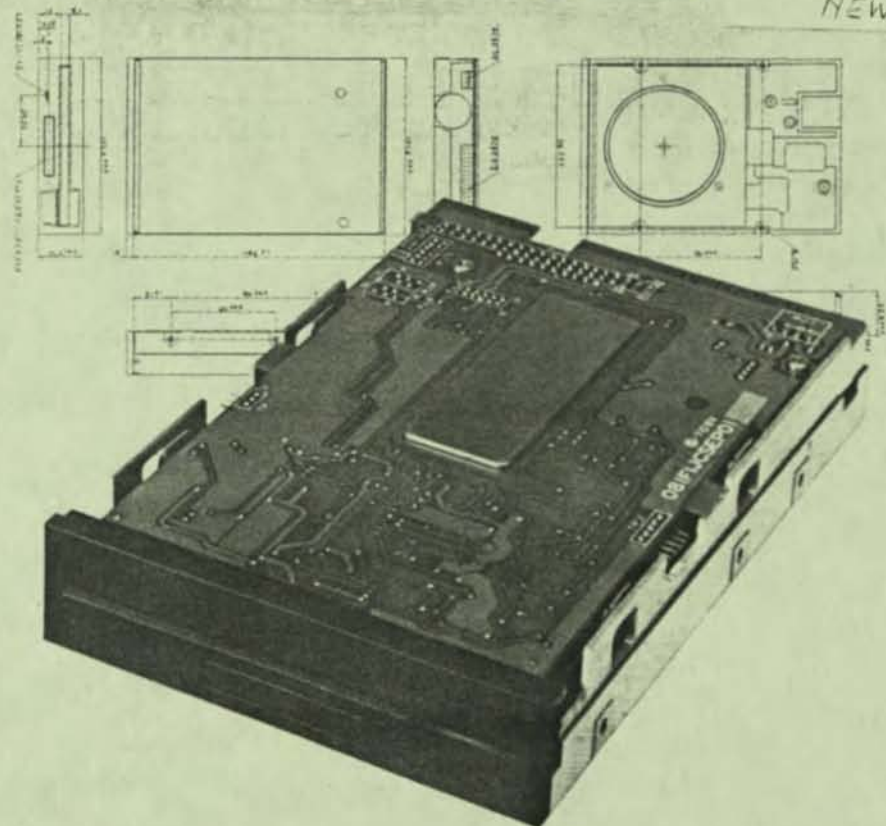
Tandem employees will be trained in the use of Datacorp software and Datacorp employees are being trained on Tandem hardware.

The Datacorp Sales and Marketing package allows multiple programs to run simultaneously in different operational modes.

The product can be used in a variety of industries for telemarketing, direct mail and literature fulfillment, inquiry handling, lead generation and tracking, market research and sales analysis.

The software is designed to operate on the Tandem NonStop II, NonStop TXP, the NonStop EXT10 and EXT24 systems and also the NonStop VLX transaction processing mainframe.

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NEWS

## Pilot Offers VAR Licenses

MILWAUKEE — Pilot Systems Inc. is offering licenses for its Pilot Manufacturing Software package to value-added resellers, value-added distributors and OEMs.

Pilot Manufacturing Software is an on-line, integrated, set of interactive business packages.

There are eight subsystems in the series, covering manufacturing planning, manufacturing control, manufacturing costing, financial planning, engineering control, inventory control, sales control and accounting control.

Pricing for the integrated package begins at \$30,000.

The software is available for the Pilot Distributor Network on Unix-based products from Altos Computer Systems Inc., AT&T, Burroughs Corp., NCR Corp., and Sperry Corp.

It can also be run on Digital Equipment Corp. and Prime Computer Inc. systems.

Pilot has sales offices in Milwaukee, Chicago and here.

## Xyvision Posts Gain In Quarter

WAKEFIELD, MASS. — Xyvision Inc. has reported second-quarter net income of \$956,000, or 15 cents a share, vs. a loss of \$510,000 for the same period last year.

Revenue for the maker of corporate publishing systems rose 120 percent to \$5.3 million compared with \$2.4 million last year.

Chairman Laurence S. Liebson cited the addition of several new customers and orders from McDonnell Douglas Co. and McGraw-Hill as contributing to the revenue increase.

For the six months ended Sept. 27, net income was \$1.7 million, or 34 cents a share, vs. a loss of \$1.3 million, or 36 cents a share, for the same period last year.



# BUSINESS & FINANCE

Financial News/Stock Market News/Funding/Corporate Strategies

## Air Of Optimism Pervades AEA Conference

By Mitch Irsfeld, Julie Pitta and Brian Deagon

MONTEREY, CALIF. — For the public companies that came through the past two years unscathed and even many that didn't, the mood was one of optimism at last week's

American Electronics Association's Financial Conference.

Many companies said sales to the domestic market remain flat or below previous levels. But most said that overseas markets are picking up much of the slack.

And another plus is emerging: New hardware platforms are allowing many companies to add proprietary value to their products.

"The tone [of the conference] is positive," said Gregory F. Wilber, a vice-president in the Palo Alto, Calif., office of Kidder, Peabody & Co. "This year's question is when will business improve. Last year it was how far will business go down."

Dealing with declining business has never been an issue for Sun Microsystems Inc. And it apparently won't become one in the near future.

At one of its presentations here last week, the maker of Unix-based workstations said it could double its sales again in fiscal 1987. Sun reported revenue of \$210.1 million for fiscal 1986, and according to chief financial officer Robert Smith, "Most analysts have us at the \$410 million to \$430 million range for 1987."

Smith said analysts are expecting Sun's per-share earnings to climb to \$1.02 in fiscal 1987 from 46 cents in 1986.

In discussing Sun's continuing strength, Smith cited the company's broad base of business. He said Sun sells into numerous sectors of technology, and that no one customer accounts for more than 8 per-

cent of the buffer effect of international sales during a period of weakness in the domestic market. In the course of its 1986 fiscal year, Altos formed six wholly owned overseas sales subsidiaries, and watched revenue climb 21 percent in foreign markets.

Approximately 35 percent of the company's worldwide sales come from foreign countries, and Altos would like to see the level increase to 50 percent, according to chief operating officer Dave Zacarias. He said the company expects to sign its first Japanese distributor sometime in 1987.

Zacarias said that while sales remain depressed in the domestic market, Altos expects to see improvement there this year. Among other things, the company is hoping to participate in several large government bids during the year.

In the computer-aided engineering arena, Mentor (Continued on Page 102)

### Reporter's Notebook

cent of Sun's business in any sector.

Smith also said that in the near term, Sun's international growth will be more rapid than its domestic growth. The amount of business from overseas will increase from 30 percent currently to around 45 percent during the next year or so, Smith said.

Altos Computer Systems Inc. also had something to say

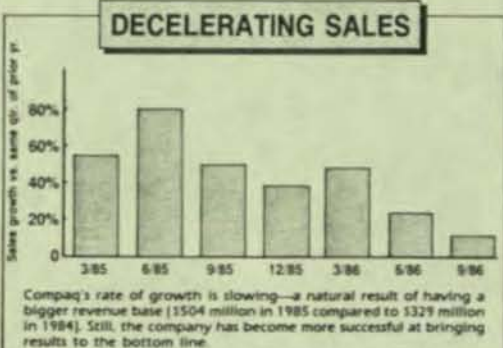
## Compaq Computer Records 39% Rise In 3rd-Qtr. Profit

By Jenny McCune

HOUSTON — Compaq Computer Corp., aided by the introduction of the Deskpro 386 and continued strong sales of the Deskpro 286, last week posted a 39 percent rise in third-quarter earnings to \$8.7 million, or 28 cents per share, from \$6.2 million, or 21 cents per share, a year ago.

Sales in the Sept. 30-ended quarter rose 12 percent to \$147.2 million from \$131.7 in the year-earlier quarter.

The results were in line with analysts' expectations. "It was a modest quarter," said Tom Wong of Eberstadt



Fleming Inc. "They've been saying all the time that the summer is seasonally moderate."

Sales growth was not as steep as in past quarters, leading some analysts to suspect that Compaq may be experiencing market share erosion on the low end from other IBM Personal Computer-compatible manufacturers.

Compaq officials disputed that view. "Our explanation of the picture as a whole has to do with the fact that the three-month period in the summer tends to be the slow part of the year for us," said a Compaq spokesman. "We know that as a Fortune 500 company, our overall growth is going to become more conservative and moderate. It cannot continue to be in the 40 to 50 percent range in (Continued on Page 100)"

## Tandem Posts Solid Gains In 4th Quarter, Fiscal Year

CUPERTINO, CALIF. — Tandem Computers Inc. last week reported solid gains in sales and net income for its fourth quarter and fiscal year.

The maker of fault-tolerant computer systems said its income for the quarter ended Sept. 30 advanced 94 percent to \$21.6 million, or 47 cents a share, from \$11.1 million, or 27 cents a share, in the comparable quarter of 1985.

Revenue rose 27 percent to \$220.6 million, from \$173.8 million the previous year.

The fourth-quarter gains brought Tandem's net income for all of 1986 to \$63.7 million, or \$1.44 a share, from \$34.4 million, or 82 cents a share in fiscal 1985.

Fiscal 1986 revenue increased 23 percent, to \$767.8 million from \$624.1 million the previous year, Tandem said.

"These results are gratifying in an economic environment that has proved to be difficult for many in our industry," said Tandem president and chief executive James G. Treybig in a prepared statement.

(Continued on Page 100)

## Daisy Reports \$860,000 Loss In Qtr.

By Mitch Irsfeld

MOUNTAIN VIEW, CALIF. — Daisy Systems Corp., citing product delays and a weak domestic capital spending environment, last week reported a net loss of \$860,000 for its fourth quarter ended Sept. 30.

The loss came on sales of \$24.9 million. In last year's fourth quarter, the design automation workstation vendor reported net income of \$5.8 million, or 33 cents a share, on revenue of \$35.5 million.

The fourth-quarter loss brought Daisy's deficit for the year to \$1.1 million on revenue of \$107.1 million. In the 1985 fiscal year, Daisy had a net income of \$21.1 million, or \$1.22 a share, on sales of \$122.5 million.

The latest quarter's loss might have been greater if not for the new FASB 86 accounting standard, which requires companies to capitalize certain software development costs, Daisy said.

Daisy corporate marketing director Robert Moore attributed the results to the weak capital spending environment and to changes in the buying patterns of potential Daisy customers.

"The purchase decisions in this industry have gone up a couple of levels of the hierarchy," Moore said. Traditionally, Daisy sold mostly to engineers who pioneered the computer-aided-engineering industry. Now, Daisy is having to sell to systems designers.

Daisy's transition to the Unix operating system has caused product delays, Moore said. In addition, the company's change to a multiuser, multitasking environment caused the cost of sales to jump temporarily between fiscal 1985 and 1986, he said.

Moore noted, "We have seen very little defection from our key customers. They have delayed purchase plans, but we haven't lost the accounts."

Europe was one of Daisy's bright spots this year, and CAE demand is still increasing in that region, Moore said. Approximately 50 percent of Daisy's sales come from foreign markets.

Moore said he expects moderate domestic-market growth in 1987, partly due to Daisy's plans to bring out a lower-priced 80386-based workstation, and partly to anticipation of improvements in capital spending.

### QUARTERLY EARNINGS SCORECARD

Company	Net Income July - Sept. '86 (in 000s)	Change From 1985	Revenue July - Sept. '86 (in 000s)	Change
Chips and Technology	\$2,262	N/A	\$13,426	N/A
Computer Sciences	\$7,168	+45.4%	\$249,400	+19.1%
Computer Task Group	\$1,160	+5.8%	\$36,500	+23.3%
Esprit*	\$51	N/A	\$4,943	+10%
Lee Data	\$1,411	+40.6%	\$28,237	+24.5%
Ramtek	(\$448)	N/A	\$8,029	-5%
Rexon	\$650	+40.6%	\$13,090	Flat
Timeplex	\$7,602	+149%	\$33,342	+14.9%

\*Parentheses indicate Loss  
\*Quarter ended August 31



# Pyramid Technology Reports Year-End Loss Of \$1.7M

By Ann Lowe  
MOUNTAIN VIEW, CALIF. — Pyramid Technology Corp. last week reported a loss of \$1.7 million, or 22 cents a share, for fiscal 1986 on a 29 percent increase in revenue.

For the year ended Sept. 30, Pyramid's revenue rose to \$43.6 million, up from \$33.9 million a year ago.

The company earned nearly \$3 million, or 50 cents a share, in fiscal 1985. However, about

\$1.3 million of that income resulted from a tax credit.

Fourth-quarter 1986 revenue was \$11 million, just 6 percent above the \$10.4 million Pyramid took in last year. As a result of that smaller-than-expected sales gain, Pyramid lost \$1.8 million, or 24 cents a share, in the quarter, pushing it into the red for the year.

The company blamed this year's losses partly on sluggish U.S. demand for comput-

er products and partly on its overly optimistic estimate of 1986 sales.

"We were expecting more like a 50 percent growth rate and got more like 30 percent," said Pyramid president E. David Crockett.

Crockett said fourth-quarter results might have been better if some prospective customers had signed deals in time. But even counting these "delayed decisions," he said,

Pyramid's sales would not have met expectations.

Pyramid officials knew in March they would not meet their sales goal, Crockett said. But by then it was too late to stop the impending loss, because the company had already expanded its production capacity and built up its inventory.

Pyramid has adjusted to the slower-than-expected growth by reducing inventory levels and cutting back staff by

12 percent through layoffs and attrition.

"It takes a couple of quarters to work through the process," Crockett said. "Then, you have a clean slate."

Pyramid made no cuts in its product development operations, and the company should introduce some new high-end systems by mid-November, Crockett said.

John Dean, an analyst with Montgomery Securities in San Francisco, said that if Pyramid is conservative, its earnings should pick up to "a penny or two in the first quarter and 25 cents in the [current fiscal] year."

Dean said he expects Pyramid's revenue to grow 20 to 25 percent in fiscal 1987.

## Compaq Profit Rises By 39%

(Continued from Page 94)  
the future."

The company also pointed out that sales of its high-end 80286-based systems remain strong. "According to Store-board figures, Compaq sells more 80286-based personal computers through the dealer channel than all other non-IBM manufacturers combined," said president and chief executive Rod Canion in a prepared statement.

Compaq's gross profit margin remained a relatively strong 43 percent in the quarter, despite price reductions on Deskpro 286 models.

According to analysts, Compaq can make up for selling fewer low-end units by selling new products with better profit margins, such as the Deskpro 386.

## Tandem Gains In Qtr., Year

(Continued from Page 94)

"Throughout the year, our international business has been very strong. Our U.S. business grew as well, although the domestic environment remains relatively weak."

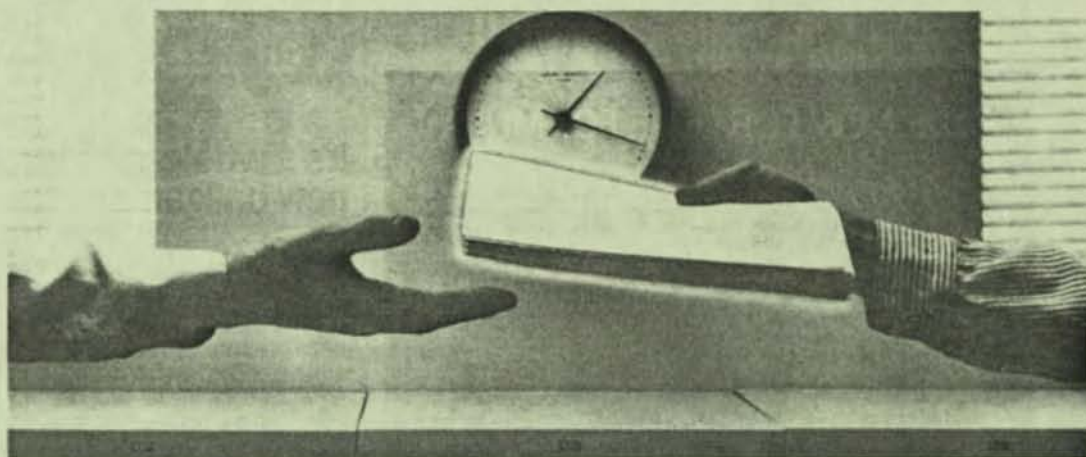
Tandem's European sales increased 45 percent from fiscal 1985 to fiscal 1986, a spokeswoman said.

Tandem attributed its revenue growth to aggressive product development and sales efforts.

"We have a number of new products that have been very well accepted by our customers," the spokeswoman said, citing the NonStop VLX system and the low-end EXT/10 and EXT/25 systems.

Besides strong sales, higher earnings resulted from a number of internal steps to increase productivity and control costs, the spokeswoman said.

"There was nothing drastic that we did," the Tandem spokeswoman said. "We [just] have been very careful to hold our expenses in line with our revenue."



## 2400 bps modems: Do you Really need another speed?

● Is the shift from 300 to 1200 bps going to repeat itself at 2400 bps? The answer is both yes and no. There certainly are applications for 2400 bps asynch dial-up modems, but we shouldn't expect 1200 bps to die overnight.

● 2400 bps modems can improve throughput, thereby getting tasks done quicker and more economically. However, 1200 bps has become the virtual standard for professional dial-up communications, and most users are satisfied with it. So why consider a 2400 bps modem at all?

● One reason is flexibility. If the modem you select operates at all three speeds (300, 1200 & 2400) in accordance with accepted industry standards, it will serve virtually all dial-up applications now and in the foreseeable future.

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## LEVEL 1 - 1 OF 3 STORIES

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November 24, 1986

CORPORATE  
INFORMATION CENTER

SECTION: COMMUNICATIONS; Pg. 29

LENGTH: 585 words

HEADLINE: Tandem gives PCs local ride;  
Multilan ties processors through IBM's Netbios

BYLINE: By Stanley Gibson

DATELINE: CUPERTINO, Calif.

BODY:

Tandem Computers, Inc. last week announced Multilan hardware and software that allows IBM Personal Computers on a local-area network (LAN) to access Tandem fault-tolerant on-line transaction processing systems.

"This is not another LAN, but a way to integrate PCs with Tandem systems through a variety of LANs," said Dennis McEvoy, Tandem vice-president of software. McEvoy claimed a Tandem computer used as a file server in the system is the first fault-tolerant distributed file server in the industry.

Multilan provides products that connect Tandem systems to IBM's Token-Ring Network, IBM's PC Network, Ungermann-Bass, Inc.'s Net/One, Sytek, Inc.'s System 6000 and other LANs that are based on the IBM Netbios software interface, according to McEvoy. PC users can gain access to Tandem files using IBM PC-DOS and Microsoft Corp. MS-DOS commands, he added.

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Tandem also introduced Wordlink software, which uses IBM's Document Content Architecture (DCA) to provide document exchange between incompatible word processing systems. Incorporating document translation software licensed from Soft-Switch, Inc., Wordlink can operate both in batch and interactive modes. As a document formatting protocol developed by IBM, DCA is supported by a growing number of vendors as a common interim format for translation between incompatible word processing systems.

In a typical application, Wordlink can enable Wang Laboratories, Inc. VS 100 or Office Information System workstations to send revisable form documents to an IBM Displaywriter or IBM PC via a Tandem system, according to the vendor. Omri Serlin, president of Itom International Co. in Los Altos, Calif., said the new products will enable customers to get added use from their equipment. "The demand is from customers who already use a Tandem mainframe but also have a lot of PCs," Serlin said.

Although the new products will be sold principally to present customers, Serlin said additional sales could come in the departmental computing market,

**LEXIS NEXIS LEXIS NEXIS**



© 1986 Computerworld, November 24, 1986

especially where the data integrity offered by fault-tolerant Tandem computers is important.

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Multilan software consists of file and printer server software that runs on Tandem systems. The package is available for a \$6,400 initial license fee and a \$300 monthly charge for Tandem Nonstop VLX, TXP and II systems; a \$3,200 initial license fee with a \$150 monthly charge for Nonstop EXT25s; and no initial license fee and a \$75 monthly charge for Nonstop EXT10s.

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Multilan and Wordlink products will be available in March 1987.

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## Tandem Adds Product To Hook Systems With PC LANs

CUPERTINO, CALIF. — Tandem Computers Inc. last week brought out a system designed to tie Tandem NonStop computers to a wide range of personal computer networks.

The Multilan series allows Tandem mainframe users to connect to any PC-based local-area network that supports the IBM Network Basic Input/Output System (NetBIOS) protocols, Tandem said.

"This is not another LAN,

but rather a way to integrate PCs with Tandem systems through a variety of LANs," said Dennis L. McEvoy, Tandem software vice-president.

"Tandem users who perform local processing on different local-area networks, who want to access corporate databases or to develop shared or cooperative processing applications... can benefit from the integration of LANs and OLTP [on-line-transaction-processing]

systems," McEvoy said.

Such integration could be useful in a variety of industries—such as finance, telecommunications and utilities—in which a PC network might need access to the organization's database, a Tandem spokeswoman said.

Multilan products can be connected to most commercially available LANs, including IBM's Token Ring and PC Network, Ungermann-

Bass Inc.'s NetOne, Sytek Inc.'s System 6000 and other networks that use the NetBIOS interface, Tandem said.

The products work with all Tandem NonStop systems except the NonStop I, the company said.

Multilan hardware comprises a dual-port LAN controller that sits within the Tandem computer, an attachment device that hooks into the user's LAN and a 10-Mbps

link from the controller to the attachment device.

The accompanying software includes file- and print-server programs; a Tandem 6530 terminal-emulation package; and a NetBIOS application interface that permits shared or cooperative processing between the Tandem host and the PCs.

Multilan products are scheduled to be available in the first quarter of 1987. Tandem will market them to existing customers who want to tie their NonStop systems to PC networks and to PC network users who want to add on-line transaction processing capabilities by accessing a Tandem host.

Prices are: \$4000 for the dual-port controller; \$4000 for the attachment device; \$6400 initial license fee plus \$300 a month for the NonStop VLX, NonStop TXP and NonStop II software; \$3200 initially and \$150 a month for the NonStop EXT25 software; and \$75 monthly license fee with no initial payment for the NonStop EXT10 software.

Separately, Tandem is bringing out a set of software products that allow normally incompatible word processors to exchange documents when linked to a Tandem NonStop system.

Wordlink uses document-translation technology licensed from Soft-Switch Inc. with Tandem's Transfer information delivery software and PS Mail electronic mail products.

The products reportedly support IBM's Document Content Architecture technology.

Wordlink was developed for large companies that bought different types of word processors for separate departments but now want to transfer documents among the departments, the spokeswoman said.

The NonStop system provides fault-tolerant distributed processing and extra storage capabilities to the word processors, Tandem said.

The basic Wordlink set includes a batch gateway for connecting the word processors using IBM 2780/3780 communications; a Tandem PS Text Format translator; and an ASCII translator that creates final form images.

One or more of the additional packages—Wordlink-Wang, Wordlink-DCA and Wordlink-Multimate—must be run with the basic software to link incompatible word processors, the spokeswoman said. For example, Wordlink-Wang and Wordlink-DCA would be required for exchanges between Wang and IBM word processors, the spokeswoman said.

Wordlink is slated for availability in the first quarter of 1987. Prices will be: \$4000 initial license fee plus \$150 a month for the NonStop VLX, NonStop TXP and NonStop II, and \$2000 initial fee plus \$75 a month for NonStop EXT, EXT10 and EXT25 systems.

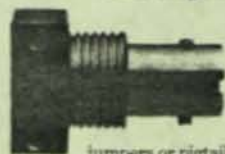
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## Pyramid's Crockett Leaving As Conflict Mi

MOUNTAIN VIEW, CALIF. — Pyramid Technology Corp. president and chief executive E. David Crockett is leaving his post this week, citing "irreconcilable differences" with Pyramid's board of directors.

Pyramid's directors immediately tapped Richard H. Lussier, president and chief executive of Verticom Inc., Sunnyvale, Calif., to take Crockett's place.

Lussier will take over this

Wednesday as president and chief executive at Pyramid. He also will become chairman, assuming a position currently held by company founder Edward Dolinar. Dolinar will remain on Pyramid's board of directors.

Crockett, 50, who resigned as president of Dataquest Inc. a year ago to head Pyramid, is leaving amid mushrooming conflict over the company's financial condition, a spokesman said.

"I think it just boiled down to dollars and expenses," the spokesman said. "The board wanted quicker profitability, and they were not satisfied with the progress toward profitability."

Pyramid reported a loss of \$1.7 million, or 22 cents a share, for fiscal 1986 ended Sept. 30 despite a 29 percent revenue increase for the year.

When the results were announced, Crockett said Pyra-

mid lost money because officials had overestimated sales and had ramped up production too far (CSN, Nov. 3). At the time, he said the company has been working to cut inventory and slash expenses, though he did not predict an immediate recovery.

Company officials aren't saying who was responsible for the overexpansion. Neither Crockett nor the board would comment last week on

the resignation.

The board and Crockett had been "talking about priorities" in the last few months, the spokesman said.

The spokesman said Lussier "doesn't come in cold" to the position, because he has friends on the Pyramid board.

Although Lussier did not want to comment last week on his plans for the company, the spokesman said he is expected to bring a "more aggressive" marketing approach.

## Tandem Forms Joint Venture

CUPERTINO, CALIF. — Tandem Computers Inc. and a Dutch software company have formed a new company to provide project management services to Tandem users in the Netherlands.

The company, called Twinac, will oversee large Tandem installations in Holland and recommend appropriate hardware and software solutions for various on-line-transaction-processing functions.

Tandem's partner in the venture is Volmac Software Group, which Tandem describes as the Netherlands' leading software house with expertise in project management and on-line-transaction-processing software.

Dealing with installations worth \$1 million or more, Twinac will serve both new Tandem customers and present users that require new applications, said Gerald D. Held, Tandem vice-president of new ventures. In most cases, Twinac will recommend software made for Tandem systems by third-party developers, but also will develop custom software according to user needs, Held said.

The company will be run independently from Tandem's Dutch subsidiary, Tandem Computers B.V., which is in charge of marketing and product support for Tandem hardware, Held said.

Managers from both the Tandem subsidiary and Volmac have been chosen to head the company, and both will have representatives on the board of directors.

The venture is one of a series of "strategic investments" by Tandem, Held said. The company last year formed a custom-software business with Computer Engineering and Consulting Ltd. of Japan. Held said he expects Tandem to set up a half-dozen similar ventures over the next year or two.

Held did not comment on the revenue the foreign ventures are expected to generate for Tandem, though he said the year-old Japanese business is meeting Tandem's projections.

"All of our new ventures at Tandem are geared at complementing our basic business."

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# COMMUNICATIONS

CORPORATE  
INFORMATION CENTER

## Tandem gives PCs local ride

### Multilan ties processors through IBM's Netbios

By Stanley Gibson

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See **TANDEM** page 30

### INSIDE

Communication Machinery introduces an ISO compiler/30

Ungermann-Bass bridges Ethernet, Token-Ring/32

### NEW THIS WEEK

■ Sytek introduces a high-band version of its System 2000 broadband LAN

■ For more on this and other new products, see pp. 69-76.

### INSTANT ANALYSIS

"The buyer would like to say to IBM or Digital Equipment Corp., 'CIM me,' but there are no generic computer-integrated manufacturing solutions. Users are looking for things we can't offer yet."

— John Clancy, president, McDonnell Douglas Manufacturing Industry Systems Co.

## Micros get Bridge over Token-Ring

### Terminal emulation, file transfer access hosts

By Elisabeth Horwitt

SAN FRANCISCO — Bridge Communications, Inc. unveiled terminal emulation and file transfer software that enables IBM Personal Computer users to access multiple hosts across an IBM Token-Ring network. The introduction was made at the Localnet '86 conference held here last week.

IBM PCs running Tokenterm software can emulate virtually any terminal, accessing a variety of asynchronous hosts via Bridge's CS/1-TR Token-Ring Communications Server, according to the Mountain View, Calif.-based firm.

"We're finding a very high level of interest in the IBM Token-Ring at the PC level, especially since IBM products for connecting the rest of its systems into the Token-Ring are six to 18 months away," said Bridge President William Carrico.

The announcement is part of an important trend toward "high-speed, virtual environments in which the PC can access multiple host systems as one," said David Terrie, president of Boston-based Newport Consulting. "By 1989, terminal-to-host revenue will have flattened out, and the real game will be local-area networks providing high bandwidth PC-to-host connectivity."

Tokenterm features a built-in emulator for Digital Equipment Corp. VT100 and VT52 terminals. A program interface sup-

See **BRIDGE** page 33

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emerging standard that provides hooks for various communications applications, such as file transfer and electronic mail.

Communication Machinery's new ASN.1 compiler codes and decodes data packets directly from C-language structures, enabling OSI applications programmers to "sidestep the laborious task of manually encoding the protocol data units in a very complex language syntax, Abstract Syntax Notation One (ASN.1)," according to Communication Machinery. "It allows [OSI] programmers to spend most of their time in C," said product marketing manager Jim Soriano.

According to Communication Machinery, the ASN.1 compiler is intended largely as an implementation for programmers developing systems to work in Manufacturing Automation Protocol (MAP) and Technical Office Protocol (TOP) environments. ASN.1 will target large customers, OEMs and systems integrators that are developing software applications under either MAP or TOP.

aries that work with various C compilers, and it provides source and object code for rapid updating, Soriano said. It was designed to be used with Communication Machinery's kernel protocols of File Transfer and Management and Common Application Services Elements. File Transfer and Management outlines specifications for file transfer, and Common Application Services Elements outlines specifications for program-to-program communications within the OSI protocol set.

The advanced ASN.1 compiler will be available as part of Communication Machinery's new OSI upper layer protocol package, which is priced at \$19,750 plus per-copy royalties for resales.

Current customers of Communication Machinery's File Transfer and Management and Common Application Systems Elements kernel software will receive the new compiler at no charge. File Transfer and Management 1.0 costs \$15,000, and Common Application Systems Elements costs \$5,750 plus royalties.

## Tandem gives PCs local ride

From page 29

tional Co. in Los Altos, Calif., said the new products will enable customers to get added use from their equipment. "The demand is from customers who already use a Tandem mainframe but also have a lot of PCs," Serlin said.

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Multilan and Wordlink products will be available in March 1987.

IBM is a registered trademark of International Business Machines Corporation.



LEVEL 1 - 1 OF 1 STORY

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November 21, 1986, Friday

SECTION: APPOINTMENTS; No. 11,132; Pg. 7

LENGTH: 18 words

HEADLINE: Tandem

BODY:

Robert F. Hoogstraten and Gerald D. Held have been promoted to Corporate VPs  
at Tandem Computers Inc.

**LEXIS NEXIS LEXIS NEXIS**



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November 19, 1986, Wednesday

SECTION: TECHNOLOGY TODAY; Technology Topics; Pg. 15

LENGTH: 109 words

CORPORATE  
INFORMATION CENTER

HEADLINE: FIRST NATIONWIDE ATMS

BYLINE: David O. Tyson

BODY:

First Nationwide Bank, the San Francisco-based federal savings bank wholly owned by Ford Motor Co., will use a Tandem Computers Inc. system for its automated teller machines.

Tandem announced this week that First Nationwide will use its new NonStop VLX transaction-processing mainframe and the Connex software of A.O. Smith Data Systems Inc., Brown Deer, Wis., to operate a proprietary ATM network.

The new system also will enable the more than 300,000 First Nationwide cardholders to access other ATM networks. Among these are the California-based Star System, New York-based NYCE, Honor and Publix based in Florida, and Instanet in Ohio.

**LEXIS NEXIS LEXIS NEXIS**



# Symbolics Selects President

CONCORD, Mass. —Symbolics Inc., at its annual meeting last week, named Brian E. Sear to the posts of president and chief operating officer. Sear was founder, president and general manager of Genrad Semiconductor Test Inc.

Last month, Symbolics reported an \$18.8 million operating loss, its first quarterly loss since it went public more than three years ago and one which is causing the company to retrench and look back to its beginnings.

Symbolics has been seen as a leader in symbolic processing, but its specialized systems, first introduced in 1981, have been fac-

ing both diminished enchantment by companies in developing artificial intelligence applications.

Russell Noftsker, founder and chairman of Symbolics, said he

## ARTIFICIAL INTELLIGENCE

first approached Sear more than 18 months ago about the position, "but he just couldn't leave Genrad at the time."

Without identifying anyone, he added, "We even had a few suitable candidates for the position as president in here and tried them out on a consulting basis,"

but the position finally went to Sear last week after he had worked with Symbolics management over the past six months, implementing a cost-reduction plan.

"I am delighted to delegate operational responsibilities to Brian Sear so that I can concentrate full time on the direction of the company and the development and maintenance of relationships with our customers and investors," Noftsker said in a prepared statement.

Jeffrey Canin, Hambrecht & Quist Inc. researcher, said Symbolics has been the victim of the general confusion existing in the AI marketplace and "in part suffers from management's overly optimistic assessment of its competitive position."

Canin said the disenchantment with artificial intelligence "stems from the payback associated with the use of AI techniques, which, in most cases, has fallen far short of vendor promises, with relatively little usable software yet emerging from hundreds of funded research projects."

He also credited customer confusion to "the claims of larger mainstream vendors, notably International Business Machines Corp. and Digital Equipment Corp. that will, over time, incorporate AI functionality into their general-purpose hardware and software offerings."

The 48-year-old Sear left Genrad in October 1985 and has been serving as a consultant to several venture capital firms, as well as working with Symbolics on the company's cost-reduction plan.

## Allia

LITTLETON Computer Systems Inc. announced in May that it has received a certificate of incorporation and Exchange Act public with the shares.

Morgan Stanley Hambrecht & Quist Inc. and International syndicate underwrite 300,000 shares of the company's common stock.

A spokesman for the company said the stock is expected to be sold in an initial offering of \$13.50 and \$15.00 per share. In October

## Firm Pact

WEST CHES computer maker reached an agreement with its banks to renege credit facilities totaling \$140 million.

Michael B. Sear, president and chief executive officer of the company, said the company's credit facilities were "not satisfactory" and the company's return on assets demonstrated "a negative posture has been improved, providing the company a basis."

# Tandem Net Soars 94%

CUPERTINO, Calif. —Tandem Computers Inc. reported a 94 percent jump in earnings for its fourth fiscal 1986 quarter ended Sept. 30.

Net income for the quarter was \$21.6 million, or 47 cents per share, on revenues of \$220.6 million, compared with \$11.1 million, or 27 cents per share, on revenues of \$173.8 million in the comparable quarter last year.

Earnings for all of fiscal 1986 were \$63.8 million, or \$1.44 per share, on revenues of \$767.8 million. This compared with \$34.4 million, or 82 cents per share, on revenues of \$624.1 million in fiscal 1985.

James G. Treybig, president and chief executive officer, said, "Our revenue growth rate accelerated, compared with last

year, and we delivered significantly higher earnings per share for our stockholders. These results are gratifying in an economic environment that has proved to be difficult for many in our industry."

He pointed out that "throughout the year, our international business has been very strong. Our U.S. business grew as well, although the domestic environment remains relatively weak."

Treybig said he believes "Tandem has become much stronger as a company" and "our VLSI-based NonStop VLX system was a very significant factor in our fourth quarter results."

"We are optimistic that fiscal 1987 will continue the positive trends begun this year," he added.

## CORPORATE INFORMATION CENTER

Management Information Systems Week 11-17-86

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Q 1. End-user community (only): How are you involved with the following: (check as many as apply)

	Planning	Purchasing	Hardware	Software
1 Data Processing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2 Word Processing/Office Equipment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3 Communications/Products and Systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4 Reprographics (Duplicating/Xerography/Printing Equipment)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5 Microform (Microfilm, Microfiche)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6 Facsimile Systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q 2. Communications industry (only): Which category best describes your company?

1. Bell Operating Company (BOC)
2. Manufacturer of Communications Products
3. Distributor
4. Common Carrier
5. Interconnect Company
6. Independent Telephone Company
7. Research and Development Facility
8. Consulting Firm

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## LEVEL 1 - 2 OF 4 STORIES

Copyright © 1986 Business Wire Inc.;  
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November 12, 1986, Wednesday

DISTRIBUTION: Business Editors

LENGTH: 248 words

HEADLINE: TANDEM-1; (TNDM) Tandem Computers promotes Hoogstraten, Held to vice president posts

DATELINE: CUPERTINO, Calif.

BODY:

Tandem Computers Inc. (OTC:TNDM) Wednesday announced the promotion of Robert F. Hoogstraten and Gerald D. Held to corporate vice president posts.

Hoogstraten, 42, was elected corporate vice president and managing director of Tandem Computers Europe, a position formerly held by Jack W. Chapman, who last month was promoted to vice president of international sales.

Hoogstraten is responsible for sales and marketing operations for Europe and the Middle East, reporting to Chapman.

Hoogstraten, a five-year Tandem employee, previously served the company as regional director of northern Europe and managing director for Tandem Computers Holland.

Held, 38, was elected corporate vice president of new ventures, a new position. He was formerly director of new ventures. Held continues to be responsible for the company's strategic business investments. He reports to Donald E. Fowler, vice president of strategy and corporate planning.

Held, an 11-year employee, has previously held management positions for Tandem in software development and served as the company's director of strategic planning prior to assuming his duties in new ventures.

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

CONTACT: Tandem Computers Inc., Cupertino  
Pat Becker, 408/725-6035



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November 12, 1986, Wednesday

SECTION: TECHNOLOGY TODAY; Technology Topics

LENGTH: 57 words

HEADLINE: ACI/TANDEM LICENSEE

BYLINE: Jeffrey Kutler, Michael Weinstein and David O. Tyson

BODY:

The \$295 million-deposit American National Bank of Florida, Jacksonville, has licensed a Base24-ATM system from Applied Communications Inc., Omaha.

The system will run on a fault-tolerant Tandem EXT computer in the bank's data processing center, Advanced Resource Systems, to drive its manned and automated teller machine network.



## LEVEL 1 - 3 OF 4 STORIES

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November 12, 1986, Wednesday

DISTRIBUTION: Business Editors

LENGTH: 497 words

HEADLINE: TANDEM-2; (TNDM) Tandem announces joint venture with Volmac Group of the Netherlands

DATELINE: CUPERTINO, Calif.

BODY:

Tandem Computers Inc. (OTC:TNDM) Wednesday announced it has signed a joint venture agreement with Volmac Group, Utrecht, the Netherlands, to form a new company.

The new firm, Twinac, will provide project management and contract consulting services to Tandem customers for large on-line application projects.

As a part of the agreement, Twinac will assist Tandem Alliance members in the distribution and support of their software packages for a wide range of applications in the on-line transaction processing market including financial, production, transportation and travel systems in the Netherlands.

In addition, Twinac will develop, market and support customized on-line application software when required by Tandem users in the Netherlands.

Gerald D. Held, Tandem vice president of new ventures, commented on the company's continuing efforts to strengthen its position internationally, "Volmac's experience in project management and its proven ability to develop sophisticated on-line software systems is the reason we chose to establish this relationship.

"We are pleased to announce this joint venture with Volmac as part of a worldwide strategic investment program."

J. van de Kuiji, general manager, Volmac, said, "We established the joint venture with Tandem to help meet the growing demand for on-line transactions processing systems in the Netherlands.

"The Tandem system architecture provides for continuous availability and ease of expansion. We are pleased to be associated with Tandem and look forward to our mutual success."

A similar agreement was made by Tandem in December 1985 with Computer Engineering & Consulting Ltd. of Japan. The software company, Vartecs Inc., supplies custom application software systems in the Japanese marketplace.

Twinac will be located in Vianen, the Netherlands. Its address is Havenweg 24a, phone 03473 - 77383/77366.

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Volmac Software Group headquartered in Utrecht, the Netherlands, is a leading software company with more than 2,000 employees. Its address is Catharijnesingel 33, 3511 Gc Utrecht. Phone is 030 - 324911.

The Tandem Alliance is a program which encourages application designers to develop software solutions for Tandem users. Since the Alliance program was inaugurated in August 1983, the number of companies qualified to design applications for Tandem users has grown from 35 to over 220.

Tandem Computers Inc. manufactures and markets computer systems and networks for the on-line transaction processing market. It is headquartered at 19333 Vallco Parkway, Cupertino 95014, telephone 408/725-6000.

Tandem and NonStop are trademarks of Tandem Computers Inc.

CONTACT: Tandem Computers Inc., Cupertino  
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or  
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November 10, 1986

SECTION: SUPERMICROS; Pg. 33

CORPORATE  
INFORMATION CENTER

LENGTH: 230 words

HEADLINE: Tandem to Ship New Members Of 6AX Workstation Family

BYLINE: By Tom Moran

DATELINE: CUPERTINO, CA

BODY:

Tandem Computers Inc. announced it will ship three new members of its 6AX family of PC AT-compatible workstations this month. The company said the 6AX/30, 6AX/1, and 6AX/2 are intended for use as stand-alone computers or in conjunction with Tandem's Nonstop transaction processing systems.

The 6AX/30 includes one 1.2-megabyte floppy disk drive and a 30-megabyte Winchester disk drive. The 6AX/1 offers a 1.2-megabyte floppy disk drive. The 6AX/2 incorporates two 1.2-megabyte floppy disk drives. All 6AX workstations come standard with 512K of RAM, a floppy/hard disk controller, a keyboard, GW-Basic, MS-DOS, and PC6530/IXF terminal-emulation and file-transfer software.

The 6AX/30 lists for \$ 3,395, the 6AX/1 for \$ 2,395, and the 6AX/2 for \$ 2,595. Quantity discounts are available, the company said.

The new 6AX machines join existing Tandem 6AX/20 and 6AX/40 workstations, which the company said offer 20 megabytes and 40 megabytes of hard disk storage, respectively.

Tandem also announced that it was cutting prices on the two existing machines, to \$ 2,995 from \$ 3,995 list price for the 6AX/20 and to \$ 3,895 from \$ 4,495 for the 6AX/40.

"Users are demanding a complete workstation line from diskless [workstations] to 80 megabytes of storage capacity," according to Barry Young, general manager and vice president of Tandem Computers; Austin Division.

GRAPHIC: Picture, Tandem says its 6AX/30 workstation can operate as a stand-alone workstation or as a fully integrated system terminal.

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InfoWorld

November 10, 1986

SECTION: COMMUNICATIONS; News Briefs; Pg. 28

LENGTH: 112 words

HEADLINE: Phoenix Releases Server For Use With Bridge Nets

BODY:

Phoenix Technologies introduced a fault-tolerant communications server for use with Bridge Communications networks.

A modified version of Bridge Communications' CS/1 server, the PCS/1 adds support for "dual-datalink," or two-cable, communications. By supporting two cables simultaneously the PCS/1 offers redundancy in case of transmission problems, the company said.

A 32-user version of the product costs \$ 17,950. The PCS/1 is the first product from the new company, which was formed last year by engineers from network companies Ungermann-Bass Inc. and Sytek Corp.

Phoenix Technologies Inc., 2803 Bunker Hill Drive, Santa Clara, CA 95054; (408) 988-1713.

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# Tandem Inks Pacts With 2 On-Line Applications VARs

CUPERTINO, CALIF. — Tandem Computers Inc. said it has signed joint marketing agreements with two VARs specializing in on-line applications.

Through an agreement with Thomas-Lugaban and Associates Inc., Brookfield, Wis., Tandem will market T-L's new InterAct factory automation software.

The package can be customized to meet specific user needs and is focused on manufacturing enterprises with significant transaction volumes, multi-plant operations, CAD/CAM involvement, and factory automation develop-

ment activity.

InterAct is designed to operate on the Tandem NonStop II, NonStop TXP, NonStop EXT10 and EXT25, as well as the NonStop VLX transaction processing mainframe.

Pricing was not disclosed.

## Trucking, Hotel Markets

Tandem and Information Solutions Inc., Englewood, Colo., will jointly market on-line solutions for the trucking and hotel markets.

Systems offered by Information So-

lutions are Less-Than-Truckload and Advanced Hospitality.

Less-Than-Truckload is a comprehensive, fully integrated, relational database system that includes modules for freight billing, creating manifests, scheduling and tracking local pickups and deliveries, and performing productivity analyses.

The release also has modules for accounts receivable and accounts payable, payroll, general ledger and financial reporting.

It tracks freight overages and short-

ages and maintains records of freight damaged in transit.

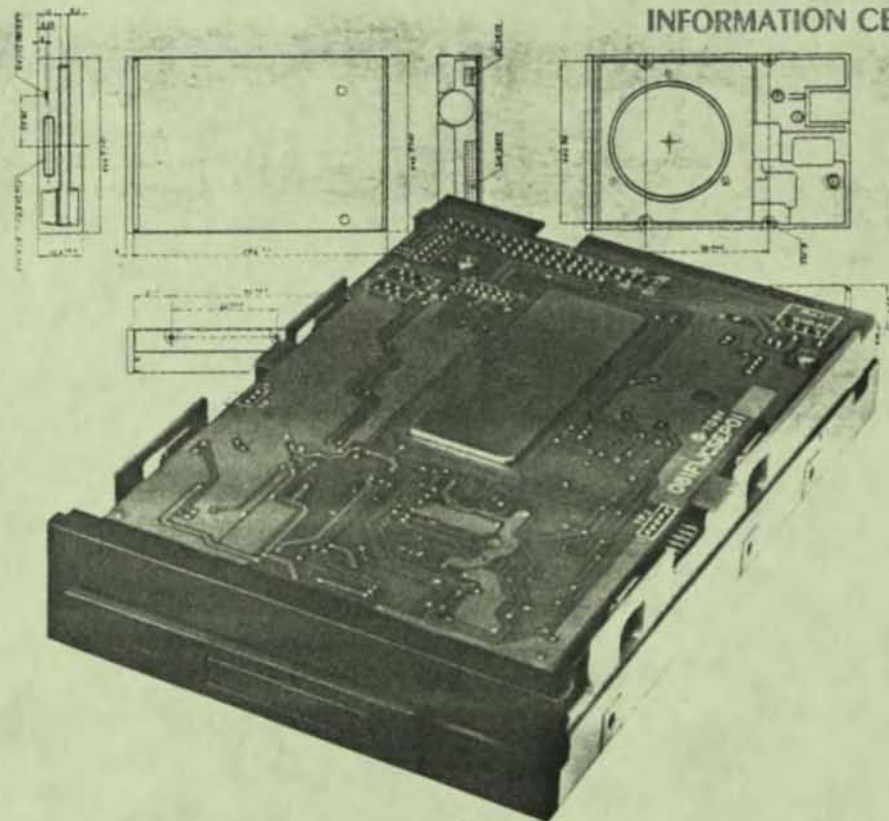
Features include recording interline settlements, customer routing, break bulk, and equipment and tire maintenance.

Advanced Hospitality is a lodging package for larger properties.

Pricing was not disclosed. Under the agreements, Thomas-Lugaban and Information Solutions will market their systems directly to NonStop system users under the sponsorship of Tandem's Alliance program.

## CHINON: As serious about technology as you are.

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Chinon floppy disk drives are renowned in Japan for outstanding technical excellence and an extremely high level of overall quality. That kind of reputation doesn't come easy in a land where OEM's have some of the toughest standards in the world.

This same reputation is growing in the U.S. among serious designers, engineers and OEM management. We know how concerned you are about technological superiority, reliability and cost-effectiveness. We're just as serious. That's why we have an ongoing commitment at Chinon always

to produce technically advanced, reliable products. And we deliver on that commitment every time.

You're serious about your systems. Finally there's a disk drive manufacturer that's as serious as you are.

## CHINON The drive to succeed.

Chinon America, Inc., 6374 Arizona Circle,  
Los Angeles, CA 90045. (213) 216-7611 FAX: (213) 216-7646  
PICTURED IS CHINON F-354L 5V ONE-INCH 1MB SLIM-LINE MODEL.

## Pro VAR Adds S/36 Packages

LAGUNA HILLS, CALIF. — Pro Computer Sciences Inc. said that Application Systems Corp., a Pro Computer VAR, will offer a series of its Pro-IV-based applications for the IBM System/36.

Pro-IV is a 4GL database package for VARs and professional application developers.

Its portability allows a VAR to offer a Pro IV application on a wide range of systems in addition to the one on which it was developed.

Pro-IV runs on numerous minicomputers and microcomputers from Digital Equipment Corp., Honeywell Inc., Prime Computer Inc., AT&T, Stratus Computer Inc., NCR Corp., Wang Laboratories Inc., Altos Computer Inc., and Zilog Inc.

There are versions of Pro-IV for mainframes and for IBM Personal Computer/XT, Personal Computer AT and compatible systems.

A portfolio of comprehensive application packages for the System/36 will be ready by the first quarter of next year, said Application Systems president Joel Nagelmann.

## Arete Enters 3-Year Pact

SAN JOSE, CALIF. — Arete Systems Inc. is entering a three-year, \$15 million to \$20 million value-added-reseller agreement with Teknekron Infoswitch Inc., Dallas.

Teknekron will buy Arete's Unix-based 1200 and 1600 multiuser systems for about \$100,000 each, add software and sell the systems for telemarketing applications.

Arete, which plans to formally announce the deal at Comdex, also will introduce an update of Aris, the Unix-based multiple-processor operating system for Arete's 900, 1200 and 1600 computer systems.

Called the Symmetrical Operating System, the new version offers more balanced throughput than the original Aris—reducing the cost per transaction per second from \$14,000 to \$7000, said marketing director Jim Bourgeois.

The new operating system will be priced from \$3700 to \$11,500 depending on the number of users, Bourgeois said.



LEVEL 1 - 1 OF 3 STORIES

Copyright © 1986 Business Wire Inc.;  
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November 10, 1986, Monday

DISTRIBUTION: Business Editors

LENGTH: 315 words

HEADLINE: TANDEM-COMPUTERS; (TNDM) Tandem Computers installed by West  
Telemarketing for on-line data collection

DATELINE: CUPERTINO, Calif.

BODY:

Tandem Computers Inc. (OTC:TNDM) Monday announced that West Telemarketing Corp., Omaha, Neb., has installed a Tandem NonStop system for on-line data collection.

West Telemarketing provides inbound telemarketing services to advertising agencies, product marketers, insurance and other companies that utilize 800 numbers for inquiry handling and sales. The company has more than 400 operator workstations capable of processing more than 300,000 calls per day.

A Tandem NonStop TXP system, valued at more than \$950,000, provides West Telemarketing's operators a continuously available on-line system to capture and format information specific to its client's needs.

Commenting on the reason the Tandem system was selected, Craig Gavin, president of West Telemarketing, said, "Our operators must be available to answer calls 24 hours a day, seven days a week, 365 days a year. We needed a continuously available on-line system that can handle high volumes and still offer quick response time.

"The Tandem NonStop system meets all of our requirements and offers excellent price performance. In addition, the Tandem NonStop system can be easily expanded as our requirements for additional resources increase," Gavin continued.

West Telemarketing is located at 9910 Maple St., Omaha, Neb. 68134 Phone is 800/221-9111.

Tandem Computers Inc. is a leading supplier of systems and networks for the on-line transaction processing market. It is headquartered at 19333 Vallco Parkway, Cupertino, Calif. 95014. Phone is 408/725-6000.

Tandem, NonStop and NonStop TXP are trademarks of Tandem Computers Inc.

CONTACT: Tandem Computers Inc., Cupertino  
Leslie Stull, 408/725-6237  
or  
West Telemarketing Corp., Omaha

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## LEVEL 1 - 2 OF 3 STORIES

Copyright © 1986 EW Communications, Inc.;  
Defense Electronics

November, 1986

SECTION: C<3> INTERCEPTS; Pg. 23

LENGTH: 129 words

HEADLINE: IBM to Develop Space-Borne Processor

BODY:

The Air Force's Rome Air Development Center awarded IBM Federal Systems Division a \$ 14 million, 34-month contract to develop a macrofunction signal processor (MFSP), a major component of a highspeed, fault-tolerant processing system that will be used in many military space applications. The MFSP will be one of several computing elements attached to processing nodes that will comprise the advanced on-board signal processor (AOSP). The IBM unit will use its experience in very high-speed integrated circuit (VHSIC) technology to construct a VHSIC version of the MFSP. The VHSIC design can be extended to a submicron feature size able to withstand a severe nuclear environment, allowing the MFSP to be used in AOSP applications in both manned and unmanned spacecraft.

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November 10, 1986

Tandem Computers, Inc. - Company Report  
DONALDSON, LUFKIN & JENRETTE, INC. - Rooney, T.T.  
08-25-86 (RN=611462)

CORPORATE  
INFORMATION CENTER

DJIA: 1887.80  
SPII: 275.24

TANDEM COMPUTERS, INC. (TNDM - 38)

Valuation Appears To Reflect Current Momentum

	Earnings Per Share			P/E Ratio		Dividend
52-Week Range	1985	1986E	1987E	1986E	1987E	
38-13	\$0.82	\$1.45	\$1.75	26.2	21.7	Nil

Shares outstanding: 45.0 million  
Market capitalization: \$1,710 million

Note: Fiscal year ends September 30.

Summary

\* TNDM's third-quarter (June) earnings of \$0.40 per share were about 20% better than we had estimated because of slightly higher volume and margins. Our fiscal 1986 (September) estimate is now \$1.45 per share, up from \$1.25-1.30, while our estimate for fiscal 1987 goes from \$1.45-1.50 to \$1.75.

\* Increased shipments of TNDM's high-end VLX, together with the new EXT 10 and EXT 20, leave the company with possibly the second hottest product offering in the industry, behind only DEC. We are most impressed with the EXT family because it corrects some previous shortcomings, while at the same time putting TNDM squarely in the market for distributed on-line transaction processing (OLTP).

\* With the shares selling at 2.0 times latest quarter annualized revenues, 3.3 times book value, and 20.0 times next year's earnings, we see little opportunity for them to outperform the market over the next year. Yet, a number of influences could hurt the company, not the least of which is increased competition from DEC, IBM (\*\*) and NCR. Our rating is hold.

Third-Quarter Results

Tandem reported third-quarter (June) earnings of \$0.40 per share compared with \$0.06 per share in 1985 and \$0.25 in the preceding quarter (March). Revenues increased 39.3% year over year and 14.0% sequentially, largely on the strength TNDM's new product cycle. Through the first nine months, earnings increased 73.2% to \$0.97 per share, on a 21.5% increase in revenues to \$547.2 million. The growing momentum in the company's business is reflected by the fact that year-over-year growth has gone from 6.5% in the first quarter to 20.3% in the second



quarter and 39.3% in the third quarter.

#### Comments

1. Demand was more broad based than in previous quarters, with U.S. orders up 28% year to year. The improvement in domestic demand complemented what remains a strong international trend, which is the result in part of the dollar.

2. Product revenue increased 36.3% in the third quarter as shipments of the VLX commenced. The company indicated that VLX shipments (about \$1 million each) represented between \$8 million and \$16 million. That offset some shortfall in EXT shipments, as customers apparently deferred purchase in anticipation of the new systems.

3. Service/Support increased 52.5% year over year in the third quarter and 23.8% sequentially. Included in that was an unusually high level of software consulting fees, which flow pretty much through the income statement because associated costs are expensed as incurred. Service/Support should be about flat in the fourth quarter.

4. The gross margin in the quarter was 69.6%, compared with 61.1% a year ago and 66.2% over the first half. Contributing to this quarterly improvement were: (1) the high-margin software consulting fees, and (2) a mix of higher-margin system sales, with VLX up and EXT down. That margin should fall to a more normalized 68.0-68.5% in the fourth quarter. TNDM's gross margin far exceeds others in the industry, owing to the substantial investments in silicon made over the early 1980s as well as the heightened focus on manufacturing efficiencies.

5. Operating expenses increased 24.8% in the third quarter and 23.9% over the nine months. R&D is generally within the corporate bandwidth of 11-12% and is up 26.3% year to date. The company has capitalized about \$2.5 million year to date under FASB 86. SG&A is up a slightly more modest 23.2% year to date and 25.1% in the quarter. Influencing SG&A in the quarter were a foreign exchange loss, expenses related to the VLX introduction, and costs associated with hiring 124 new people.

6. From a balance-sheet perspective, TNDM's strength continues to build. Accounts receivable increased 36.2% year over year, but remained unchanged in terms of days sales at 93 days. Inventory, however, declined by 28 days (59 to 31), a savings of better than \$60 million year over year, which is about the same as the increase in the cash account. Cash totaled \$177 million, or \$3.93 per share, at June 30, while stockholders' equity was \$495 million, or \$11.00 per share, an increase of 21.5%. In the quarter, TNDM realized nearly \$20 million from employee-option programs, a fact reflected in the 7.4% increase in average shares outstanding compared with last year.

#### EXT Enhancements

On August 4, TNDM introduced two new, low-end, nonstop systems -- the EXT 10 and EXT 20. Those systems replace the company's 18-month-old EXT, correct certain shortcomings of the original system,



and greatly broaden its product offerings. A key shortcoming of the original EXT was its lack of expandability; that has been corrected with the new systems. The EXT 10 has an entry level price of \$82,500 (TNDM's lowest yet), offers performance in the range of four to eight transactions per second (TPS), and supports up to 185 users. In addition, customers can upgrade an EXT 10 to an EXT 25 for \$205,000. Both systems ship late in August and are targeted at customer needs for distributed on-line transaction processing (OLTP) capability at the departmental, as well as, branch level. The fact the TNDM is down to \$82,500 is a major positive, and indications are that this will go yet lower with a future CMOS version. This downsizing is important for TNDM's 200 odd software houses, as well as its OEMs because it provides a better avenue to penetrate new accounts, at which point TNDM can take over and sell larger solutions.

#### Sales Reorganization Is Paying Dividends

Last October, TNDM reorganized its sales operation in order to improve efficiency by reducing unneeded layers of duplication. Although it is still too early to grade it an outright success, evidence pointing in this direction is building. Currently, TNDM's 546 quota-carrying salespeople are among the most productive in the industry, generating an estimated \$1.0 million a year each. We might also add that they are among the better compensated, something that is increasingly important because a bidding war of sorts is developing as vendors like DEC, Prime, and Data General all bid for a limited number of good salespeople. We believe that the nature of TNDM's business (particularly with the VLX), together with this generous compensation scheme (more similar to mainframe than minicomputer), will keep attrition down and allow for further gains in productivity looking out. If there is a current weakness from the reorganization, it is the fact that not all regions possess solid management of accounts receivable. As part of the reorganization, responsibility for accounts shifted from the divisional to the regional level (divisions were eliminated). That should build over time and result in a work down of DSO from its current level of 93.

#### Investment Conclusion

Selling at 20.0 times our fiscal 1987 estimate, 3.3 times book value, and 2.0 times latest-quarter annualized revenue, the shares of TNDM are not cheap. Furthermore, the shares are only modestly off their 52-week high and 180% above their low, hardly an undiscovered situation. Therefore, although we believe that current momentum in TNDM's business is sustainable, it appears fully reflected in the current valuation. Looking out, we think that the shares will be at best market performers over the next six to nine months and could possibly lag if certain competitive forces come to bear. Foremost among those forces would be aggressive product, as well as marketing, moves by the likes of DEC, IBM, and NCR. DEC is known to be readying a new VAX-cluster for OLTP, probably for introduction early in the fall. IBM and NCR already have some presence, and it is a question of how aggressively they want to go after further market share.

In sum, our rating on TNDM remains hold with most of the near to intermediate term opportunity for capital appreciation past.



Table 1  
Tandem Computers, Inc.  
Consolidated Statement of Income  
(Dollars in thousands, except per share)

	Third Quarter 6/30			Nine Months 6/30		
	1986	1985	% chg	1986	1985	% chg
Product Revenue	\$159,237	\$116,868	+36.3%	\$439,219	\$371,091	+18.4%
S/S	41,616	27,297	+52.5	108,022	79,216	+36.4
Total	200,853	144,165	+39.3	547,241	450,307	+21.5
CGS	\$61,030	\$56,116	+8.8%	\$177,899	\$175,850	+1.2%
Gross profit	139,823	88,049	+58.8	369,342	274,457	+34.6
R&D	22,299	18,027	+23.7	63,434	50,229	+26.3
SG&A	86,923	69,482	+25.1	235,994	191,476	+23.2
Total	109,222	87,509	+24.8	299,428	241,705	23.9
Operating profit	\$30,601	\$504		\$69,914	\$32,752	+113.5%
Other inc. (exp.)	2,054	1,298	+58.2%	6,089	4,759	+27.9
Pretax profit	32,655	1,838		76,003	37,511	+102.6
Taxes (credit)	14,531	(550)		33,821	14,254	+137.3
Net profit	18,124	2,388		42,182	23,257	+81.4
Earnings per share	\$0.40	\$0.46		\$0.97	\$0.56	+73.2%
Shares outstanding (000)	45,003	41,896	+7.4%	43,522	41,812	+4.1
% of Sales						
Gross profit	69.6%	61.1%		67.5%	60.9%	
R&D expense	11.1	12.5		11.6	11.2	
SG&A expense	43.3	48.2		43.1	42.5	
Operating expense	15.2	0.4		12.8	7.3	
Pretax profit	16.3	1.3		13.9	8.3	
Tax rate	44.5	(29.9)		44.5	38.0	
Net profit	9.0%	1.7%		7.7%	5.2%	

(\*\*) DONALDSON, LUFKIN & JENRETTE SECURITIES CORPORATION MAKES A MARKET IN THIS SECURITY, HAS PERIODIC POSITIONS IN THIS SECURITY IN CONNECTION WITH THIS ACTIVITY AND MAY BE ON THE OPPOSITE SIDE OF PUBLIC ORDERS EXECUTED ON THE P.S.E. IN THE STOCK.



## LEVEL 1 - 5 OF 11 STORIES

Copyright © 1986 Popular Computing Inc.;  
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November 24, 1986

SECTION: COMMUNICATIONS; Pg. 30

LENGTH: 227 words

HEADLINE: Tandem's Multilan Product Line Ties Its PCs to Netbios-Compatible LANS

BYLINE: Laurie Flynn

DATELINE: CUPERTINO, CA

BODY:

Tandem Computers Inc. announced last week a line of products that enable Tandem computers to connect to Netbios-compatible LANS.

Netbios support will give users of Tandem's on-line transaction processing (OLTP) systems flexibility in selecting PC-based networks, according to the company. It will also give Tandem the opportunity to market its systems as network file servers, offering PC users familiar user interfaces with the added features of the Tandem systems. As file servers, for example, the systems will support system fault tolerance.

The Multilan product line includes a LAN controller, installed in the Tandem system, and an attachment device for connecting the controller to the LAN. The company also announced file and print server software, as well as software providing terminal emulation.

The Multilan product line will be available early next year. The controller is priced at \$ 4,000, and the attachment device is \$ 2,000. The price of the software varies depending on the Tandem configuration.

Tandem also announced support for IBM's document content architecture (DCA), providing Tandem system users with the ability to exchange formatted documents with other word processing programs. For PC users, Wordlink will be available only for translating Multimate documents when it is introduced in the first quarter of 1987.

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## LEVEL 1 - 4 OF 4 STORIES

Copyright © 1986 CW Communications/Inc.;  
Computerworld Focus

November 12, 1986

SECTION: VENDOR SPOTLIGHT; Pg. 23

LENGTH: 2608 words

HEADLINE: Apple Plugs Into IBM's Market

BYLINE: BY REBECCA HURST; Hurst is a Computerworld Focus senior writer.

BODY:

It's fun. It's innovative. It's educational. But it is not a business machine.

That has been the opinion of many business and industry analysts about the Apple Computer, Inc. Macintosh personal computer, but that opinion is changing. Macintoshes, long dubbed inappropriate for the office, have been quietly making their way into a variety of companies, including Fortune 500 firms.

The acceptance of the Mac in the corporate environment has been an uphill struggle, says David Goodstein, president of consulting firm Interconsult, Inc. Many companies already have a large installed base of IBM Personal Computers. These users are more likely to add extra PCs or clones because the Macintosh is not compatible and does not demonstrate a clear overall advantage over the IBM PC.

One area of debate is the issue of ease of use vs. versatility, particularly regarding interfaces, according to Michael Goulde, a market analyst for the Yankee Group, a Boston-based consulting firm. Only a handful of applications are written to the Microsoft Corp. Windows software that runs on the PC. Almost all applications for the Macintosh adhere to Apple's interface. "Once you learn to use one application, the learning curve is drastically reduced," Goulde says.

However, the problem with Apple's interface, Goodstein notes, is that it does not allow users' level of use to progress. "You can learn it in 10 minutes, but in 10 years, you won't get any better," he says.

Several market analysts, noting the lack of versatility and corporate interest, were unconvinced that the Macintosh could compete with the IBM PC as a business system. Then Apple introduced the Laserwriter, capitalizing on the Mac's strength in the graphics area, an area in which the Mac surpasses the IBM PC. Analysts say they believe that the Macintosh, combined with Aldus Corp.'s Pagemaker layout software and Apple's laser printer, has a place in the office as a low-cost publishing solution.

Business users interviewed by Computerworld Focus all owned Laserwriters, but that was not the primary reason they bought Macintoshes. They cite ease of use, connectivity and the need for graphics-oriented applications as the most important decision factors. Moreover, while most of the users ranked ease of use as the No. 1 concern, communications with other computer systems was the common requirement among all the companies. For the Seafirst Bank, John Deere Dubuque Works and E.R. Squibb & Sons, Inc., connectivity has been an integral

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part of their Macintosh systems. For the Prudential Insurance Company of America and The Western Industrial Bank, connectivity eventually became a necessity.

At the Seafirst Bank in Seattle, where Macintoshes serve as a lower cost/higher intelligence alternatives to IBM 3270 series terminals, connectivity is a given. The bank has approximately 2,000 Macintosh 512 and 512 Plus computers outfitted with Applelink protocol converter boards that allow the bank to link its IBM 3084 and 3081 mainframes through a statewide IBM network. Everything is switched through the IBM host computers, notes Tim Turnpaugh, senior vice-president and manager of technical services at Seafirst. Employees also use applications written for the Mac on a stand-alone basis.

The emphasis on connectivity is different at John Deere dubuque Works, an Iowa-based division of Deere & Co., but it is equally important. "Communications among systems is critical," says Doug Foster, a systems engineer at Deere.

The division, which designs farm and construction equipment, uses Macintosh 512s with internal drives as low-cost engineering workstations, he explains, but different groups within the division need to share data. Additionally, the division has to exchange information with the company's central host computers.

Because users must communicate with two vendors' mainframes, Deere uses two programs. For the on-site Tandem Computers, Inc. Nonstop TXP, Deere uses Menlo Business Systems, Inc. Mac Menlo, a Tandem 6530 terminal emulation package. To communicate with the IBM 3081 and 3083 mainframes and Tandem TXPs at company headquarters, Deere uses Tri-Data's Netway 1000A Appletalk Gateway, which is a combination of hardware and software that acts as a 3270 controller. Users at Deere also allow their Macintoshes to communicate with the company's Digital Equipment Corp. machines through RS-232 connections.

#### Medical research use

At the Squibb Institute for Medical Research in Lawrenceville, N.J., researchers also use the Mac as both a workstation and a terminal. In designing pharmaceuticals, senior scientists use Macintosh 512s with a General Computer Co. Hyperdrive 20 disk drive to draw chemical compounds and integrate them with graphs and text. However, they use a DEC VAX-11/750 for the actual molecular design.

To access the VAX, Squibb supplies each Mac with Peripherals, Computers & Supplies, Inc.'s Versaterm Pro, which emulates a Tektronix, Inc. 4105 graphics terminal, among others. The choice of Versaterm Pro was in response to the molecular design software's demand for a 4105-type terminal, explains Peter Sprague, director of the department of chemistry/cardiopulmonary agents.

For two companies, The Western Industrial Bank and Prudential Insurance Company of America, connectivity with other vendors' computers was not an issue at first. Their communications were limited to other Macintoshes. As their needs grew, however, users found that they needed to access data from larger systems.

Western Industrial, a one-branch bank located in Steamboat Springs, Colo., has used Macintoshes for more than two years. It began with the 128K-byte Mac

*Continued...*

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A spokesman for IBM said the company would not comment.

#### Volume Production

While Miniscribe has been producing the 3.5-inch drives in volume, analysts last week contended that Seagate could accelerate the ramp-up to high-volume production of a 3.5-inch Winchester for IBM should it get the contract.

Seagate previously unseated

first quarter next year, has been seen by analysts as a step to legitimizing the 3.5-inch form factor and leading a down-sizing for drives of up to 100 MB.

According to the 1986 Disk/Trend Report, IBM's last production of 5.25-inch drives for 286-based PCs is expected at the end of the year. In 1987, its shipments of 3.5-inch Winchesters will increase to 730,000, growing to 1.65 million in 1989.

## Systems Market Entered by AST

Continued From Page 18

controller and a 1.2-MB floppy disk drive.

Volume deliveries of all 5 Premium/286 models will be available on Jan. 1. Base prices are \$1,995 for the model 80, \$2,495 for the model 90, \$2,995 for the model 120, \$3,495 for the model 140 and \$3,995 for the model 170. The MS-DOS 3.1 operating system is included with all new systems, all of which are manufactured by AST in Irvine, Calif.

The model 80 includes 512 KB of RAM, while 1 MB of RAM is included in each of the remaining models. Also included is a 20-MB fixed disk drive on the model 120, a 40-MB fixed disk drive on the 140 and a 70-MB fixed disk drive on the 170. Any of these drives may be configured to the model 80 or 90 at \$545 for 20 MB, \$1,095 for 40 MB

and \$1,595 for 70 MB. A 360-KB floppy drive, priced at \$155, is optional on all models. A monochrome monitor is priced at \$195, while the company's enhanced-graphics monitor lists for \$695.

Meanwhile, AST said it will offer a choice of desktop publishing software with its turnkey system, such as PageMaker, Ventura Publisher, FrontPage, DPE and PageWork.

Model 1 of AST's desktop publishing workstation, priced at \$9,995, configures a standard 140 PC with a monochrome monitor, an AST TurboLaser printer and a TurboScan optical page scanner. Model 2 configures the PC, the monochrome monitor and the printer for \$7,995. Both workstations will be shipped in January.

— ADAM GREENBERG

July filing, the climate for an IPO from a young technology company has deteriorated to the extent that Tolerant would have had to take a "deep cut" in the proposed \$10 per share offering price, said company president, chairman and chief executive David Caplan.

A number of institutional in-

## Tandem Drops Line Of Dynamite PCs

CUPERTINO, Calif. — Tandem Computers Inc. has dropped its 2-year-old line of Dynamite PCs in favor of a recently-introduced line of IBM PC AT-compatible computers, which the firm last week beefed up by cutting prices and adding new models.

The Dynamite PCs ranged in price from \$2,495 to \$2,995. Tandem assembled the Dynamite PCs at its Austin, Tex., plant, and stopped selling them as of Nov. 1.

The Dynamite PCs are no longer being sold because they were not price/performance competitive with the new IBM PC AT-compatible computers, and most customers wanted the IBM PC AT-compatible computers, a company spokeswoman said.

Tandem introduced and began shipping its IBM PC AT-compatible computers, called the 6AX line, in May of this year. All of the 6AX computers include 512 KB of RAM, one 1.2-MB floppy disk drive, keyboard, floppy/hard disk controller, system software, and Tandem's PC6530/IXF terminal emulation and file transfer software.

Prices on the two existing 6AX computers were cut. The 6AX/20, which has a 20-MB hard disk, was cut from \$3,995 to \$2,995, while the 6AX/40, which has a 40-MB hard disk, was cut from \$4,495 to \$3,895.

Tandem also introduced three new models, the 6AX/30, which has a 30-MB hard disk, priced at \$3,395; the 6AX/2, which has two 1.2-MB floppy disk drives, priced at \$2,595; and the 6AX/1, which is the base system, priced at \$2,395.

fiscal 1986, Tolerant had sales of \$3.5 million and losses of \$6.8 million.

Proceeds from the IPO were to have been used to repay a short-term loan and as working capital. Money for those purposes will now come from the new equity financing as well as from the agreement with RC Computer.

Participating in the third round of financing, which raised about \$6 million, were Adler & Co., Accel Partners and Helix Investments Ltd. Adler & Co. remains Tolerant's principal investor.

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## MSA Negotiates Buy of Comserv

ATLANTA — Management Science America (MSA) is negotiating to take over Comserv Corp., Minneapolis, which develops manufacturing software for IBM mainframes and compatibles, in a deal valued by Comserv at about \$24 million.

As envisioned in the talks, Comserv said, the deal would give shareholders \$2.21 a share, and holders of its 11 per cent convertible debentures

due July 1, 2002, about \$650 for each \$1,000 principal amount of the debentures.

At the week's end, no agreement had been reached.

Comserv said it initiated the talks this year with MSA, which also develops manufacturing and applications software for IBM mainframes, because it has been struggling financially and wants to link up with a stronger firm.