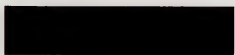


Executive Summary

Analysis of Third-Party Maintenance



INPUT®

Executive Overview

7/17/2013

II EXECUTIVE SUMMARY

- This Executive Summary is designed in presentation format in order to:
 - Help the busy reader quickly review the key research findings.
 - Provide a script and foil presentation of the study for group presentation of the results.
- This is the third annual INPUT review of the TPM market and follows the 1983 multiclient study of the market which was generally regarded as a landmark evaluation of the (then) emerging market. Already worth over \$2 billion if we include federal maintenance services, the market is a generator of substantial profits and a lot of controversy.
- It is conservatively estimated that at any one moment there are a total of over 20 lawsuits under process simultaneously, all concerning TPM directly. Most are aimed at resolving disputes between TPMs and manufacturers as to the alleged nonavailability of spares, documentation, and training on mainstream products. The outcome of these suits will determine the viability of many of the plaintiffs.
- The thrust of this study is a five-year outlook of the size, growth, and underlying trends of each of the main components of the TPM market, highlighting the areas of opportunity, profit, and competition.



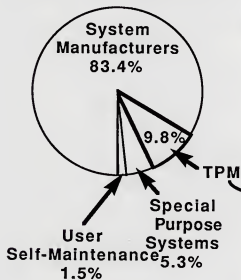
A. THE THIRD-PARTY MAINTENANCE MARKET, 1986

- In 1986, the U.S. customer services market will be worth \$15.9 billion, a 14% increase over 1985. This will be an unspectacular year for growth due to two factors:
 - Many hardware maintenance prices have been reduced (including selected IBM products, of which the PC is one). Such reductions have an immediate (and negative) impact on one part of the bulk of the revenue producing base--installed hardware.
 - 1986 was a poor year for net additions to the installed base; sales of all categories of equipment with the possible exception of personal computers and telecommunications equipment were down.
- The system manufacturers' share of the total market fell to 83.4% while user self-maintenance rose slightly to 1.5% and special purpose systems rose to 5.3%. In the same period, the TPM market was worth \$1,560 million in user expenditures, an increase in the TPM share of the overall service market from 9.5% (1985) to 9.8% (1986). (Note that federal systems maintenance services overlaps these categories. INPUT estimates that in 1986 the federal market was worth \$1,050 million--\$130 million in TPM; \$80 million in self-maintenance; and the remainder, \$840 million, in special systems.)
- The so-called "independents" share of the TPM market shrank three percentage points in 1986 to 80%. Included in this category are companies which are not truly independent, e.g., TRW Services (division of TRW), Sorbus (owned by Bell Atlantic), and the TPM services divisions of CDC, Xerox, GE/RCA, McDonnell Douglas, Grumman, Dow Jones, etc. In fact, only three companies in the top 20 TPMs are companies solely dedicated to TPM.

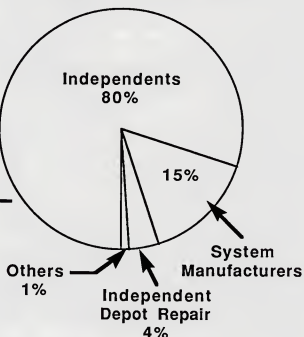


THE THIRD-PARTY MAINTENANCE MARKET, 1986

**U.S. Customer
Services Market**
1986 - \$15.9 Billion



**Commercial
U.S. TPM Market**
1986 - \$1,560 Million





B. TOP FIVE TPM VENDORS IN 1986

- In 1986, the top five TPMs will capture an estimated 63% of the total market. The share of the top five vendors has been rapidly increasing over the past three years--in 1984 the share was 49%, in 1985 it was 52%, and this year it is 63%.
- The composition of the top five vendors has changed again this year (see Exhibit II-2). The creation of Intellogic Trace by the spinning off of the service operations of Datapoint has produced, overnight, a TPM of significant proportions. The company must now overcome several major obstacles. The Datapoint base is steadily contracting and will produce a decreasing flow of revenue in the years to come. To grow, the company must produce revenue to offset the Datapoint base erosion.
- Many TPMs will argue that the revenue from captive equipment bases (such as the MAI base revenue for Sorbus and the Datapoint revenue for Intellogic Trace) should not be counted as TPM revenue. However, despite its source, such revenue is, by definition, TPM.
- TRW remains the top TPM vendor in the U.S.--but only just. If Sorbus continues its progress next year the company will be, for the first time, the largest TPM in the country. Sorbus, of course, grew substantially through the acquisition of CMLC and Braegen. TRW was strangely quiet on the acquisition front in 1986, with the exception of Circle, worth \$8 million in revenue in a full year.
- Two of the top five TPMs have serious problems to contend with: CDC (the parent company is still searching for financial stability) and General Electric/RCA TPM services (there is no clear thrust to either of the service groups).



TOP FIVE TPM VENDORS IN 1986

RANK	TPM VENDOR	1986 TPM REVENUES (\$ Millions)	MARKET SHARE (Percent)
1	TRW	\$267	15%
2	Sorbus	\$255	26%
3	General Electric/RCA	\$170	10%
4	Intelogic Trace	\$152	N/A
5	Control Data	\$133	21%

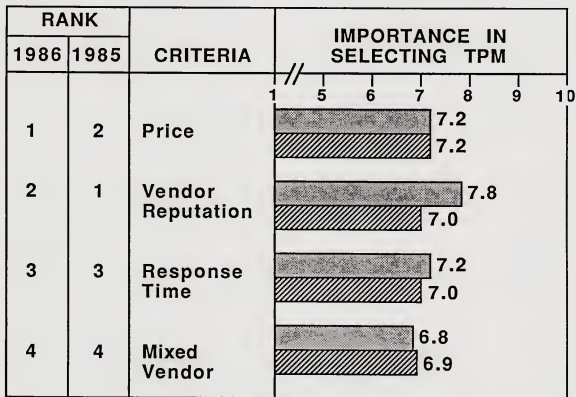


C. TPM SELECTION CRITERIA

- In the early stages of the TPM market, the principal user criteria for choosing a vendor was the ability to service mixed-vendor hardware. Then in 1985, the top concern was the TPM vendor's reputation. During all of this time, TPM vendors have, almost without exception, marketed their service to prospective users principally on the basis of price.
- Their efforts have not gone unnoticed, and the users now are convinced that price is the most important factor in choosing a TPM vendor. The current selection criteria are a mixture: the first selection is objective, the second is subjective, the third is performance-oriented, and the fourth is service coverage related.
- This year, the significance of the vendor's reputation has decreased in importance (most of the larger TPMs are now well established in the marketplace) and concern with response time has also decreased (the average performance of TPMs in the market has improved).
- Yet to emerge as a critical factor (but one that will be seen emerging swiftly as time goes by) is availability of total systems support to include the provision of software services, education and training, and systems upgrades and conversion.
- In the coming years the equipment manufacturers will have an opportunity to put serious pressure on the TPM community by decreasing service prices and relying on low-margin, high-volume operations. Like all retail-like markets, the TPM market will become a difficult place to survive in. The best placed vendors will be those, like TRW, that have the bulk of their TPM revenue in service management agreements with equipment manufacturers and OEM/turnkey system vendors. The margins from such operations are much higher (and likely to stay that way) than end-user business.



TPM SELECTION CRITERIA



■ 1986 ▨ 1985

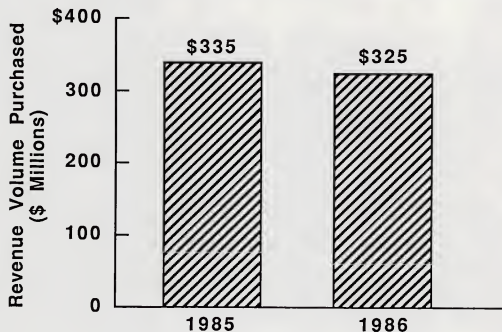
Scale: 1 = Low Importance, 10 = High Importance.



D. ACQUISITIONS: KEY GROWTH TOOL

- Like 1985, this year has proven to be one where mergers and acquisitions have had a significant impact on the TPM market in terms of the growth of certain companies, the composition of the list of the top vendors, and the control exercised by a handful of companies in the marketplace.
- A total of over \$325 million of TPM revenue has as of the time of this writing been acquired in 1986. This is less than the total in 1985, but only because of the acquisition of Sorbus by Bell Atlantic in that year (which it will be recalled was worth \$175 million for a revenue base of over \$200 million).
- There is no doubt that the critical mass for survival in the TPM industry has risen sharply. It is unlikely that companies that do not have a national presence will have any significant long-term impact on the market. Exceptions to this will be the vertical-market niche companies that make a living in a narrowly focused arena, such as Amdahl TPM, maintenance of various sorts of obsolete equipment, or in entrenched regional markets where TPM vendors have established a base.
- Meanwhile, the equipment manufacturers will continue to grow their share of the TPM market by expanding the type and variety of other manufacturers equipment found coexisting with or connected to their own equipment. The possibility exists of some manufacturers taking advantage of the "pull-through" business available to them via their presence in certain types of customer sites or products found connected to their own.
- This last option is a vital part of the TPM market strategy which includes acquisitions not for revenue size alone but to expand the product coverage and skill levels available in-house and/or to expand the customer base into critical accounts that would be otherwise very difficult to penetrate.



ACQUISITIONS: KEY GROWTH TOOL



E. TPM MARKET FORECAST, 1986-1991

- The TPM market forecast for the period 1986-1991 is provided in Exhibit II-5, highlighting the following trends:
 - The share of the TPM market controlled by the independent TPMs will decline from today's 80% to 65% in 1991. However, during that same timeframe, the distribution of that revenue will continue to be concentrated by merger and acquisition activity that will eliminate many of the medium-sized TPMs servicing the market today.
 - Systems manufacturers will make significant gains, averaging 33% average annual growth over the period. However INPUT believes that the system manufacturers face major concerns in their hardware and software markets, so their attention will not be focused on the TPM area (otherwise their growth would be far higher).
- The market sizes indicated opposite are given in user expenditures and therefore understate the total market by a large margin because only that revenue that is not double counted is shown. (A large part of fourth-party maintenance activities are depot repair-oriented, but their revenue overlaps significantly with the third-party maintenance revenue of the TPMs that are their major customers.)
- The "other" category includes those information services vendors (such as turnkey vendors) who maintain their own installed base of systems and those sites who do their own user self-maintenance. Both of these groups represent targets for the TPMs and systems manufacturers alike, but INPUT believes that their numbers will continue to grow. Systems are becoming both easier to maintain and more reliable; this in turn will encourage certain types of clients to save substantially by executing part or all of the maintenance function themselves.



TPM MARKET FORECAST: 1986-1991

VENDOR CATEGORY	\$ Millions		AAGR (Percent)
	1986	1991	
Independents	\$1,250	\$2,120	11%
System Mfr.	\$230	\$940	33%
Depot Repair	\$60	\$160	22%
Other	\$20	\$40	15%
Total	\$1,560	\$3,260	16%



F. KEYS TO SUCCESS: PRICE, SERVICE QUALITY, AND MARKETING

- As the TPM market moves into its consolidation phase, it is apparent that each vendor must have a clear set of strategic goals to carry it through the next five years. This is essential since it will determine the identity of the TPM in the eyes of the customer base, help to establish an image, and assist in the selection of market and acquisition targets and the sequence in which they must be pursued.

- Quality of service has always been and will continue to be the backbone of the TPM reputation and the growth of repeat business and word-of-mouth contracts. Ultimately, however, the success of a TPM will be dependent on the marketing strength that can be brought to bear in defining, packaging, and pricing new services to new and existing customers and responding to the competitive challenges of other TPMs.

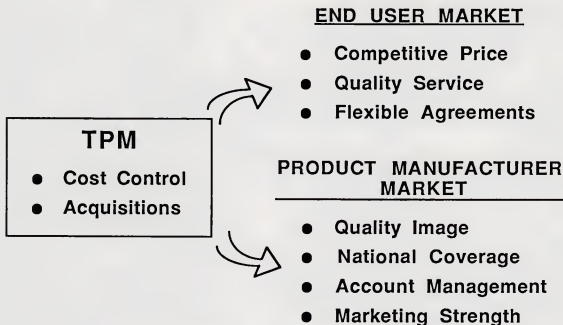
- One aspect that should be borne in mind when responding to large contract RFQs is that the prospect will always be impressed by the personal attention received from the vendor:
 - It is not sufficient to respond to an RFQ with a standard letter stating prices and conditions.

 - Frequently, the successful vendor will have taken the time and trouble to evaluate independently the need for the services requested and to indicate, in its response, those that are not necessary to the customer.

 - Getting to know the customer in-depth is as valuable as a clear demonstration of technical competence and ability. In many instances, if the customer can be made to feel comfortable with the vendor and his capabilities, price can be almost eliminated from the center of consideration.



**KEYS TO SUCCESS:
PRICE, SERVICE QUALITY, AND MARKETING**





ANALYSIS OF THIRD-PARTY MAINTENANCE

CONTENTS

	<u>Page</u>
I INTRODUCTION.....	I-1
II EXECUTIVE SUMMARY	II-1
A. The Third-Party Maintenance Market, 1986	II-2
B. Top Five TPM Vendors in 1986	II-4
C. TPM Selection Criteria	II-6
D. Acquisitions: Key Growth Tool	II-8
E. TPM Market Forecast, 1986-1991	II-10
F. Keys to Success: Price, Service Quality, and Marketing	II-12
III THIRD-PARTY MAINTENANCE USER SERVICE REQUIREMENTS.....	III-1
A. Introduction	III-1
1. Scope	III-1
2. Demographics	III-2
B. Third-Party Maintenance User Market	III-5
1. TPM Product Market	III-5
2. TPM Selection Criteria	III-11
3. TPM Business Base	III-15
a. Large System Market	III-16
b. Small Systems Market	III-18
c. Personal Computer Market	III-18
4. Peripheral Market	III-21
C. Third-Party Maintenance Vendor Performance	III-22
1. Introduction	III-22
2. TPM User Satisfaction with Service	III-25
a. Large System User Satisfaction	III-25
b. Small System User Satisfaction	III-27
c. Personal Computer User Satisfaction	III-29
d. Peripherals User Satisfaction	III-31
e. TPM Vendor Performance	III-33
f. User Satisfaction with TPM Post-Sales Support	III-37
D. Directions in Third-Party Maintenance	III-51
1. TPM Software Support	III-54
2. The Importance of Contract Flexibility	III-55
3. User Participation in Maintenance	III-57



	<u>Page</u>
IV	THIRD-PARTY MAINTENANCE SERVICE VENDOR
	PROFILES
	IV-1
A.	Control Data Corporation
	IV-A-1
B.	Grumman Systems Support Corporation
	IV-B-1
C.	RCA Services Company
	IV-C-1
D.	Xerox Americare
	IV-D-1
E.	SysTec Incorporated
	IV-E-1
F.	Dataserv Computer Maintenance
	IV-F-1
G.	Total Technical Services
	IV-G-1
H.	TRW Customer Service Division
	IV-H-1
I.	Sorbus
	IV-I-1
J.	Momentum Service Corporation
	IV-J-1
K.	Decision Data Service, Inc.
	IV-K-1
L.	First Data Resources Field Service Company
	IV-L-1
M.	Intelogic Trace, Inc.
	IV-M-1
N.	Honeywell
	IV-N-1
O.	ITT Servcom
	IV-O-1
P.	General Electric
	IV-P-1
Q.	McDonnell Douglas Field Service Company
	IV-Q-1
R.	Dow Jones & Company
	IV-R-1
S.	Sperry Corporation
	IV-S-1
T.	Dictaphone Corporation
	IV-T-1
U.	TPM Vendors Ranked 21-120
	IV-U-1
V	THIRD-PARTY MAINTENANCE MARKET ANALYSIS.....
	V-1
A.	Introduction
	V-1
1.	Foreword
	V-1
2.	Study Methodology
	V-2
3.	Users of This Information
	V-3
4.	Definition of Third-Party Maintenance
	V-4
B.	Market Analysis and Forecast
	V-5
1.	Parameters for Long-Term Viability
	V-5
2.	Fourth-Party Maintenance Market Characteristics
	V-9
3.	Third-Party Software Maintenance and "Soft" Services
	V-10
4.	Third-Party "Hard" Services Markets
	V-15
5.	Federal Government Services Market
	V-17
6.	TPM Market Evolution
	V-22
C.	Market Segmentation
	V-24
1.	Overview
	V-24
2.	Mainframe TPM Market
	V-25
3.	Minicomputer/Small Business Systems TPM Markets
	V-27
4.	Peripheral and Terminal TPM Markets
	V-30
5.	Personal Computer TPM Markets
	V-32
6.	Telecommunications TPM Markets
	V-36
7.	Product Refurbishment Market
	V-38
8.	Fourth-Party Maintenance (FPM)
	V-39



	<u>Page</u>
D. Marketing Strategy	V-39
1. Overview	V-39
2. TPM Acquisitions in 1986	V-42
3. TPM Marketing/Support Services	V-45
4. TPM Service Marketing	V-46
5. TPM Support Services	V-49
6. New Markets Planning	V-50
E. Competitive Analysis and Recommendations	V-52
1. The Top 20 TPMs' Market Share in 1986	V-52
2. Top 10 Revenue Gainers	V-55
3. Delivery Modes and Contract Distribution	V-59
4. Focus on TPM Growth Markets	V-62
5. Recommendations	V-65
VI APPENDIX.....	VI-1
A. Questionnaire	VI-3
B. Definitions	VI-9
VII ABOUT INPUT.....	VII-1



ANALYSIS OF THIRD-PARTY MAINTENANCE

EXHIBITS

		<u>Page</u>
II	-1 The Third-Party Maintenance Market, 1986	II-3
	-2 Top Five TPM Vendors in 1986	II-5
	-3 TPM Selection Criteria	II-7
	-4 Acquisitions: Key Growth Tool	II-9
	-5 TPM Market Forecast: 1986-1991	II-11
	-6 Keys to Success: Price, Service Quality, and Marketing	II-13
III	-1 Sample by Industry Served	III-3
	-2 Sample by Title	III-4
	-3 Sample by TPM Vendor Used	III-6
	-4 Sample by Products Served	III-7
	-5 Sample by Manufacturers Mentioned	III-9
	-6 Current Users Who Will Increase Use of TPM	III-10
	-7 TPM User Selection Criteria	III-12
	-8 Sample by Demographic Breakdown	III-14
	-9 TPM Business Base - Large Systems	III-17
	-10 TPM Business Base - Small Systems	III-19
	-11 TPM Business Base - Personal Computers	III-20
	-12 TPM Business Base - Peripherals	III-23
	-13 User Satisfaction with Service - Large Systems	III-26
	-14 User Satisfaction with Service - Small Systems	III-28
	-15 User Satisfaction with Service - Personal Computers	III-30
	-16 User Satisfaction with Service - Peripherals	III-32
	-17 TPM versus Manufacturer Service Response and Repair Times	III-34
	-18 TPM User Response and Repair Time Requirement versus Actuals	III-35
	-19 User Satisfaction with Post-Sale Support - All Products	III-38
	-20 TPM Vendor Post-Sale Support Performance - All Products	III-39
	-21 TPM Vendor Performance, 1985-1986 - All Products	III-40
	-22 User Satisfaction with Post-Sale Support - Large Systems	III-42
	-23 TPM Vendor Post-Sale Support Performance - Large Systems	III-43
	-24 TPM Post-Sale Support Performance versus Manufacturers' - Large Systems	III-44



		<u>Page</u>
	-25 User Satisfaction with Post-Sale Support - Small Systems	III-45
	-26 TPM Vendor Post-Sale Support Performance - Small Systems	III-47
	-27 TPM Post-Sale Support Performance versus Manufacturers' - Small Systems	III-48
	-28 User Satisfaction with Post-Sale Support - Personal Computers	III-49
	-29 TPM Vendor Post-Sale Support Performance - Personal Computers	III-50
	-30 User Satisfaction with Post-Sale Support - Peripherals	III-52
	-31 TPM Vendor Post-Sale Support Performance - Peripherals	III-53
	-32 TPM Business Base - Peripherals	III-56
	-33 TPM User Satisfaction with Contract Flexibility	III-58
	-34 TPM User Attitudes Toward Increased Participation in Hardware Maintenance	III-59
IV	-D -I Xerox Organization Chart	IV-D-3
	-E -I SysTec Organization Chart	IV-E-2
	-H -I TRW CSD Organization Chart	IV-H-3
	-I -I Sorbus Organization Chart	IV-I-3
	-M -I Intelogic Trace, Inc. Service Organization Chart	IV-M-3
	-N -I Honeywell CSD Organization Chart	IV-N-2
V	-1 Parameters for Long-Term TPM Viability, 1986-1991	V-7
	-2 Fourth-Party Maintenance Market Characteristics	V-11
	-3 Third-Party "Soft" Services Markets User Expenditures, 1986-1991	V-14
	-4 Third-Party "Hard" Services Markets User Expenditures, 1986-1991	V-16
	-5 Federal Market for Maintenance Services	V-18
	-6 DP Equipment Maintenance By Federal Government Department, 1982-1985	V-19
	-7 Communications Maintenance By Federal Government Department, 1982-1985	V-20
	-8 Third-Party Maintenance in the Federal Government, 1982-1986	V-21
	-9 Mainframe Third-Party Service Markets, 1986-1991	V-26
	-10 Minicomputer Third-Party Service Markets, 1986-1991	V-29
	-11 Peripheral and Terminal Third-Party Service Markets, 1986-1991	V-31
	-12 IBM Peripheral Third-Party Service Markets, 1986-1991	V-33
	-13 PC Third-Party Service Markets, 1986-1991	V-35
	-14 Telecommunications Third-Party Service Markets, 1986-1991	V-37
	-15 Product Refurbishment Service Markets, 1986-1991	V-40



	<u>Page</u>	
-16	Fourth-Party Maintenance Markets, 1986-1991	V-41
-17	1986 TPM Acquisitions	V-44
-18	TPM Marketing/Support Services	V-47
-19	TPM Service Marketing	V-48
-20	TPM Support Marketing	V-51
-21	New Markets Planning	V-53
-22	Top 20 TPM 1986 Market Share Analysis	V-56
-23	Top 10 Revenue Gainers	V-58
-24	Top 10 Percentage Gainers	V-60
-25	Delivery Modes of the Top 10	V-61
-26	Contract Distribution of the Top 10	V-63
-27	Focus on TPM Growth Targets	V-64



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