

X

CUSTOM STUDY FOR
CONTROL DATA CORPORATION

OCTOBER 1976

SURVEY OF PRESENT AND FUTURE AVAILABILITY OF USER
PROGRAMMABLE HARDWARE ON COMPUTER SERVICE
VENDORS NETWORK

SCOPE AND INTRODUCTION

- THE PURPOSE OF THIS SURVEY IS TO DETERMINE THE PRESENT AND FUTURE AVAILABILITY OF USER PROGRAMMABLE HARDWARE FROM COMPUTER SERVICE VENDORS.
- THIS REPORT ALSO ANALYZES THE ATTITUDES OF THE COMPUTER SERVICE VENDORS TO ALLOW USERS TO CONNECT THEIR OWN PROGRAMMABLE HARDWARE INTO THE COMPUTER SERVICE NETWORK.
- THIS ANALYSIS IS LIMITED BY:
 - TIME CONSTRAINTS
 - THE FACT THAT INTERVIEWS WERE CONDUCTED MAINLY BY TELEPHONE
 - THE KNOWLEDGE OF THE PERSON BEING INTERVIEWED
- DESPITE THE ABOVE LIMITATIONS, INPUT IS CONFIDENT THAT THE OVERALL TRENDS DESCRIBED IN THE STUDY ARE ACCURATE IN THE AGGREGATE AND REPRESENT THE BEST OVERALL EVALUATION OF THE CURRENT THINKING IN THE COMPUTER SERVICES INDUSTRY.
- SINCE THE CURRENT SITUATION IS ONE OF TRANSITION FROM PLANNING TO ACTION, AN UPDATE IS RECOMMENDED 9-12 MONTHS FROM NOW.

SUMMARY

- OF 11 FIRMS INTERVIEWED, 7 ARE NOW PROVIDING PROGRAMMABLE HARDWARE. TWO MORE ARE PLANNING TO PROVIDE PROGRAMMABLE HARDWARE. ALL NINE ARE PLANNING TO EXTEND THE CAPABILITIES OF THE PROGRAMMABLE HARDWARE THEY PROVIDE AND TO CONNECT THE TURNKEY MINIS TO THEIR NETWORKS.
- ALL AT EARLY STAGE OF MARKET TESTING.
- ALL EXPLORING OPTIMAL WAY TO APPROACH MARKET.
- INCREASED NUMBER OF PROGRAMMABLE DEVICES WILL BE AVAILABLE ON NETWORKS BY 1978, '79 TIMEFRAME AS PRICING AND MARKET STRATEGIES ARE WORKED OUT.
- SINGLE APPLICATIONS ROUTE MOST COMMON APPROACH.
- THE MAJORITY OF COMPUTER SERVICES VENDORS FEEL STRONGLY THAT OFFERING PROGRAMMABLE HARDWARE INCREASES OR HAS THE POTENTIAL OF INCREASING SERVICE REVENUES.
- 9 OUT OF 11 RESPONDENTS BELIEVE THAT OFFERING PROGRAMMABLE HARDWARE INCREASES CUSTOMER CONTROL.
- ACQUIRING SYSTEMS HOUSES SUPPLYING TURNKEY STANDALONE SYSTEMS WITH SPECIAL APPLICATION CAPABILITY TO BE INTEGRATED INTO NETWORK IS VIABLE EXPANISON STRATEGY.
- ACQUIRING APPLICATION ORIENTED SOFTWARE FOR MINIS IS ALSO A VIABLE GROWTH STRATEGY.

- DO YOU PRESENTLY PROVIDE (OR PLAN TO) ON SITE CUSTOMER PROGRAMMABLE HARDWARE?

TOTAL NUMBER OF FIRMS INTERVIEWED 11

PROVIDING CURRENTLY:

ALL PROGRAMMABLE HARDWARE	<u>7</u>
OFFLINE PROGRAMMABLE MINICOMPUTERS	<u>3</u>
ONLINE PROGRAMMABLE MINICOMPUTERS	<u>4</u>
PROGRAMMABLE TERMINALS (ONLINE)	<u>2</u>

PLANNING TO PROVIDE:

ALL PROGRAMMABLE HARDWARE	<u>9</u>
OFFLINE PROGRAMMABLE MINICOMPUTERS	<u>3</u>
ONLINE PROGRAMMABLE MINICOMPUTERS	<u>5</u>
PROGRAMMABLE TERMINALS (ONLINE)	<u>8</u>

SUMMARY
OF
PROGRAMMABLE HARDWARE OFFERED BY
COMPUTER SERVICE VENDORS

COMPANY	ATTITUDE	SYSTEM
ADP/CYPHERNETICS	VP*	MICRODATA REALITY-PDP8 TERMINAL
BOEING	N	HAVE PROVIDED TAX PACKAGE ON MINI DATA GENERAL
CSC	E	INTERDATA
GEIS	E	RPS ³ PROGRAMMABLE TERMINAL (CDC MANUFACTURER)
MC AUTO-HEALTH SERVICES	P	TERMINALS+PDP 11/35 (4) 28 ON ORDER
MC AUTO-NUM CONTROL GENERAL AUTOMATION	VP	MINIS-DATA GENERAL ECLIPSE/ DEC, GENERAL AUTOMATION
NCR		
NCSS	E	LIMITED CAPABILITY TERMINALS
TRW	E	APPL. ORIENTED TERMINALS
TYMSHARE	P	TERMINALS NOW MINIS LATER BURROUGHS 1700 PDP 11
UCC	P	COPE 7 DEC PDP 11/36
UCS	P	IN MKT-TEST MINI-MODCOMP

*VP - VERY POSITIVE - 2
P - POSITIVE - 4
E - EXPLORING - 4
N - NEGATIVE - 1

- WHEN DO YOU EXPECT TO START DELIVERING PROGRAMMABLE HARDWARE?

COMPANIES	DELIVERING <u>NOW</u>	PLAN <u>TO</u>	NOT SURE	NEVER
ADP/CYPHERNETICS	X			
BOEING				X
CSC			X	
GEIS			X	
MC AUTO-HEALTH SERVICES	X			
MC AUTO-NUM CONTROL	X			
NCR				
NATIONAL CSS			X	
TRW		77-78		
TYMSHARE	X	77-78		
UCC	X	77-78		
UCS	X	77-78		

- WHAT COMMUNICATION AND SOFTWARE INTERFACE DO YOU PROVIDE TO TIE INTO YOUR NETWORK?

COMPANIES	ENCOURAGE	INTERACE
ADP/CYPHERNETICS	X	UNIVERSAL LOWSPEED EXTENDING TO H.S. ASCII BISINC
BOEING	X	WILL ACCEPT ALL CONVENTIONS
CSC	X	UNIVAC-IBM-OTHERS
GEIS	X	IBM & HONEYWELL PROTOCOLS
MC AUTO-HEALTH SERVICES	X	STANDARD SLOWSPEED INTERFACE + ASCII & BISINC + HIGHSPEED
MC AUTO-NUM CONTROL	X	(RS 232) WILL INTERFACE INTO NETWORK IN 6 MONTHS
NCR		
NATIONAL CSS	X	IBM 2780 BISINC ASCII
TRW		IBM PROTOCOLS
TYMSHARE	X	IBM, BURROUGHS, DEC CDC-(15 DIF COMP)
UCC	X	IBM HASP-UNIVAC-WE LIKE TO CHECK COMMERCIAL HANDLERS
UCS	X	HIGH SPEED INTERFACES CDC & IBM

- EVERYONE CLAIMS TO BE ABLE TO TIE INTO ALMOST EVERYTHING. THE ONLY WAY TO TEST IS TO TRY.
- UCC HAS THE COMMON SENSE APPROACH.

- DESCRIBE THE PROGRAMMABLE HARDWARE YOU OFFER ON
OR OFF THE SYSTEM.

COMPANIES	OFF LINE	ON LINE
ADP/CYPHERNETICS	MICRODATA* REALITY	PDP8 BASED PROGRAMMABLE SYSTEM
BOEING	DATA GENERAL NOVA	---
CSC		PROPOSING INTERDATA SYSTEM
GEIS		RPS 3
MC AUTO-HEALTH SERVICES		3700 PDP 11/35 CAPABILITY
MC AUTO-NUM CONTROL	ECLIPSE DATA DATA GENERAL-NOVA* GENERAL AUTOMATION DEC	NONE
NCR		
NATIONAL CSS	NO	NOT PLANNING PROGRAMMABLE TERMINALS
TRW	STORE CONTROLLERS* WITH POS	NONE
TYMSHARE		BURROUGHS 1700 DEC PDP11
UCC	DEC 11/34*	COPE SERIES OF TERMINALS
UCS	MOD COMP*	NONE

*PLANNING TO TIE INTO NETWORK

- NO PARTICULAR PREFERENCE FOR MINI MANUFACTURER.

INPUT

- WHAT SYSTEM AND APPLICATIONS SOFTWARE DO YOU USE ON YOUR PROGRAMMABLE HARDWARE?

<u>COMPANY</u>	<u>SYSTEM</u>	<u>APPLICATIONS</u>
ADP/CYPHERNETICS	MODIFIED REALITY OWN SYSTEM (DEC)	AUTO DEALERSHIPS WHOLESALEERS WINE & LIQUOR DIST. PLUMBING & ELECT DIST.
BOEING	MODIFIED DG DISK OS	TAX PACKAGE
CSC	MODIFIED CSC	VOICE RESPONSE-DATA MGMT-INVENTORY
GEIS	OWN O/S	NOT SELECTED
MC AUTO-HEALTH SERVICES	OWN SYSTEM	PATIENT ACCOUNTING-EKG FULL HOSPITAL ADMIN PACK 350 HOSP/50-900 BEDS
MC AUTO-NUM CONTROL	RDOS MRDOS	NUMERICAL CONTROL ENG & ARCHITECTURAL DESIGN
NCR		
NATIONAL CSS	NOT SURE	NOT SURE
TRW	OWN SYSTEM	-CREDIT -POS -FINANCIAL) TIE TOGETHER
TYMSHARE	TURNKEY	-MEDICAL HOSPITALS-BANKING -PATIENT CONTROL-PETROLEUM -FUEL ACCOUNTING
UCC	STANDARD DEC WITH MODS	NUMERICAL CONTROL EXPANDING TO COVER ALL MFG.
UCS	MODIFIED INTER DATA-DOS	

- ALL O/S ARE EITHER DEVELOPED OR MODIFIED BY THE COMPUTER SERVICE VENDORS.

INDUSTRY ORIENTATION SUMMARY

INDUSTRY	# SERVING
● WHOLESALERS/DISTRIBUTORS	2
PETROLEUM DISTRIBUTORS	1
WINE & LIQUOR	1
ELECTRICAL SUPPLY	1
● NUMERICAL CONTROL/MANUFACTURING	2
AEROSPACE	1
GOVERNMENT (NAVY)	1
● MEDICAL/HOSPITALS/NURSING HOMES	2
● BANKING FINANCIAL ANALYSIS	2

- AVERAGE MONTHLY REVENUES
- SALE VS. LEASE POLICIES

<u>COMPANY</u>	<u>AVERAGE MO REVENUE</u>	<u>SALE</u>	<u>LEASE</u>
ADP/CYPHERNETICS	3-4K MONTH		36 MONTH FULL PAYMENT (EXPERIMENTAL)
BOEING			X
CSC			36 MONTH
GEIS		X	X
MC AUTO-HEALTH SERVICES	1.5-4K		PER TRANSACTION PER TERMINAL 36 MONTH
MC AUTO-NUM CONTROL	1.5-4K		36,60,80 MONTH
NCR			
NATIONAL CSS			X
TRW	\$12K PER STORE PER MO	X	3-5 YEARS
TYMSHARE	1K TO 5K		1 YEAR MINIMUM
UCC	1K TO 5K	X	36 MO MINIMUM LEASE PURCHASE
UCS	800-25K	X	1 YEAR MINIMUM
TOTALS	NA	4	11

- MONTHLY REVENUES RANGE 800-25K-AVERAGE 3K.
- LEASE MOST COMMON METHODS.
- RANGE OF LEASES 1 YEAR TO 65+ YEARS - AVERAGE 3 YEARS.

- WHO MAINTAINS THE EQUIPMENT?
- WHO TRAINS THE USER?
- BUNDLE EQUIPMENT AND SERVICES.

COMPANY	MAINTENANCE	TRAINING	BUNDLING
ADP/CYPHERNETICS	MFG	WE	BUNDLE
BOEING	N/A	?	?
CSC	N/A	?	?
GEIS	N/A	?	?
MC AUTO-HEALTH SERVICES	MFG	WE	BUNDLE
MC AUTO-NUM CONTROL	MFG	WE	SERVICE/SEPARATE
NCR	MFG	WE	TURNKEY/BUNDLED
NATIONAL CSS	MFG	COMBINATION	?
TRW	WE	WE	BUNDLE
TYMSHARE	WE	WE	BUNDLE
UCC	MFG	WE	STANDARD BUNDLED SPECIAL SEPARATE
UCS	WE	WE	BUNDLE

- THE MANUFACTURER MAINTAINS 6 (INCLUDES TRW) OUT OF 8 PROGRAMMABLE EQUIPMENTS.
- THE SERVICE VENDOR IS PREPONDERANTLY RESPONSIBLE FOR TRAINING.
- BUNDLING EQUIPMENT'S SERVICES CHARGES IS THE MOST COMMON APPROACH USED.

- DO YOU THINK THAT OFFERING PROGRAMMABLE HARDWARE:
 - INCREASES OR DECREASES SERVICE REVENUE?
 - INCREASES OR DECREASES CUSTOMER CONTROL?

COMPANY	SERVICE REVENUE		CUSTOMER CONTROL	
	INCREASE	DECREASE	INCREASE	DECREASE
ADP/CYPHERNETICS	X		X	
BOEING	X		?	
CSC	X		X	
GEIS	X		NO DIFFERENCE	
MC AUTO-HEALTH SERVICES	DON'T KNOW		X	
MC AUTO-NUM CONTROL			X	
NCR				
NATIONAL CSS	X		X	
TRW	X		X	
TYMSHARE	TOO EARLY TO TELL		X	
UCC	DON'T KNOW		X	
UCS	X		X	

- 7 OUT OF 11 FEEL THAT SERVICE REVENUES ARE INCREASED.
- 9 OUT OF 11 FEEL CUSTOMER CONTROL IS INCREASED.

ADVANTAGES OF "PACKAGED" OFFERING OVER
NON-DISTRIBUTED SERVICES

- BETTER CUSTOMER CONTROL.
- INCREASED PROFITABILITY (FOR VENDOR).
- CONNECT TIME & STORAGE CHARGES OPTIMIZED.
- AVAILABILITY OF NETWORK FOR OTHER APPLICATIONS.
- SHARING OF SOFTWARE MAINTENANCE COSTS.
- CONSISTENT TESTED SOLUTIONS.
- ABILITY TO OFFER CUSTOMER TAILOR MADE CHOICE BETWEEN
STANDALONE AND NETWORK SOLUTION.
- ABILITY TO ACCESS COMPUTER WHENEVER NEEDED.

DISADVANTAGE:

- HAVING TO TRAIN CUSTOMERS ON NEW HARDWARE AND NEW
APPLICATIONS SIMULTANEOUSLY (IF IT IS A NEW CUSTOMER).



ADVANTAGE OF "PACKAGED" SERVICE OVER
STANDALONE COMPUTER

- LEVERAGING PRODUCT DEVELOPMENT DOLLARS.
- CONTINUING ABILITY TO INVEST IN R & D.
- GOOD DOCUMENTATION.
- AVAILABILITY OF BETTER PEOPLE.
- LIKE F-M.
- USER CAN DECIDE ON SPLIT BETWEEN "IN-HOUSE" AND "OUT-HOUSE".
- ACCESS TO LARGE SOFTWARE SUPPORT LIBRARY.
- ACCESS TO NETWORK.
- FASTER TURNAROUND ON BIG JOBS.
- ABILITY TO HOLD CUSTOMERS HAND.

DISADVANTAGE:

- LOSS OF SOME FLEXIBILITY BECAUSE OF "PACKAGED" SOLUTIONS.

- WHY NO PLANS TO OFFER PROGRAMMABLE HARDWARE?
 - BOEING: MANAGEMENT AGAINST IT!!!

- DO YOU THINK COMPETITION WILL OFFER PROGRAMMABLE HARDWARE AND SERVICES?:
 - EVERYONE IS LOOKING AT IT!!!

- IF OTHERS OFFERED WOULD YOU FEEL FORCED TO DO SO?
 - NOT REALLY
 - NOT UNLESS WE FELT IMPACT
 - NOT APPLICABLE



NAME _____

COMPANY _____

TELEPHONE _____

1. DO YOU PRESENTLY PROVIDE (OR PLAN TO PROVIDE) ON SITE PROGRAMMABLE HARDWARE TO YOUR CUSOMTERS?

YES NO PLAN TO

2. IF LATER, WHEN DO YOU EXPECT TO START DELIVERING THE HARDWARE?

3. DO YOU ENCOURAGE OR ALLOW CUSTOMERS TO TIE THEIR OWN PROGRAMMABLE HARDWARE INTO YOUR NETWORK?

ALLOW ENCOURAGE

4. WHAT COMMUNICATIONS AND SOFTWARE INTERFACES DO YOU PROVIDE ALLOWING USERS TO TIE INTO YOUR NETWORK?

5. DO YOU HAVE A MINIMUM CHARGE FOR CONNECTING PROGRAMMABLE HARDWARE INTO YOUR NETWORK?

6. DESCRIBE THE PROGRAMMABLE HARDWARE YOU PROVIDE.

7. WHAT SYSTEMS SOFTWARE IS (WILL BE) AVAILABLE ON YOUR PROGRAMMABLE HARDWARE?

INPUT

8. WHAT APPLICATIONS SOFTWARE IS (WILL BE) AVAILABLE ON YOUR HARDWARE?

9. DESCRIBE THE APPLICATIONS AND THE % TO WHICH YOUR SYSTEM IS EXPECTED TO BE UTILIZED ON EACH.
 - A. PRIMARY
 - B. SECONDAR
 - C. TERTIARY

10. WILL YOU TAKE AN INDUSTRY ORIENTED APPROACH, AND WHAT INDUSTRIES DO YOU EXPECT TO SELL TO?

11. WHAT IS THE AVERAGE MONTHLY REVENUE YOU ANTICIPATE FROM A TYPICAL CLIENT? HOW MUCH OF THAT IS ATTRIBUTED TO THE HARDWARE?

12. WHO MAINTAINS YOUR EQUIPMENT?

13. IS YOUR MAINTENANCE ARRANGEMENT SATISFACTORY? IF NOT, WHY NOT?

14. WHO TRAINS THE USER? HOW MUCH TRAINING DOES THE USER GET? HOW IS HE CHARGED FOR IT?

15. IN YOUR PRICING, DO YOU BUNDLE EQUIPMENT AND SERVICES?

16. DO YOU HAVE A MONTHLY MINIMUM SERVICE CHARGE?

17. WHAT, IF ANY, NEW APPLICATIONS DO YOU PLAN TO MAKE AVAILABLE? WHEN?

18. IS YOUR EQUIPMENT LEASED OR SOLD? IF SOLD, WHAT IS THE PRICE RANGE? LOW____ AVERAGE____ HIGH_____.

19. IF LEASED, WHAT TYPE OF LEASE PLANS DO YOU OFFER?
WHAT IS THE AVERAGE TERM OF A LEASE?

20. HAVE YOU FOUND (OR DO YOU THINK) THAT OFFERING PROGRAMMABLE HARDWARE INCREASES OR DECREASES SERVICE REVENUE?

21. HAVE YOU FOUND (OR DO YOU THINK) THAT OFFERING HARDWARE INCREASES OR DECREASES CUSTOMER CONTROL? CAN YOU GIVE SOME EXAMPLES?



22. WHAT SPECIFIC ADVANTAGES DO YOU FEEL THIS PACKAGED OFFERING HAS OVER NON-DISTRIBUTED PROCESSING SERVICES? DISADVANTAGES?
23. WHAT SPECIFIC ADVANTAGES DO YOU FEEL THIS OFFERING HAS OVER STANDALONE MINICOMPUTER-BASED SYSTEMS? DISADVANTAGES?
24. IF YOU HAVE NO PLANS TO OFFER HARDWARE, WHY NOT?
25. DO YOU THINK YOUR COMPETITORS WILL OFFER COMBINED SERVICES AND HARDWARE?
26. IF THEY OFFERED IT, WOULD YOU FEEL FORCED TO DO SO?

11
12
13
14