TANDEM DEBUTS SNA PRODUCTS; SPERRY TO SUPPORT DISOSS; MCI TO SERVICE ITALY

* Tandem Computers unveiled a series of SNA products last week. SNA/XF enhances Tandem's SNAX gateway to SNA, providing SNA access for Tandem systems with new communications network management and network services for application switching. The new Tandem SNA package also includes SNA support for the 6100 Communications Subsystem, EXCHANGE/SNA and SNAX/HLS. EXCHANGE/SNA emulates the IBM 3777 RJE communication terminal in the SNA network, and SNAX/HLS (High Level Support) is enhanced with the Federal Reserve Bank Network FLASH protocol.

* Sperry Corp. said in a statement of direction that it will coexist with IBM, supporting the firm's Distributed Office Support System (DISOSS) to provide library and document distribution services among systems in both Sperry and IBM environments. Products are scheduled to be announced supporting this direction by mid-1986, the company said.

* Under an agreement sign with Italcable, the Italian Communications agency, MCI Communications Corp. will provide international telephone service to Italy. Italy ranks seventh in the international long-distance market.

March 25, 1986, Tuesday

DISTRIBUTION: Business Editors

LENGTH: 670 words

HEADLINE: TANDEM-COMPUTERS; (TNDM) Bank of Tokyo links New York, London and
Tokyo in Tandem-based international banking network

DATELINE: CUPERTINO, Calif.

BODY:
     Tandem Computers Inc. (OTC:TNDM) announced Tuesday that Bank of Tokyo has
installed Tandem NonStop TXP computer systems in New York and London as part of
a new international banking network. New York and London will be linked to a
three-processor NonStop TXP system installed previously at the bank's Tokyo
headquarters. The network of Tandem systems will initially handle funds
transfer, interfacing to wire service carriers CHIPS (Clearing House Interbank
Payments System) and FEDWIRE, and handle facsimile transmission between the
bank's offices worldwide. It will also connect personal computers used by the
Bank of Tokyo. The network uses a six-processor NonStop TXP system in New York
and a two-processor system in London. With over $82 billion in assets, Bank of
Tokyo is the ninth largest bank in Japan and 21st in the world. It conducts a
full range of commercial banking activities and provides high-quality financial
and financial advisory services internationally. The bank has 250 foreign
offices, including those of its 24 subsidiaries and associated companies. For
facsimile transmission, Bank of Tokyo will use Tandem's FAXLINK 6340 controller,
which lets users send images between facsimile machines connected to Tandem
systems. Kathryn Weiner, Tandem's director of Information Management Technology
products, said, ''The Bank of Tokyo will use FAXLINK to contain costs associated
with the high volume of documents they transmit. With FAXLINK, the bank's Tandem
network handles the long-distance transmission of images and text, mostly
written in Japanese, between facsimile machines connected to their Tandem
systems.'' FAXLINK communications between Bank of Tokyo's New York and Tokyo
offices have begun. FAXLINK services for the remainder of the bank's offices in
Japan and in London are targeted for June. Services will extend to other offices
as the Tandem network expands. Bank of Tokyo will also use Tandem's PC LINK
product, which allows the attachment of IBM and IBM-compatible personal
computers to Tandem systems. The bank is using Tandem systems because of their
product capabilities and architecture, said a bank official. ''We need a large
network which functions like a single system, and Tandem provides that
capability. Also, Tandem's experience with many large banks around the world was
important to our decision.'' Commenting on the project, Gerald L. Peterson, vice
president of marketing for Tandem, said, ''We are pleased because the Bank of
Tokyo is a key member of the Japanese banking community. They join other leading
international banks in implementing state-of-the-art international banking
networks on Tandem systems.'' Bank of Tokyo will use the BESS (Bank Electronic
Support System) international banking software package from Data Architects Inc.
(DAI) of Waltham, Mass., for funds transfer and international communications.
The BESS package will go on-line in June 1986. Data Architects Inc. is an
18-year-old firm supplying software to the telecommunications, financial and
insurance industries. DAI is the earliest software house member of the Tandem

@ 1986 Business Wire, March 25, 1986

Alliance, a program to encourage firms to develop application software programs
that run on Tandem NonStop systems. DAI is headquartered at 245 Winter Street,
Waltham, Mass. 02154. Telephone 617/890-7730. Tandem Computers Inc.
manufactures and markets computer systems and networks for the on-line
transaction processing marketplace. The company is headquartered at 19333 Vallco
Parkway, Cupertino, Calif. 95014. Telephone 408/725-6000. Note to editors:
Tandem, FAXLINK, NonStop, NonStop TXP and PC LINK are trademarks of Tandem
 Computers Inc. BESS is a trademark of Data Architects Inc. IBM is a trademark
of International Business Machines Corp.

        CONTACT: Tandem Computer Inc., Cupertino
                  Tom Waldrop, 408/725-7191
                  or
                  Bank of Tokyo
                  Hitoshi Hirano, 03/469-5111

The package provides a workspace of 255 rows by 255 columns by 255 pages resident in RAM with 16 million addressable cells.

Another feature, called Goal Solution, automates many of the operations performed by financial analysts and planners. Goal Solution evaluates model equations to determine what input is necessary to accomplish the user's goals.

Used in conjunction with Goal Solution, a feature called Visual Audit highlights changed cell values with a color-coding system. Visual Audit identifies inputs and shows which values they change throughout the spreadspace model.

Three-dimensional blocks of data can be selected to create full-color graphics charts and line graphs without modification, according to DeRodeff.

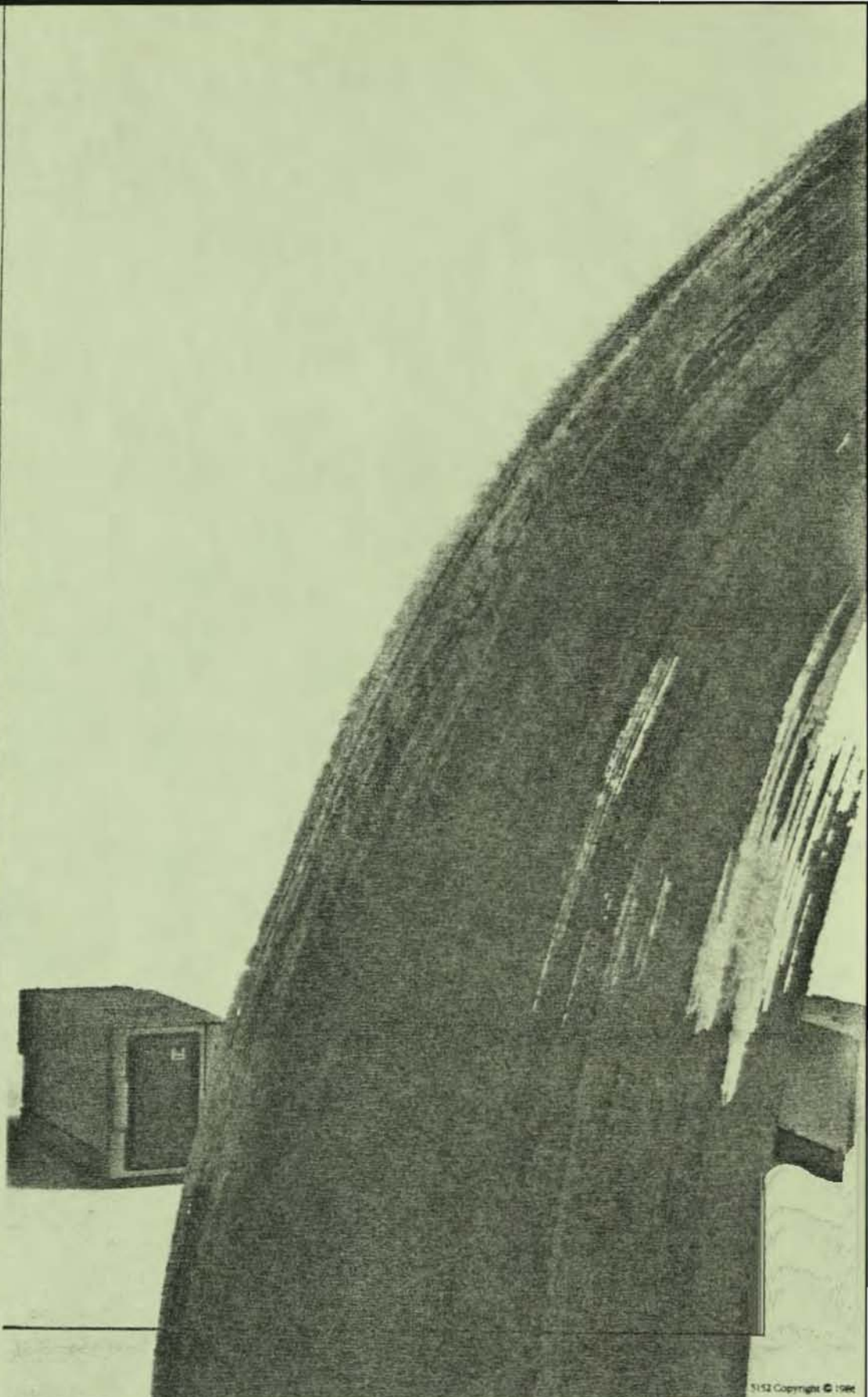The $1200 package will be

Tandem Debuts App. Generator

CUPERTINO, CALIF. — Tandem Computers Inc. unveiled a new menu-driven COBOL applications generator for its fault-tolerant computer systems, said to cut in half the development time required to create applications.

Called Pathmaker, the product provides menu-driven interfaces that guide programmers step-by-step through the applications development process, Tandem said. Each menu offers options that a programmer selects either by filling in a blank with key words or pressing a function key.

Other features include a library of data base functions from which programmers can select and then incorporate into applications without needing to write any code.

Pathmaker supports COBOL as well as COBOL 85, Tandem's implementation of the latest COBOL standard.

First customer shipments are slated to begin in third quarter. License fees will be $3500 for Tandem's low-end EXT computer and $7500 for the higher-performance Non-Stop II or TXP systems.

CORPORATE
INFORMATION CENTER

Tandem Unveils 'Pathmaker,' Cobol Source-Code Generator

By JULI CORTINO

CUPERTINO, Calif.—"Pathmaker," an automated Cobol-application source-code generator that promises to double programmer productivity, has been unveiled by Tandem Computers for its NonStop processors.

As an extension to Tandem's database and development environment, Pathmaker is able to speed software applications development because of its ability to automate the creation of user interfaces and screens, according to the company.

In a separate announcement, Tandem announced it has commissioned Datacopy Corp. to modify the imaging systems company's Word Image Processing System (WIPS) software for use in a General Electric assembly plant.

"WIPS Jr.," as the GE software is called, will run on the Tandem TXP system and 40 Tandem Dynamite workstations at General Electric's Aircraft Engine Business Group in a prototype program.

Pathmaker, the code generator, also offers programmers a library of pre-written database functions that can be automatically inserted into applications, thus minimizing the amount of coding required. Other enhancements include an applications prototyping capability and a central applications catalogue that stores such information as "help" libraries and screen lists.

With Pathmaker, end-users can see samples of their applications and request changes before programmers begin to write software code. Programmers can use a "full-screen interactive editor to 'paint' terminal screens—the end-user interface to the application." Pathmaker then automatically generates Screen Cobol application source code.

Initial license fee for Pathmaker is $3,500 per EXT system and $7,500 for each NonStop II or TXP minicomputer. Customer shipments will begin during the third quarter.

Dennis L. McEvoy, Tandem vice president of software, said, "Pathmaker is strategically important because it enhances the speed of developing on-line transaction processing applications of any size, and programmers gain development productivity without sacrificing run-time efficiency."

Pathmaker supports the industry-standard Cobol 85, which assists Pathmaker in developing specialized database functions.

The Tandem/Datacopy agreement calls for General Electric to purchase five of Datacopy's image scanners for use in the assembly floor control system.

The value of the agreement was not disclosed.

James McNaul, Datacopy vice president of strategic planning, explained how the custom jet aircraft assembly plant will use the Datacopy scanners and software, combined with Tandem's hardware, to control shop floor activities.

"Datacopy image scanners will be used with Tandem's mainframe to record and store information on assembly processes," he said. "This information will be downloaded onto workstations on the assembly floor so that, at the start of the day, plant employees can see what changes have been made to work instructions. Updates to instructions can also be made throughout the day."

McNaul said GE would benefit from the Datacopy document-scanning hardware and software because Datacopy's system will be used at the turbine manufacturing plant where "things change frequently."

Micro Adds

By LEE SUSTAR

NEW YORK — software is for "what-if?" Budge what "must be."

The two mix with oil and water: Fis deflates fanciful pl: calculating "back\ budget figures weeks-long revision

But personal com esizing has finally budget-cutting rea croCube," the "thr al" McDonnell D munications softw unveiled here last \

MicroCube's "g allows users to b bottom line and det variables must cha meet it.

"This is the Gr; spreadsheet: You total budget and w making the cuts a said Steven L. Bro vice president of Corp., referring gressional bill th Comptroller of the authority to cut budget to meet lir set by the legislatt to play around with to see what could most of us have a b what has to happe!

MicroCube's "S; "third dimension pages resident in r memory (RAM), the 255 rows and which enables us(up to 16 million ce

"Users can split through a tremend information with j strokes, much fa other three-dimen sheets," said St(product manager f "But more than th; and paste the dat; and generate mul high-quality prese

Other graphics clude pie and charts, scattered a custom annotation to separately stor(attributes, DeRod McDonnell Doug

Gateway Gives IBM Use Of Symbolic Processing

CAMBRIDGE, Mass.—Sym-

30xx and S/370 series mainframes as well as plug-com-

March 24, 1986, Monday

DISTRIBUTION: Business Editors

LENGTH: 427 words

HEADLINE: TANDEM-COMPUTERS;   (TNDM) Announces product to support IBM's LU6.2
architecture

DATELINE: CUPERTINO, Calif.

 BODY:
    Tandem Computers Inc. (OTC:TNDM) Monday announced another important step to
facilitate communication between IBM and Tandem systems by introducing its first
LU6.2 product. The product, named SNAX/APC, provides access to IBM's Logical
Unit 6.2 protocols, which are rapidly becoming a standard to permit advanced
program-to-program communication between a wide range of devices in a Systems
Network Architecture (SNA) network. SNAX/APC allows Tandem users to communicate
with IBM applications, with an easy-to-use programmer interface specifically
tailored for program development in a distributed environment.   Customers can
now more easily build distributed systems which incorporate Tandem's superior
on-line transaction processing capabilities with applications residing on IBM
hosts. SNAX/APC allows programmers to be more productive by providing a
high-level application program interface which shields them from the
complexities of SNA programming. Because SNAX/APC establishes and maintains SNA
program-to-program conversations, programmers spend less time on the data
communications aspects of application development. ''The latest evolutionary
extension to IBM's Systems Network Architecture, LU6.2 is the strategic
direction for integrating distributed transaction processing systems. ''With the
introduction of this product, Tandem continues its leadership position as a
supplier of SNA integration software,'' stated Tandem vice president of software
development Dennis McEvoy. ''LU6.2 is a key step toward establishing standards
for efficient communication between programs running in different systems or
devices. This means that application developers need not redesign each new
distributed application. ''In addition, LU6.2 reduces significantly network
overhead, by sharing network resources,'' according to McEvoy. SNAX/APC will be
available in third quarter 1986, and will be priced at $5000 initial license fee
and $600 monthly license fee for Tandem NonStop II and NonStop TXP systems, and
$1000 initial license fee with a $240 monthly license fee for the NonStop EXT
system. Tandem Computers manufactures and markets computer systems and
networks for on-line transaction processing. The company is headquartered at
19333 Vallco Parkway, Cupertino, Calif., 95014.

Note to editors: Tandem, NonStop, NonStop TXP, NonStop II, and NonStop
EXT and trademarks of Tandem Computers Inc.

   CONTACT: Tandem Computers Inc., Cupertino
             Corinne DeBra, 408/725-7574

OFFER STOCK: Maxtor Corp. of
make a secondary offering of 1.5
s of common stock within the next
shareholders plan to sell an addi-
es. Maxtor, which has 7.5 million
g, said the shares will be offered at
n the day of the sale. Maxtor closed
ff ⅜.

OUGHS IN DEAL: Fujitsu America
reed to buy the North American
oughs Corp.'s Imaging Systems
y, Conn., for about $20 million.
computer and telecommunications
idiary of Fujitsu Ltd. of Japan.
g Systems division, with annual
llion, makes equipment for trans-
over telephone lines. The deal is
pleted on April 1.

d Materials Inc., a Santa Clara
nufacturer, will split its common
il 25 so that more shares will be
tutional investors. The split will give
3 million shares outstanding. The
y at 29½, up ¼. ■ Prime Minis-
one of Japan expressed concern at
e value of the yen and warned
t may step in to halt uncontrolled
ange rates. ■ Carter Hawley Hale
eles-based parent of the Broad-
pwell and Neiman-Marcus, said
by 42 percent during the fourth
llion. The drop mostly reflected
g adjustments and a charge from
a Canadian division; earnings from
ns declined by only 8.5 percent.
ed to acquire Los Angeles-based
leading supplier of computer
$680 million in cash.

s Staff and Wire Reports

List

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federal appeals court following U.S.
District Court Judge Rya Zobel's Janu-
ary injunction barring Kodak from
making and selling instant cameras
and film.

"The most immediate effect, I think,
has been on all our spirits," Booth said.
He said he and his 14,000 employees
worldwide are "extraordinarily proud
that no one has found a way to get into
instant photography that doesn't rely
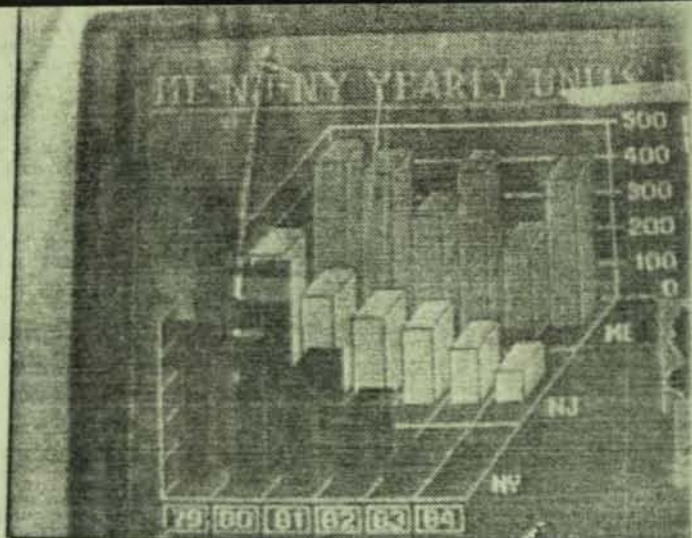on our inventions."

More business

The judge's decision that Kodak
infringed upon seven Polaroid patents
should mean more business for Polar-
oid "both in the short-term and in the
long-run," Booth predicted.

Kodak has indicated it is perma-
nently out of the instant photography
field. Booth said Polaroid intends to
"continue to vigorously pursue our
opportunities in instant photography."

"As the need to capture and display
computerized data grows, I think the
whole world is heading in the direction
of instant imaging — and our job is to
make sure we are ready."

While Kodak stock has plunged and
the Rochester, N.Y., firm recorded a
$194 million loss in the fourth quarter
of 1985, Polaroid stock — which sold
for less than $25 in January 1985 — has
climbed to $68.

For Polaroid, in both domestic and
overseas markets, unit sales of instant

cameras were significantly higher for
the fourth quarter of 1985 than in the
comparable 1984 market.

Net earnings for 1985 were $36.9
million compared with 1984's figure of
$25.7 million.

"The combination of higher sales, the
weakening of the U.S. dollar and
savings from ongoing cost reduction
programs designed to improve efficien-
cies in the company's operations were
significant factors in our improved per-

formance," said Bo
tive officer since Ja
president for two y

The new instant
time when sales of
gle-lens reflex cam
Peter K. Eichorn,
North American n
predicts Polaroid
instant photography
consumer photogra

See PO

Polaroid spokesman Harry Johnson demonstrates
recorder that produces instant color prints or slides f

San Jose Mercury News (morning)

CORPORATE
INFORMATION CENTER

Business cards' funny business

Mar 19, 1986 p1C

NO one in Silicon Valley is better at
promoting himself than public
relations priest Regis McKenna.
His business card is testament to his visibil-
ity and influence. It reads, "Regis McKenna,
Himself." And that's all.

When Himself preaches, a favorite ser-
mon is product differentiation: You must
separate yourself from those around you.

Tandem Computers PR director Pat
Becker has heard The Word, and she is a
believer.

Becker recently made that point jokingly
when she gave McKenna business cards to
pass on to Paul Dali, president and chief
executive of Regis McKenna Inc.

The cards read, "Paul Dali, not himself."

"We thought it was a great joke inside the
agency," said Dali, who has been president
of the company for more than a year. "When
Regis handed me the cards, he said, 'Here's
an example of classic product market strat-
egy positioning.'"

Dali selectively hands out his new cards.
Maybe this could start a fad.

Bits & Bytes
Mary
A.C. Fallon

Here are suggestions for two Silicon Val-
ley notables:

For the business cards of Apple Comput-
er's former chairman, now an entrepreneur:
"Steve Jobs, by himself."

And for the chief executive of Daisy
Systems, whose company has lost a lot of
fans on Wall Street: "Aryeh Finegold, beside
himself."

□

The recent settlement of a class action
suit against Trilogy Ltd. personally cost
Chairman Gene Amdahl 1.5 million of his 5.1
million Trilogy shares. Other Trilogy offi-
cers had to kick in a total of 100,000. The

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Insider Trading is a regular report of stock transactions involving officers, directors and owners of 10 percent or more of a publicly held company.

Insider	Post	Action	Date	Shares	Price Per Share	Shares Still Owned
LSI Logic						
John D. Higbee	VP	Sold	2/6	3,500	$26.75	Unrep.²
John D. Higbee	VP	Sold	2/6	500	$27.00	28,856
Margaux Controls						
Charles P. Waite	Dir.	Sold¹	2/14	183,872	$4.88	None
Nat'l Semiconductor						
Gary P. Arnold	VP	Sold	2/21	2,000	$14.50	Unrep.²
Gary P. Arnold	VP	Sold	2/24	13,000	$14.38	Unrep.²
Gary P. Arnold	VP	Sold	2/24	2,800	$14.25	None
Quantum						
Robert E. Schroeder	Dir.	Sold	2/28	6,000	$22.63	6,000
James G. Watson	VP	Sold	2/13	10,800	$21.25	2,400
Seagate Technology						
Alan F. Shugart	CB	Sold	1/21	50,000	$8.38	Unrep.²
Alan F. Shugart	CB	Sold	1/21	50,000	$8.50	Unrep.²
Alan F. Shugart	CB	Sold	1/29	50,000	$8.50	1,260,094
Alan F. Shugart	CB	Sold	2/3	50,000	$8.75	Unrep.²
Alan F. Shugart	CB	Sold	2/10	50,000	$9.00	Unrep.²
Alan F. Shugart	CB	Sold	2/10	20,000	Unrep.²	Unrep.²
Alan F. Shugart	CB	Sold	2/14	50,000	$9.50	1,090,094
Scientific Micro Sys.						
Hugh J. Kern	Dir.	Sold	2/18	5,000	$5.25	Unrep.²
Hugh J. Kern	Dir.	Sold	2/21	65,000	$5.00	193,000
Silicon Valley Group						
Gerald M. Starek	CB	Sold	2/7	20,000	$17.00	Unrep.²
Gerald M. Starek	CB	Sold	2/18	25,000	$20.00	679,064
Stratus Computer						
Robert Freiburghouse	VP	Sold	1/31	15,000	$21.50	Unrep.²
Robert Freiburghouse	VP	Sold	2/4	15,000	$21.50	Unrep.²
Robert Freiburghouse	VP	Sold	2/5	12,500	$21.50	Unrep.²
Robert Freiburghouse	VP	Sold	2/6	7,500	$21.50	250,000
Tandem Computers						
Thomas A. Bechler	VP	Sold	2/14	2,000	$25.13	12,857
Thomas J. Davis Jr.	Dir.	Sold	2/4	15,000	$22.38	23,572
Dennis L. Johnson	O	Sold	2/7	160	$23.38	225
Lawrence A. Laurich	VP	Sold	2/24	10,000	$25.75	42,100
Trilogy						
A. Thampy Thomas	Dir.	AX	10/11	540,594	Unrep.²	Unrep.²
A. Thampy Thomas	Dir.	Sold	2/27	20,000	$1.54	Unrep.²
A. Thampy Thomas	Dir.	Sold	2/27	20,000	$1.58	520,595
Ungerman-Bass						
Lee F. Benton	VP	I	2/24	301	Unrep.²	301
James F. Jordan	Dir.	Sold	2/24	50,000	$13.67	270,500
Joseph P. Schoendorf	AF	I	2/24	248	Unrep.²	248
VLSI Technology						
Alfred J. Stein	CB	Sold	2/4	10,000	$15.00	Unrep.²
Alfred J. Stein	CB	Sold	2/7	10,000	$15.00	Unrep.²
Alfred J. Stein	CB	Sold	2/10	5,000	$15.00	Unrep.²
Alfred J. Stein	CB	Sold	2/12	15,000	$15.00	754,504
Voicemail International						
Nicholas Imparato	Dir.	Pur.	2/21	4,000	$.69	4,000
Vicom						
Robert O. Hersh	SH	Sold	1/6	4,750	$4.25	Unrep.²
Robert O. Hersh	SH	Sold	1/6	4,000	$4.00	Unrep.²
Robert O. Hersh	SH	AO	1/6	8,750	$2.00	Unrep.²
Robert O. Hersh	SH	Sold	1/24	2,500	$3.88	Unrep.²
Robert O. Hersh	SH	Sold	1/31	2,250	$3.63	Unrep.²
Robert O. Hersh	SH	Sold	2/7	4,000	$4.00	8,750
Xidex						
Stanley J. Cutler	O	Sold	2/10	525	$13.94	None
Douglas M. Mcburnie	VP	Sold	2/11	830	$14.13	Unrep.²

(1) direct transaction (2) Unreported

Individuals sometimes make multiple trades in one month. In those cases, the number of shares remaining are not reported until the last transaction of the month.

Title abbreviations: AF-Affiliated person; CB-Chairman of the board; Dir.-Director; H-Officer, director and official owner; O-Officer; SH-Shareholder; VP-Vice president.
Action abbreviations: AO-Acquired through exercise of option; AX-Acquired through exchange or conversion; I-Initial statement of ownership; Pur.-Open market purchase; Sold-Open market sale.

— Tribune Media Services

Court suit is costly for Gene Amdahl

court ordered that the settlement come out of shares held by company executives and the corporation, rather than from a new issue.

The company had to contribute 2.5 million of its 4.3 million shares. In total, all investors who bought Trilogy common stock from Nov. 9, 1983, through Aug. 14, 1984, will share in $1.6 million in cash and 4.1 million shares. There are 72.2 million Trilogy shares outstanding.

□

It's official: Ken Lim, a heavyweight analyst at Dataquest, has jumped to Apple Computer. For the past few weeks he's been doing competitive market analysis there. It's his first "real world" job.

□

Tandem Computers next month will introduce a high-speed computer for on-line data transactions, sources say.

The computer is based on new technology for Tandem: an emitter-coupled logic (ECL) chip that runs four times faster than the TTL (transistor-to-transistor logic) chip in Tandem's present computer. Tandem developed the new chip with Motorola. Look for an introduction from the Cupertino company in mid-April.

□

Of the many new semiconductors on the market today, one type that's evolving rapidly involves digital signal processing (DSP), which is used in very different technologies including sonar, voice recognition and music synthesizers.

Three chip companies — National Semiconductor, Analog Devices and Fairchild — are moving into the DSP market for the first time. Their new chips will be explained at a four-day seminar starting Monday at Hyatt Rickey's in Palo Alto.

All three companies introduced their DSP chips last month at a similar seminar in Cambridge, Mass., said Amnon Aliphas, president of DSP Associates of Newton, Mass., sponsor of both seminars. Second-generation DSP chips from Texas Instruments, NEC,

March 18, 1986, Tuesday

DISTRIBUTION: Business Editors

LENGTH: 342 words

HEADLINE: TANDEM-COMPUTERS; (TNDM) Selected by First Southern Federal Savings
and Loan for ATM network

DATELINE: CUPERTINO, Calif.

 BODY:
    Tandem Computers Inc. (OTC:TNDM) Tuesday announced that its NonStop EXT
system has been selected by First Southern Federal Savings and Loan Association,
Mobile, Ala., for ATM communications support. The Tandem NonStop EXT system, and
BASE24 atm software provided by Applied Communications Inc. (ACI), Omaha, Neb.,
will support First Southern's 48 ATMs and provide communications to the ATM
ALERT regional network. The ALERT statewide network will be available to
customers on April 1. Phill Givens, senior vice president of information
services, First Southern Federal Savings and Loan, stated, ''We evaluated
several vendors with fault tolerant -offerings, and we chose Tandem systems
because of their proven ability to do the job. ''The Tandem/ACI solution offered
us the largest selection of proven software products in a fault-tolerant
environment. In addition, the Tandem solution provides us the ability to easily
expand our system as our requirements increase.'' First Southern Federal Savings
and Loan Association, with assets of over $2.1 billion, is among the top 50
savings and loan associations in the United States and is the largest in the
state of Alabama. ACI, a member of Tandem's Alliance NonStop EXT reseller
program, is a leading supplier of software for retail electronic funds transfer
systems. It is headquarterd at 330 South 108th Ave., Omaha, Neb. 68154.
Telephone 402/390-7600. Tandem Computers Inc. manufactures and markets
computer systems and networks for the on-line transaction processing market. The
company is headquartered at 19333 Vallco Parkway, Cupertino, Calif. 95014.
Telphone 408/725-6000. Note to editors: Tandem and NonStop EXT are trademarks of
 Tandem Computers Inc. Base24 atm is a trademark of Applied Communications Inc.

    CONTACT: Tandem Computers, Cupertino, Calif.
              Leslie Stull, 408/725-6237
              or
              First Southern Federal Savings and Loan, Mobile, Ala.
              Phill Givens, 205/473-0749

**CORPORATE
INFORMATION CENTER**

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Business Wire

March 18, 1986, Tuesday

DISTRIBUTION: Business Editors

LENGTH: 334 words

HEADLINE: DATACOPY-CORP; Announces software agreement with Tandem Computers

DATELINE: MOUNTAIN VIEW, Calif.

BODY:
   Datacopy Corp. (OTC:DCPY) Tuesday announced the signing of an agreement with
 Tandem Computers Inc. for a custom version of its Word Image Processing System
(WIPS) software. The software will be used as a part of Tandem's support for
General Electric's AEBG Division's Graphic Display System -- Production
Sub-system (GDS). The GDS is being developed as a part of GE's Assembly Control
System to provide manufacturing assembly information on the production floor.
Datacopy image scanners and software will be used to capture documents to be
stored on Tandem computers.   The document images are then transferred to
graphic workstations in the production area via communication links. The
graphics will be displayed on command using the custom WIPS software running on
the graphic workstations. Datacopy Corp., founded in 1973, designs, manufactures
and markets low-cost, high resolution electronic digitizing scanners and image
processing systems. These products produce highly detailed images that can be
stored, manipulated and transmitted by a computer in a manner similar to that of
data and text processing. Its Word Image Processing Systems, WIPS are widely
regarded as the premier PC-based image processing systems on the market today.
The company is currently selling its products through OEMs, systems integrators
and a world-wide network of distributors. Datacopy offers high-performance,
low-cost imaging systems for the fastest growing PC-based markets of the 1980s
-- personal publishing, optical character recognition, computer-aided design and
document data bases. Note to editors: Tandem is a trademark of Tandem
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and WIPS are trademarks of Datacopy Corp.

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March 17, 1986

SECTION: NEWS; Pg. 13

LENGTH: 402 words

HEADLINE: Tandem code generator debuts;
May boost programmer productivity by 100%

BYLINE: By Jeffry Beeler

DATELINE: CUPERTINO, Calif.

 BODY:
   Offering improved screen and interface development tools, Tandem Computers,
Inc. plans today to release Pathmaker, an automated code generator that
reportedly boosts programming productivity by as much as 100%.

   Much of the claimed increase in development speed stems from Pathmaker's
ability to automate the creation of user interfaces and screens for the vendor's
Nonstop processor family. "Our customers have repeatedly told us that
developing screens and user interfaces is the hardest part of programming, much
harder than doing the back-end, data base part of an application," said Tandem
product manager Gilbert Wai.

   In the past, programmers of Tandem systems developed terminal screens by
coding the underlying procedural logic manually. But with Pathmaker, the same
screens can be "painted" with an interactive editor and then turned into
finished Cobol source code automatically, Wai said.

   Pathmaker also improves programmer productivity by incorporating several
other enhancements:

   * An applications prototyping capability.

   * A library of prewritten data base functions that can reportedly be inserted
automatically into applications to minimize coding.

   * A central applications catalog that resides in Tandem's relational data
base management system and automatically stores information like screen lists
and Help libraries.

   To help in developing specialized data base functions, Pathmaker supports
Cobol 85, the Tandem compiler and runtime library that is said to be fully
compatible with the latest Cobol standard [CW, Feb. 17].

   Another feature that reportedly aids programmer productivity is the
application generator's ability to add automatically the pointers that denote
the beginning and end of each transaction, Wai said. This capability,
previously done manually, is a prerequisite for "checkpointing," a Tandem
technique that protects data integrity when a system fails in mid-transaction.

@ 1986 Computerworld, March 17, 1986

Together, Pathmaker's productivity-enhancing features minimize the number of Tandem-specific coding skills that programmers need to write applications that exploit the purported benefits of the company's proprietary architecture.

For the firm's low-end EXT systems, Pathway is available for a $3,500 initial license fee. For Nonstop II or TXP processors, the initial license fee is $7,500. First shipments of the automated application generator begin during the third quarter.

THE EXAMINER TOP 100

Dear readers:

With Silicon Valley's technology, Montgomery Street's financial institutions, Contra Costa County's real estate and the Golden Gate's access to the Pacific Rim, the Bay Area is one of the world's foremost business centers.

At The San Francisco Examiner, we understand the important role that business plays in the Bay Area. In the last few months, we have dramatically increased our coverage of business news, putting greater importance on breaking daily stories, expanding the size of the Sunday Business section, and introducing MoneyTalks, a weekly column of thought, talk and speculation about business. Now we are going to redouble our efforts.

This special section — the first-ever comprehensive survey of business in the Bay Area — is more than just a listing of the region's Top 100 businesses. It is a reflection of the myriad of businesses in the area and of their importance to the area's economic, social and political fabric. We believe that this annual section will be an important reference source for anyone interested in the business world.

But there's more to come. Tomorrow, The Examiner will begin publishing the Stock Market Final — a special edition that will put each day's latest business news and final stock prices into the hands of San Francisco commuters as they leave work. No longer will you have to wait until the next morning to get the financial news and final stock quotes of the day before.

In addition, tomorrow's Examiner Business section will feature the debut of Bay Area Business — a weekly package of local business community news. We believe this will become required reading for all Bay Area business professionals.

Will Hearst,
editor and publisher

Mark Potts,
Business editor

Company rankings in alphabetical order

Company	Rank
Adia Services Inc.	55
Advanced Micro Devices Inc.	31
Altos Computer Systems	72
Amdahl Corp.	33
American Building Maintenance Industries	40
American President Companies Ltd.	24
Amfac Inc.	13
Anthem Electronics Inc.	75
Apple Computer Inc.	15
Applied Materials Inc.	64
ASK Computer Systems Inc.	98
Avantek Inc.	60
BankAmerica Corp.	3
Bio-Rad Laboratories Inc.	87
Brae Corp.	68
Businessland Inc.	48
Buttes Gas & Oil Co.	76
California First Bank	37
California Microwave Inc.	82
California Water Service Co.	84
Central Banking System	58
Chevron Corp.	1
Clorox Co.	26
Coherent Inc.	70
Community Psychiatric Centers	56
Consolidated Fibres Inc.	79
Consolidated Freightways Inc.	16
Convergent Technologies Inc.	42
Cooper Biomedical Inc.	96
Coopervision Inc.	47
CP National Corp.	51
Crown Zellerbach Corp.	12
Daisy Systems Corp.	73
Di Giorgio Corp.	25
Diasonics Inc.	65
Dreyer's Grand Ice Cream Inc.	86
Equitec Financial Group	95
Finnigan Corp.	97
Fireman's Fund Insurance Cos.	11
First Nationwide Financial Corp.	22
Gap Inc.	35
Genentech Inc.	93
Genstar Corp.	18
Golden West Financial Corp.	19
Grand Auto Inc.	66
Grubb & Ellis Co.	50
Guy F. Atkinson Co.	32
Harper Group	63
Hewlett-Packard Co.	7
Hexcel Corp.	53

Company	Rank
Homestake Mining Co.	46
Homestead Financial Corp.	45
Intel Corp.	21
Itel Corp.	57
Kaiser Aluminum & Chemical Corp.	14
Kaiser Cement Corp.	52
Liquid Air Corp.	38
Longs Drug Stores Corp.	20
LSI Logic Corp.	69
Lucky Stores Inc.	4
McKesson Corp.	9
Measurex Corp.	62
Monolithic Memories Inc.	61
National Semiconductor Corp.	17
Pacific Gas & Electric Co.	6
Pacific Gas Transmission Co.	27
Pacific Telesis Group	5
Plantronics Inc.	94
Potlatch Corp.	29
Priam Corp.	83
Quantum Corp.	74
Raychem Corp.	34
Safeway Stores Inc.	2
Saga Corp.	23
Servamatic Systems Inc.	92
Shaklee Corp.	41
Siliconix Inc.	80
Spectra-Physics Inc.	59
Sun Microsystems	78
Syntex Corp.	30
Tab Products Co.	77
Tandem Computers Inc.	36
Technical Equities Corp.	89
Telco Systems Inc.	91
Televideo Systems Inc.	85
Transamerica Corp.	8
Triad Systems Corp.	81
United Artists Communications Inc.	39
United States Leasing International Inc.	43
URS Corp.	88
Varian Associates Inc.	28
Victoria Station Inc.	90
Viking Freight System Inc.	71
VLSI Technology Inc.	99
Watkins-Johnson Co.	54
Wells Fargo & Co.	10
World Airways Inc.	44
Wyse Technology	100
Xebec	67
Xidex Corp.	49

CORPORATE INFORMATION CENTER

higher-priced sportswear. The new strategy has led to the doubling of 1985 profits and double-digit increases in sales. Founded in 1969 with one store selling Levi jeans, it now has 620 Gap stores and 39 Banana Republic outlets selling sportswear and travel gear. The company's unprofitable Pottery Barn chain, with 32 stores selling goods for the home, is for sale.

36

TANDEM COMPUTERS INC.

19333 Vallco Parkway
Cupertino, CA 95014
PHONE: (408) 725-6000
FOUNDED: 1974
FISCAL YEAR: Sept. 30
REVENUE: $624.1 million
NET INCOME: $34.4 million
EARNINGS PER SHARE: $0.82
ASSETS: $552.3 million
EMPLOYEES: 5,450
KEY EXECUTIVES: James G. Treybig, president; Robert C. Marshall, senior vice president

TANDEM COMPUTERS INC. pioneered a breed of minicomputers that it says never stop running. Organizations like banks, airlines and brokerages that face chaos if their computers "crash" are typical Tandem customers. Tandem's growth recently has slowed from its go-go years. To expand its market, the company is stressing modular systems that can start small and grow without requiring owners to make extensive changes in hardware or software.

37

CALIFORNIA FIRST BANK

350 California St.
San Francisco, CA 94104
PHONE: (415) 445-0200
FOUNDED: 1952
FISCAL YEAR: Dec. 31
REVENUE: $550.2 million
NET INCOME: $25.6 million
EARNINGS PER SHARE: $2.26
ASSETS: $5.401 billion
EMPLOYEES: 4,000
KEY EXECUTIVES: Toshio Nagamura, chairman; Seishichi Itoh, president

CALIFORNIA FIRST BANK is the American subsidiary of the Bank of Tokyo Ltd. and the seventh-largest bank in California. The bank has 134 branches in California and four overseas. In continuing to build its retail, fiduciary and corporate services, California First expects to expand its branches to 200 by 1990 by acquiring existing bank offices to fill gaps in its statewide banking network.

FOUNDED: 1970
FISCAL YEAR: Dec. 31
REVENUE: $543 million
NET INCOME: $31.7 million
EARNINGS PER SHARE: $0.40
ASSETS: $633.6 million
EMPLOYEES: 4,000
KEY EXECUTIVES: E. de Royere, chairman; Mike V. Breber, president

LIQUID AIR CORP. is going high-tech. The American subsidiary of France-based L'Air Liquide Societe Anonyme, the world's largest producer of industrial gases, hopes to penetrate the electronics market with gases produced by its Alphagaz division, which makes ultra-high-purity gases used in the manufacture of semiconductor wafers. Other Liquid Air subsidiaries manufacture and distribute a variety of gases for food processors, bottlers, hospitals, and chemical and oil companies. The company recently moved its offices from San Francisco to Walnut Creek.

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UNITED ARTISTS COMMUNICATIONS INC.

172 Golden Gate Ave.
San Francisco, CA 94102
PHONE: (415) 928-3200
FOUNDED: 1926
FISCAL YEAR: Aug. 31
REVENUE: $479.8 million
NET INCOME: $14.9 million
EARNINGS PER SHARE: $0.73
ASSETS: $730.3 million
EMPLOYEES: 6,800

states and Puerto Rico — Metro, Galaxy and Coronet co. The firm, which is not movie studio of the same nances and distributes film systems in 10 states, and sale supply businesses offe concession and theatrical e

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AMERICAN BUIL MAINTENANCE

333 Fell St.
San Francisco, CA 94102
PHONE: (415) 864-5150
FOUNDED: 1909
FISCAL YEAR: Oct. 31
REVENUE: $424.2 million
NET INCOME: $5 million
EARNINGS PER SHARE: $1.3
ASSETS: $134.6 million
EMPLOYEES: 26,000
KEY EXECUTIVES: Sydney chairman; R. David Anacker

AMERICAN BUILDI NANCE INDUSTRIES largest building-services vacancy rates in highrise in many cities have reduce for its janitorial services accounts for about 65 perce nues. Other services the vides include parking, e ment, pest control and ja The company has been tr liability and worker's comp ance costs, which have take toll on its labor-intensive o

The next 15

Here are the next 15 biggest companies in the Bay Area — some could grow to make next year's Top 100 list.

Company	City	Business
101. System Industries Inc.	Milpitas	Disk drives
102. Ungermann-Bass Inc.	Santa Clara	Computer networks
103. ArgoSystems Inc.	Sunnyvale	Electronic equipment
104. SJW Corp.	San Jose	Utility
105. Lewis Galoob Co.	So. San Francisco	Toys
106. Cetus Corp.	Emeryville	Biotechnology
107. ADAC Laboratories	San Jose	Image-processing
108. Equatorial Communications Co	Mountain View	Communications
109. Valid Logic Systems, Inc.	San Jose	Computer-aided engineering
110. Calny Inc.	San Mateo	Restaurants
111. Corvus Systems Inc.	San Jose	Computer Networks
112. Williams-Sonoma Inc.	Emeryville	Cookware stores
113. Up-Right Inc.	Berkeley	Work platforms
114. Fortune Systems Corp.	Redwood City	Computer systems
115. Anderson Jacobson	San Jose	Computer equipment

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HEADLINE: ~~TANDEM COMPUTERS -2; (TNDM) Announces new SNA products~~

DATELINE: CUPERTINO,Calif.

BODY:
    Tandem Computers Inc. (OTC:TNDM) Monday announced a new data communications
package, called SNAX/XF, which enhances Tandem's SNAX gateway to IBM's Systems
Network Architecture (SNA). Tandem also announced enhancements to other
SNA-related products including the company's SNAX High Level Support (SNAX/HLS)
application program productivity aid, and EXCHANGE remote job entry emulation
product. SNAX/XF enhances Tandem's existing SNAX product, which was introduced
in 1982. The new software package adds communications network management
capabilities and network services for application switching, reinforcing
Tandem's position as a leading supplier of SNA integration software. SNA support
for Tandem's 6100 Communications Subsystem is also included in the new package.
SNAX/XF allows Tandem on-line transaction processing systems to operate within,
and add value to, an IBM network environment. It provides SNA terminal access to
Tandem systems and communication between Tandem and IBM applications. This helps
to protect users' investments in installed IBM SNA devices, applications and
operations. ''Users can enjoy the advantages of high reliability and easy
expandability by using Tandem systems for distributed transaction processing in
an IBM network,'' explained Dennis L. McEvoy, Tandem vice president of software.
''We are continuing to broaden our offferings that allow us to benefit users
with multi-vendor networks,'' he said. The SNAX/XF communication network
management (CNM) facility provides the basis for Tandem systems to cooperate
with popular centralized network management tools, such as IBM's Network Problem
Determination Application (NPDA). The SNAX/XF network services facility makes it
easier for terminal users to select applications on any system in a Tandem or
SNA network, by simplifying logon and logoff operations. The product supports
application connection via easy-to-use tailored menus, and simplifies the
process of accessing multiple application connection via easy-to-use, tailored
menus, and simplifies the process of accessing multiple applications in a
network. Other SNA product enhancements: Tandem's SNAX/High Level Support
(SNAX/HLS) product has been enhanced to include the FLASH protocol used by the
Federal Reserve Bank network. Tandem also introduced Monday EXCHANGE/SNA. This
product allows users on Tandem systems to send job input and receive output
files and reports via remote job entry (RJE) services on IBM hosts. EXCHANGE/SNA
emulates features of the IBM 3777 RJE communication terminal in an SNA network.
This complements features of Tandem's existing EXCHANGE remote job entry product
that operate as an IBM 2780/3780 or HASP multi-level workstation in a
bisynchronous network. SNAX/XF CNM and 6100 support features will be available
in May 1986; the network service feature will be available in October. SNAX/HLS
will be available in May 1986. The price is $5000 initial license fee with a
$600 monthly license fee for NonStop TXP and NonStop II systems. The price for
the NonStop EXT system is $2500 with a $360 monthly license fee. EXCHANGE/SNA
will be available in May 1986. Tandem Computers manufactures and markets

computer systems and networks for on-line transaction processing. The company is headquartered at 19333 Vallco Parkway, Cupertino, Calif., 95014.

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

   CONTACT: Tandem Computers Inc., Cupertino
             Corinne DeBra, 408/725-7574 Z

INFORMATION CENTER

Tandem In Deal To Supply Rockwell International

By Peter Meade
Special to CSN

CUPERTINO, CALIF. — Tandem Computers Inc. has signed a deal to supply Rockwell International Corp. with equipment that will go into a new Rockwell telecom/computer system.

Ed Peverell, Tandem's third-party marketing director, said Tandem was one of three companies Rockwell approached in April 1985. Neither company disclosed the value of the two-year, renewable agreement.

The new Rockwell system, aimed at applications handling a high volume of incoming or outgoing calls and requiring access to a data base, will consist of a Rockwell Galaxy automatic call distribution system (ACD) and Tandem's NonStop fault-tolerant computer.

They will be linked by a Rockwell interface consisting of a software program for the Tandem computer that allows the telephones and computers to operate as a single unit, Rockwell said. It permits caller information to immediately and automatically appear on a computer screen as the call is being placed or received.

The system, which represents a bold step into the integrated voice/data arena, can adapt to include software from other vendors, according to Rockwell. This would allow such applications as automatic dialing for outbound telemarketing operations.

Rockwell's Switching Systems Division started looking for a computing partner after getting continued requests for such a system from its customers, said John A. Pollpeter, general manager, business communications systems.

Among the reasons for choosing Tandem was that its computers could deliver the quick response Rockwell felt was essential for the system to be effective, Pollpeter said.

"Four to eight seconds was not adequate," Pollpeter said. "We wanted one second after detecting that the call was answered that information would appear on the operator's computer screen."

Pollpeter said Rockwell's list of potential partners was whittled to five before choosing Tandem. He declined to identify the other companies.

Deciding Factors

According to Mark Ryan, Tandem's senior account manager for the system, the NonStop line's overall fault tolerance and modular design were other deciding factors.

The companies said they are preparing joint marketing, advertising and sales presentations, and will aim the new system at their installed bases.

"We look at it as being more than just a marketing arrangement," said Ryan. "There is also some low-level technology sharing involved," which could lead to additional products for the system.

Pollpeter said the system will handle between 50 and 768 terminals. The ACD will systematically and evenly distribute a high volume of incoming and/or outgoing calls among all the computer operators. Rockwell's Galaxy GVS-050 ACD, which handles up to 384 ports, will be used for smaller installations while the Galaxy GVS-3000 will handle the larger ones.

Before this, Rockwell would occasionally custom-assemble special applications packages for a customer, Pollpeter said. He pointed to Rockwell's customers in the growing outbound telemarketing industry and said, "They have let us know that we could do a better job of serving them if we had a totally automated, turnkey system."

Their suggestions helped Rockwell better understand where the applications existed and what was required of a computer-manufacturer partner, he said.

The GVS-050 cannot grow beyond 384 ports, Pollpeter said, so each installation must be evaluated for its eventual full growth size. The GVS-3000 can go a little below 384 ports for midrange installations that will eventually need high-end capacity.

Tandem will supply its NonStop EXT, NonStop II or NonStop TXP computers, a company spokeswoman said. The computer used will depend on the throughput capacity required, with the high-end, 16-processor EXT being capable of a maximum of 148 transactions per second, she said.

The companies declined to give pricing for the system. Pollpeter said the price would depend on the size of the ACD as well as the number and types of computers. He refused to give sales projections but said he expected market acceptance to "start out slow."

The two companies' products will be sold as a unit but shipped separately to customers, Tandem said. Each will install the system and will be available for joint service calls to avoid "finger-pointing," Pollpeter said.

The lone test system was configured at SSD's headquarters in Downers Grove, according to the companies.

Xerox Adds New High-End Graphics Workstation Model

EL SEGUNDO, CALIF. — Xerox Corp., building on a product strategy that aims at the document preparation market, has expanded its graphics workstation series with a high-end model.

Called the Publishing Illustrator's Workstation, the new product enables the creation of original graphics and supports the manipulation of images scanned by the Xerox 150 Graphic Input Station II.

Like earlier Xerox graphics workstations, which enable creation of text and simple graphics, the Publishing Illustrator's Workstation serves as an input device to Xerox's XPS 700 family of Digital Equipment Corp. VAX-based electronic publishing systems. Communication is via Ethernet.

Based on Xerox's 6085 computer enhanced with software to support graphics manipulation and scanner input, the Publishing Illustrator's Workstation presents two-dimensional monochrome graphics on a high-resolution 19-inch display.

According to Xerox, the workstation uses a proprietary microprocessor in addition to an Intel Corp. 8086 to support MS-DOS applications. It includes 2.6 Mbytes of internal memory, a 40-Mbyte rigid disk drive and a mouse.

Xerox's Business Systems Group, charged with carrying out the company's document management product strategy, also will market the Publishing Illustrator's Workstation.

Final pricing will be set when the workstation becomes available during the second quarter and is expected to be between $15,000 and $20,000, Xerox said.

Sam Wyly Maintains Low-Key

have the perception that they had the machine to themselves," Robertson said.

Alternately, the users could be running different programs at the same time, each from their own section of memory.

Robertson said MultiLink generally operates at good speeds, except when multiple disk accesses are needed.

Sufficient Memory

"Where you will feel the pain of shared processing is when everybody goes to load their program off the disk simultaneously, which is typical when you turn the computer on in the morning," he said.

Robertson said programs like LANLink and EasyLink are most attractive to people who have already purchased several PCs and want to connect them, while MultiLink's ability to connect dumb terminals to a single PC attracts users who are starting from scratch.

One of the problems with Multi-Link, however, has been providing enough memory to allow the dumb terminals enough RAM

Cable and software for each additional station is $109.95. Additional serial outputs require 20 Kbytes of RAM, DOS 2.0 or later, one disk drive and a serial communications port on each station.

Software Link's LANlink lists for $495 for a two-station system, including cable. Software and cable for additional stations is $99 per set. LANlink requires 24 Kbytes of RAM—plus 40 Kbytes per satellite—two disk drives (hard disk recommended) and a serial port on the server. Satellites require 24 Kbytes and one disk drive. The system requires PC-DOS 2.0 or later or MS-DOS 2.11 or later. Filelocking requires PC-DOS 3.0 or later.

The company's MultiLink Advanced is priced at $495 for software and cable for one satellite. It requires an IBM PC or compatible, PC-DOS 2.0 or later, 23 Kbytes—plus 7 Kbytes per satellite—and up to 4.3 Mbytes of additional RAM for serving terminals.

The AT Gizmo is $295 and requires an IBM PC/AT, Sperry IT, Compaq Deskpro 286 or other 80286-based machine.

ture Development.

Foxboro Co., one of the leading distributed-control systems suppliers, believes proprietary implementations will remain at the cell level of the production network in the process industries.

No One Supplier

"Process-industry users will probably stick with proprietary networks in local clusters because of the expertise of a particular vendor in that area," said Foxboro's Raymond Sawyer, manager of application technology development. "But no one supplier can provide the total solution. If we want our equipment to be used, we have to be compatible with standards. Our position is that we are going to

nology for their MAP gear. Concord Data Systems Inc and Motorola Inc have beta-test versions of carrierband modem devices. The Communications Division of Allen-Bradley Co plans to migrate its Data Highway II proprietary industrial LAN to support EPA, according to vice president and general manager Dennis Gillespie.

"EPA is an orderly way of bypassing levels that don't need simple bit-to-bit type of carrierband communications," Gillespie said. "But we'll continue evolving our proprietary baseband for richer applications."

Gould Inc.'s programmable control division also plans to support EPA and carrierband interfaces, according to MacAloney.

Tandem, Rockwell Team Up With Telemarketing System

CUPERTINO, Calif.—Tandem Computers Inc. will provide the hardware, and Rockwell International's switching division both hardware and software, for a new telecommunications system targeted at high-volume users.

The system is targeted at customers in the business of high-volume telemarketing, and to those handling collections and order entry. It will combine Tandem's NonStop II computer with Rockwell's Galaxy Automatic Call Distributor and a software package developed by Rockwell to interface the two.

Terms of the contract call for a software program to be offered, in conjunction with the Tandem and Rockwell products, to companies requiring a turnkey tele-

communications and computer system.

The software will be specifically designed for "inbound and outbound telemarketing companies." It will facilitate the handling of inquiries, tracking leads, market and sales analyses, and conducting opinion surveys.

Specifics concerning the new software, such as cost and availability, were not divulged. Details of the contract, such as its value, also were not disclosed.

A spokeswoman for Tandem said, "This is almost an OEM (original equipment manufacturer) agreement, but not quite. It's more of a system integration agreement. Rockwell is really the one that's pushing this. This is their market." —Juli Cortino

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s Out Digitally To Europe

in Manhattan are charged $5,000 per month for the AT&T portion of the transatlantic circuit, while users of the 1.5 Mbps service pay $45,000 per month.

Prices for dedicated service—accessed by satellite dishes located on the customer's premises—vary on a case-by-case basis, AT&T said.

The international portion of Skynet service is provided by Intelsat and is available in both the C-band and Ku-band frequency spectrums.

International Dataphone service is provided using the TAT-7 fiber-optic cable. AT&T said customers are charged $12,000 per month for the AT&T portion of the international DDS circuit.

While 56 Kbps service is offered to France and Switzerland, transmission speeds of 2.4, 4.8, 9.6 and 56 Kbps are supported to the United Kingdom.

AT&T's DDS, introduced domestically in 1974, is available in 104 metropolitan areas, and is offered to points in Canada through Telecom Canada's Dataroute Service.

AT&T said it hoped to expand the international Skynet and DDS services to other countries in the near future. It also said it planned to open a new shared earth station near Washington,

D.C., and another on the West Coast.

Texas Instruments is the only customer currently using International Skynet on a dedicated basis. The company uses the service to connect its facilities in Texas and England.

Canada Plan In 26 States

AT&T said the Reach Out Canada plan was available in 26 states and the District of Columbia. It should be extended to the remainder of the continental United States within six months, pending completion of billing arrangements with local telephone companies, AT&T added.

The plan, which is similar to AT&T's "Reach Out America" option, covers calls made during AT&T's night and weekend rate periods. AT&T said the plan would stimulate off-peak calling and allow it to better utilize its network.

Under the plan, subscribers pay $10 for the first 30 minutes of calls made to Canada each month and $9 for each additional half hour.

There is also a $10 sign-up fee, which AT&T Com said it would waive if subscribers chose the plan within 90 days of it being made available in their geographic area.

BOCs Like FCC's 800 Proposal

cess plan, most said the FCC should not prescribe onerous rules for the service.

Nynex said, "Nationwide toll-free 800 service will best be created by market demand, not by federal regulation," adding, "a successful nationwide system of 800 access for interexchange carriers cannot be regulated into existence; and unwarranted, premature regulation could adversely affect the potential success of such a system."

Bell Atlantic said the FCC "should not now prescribe detailed rules requiring changes in Bell Atlantic's implementation efforts," adding that any schedule that may be imposed should take into account Bell Atlantic's

dependence on AT&T.

GTE Corp. said minimum required features for the service should include 10-digit screening and routing to the appropriate interexchange carrier; automatic number identification from equal-access areas; a single national 800 directory assistance service; the availability of current 800 customer lists; and notice to all customers of competitive service availability.

The company added that optional features, such as originating-area screening, 800 number translation and time-of-day routing should be permitted, provided those who do not choose such features do not pay any of the costs associated with them.

—Paul McCloskey

At the same time, TI and Sun Microsystems, Mountain View, Calif., said TI will implement Sun's network file system (NFS) on the Explorer workstations, allowing access to files on Sun's Unix-based and TI's equipment.

Lou Reynolds, Apollo strategic marketing and business development manager, said he expects the joint development effort to be completed by the end of the current calendar year. He declined to estimate a value for the non-exclusive pact.

"Within 6 to 9 months we hope to have a product available from either one or both of us to very tightly integrate (an Explorer workstation into a Domain network)," Mr. Reynolds said.

Marketing Strategies

Mr. Reynolds said Apollo and TI are still discussing possible marketing strategies for the software link, noting it could be sold by one or both of the firms.

TI declined to provide details beyond a general statement that both firms will discuss joint marketing, sales and development of next-generation artificial intelligence technology for the engineering workstation market.

The agreement with TI will not affect the pricing — $3,500 per node — or availability — 60 days ARO — of the recently unveiled (EN, Feb. 17) Apollo version of the Common Lisp language. Mr. Reynolds said, adding, however, that development work is aimed at making both firms' versions of Common Lisp "as compatible as possible."

The Apollo version of the artificial intelligence application development language was de-

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ant to Widen Income Base, Aid Core Line

RD DIENNOR

us Development Corp.'s acquisisinesses are intended to broaden hile at the same time buttressing e — the 1-2-3 and Symphony

in "substantial" profit over the next 5 years, Mr. McLagan maintained, adding that the company's moves into the information services business must be evaluated "on a 5-year horizon."

Lotus has said the Isys acquisition is part of its effort to develop a position in the information services business, which the company entered in July, 1985, when it acquired Dataspeed, Inc., and introduced early this year Signal, a real-time stock market quotation service (EN, Jan. 6).

Strategy Back-Ups

Isys products, providing delivery of financial databases via distributed disk technology, and InfoCenter products, said to allow PCs to extract data from different mainframe sources, are con-

sidered to be among the offerings that will back up the Lotus information services strategy.

The purchase of Isys, which is now a Lotus subsidiary, gives the Cambridge-based firm access to

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Tandem to Supply CPUs to Rockwell

CUPERTINO, Calif. — Tandem Computers, Inc., has signed an agreement to supply its NonStop computers to Rockwell International's Switching division, which is integrating the transaction processors with its Galaxy automatic call distributor (ACD) telephone system for telemarketing and other high-volume calling and database access applications.

The integrated system — which involves the use of a Rockwell-

CORPORATE INFORMATION CENTER

Electronic News p18
Mar 17, 1986

Justice said since none of the companies' competitors suffered financially, Judge Greene's decision to boot the companies out of these businesses (EN, Feb. 3) is sufficient penalty.

After investigation, Justice confirmed what the BOCs had been saying all along — that they had been forthright with the department in disclosing their plans to provide interexchange services outside their territories and had not received specific instructions to first seek waivers to the Modified Final Judgment.

In conversations in late 1983 and 1984, Justice officials never indicated that the BOCs would be prohibited from entering these business areas without court approval.

While not clearing the companies of wrongdoing, the department reported that "there is no evidence that any of the (the BOCs) acted without concern for their obligations under the decree. Rather they acted in good faith, though mistaken, belief that their conduct was lawful."

It wasn't until January, 1985 that the department told Ameritech it would have to get a waiver to provide exchange services in other regions. That decision promoted Ameritech to ask the court for a reclarification of the decree. In his rejection of that appeal, Judge Greene ordered

any BOC already involved in exchange businesses outside their region to stop.

Since that decision, the judge has ruled that Pacific Telesis may participate in similar out-of-region activities (EN, March 3). Most of the other BOCs have similar waivers pending.

All three BOCs in the current case have agreed to leave the cellular resale business until the waivers are granted. Bell Atlantic, however, has a large paging business and has fought Judge Greene's order. Recently, he agreed to stay his motion pending Bell Atlantic's appeal to the appellate court.

Justice said it didn't quarrel with Bell Atlantic's logic that it should be allowed to retain its businesses while the department and court consider the company's waiver request. Justice noted, however, that Judge Greene has ruled Bell Atlantic should not be given additional time simply because it has now sought waivers.

"Thus, the court's action seems designed to increase the incentives of the BOCs to bring close questions to the court for prior judicial review by making it clear that a financial risk is attached to entering a new activity without obtaining prior approval from the court," the department concluded.

Tandem to Supply CPUs to Rockwell

developed software interface for the two types of equipment — is said to allow simultaneous voice/data operation of Rockwell's ACD, designed to distribute large volumes of inbound and outbound calls, and Tandem's NonStop TXP, II or EXT computers, designed for on-line transaction processing.

By combining the NonStop and Galaxy products, Rockwell hopes to develop systems that provide better coordination between the allocation of large volumes of incoming or outgoing calls with operators who need to access a database to service the calls. In the past, users who wanted to tie the ACD system and transaction processing systems together had to develop custom interfaces.

One of the primary applications for such an integrated system is telemarketing. Rockwell is reselling a sales and marketing software package designed for telemarketing from Datacorp Busi-

ness systems, Cleveland, which runs on Tandem's systems. Rockwell plans to offer additional software packages as part of turnkey system in the future, a company spokesman said.

The integrated Tandem and Rockwell system with the interface software is available at this time, as is the sales and marketing application software package. Prices vary considerably depending on the configuration of the system, a Rockwell spokesman said.

Neither Rockwell nor Tandem would reveal the dollar value of the agreement, which has a 2-year term with options for extensions.

A Rockwell spokesman said his firm has interfaced its ACD system with other computer systems, such as IBM and Honeywell, on a custom basis for users requesting it, and that the practice would continue. He said, however, that Rockwell has never sold an integrated system before.

—ERIC NEE

Marketing Unit Added by Micom

SIMI VALLEY, Calif. — Micom Systems, Inc., has formed a corporate marketing operations group and has named Chris G. Kenber, president of the company's sales division, as corporate vice-president in charge of the new unit.

The establishment of the corporate marketing operations group under Mr. Kenber is de-

In his new position, Mr. Kenber reports to Roger Evans, president of Micom. He also will have responsibility for two of Micom's wholly-owned subsidiaries, Black Box Corp., Pittsburgh, and Micom-Borer Ltd., Reading, England. Mr. Kenber joined Micom in 1982 as vice-president of sales.

Named to replace Mr. Kenber...

port to Michael Sternberg, his former boss at CIT-Alcatel. Mr. Sternberg was vice-president of marketing and corporate development for CIT-Alcatel before resigning to assume the presidency of Stantel 2 months ago.

In his newly created position, Mr. Doyle will be responsible for strategic planning and market identification. "He'll tell us what we should be doing in the U.S.," said Mr. Sternberg.

Stantel is the U.S. marketing arm for STC of the U.K. The company is headquartered here while its Information Systems division is in Florida and its Transmission Systems division is in Connecticut. Its primary product offerings are fiber optic transmission systems, digital PBXs, key telephone systems and multiplexers.

Mr. Doyle, whose resignation from CIT-Alcatel was effective

BOCs Buy Offshore, But F

WASHINGTON — The Bell operating extensively to foreign sources for equip from U.S. suppliers — while these fore remain largely closed to American fi Rockwell Telecommunications group tol

"While foreign firms have been scrambling to exploit the commercial bonanza from the breakup of AT&T, the U.S. has been making only slow headway in negotiating improved access for our (telecommunications) companies abroad," Joseph C. Culp told a hearing of the House Ways and Means Trade subcommittee.

"The problem is not lack of tenacity or skill on the part of our trade officials, but lack of incentive on the part of our trading partners to make meaningful concessions," he added.

Mr. Culp testified for the Electronic Industries Association, supporting proposed legislation to impose reactive trade measures against telecommunication equipment imports from countries which retained rigid trade barriers against U.S. exports.

Refuting arguments that foreign suppliers help U.S. employment by locating plants in this country, Mr. Culp said these

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AT&T, No. Telecom to Hold

ST. LOUIS — AT&T and Northern Teleco multi-phase field trial with Southwestern early next year for integrated services digi applications.

The trial, scheduled to begin in early 1987 and run into 1988, will consist of three phases using digital central office switches supplied by AT&T and Northern Telecom. Southwestern Bell Telephone is one of the Bell operating companies of Southwestern Bell Corp.

The initial phase of the trial will involve two island offices in the St. Louis metropolitan area, with one office employing AT&T's 5ESS switch and the other utilizing Northern Telecom's DMS-100 offering. The intial phase wil

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March 17, 1986, Monday

DISTRIBUTION: Business Editors

LENGTH: 581 words

HEADLINE: TANDEM-COMPUTERS; (TMDM) Introduces new application generator

DATELINE: CUPERTINO, Calif.

 BODY:
    Tandem Computers Inc. (OTC:TNDM) Monday introduced an easy-to-use,
menu-driven COBOL application generator called PATHMAKER that cuts in half the
time it takes to develop on-line applications for NonStop systems. PATHMAKER, an
extension to Tandem's database and development environment, provides a
menu-driven interface that guides programmers step-by-step through the
application development process on Tandem. Each menu offers options that
programmers can select by simply filling in blanks using English key words or by
pressing a function key on the keyboard. On-line help is available from every
screen. In addition to productivity and integration, PATHMAKER lets programmers
easily and quickly generate applications without sacrificing any run-time
performance or flexibility. Applications developed using PATHMAKER fully exploit
the capabilities provided by Tandem's architecture, such as modular growth and
 fault tolerance.   Programming environments for other systems generally provide
only a subset of these capabilities. PATHMAKER lets end users see samples of
their applications and request changes before programmers write a single line of
code. This prototyping process significantly speeds application development and
reduces DP application backlogs. With PATHMAKER, programmers can use a
full-screen interactive editor to ''paint'' terminal screens, the end-user
interface to the application. PATHMAKER then automatically generates Screen
COBOL application source code. In addition to tools like the screen painter that
make it easier to develop the on-line interactive portions of applications,
PATHMAKER provides productivity-improving features for developing the back-end
database portions of on-line applications. These include a library of
pre-existing database functions that programmers can select for incorporation
into applications without having to write any code. PATHMAKER frees programmers
from having to keep records of information about the application -- such as
lists of screens and functions assigned to different function keys. PATHMAKER
keeps records of all this information and allows programmers to request reports.
For developing specialized database functions, PATHMAKER supports COBOL,
including COBOL 85, Tandem's recently introduced implementation of the latest
COBOL standard. The new standard defines numerous programmer productivity
features. Tandem's implementation is the first commercially available version,
and it supports the new productivity features. According to Dennis L. McEvoy,
vice president of software, ''PATHMAKER is strategically important because it
enhances the speed of developing on-line transaction processing applications of
any size, and programmers gain development productivity without sacrificing
run-time efficiency.'' First customer shipments of PATHMAKER will be during
third calendar quarter 1986. The initial license fee is $3,500 (U.S.) per EXT
system, or $7,500 (U.S.) per NonStop II or TXP system. Tandem Computers Inc.
manufactures and markets computer systems and networks for the on-line
transaction processing marketplace. The company is headquartered at 19333

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Vallco Parkway, Cupertino, Calif., 95014. Phone is (408) 725-6000. PATHMAKER,
NonStop, EXT NonStop II and TXP are trademarks of Tandem Computers Inc.

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    CONTACT:  Tandem Computers  Inc., Cupertino
              Gina Burr, 408/725-7455
              or Pat Becker, 408/725-6035
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ELECTRONICS WEEK

ITC WILL HEAR TI COMPLAINT

The International Trade Commission last week decided to investigate charges filed by Texas Instruments Inc. that nine chip producers in the Far East are infringing its patents [*Electronics,* Feb. 3, 1986, p. 19]. The Dallas company paired its ITC petition with lawsuits it began filing in late January against manufacturers of dynamic random-access memories—eight Japanese and one South Korean. ITC chairwoman Paula Stern says the TI complaint "indicates that this investigation could possibly involve more trade by value than any previous [patent-infringement] investigation."

APOLLO, TI JOIN IN AI DEVELOPMENT

Apollo Computer Inc. and Texas Instruments Inc. will work together to bring artificial-intelligence technology to work stations, according to an agreement signed last week. As a first step, the two are working to tie TI's Explorer Lisp machine into the Chelmsford, Mass., company's Domain distributed networking environment, with a tightly integrated product expected in six to nine months. Longer term, Apollo hopes to integrate into its work station line the chips TI is developing with its Explorer technology.

GI SIGNS HYUNDAI TO MAKE NEW CHIPS

General Instrument Corp. has signed up Hyundai Electronics Industries Co. to make a new line of chips now under development at GI's Chandler, Ariz., microelectronics facility. Hyundai, a wholly owned subsidiary of Hyundai Group, South Korea's largest business organization, will initially make 64-K CMOS silicon-gate erasable programmable read-only memories and electrically erasable PROMs at its facility in Inchon, South Korea.

PAC BELL TO USE NEC GEAR FOR ISDN

Pacific Bell will use a digital adjunct system, the NEAX 6E, from NEC America Inc., in its first demonstration of Integrated Services Digital Network functions next week in San Francisco. The NEC system provides analog-to-digital conversion for an analog central-office exchange. Pacific Bell will use a prototype system that transmits simultaneous 64-kb/s voice and data and 16-kb/s packet-switched data. The demonstration will run through May 31 in San Francisco and from June 30 to Sept. 1 in Los Angeles. A full trial is set for 1987 using a Northern Telecom DMS 100 switch and a production NEC system.

MORROW DESIGNS GOES CHAPTER 11

Portable-computer maker Morrow Designs Inc., which provided the technology for the Zenith Data Systems laptop computer chosen by the Internal Revenue Service last month [*Electronics,* March 3, 1986, p. 16], has filed for reorganization under Chapter 11 of the U.S. bankruptcy law. The San Leandro, Calif., company had hoped to win the IRS contract for its own Pivot II, but instead saw the award go to Zenith, Glenview, Ill., for an identical machine built with technology licensed from Morrow.

HUGHES PLAYS KEY ROLE IN NEW PACT

Hughes Aircraft Co., a General Motors Corp. subsidiary, will play a central role in the technology agreement announced last week by GM and Seattle Silicon Technology Inc., Beaverton, Ore. For $2.5 million, Hughes, GM's Research Laboratories, and Delco Electronics Corp., another GM subsidiary, will link their design tools with SST's Concorde silicon compiler. The agreement also calls for GM and SST to jointly administer a $5 million research and development fund and gives GM the option to buy up to 15% of SST's common stock for $10 million.

CARNEGIE JOINS BOEING IN AI PUSH

In an effort to move its artificial-intelligence activities into the defense arena, Carnegie Federal Systems Corp., the recently formed Pittsburgh subsidiary of Carnegie Group Inc., has teamed with Boeing Computer Services, Bellevue, Wash., to provide AI technology to the Air Force. Boeing's contract with the service's Rome (N.Y.) Air Development Center calls for the development of tools and techniques to aid in AI software production. The project is part of the Strategic Defense Initiative Battle Management program.

ROCKWELL SWITCH USES TANDEM GEAR

Fault-tolerant computers from Tandem Computers Inc., Cupertino, Calif., will see their first use as back-end data-base machines for automatic call distribution in a system to be sold by Rockwell International Corp.'s Switching Systems Division, Downers Grove, Ill. Under terms of an agreement unveiled last week, Rockwell will supply a system using a Tandem NonStop computer, Rockwell's Galaxy Automatic Call Distributor, and a software package developed by Rockwell to link the two. The system is aimed at high call-volume applications such as telemarketing, collections, and order entry.

SME ADDS ARM FOR COMPONENTS

The Society of Manufacturing Engineers, Dearborn, Mich., has set up an Electronics Manufacturing Group to serve as an information center for the manufacture of electronic components. The group, called EM/SME, will cover manufacture and assembly of printed-circuit boards, silicon manufacturing and packaging, and the integration of these technologies with lasers and fiber optics.

U.S. TELECOM DEFICIT GROWS

The trade winds continue to blow in the wrong direction for the U.S. telecommunications equipment industry. The Washington-based Computer and Business Equipment Manufacturers Association last week said the industry's trade deficit rose 4% last year, to $1.31 billion from 1984's $1.258 billion. Since 1983, the first year of the telecommunications equipment trade deficit, the deficit has grown at an average annual compound rate of 43.8%. The culprits, Cbema argues, are "monumental trade barriers in other countries." Hence, Cbema is supporting trade legislation in the House of Representatives aimed at opening international telecommunications markets to U.S.-made products.

MOTOROLA GETS CHINA CONTRACT

Motorola Inc. has been selected to supply a cellular radio-telephone system to be installed in Beijing. The Schaumburg, Ill., company won out over an international field of competitors for the contract, valued at about $3.7 million. Though Sweden's LM Ericsson has announced plans to install a 450-MHz system in China, Motorola says its system will be more extensive, and will be the first 800-MHz cellular system in the People's Republic. The contract gives Motorola an important foothold in the country, since a number of other cities are expected to install cellular systems soon.

CORPORATE
INFORMATION CENTER

March 12, 1986

SECTION: OPERATIONS; Vol. 6, No. 5; Pg. 4

LENGTH: 645 words

HEADLINE: TANDEM BUYS INTO TELECOMMUNICATIONS FIRM; EYES EMERGING ISDN
MARKETPLACE

 BODY:
    Tandem Computers Inc. is looking to get in on the ground floor of the
market for Integrated Services Digital Network (ISDN) capabilities. Toward that
end, the Cupertino, Calif., computer firm has announced that it has struck "a
strategic alliance" with Integrated Technology Inc. (ITI), a privately-held
telecommunications firm based in Plano, Texas.

    Specifically, Tandem has made a 19.5% equity investment in ITI, and has been
given a seat on the ITI board of directors.

    In a statement released last month, Tandem officials said the ITI partnership
aims at fulfilling the emerging need for ISDN-oriented hardware. "Through this
agreement, Tandem and ITI will jointly develop products for Tandem's NonStop
systems and will be among the first to provide [ISDN] capabilities," the
statement noted.

    ISDN is a concept for an all-digital worldwide communications network based
on international standards. And although the banking industry by and large has
contributed little to the ISDN standards-setting process, indications are that
once they're cast in concrete, ISDN standards could have a dramatic affect on
industry operations, particularly electronic payment systems operations.

    According to John Compitello, an Irving Trust Co. group vice president who
keeps tabs on the telecommunications industry, initial ISDN standards likely
won't be ready until 1988, and chances are it will take at least 10 years before
any worldwide conversion to ISDN is complete. But when life under ISDN finally
does arrive, Compitello says "there are going to be massive terminal changes"
that will need to take place within the banking industry.

    To make matters worse, though, Compitello contends that the
telecommunications industry has done little to incorporate the needs of the
banking industry into its evolving ISDN standards.

    "I feel very strongly that the standards process that's in place is not
echoing the needs of the users; it's echoing the needs of the vendors and the
local carriers," Compitello told a gathering of bankers last month. "If they're
serious about meeting our needs, they should sit down and talk with us," he said
of ISDN standards setters.

    As Compitello sees it, the benefits of ISDN lie in its potential for total
network integration. Theoretically, he noted, ISDN should be able to carry all
the services a banking organization needs or wants. "But it's unclear if that's
possible," he said.

Speaking last month before a session of the American Bankers Association's telecommunications conference, Compitello ticked off a list of needs that should be met before bankers begin marching down "the glory road" to ISDN. Among other things, he said, any ISDN standard should include:

* Minimal sets of specifications that are clearly defined for users.

* Clearly defined interfaces for every potential connection point.

* Maximum access flexibility, particularly in terms of linking private in-house networks to ISDN.

* Provisions for a controlled transition.

* Stable pricing structures.

Compitello also said bankers should be concerned about whether life under ISDN will be absent of any freedom of choice and use.

For example, he noted, many banks have poured a lot of money into and are heavily dependent upon financial transaction message systems, such as the Society for Worldwide Interbank Financial Telecommunications (SWIFT). "What happens to SWIFT" if the ISDN concept becomes reality? "Will SWIFT dry up and will we be forced to go through ISDN?" he asked.

"I'm really concerned about the constraints [ISDN] might impose. But each of us can have an impact," Compitello told bankers attending last month's ABA gathering. "I implore you to lean on your favorite vendors and force them to understand your needs to foster ISDN work . . . to foster what you may need 10-15 years from now."

March 12, 1986

SECTION: IN BRIEF; Vol. 6, No. 5; Pg. 7

LENGTH: 87 words

BODY:
   Tandem Computers Inc. and Transnet Information Systems, Inc. have penned an agreement to jointly market Transnet's Collection Management System (CMS) to banks and other credit granting organizations. Transnet's CMS software automates the debt collection process by providing on-line services to collection staffers, according to Tandem officials. Under terms of the agreement with Tandem, San Francisco-based Transnet will license CMS directly to NonStop computer system users under the sponsorship of Tandem.

**CORPORATE
INFORMATION CENTER**

March 11, 1986, Tuesday

DISTRIBUTION: Business Editors

LENGTH: 257 words

HEADLINE: TANDEM-COMPUTERS; XL8 Disk storage facility wins Hannover Faire
award

DATELINE: CUPERTINO, Calif.

BODY:
     Tandem Computers Inc. (OTC:TNDM) Tuesday announced that its XL8 Disk
Storage Facility has won the prestigious Hannover Faire ''Good Industrial
Design'' award. The award, given annually by an international jury of design
experts, recognizes outstanding design for the highest standards in both
function and aesthetics. Chosen from thousands of entries, the XL8 will be on
display at the Hannover Faire CeBIT (March 12-19) and the Hannover Faire for
Industrial Technologies (April 9-16) in Hannover, Germany. The XL8 Disc Storage
Facility, announced in October 1985, provides the highest capacity per square
foot and the fastest seek time in the industry. It is capable of storing 4.2
gigabytes of data in less than six square feet. The Hannover prize is the second
design award won by Tandem within the last year. The company's V8 Disk Storage
Facility, announced in January of 1985, won the ''Industrial Design Magazine
1985 Design Review Award'' (ID) for excellence in industrial design. The ID
Annual is America's largest and broadest design recongition program. The XL8 has
been entered in this year's ID competitoin. Tandem Computers Inc. manufactures
and markets computer systems and networks for the on-line transaction processing
market. Tandem is headquartered at 19333 Vallco Parkway, Cupertino, Calif.
95014. Telephone is 408/725-6000. Note to Editors: Tandem, XL8 and V8 are
trademarks of Tandem Computers Inc.

     CONTACT: Tandem Computers Inc., Cupertino
               Leslie Stull, 408/725-6237

March 10, 1986, Monday

DISTRIBUTION: Business Editors

LENGTH: 523 words

HEADLINE: TANDEM/ROCKWELL; (TNDM/ROK) Sign agreement for integrated
telecommunications and computer system

DATELINE: CUPERTINO, Calif.

BODY:
    Tandem Computers Inc. (OTC:TNDM) and Rockwell International's Switching
Division, Downers Grove, Ill., announced Monday that they have signed an
agrerement under which Tandem will provide computers for a new Rockwell
integrated telecommunications sytem and computer system. The new system will
include a Tandem NonStop computer, a Rockwell Galaxy Automatic Call Distributor
and a software package developed by Rockwell to interface the two. The new
system is intended for companies in the business of high-volume inbound and
outbound telemarketing, or for those handling other high-volume applications,
such as collections and order entry. It is applicable to companies who have a
need for immediate access to data base information in order to complete ·
voice-initiated requests. The agreement was signed at Tandem's headquarters in
Cupertino, by James G. Traybig, Tandem president and CEO, and Thomas E. Farmer,
vice president and general manager of Rockwell International's Switching Systems
Divison. According to Farmer, ''The digital Galaxy ACD and the Tandem computer
system are ideally suited to work together because of their great reliability
and high performance characteristics. Critical to the integration of the two
systems is the newly developed Rockwell software interface that joins the data
base residing on the Tandem system to the Rockwell ACD system.'' One of the
principal uses for the new integrated telecommunications and computer system
will be in the area of telemarketing, with a software program to be offered in
conjunction with the Tandem and Rockwell products to companies wishing to
purchase such a system on a turnkey basis. Specifically designed for inbound
and outbound telemarketing companies, this software covers the most critical
areas of sales and marketing, including opinion surveys, lead tracking, inquiry
handling, and market and sales analysis. The Tandem and Rockwell agreement will
increase the offerings of applications solutions available for specific market
segments of both companies' end-user markets. According to Treybig, ''Tandem is
pleased to have been selected to provide the data base capabilities for the
Rockwell integrated telecommunications and computer system. ''This is an
outstanding opportunity for Tandem to participate in the rapidly expanding
telemarketing industry segment and related applications.'' Rockwell
International is an $11 billion, multi-industry company applying advanced
techynology to a wide range of products in its aerospace, electronics,
automotive and general industries businesses. Tandem Computers manufactures
and markets computer systems and networks for on-line transaction processing.
The company is headquartered at 19333 Vallco Parkway, Cupertino, Calif. 95014.
The phone number is 408/725-6000

    Tandem and NonStop are trademarks of Tandem Computers Inc.

CONTACT: Tandem Computers, Cupertino
           Joyce Strand, 408/725-6516
           or
           Rockwell International, Downers Grove
           Joe Levinson, 312/960-8407

s chases IBM users

applications programs, operating systems and communication requirements.

Harris also thinks the system is unique in offering workstations which each have their own processor: "This reduces traffic on the network, and protects the user if part of the network should break down," says Mike Thatcher, European marketing manager.

The series includes three workstations at present, supporting a range of software applications and communications capabilities. Harris intends to bring out the Concept III 2000 personal computer in the spring, and another controller, the 4300, so users can incorporate IBM and other PCs into networks.

Harris says it has pooled its experience in data processing and communications networking with that of US word processing firm Lanier, acquired by Harris two years ago. This led to a system which, says general manager Mike Baker, "provides the best of both worlds without compromise".

The firm aims to take a 2% share of the UK market over the next 12 months, and hopes to raise this to 10-12% after three to five years.

Concept III is available now, and a typical configuration with full office automation software, six intelligent workstations and a printer costs under £30,000.

Singapore was supplied by **CAP**, in a $1.2 million turnkey contract. The system uses Tandem computers with Hypercom terminals and Base 24 software. There are 1.3 million card-holders in the system using 195 terminals linked to five local banks.

Chemicals giant Du Pont is spending £500,000 on a Plant Design Management system from UK Cad/Cam specialist **Cadcentre**. A trial system has been installed in Du Pont's US office in Delaware, running on a Prime 50 Series super minicomputer. The software covers 3D modelling, analysis and documentation of plant engineering projects.

Builders merchant Crossley and Sons has ordered 60 DEC PDP 11 computers from **Applied Computer Systems**. Worth over £1 million, the equipment includes 400 terminals. Each system will have point-of-sale terminals and be used for data capture, stock control and sales invoicing.

The Securities and Investments operation of Guardian Royal Exchange Assurance is spending £500,000 on two **Tandem** Non-Stop computers. The fault-tolerant machines are located in the City of London and Lytham St Annes and fit into the company's existing SNA network.

Ford Motor Company has a new, £1 million, **Control Data** Cyber 180/835. The machine is used for computer-aided design and holds a master directory of engineering drawings. It is installed in the engineering centre at Dunton, Essex.

Oxford Regional Health Authority is buying its second **ICL 2900** mainframe. It is installing the £500,000 ICL 2958 at the authority's headquarters in Headington.

Data Magnetics raises £2.75m

by Dave Madden

Data Magnetics, the biggest high technology venture capital start-up of 1985, has raised another £2.75 million through a lease-back arrangement.

The company, founded in north Wales last April to develop thin film media for Winchester discs, has got £2.5 million from Capital Leasing, a subsidiary of the Bank of Scotland, and £250,000 from Mercantile Credit, by leasing back capital assets. It has agreed to move its bank account from Barclay's to the Bank of Scotland as part of the deal.

Data Magnetics has raised over £13 million.

But it has already spent or committed some £4.5 million of its original £5.1 million equity cash.

LEE . . . Moving.

chairman, says he has been offered a "tremendous systems opportunity" at Lloyd's. At the moment the company runs an IBM 3084Q mainframe. It expects information technology, and communications strategy in particular, to be key in its efforts to remain pre-eminent in the insurance underwriting market.

Lee adds that he is proud of his work at Brooke Bond such as "the concept of marketing DP to the end users."

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Computerworld

March 3, 1986

SECTION: NEW PRODUCTS; Systems & Peripherals; Terminals; Pg. 86

LENGTH: 91 words

BODY:
   Soroc Technology, Inc. has announced the Elite, a Tandem Computers,
Inc.-compatible terminal.

   The Elite is a 14-in. tilt-screen terminal said to emulate Tandem's 6530
family. It features a green phosphor screen; display memory support with 300
lines or 12 pages in block mode; menu screen configuration, asynchronous
communications, half or full duplex, supporting RS-232C and current loop
interface; serial printer port; and optional integrated 300/1,200 bit/sec.
modem.

   The Elite costs $995.

   Soroc, 161 Freedom Ave., Anaheim, Calif. 92801.

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Computerworld

March 3, 1986

SECTION: NEW PRODUCTS; Systems & Peripherals; Printers/plotters; Pg. 87

LENGTH: 76 words

BODY:

Tandem Computers, Inc. has announced two line printers for use with the
company's Nonstop systems: the 5515 desktop model and the 5516 free-standing
model.

The 5515 is said to print at 300 line/min, and the 5516 is said to print at
speeds up to 600 line/min. Both feature line matrix technology and a self-test
diagnostic.

The 5515 model costs $7,200, and the 5516 model costs $11,900.

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

March 3, 1986, Monday

DISTRIBUTION: Business Editors

LENGTH: 581 words

HEADLINE: TANDEM-COMPUTERS; (TNDM) Norton Co. installs Tandem system and Midec software for manufacturing shop floor control

DATELINE: CUPERTINO, Calif.

BODY:
Tandem Computers Inc. announced Monday that Norton Co. of Worcester, Mass., has installed a Tandem NonStop TXP computer system and a software package from Midec Inc. of Pittsburgh to perform shop floor control at two of its U.S. Grinding Wheel Operations plants. Norton, which had 1985 sales of $1.2 billion and operates 120 plants in 26 countries, employs 18,100 people. The company is the world's leading producer of abrasive products including grinding wheels and sandpaper. It is also a leading supplier of products and services used for gas and oil exploration and of technologically advanced ceramics and plastics. Norton will use the multimillion dollar Tandem/Midec system to automate procedures now done manually using paper: order scheduling and tracking, employee time and attendance and labor data collection. The system will control these shop floor control functions while communicating with a mainframe computer that handles order processing, according to Dick Kennedy, vice president and general manager of Norton's Vitrified Grinding Wheel division. Kennedy commented, ''With this automation project we will dramatically reduce the time required to fill orders. We chose the Tandem/Midec solution because of its flexibility and ease of implementation.'' Time and attendance functions of the new system are slated to go on-line in May, 1986, Kennedy added, and shop floor scheduling and control as well as operator labor data entry via bar code will be on-line in October 1986. Kennedy feels that in the mature abrasives business only those companies that invest in plant modernization such as this will be competitive long-term. Referring to the Midec package called ION-M, Wayne Simmons, vice president of operations for Midec, explained, ''Our system met Norton's demand for an MRPII package because it provides 100 percent assigning and tracking of inventory and can be tailored to fit users' needs due to its easily modifiable base code. Also, its modular structure allows users to implement a total system by adding one function at a time.'' Gerald L. Peterson, Tandem's vice president of marketing, said, ''This step by Norton shows how large manufacturers are moving to computer-integrated manufacturing systems. Tandem's strengths in communications, networking and fault-tolerant reliability offer benefits throughout the planning and execution areas of computer-integrated manufacturing.'' Midec Inc. is an eight-year-old company which provides customized manufacturing systems software running on Tandem systems. It is a member of the Tandem Alliance, a program to encourage firms to develop application software programs that run on Tandem NonStop systems. Midec is headquartered at 267 Kappa Drive, Pittsburgh 15238. Tel. 412/963-6011.
Tandem Computers Inc. manufactures and markets computer systems and networks for the on-line transaction processing marketplace. The company is headquartered at 19333 Vallco Parkway, Cupertino 95014. Tel. 408/725-6000. Note to Editors: Tandem, NonStop and NonStop TXP are trademarks of Tandem Computers Inc.

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ION-M is a trademark of Midec Inc.

    CONTACT: Tandem Inc., Cupertino
             Tom Waldrop, 408/725-7191
             or
             Norton Co., Worcester
             Ron Harrison, 617/795-2004
             or
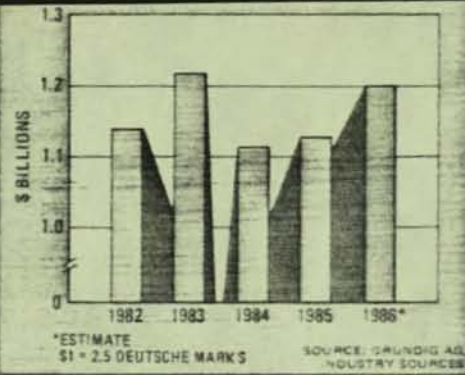   Midec, Pittsburgh
             John Hammond, 412/963-6011

from $115 million in April 1984 to an estimated $32 million by April of this year. on sales of roughly $1.2 billion (charts).

STILL THE MAINSTAY. Koning, who took over as Grundig president in April 1984, wants to make the company less dependent on consumer electronics, which he thinks probably won't grow at more than 2% annually for the next few years. However, audio and video equipment "will continue to be our main pillar of business.".

Even here, though, Koning is finding ways to lessen Grundig's exposure. For of scale approaching that of the Japanese and allow us to stay competitive on foreign and domestic markets," Koning says.

Nonconsumer products contribute between 8% and 10% of Grundig's sales, and this business is growing by about 25% a year. Grundig will push even harder in office systems equipment, such as dictating machines, telephone answering sets, and videotex equipment. Another promising field is industrial electronics, where Grundig

*ESTIMATE
$1 = 2.5 DEUTSCHE MARKS

SOURCE: GRUNDIG AG INDUSTRY SOURCES

BOTTOM LINES

TANDEM BUYS 19.5% OF TELECOM FIRM

The ever-growing telephone-company demand for computers is luring Tandem Computers Inc. The Cupertino, Calif., maker of fault-tolerant computer systems has acquired a 19.5% interest in Integrated Technology Inc., a privately held telecommunications company in Plano, Texas. Tandem says the investment—for an undisclosed amount—is part of a strategic alliance between the two companies. They will jointly develop telecommunications products for Tandem's NonStop computer systems, and they will be "among the first to provide integrated services digital network capabilities." ISDN is a concept for an all-digital network based on international standards, Tandem notes.

SOFTWARE RESEARCH RAISES $4.2 MILLION

Software Research Corp., a privately held company in Natick, Mass., has raised $4.2 million in new venture financing. The company, which makes software products that allow users to exchange information between dissimilar computers, says this new funding brings to $9.7 million the amount it has raised since its start in 1978. It will use the new money to fund development work and marketing activities.

MONOLITHIC MEMORIES PLANS STOCK OFFER

Monolithic Memories Inc., Santa Clara, Calif., plans a public offering of 2 million common shares. The manufacturer of semicustom logic and memory circuits will use the proceeds for working capital.

CHIPCOM COMPLETES SECOND FINANCING

Chipcom Corp. has raised $4.25 million through a second round of venture financing. Founded in 1983, the Needham, Mass., company makes radio-frequency data-communication products for broadband local-area networks.

A clear advantage of Compact Disclosure is that it reduces the need for on-line research, with its inherent escalating phone costs, busy signals, vulnerability to signal trouble, computer trouble on the host system, and slow transmission where special lines and modems aren't in use.

There are two pricing levels for Compact Disclosure. For libraries and learning institutions, an annual disk is $2,200 while a quarterly update is $3,200 per year. Corporations pay $3,500 for the annual disk and $4,500 yearly for quarterly disks. Compact Disclosure has not been tested on IBM-compatibles as of this writing.

Circle No. 105 on Reader Service Card

Tandem and DML Form Pas de Deux

It takes two to tango, so **Tandem Computers,** Cupertino, Calif., is looking for software partners through its **Tandem Alliance** program. So far 130 partners have accepted, finding Tandem's customer list and marketing muscle quite attractive. Tandem, of course, gains a line of partners as steady as its fault-tolerant transaction processing, hoping to lure more customers to the floor.

Tandem's latest partner is New York City-based **DML,** a developer of software systems for brokerages and banks. The firm's **Mortgage Backed Accounting System (MBAC),** has been converted from IBM hardware to run on Tandem machines as well.

MBAC is designed to automate the processing of transactions in such securities as Ginnie Maes, Fannie Maes, TBAs and Standbys, from order entry to settlement, allowing multi-account and multi-issue processing under one transaction number, supporting retail, inventory and agency transactions. MBAC displays the speed of each pool on-line.

"The fact that Tandem has formalized a program to deal with software companies is very key," says DML president Daniel McLoone.

"The problem is that software companies will usually go after the mass market—which is IBM—and to get a software company to develop on equipment that only has penetrated five or six percent of the marketplace wouldn't be a very good business decision on the software company's part," he adds.
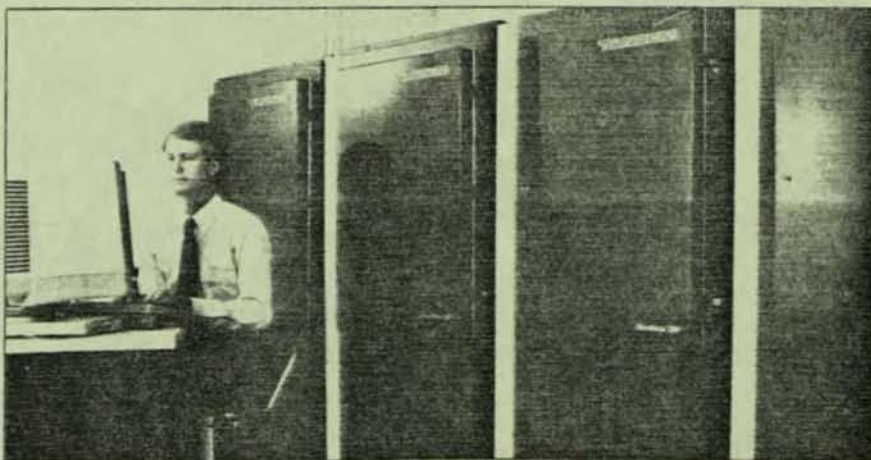
"I think that Tandem has gotten around that by forming a program to deal with software people," McLoone continues, "so that they (Tandem) can get the benefits of those companies' software, and they have people dedicated to that, which makes it very appealing to a company such as us."

McLoone thinks that such hardware/software duos will continue to form in the future, since the music is so compelling. "It's a software world," he notes. The DML chief also recalls that the first dance with Tandem showed no signs of two left feet.

"Our experience with the first conversion going from IBM to Tandem encouraged us because it was done with only a modest amount of effort," says McLoone.

Discussions are currently underway for the debut of another DML product on the Tandem floor, though which one, and when, has not been decided as of this writing. The Mortgage Backed Accounting System, marketed jointly by DML and Tandem, runs on Tandem's **NonStop TXP, NonStop II** and **NonStop EXT** systems, with the price beginning at $75,000.

Circle No. 106 on Reader Service Card
Reported by Diane Crawford and Victor Kulkosky.

Tandem Computers assists vendors such as DML in migrating their software to such machines as this NonStop TXP™.

CORPORATE INFORMATION CENTER

March, 1986

SECTION: HANDS ON; A Manager's Notebook; Pg. 109

LENGTH: 52 words

HEADLINE: SHARE THE PLAN

BYLINE: James G. Treybig, chief executive officer, Tandem Computers Inc.,
Cupertino, Calif.

BODY:
   "One of the things that's helped us succeed is that almost every employee
understood where we were going. A lot of companies develop plans and lock them
in a drawer. But we made a big chart out of ours and showed it to everybody in
the company. We tell them about the challenges and the question marks."

GRAPHIC: Illustration, no caption, PETER KNOCK

Data Flow

At last, **Tandem Computers Inc.** is expected to debut its new high-end fault-tolerant minicomputer on April 14. The much-talked-about system, code-named **Check**, will be based on ECL technology to offer mainframe-class performance, sources said. Pricing reportedly is still being ironed out.   —*Susan Kerr*

• • •

San Jose, Calif.-based **Molecular Computer Inc.** president Frank Zurcher has relinquished a number of day-to-day operations to a management consultant referred to the company by its primary venture capitalist, **Brentwood Associates**. Zurcher has now moved over to take responsibility for marketing and sales. Additionally, Molecular recently laid off 25 of its 125 domestic employees as a result of its increasing shift to overseas production, Zurcher said. The company has hired Thomas Sherby of **Baratzol & Sherby**, a management consulting firm based in Palo Alto, Calif., to oversee the company's manufacturing, engineering and finance departments. Sherby, a former operations executive with **NCR Corp.**, will remain with Molecular as a consultant for an undetermined amount of time, Zurcher said, and may become a member of the company's board of directors. However, Zurcher stressed that Sherby reports to him, not Brentwood. Molecular's backers, including Brentwood, recently rescued the company from what officials described as a tight financial situation with a cash infusion of about $3 million.   —*Julie Pitta*

• • •

Only weeks after signing on, former **ITT Corp.** executive Richard G. Taylor is out as president of **Touch Communications Inc.** Touch chairman Charlie Bass is again looking for someone to take the chief executive duties off his hands. "These are high-pressure times, and things happen fast," said Bass. "You don't know if things are going to work out until you try, and in this case it didn't work." Bass said Taylor was "enthusiastic" and "a great guy." Scotts Valley, Calif.-based Touch, co-founded to develop local-area-network software by Bass and former **Advanced Computer Communications** LAN systems manager Brian McGann, recently changed its name from **Touch Distributed Systems Inc.**   —*Mary Brisson*

• • •

Look for **Intel Corp.** to start shipping samples next month of its new single-chip message-passing co-processor (MPC) for the Multibus II bus interface. Multibus II vendors have been anxiously awaiting the chip—which replaces two custom chips and more than 30 ICs—to reduce board space and permit message passing. The chip comes nearly two-and-a half years after the Multibus II specification was an-

P-CAD Hit With S
From Sanders An

By Susan Kerr

SAN JOSE, CALIF. — Sanders Associates Inc. and its CalComp Division have filed a $22 million lawsuit charging Personal CAD Systems Inc. with fraud and negligence in connection with CalComp's acquisition last year of a P-CAD division.

In the suit, P-CAD, Los Gatos, Calif., willfully misrepresented the financial health of its Architectural, Engineering and Construction (AEC) Division when it sold it to CalComp last May for more than $7 million worth of Sanders stock.

Sanders claims that at the time of the deal, P-CAD said the AEC business had a backlog of at least $4.4 million, whereas the actual amount turned out to be "substantially less than $1 million. This representation and warranty gave a false and misleading picture of the condition, trend and value of the AEC business," according to the suit, filed at U.S. District Court for the Northern District of California here.

The suit charges P-CAD officials with portraying "the AEC business as a viable and growing business tending toward profitability, with continual increases in its revenue and income. The AEC balance sheet defendants provided to plaintiff represented that the AEC business had. . .$669,991 of net accounts receivable."

However, the suit goes on to say, "In reality, a significant portion of the accounts receivable were uncollectible, and either should not initially have been recorded as accounts receivable, or should have been written off. . .Defendants knew or recklessly ignored the fact that they were uncollectible."

Had Sanders known the "true facts as to the financial condition of P-CAD. . .[it] would not have purchased the AEC business at all or at the price that it paid," the suit says.

Sanders representatives could not be reached by press time.

P-CAD president and suit co-defendant Richard Nedball last week said he was unaware of the lawsuit. He noted, "I guess when somebody acquires something and it doesn't work out, they've got to blame somebody. . .[It's their re-

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Wang Drops Plan To Se

opposed that plan, claiming it would have been more complex to administer and that it would have resulted in significantly lower profits for them.

However, Wang will implement one aspect of the plan that will allow VARs to operate as software-only vendors in any of its 31 sales districts. When selling as a software-only vendor, a VAR will be able to accrue points toward its sales quota, he added.

Referring to the early proposals that VARs protested, Borgmeyer said, "Those were changes

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Computer Systems News
March 31, 1986 p26

COMMUNICA

Local-Area Networks/Modems & Multiplexers/Co

Tandem Adds 3 Net Products Supporting SNA Environment

CUPERTINO, CALIF. — Tandem Computers Inc. last week confirmed its commitment to the IBM communications strategy by introducing three networking products for the Systems Network Architecture environment.

The company is betting on the success of these new programs to support the Tandem Systems Network Architecture Access Method (SNAX), a software interface between the company's fault-tolerant computers and SNA.

Tandem came out with SNAX/APC (Advanced Program Communication), its first Logical Unit (LU) 6.2 product; SNAX/XF (Extended Facility), an enhanced gateway for Tandem systems; and Exchange/SNA, a job input and output program, to further penetrate Fortune 1000 accounts.

Tandem's SNAX/APC is expected to gain much industry attention since it is one of the many products joining the LU 6.2 bandwagon this year. Companies such as Wang Laboratories Inc. and Digital Equipment Corp. have also announced support for LU 6.2.

LU 6.2, a set of protocols to permit advanced program-to-program communications between devices in SNA environments, is rapidly gaining acceptance among corporate users. LU 6.2 is hardware independent, allowing other vendors to develop common network applications to work in a distributed environment.

The software will enable Tandem NonStop II, NonStop TXP, and NonStop EXT computers to easily tap IBM host programs. The product will also allow programmers to establish and maintain SNA program-to-program conversations. SNAX/APC will allow NonStop applications to interact with IBM and other vendors' applications also supporting LU 6.2.

Available in July, SNAX/APE will be priced at $5000 for an initial license fee and $600 monthly for Tandem NonStop II and TXP computers. Users with the NonStop EXT systems will be charged $1000 for a one-time license fee and $240 per month.

Tandem's new enhanced SNA gateway, called SNAX/XF, provides communications network management and application switching capabilities. A communication network management (CNS) feature provides the ability for Tandem systems to work with IBM communications tools such as IBM's Network Problem Determination Application (NPDA), said a Tandem spokeswoman. The gateway replaces the existing SNAX gateway introduced in 1982.

The company also unveiled Exchange/SNA, a product that allows users to send job input and receive output files from IBM host systems. The product emulates features on the IBM 3777 RJE communication terminal in an SNA network.

Both SNAX/XF and Exchange/SNA are slated to ship in May. Pricing has not been determined.
—Kathy Chin

Tymnet Adds Support For Async-to-3270

ATLANTA — Tymnet Inc., the McDonnell Douglas packet-switching company, last week unveiled SNA/SDLC support for its Async-to-3270 Service.

The announcement, at the Interface '86 conference, confirms Tymnet's key direction this year—enhancing its line of IBM data communications services.

The Async-to-3270 SNA/SDLC (Systems Network Architecture/Synchronous Data Link Control) service will link asynchronous terminals and personal computers to IBM mainframes without the use of synchronous emulation boards, WATS lines and protocol converters.

Users can tap such host applications as Time Sharing Option (TSO), Virtual Memory (VM), and Customer Information Control System (CICS). Previously, users could achieve the SNA/SDLC protocol conversion only via bisynchronous or X.25 interfaces.

The SNA support software is built into the Tymnet public packet-switched network. Tymnet views the service as a substantial cost-cutting measure for companies that need to link micros to mainframes and access 3270 applications.

Tymnet has tested 832 asynchronous terminals and personal computer packages that are compatible with the new service. The service will cost users the regular Tymnet rate, between $8 to $10 per hour, a Tymnet spokeswoman said.

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CORPORATE
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ommunications Software

Computer Systems News
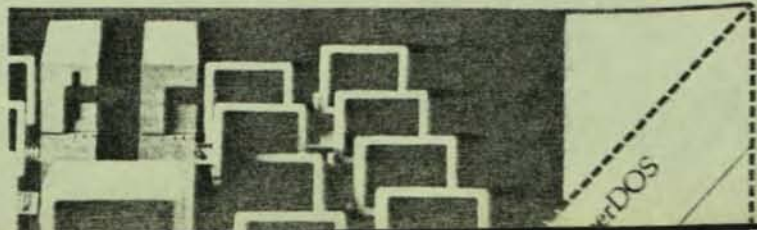Mar 31, 1986 P26

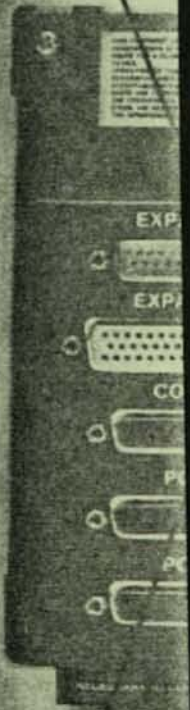# The Wire

New SNA Gateway

Advanced Computer Techniques Corp., New York, has unveiled the ACT SNA Gateway for linking IBM mainframes operating in the Systems Network Architecture environment with other like systems or with non-IBM computers. The ACT SNA Gateway supports peer-to-peer communications as well as terminal-to-host, and reduces the actual number of circuits needed to support a given number of host sessions by multiplexing logical sessions onto a fewer number of physical lines. It supports **Tandem Computers Inc.**'s SNA Access (SNAX) software high-level SNA interface, and is priced at $35,000.

• • •

DecaTek Inc., Atlanta, last week at Interface '86 enhanced its ZIPmodem family of high-speed modems for micro-to-mainframe applications. New capabilities for the modem family include ZIPlink, which allows a single mainframe communications port to be simultaneously accessed by more than one dial-up user, and SNA 3770 support for all ZIP-modems, which provide data transmission at up to 9600 bits per second over standard phone lines.

• • •

SIGNIFICANT BITS: **Dynatech Packet Technology Inc.**, Alexandria, Va., has struck a deal with **Prime Computer Inc.** under which Prime and Dynatech will jointly market certain Dynatech X.25 packet switches....**Attachmate Corp.**, Bellevue, Wash., has enhanced its 3-N-1 3270 emulation software for the **IBM PC** to support IBM's 3270-PC Application Program Interface and the IRMA micro-to-mainframe link. The software runs with Attachmate's 3-N-1 Coax Adapter, and they together are priced at $1195. Attachmate also announced an OEM and program license agreement with **Olivetti**, Ivrea, Italy, under which Olivetti will purchase the 3-N-1 Coax Adapter and 3270-PC Emulation Program for remarketing with the M24-3270 Personal Computer.

Tandem Offers Series of SNA Products

CUPERTINO, Calif. — Tandem Computers, Inc., introduced a series of IBM Systems Network Architecture (SNA) products and enhancements, including its first LU6.2 protocol interface.

Tandem's interface to IBM's Logical Unit 6.2 protocols, called SNAX/APC, provides what Tandem calls a high-level application program interface to IBM applications which shields the user from SNA programming.

SNAX/APC is priced at $5,000 initial license fee and $600 monthly license fee for Tandem NonStop II and NonStop TXP systems, and $1000 initial license fee with a $240 monthly license fee for the NonStop EXT system. SNAX/APC will be available in the third quarter of 1986.

Tandem also introduced SNAX/XF, an enhancement to the firm's existing SNAX product introduced in 1982. The new product is said to add communications network management capabilities and network services for application switching, as well as SNA support for Tandem's 6100 Communications Subsystem.

The SNAX/XF communication network management (CNM) facility enables Tandem systems to work with other centralized network management tools such as IBM's Network Problem Determination Application (NPDA). SNA support for Tandem's 6100 Communications subsystem is also included.

The SNAX/XF network services facility is said to make it easier for terminal users to select applications on any system in a Tandem or SNA network by simplifying log-on and log-off operations.

SNAX/XF, which will be available in May, 1986, is priced at $5,000 initial license fee with $600 monthly license fee for NonStop TXP and NonStop II systems, and $2,500 initial license fee and $360 monthly license fee for the NonStop EXT.

Tandem's SNAX/HLS, high-level support, has been enhanced to include the Flash protocol used by the Federal Reserve Bank network. It will be available in May, 1986, priced at $5,000 initial license fee with a $600 monthly license fee for NonStop TXP and NonStop II systems, and $2,500 initial license fee and $360 monthly license fee for the NonStop EXT system.

Tandem also introduced Exchange/SNA, which is said to allow users on Tandem systems to send job input and receive output files and reports via remote job entry (RJE) services on IBM hosts. Exchange/SNA emulates features of the IBM 3777 RJE communication terminal in an SNA network.

Prices were not disclosed for Exchange/SNA, which will be available in May.

Electronic News
March 31, 1986

p32

March 31, 1986, Monday

DISTRIBUTION: Business Editors

LENGTH: 508 words

HEADLINE: TANDEM-COMPUTERS; (TNDM) Makes equity investment, joint marketing agreement with Triplex

DATELINE: CUPERTINO, Calif.

BODY:
Tandem Computers Inc. (OTC:TNDM) Monday announced it has made an equity investment in Triplex, a privately-held manufacturer of fault-tolerant programmable logic controllers, as part of a strategic alliance between the two companies. The investment represents a major commitment by Tandem to meet the growing demand for highly-reliable integrated manufacturing systems for the factory automation market. Under the agreement, Tandem will market Triplex fault-tolerant programmable logic controllers (PLCs) in conjunction with Tandem's NonStop systems to offer comprehensive fault-tolerant solutions for computer-integrated manufacturing (CIM). Financial terms of the agreement were not disclosed. The main communications link between Tandem and Triplex systems will be via Tandem's implementation of the Manufacturing Automation Protocol (MAP). According to Gerald D. Held, Tandem director of new ventures, ''The Tandem/Triplex offering provides fault-tolerant technology from the manufacturing floor to the factory host system, greatly increasing plant productivity and executive planning capability. ''In addition, our unique product combination gives manufacturers a cost-effective, reliable solution to the problems of integrating islands of automation,'' said Held. PLCs are used in manufacturing and process industries for real-time monitoring and control of sensors, relays, motors, robots and other devices. Because failures can halt production and damage work-in-process, manufacturers often add redundant or backup PLCs to take over in the case of a failure. The Triplex T32 offers the benefit of fault tolerance without sacrificing any of the performance users have come to expect from today's top-of-the-line PLCs, explained Held. ''All faults are automatically detected and uniquely identified to maintenance personnel and all modules are 'hot replaceable,' '' Held added. According to Jonathan A. Humphry, Triplex's founder and president, ''Initial industry reaction to the T32 product line has exceeded our expectations. Together, Tandem and Triplex can offer customers a truly integrated fault-tolerant system to satisfy the demanding requirements of factory automation and process control.'' Triplex was founded in 1983 to design, develop, manufacture and market products for fault-tolerant control of industrial machinery. Triplex is located at 20316 Gramercy Place, Torrance, Calif. Phone is 213/618-1441. Tandem Computers Inc. manufactures and markets computer systems and networks for on-line transaction processing. The company is headquartered at 19333 Vallco Parkway, Cupertino, Calif., 95014. Phone is 408/725-6000.

Tandem and NonStop are trademarks of Tandem Computers Inc. Triplex and T32 are trademarks of Triplex, a California corporation.

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Contact: Tandem Computers, Cupertino
            Tom Waldrop, 408/725-7191
            or
            Triplex, Torrance
            213/618-1441

Computerworld

SOFTWARE & SERVICES

Tandem will share SNAX with LU6.2

By Jeffry Beeler

CUPERTINO, Calif. — Tandem Computers, Inc. last week joined the trend to interconnect with IBM's LU6.2 protocols by announcing an extension to its Systems Network Architecture Communications Services (SNAX), which allows Tandem's Nonstop products to communicate with SNA-compatible equipment.

In a related announcement, the supplier of on-line transaction processing systems also released an upgraded version of its SNAX/High-Level Support (SNAX/HLS) software, which provides a high-level interface that enables applications to communicate with SNA products.

Tandem's ability to support LU6.2 is implemented in SNAX/Advanced Program Communications (SNAX/APC). By adding an LU6.2 capability to its existing SNAX product, Tandem has given its Nonstop systems a common protocol that allows them to communicate on a program-to-program basis with other vendors' office devices, according to Roger Mathews, Tandem's SNAX product line manager.

Previously, Tandem systems could accomplish the same feat only by supporting a number of protocols and by maintaining a master-slave relationship between the mainframe and smaller, distributed products.

Now, however, "Tandem's systems can have PCs below them on a network and IBM mainframes above them, and they can all talk to each other through the same protocols," Mathews said. He claimed the function will make it easier for users to develop applications "because the user only has to deal with one set of programming rules instead of several."

In the SNA world, the only major exceptions to Mathews' performance claims are systems running under IMS, which IBM has yet to enhance to support LU6.2. Tandem users who want to communicate over SNA with IMS-based systems will have to continue doing so through an alternative

Uncle Sam's upkeep woe

Government's software maintenance problems

Cost: Software maintenance consumes 50% to 80% of the government DP staff budget.

Maintenance problem continue; suggestions meet apathy, resistanc

By Mitch Betts

SOFTWARE & SERVICES

Tandem goes to LU6.2

protocol — Secondary Logical Unit Type P, Mathews said.

In addition to supporting LU6.2, SNAX/APC provides a high-level interface and other tools that "make the product very easy for programmers to use and shield them from having to know a lot about SNA," Mathews added. "Programmers don't have to worry about the chaining and packaging of data because those kinds of functions are done by the product automatically."

For Tandem's Nonstop EXT processors, SNAX/APC is available for a $1,000 one-time license fee and a $240-per-month maintenance charge. For the Nonstop II and TXP systems, the price includes a $6,000 initial license fee and $600 in monthly maintenance expenses.

As part of the latest SNAX/HLS release, Tandem has added support for a proprietary protocol, Federal Link Access for Secondary Half Sessions, which permits financial institutions to communicate with the Federal Reserve's network.

In the past, banks that needed to exchange information with the Federal Reserve system had to write their own communications code and maintain it themselves. But with the enhanced version of SNAX/HLS, Tandem will take over the maintenance.

The revised release of SNAX/HLS also includes an enhancement that "increases the degree to which applications can control data flow in a network," Mathews said.

The latest release of SNAX/HLS costs $5,000 for a one-time license fee and includes a $600-per-month maintenance charge.

Tandem Offers IBM Connection With LU 6.2 Support

By JULI CORTINO

CUPERTINO, Calif.—Tandem Computers Inc., following moves by Digital Equipment Corp., Data General and Wang Laboratories Inc., last week introduced its first product supporting Logical Unit 6.2, the International Business Machines Corp. software platform for peer-to-peer communications.

Tandem dubbed its announcement "another important step to facilitate communications between IBM and Tandem systems," and industry experts gathered at Interface '86 in Atlanta concurred.

Called SNAX/APC, Tandem's product provides access to IBM's LU 6.2 protocols and makes it possible for Tandem users to communicate with IBM applications.

Patrick Gordon, director of data communications for the Boston-based Yankee Group, said LU 6.2 "is part of IBM's thrust into the office, where it has been weak in the past. Minicomputer vendors, who have been strong in the office, have to step up to the bar now and support LU 6.2."

Data General has been shipping its CEO Document Exchange Architecture (DXA) for about three months, according to Brint Baker, senior marketing specialist, communications products. DXA is a package that provides document-interchange services and peer-to-peer network interfaces between DG minicomputers and the IBM SNA environment using LU 6.2 and PU (Physical Unit) 2.1, he said.

Second-Phase DXA

DXA currently contains a closed implementation of LU 6.2, Baker said. The company plans to announce a second phase of DXA by June for 90-day delivery that will enable users to write their own applications based on the LU 6.2 verbs, he said.

Wang Labs stated its intention to support LU 6.2 as a transport from the Wang Office to DISOSS services, according to a spokesman. He would not say when the product would be available, but said that the capability is being demonstrated to large customers and industry consultants.

LU 6.2—also known as Advanced Peer-to-Peer Communications (APPC)—has been gaining acceptance among computer vendors in this country, mainly through their release of products supporting IBM's strategic office automation architecture, DISOSS (Distributed Office Support System). DISOSS is expected to build upon LU 6.2 and the concept of peer-to-peer communications.

Computer makers in Europe, however, recently rejected a bid to incorporate LU 6.2 into the Open Systems Interconnection (OSI) standards (see Feb. 17 MIS Week, page 1).

The initial license fee for SNAX/APC is $5,000 for Tandem's NonStop II and NonStop TXP systems. A monthly license fee, on top of the initial license, is $600.

Tandem said the initial fee for its NonStop EXT system was $1,000, with the monthly license fee costing $240.

SNAX/APC will be available in the third quarter of 1986.

Gordon noted that DISOSS software had grown in popularity with users, and thus must be supported by minicomputer vendors. He stressed, however, that LU 6.2 has not yet been implemented by a large number of users.

At a DISOSS seminar during last week's Interface show, several panelists estimated the number of DISOSS users to be less than 1,000. One speaker, Dale Kutnick, an independent computer consultant, said he expected the number of DISOSS users to double this year and each year thereafter.

The Yankee Group's Gordon predicted that it would take three to five years for the communications standard to proliferate. "I expect a flurry of vendor announcements (concerning LU 6.2) over the next two years," he said.

'A Major Advantage'

At an Interface '86 panel discussion on on-line transaction processing, Kutnick said the Tandem LU 6.2 announcement gave the company "a major advantage" over competitor Stratus Computer. He said, "Tandem is very supportive of IBM."

Kutnick said that despite IBM's agreement to resell Stratus processors as the IBM System/88, the relationship between the two companies had not yet allowed Stratus to offer the high degree of SNA connectivity that Tandem has.

Another speaker on the Interface panel, a user of both Tandem and IBM systems, also hailed the LU 6.2 announcement. Fred Grant, supervisor of data processing systems and programs at Lockheed Georgia Corp. in Marietta, Ga., said, "It's one of the most significant announcements I've heard."

In an SNA (Systems Network Architecture) "white paper" issued by Tandem to accompany its LU 6.2 announcement, Tandem said, "LU 6.2 enables applications programs residing on various desktop computers, office automation equipment and other distributed systems to interact with each other and share data without the constraints of master/slave oriented device protocols. It

also enables users to develop common, network-wide applications, across a variety of diverse systems, as well as specific single-node applications that will work together."

SNA Compatibility

Tandem noted that LU 6.2 provided a "common programming framework" for IBM competitors and third-party software vendors to develop SNA-compatible products.

Separately, the company introduced a new data communications package called SNAX/XF, which enhances the its SNAX gateway to IBM's SNA. Tandem's current SNAX gateway was introduced in 1982.

The enhanced version adds "communications network management capabilities and network services for application switching," Tandem said. It also provides SNA support for Tandem's 6100 Communications Subsystem, SNA terminal access to Tandem systems, and communications between Tandem and IBM applications.

Tandem also enhanced its SNAX/High Level Support product to include the Flash protocol used by the Federal Reserve Bank network. Initial license fees are $2,500 and $5,000, depending on the system used. Monthly fees are $360 and $600.

Exchange/SNA Enhanced

Exchange/SNA was also enhanced, to emulate features of the IBM 3777 RJE communications terminal in an SNA network. The Exchange/SNA product lets users on Tandem systems send job input and receive output files, and reports via remote job entry services on IBM hosts.

Additionally, Tandem said last week that the Bank of Tokyo has installed Tandem NonStop TXP computer systems in New York and London as part of the bank's new international banking network.

The network will handle funds transfers and facsimile transmissions between offices worldwide, and will interface to wire-service carriers—such as FedWire and CHIPS (Clearing House Interbank Payments System).

Separately, Wang plans to introduce the Wang Office DISOSS gateway within the next two weeks, the spokesman said. It will allow Wang VS systems to communicate with other Wang VS systems over an IBM network by passing through the host. This capability is provided through Wang's Information Distribution Services and eliminates the need for duplicate communications networks, he said, but does support LU 6.2.

PRODUCTS NEWSLETTER

SOLID-STATE FUSE IS A SEVENTH THE SIZE OF CONVENTIONAL UNITS

Bussman has applied solid-state technology to fuses and has come up with a product so small that seven of them can fit where a single conventional glass fuse and socket do now. The 0.35-by-0.35-by-0.18-in. PC-Tron from the St. Louis division of Cooper Industries cuts the board space required to mount the fuses by 88%. PC-Tron is a radial-lead surface-mountable subminiature fuse that offers short-circuit interrupting capacities of 35 A at 250 V ac and 10,000 A at 125 V ac, suiting it for protecting power supplies on the line side. The new fuse will sell for 45¢ each when available in May—but because it can be automatically inserted, overall installed cost will be less than other fuses. The fuse has an extremely low pass-through energy rating (I^2t). A 2-A PC-Tron has an I^2t rating of 0.1 A^2-s, versus 7 A^2-s for a glass fuse. □

HP DOUBLES CONTRAST RATIO OF ITS PORTABLE'S LCD SCREEN

Hewlett-Packard Co. has boosted the contrast ratio of its Portable Plus's LCD screen to 7 : 1, compared with 3 : 1 in the previous version. The Palo Alto company says the improvement comes from increased refraction and a better yellower source. The Portable Plus with 256-K bytes of memory will be available in April for $2,695, $200 less than the earlier Portable Plus. A 512-K-byte model will sell for $3,395, compared with $3,880 for the earlier version. □

SUN DROPS ENTRY PRICE OF ITS WORK STATION

Sun Microsystems Inc. is dropping the entry price for its line of work stations by going to a high-resolution monochrome display in the new Sun-3/160G. The $29,900 price puts the Sun-3/160G between personal computer-based systems and Sun's $35,000 color-display products. The Mountain View, Calif., company says the new machine is suitable for applications such as computer-aided publishing that require high resolution but not full color capability. The Sun-3/160G's display has eight bit planes, which can support up to 256 shades of gray. The system, which uses a 16.67-MHz 68020 microprocessor and a 12.5-MHz 68881 floating-point processor, comes with 4 megabytes of main memory. It is available now. □

TANDEM EASES INTERFACE WITH IBM HOSTS

Tandem Computers Inc. is making its NonStop on-line transaction processors easier to link with IBM Corp. hosts. Its new SNAX/APC software provides access to IBM's Logical Unit 6.2 protocols for program-to-program communications between devices on an SNA network. With SNAX/APC, programmers no longer need to write interface software. Available in the third quarter from the Cupertino, Calif., company, SNAX/APC has a $5,000 license fee and $600 monthly fee for NonStop II and NonStop TXP systems, and a $1,000 license fee with $240 monthly fee for the NonStop EXT model. □

DEVELOPMENT SYSTEM IS AVAILABLE FOR MIL-STD-1750A COMPUTERS

Developing application software using the military's MIL-STD-1750A instruction set will be easier now that Mikros Systems Corp. has introduced its MKS1750/AT development system. The Mercerville, N. J., company's system connects directly to an IBM Corp. Personal Computer to provide a real-time environment for developing and debugging 1750A application programs. Future options will include a MIL-STD-1553B interface, a tracer card for debugging 1750A hardware, and an Ada language environment. The $12,500 system is available in 60 days. □

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ies have been split among the existing staff.

Symbolics, Inc. (Cambridge, MA) is getting ready to unveil, on 16 April, a gate-array re-implementation of their AI-oriented computer.

Tandem Computers (Cupertino, CA) is expected to introduce on 14 April a 3 MIPS top-end machine, code named *Check*. The 2-board CPU implementation uses the same ECL/TTL gate arrays as in the Data General MV/20000 (SM-49). A number of shipments have already taken place.

Texas Instruments (Dallas, TX) abandoned its proprietary 16-bit architecture and DX10 and DNOS operating systems of its minicomputer line, which TI claims has a 100,000 unit installed base. Instead, it based its latest 1500 model on Motorola's 68020 MPU and Unix System V. The machine's bus, however, is NuBus, also incorporated in TI's AI-oriented Explorer computer (née Nu Machine). Up to five processors can plug to the bus. Shipments begin in 3Q86; prices of the 1500 range from $70K to over $400K.

Verdix Corp. (Chantilly, VA) announced agreements to develop Ada for Elxsi, Honeywell's Solid State Electronics Div., and Pyramid Technology. They join a long list of other Verdix clients (SM-50, p.16).

Wafer Scale Integration (Fremont, CA) laid off 14 people, leaving 72 on board. WSI is moving its production operation to Japan's Sony, which owns 3.5% of WSI. WSI develops CMOS applications-specific (ASIC) chips. Eli Harari is president.

Zenith Electronics (Glenview, IL) decided to inflict another LAN on a world already choking on them. Z-LAN is a broadband network which carries four, 500Kbit CSMA/CD networks on one 6 MHz channel. A dual-port interface box is $795; the frequency translator (head end) is $1,995; and a bridge to connect all four networks is $9,900.

Zero One (Santa Clara, CA) raised about $1m from private sources. The company is a supercomputer facilities operator (it recently won a $43m, 5 year contract from

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Potpourri

Bits & Bytes

Don't count optical disk storage out yet. Despite sluggish demand for the 12"-and-above, write-once technology, which recently led Colorado-based STC to withdraw from the market (SM-51, p.14), **Sperry Corp.** decided to jump in with both feet. Sperry is offering a Hitachi-made system, featuring 12", single-platter cartridges with a capacity of 1.3 billion bytes per side (2.6 GB per cartridge). The 5071 controller attaches to one or two Series 1100 I/O channels, and supports one or two channels to the optical disk subsystems.

The optical disk subsystem comes in two flavor: manual or automatic loading. The manually-loaded Model 8562 can accommodate up to 16 drives on each of the two control channels. An operator must load and unload each cartridge for each drive.

The auto-load Model 8564 has either one or two drives; a robot arm mechanism under software control transfers cartridges between a library of as many as 128 cartridges and the disk drives.

The 5071 controller ranges from $36,000 (single control) to $62,700 (dual control). The manual single-drive is $50,400; a manual four-drive is $127,800. The automatic model is $110,400 for one drive, and $135,960 for two drives. Software one-time charge begins at $11,600. A cartridge costs $460.

Sperry's National Accounts Div. is also marketing Filenet's (SM-34, p.11) $300K optical disk image storage system, used to capture documents with text and graphics contents. The system described above is limited to digital storage of character or binary texts. Its intended application is semi-arch-

NORWEST LINKS STRATUS AND TANDEM SYSTEMS TO CREATE
'ELECTRONIC WINDOW'

Meanwhile, Minneapolis-based Norwest recently linked
its Stratus computer to its Tandem system, enabling
corporate customers to access cash management reporting
and wire transfer capabilities with a single phone call.

Norwest's interface between its Stratus and Tandem
computers marks the first time the 2 brands of computers
have been linked by a banking organization, a bank
official told us. The modified delivery system, tagged
BankTIES, allows corporate cash managers to access both
the Stratus-driven cash management functions and
Tandem-supported wire transfer capabilities.

"Tandem runs MoneyNet, our wire transfer system, and
Stratus, using Forte, runs the cash management services,"
Bob Reitz, senior product manager for BankTIES, explained
during a telephone interview.

"Our commercial customers would dial into BankTIES,
initiating a terminal session using a PC or other
terminal," he explained. "They come into Forte and select
their service, only with the linkage. They can also
select the wire transfer service without making a separate
phone call."

Before the linkage, Reitz said, corporate customers
would have to initiate 2 separate sessions using different
phone numbers and different processes. With the linkage,
the process is simplified.

"Now they can dial one number and get same-day or
next-day balance and transactions reports (and) lockbox
reports, as well as the wire transfer service," he said.
"We plan to add other (service) links in the near future."

Future plans at Norwest include an ACH link that
should be in place by the third quarter of this year. The
bank is also looking at the feasibility of interfacing
with additional information services in the electronic
mail area, such as stop payments, rate reporting and
commercial loan reports.

"Rate reporting is the logical next step after ACH,"
Reitz said. "It will take some time and study to see what
the market wants, but we hope to see something tangible in
the next few months."