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DECEMBER 1990

U.S. MIDRANGE SYSTEMS USER REQUIREMENTS

1990

INPUT®

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Published by
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Customer Service Program (CSP)

U.S. Midrange Systems User Requirements, 1990

FCUMO • 414 • 1990

Abstract

This report analyzes midrange system user requirements for and satisfaction with service and support. The following midrange systems are analyzed in the report: Concurrent, Data General, Digital Equipment Corporation (DEC), Hewlett-Packard, and IBM. The results of the overall sample are presented to provide an overall comparison to the results of each individual user group.

Each individual vendor/product analysis begins with the service contract coverage. Next, it covers the user's criteria for selecting a service vendor and the sources of hardware maintenance. The perceptions of independent maintenance companies are shown, with the reasons why IMOs are used and why companies will not use an independent maintenance organization for their service requirements. The traditional areas of system availability, response time, and repair time are presented. Software support is analyzed in the same manner, examining the software maintenance provider, the type of contract, and response/fix times for software problems. Opportunities for other services are presented, examining respondents who currently contract for selected services and the propensity of others to expand their contracts for additional services. The area of discounts is also examined, presenting discounts currently received and the attraction of users to discount programs.

The report is presented in three chapters. Chapter I provides an introduction to the report, including the scope and methodology. Chapter II is an overview of the midrange systems sample. Chapter III provides individual analyses by product vendor. Appendix A presents the questionnaire used for the research.

The report contains 84 pages, including 84 exhibits.

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Exhibits

Exhibits (Continued)

Exhibits (Continued)

Exhibits (Continued)

I

Introduction

I

Introduction

The following report presents midrange system user requirements for and the satisfaction with their service and support. The report analyzes the user's requirement for other ancillary services. The report also includes data from the Western European report *User Satisfaction—Midrange Systems, 1990* for comparison purposes.

A

Scope

The report analyzes the service requirements of users of the following midrange systems: Concurrent, Data General, Digital Equipment Corporation (DEC), Hewlett-Packard (HP), and IBM. Exhibit I-1 provides a breakdown of the manufacturers included in the U.S. sample and the Western European sample.

Each individual vendor/product analysis begins with the service contract coverage. Next, it covers the user's criteria for selecting a service vendor, the source of hardware maintenance, and the perceptions of independent maintenance companies. The traditional areas of system availability, response time, and repair time are presented. Software support is analyzed in the same manner, with examination of the software maintenance provider, the type of contract, and response/fix times for software problems. Opportunities for other services are presented, examining how many respondents are currently contracted for selected services and the propensity of the others to expand their contract for additional services. The area of discounts is also examined, presenting discounts currently received and the attraction of users to discount programs.

The report is presented in three chapters. Chapter I provides an introduction to the report, including the scope and methodology. Chapter II is the overview of the midrange systems sample. Chapter III provides individual analyses by product vendor. Appendix A provides the questionnaire used for the research.

EXHIBIT I-1

User Sample by Vendor
All Midrange Systems

	U.S.	W. Europe
Bull HN	0	34
Concurrent	20	0
Data General	23	0
DEC	32	27
HP	13	59
IBM	21	118
ICL	0	44
NCR	0	17
Siemens	0	15
Unisys	0	41
Wang	0	28
Other Vendors	0	64
Total	109	447

B

Methodology

For this report, INPUT surveyed 109 users of midrange systems in the U.S. and 447 in Western Europe as to their requirement for and satisfaction with the service that they receive. Each of the interviews was conducted by telephone using the questionnaire in Appendix A. INPUT targets the appropriate systems executive at each company; typical titles include Data Processing Manager, IS Director or Manager, or Vice President of IS. Companies are from a wide range of industries, as shown in Exhibit I -2.

EXHIBIT I-2

Distribution by Industry Sector
All Midrange Systems

Sector	U.S.	W. Europe
Manufacturing	33	156
Distribution	4	49
Transportation	1	14
Utilities	0	5
Banking/Finance	3	48
Insurance	3	9
Government	13	8
Services	20	66
Other	32	92
Total Sample	109	447

INPUT emphasizes the value of telephone interviews over other types of research-gathering practices due to the ability to focus the respondent and control the source of information as well as the size of the sample.

After the data-gathering process is complete, the information is entered into a dBase III Plus (Ashton-Tate) data base and analyzed using ABstat (Anderson Bell). Quality control is applied at each step to ensure data integrity.

C

Interpretation of the Data

Mean values are used throughout the tabulated data presented in this report. These mean values refer to the mean value of user ratings for specific aspects of service performance or the mean value of a range of service performance required or received by the respondents.

In this report, the ratings for service requirements and satisfaction ranged from 0 - 10, with 0 equal to a very low requirement or satisfaction and 10 being an extremely high requirement or very high satisfaction with the service.

II

U.S. Service Performance Data

II

U.S. Service Performance Data

In this chapter, the overall midrange systems sample is presented.

- Exhibit II-1 looks at the contract coverage utilized by the sample and compares it to the contract coverage of the 1989 midrange systems sample.

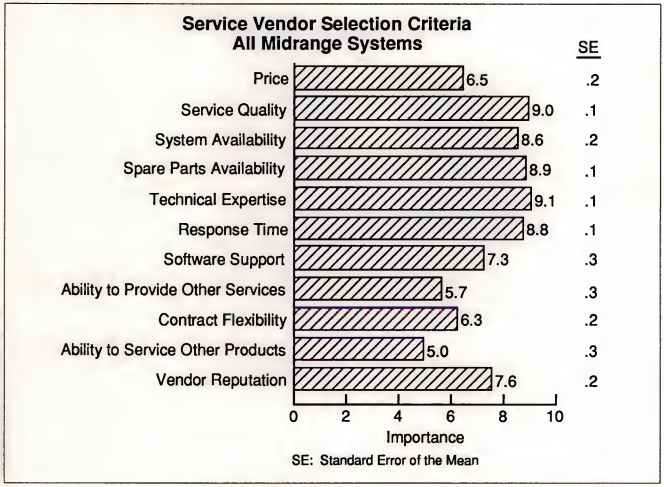
EXHIBIT II-1

Contract Coverage
All Midrange Systems

	1990 Percent of Sample	1989 Percent of Sample
Days Covered		
Monday - Friday	61	64
Monday - Saturday	5	3
Monday - Sunday	34	33
Hours Covered		
1 - 9	53	56
10 - 16	12	13
17 - 24	35	31

- The service selection criteria are presented in Exhibit II-2.

EXHIBIT II-2



- Exhibits II-3 through II-5 present the source of hardware maintenance for the sample and reasons users do or do not use independent maintenance organizations.

EXHIBIT II-3

Hardware Maintenance Provider
All Midrange Systems

	Number of Mentions
Manufacturer	90
Dealer/Distributor	1
Independent Maintenance Company	17
In-house	10
Other	1

Multiple responses allowed.
Sample size: 109

EXHIBIT II-4

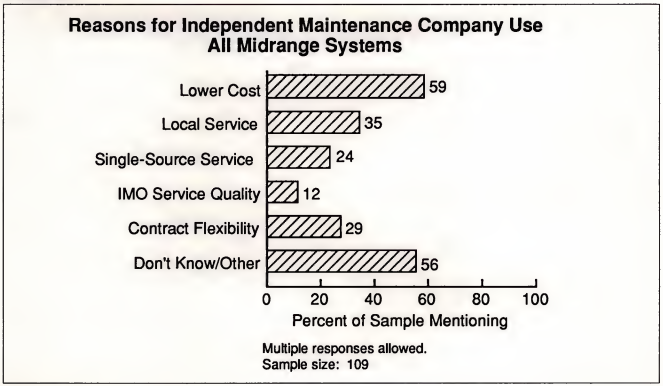
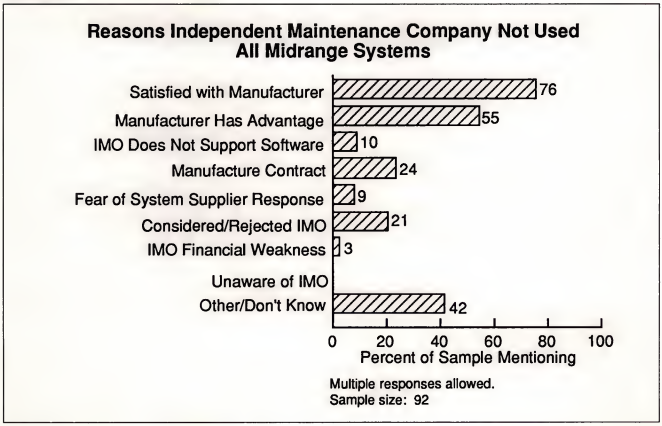


EXHIBIT II-5



- Exhibit II-6 presents the levels of discount required for the respondents to consider independent maintenance.

EXHIBIT II-6

Price Reduction Required to Consider IMO
All Midrange Systems

Percent Discount	Percent of Respondents
1 - 10	0
11 - 20	9
21 - 30	18
31 - 40	6
41 - 50	4
50 +	8
Unwilling At Any Price	38
Other Reasons	17

- The length of maintenance contract terms is shown in Exhibit II-7.

EXHIBIT II-7

Maintenance Contract Terms
All Midrange Systems

Hardware Maintenance	Percent of Respondents
Warranty	6
Three-Year	19
One-Year	48
Time & Materials	2
Other	19
None	6

- Traditional items of hardware maintenance are examined in Exhibits II-8 through II-10, showing system availability, system failure rates, and service required versus received.

EXHIBIT II-8

System Availability Performance Analysis
All Midrange Systems

	Mean Required	Mean Received	Percent Satisfied
System Availability (%)	96.8	97.3	69
Response Time (hrs)	4.1	3.8	86
Repair Time (hrs)	4.5	3.7	83

EXHIBIT II-9

System Failure Rates
All Midrange Systems

	U.S.	W. Europe
Mean Failures per Annum	3.0	2.9
Cause of Failures (Percent)		
Hardware	58	68
System Software	8	9
Application Software	3	5
Other	31	18

Sample size: 109 (U.S.), 447 (W.Europe)

EXHIBIT II-10

Hardware Service Required versus Received
All Midrange Systems

	Mean Ratings		
	Required	Received	Satisfaction
Spare Availability	9.0	8.4	8.4
Engineer Skills	9.0	8.7	8.7
Problem Escalation	8.5	8.5	8.7
Documentation	7.8	7.5	7.7
Remote Diagnosis	7.0	7.7	7.8

Note: Scale 0 - 10: 0 = lowest, 10 = highest rating.

- Software contracts and service are examined in Exhibits II-11 through II-14.

EXHIBIT II-11

Software Maintenance Provider
All Midrange Systems

Provided By	Percent Mentioning	
	U.S.	W. Europe
Hardware Manufacturer	70	77
Software House	4	8
Software Product Vendor	19	2
Value-Added Reseller	3	1
In-House	25	17
Other	4	2

Multiple responses allowed.
Sample size: 109 (U.S.), 447 (W. Europe)

EXHIBIT II-12

Maintenance Contract Terms
All Midrange Systems

System Software Maintenance	Percent of Respondents
Included in Software License Fee	32
Three-Year	7
One-Year	33
Custom	15
None	13

EXHIBIT II-13

Software Problems Resolution
All Midrange Systems

Solved By Phone (%)	73.0
Elapsed Time (hrs)	7.7
Other Problems	
Response Time	
• Required (mean hrs)	11.4
• Received (mean hrs)	9.5
• Percent Satisfied	80 .0
Fix Time	
• Required (mean hrs)	6.4
• Received (mean hrs)	5.8
• Percent Satisfied	77 .0

EXHIBIT II-14

System Software Support Required versus Received
All Midrange Systems

	Mean Ratings		
	Required	Received	Satisfaction
Engineer Skills	8.7	7.9	7.8
Documentation	8.6	7.5	7.6
Software Installation	7.8	7.9	8.0
Provision of Updates	8.6	8.1	8.1
Remote Diagnosis	7.6	7.6	7.6

Note: Scale 0 - 10: 0 = lowest, 10 = highest rating.

- Opportunities for other services for the maintenance vendors are given in Exhibit II-15, including the number of respondents currently contracting for the services, those requiring the services but not having them now, and the mean level of interest of respondents requiring the services.

EXHIBIT II-15

Opportunities for Other Services
All Midrange Systems

	Number of Mentions		Mean Level of Interest
	Currently Contracted	Not Contracted But Require	
Configuration Planning	26	10	6.9
Capacity Planning	25	21	6.8
Environmental Planning	24	9	6.6
Cabling	17	10	7.7
Software Evaluation	25	11	6.9
Consulting	26	15	6.6
Network Planning	16	25	7.0
Network Management	10	16	7.4
Disaster Recovery	14	31	7.9
Facilities Management	6	1	7.0
Problem Management	35	13	6.9
Application Software Support	30	11	6.9

Sample size: 109

- Discounts currently being received by the sample are shown in Exhibit II-16, and interest in discounts given in Exhibit II-17.

EXHIBIT II-16

Discounts Currently Received
All Midrange Systems

Discount	Percent Receiving	Mean Percent of Discount
Multiyear	42	17.5
Prepayment	16	13.4
Call Screening/Problem Mgmt.	5	NA
Deferred Response	5	20.0

NA: Not Available
Sample size: 89

EXHIBIT II-17

User Attraction to Discount Programs
All Midrange Systems

Discount	Willingness	Respondents
Multiyear	4.3	48
Prepayment	2.2	70
Call Screening/Problem Mgmt.	2.0	80
Deferred Response	1.8	80

Note: Scale 0 - 10: 0 = lowest, 10 = highest rating.

III

Vendor Performance Data

III

Vendor Performance Data

Chapter III presents the individual vendor/product analyses for Concurrent, Data General, DEC, HP, and IBM midrange systems.

A

Concurrent

There are 20 respondents in the Concurrent midrange systems sample, representing users of Concurrent's 32XX systems.

- Exhibit III-1 looks at the contract coverage that is utilized by the sample and compares it to the contract coverage of the 1989 Concurrent sample.
- The service selection criteria are presented in Exhibit III-2.
- Exhibits III-3 through III-5 present the source of hardware maintenance for the sample and why they do or do not use independent maintenance organizations. Only four companies in the Concurrent sample use independent maintenance, with half doing so due to the lower cost of independent maintenance.
- Exhibit III-6 presents the levels of discount required for the respondents to consider independent maintenance; a discount of over 20% was reported by 57% of the respondents as a requirement to go to independent maintenance.
- The length of maintenance contract terms is shown in Exhibit III-7.
- Traditional items of hardware maintenance are examined in Exhibits III-8 through III-10, showing system availability, system failure rates, and service required versus received.
- Software contracts and service are examined in Exhibits III-11 through III-14.

- Opportunities for other services for the maintenance vendors are given in Exhibit III-15, showing the number of respondents currently contracting for the services, those requiring the services but not having them now, and the mean level of interest of respondents requiring the services.

- Discounts currently being received by the sample are shown in Exhibit III-16 and interest in discounts is shown in Exhibit III-17. The only discount currently received by Concurrent respondents is a prepayment discount of an undetermined amount by 8% of the sample. Attraction to discounts is very low—2.1 to 3.3—for the Concurrent sample.

EXHIBIT III-1

Contract Coverage
Concurrent

	1990 Percent of Sample	1989 Percent of Sample
Days Covered		
Monday - Friday	84	89
Monday - Saturday	0	0
Monday - Sunday	16	11
Hours Covered		
1 - 9	84	78
10 - 16	0	11
17 - 24	16	11

EXHIBIT III-2

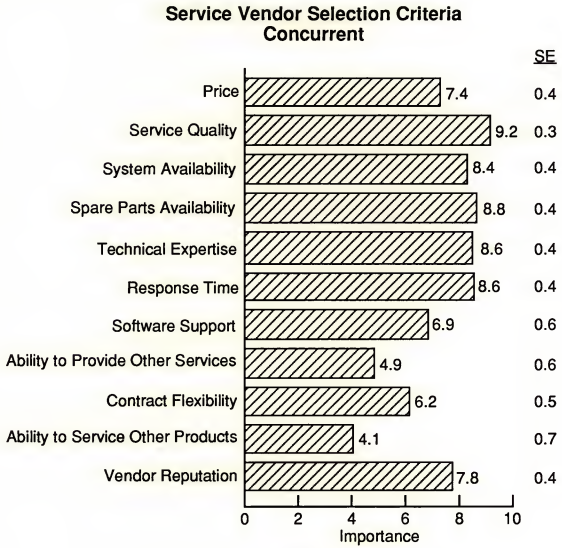


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EXHIBIT III-3

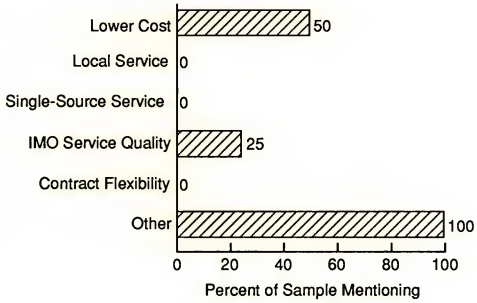
Hardware Maintenance Provider Concurrent

	Number of Mentions
Manufacturer	16
Dealer/Distributor	1
Independent Maintenance Company	4
In-house	5
Other	0

Multiple responses allowed.
Sample size: 20

EXHIBIT III-4

Reasons for Independent Maintenance Company Use Concurrent



Sample size: 4

EXHIBIT III-5

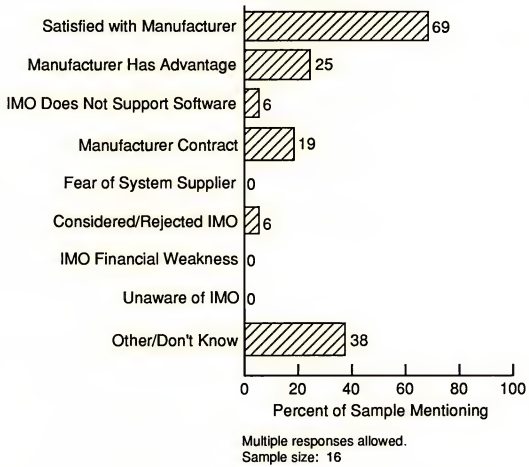


EXHIBIT III-6

Price Reduction Required to Consider IMO Concurrent

Percent Discount	Percent of Respondents
1 - 10	0
11 - 20	0
21 - 30	29
31 - 40	7
41 - 50	14
50 +	7
Unwilling At Any Price	21
Other Reasons	22

EXHIBIT III-7

Maintenance Contract Terms Concurrent

Hardware Maintenance	Percent of Respondents
Warranty	0
Three-Year	0
One-Year	80
Time & Materials	5
Other	0
None	15

EXHIBIT III-8

System Availability Performance Analysis Concurrent

	Mean Required	Mean Received	Percent Satisfied
System Availability (%)	94.1	97.2	70
Response Time (hrs)	6.9	5.8	79
Repair Time (hrs)	10.4	5.6	80

EXHIBIT III-9

System Failure Rates Concurrent

	U.S.
Mean Failures per Annum	3.6
Cause of Failures (Percent)	
Hardware	82
System Software	6
Application Software	1
Other	11

Sample size: 20

EXHIBIT III-10

Hardware Service Required versus Received Concurrent

	Mean Ratings		
	Required	Received	Satisfaction
Spares Availability	8.8	8.1	8.1
Engineer Skills	8.9	8.6	8.7
Problem Escalation	8.4	8.6	8.6
Documentation	7.6	7.1	7.2
Remote Diagnosis	4.6	6.8	6.8

Note: Scale 0 - 10: 0 = lowest, 10 = highest rating.

EXHIBIT III-11

Software Maintenance Provider Concurrent

Provided By	Percent Mentioning U.S.
Hardware Manufacturer	40
Software House	0
Software Product Vendor	25
Value-Added Reseller	0
In-House	40
Other	5

Multiple responses allowed.
Sample size: 20

EXHIBIT III-12

Maintenance Contract Terms Concurrent

System Software Maintenance	Percent of Respondents
Included in Software License Fee	30
Three-Year	5
One-Year	30
Custom	0
None	35

EXHIBIT III-13

Software Problems Resolution Concurrent

Solved By Phone (%)	71
Elapsed Time (hrs)	13
Other Problems	
Response Time	
• Required (mean hrs)	19.9
• Received (mean hrs)	14.6
• Percent Satisfied	89.0
Fix Time	
• Required (mean hrs)	10.4
• Received (mean hrs)	10.3
• Percent Satisfied	89.0

EXHIBIT II-14

System Software Support Required versus Received Concurrent

	Mean Ratings		
	Required	Received	Satisfaction
Engineer Skills	8.7	7.6	7.6
Documentation	8.6	7.1	7.1
Software Installation	6.8	7.9	7.9
Provision of Updates	8.8	8.0	7.9
Remote Diagnosis	6.5	6.4	6.3

Note: Scale 0 - 10: 0 = lowest, 10 = highest rating.

EXHIBIT III-15

Opportunities for Other Services Concurrent

	Number of Mentions		
	Currently Contracted	Not Contracted But Require	Mean Level of Interest
Configuration Planning	3	3	7.7
Capacity Planning	2	6	6.7
Environmental Planning	1	2	6.0
Cabling	1	2	6.0
Software Evaluation	2	5	7.0
Consulting	1	8	6.6
Network Planning	0	8	7.1
Network Management	0	3	7.0
Disaster Recovery	0	8	6.6
Facilities Management	0	0	0.0
Problem Management	4	4	7.0
Application Software Support	2	3	7.0

Sample size: 20

EXHIBIT III-16

Discounts Currently Received Concurrent

Discount	Percent Receiving	Mean Percent of Discount
Multiyear	0	0
Prepayment	8	NA
Call Screening/Problem Mgmt.	0	0
Deferred Response	0	0

NA: Not Available
Sample size: 13

EXHIBIT III-17

User Attraction to Discount Programs Concurrent

Discount	Willingness	Respondents
Multiyear	3.3	12
Prepayment	2.2	10
Call Screening/Problem Mgmt.	2.2	11
Deferred Response	2.1	11

Note: Scale 0 - 10: 0 = lowest, 10 = highest rating.

B

Data General

There are 23 respondents in the Data General sample, representing users of the MV systems.

- Exhibit III-18 looks at the contract coverage that is utilized by the sample and compares it to the contract coverage of the 1989 sample.
- The service selection criteria are presented in Exhibit III-19.
- Exhibits III-20 through III-22 present the source of hardware maintenance for the sample and why they do or do not use independent maintenance organizations.
- Exhibit III-23 presents the levels of discount required for the respondents to consider independent maintenance. Fifty-five percent of the sample reported being unwilling at any price to switch to IMO service.
- The length of maintenance contract terms is shown in Exhibit III-24.
- Traditional items of hardware maintenance are examined in Exhibits III-25 through III-27, showing system availability, system failure rates, and service required versus received.
- Software contracts and service are examined in Exhibits III-28 through III-31.
- Opportunities for other services for the maintenance vendors are given in Exhibit III-32, including the number of respondents currently contracting for the services, those requiring the services but not having them now, and the mean level of interest of respondents requiring the services.
- Discounts currently being received by the sample are shown in Exhibit III-33; 53% report multiyear contract discounts with a mean discount of 21.9%. Interest in discounts for those not receiving them is shown in Exhibit III-34.

EXHIBIT III-18

Contract Coverage
Data General

	1990 Percent of Sample	1989 Percent of Sample
Days Covered		
Monday - Friday	68	68
Monday - Saturday	9	4
Monday - Sunday	23	28
Hours Covered		
1 - 9	64	65
10 - 16	13	12
17 - 24	23	23

EXHIBIT III-19

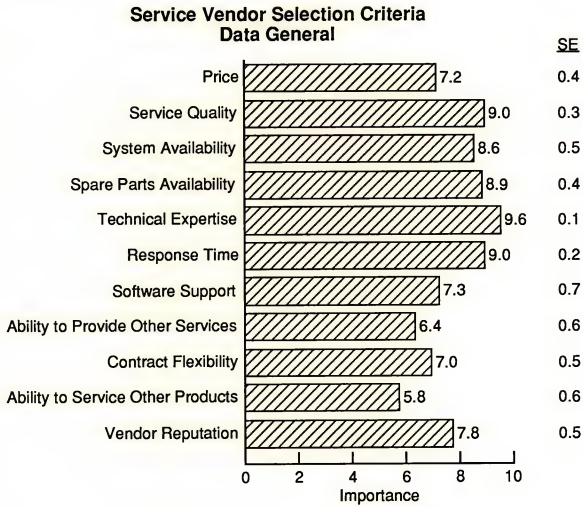


EXHIBIT III-20

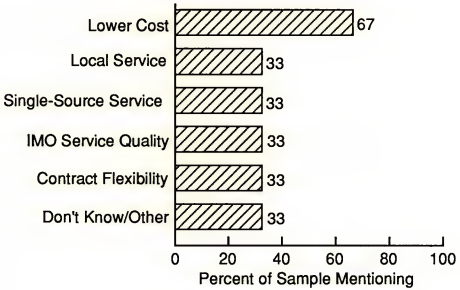
Hardware Maintenance Provider
Data General

	Number of Mentions
Manufacturer	19
Dealer/Distributor	0
Independent Maintenance Company	3
In-house	4
Other	1

Multiple responses allowed.
Sample size: 23

EXHIBIT III-21

Reasons for Independent Maintenance Company Use
Data General



Sample size: 3
Multiple responses allowed.

EXHIBIT III-22

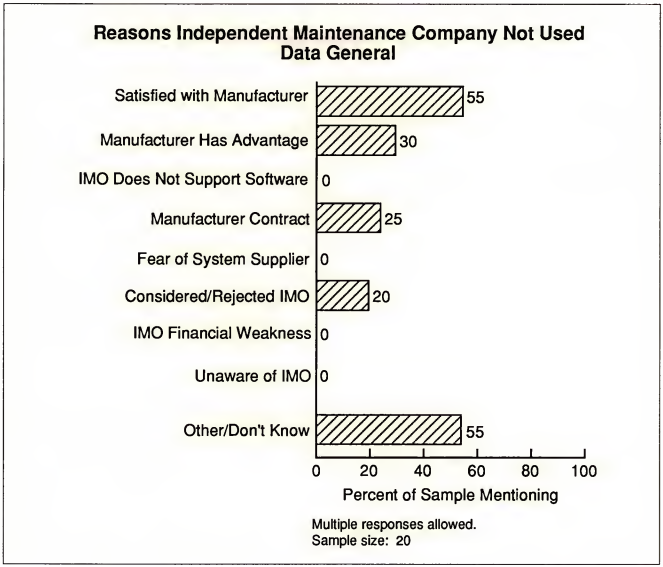


EXHIBIT III-23

Price Reduction Required to Consider IMO
Data General

Percent Discount	Percent of Respondents
1 - 10	0
11 - 20	10
21 - 30	5
31 - 40	0
41 - 50	10
50 +	5
Unwilling At Any Price	55
Other Reasons	15

EXHIBIT III-24

Maintenance Contract Terms
Data General

Hardware Maintenance	Percent of Respondents
Warranty	5
Three-Year	14
One-Year	40
Time & Materials	0
Other	32
None	9

EXHIBIT III-25

System Availability Performance Analysis
Data General

	Mean Required	Mean Received	Percent Satisfied
System Availability (%)	96.7	97.4	61
Response Time (hrs)	5.4	4.7	87
Repair Time (hrs)	3.0	2.7	91

EXHIBIT III-26

System Failure Rates
Data General

	U.S.
Mean Failures per Annum	3.3
Cause of Failures (Percent)	
Hardware	47
System Software	6
Application Software	5
Other	42

Sample size: 23

EXHIBIT III-27

Hardware Service Required versus Received
Data General

	Mean Ratings		
	Required	Received	Satisfaction
Spares Availability	9.1	8.4	8.4
Engineer Skills	9.5	9.0	9.1
Problem Escalation	9.0	8.8	8.8
Documentation	9.0	8.2	8.2
Remote Diagnosis	8.2	8.0	8.0

Note: Scale 0 - 10: 0 = lowest, 10 = highest rating.

EXHIBIT III-28

Software Maintenance Provider
Data General

Provided By	Percent Mentioning
	U.S.
Hardware Manufacturer	65
Software House	0
Software Product Vendor	17
Value-Added Reseller	4
In-House	22
Other	4

Multiple responses allowed.
Sample size: 21

EXHIBIT III-29

Maintenance Contract Terms
Data General

System Software Maintenance	Percent of Respondents
Included in Software License Fee	29
Three-Year	5
One-Year	29
Custom	24
None	13

EXHIBIT III-30

Software Problems Resolution
Data General

Solved By Phone (%)	72.0
Elapsed Time (hrs)	10.1
Other Problems	
Response Time	
• Required (mean hrs)	11.6
• Received (mean hrs)	11.4
• Percent Satisfied	75.0
Fix Time	
• Required (mean hrs)	4.9
• Received (mean hrs)	2.8
• Percent Satisfied	75.0

EXHIBIT III-31

System Software Support Required versus Received Data General

	Mean Ratings		
	Required	Received	Satisfaction
Engineer Skills	9.2	8.5	8.6
Documentation	9.0	7.6	7.7
Software Installation	8.5	7.9	8.0
Provision of Updates	9.1	8.0	8.1
Remote Diagnosis	8.9	8.6	8.7

Note: Scale 0 - 10: 0 = lowest, 10 = highest rating.

EXHIBIT III-32

Opportunities for Other Services
Data General

	Number of Mentions		
	Currently Contracted	Not Contracted But Require	Mean Level of Interest
Configuration Planning	4	2	7.5
Capacity Planning	2	4	7.0
Environmental Planning	2	1	6.0
Cabling	2	4	8.0
Software Evaluation	5	0	0
Consulting	6	3	4.7
Network Planning	3	3	6.3
Network Management	2	1	8.0
Disaster Recovery	2	9	8.9
Facilities Management	1	0	0
Problem Management	4	4	6.8
Application Software Support	7	1	8.0

Sample size: 23

EXHIBIT III-33

Discounts Currently Received
Data General

Discount	Percent Receiving	Mean Percent of Discount
Multiyear	53	21.9
Prepayment	22	4.0
Call Screening/Problem Mgmt.	0	0
Deferred Response	0	0

Sample size: 19

EXHIBIT III-34

User Attraction to Discount Programs
Data General

Discount	Willingness	Respondents
Multiyear	6.0	8
Prepayment	2.4	14
Call Screening/Problem Mgmt.	2.4	18
Deferred Response	1.9	18

Note: Scale 0 - 10: 0 = lowest, 10 = highest rating.

C

DEC

There are 32 users of DEC midrange systems in the U.S. sample, representing the VAX and MicroVAX systems. Comparison information is given for the Western European sample of 27 DEC users wherever appropriate.

- Exhibit III-35 looks at the contract coverage that is utilized by the sample and compares it to the contract coverage of the 1989 U.S. DEC sample.
- The service selection criteria for the DEC sample are presented in Exhibit III-36.
- Exhibits III-37 through III-39 present the source of hardware maintenance for the sample and why companies do or do not use independent maintenance organizations.
- Exhibit III-40 presents the levels of discount required for the respondents to consider independent maintenance for their equipment.
- The length of maintenance contract terms is shown in Exhibit III-41.
- Traditional items of hardware maintenance are examined in Exhibits III-42 through III-44, showing system availability, system failure rates, and service required versus received.
- Software contracts and service are examined in Exhibits III-45 through III-48.
- Opportunities for other services for the maintenance vendors are given in Exhibit III-49, including the number of respondents currently contracting for the services, those requiring the services but not having them now, and the mean level of interest of respondents requiring the services.
- Discounts currently being received by the sample are shown in Exhibit III-50 and interest in discounts is given in Exhibit III-51.

EXHIBIT III-35

Contract Coverage
DEC

	1990 Percent of Sample	1989 Percent of Sample
Days Covered		
Monday - Friday	66	68
Monday - Saturday	6	10
Monday - Sunday	28	22
Hours Covered		
1 - 9	47	63
10 - 16	22	19
17 - 24	31	18

EXHIBIT III-36

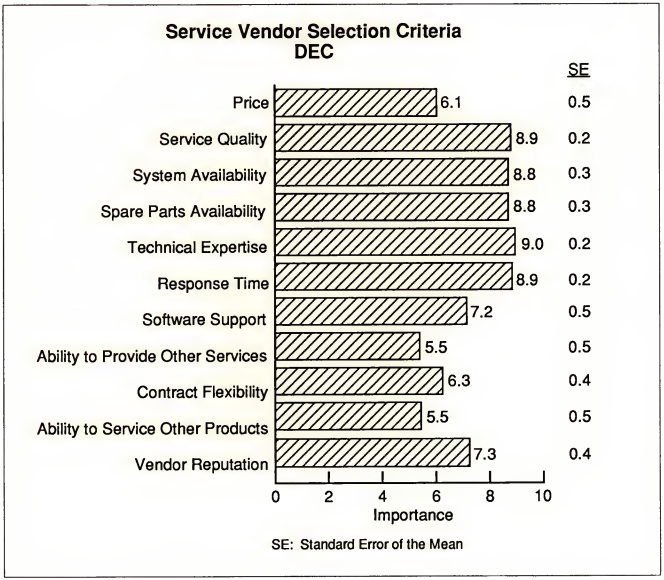


EXHIBIT III-37

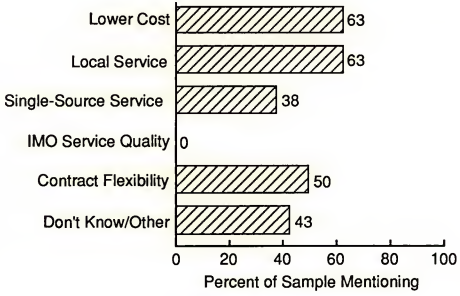
Hardware Maintenance Provider
DEC

	Number of Mentions
Manufacturer	23
Dealer/Distributor	0
Independent Maintenance Company	8
In-house	1
Other	0

Multiple responses allowed.
Sample size: 32 (U.S.), 27 (W.Europe)

EXHIBIT III-38

Reasons for Independent Maintenance Company Use
DEC



Sample size: 8
Multiple responses allowed.

EXHIBIT III-39

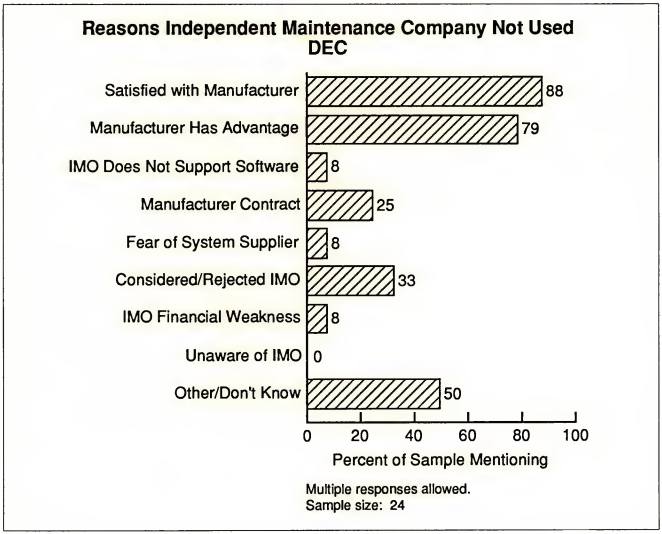


EXHIBIT III-40

Price Reduction Required to Consider IMO DEC

Percent Discount	Percent of Respondents
1 - 10	0
11 - 20	13
21 - 30	21
31 - 40	12
41 - 50	0
50 +	12
Unwilling At Any Price	29
Other Reasons	13

EXHIBIT-41

Maintenance Contract Terms DEC

Hardware Maintenance	Percent of Respondents
Warranty	3
Three-Year	32
One-Year	52
Time & Materials	0
Other	10
None	3

EXHIBIT III-42

System Availability Performance Analysis
DEC

	Mean Required	Mean Received	Percent Satisfied
System Availability (%)	97.2	96.6	65
Response Time (hrs)	3.5	3.0	91
Repair Time (hrs)	3.4	2.4	81

EXHIBIT III-43

System Failure Rates
DEC

	U.S.	W. Europe
Mean Failures per Annum	3.8	2.3
Cause of Failures (Percent)		
Hardware	57	75
System Software	8	6
Application Software	2	0
Other	33	19

Sample size: 32 (U.S.), 27 (W.Europe)

EXHIBIT III-44

Hardware Service Required versus Received
DEC

	Mean Ratings		
	Required	Received	Satisfaction
Spares Availability	9.1	8.2	8.5
Engineer Skills	8.8	8.4	8.5
Problem Escalation	8.5	7.9	8.7
Documentation	7.2	7.1	7.5
Remote Diagnosis	7.3	7.0	7.4

Note: Scale 0 - 10: 0 - lowest, 10 = highest rating.

EXHIBIT III-45

Software Maintenance Provider
DEC

Provided By	Percent Mentioning	
	U.S.	W. Europe
Hardware Manufacturer	77	78
Software House	7	7
Software Product Vendor	19	4
Value-Added Reseller	3	4
In-House	19	15
Other	3	4

Sample size: 32 (U.S.), 27 (W.Europe)
Multiple responses allowed.

EXHIBIT III-46

Maintenance Contract Terms
DEC

System Software Maintenance	Percent of Respondents
Included in Software License Fee	10
Three-Year	10
One-Year	57
Custom	17
None	6

EXHIBIT III-47

Software Problems Resolution
DEC

Solved By Phone (%)	69.0
Elapsed Time (hrs)	5.5
Other Problems	
Response Time	
• Required (mean hrs)	8.8
• Received (mean hrs)	4.6
• Percent Satisfied	88.0
Fix Time	
• Required (mean hrs)	5.2
• Received (mean hrs)	4.9
• Percent Satisfied	78.0

EXHIBIT III-48

System Software Support Required versus Received DEC

	Mean Ratings		
	Required	Received	Satisfaction
Engineer Skills	8.3	7.9	7.8
Documentation	8.4	7.6	7.7
Software Installation	7.7	7.9	8.0
Provision of Updates	8.5	8.2	8.4
Remote Diagnosis	8.0	7.5	7.7

Note: Scale 0 - 10: 0 = lowest, 10 = highest rating.

EXHIBIT III-49

Opportunities for Other Services
DEC

	Number of Mentions		
	Currently Contracted	Not Contracted But Require	Mean Level of Interest
Configuration Planning	3	4	6.5
Capacity Planning	5	4	7.5
Environmental Planning	5	4	6.3
Cabling	4	2	8.5
Software Evaluation	5	3	7.0
Consulting	5	3	8.0
Network Planning	3	8	7.4
Network Management	3	6	7.7
Disaster Recovery	6	5	8.4
Facilities Management	2	1	7.0
Problem Management	11	0	0.0
Application Software Support	8	4	7.5

Sample size: 26

EXHIBIT III-50

Discounts Currently Received
DEC

Discount	Percent Receiving	Mean Percent of Discount
Multiyear	46	17
Prepayment	23	18
Call Screening/Problem Mgmt.	4	NA
Deferred Response	4	20

NA: Not available.
Sample size: 26

EXHIBIT III-51

User Attraction to Discount Programs
DEC

Discount	Willingness	Respondents
Multiyear	4.5	13
Prepayment	2.6	20
Call Screening/Problem Mgmt.	2.1	23
Deferred Response	2.4	24

Note: Scale 0 - 10: 0 = lowest, 10 = highest rating.

D

Hewlett-Packard

There are 13 users of the HP 3000 midrange system in the HP sample in the U.S. and 59 respondents in the Western European sample of HP midrange users. Comparisons to the 1989 U.S. and Western European samples are given whenever possible.

- Exhibit III-52 looks at the contract coverage that is utilized by the sample and compares it to the contract coverage of the 1989 sample.
- The service selection criteria are presented in Exhibit III-53.
- Exhibits III-54 through III-56 present the source of hardware maintenance for the sample and why companies do or do not use independent maintenance organizations. The sample of those using independent maintenance is very small, 2, and this must be kept in mind when reading the data on IMO use. One hundred percent of users responding to why they do not use independent maintenance gave satisfaction with the manufacturer as a reason.
- Exhibit III-57 presents the levels of discount required for the respondents to consider independent maintenance.
- The length of maintenance contract terms is shown in Exhibit III-58.
- Traditional items of hardware maintenance are examined in Exhibits III-59 through III-61, showing system availability, system failure rates, and service required versus received.
- Software contracts and service are examined in Exhibits III-62 through III-65.
- Opportunities for other services for the maintenance vendors are given in Exhibit III-66, including the number of respondents currently contracting for the services, those requiring the services but not having them now, and the mean level of interest of respondents requiring the services. There appears to be a fairly low requirement for the services by those not currently receiving them.
- Discounts currently being received by the sample are shown in Exhibit III-67 and interest in discounts is shown in Exhibit III-68. The HP users do not appear to be too interested in discounts at this time, with attraction to discounts ranging from 2.9 to 5.4 on a scale of 0 to 10.

EXHIBIT III-52

Contract Coverage
Hewlett-Packard

	1990 Percent of Sample	1989 Percent of Sample
Days Covered		
Monday - Friday	59	64
Monday - Saturday	8	5
Monday - Sunday	33	31
Hours Covered		
1 - 9	42	50
10 - 16	25	17
17 - 24	33	33

EXHIBIT III-53

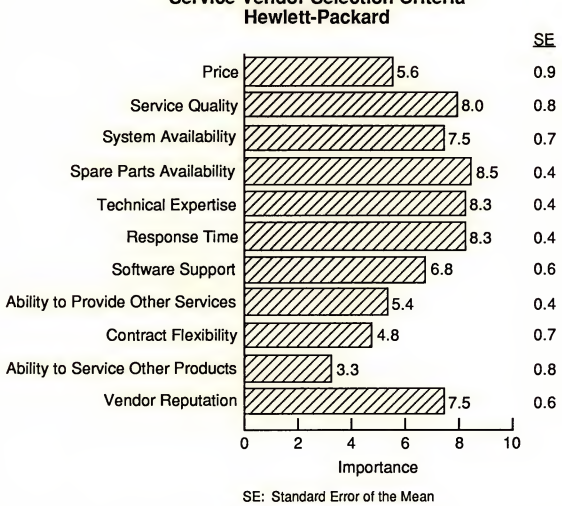


EXHIBIT III-54

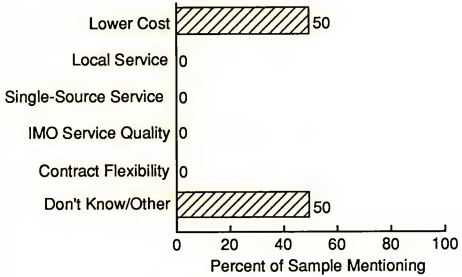
Hardware Maintenance Provider
Hewlett-Packard

	Number of Mentions	W. Europe
Manufacturer	11	95
Dealer/Distributor	0	2
Independent Maintenance Company	2	8
In-house	0	2
Other	0	0

Multiple responses allowed.
Sample size: 13 (U.S.), 59 (W.Europe)

EXHIBIT III-55

Reasons for Independent Maintenance Company Use
Hewlett-Packard



Multiple responses allowed.
Sample size: 2

EXHIBIT III-56

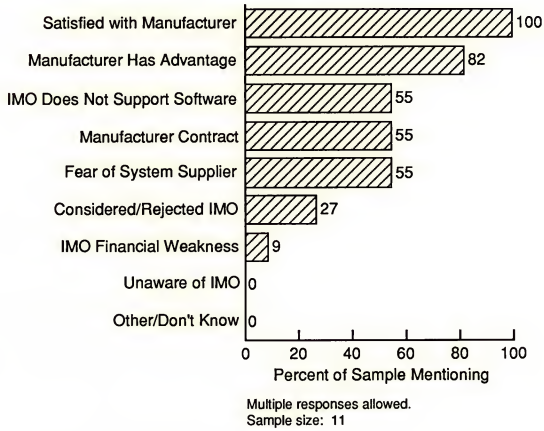


EXHIBIT III-57

Price Reduction Required to Consider IMO Hewlett-Packard

Percent Discount	Percent of Respondents
1 - 10	0
11 - 20	0
21 - 30	37
31 - 40	9
41 - 50	0
50 +	0
Unwilling At Any Price	27
Other Reasons	27

EXHIBIT III-58

Maintenance Contract Terms Hewlett-Packard

Hardware Maintenance	Percent of Respondents
Warranty	31
Three-Year	8
One-Year	46
Time & Materials	0
Other	7
None	8

EXHIBIT III-59

System Availability Performance Analysis
Hewlett-Packard

	Mean Required	Mean Received	Percent Satisfied
System Availability (%)	98.4	97.8	77
Response Time (hrs)	3.7	5.5	69
Repair Time (hrs)	5.0	9.2	83

EXHIBIT III-60

System Failure Rates
Hewlett-Packard

	U.S.	W. Europe
Mean Failures per Annum	0.8	1.7
Cause of Failures (Percent)		
Hardware	52	54
System Software	8	17
Application Software	1	2
Other	39	27

Sample size: 13 (U.S.), 59 (W.Europe)

EXHIBIT III-61

Hardware Service Required versus Received Hewlett-Packard

	Mean Ratings		
	Required	Received	Satisfaction
Spares Availability	9.1	8.6	8.4
Engineer Skills	8.8	8.5	8.0
Problem Escalation	8.5	8.7	8.4
Documentation	6.9	6.4	6.5
Remote Diagnosis	7.7	8.4	7.8

Note: Scale 0 - 10: 0 - lowest, 10 = highest rating.

EXHIBIT III-62

Software Maintenance Provider Hewlett-Packard

Provided By	Percent Mentioning	
	U.S.	W. Europe
Hardware Manufacturer	85	78
Software House	15	7
Software Product Vendor	31	4
Value-Added Reseller	0	4
In-House	39	15
Other	0	4

Multiple responses allowed.
Sample size: 13 (U.S.), 59 (W.Europe)

EXHIBIT III-63

Maintenance Contract Terms
Hewlett-Packard

System Software Maintenance	Percent of Respondents
Included in Software License Fee	39
Three-Year	7
One-Year	31
Custom	16
None	7

EXHIBIT III-64

Software Problems Resolution
Hewlett-Packard

Solved By Phone (%)	81.0
Elapsed Time (hrs)	4.3
Other Problems	
Response Time	
• Required (mean hrs)	12.5
• Received (mean hrs)	8.5
• Percent Satisfied	82.0
Fix Time	
• Required (mean hrs)	6.0
• Received (mean hrs)	3.1
• Percent Satisfied	89.0

EXHIBIT III-65

System Software Support Required versus Received
Hewlett-Packard

	Mean Ratings		
	Required	Received	Satisfaction
Engineer Skills	7.8	7.3	6.8
Documentation	8.8	7.5	7.8
Software Installation	7.0	7.2	7.3
Provision of Updates	7.4	7.8	7.2
Remote Diagnosis	7.1	7.3	6.9

Note: Scale 0 - 10: 0 = lowest, 10 = highest rating.

EXHIBIT III-66

Opportunities for Other Services
Hewlett-Packard

	Number of Mentions		
	Currently Contracted	Not Contracted But Require	Mean Level of Interest
Configuration Planning	6	0	0.0
Capacity Planning	7	0	0.0
Environmental Planning	8	0	0.0
Cabling	6	0	0.0
Software Evaluation	5	2	6.0
Consulting	8	0	0.0
Network Planning	6	0	0.0
Network Management	3	1	9.0
Disaster Recovery	4	3	7.7
Facilities Management	2	0	0.0
Problem Management	10	0	0.0
Application Software Support	8	1	7.0

Sample size: 13

EXHIBIT III-67

Discounts Currently Received
Hewlett-Packard

Discount	Percent Receiving	Mean Percent of Discount
Multiyear	8	5
Prepayment	9	10
Call Screening/Problem Mgmt.	8	NA
Deferred Response	30	NA

NA: Not available.
Sample size: 12

EXHIBIT III-68

User Attraction to Discount Programs
Hewlett-Packard

Discount	Willingness	Respondents
Multiyear	5.4	10
Prepayment	2.9	9
Call Screening/Problem Mgmt.	3.1	11
Deferred Response	2.9	8

Note: Scale 0 - 10: 0 = lowest, 10 = highest rating.

E

IBM

There are 21 users of IBM's 937X and AS/400 systems in the U.S. IBM midrange sample. There are 118 users in the Western European IBM midrange sample. Comparisons to the Western European sample are made whenever possible.

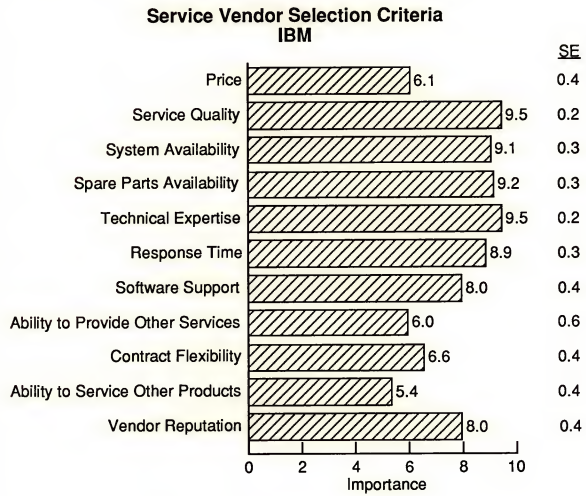
- Exhibit III-69 looks at the contract coverage utilized by the sample.
- The service selection criteria reported by the IBM sample are presented in Exhibit III-70.
- Exhibits III-71 and III-72 present the source of hardware maintenance for the sample and why the companies do not use independent maintenance organizations. One hundred percent of the sample reported using the manufacturer for their service, with 76% reporting that manufacturer satisfaction is one of the reasons they do not use an IMO for service.
- Exhibit III-73 presents the levels of discount required for the respondents to consider independent maintenance. Almost one half—48%—reported being unwilling at any price to switch to an IMO.
- The length of maintenance contract terms is shown in Exhibit III-74.
- Traditional items of hardware maintenance are examined in Exhibits III-75 through III-77, presenting system availability, system failure rates, and service required versus received.
- Software contracts and service are examined in Exhibits III-78 through III-81.
- Opportunities for other services for the maintenance vendors are given in Exhibit III-82, including the number of respondents currently contracting for the services, those requiring the services but not having them now, and the mean level of interest of respondents requiring the services.
- Discounts currently being received by the sample are shown in Exhibit III-83 and interest in discounts is given in Exhibit III-84.

EXHIBIT III-69

Contract Coverage
IBM

	1990 Percent of Sample
Days Covered	
Monday - Friday	29
Monday - Saturday	0
Monday - Sunday	71
Hours Covered	
1 - 9	24
10 - 16	0
17 - 24	76

EXHIBIT III-70



SE: Standard Error of the Mean

EXHIBIT III-71

Hardware Maintenance Provider
IBM

	Number of Mentions
Manufacturer	100
Dealer/Distributor	0
Independent Maintenance Company	0
In-house	0
Other	0

Multiple responses allowed.
Sample size: 21 (U.S.), 118 (W.Europe)

EXHIBIT III-72

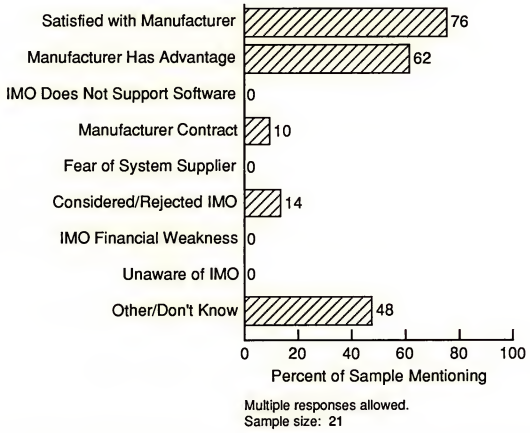


EXHIBIT III-73

Price Reduction Required to Consider IMO IBM

Percent Discount	Percent of Respondents
1 - 10	0
11 - 20	14
21 - 30	9
31 - 40	0
41 - 50	0
50 +	10
Unwilling At Any Price	48
Other Reasons	19

EXHIBIT III-74

Maintenance Contract Terms IBM

Hardware Maintenance	Percent of Respondents
Warranty	0
Three-Year	30
One-Year	20
Time & Materials	5
Other	45
None	0

EXHIBIT III-75

System Availability Performance Analysis
IBM

	Mean Required	Mean Received	Percent Satisfied
System Availability (%)	98.1	97.8	81
Response Time (hrs)	1.7	1.3	95
Repair Time (hrs)	1.8	2.0	81

EXHIBIT III-76

System Failure Rates
IBM

	U.S.	W. Europe
Mean Failures per Annum	2.0	2.6
Cause of Failures (Percent)		
Hardware	50	71
System Software	11	7
Application Software	9	3
Other	30	19

Sample size: 21 (U.S.), 118 (W.Europe)

EXHIBIT III-77

Hardware Service Required versus Received
IBM

	Mean Ratings		
	Required	Received	Satisfaction
Spares Availability	9.1	8.6	8.6
Engineer Skills	9.1	8.9	8.9
Problem Escalation	8.0	8.7	8.8
Documentation	8.4	8.5	8.5
Remote Diagnosis	7.2	8.6	8.6

Note: Scale 0 - 10: 0 - lowest, 10 = highest rating.

EXHIBIT III-78

Software Maintenance Provider
IBM

Provided By	Percent Mentioning	
	U.S.	W. Europe
Hardware Manufacturer	86	85
Software House	0	6
Software Product Vendor	5	2
Value-Added Reseller	5	0
In-House	14	22
Other	5	3

Multiple responses allowed.
Sample size: 21 (U.S.), 118 (W.Europe)

EXHIBIT III-79

Maintenance Contract Terms
IBM

System Software Maintenance	Percent of Respondents
Included in Software License Fee	62
Three-Year	5
One-Year	9
Custom	19
None	5

EXHIBIT III-80

Software Problems Resolution
IBM

Solved By Phone (%)	75.0
Elapsed Time (hrs)	4.6
Other Problems	
Response Time	
• Required (mean hrs)	3.7
• Received (mean hrs)	6.9
• Percent Satisfied	70.0
Fix Time	
• Required (mean hrs)	6.9
• Received (mean hrs)	9.8
• Percent Satisfied	60.0

EXHIBIT III-81

System Software Support Required versus Received IBM

	Mean Ratings		
	Required	Received	Satisfaction
Engineer Skills	9.3	8.0	8.0
Documentation	8.6	7.5	7.5
Software Installation	8.6	8.4	8.4
Provision of Updates	8.8	8.4	8.4
Remote Diagnosis	6.8	7.8	7.8

Note: Scale 0 - 10: 0 = lowest, 10 = highest rating.

EXHIBIT III-82

Opportunities for Other Services
IBM

	Number of Mentions		
	Currently Contracted	Not Contracted But Require	Mean Level of Interest
Configuration Planning	10	1	5.0
Capacity Planning	9	7	6.4
Environmental Planning	8	2	8.0
Cabling	4	2	8.0
Software Evaluation	8	1	8.0
Consulting	6	1	8.0
Network Planning	4	6	6.7
Network Management	2	5	7.0
Disaster Recovery	2	6	7.8
Facilities Management	1	0	0.0
Problem Management	6	5	7.0
Application Software Support	5	2	5.0

Sample size: 21

EXHIBIT III-83

Discounts Currently Received
IBM

Discount	Percent Receiving	Mean Percent of Discount
Multiyear	74	16.0
Prepayment	11	13.0
Call Screening/Problem Mgmt.	11	0
Deferred Response	0	0

Sample size: 19

EXHIBIT III-84

User Attraction to Discount Programs
IBM

Discount	Willingness	Respondents
Multiyear	1.0	5
Prepayment	1.1	17
Call Screening/Problem Mgmt.	0.6	17
Deferred Response	0.5	19

Note: Scale 0 - 10: 0 = lowest, 10 = highest rating.

A

Appendix: User Questionnaire

A

Appendix: User Questionnaire

A
General

1. What is the make and model number of the main computer on your site and how many do you have?

   Make _____

   Model _____ (CRITICAL INFORMATION)

   Units _____

2. Are you the person who is knowledgeable on the servicing of this system?
   ____Yes ____No

   (If not then obtain the name of the correct person and start again.)

   Name of person responsible_____

3. Do you have another system? What is the make and model number of that system and how many do you have?

   Make _____

   Model _____ (CRITICAL INFORMATION)

   Units _____

   All of the following questions that I am going to ask you are related to your _____ system. (Write in system type.)

   (To confirm, read out the make and model number.)

4. So that we can ensure that we get a proper cross-section of industry and commerce, can you tell me what is the main business sector of your company? (Read out the list—to allow for best choice. Then circle appropriate answer.)

Business sector	
• Manufacturing	1
• Distribution	2
• Transportation	3
• Utilities	4
• Banking and Finance	5
• Insurance	6
• Government	7
• Services	8
• Other/Don't Know	9

B

Service Vendor Selection

I would like to ask you some questions relating to the vendor that services your computer system.

5. Could you please rate the importance of the following criteria in selecting your service vendor, on a scale of 0 to 10 (0 = low, 10 = high).

Criteria	Rating
a. Price	_____
b. Quality of service	_____
c. Guaranteed system availability level	_____
d. Guaranteed availability of spare parts	_____
e. Technical expertise	_____
f. Fast response time	_____
g. Availability of software support	_____
h. Ability to provide other services	_____
i. Contract flexibility	_____
j. Ability to service other products	_____
k. Vendor reputation	_____

6a. Would you please tell me who services your computer system hardware? (Remind the user _____ system.)

(Please circle appropriate vendor type; multiple answers are allowed.)

Manufacturer	1
Dealer/distributor	1
Third-party maintenance company	1
Own company	1
Other	1

(If the respondent answered YES to third-party maintenance, ask the following question. If not, go to question 7.)

6b. I notice that your system, or part of it, is serviced by a third-party maintenance company. Could you tell me the reason why you use third-party maintenance?

(Please circle appropriate answer; multiple answers allowed.)

- Lower cost 1
- Local service 1
- Single-source service 1
- TPM service higher quality 1
- More flexible contract 1
- Other/Don't know 9

7a. I notice that you *do not* use a third-party maintenance company; is there a reason for this?

(Please circle appropriate answer; multiple answers allowed.)

Satisfied with manufacturer 1
Manufacturer has an advantage 1
TPM cannot support software 1
Tied to manufacturer with contract 1
Fear of system supplier response 1
Considered and rejected TPM 1
TPM financial weakness 1
Unaware of TPM 1
Other/Don't know 9

7b. Assuming you were approached by a TPM company, at what level of price reduction would you consider using a TPM vendor to service your computer hardware?

(Please circle appropriate answer. Only <u>one</u> answer allowed.)

- 1% - 10% 1
- 11% - 20% 1
- 21% - 30% 1
- 31% - 40% 1
- 41% - 50% 1
- 50%+ 1
- Unwilling at any price 1
- Other/Don't know 9

8. How important is it that your service vendor communicate with you regularly and effectively to advise you of, for example:

____ The status of your system >
____ Possible problems >
____ Repair plans > INTERVIEWER PROMPTS
____ Availability of spare parts >
____ Routine visits >
____ Hardware and software changes >

Could you please provide an importance and satisfaction rating on a scale of 0 to 10, where 0 is of no importance or indicates total dissatisfaction, and 10 is at top importance or indicates that you are fully satisfied.

- Importance _____
- Satisfaction _____

9a. Would you prefer all hardware maintenance and software support to be provided by one service vendor at each site? If yes, what would your interest level be?

Level of interest: (please circle)

Low Medium High

(Circle answer.)

Yes	1
No	1
Don't know	9

(If the respondent answered YES, ask:)

9b. Who would you prefer that vendor to be?

(Please circle appropriate answer; multiple answers allowed.)

• The manufacturer of your main hardware	1
• Dealer/distributor/VAR	1
• TPM company	1
• One of your hardware manufacturers	1
• Don't know/other	9

Note: VAR is a value-added reseller.

C

Hardware Maintenance

I would now like to ask you some questions about the hardware maintenance of your computer system. (Reaffirm the system type _____)

Some of the questions are scaled with ratings from 0 to 10. Zero (0) represents zero importance or satisfaction, 5 is average, and 10 represents top importance or full satisfaction.

10. What is your rating for the importance of hardware maintenance to your business and how satisfied are you with your service vendor's performance?

- Importance rating _____
- Satisfaction rating _____

11. If we define **systems availability** as the percentage of your normal working hours that the system is operational (disregarding non-critical peripheral breaks), what percentage has that been for your system over the last twelve months?

    - Percentage _____%

12. How many times each year does your system fail completely for a period of greater than one hour?

    - Per year _____

    And what percentage of these system failures are due to:

    Hardware _____%
    Systems software _____%
    Applications software _____%
    Other (i.e., power failure) _____%

    (Please check that percentages add up to 100.)

13. What is your rating for the importance of **systems availability** (scale 0 - 10), and what is your level of satisfaction?

    - Importance rating _____
    - Satisfaction rating _____

14. Defining **hardware response time** as the time it takes between reporting a fault and the arrival of the service engineer on site (in working hours, that is to say 8 hours = 1 working day), what response time (in hours) do you find acceptable and what did you actually experience as an average over the last twelve months?

    - Acceptable _____ Hours
    - Experienced _____ Hours

15. If **repair time** is defined as the time taken to get the system fully operational from the time the engineer arrives on site, then what time do you find acceptable (in working hours) and what time did you experience in the last twelve months?

    (Note: 8 hours = 1 working day/shift)

    - Acceptable _____ Hours
    - Experienced _____ Hours

16. I would now like to go through a list of five aspects of hardware maintenance and ask you to give an importance and satisfaction rating for each (scale 0 - 10).

	Importance	Satisfaction
• Spares availability	_____	_____
• Engineer skills	_____	_____
• Problem escalation	_____	_____
• Documentation	_____	_____
• Remote diagnostics	_____	_____

17. How important is it that your system supplier provides a hardware **consultancy/planning** service to support your operations and how satisfied are you with the service provided? (Scale 0 - 10)

- Importance _____
- Satisfaction _____

18. If possible, I would like you to provide some information on hardware maintenance pricing.

a. What percentage price increase or decrease did you pay for hardware maintenance in the year 1989?

- Increase _____%
- Decrease _____%

- No change 1 (circle)

b. What do you expect the price changes for **hardware maintenance** to be in the future, in percentage terms per annum?

- Increase _____%
- Decrease _____%

- No change 1 (circle)

c. How important do you rate hardware maintenance pricing and how satisfied are you with the price you currently pay? (Scale 0 - 10)

- Importance rating _____
- Satisfaction rating _____

19. Which type of hardware maintenance contract do you currently have on the main part of your system?

(Please circle appropriate answer; only one answer allowed.)

- Warranty 1
- Three-year 1
- One-year 1
- Time and materials 1
- None 1

D

Software Support

I would like to ask you some questions relating to the service you get from your software support vendor.

These questions relate to systems software—not **applications.**

As before, some of the questions are scaled with ratings from 0 to 10. Zero (0) represents zero importance or satisfaction, 5 is average and 10 is top importance or full satisfaction.

20. Who supports your systems software?

(Please circle appropriate answer; multiple answers allowed.)

- Hardware manufacturer 1
- Software house 1
- Software product vendor 1
- Value-added reseller (VAR) 1
- In-house 1
- Other/Don't know 9

21. What is your rating for the importance of systems software support to your business and what is your satisfaction with your vendor's systems support activities? (Scale 0 - 10)

- Importance rating _____
- Satisfaction rating _____

22. What percentage of systems software problems are solved by telephone, and how long does this take in elapsed time from the time it is alerted to the service engineer?

- Solved by phone _____%
- Elapsed time _____ Hours

23. For those problems not possible to solve over the telephone, what **response time** would you find acceptable, and what time (on average and in working hours) have you experienced over the last twelve months? (Take **response time** to mean from the time the problem is reported to the arrival of the engineer on site.)

- Acceptable _____ Hours
- Experienced _____ Hours

24. If **fix time** is defined as the time taken to get the system fully operational from the arrival of the engineer on site, then what time (in working hours) do you find acceptable, and what did you experience over the last twelve months?

- Acceptable _____ Hours
- Experienced _____ Hours

25. I would like to go through a list of five aspects of **systems software support** and ask you to give an importance and a satisfaction rating for each. (Scale 0 - 10)

	Importance	Satisfaction
• Engineer skills	____	____
• Documentation	____	____
• Software installation	____	____
• Provision of updates	____	____
• Remote diagnostics	____	____

26. How important is it that your system supplier provide a systems software **consultancy/planning** service to support your operations, and how satisfied are you with the service provided? (Scale 0 - 10)

- Importance rating ____
- Satisfaction rating ____

27. If possible, I would like you to provide some information on **systems software support pricing.**

a. What percentage price increase or decrease did you pay for systems software support in the year 1989?

- Increase _____%
- Decrease _____%

- No change 1 (circle)

b. What do you expect the price changes for systems software support to be in the future, in percentage terms per annum?

- Increase _____%
- Decrease _____%

- No change 1 (circle)

c. How important do you rate systems software support pricing and how satisfied are you with the price you currently pay? (Scale 0 - 10)

- Importance rating _____
- Satisfaction rating _____

28. Which type of systems software support contract do you currently have?

(Please circle appropriate answer. Only one answer allowed.)

- Support included in software license fee 1
- Three-year contract 1
- One-year contract 1
- Ad hoc 1
- None 1

E

Other Services

29. To conclude this questionnaire, I am particularly interested in obtaining your views on other services or modified current service offerings that your service suppliers could provide that would help to improve the running of your computer systems.

Could you say which of the following services your service vendor is currently contracted to supply and which you would like your service vendor to provide? Also, could you give a level of interest rating against each in the range 0 to 10, where 0 = no interest, 5 = average interest and 10 = must have?

(Please circle appropriate answer and give LOI rating.)

	Currently Contracted	Require	LOI
• Configuration planning	1	1	_____
• Capacity planning	1	1	_____
• Environmental planning	1	1	_____
• Cabling	1	1	_____
• Software evaluation	1	1	_____
• Consultancy	1	1	_____
• Network planning	1	1	_____

29. (cont.)

	Currently Contracted	Require	LOI
• Network management	1	1	____
• Disaster recovery	1	1	____
• Facilities management	1	1	____
• Problems management	1	1	____
• Applications software support	1	1	____

These last questions complete the questionnaire. I would like to thank you on behalf of INPUT for helping us to complete this survey. To express our appreciation for your time we will be sending you a "thank you" package containing a summary of the results from our survey.

Again, thank you for your time.