

RECEIVED

JAN 20 1990

SAM FULLER

January 4, 1990

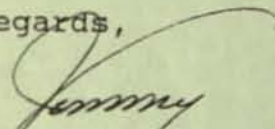
Mr. Samuel H. Fuller
Vice President
Research
DIGITAL EQUIPMENT CORPORATION
146 Main Street
Maynard, MA 01754-2571

Dear Sam:

Thanks for your note on your DECstation 3100. I am not aware of the situation, but if you could share who is buying UNIX workstation, I can be sure they understand your commitment.

I hope you had good holidays and wish you a prosperous New Year.

Regards,



James G. Treybig
President and
Chief Executive Officer

JGT/lm

11 December 1989

Mr. James G. Treybig,
President & CEO
Tandem Computers, Inc.
10435 North Tantau Avenue
Cupertino, California 95014

Dear Jimmy:

A few weeks ago one of the workstation engineers at Digital ran into me and said he was demonstrating the MIPS-based DECstation 3100 at Tandem and that the engineers at Tandem were interested in buying the DECstation 3100. However, progress with the sale was stalled when others at Tandem said Digital is not committed to Unix and/or RISC. Nothing could be further from the truth. The rate and force with which Digital is getting behind Unix (Ultrix) and RISC workstations is virtually unequalled by any other effort I've seen at Digital over the past twelve years. I'd be delighted to talk with you, or anyone else at Tandem, about Digital's directions in workstations and Unix if you think that would be helpful.

I know several people from Digital sales have both demonstrated current product capabilities as well as discussed future product directions. So, I think your people understand the Digital products. Again, if there is any further information that is needed I would be glad to help make sure you get it.

I don't mean to intrude on the Tandem/Digital sales effort; I only wanted to make sure you and others at Tandem understand that Digital is committed to Unix-based systems.

Sincerely,

SHF/id
cc: Dick Doerr
Susan Stevenson

Printed by Sam Fuller

I N T E R O F F I C E M E M O R A N D U M

Doc. No: 004393
Date: 06-Dec-1989 07:16pm EST
From: Susan Stevenson
STEVENSON.SUSAN AT A1USWRSL AT

USWRSL @WRO

Dept: SCD SALES
Tel No: DTN 521-4194

TO: SAM FULLER @CORE

Subject: TANDEM

HELLO, SAM!

SALES TO COMPETITORS WILL BE DECIDED TOMORROW AT DAVE GRAINGER'S STAFF MEETING. DAVE HAS NEVER PERSONALLY GOTTEN BACK TO ME, BUT I WILL SPEAK TO JOHN DAIGNEAULT TOMORROW REGARDING THE OUTCOME OF THIS MEETING. WE HAVE NEVER RECEIVED ANY AUTHORIZATION FROM DAVE TO DO A WORK AROUND ON THIS ISSUE; THEREFORE, ACCOUNT CONTROL REMAINS ON THE EAST COAST. WE ARE AT THEIR MERCY. THERE IS A DEMO TOMORROW AT THE ACT. THIS SALE IS FAR FROM WON. RUSS JONES CONTINUES TO BE INVOLVED.

I WILL LET YOU KNOW THE OUTCOME OF GRAINGER'S MEETING TOMORROW, AND WILL THEN GET BACK TO YOU IF WE NEED SOME HELP. I APPRECIATE YOUR INTEREST, AND WILL KEEP YOU IN THE LOOP ON OUR PROGRESS WITH THE TANDEM ACCOUNT.

REGARDS, SUSAN

INTEROFFICE MEMORANDUM

Doc. No: 004199
Date: 08-Nov-1989 02:38pm EST
From: Dave Grainger
GRAINGER.DAVE AT A1 at USCTR1

at MRO

Dept: US. MGMT
Tel No: 297-4940

TO: See Below

Subject: RE: SALES OPPORTUNITY

Larry,

I checked the Tandem situation. We have been covering it as per our competitive Sales Policy and are selling aggressively.

I've asked Bob Nealon to have you and Harry briefed on the whole project.

Regards,

DG/pf

Distribution:

TO: LARRY GOODWIN @WRO

CC: ~~HARRY COLLINS @WRO~~

CC: ~~SUSAN STEVENSON @WRO~~

CC: ~~SAM FULLER @WRO~~

CC: DOERR @USWS @VMSMAIL

CC: JOHN DAIGNEAULT @MRO

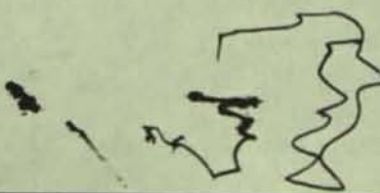
IRIS

Call Susan!

① Did she get copy of
letter to Trebig?

② Did DEC win Tandem
sale? NO

yes



I N T E R O F F I C E M E M O R A N D U M

Date: 01-Nov-1989 02:29pm EST
From: LARRY GOODWIN
GOODWIN.LARRY AT A1TOLMNE AT W

R2FOR @WRO

Dept: WA SALES @WRO
Tel No: DTN 521-3150

TO: DAVE GRAINGER @MRO

CC: SUSAN STEVENSON @WRO
CC: SAM FULLER @MLO
CC: DICK DOERR @UCO

Subject: SALES OPPORTUNITY

Dave, we have an opportunity to sell \$500K (approximately 30 DecSystem 3100s) to Tandem. This opportunity was brought to our attention by Sam Fuller. Tandem is currently on a restricted list and our local District is not allowed to sell to them.

The situation is simple. We can either go sell these systems to Tandem, or we can watch one of our competitors make the sale. Sun is already calling on them, among others.

I have given Susan Stevenson (DSM in Santa Clara), the go ahead pending any disapproval on your part. She will call your office tomorrow morning for your o.k.

I think our policy regarding not allowing our local sales people to sell to certain computer firms in this area needs to be re-examined. We are losing business by default to Sun, Silicon Graphics, IBM, and others. Our other major competitors do not restrict their sales force like we do. Handling these opportunities from back at headquarters is not an effective way to bring in this business.

I will also call you to follow up.

LRG/dc

From: RDVAX::FULLER "SAM FULLER, ML12-2" 11-DEC-1989 12:12:57.20
To: DELUCA
CC:
Subj: print and hold in Tandem/Sales issues file

From: CRL::jg "Jim Gettys" 11-DEC-1989 10:08:28.65
To: decwse::tcf, bartlett@decwrl.dec.com, jove::swan, work::doerr
CC:
Subj: Tandem feedback

Thanks for your efforts. But lets not let the ball drop again.
- Jim

----- Forwarded Message

Return-Path: wizard!john@suntan.Tandem.COM
Received: by crltrx.crl.dec.com; id AA08461; Mon, 11 Dec 89 03:36:12 -0500
Received: by crl.dec.com; id AA12368; Mon, 11 Dec 89 03:36:06 -0500
Received: by decwrl.dec.com; id AA17311; Mon, 11 Dec 89 00:34:47 -0800
Received: from wizard.UUCP by suntan.Tandem.COM with UUCP (4.0/tdm-3.0)
id AA04075; Mon, 11 Dec 89 00:34:39 PST
Received: by wizard. (4.0/SMI-4.0)
id AA20372; Sun, 10 Dec 89 16:52:59 PST
Date: Sun, 10 Dec 89 16:52:59 PST
From: wizard!john@suntan.Tandem.COM (John Danner)
Message-Id: <8912110052.AA20372@wizard.>
To: jg@dec.com
Subject: PMAX + Tandem update

Jim,

Your actions have helped the PMAX's cause here substantially. We were shown around decwrl and had questions answered by a couple of knowledgeable engineers. We were also shown your next machine. We were very interested in the accelerated frame buffer. The performance increase was expected, but it was still reassuring to see a demo. Unfortunately, we did not get to see anything at the Western Software Lab, and were not very well informed about projects currently going on there with regards to X, the OS, etc. One of major interests was in Interface Builders and we are getting a demo of VUIT tomorrow. From what I understand, development of VUIT is being done on the East coast somewhere, which seems to be what delayed the demo. We have already seen Sun's Guide product and have an eval copy in-house.

DEC's salespeople have been a lot more visible to management in the last couple of weeks also. My boss has met with them on at least two occasions. I doubt we will be a PMAX-only shop in the future.(we are developing for portability to a heterogeneous set of machines, so we need to have a lot of different ones around) We originally wanted to buy ~30 machines, but the Sparcstation and PMAX are similar enough in performance that we will have a hard time buying all of one or the other. You had said that the OS was at about 80% now. Since the OS is our major concern with the PMAX,(it doesn't have quite as many of the tools as SunOS and compile-time speed is not as good) improvements will be critical to us in the future. Sun on the other hand has plenty to do to improve their X server. Just as we can't be sure about DEC's commitment to Unix, we aren't sure about Sun's commitment to X. It may be more clear in the future who has the best box, but at least DEC has gained a significant amount of credibility around here in the last month.

John Danner
johnd@tandem.com

----- End of Forwarded Message

Route to:

- ? ① Joe ~~Dimmitt~~ → This is a good analysis,
② Don McInnis suggest we do a
similar study on SUN.

- ③ Vy ~~sisteky~~ } FYE
④ Perm ~~tem~~
⑤ Male ~~Perom~~

of return
f: Tandem

COMPETITIVE REVIEW
of
TANDEM COMPUTERS, INC.

Prepared for the
PRODUCT MARKETING STRATEGY
COMMITTEE

August 24, 1987

by:

Kerbey Altmann (HPS)
Bob Weiner (CSG)
Lawrence Wood (BXO)

COMPETITIVE REVIEW

TANDEM COMPUTERS, INC.

AGENDA

THE COMPANY

- MARKETING**
- FINANCIALS**

B. Weiner
(CSG)

PRODUCTS / TECHNOLOGY

- TANDEM PRODUCTS**
- DIGITAL COMPARISON**

K. Altmann
(HPS)

**ALLIANCE PROGRAM &
FUTURE DIRECTIONS**

L. Wood
(BXO)

CONCLUSIONS

- HOW DO WE WIN?**

B. Weiner

TANDEM COMPUTERS, INC.

OLTP DEFINITION

"ON-LINE TRANSACTION PROCESSING (OLTP) is the action of updating the state of the business as the result of a change in the database that reflects the state of the business.

Whenever such a database change occurs, or whenever the database is queried, a business decision is made."

Kimball Brown,
OLTP Industry Analyst,
Dataquest,
MIS Week, 9 March 1987

TANDEM COMPUTERS, INC.

TANDEM OLTP SYSTEM CRITERIA

-FAULT TOLERANCE

-DATA INTEGRITY

-TRANSACTION INTEGRITY

-MODULAR GROWTH

-LINEAR GROWTH

-PRICE / PERFORMANCE

-NETWORKING

-DISTRIBUTED DATA

-EASE OF USE

COMPETITIVE REVIEW

TANDEM COMPUTERS, INC.

OLTP MARKET SIZE

	----- ESTIMATED -----				
	1987	1988	1989	1990	1991
MARKET	\$ 20B	\$ 25B	\$ 31B	\$ 39B	\$ 48B
CAGR		25%	25%	25%	25%

SOURCE: InfoCorp., Gartner Group, Dataquest

- REASONS:**
- LARGE CORPORATIONS ARE REPLACING TERMINAL-TO-MAINFRAME NETWORKS WITH DISTRIBUTED DATA BASE SYSTEMS.
 - OLTP IS GROWING IN IMPORTANCE AT THE EXPENSE OF EXISTING NON-OLTP (BATCH) APPLICATIONS.

COMPETITIVE REVIEW

TANDEM COMPUTERS, INC.

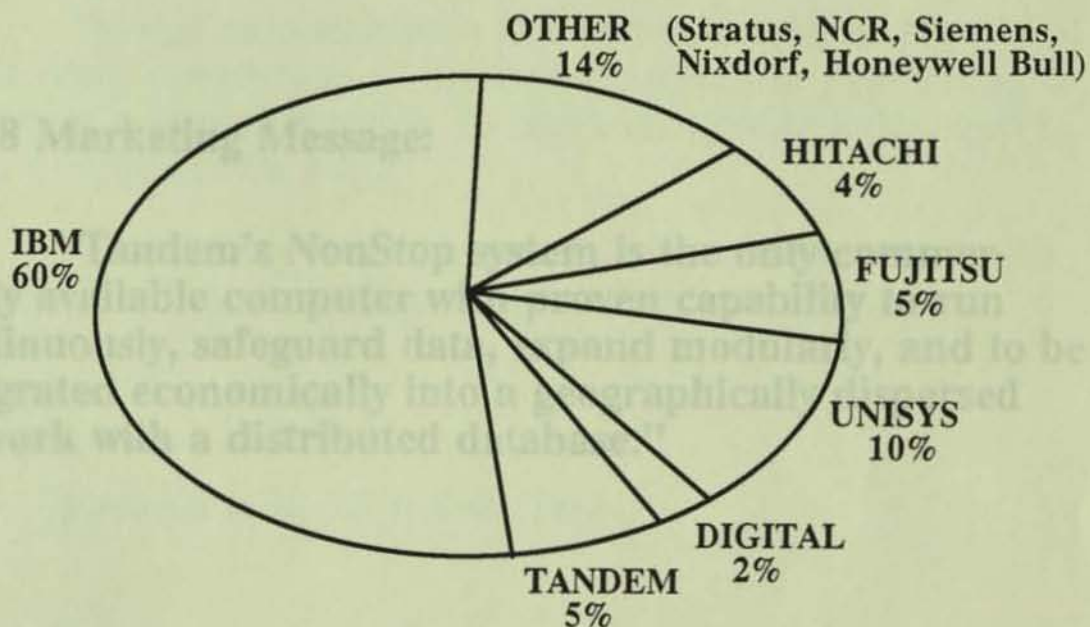
OLTP MARKET SHARE

FY '87

Founded in 1974 to address an... "unfulfilled marketplace need for fault-tolerant computers".

1978 Marketing Message:

Tandem's NonStop system is the only...
fully available computer with...
continuously, safeguard data...
integrated economically into a...
network with a distributed database.



SOURCE: InfoCorp., Gartner Group, Itom Intn'l

COMPETITIVE REVIEW

TANDEM COMPUTERS, INC.

A CHANGING FOCUS

Founded in 1974 to address an... "unfulfilled marketplace need for fault-tolerant computers".

1978 Marketing Message:

"Tandem's NonStop system is the only commercially available computer with proven capability to run continuously, safeguard data, expand modularly, and to be integrated economically into a geographically dispersed network with a distributed database."

Note: Business is in 25 industries.

COMPETITIVE REVIEW

TANDEM COMPUTERS, INC.

A CHANGING FOCUS (continued)

By 1980, the FOCUS had shifted to OLTP:

"Large organizations are converting vital aspects of their daily operations to on-line transaction processing to improve customer service, to increase productivity, and to gain a competitive edge."

"Tandem is the only computer manufacturer with sole dedication to on-line transaction processing."

Note: Business is in 25 industries.

TANDEM COMPUTERS, INC.

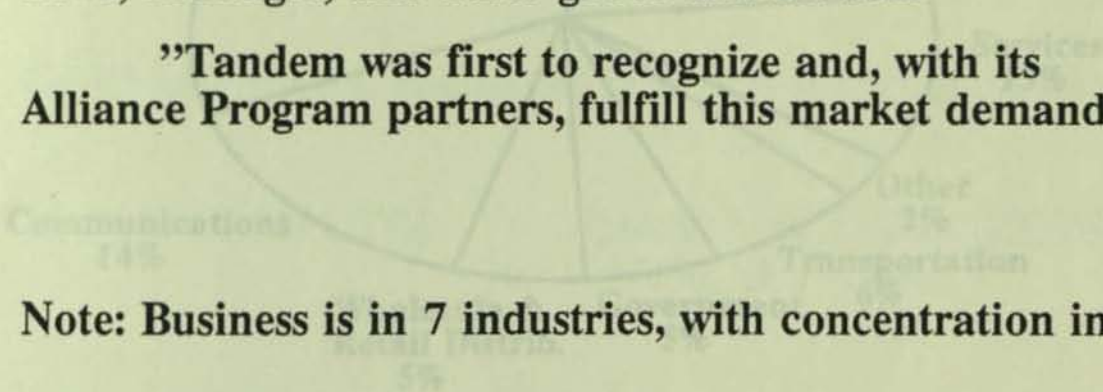
A CHANGING FOCUS (continued)

PERCENT OF REVENUE BY INDUSTRY

By 1986, the FOCUS had shifted again; to applications solutions and to fewer industries:

"The market demand is for networks of on-line transaction processing systems that can collect and process transactions generated by hundreds of devices, and that can speed and ensure the delivery of money, stocks, bonds, news, messages, and other goods and services"

"Tandem was first to recognize and, with its Alliance Program partners, fulfill this market demand."



Note: Business is in 7 industries, with concentration in 3.

SOURCE: TANDEM ANNUAL REPORT, November 1986
ITOM International report, July 1987

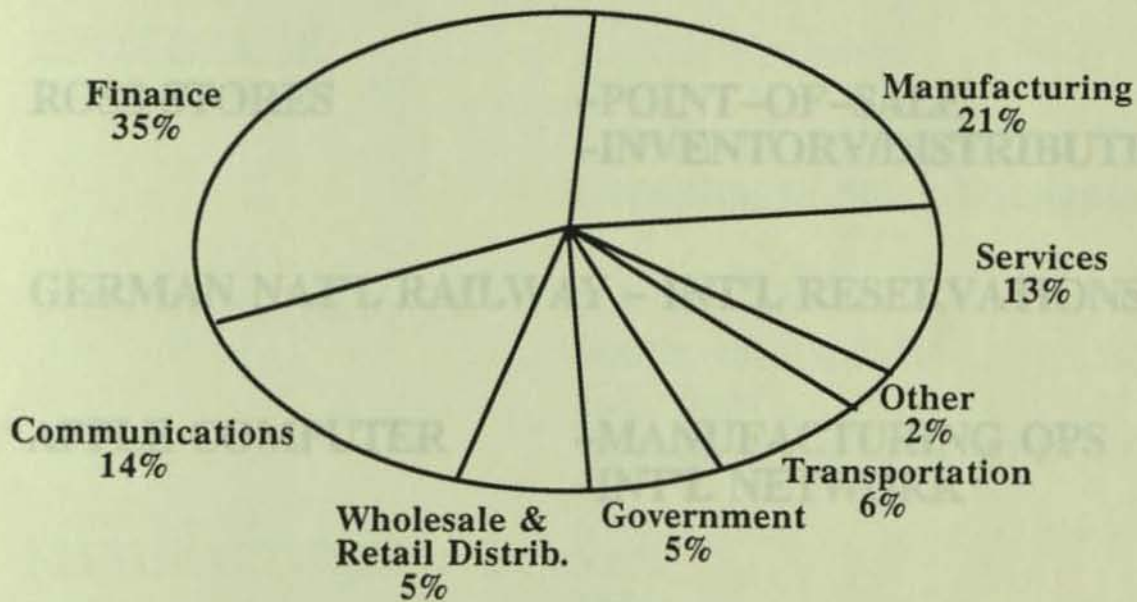
COMPETITIVE REVIEW

TANDEM COMPUTERS, INC.

SAMPLING OF CUSTOMERS / APPLICATIONS

PERCENT OF REVENUE BY INDUSTRY

FY ' 86



SOURCE: TANDEM ANNUAL REPORT, November 1986
ITOM International report, July 1987

TANDEM COMPUTERS, INC.

SAMPLING OF CUSTOMERS / APPLICATIONS

BELL CANADA

**-INTELLIGENT NETWORK
-NAT'N WIDE CREDIT AUTH.**

J.C. PENNEY

-CATALOG SALES

ROSS STORES

**-POINT-OF-SALE
-INVENTORY/DISTRIBUTION**

GERMAN NAT'L RAILWAY - INT'L RESERVATIONS

APPLE COMPUTER

**-MANUFACTURING OPS
-INT'L NETWORK**

NOMURA SECURITIES

-VALUE-ADDED NETWORK

AUSTR. & N.Z. BANK

**-FUNDS TRANSFER
-CREDIT AUTH.
-POINT-OF-SALE
-ATM's**

TANDEM COMPUTERS, INC.

SAMPLING OF CUSTOMERS / INDUSTRIES

BANKING:

Bank of Tokyo
Bank of America
Bank of Scotland
Bank Francaise du Commerce

BROKERAGE:

Kidder Peabody
SIAC
Oslo Stock Exchange
Copenhagen Stock Exchange

COMMUNICATIONS:

U.S. Sprint
Southwestern Bell
U.S. West
Australian Telecommunications

MANUFACTURING:

Audi
Telex

RETAIL:

Safeway
Kentucky Fried Chicken

SERVICES:

Pacific Gas & Electric

TANDEM COMPUTERS, INC.

FINANCIAL REVIEW

MILLIONS \$ (except EARN\$/SHARE)

	----- ACTUAL -----				ESTIMATED	
	'83	'84	'85	'86	'87	'88
REVENUE	418	533	624	767	1,025	1,290
CAGR	--	27.3%	17.2%	23.0%	33.5%	25.9%
NET INCOME	31	33	34	64	102	153
EARN\$/SHARE	.38	.40	.41	.72	1.05	1.50
CASH	--	--	129	240	286*	--
LONG-TERM DEBT	--	--	12	7	8*	--

* 1st half FY '87 (31 March)

Source: Salomon Bros. financial analysis (22 July 1987)

COMPETITIVE REVIEW

TANDEM COMPUTERS, INC.

PRODUCT HISTORY

(1974 - 1984)

TANDEM NONSTOP 14 (1976)

- 16 bit minicomputer supporting up to 16 processors per node.

CURRENT PRODUCTS

TANDEM NONSTOP II (1981)

- 16 bit minicomputer with internal 32 bit addressing supports up to 16 processors per node.

TANDEM TXP (1984)

- 32 bit minicomputer with up to 16 processors per node.
- Supports optical fiber link to connect multiple nodes in a single logical configuration.

COMPETITIVE REVIEW

TANDEM COMPUTERS, INC.

1987 PRODUCT HISTORY (1974 - 1984)

TANDEM NONSTOP I+ (1976)

- 16 bit minicomputer supporting up to 16 processors per node.

TANDEM NONSTOP II (1981)

- 16 bit minicomputer with internal 32 bit addressing supports up to 16 processors per node.

TANDEM TXP (1984)

- 32 bit minicomputer with up to 16 processors per node.
- Supports optical fiber link to connect multiple nodes inter single logical configuration.

COMPETITIVE REVIEW

TANDEM COMPUTERS, INC.

1987 PRODUCT ANNOUNCEMENTS

1987 PRODUCT ANNOUNCEMENTS (CONT)

TANDEM VLX (1987)

- VLSI implementation to support largest transaction customers.
- Tandem calls this a "Transaction Processing Mainframe Computer System".

TANDEM CLX (1987)

- Departmental processor that can start with single-processor system.
- Can expand to two, four and six-processor configurations.

COMPETITIVE REVIEW

TANDEM COMPUTERS, INC.

1987 PRODUCT ANNOUNCEMENTS (CON'T)

TANDEM LXN (1987)

- Tandem UNIX based (Altos) workgroup processor that can connect PC's through Multilan.**
- Serves as MS-DOS file server and gateway to other architectures via X.25 and SNA APPC interconnects.**

COMPETITIVE REVIEW

TANDEM COMPUTERS, INC.

GUARDIAN OPERATING SYSTEM

COMMAND INTERPRETER INTERFACE (COMINT)

ENCOMPASS DISTRIBUTED DATA BASE MANAGEMENT.

SYSTEM SOFTWARE

EXPAND AND ENVOY DATA COMMUNICATIONS SYSTEMS.

PATHWAY TRANSACTION TELEPROCESSING SYSTEM.

TRANSACTION MONITORING FACILITY (TMF).

X-RAY PERFORMANCE MONITOR.

TANDEM COMPUTERS, INC.

GUARDIAN OPERATING SYSTEM

COMMAND INTERPRETER INTERFACE (COMINT)

ENCOMPASS DISTRIBUTED DATA BASE MANAGEMENT.

EXPAND AND ENVOY DATA COMMUNICATIONS SYSTEMS.

PATHWAY TRANSACTION TELEPROCESSING SYSTEM.

TRANSACTION MONITORING FACILITY (TMF).

X-RAY PERFORMANCE MONITOR.

COMPETITIVE REVIEW

TANDEM COMPUTERS, INC.

TRANSACTION MONITORING

AND

RECOVERY STRATEGY

TMF (TRANSACTION MONITORING FACILITY) DEALS WITH INTEGRITY OF MULTIPLE ENCOMPASS DATABASE UPDATES.

AUTOMATIC ROLLBACK RECOVERY IN CASE OF SYSTEM FAILURE.

ROLLFORWARD RECOVERY IN CASE OF CATASTROPHIC FAILURE.

ON-LINE AUDIT TRAILS.

COMPETITIVE REVIEW

TANDEM COMPUTERS, INC.

DATA BASE AND INQUIRY STRATEGY

TERMINAL HANDLING VIA TERMINAL CONTROL
ENCOMPASS SUPPORTS RELATIONAL FORM

DATA DEFINITION LANGUAGE (DDL)
HIGH LEVEL NONPROCEDURAL LANGUAGES (EN-
FORM, SQL).

PROGRAM GENERATOR (ENABLE).

SCREEN DESIGN AND MAINTENANCE (SCODOL).

SYSTEM MONITORING VIA COMMAND INTER-
PRETER (PATHMON.)

COMPETITIVE REVIEW

TANDEM COMPUTERS, INC.

PATHWAY TELEPROCESSING STRATEGY

TERMINAL HANDLING VIA TERMINAL CONTROL PROGRAM (TCP) MODULES.

REQUESTER / SERVER CLASS MANAGEMENT OF TERMINAL AND DATA BASE INTERACTIONS.

CONFIGURATION MANAGEMENT AND STATUS INQUIRY (PATHCOM).

SCREEN DESIGN AND MAINTENANCE (SCOBOL).

SYSTEM MONITORING VIA COMMAND INTERPRETER (PATHMON.)

TANDEM COMPUTERS, INC.

SAMPLE HARDWARE CONFIGURATION

TANDEM TXP'S OR VLX'S (4 - 6 PROCESSOR INITIAL CONFIGURATION.

SAGE (6100 SERIES) CONTROLLERS TO SUPPORT 327X AND OTHER DEVICES.

653X'S INTELLIGENT TERMINALS

MULTILAN ALLOWING PC INTERCONNECT VIA NETBIOS AS WELL AS USING THE TXP AS A FILE AND PRINT SERVER.

TRANSACTION MONITORING FACILITY (TMF) FOR AUDIT TRAILS AND DATA BASE RECOVERY.

RDF FOR MAINTAINING ON-LINE REPLICATED DATA BASE ON A REMOTE NODE BY USING TMF AUDIT-TRAIL RECORDS TO CONTINUOUSLY UPDATE REMOTE DATABASES.

TANDEM COMPUTERS, INC.

SYSTEM SOFTWARE CONFIGURATION

ENCOMPASS RELATIONAL DATA BASE WHICH UNDERLIES TRANSFER SYSTEM.

SQL FOR ANY ON-LINE QUERY REQUIREMENTS AND ENFORM FOR REPORT GENERATION.

EXPAND / ENVOY NETWORKING SOFTWARE FOR HOST INTERCONNECT REQUIREMENTS.

PATHWAY TELEPROCESSING FRONT-END WITH SCREEN COBOL (SCOBOL).

TRANSACTION MONITORING FACILITY (TMF) FOR AUDIT TRAILS AND DATA BASE RECOVERY.

RDF FOR MAINTAINING ON-LINE REPLICATED DATA BASE ON A REMOTE NODE BY USING TMF AUDIT-TRAIL RECORDS TO CONTINUOUSLY UPDATE REMOTE DATABASES.

COMPETITIVE REVIEW

TANDEM COMPUTERS, INC.

LOCAL AREA NETWORKING STRATEGY

THE MULTILAN PRODUCTS ALLOW TANDEM Non-STOP SYSTEMS TO CONNECT TO ANY VALIDATED PC-BASED LAN.

LOCAL AREA NETWORKING

CURRENTLY SUPPORTS THE IBM NETWORK BASIC INPUT / OUTPUT SYSTEM (NETBIOS) PROTOCOLS.

TANDEM NETBIOS SUPPORT STRONGLY ORIENTED TOWARD.

- IBM's Token-ring and PC Network.
- Ungermann-Bass's Net/One which implements Ethernet/OSI, Ethernet/TCP/IP, and Token-ring TCP/IP, etc..

TANDEM COMPUTERS, INC.

LOCAL AREA NETWORKING STRATEGY

LOCAL AREA NETWORKING HARDWARE

THE MULTILAN PRODUCTS ALLOW TANDEM Non-STOP SYSTEMS TO CONNECT TO ANY VALIDATED PC-BASED LAN.

CURRENTLY SUPPORTS THE IBM NETWORK BASIC INPUT / OUTPUT SYSTEM (NETBIOS) PROTOCOLS.

TANDEM NETBIOS SUPPORT STRONGLY ORIENTED TOWARD.

- IBM's Token-ring and PC Network.
- Ungermann-Bass's Net/One which implements Ethernet/OSI, Ethernet/TCP/IP, and Token-ring TCP/IP, etc..

COMPETITIVE REVIEW

TANDEM COMPUTERS, INC.

LOCAL AREA NETWORKING HARDWARE

MULTILAN HARDWARE PRODUCTS INCLUDE:

- Dual-ported LAN controller that resides in the Tandem System.
- A Multilan attachment device (MLAD) that provides the connection to the user's lan.
- A 10 Mbits per second link form the LAN controller to the attachment device.

TANDEM COMPUTERS, INC.

LOCAL AREA NETWORKING SOFTWARE

MULTILAN SOFTWARE PRODUCTS INCLUDE:

- File and print server software.
- 653X Emulation software permitting 3270 passthrough and windowing, with a third party personal computer package.
- A NETBIOS application interface on the Tandem System to develop shared or co-operative processing applications, that run in part on the PC and in part on the Tandem host.

COMPETITIVE REVIEW

TANDEM COMPUTERS, INC.

ELECTRONIC MESSAGING APPROACH

TRANSFER IS TANDEM'S STORE AND FORWARD INFORMATION DELIVERY SOFTWARE.

ELECTRONIC MESSAGE SYSTEMS

data base.

- Provides time-staged information delivery.
- Integrated filing, retrieval and distribution functions.
- Includes electronic mail and facsimile distribution sub-systems.

COMPETITIVE REVIEW

TANDEM COMPUTERS, INC.

ELECTRONIC MESSAGING APPROACH

TRANSFER IS TANDEM'S STORE AND FORWARD INFORMATION DELIVERY SOFTWARE.

- Based on feature set of Tandem's ENCOMPASS data base.
- Provides time-staged information delivery.
- Integrated filing, retrieval and distribution functions.
- Includes electronic mail and facsimile distribution sub-systems.

COMPETITIVE REVIEW

TANDEM COMPUTERS, INC.

ADDITIONAL ELECTRONIC MESSAGING PRODUCTS

PS MAIL TANDEM'S ELECTRONIC MAIL PRODUCTS.

**WORDLINK SOFTWARE THAT ALLOWS TRANSPAR-
ENT DOCUMENT EXCHANGE BETWEEN INCOMPAT-
IBLE WORD PROCESSORS.**

- The product supports IBM document content architecture (DCA) technology and popular IBM and Wang Equipment.

TANDEM COMPUTERS, INC.

FUTURE DEVELOPMENT EFFORTS.

- Desktop Tandem with full redundant processing capability.
- Pathway enhancements to continue to improve performance and ease of use.
- Upgrade of Sage 6100 series to 32 bit architecture.
- IBM Interconnect.

COMPETITIVE REVIEW

TANDEM COMPUTERS, INC.

PERFORMANCE CLAIMS

	CLX	EXT 10	NON-STOP II	EXT 25	TXP	VLX
INTRODUCTION DATE	4/87	2/86	8/81	8/86	10/83	8/86
MIPS / CPU	N/A	0.8	0.5	2	2	3
TIPS / CPU (1)	2.5	2	2	4.5	4.5	6.5
CPUs / SYSTEM	1-4	2-4	2-16	2-4	2-16	6-16
ENTRY PRICE (2)	\$67K	\$75K	\$155K	\$155K	\$195K	\$195K
\$K / TIPS	22.5	18.0	62.0	36.0	44.4	38.3

NOTE 1: BASED ON DEBIT CREDIT BENCHMARK WITH NONSTOP SQL

NOTE 2: EXCLUDING SOFTWARE

SOURCE: ITOM International, PT Systems News, 20 April 87, Page 5.

CORPORATE SYSTEMS GROUP

AUGUST 1987

TANDEM COMPUTERS, INC.

PERFORMANCE CLAIMS

	CLX	EXT 10	NON-STOP II	EXT 25	TXP	VLX
INTRODUCTION DATE	4/87	8/86	8/81	8/86	10/83	8/86
MIPS / CPU	N/A	0.8	0.8	2	2	3
TPS / CPU (1)	2.5	2	2	4.5	4.5	6.5
CPU's / SYSTEM	1-6	2-4	2-16	2-4	2-16	4-16
ENTRY PRICE (2)	\$57K	\$75K	\$155K	\$325K	\$399K	\$995K
\$K / TPS	22.8	18.8	62.0	36.0	44.4	38.3

NOTE 1: BASED ON DEBIT CREDIT BENCHMARK WITH NonSTOP SQL.

NOTE 2: EXCLUDING SOFTWARE.

SOURCE: ITOM International, FT Systems News, 20 April 87, Page 5.

COMPETITIVE REVIEW

TANDEM COMPUTERS, INC.

ALLIANCE PROGRAM HISTORY

DRIFTED OVER THE YEARS WITH SERIOUS CORPO-
RATE DIRECTION BEGINNING 1965 - 86.

LACK OF GOAL AND MISSION.

ALLIANCE PROGRAM

ISSUES OF OWNERSHIP.

NOT POPULAR WITH SALES FORCE.

TODAY WORKS CLOSELY WITH INDUSTRY MARKET-
ING GROUPS.

COMPETITIVE REVIEW

TANDEM COMPUTERS, INC.

**ALLIANCE PROGRAM
HISTORY**

**DRIFTED OVER THE YEARS WITH SERIOUS CORPO-
RATE DIRECTION BEGINNING 1985 - 86.**

**LACK OF GOOD INTERNAL MANAGEMENT AND
MISSION.**

ISSUES OF OWNERSHIP.

NOT POPULAR WITH SALES FORCE.

**TODAY WORKS CLOSELY WITH INDUSTRY MARKET-
ING GROUPS.**

COMPETITIVE REVIEW

TANDEM COMPUTERS, INC.

ALLIANCE PROGRAM (CON'T)

VALUE ADDED RESELLERS AGREEMENT.

- Few in number with "Mission Critical" Application Systems.
- Market Tandem Computer Systems directly to medium and large institutions.
- Market position with industry focus.

COMPETITIVE REVIEW

TANDEM COMPUTERS, INC.

ALLIANCE PROGRAM (CON'T)

ALLIANCE VAR'S

- Applied Communications, Inc., a subsidiary of US West - Financial Industry.
- Data Architects, Inc. - Telecommunications and Financial Industry.
- Pacific Bell - Network Management systems for Telecommunication Industry.

COMPETITIVE REVIEW

TANDEM COMPUTERS, INC.

ALLIANCE PROGRAM (CON'T)

JOINT VENTURE AGREEMENTS

- Can include formation of new company with joint ownership and participation of Tandem.
- Few in number with emphasis on worldwide strategic investment in development of on-line software systems.
- Assist Tandem Alliance members in the development, distribution and support of their software packages.
- Develop, market and support large-scale, customized on-line application systems.
- Major project management and implementation with industry focus.

TANDEM COMPUTERS, INC.

ALLIANCE PROGRAM (CON'T)

ALLIANCE JOINT VENTURES

- Volmac group - financial, production, transportation and travel industries.
- Bedford Associates, Inc. - Transportation, Telecommunications and Financial industries.
- Focus on application packages and system support tools.
- Emphasizes Tandem's commitment to the development of a broad C/S Application base.

COMPETITIVE REVIEW

TANDEM COMPUTERS, INC.

ALLIANCE PROGRAM (CON'T)

DIRECT AND JOINT MARKETING

- Niche services working under Tandem sponsorship based on terms of agreement.
- Many in number (200+) with emphasis on Industry Solution Marketing.
- Focus on application packages and system support tools.
- Emphasizes Tandem's commitment to the development of a broad OLTP Application base.

COMPETITIVE REVIEW

TANDEM COMPUTERS, INC.

ALLIANCE PROGRAM (CON'T)

ALLIANCE JOINT MARKETING

- Storelink - on-line retail electronic point-of-sale.
- Sonar - Telemarketing for RBOC operator service entry.

TANDEM COMPUTERS, INC.

COMPETITIVE SALES MESSAGES

TANDEM SALES FORCE EMPHASIZES THREE THINGS TO POTENTIAL OLTP CUSTOMERS WHEN FACING DIGITAL COMPETITION.

- Digital's Application Software is "Dated".
- Digital's Application Software is not extended for the OLTP environment.
- The customer must evaluate what software package is the "best" fit for the particular OLTP Application.

TANDEM COMPUTERS, INC.

TANDEM COMPUTERS, INC.

CONCLUSIONS

IN THE MARKET FOR OLTP SYSTEMS, TANDEM
COULD BE AS FORMIDABLE A COMPETITOR AS
IBMI

CONCLUSIONS

TODAY, WE WOULD RATHER ASK THE FOLLOWING QUESTIONS.
THEY HAVE:

- FAULT TOLERANT COMPUTING.
- HIGHER TPS RATES.
- DISTRIBUTED DATA MANAGEMENT.
- AN ARCHITECTURE SINGULARLY
DESIGNED FOR OLTP.

COMPETITIVE REVIEW
TANDEM COMPUTERS, INC.

CONCLUSIONS

**IN THE MARKET FOR OLTP SYSTEMS, TANDEM
COULD BE AS FORMIDABLE A COMPETITOR AS
IBM!**

**TODAY, WE WON'T WIN BY COMPARING FEATURES.
THEY HAVE:**

- FAULT TOLERANT COMPUTING,**
- HIGHER TPS RATES,**
- DISTRIBUTED DATA MANAGEMENT,**
- AN ARCHITECTURE SINGULARLY
DESIGNED FOR OLTP.**

COMPETITIVE REVIEW

TANDEM COMPUTERS, INC.

CONCLUSIONS (continued)

TODAY, WE WIN BECAUSE:

- DIGITAL HAS DEPARTMENTAL COMPUTING SYSTEMS.**
- DIGITAL HAS COMPLETE ENTERPRISE-WIDE SOLUTIONS (including OLTP, Decision Support, Office Automation and Real-Time).**
- DIGITAL HAS SUPERIOR DEVELOPMENT & PRODUCTIVITY TOOLS (eg. AI, 4GL).**
- DIGITAL HAS MORE COMPREHENSIVE NETWORKING CAPABILITIES.**
- DIGITAL HAS A BROADER APPLICATIONS PORTFOLIO.**
- DIGITAL HAS BETTER SERVICES FOR COMPLETE SOLUTIONS including:**
 - Design,**
 - Integration,**
 - Implementation,**
 - Project management**
- DIGITAL HAS IT NOW!**

COMPETITIVE REVIEW
TANDEM COMPUTERS, INC.

CONCLUSIONS (continued)

IN THE FUTURE, THE KEY TO WINNING IS FOCUS.

- FOCUS ON PLATFORM SYSTEM PARITY
WITH TANDEM BY 1990.**
- FOCUS ON HIGH-GROWTH INDUSTRIES:
(eg. FINANCE, COMMUNICATIONS, RETAIL,
MANUFACTURING).**
- FOCUS ON HIGH-GROWTH, "MISSION
CRITICAL" APPLICATIONS.**
- FOCUS ON 3RD PARTY APPLICATION
SOLUTIONS.**
- FOCUS ON FIELD PREPAREDNESS AND
TRAINING.**