INPUT

STRATEGIC MARKET PERSPECTIVE

Software Product Support Strategies

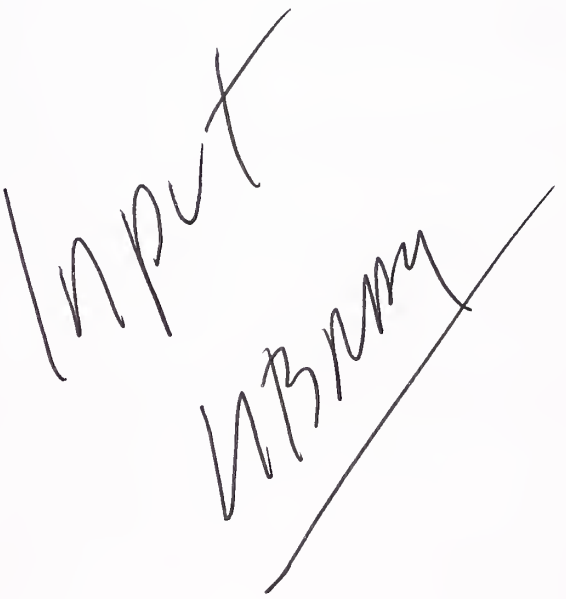
Trends and Issues

U.S. Market Analysis Program

SEPTEMBER 1994

Software Product Support Strategies

Trends and Issues



INPUT®

Frankfurt • London • New York • Paris • San Francisco • Tokyo • Washington, D.C.

INPUT®

INTERNATIONAL IT INTELLIGENCE SERVICES

Clients make informed decisions more quickly and economically by using INPUT's services. Since 1974, information technology (IT) users and vendors throughout the world have relied on INPUT for data, research, objective analysis and insightful opinions to prepare their plans, market assessments and business directions, particularly in computer software and services.

Contact us today to learn how your company can use INPUT's knowledge and experience to grow and profit in the revolutionary IT world of the 1990s.

SUBSCRIPTION SERVICES

- **Information Services Markets**
  - Worldwide and country data
  - Vertical industry analysis
- **Business Integration Markets**
- **Client/Server Applications and Directions**
- **Client/Server Software**
- **Outsourcing Markets**
- **Information Services Vendor Profiles and Analysis**
- **EDI/Electronic Commerce**
- **U.S. Federal Government IT Markets**
- **IT Customer Services Directions (Europe)**

SERVICE FEATURES

- Research-based reports on trends, etc. (Over 100 in-depth reports a year)
- Frequent bulletins on events, issues, etc.
- 5-year market forecasts
- Competitive analysis
- Access to experienced consultants
- Immediate answers to questions
- On-site presentations
- Annual conference

DATABASES

- **Software and Services Market Forecasts**
- **Software and Services Vendors**
- **U.S. Federal Government**
  - Procurement Plans (PAR)
  - Forecasts
  - Awards (FAIT)
- **Commercial Application (LEADS)**

CUSTOM PROJECTS

For Vendors—analyze:

- **Market strategies and tactics**
- **Product/service opportunities**
- **Customer satisfaction levels**
- **Competitive positioning**
- **Acquisition targets**

For Buyers—evaluate:

- **Specific vendor capabilities**
- **Outsourcing options**
- **Systems plans**
- **Peer position**

OTHER SERVICES

Acquisition/partnership searches

INPUT WORLDWIDE

Frankfurt
Sudetenstraße 9
D-35428 Langgöns-Niederkleen
Germany
Tel. +49 (0) 6447-7229
Fax +49 (0) 6447-7327

London
17 Hill Street
London W1X 7FB
England
Tel. +44 (0) 71 493-9335
Fax +44 (0) 71 629-0179

New York
400 Frank W. Burr Blvd.
Teaneck, NJ 07666
U.S.A.
Tel. 1 (201) 801-0050
Fax 1 (201) 801-0441

Paris
24, avenue du Recteur Poincaré
75016 Paris
France
Tel. +33 (1) 46 47 65 65
Fax +33 (1) 46 47 69 50

San Francisco
1881 Landings Drive
Mountain View
CA 94043-0848
U.S.A.
Tel. 1 (415) 961-3300
Fax 1 (415) 961-3966

Tokyo
Saida Building, 4-6,
Kanda Sakuma-cho
Chiyoda-ku, Tokyo 101
Japan
Tel. +81 3 3864-0531
Fax +81 3 3864-4114

Washington, D.C.
1953 Gallows Road
Suite 560
Vienna, VA 22182
U.S.A.
Tel. 1 (703) 847-6870
Fax 1 (703) 847-6872

M&S 459/01 2/94

Abstract

This reports provides an assessment of trends and issues impacting software support services delivery by software product vendors. The report includes summaries of software user and software vendor surveys on reactions to changes occurring in software support services by software vendors.

It profiles changes in support services instituted by various software product vendors over the past year and also profiles a number of vendors that provide innovative tools and services for enhancing software support services delivery.

The changing nature of the software markets in the 1990s is highlighted, in particular INPUT's expectations for stronger growth rates in several software-related services markets compared to the projected growth rate for the overall software products markets.

Recommendations are made for how various types of information services vendors should approach the market of software services in the second half of the 1990s.

This report contains 90 pages, including 21 exhibits.

Published by
INPUT
1881 Landings Drive
Mountain View, CA 94043-0848
United States of America

U.S. Information Services Market Analysis Program

Software Product Support Strategies—Trends and Issues

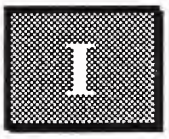
MMSU • 647 • 1994

Table of Contents

Exhibits

V

(Blank)



Introduction

This report and related research is a part of INPUT's Information Services Market Analysis Program (MAP). This program provides market research reports, consulting and recommendations to management of leading vendors in the information services industry and to information systems functions of user organizations.

A Scope

This report examines trends and issues affecting software product support and services. The main focus of the report is on two interrelated issues:

- The rising costs and complexities of software product support services
- The changing requirements for software product support services in the context of dynamic opportunities in the software services markets

The report provides a five-year forecast of the size and growth rates of the U.S. markets for software products, software product support, and software product-related services.

B
Objectives

The objectives of the report are to identify:

- Size and growth rate of the market
- Approaches to increasing the efficiency of software product support delivery
- Product and services initiatives by leading independent vendors in software product support
- User needs and reactions to changes in third-party software product support
- Vendor actions in the market and competitive positioning
- Recommendations to vendors for addressing the software markets in the latter half of the 1990s

C
Definitions

The elements of software product support are listed in Exhibit I-1.

EXHIBIT I-1

Elements of Software Support Services

• Software installation
• Telecommunications provided support
• Software updates
• Remote diagnostics
• Software problems data base
• On-site support (sometimes)

Software product support is composed of those product and service elements that are closely coupled with a product: It is those continuing activities provided by the vendor that are necessary to make the product work, outside of the delivery of the product itself.

Software product services are those activities that are loosely coupled with the product and are necessary or desirable for the buyer to get the most value from the product or its environment.

D
Methodology

The following sources were used for this report:

- 28 interviews with U.S. software products vendors
- 25 user interviews, primarily with help desk supervisory personnel at Fortune 1000 companies
- Secondary research from INPUT's corporate library
- A recent conference on software support issues
- Ongoing analysis of U.S. software products and other information services markets

E
Report Structure

The remaining chapters of this report are organized as follows:

- Chapter II, *Executive Overview*—provides a summary of the contents of the report.
- Chapter III, *Software Product Support Issues and Trends*—covers the history of pricing of software products and support and recent issues that lead to changes in product and support delivery.
- Chapter IV, *User Perspectives on Software Product Support*—concentrates on user assessments of software vendor support practices.
- Chapter V, *Software Vendor Support Practices*—examines vendor approaches to software product support and their general strategic interest in the delivery of software services.

- Chapter VI, *Support Practices of Software Product Vendors*—approaches to software product support.
- Chapter VII, *Conclusions and Recommendations*—summarizes INPUT's findings, and proposes actions for software product vendors and other providers of software product support.
- Appendixes include:
  - Appendix A, *Questionnaire—Vendors of Software Products*—Survey Questionnaire, Software Product Support Strategies
  - Appendix B, Questionnaire—*Users of Software Product Support*, Survey Questionnaire.

F
Related Reports

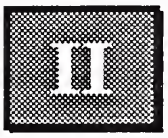
Please refer to the follow related INPUT reports:

U.S. Applications Solutions Product Markets, 1993-1998

U.S. Systems Software Market, 1994-1999

Desktop Services Opportunities, 1994

European Software Product Support, New Open Market Opportunities



Executive Overview

A Introduction

Software product support is a major issue today for users and vendors. The increasingly popular LAN-based client/server architectures are dramatically increasing user support costs. In addition, software product pricing, which has provided somewhat of an umbrella for vendor product support, has declined in recent years. This is in contrast to the pricing pattern of the 1970s and 1980s, when software product and maintenance pricing both showed annual increases.

The move away from proprietary solutions toward open systems architectures increases the need for software vendors to provide multivendor product integration and other types of software services.

Essentially, *the higher growth software market opportunities over the next five years will continue to shift from software product to complementary software services and solutions.*

B Characteristics of the Software Product and Services Markets

In the 1980s, software product service was synonymous with software maintenance. It included at least some of the elements in Exhibit II-1

EXHIBIT II-1

Elements of Software Product Support

- Software installation
- Telecommunications provided support
- Software updates
- Remote diagnostics
- Software problems data base
- On-site support (sometimes)

Mainframe, minicomputer software products vendors and value-added sellers provided such services within annual maintenance contracts. Many workstation and PC software products vendors bundled support functions in the product license fee.

With the rapid decline in PC software pricing over the last few years, profits from software product sales can no longer offset the increasing costs of support associated with more complex computer architectures and less sophisticated users.

In 1993, a number of the larger PC software vendors began unbundling software support services from product license fees, and instituted support charges based on support-level complexity.

Complicating the issue is the inability of indirect sales channels (which are heavily used by PC software vendors) to sustain earlier levels of product support with greater levels of product discounting.

Slower revenue growth among minicomputer and mainframe software product vendors, who face increasing competition from client/server software product vendors, was particularly evident in 1993. With maintenance contracts usually based on a percentage of the software product license fee, the structure of traditional maintenance contracts has been under review.

A result has been rather dramatic changes in software licensing and maintenance contract policies. Tiered software pricing among minicomputer and mainframe software vendors is changing to user and/or usage-based pricing. Maintenance

contracts are being unbundled and multiyear maintenance contracts are being offered.

The definition of software support services has also changed rather significantly over the past few years.

- Software support services traditionally has been synonymous with software maintenance, which could include the full range of support services, such as installation, software fixes, enhancements, upgrades, training, and consulting.

- Historically, many mainframe and minicomputer software vendors would continue to support particular versions of their software over a period of many years.

Oftentimes the growth rate for the software products would slow, but maintenance revenues from these products would grow at a faster rate because of the cumulative effect of the number of products being supported. However, this is changing as companies determine that it is oftentimes not cost effective to support a software product, which has had multiple updates, beyond a certain period of time.

INPUT recently surveyed software product vendors to determine the average length of time they continue to support a particular version of their software product (even under perpetual licenses) after two or more versions of the product have subsequently been released. The time period range was three to eighteen months. After that, many vendors offered maintenance support on a customized fee basis.

Many desktop software product vendors have not provided maintenance contracts, but bundled software support services within the software product price. Over the past year, many of these vendors have begun charging for various types of software support services. Several of them are also increasing their use of third party maintenance companies to provide software support services.

Many of the vendors at all platform levels are creating incremental revenue streams by separating software product services into new revenue categories, such as professional services, systems integration, and outsourcing. Such services

now often include support categories such as consulting, application development and training.

- Several of these services are growing much faster than the traditional software support market.
- The standard product support services then tend to include only installation support, software fixes and a certain period of "free" hotline service.

In terms of policy and practice changes in software product support, the most important changes are:

- Unbundling of services and pricing
- Introduction of tiered pricing
- Increased use of technology in providing support and services (See Exhibit II-2)

EXHIBIT II-2

Technology Applications in Software Product Support and Services

- Remote software distribution, asset mgmt., remote diagnostics
- Voice services
  - 800 numbers
  - 900 numbers
  - Expert systems-based call tracking help desk systems
    - Automated call distribution
- Image/fax services
- Remote printing
- Electronic billboards
- Automated customer information response systems–problem resolution databases
- Embedded documentation
- Embedded training

To grow overall software revenues, they are providing additional software services, as seen in Exhibit II-3.

EXHIBIT II-3

Software Product Support and Services Provided by Vendors

Elements Provided	Proportion of Respondents*
Software hotline support as part of a maintenance contract	82
Software "bug" fixes as part of a limited period warranty	67
Professional services, separately priced	59
Systems integration, separately priced	52
Software enhancements and product support services, unbundled pricing	46
Training as part of a maintenance contract	23

**Multiple Responses Permitted* N = 28

When asked about strategic directions in providing more software product-related services, half the respondents thought such services would represent only 20% to 40% of total software-related revenues within five years. (Only twenty-five percent of the respondents were primarily mainframe or minicomputer software product companies).

To maintain growth rates at or above the industry average, most software product vendors will need to have at least half their revenues from software product services in the second half of the 1990s.

Many vendors will associate with large computer systems and/or services vendors who can provide the products, delivery channels and services that enhance the value of the software product. Large services vendors can maximize efficiencies of integrated product and services delivery to the multiplicity of sites inherent in the open, client/server architectures of the late 1990s.

All levels of software product vendors are introducing more automated technology into the customer support function to reduce personnel costs. Such policy changes by the software product vendors have helped slow the rate of profit margin

deterioration. However, the 1990s growth markets for many of the vendors are in software product services, such as those identified in Exhibit II-4.

EXHIBIT II-4

Software Product Services Opportunities of the 1990s

• Education	• Conversion
• Logistics	• Outsourcing
• Consulting	• Performance analysis
• Customization	• Software development (custom)
• Systems integration	• Application or function management
• Software support	• Application maintenance

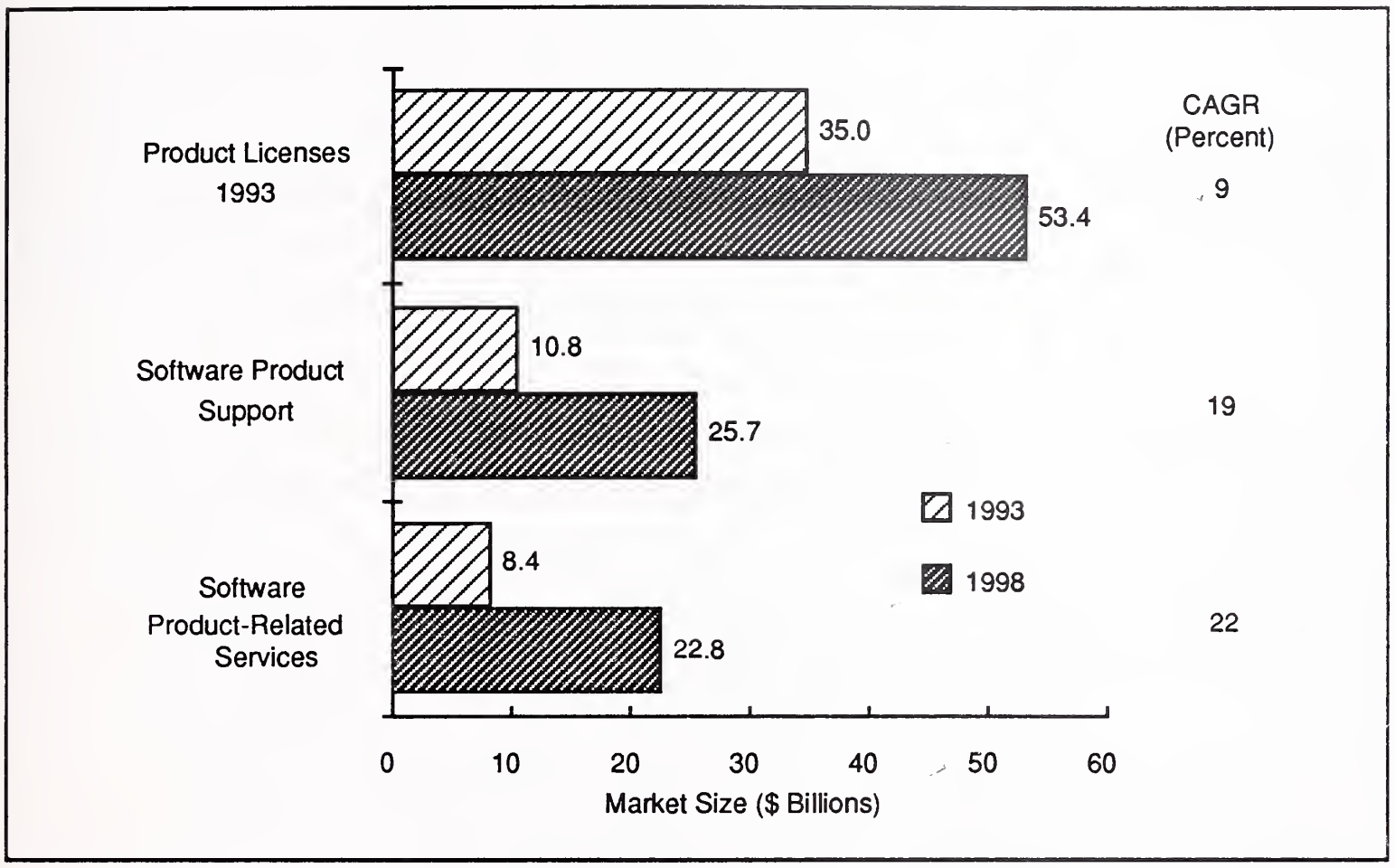
Although software product support and services profit margins have historically not been as high as for software products, there are offsetting benefits of services revenues, including the recurring and/or continuous nature of the revenue stream of many types of such services.

C
Comparative Size and Growth Rates of Software Products and Services Markets

The relative size and growth rates for U.S. software products and related markets are shown in Exhibit II-5.

Exhibit II-5

U.S. Software Products Vendors' Markets, 1993-1998



The faster growth projected for software product-related services compared to software product support reflects the trend to separate pricing for software product-related services by many software vendors.

The $8.4 billion of software product related services market is only that portion obtained by software product vendors. There is an equivalent sized market that is obtained by software value-added resellers and other services companies. For example, Andersen Consulting implementing SAP software would fall into this category.

The major beneficiaries of these new services-oriented markets of the late 1990s are likely to be large, full-service vendors who can maximize economies of scale and niche vendors who work with larger vendors. Successful vendors will include larger software products companies, and major market share will also be gained

by computer systems vendors, traditional computer services vendors and their software partners.

Keys to success in the software product services markets are shown in Exhibit II-6.

EXHIBIT II-6

Keys to Success in Software Product Services Markets

- Automated support technology
- Higher level application development tool platforms (OOT)
- Customer sensitivity
- Broad-based services orientation
- Support for standards
- Software management tools for cross platform applications
- Partnering

Another important consideration for software vendors is the trend to product development standards, such as in object-oriented development technology. Their value is to reduce the cost and improve the quality of software development and maintenance. However, to the vendor the impact can also be the reduction of software products to interoperable modules, which can minimize differentiation across vendor product line.

Customized applications software will also gain in market acceptance relative to standard product solutions.

D
Recommendations

- Make software product support and services elements profit centers.
- Sell support and services
- Sell through the support and services functions.
- Reduce the costs of software product support by:

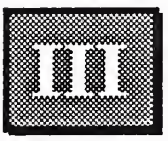
a. Reducing personnel costs

b. Automating support functions

c. Shifting support to the customer.

- Use multimedia tools, such as desktop video conferencing, to improve efficiencies of software product training and other types of support.
- Use electronic software delivery to reduce software manufacturing and distribution costs.
- Concentrate expensive support elements, such as software engineering personnel, on more complex, higher value software products and customers.
- Concentrate on enhanced professional services for which vendors can charge a premium, such as business process re-engineering, customization, implementation, applications development and maintenance.
- Combine software products with professional services to provide more efficient development than the customer. Provide applications maintenance and migration services as well.
- Combine applications software products with processing or other types of outsourcing services where products can be delivered more cheaply as a service for particular types of customer needs.
- Use outsourcing or third-party maintenance for at least part of cross-vendor product support requirements.
- Build internal capabilities in object-oriented development technology to address leading-edge trends in product development.
- Re-engineer current customer support services to include such approaches as tiered support services and automated call center support, with call escalation capability.
- Extend supporting IS infrastructure from customer support to customer service, then to customer management.

- Vendors who have the resources to support multivendor products should consider expanding into the support and services outsourcing business.
- Vendors should add integration delivery capabilities, either at the platform or applications level.
- Become ISO 9000 certified as support and services.
- Small and medium-sized vendors should partner or associate with companies that provide broad services offerings to maximize synergies of product and services solutions sales. Companies in this category include systems integrator and outsourcing firms, professional services companies, computer systems companies, and some of the large industry specialized vendors.



Software Support Services—Issues and Trends

A
History of Software Product Vendor Support and Services

1. Software Product Vendor Pricing Policies

Historically, software products have been licensed for a fee. Software product support and services, particularly from minicomputer and mainframe software vendors, have been priced separately.

The software license is generally considered a perpetual license or lease. Ownership of the software product, particularly source code, is technically considered to be retained by the vendor and cannot be transferred to another user without a separate payment. If a customer changes platform usage, the vendor has the option of reclaiming ownership of the software or charging an additional sum for usage of the software on another platform. This also occurs if ownership of the company which licensed the software products changes, as with an acquisition or outsourcing contract.

Complications to traditional licensing policies have come with client/server, LAN-based computing, where a number of users access the software program with concurrent or other types of multiple-user access privileges. Applications development tools have posed another problem. A separation had to be made between developer licenses and run-time licenses.

Another major change in licensing practices also came with the movement toward downsizing computer applications.

Traditionally, software license fees have been based on tiered pricing, where the software was priced in proportion to the cost of the hardware platform. With the increasing power of workstations and personal computers, many applications that traditionally ran on mainframes could be efficiently ported to the lower cost hardware. With this new element of competition for mainframe and minicomputer software product vendors, licensing and pricing alternatives had to be provided to maintain customer bases that would otherwise migrate to other platforms and vendors.

Within the past two years, especially, mainframe and minicomputer vendors changed historical software licensing practices to adjust to the changing competitive environment of distributed processing. Licensing fee alternatives include, among others:

- Site licenses
- Per user (seat) licenses
- Concurrent licenses
- Enterprise licenses
- Volume discounts
- Usage licenses
- Prices based on the CPU

2. Software Maintenance and Other Support Programs

A significant source of revenues, primarily for mainframe and minicomputer software product vendors, has been software product maintenance contracts.

Generally, maintenance contracts have been sold on a yearly basis, with a variety of renewal options.

Certain maintenance contracts do not include major version changes. However, some application software product vendors who don't offer version changes as part of a maintenance contract might provide free updates that include changes in legislation, etc., that might be significant for the relevancy of the application.

Also, many vendors do not provide long-term support for a particular version of a software product following the introduction of subsequent versions.

More recently, mainframe and minicomputer software product and computer systems vendors, in particular, have been expanding into additional services areas. This reflects the pressure on product sales that many of them are feeling, and the opportunity derived from the increasing complexity of client/server software environments.

They are also unbundling their software product support and service elements.

Larger vendors with broad-based services and supporting systems may have the capabilities to provide more efficient delivery of support elements than customers or single-product vendors.

Historically, many personal computer software products vendors (with the exception of VARs) have not sold separate maintenance or other support contracts. Support for installation and other types of common usage problems has generally been provided by printed documentation, software tutorials and company help desk personnel as free services.

Such support traditionally represented a cost offset to product revenues. This was reasonable in an era when operating profit margins from personal computer software products were high. Personal computer software was also not generally sold by a direct sales force with dedicated support representatives; these costs are absorbed by many mainframe and minicomputer software product vendors. In addition, historical PC channel distributors (particularly specialty stores and VARs) sometimes provided sufficient support services.

Software updates from PC vendors have also generally been much more frequent than updates from vendors of minicomputer and mainframe software. More recently, the pace of upgrades from PC software vendors has accelerated, and some vendors indicate that nearly half of their annual revenues now come from product upgrades or new releases.

This also forces smaller PC software vendors to put more resources into product development, which reduces the amount of spending available for enhanced support and services.

B
Software Vendor Support Issues

1. Overview

Software vendors, in general, face a rapidly changing competitive environment for their products. This is particularly evident in recent years in sharp product price declines along with declining operating margins for a wide range of software products.

PC retailers' discounting practices represent the competitive environment for PC software vendors today. Discounts from manufacturers' list prices are often 50% or more.

Major factors contributing to software product price declines include:

- General maturing of the software products industry-with many functions already computerized
- Emergence of large vendors who can leverage their fixed costs across a large number of products
- Product suites and product price upgrade incentives that greatly reduce PC product pricing
- Computer downsizing, as a result of the rate of price/performance improvements being far greater than the rate of growth of demand

Reduced software prices have caused many PC software product vendors to re-examine their support policy strategies. Issues for PC software vendors are somewhat different than for vendors of mainframe and minicomputer software. However, there are many similarities, and in the future there will be more convergence on the nature of key issues among all types of software product vendors.

For example, software product support personnel for an increasing number of software product vendors are now required to know multivendor product solutions. Multiplatform support requirements will dramatically increase for vendors as client/server and other types of distributed processing implementations involving mixed platform and application environments grow at an estimated 30% CAGR over the next five years.

2. PC Software Product Vendors

PC software vendors generally provide free support services through a hot-line/help desk program, or rely on the delivery channel for support.

Channel support, particularly for consumer software products, diminished significantly in recent years with the move away from specialty stores to large discount outlets.

Help desks have a history in the mainframe industry as a utility for supporting data center personnel. Help desks have since spread throughout the software vendor industry, and have become a major support approach at user sites.

Originally, vendor help desk personnel needed minimal computer expertise. For mainframe and minicomputer software product support, their role was mainly that of referring the client to the appropriate support engineers for particular software problems. In the era of proprietary software products, these engineers often were individuals involved in developing and/or selling the product.

Before the era of distributed computing, hotline questions tended to be repetitive and could be fielded by individuals with somewhat minimal technical know-how.

But the era of distributed computing greatly increases the complexity of the support problems. PC software product vendors suffer a "triple whammy" of dramatically lower product pricing, the traditional promise of free product support, and much greater product support complexity.

In addition, PC vendors need to focus on customer support services to be competitive in markets where the software product is becoming more of a commodity.

3. Workstation, Mainframe, and Minicomputer Software Product Vendors

Some workstation software product vendors tend to adopt similar support services policies to those of minicomputer vendors, but others might follow the traditional PC model of not providing support through a separate contract.

A major category of workstation and PC vendors who historically provided maintenance contracts is value-added resellers. VARs traditionally emphasized service as part of a turnkey solution. Workstation-based turnkey suppliers also often provide solutions based on UNIX operating systems, which generally require more support than solutions based on PC operating systems.

Minicomputer and mainframe software product vendors have traditionally sold annual maintenance contracts which cover product technical support and often product upgrades. Priced properly they can be significant contributors to a vendor's operating margin, and provide a substantial annual annuity. They can also help provide financial stability in times of erratic license sales.

Many clients of minicomputer and mainframe vendors stay with their software vendors over a longer period of time than with PC counterparts, in part because of the higher expense in changing to more complex software solutions. Also, new product introductions from competitors tended to be less frequent. As a result, maintenance contracts of minicomputer and mainframe vendors have been a very important source of recurring annual revenue growth.

Software product pricing at the mainframe and minicomputer level, however, has eroded over the past two years with the increasing competition from downsizing solutions. This contrasts in general with the history of the mainframe and minicomputer software products industry, where software product pricing/licensing and maintenance contract annual price increases were the norm.

Stronger minicomputer and mainframe software product vendors will add a variety of services offering, such as professional services and systems integration. These additional services will particularly benefit the vendor's bottom line if unbundled from

maintenance contracts, which have generally been priced as a percentage of the software license fee. However, these alternative services revenues can also have lower margins than software products; so high utilization rates of staff for such services becomes very important for respectable investment returns.

Longer term, successful software vendors will also need to continually expand their knowledge base of high-level, integrated applications development platforms. (See INPUT's *Systems Software Report, 1994-1999* on this topic). This strengthens the vendor's competitive capabilities in software development. This could require more partnering with vendors who can provide such tools, such as systems integrators, computer systems companies and independent applications development tool vendors. Partnering should also extend to the complementary services offerings of such vendors.

C
Software Product Vendor Support Trends

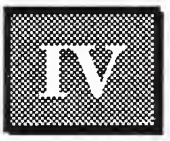
Changes in Traditional Software Vendor Support Approaches

Traditional pricing and maintenance contract policies are being re-examined by minicomputer and mainframe software product vendors to enhance growth and profitability in a changing competitive environment. This has led to alternative licensing practices as alluded to in the beginning of this chapter and changes in the length and nature of support contracts.

In addition, software products vendors for all platform levels are examining new approaches to increase efficiency of software delivery.

A number of alternative automated support services are increasingly being used, including:

- Help desk automation
- On-line database and CD ROM product support
- Electronic software distribution, configuration management and remote diagnostics



User Perspectives on Software Product Support and Services

A Introduction

Providers of corporate software support need to address the multiple sources of software procurement, including support for:

- Software applications developed internally
- Software applications developed by professional services/SI companies
- Purchased software used in the IS data center
- Third-party software sold by direct sales organization
- Third-party software sold by vendors through "indirect sales" channels
- Multivendor, integrated applications
- Distributed software solutions managed by central IS personnel
- User-purchased software supported at the departmental level
- User-purchased software supported at a centralized corporate site

This section of the report concentrates on software product support and services provided primarily to the corporate desktop user.

At least half of the value of software used in large U.S. corporations continues to be developed internally. This proportion

is expected to decline significantly as third-party software solutions expand to cover a larger number of corporation data processing requirements over the next few years. This provides a major opportunity for professional services and systems integration firms.

The increased use of applications development tools, such as 4GLs, RDBMS, middleware and object-oriented technology, allows third-party software developers to more easily develop customized solutions that can be adapted to the unique requirements of various corporations.

As a result, vertical software product markets will grow more rapidly than generic cross-industry markets. If a vendor wants to be successful in a cross-industry market segment, it must attach a vertical focus and thus be perceived by buyers to be a vertical software product provider.

Most mainframe and minicomputer software products for large corporations are sold by direct sales forces, particularly for mission-critical applications and systems software for larger platforms. Support and services are provided directly by the product vendor.

However, in the desktop area, many current user software support issues relate to increased usage by software vendors in recent years of indirect sales channels (VARs, retailers, discounters, mail order companies). Many of these products are used by consumers or corporate desktop users who do not have the computer skills of the information services personnel of corporate IS departments.

VARs often do not have the technical support resources for addressing very complex networking solutions involving products from a number of vendors. Also, many retailers, discounters and direct mail channels do not have the infrastructure to support large numbers of users.

Therefore, software vendors are having to "re-engineer" product support policies for their indirect sales channels. This has led to the following types of changes:

- Expanding the number of customer support personnel
- Expanding vendor help desk services with automated equipment, such as customer information systems that provide for call tracking and distribution
- Upgrading help desk personnel to include higher levels of technical and engineering skills
- Using third-party support, such as consultants, computer systems companies and third-party maintenance companies to provide support, particularly for larger customers
- Providing different levels of training for their VARs to certify them for various levels of technical support capability
- Unbundling various types of software support and services pricing
- Tiering-support charges that address different levels of technical requirements of customers
- Allowing larger customers of company VARs direct access to the vendor's highly trained technical support staff
- Enhancing support and services by adding consulting, systems integration and other programs to capture a larger share of the potential support revenues from their customers

Corporate user support for both internally developed and externally supplied systems and applications software has historically been provided through centralized IS departments. A more recent trend within corporations has been the de-centralization of at least some of the user support activities.

B
User Survey of Software Product Vendor Support and Services

INPUT surveyed 25 large corporations on current trends and issues involving support for vendor sourced software support software. Seventy percent of the respondents were from Fortune 1000 companies. (The complete questionnaire is in Appendix A of this report).

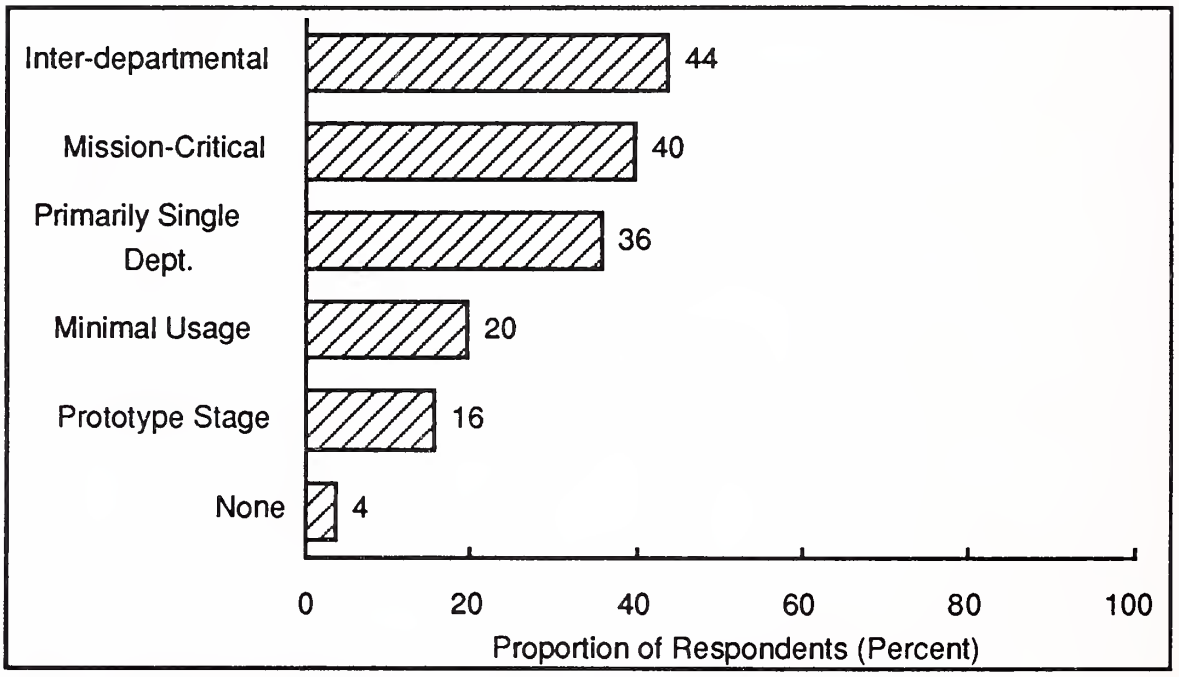
Survey respondents identified most of their purchased software as desktop computer applications.

Eighty percent of the respondents had implemented various levels of client/server applications.

Among the companies that had implemented client/server architectures, approximately 40% of the solutions were considered mission-critical, production-oriented applications, as shown in Exhibit IV-1. Of the 44% of client/server applications identified as interdepartmental, a significant proportion could be considered mission-critical applications but not necessarily production-oriented.

EXHIBIT IV-1

User Respondents' Client/Server Application Usage



Multiple Responses Permitted

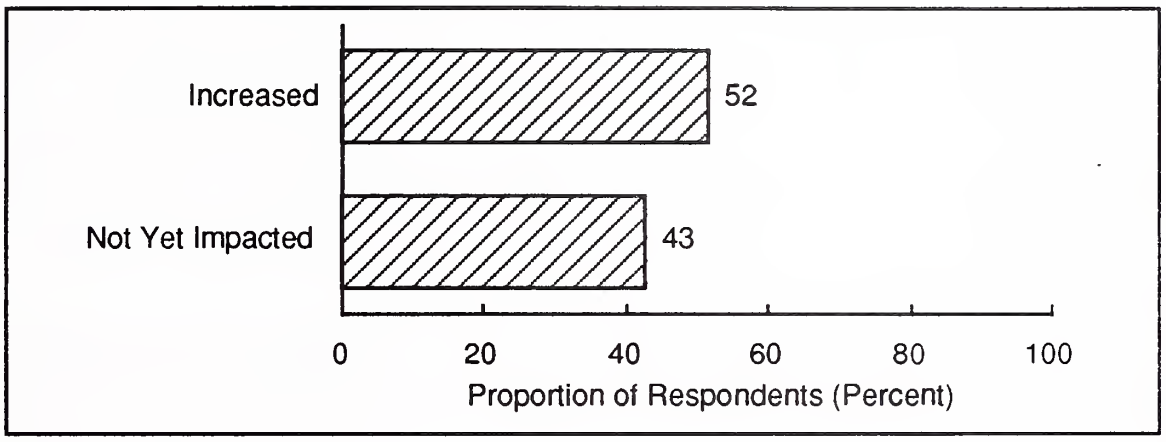
Other recent INPUT surveys have shown that close to two-thirds of new client/server development at large corporations is for mission-critical applications.

The primary reason for measuring usage of client/server applications was to determine the impact of client/server implementation on corporate software support requirements.

A little more than half of respondents indicated that the implementation of client/server architectures had increased their internal software product support needs. (See Exhibit IV-2) This reflects the multivendor element of most client/server solutions and the lack of qualified support personnel for new LAN infrastructures.

EXHIBIT IV-2

Impact of Client/Server Implementations on Corporate Product Support Requirements

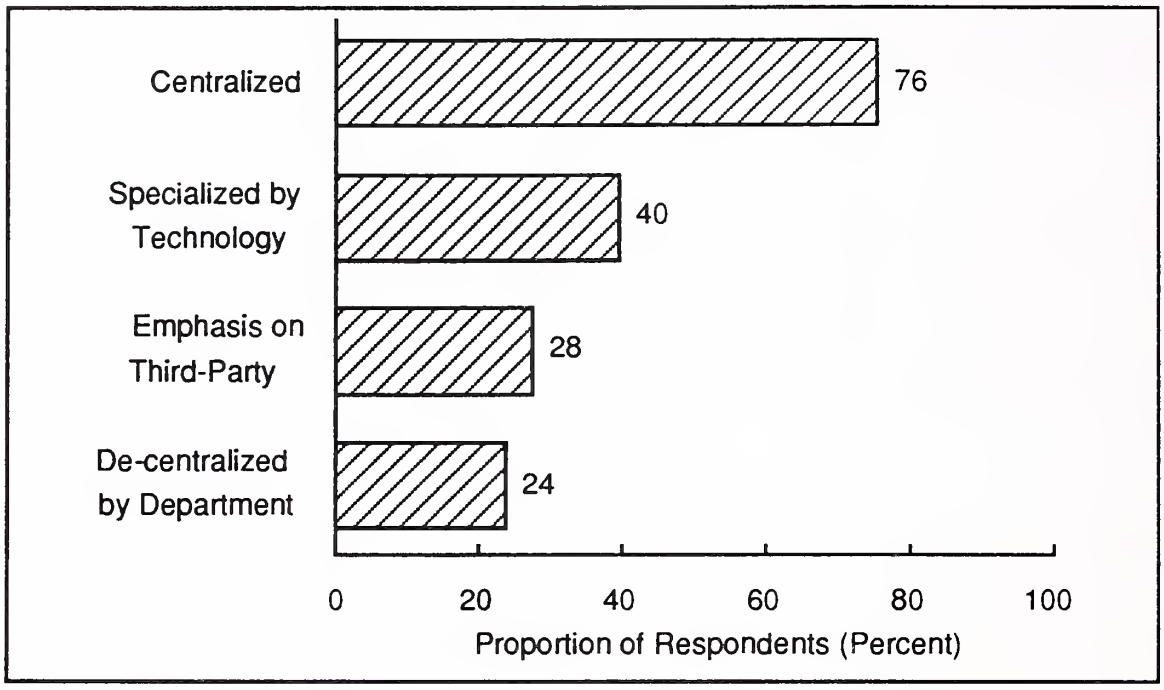


Specific impacts on software support requirements included the need for increased technical knowledge requirements of support personnel and the need for new tools to manage and support integrated product.

Software support services were distributed beyond the traditional centralized support services location; although centralized services support continued to predominate. (Exhibit IV-3)

EXHIBIT IV-3

Location of Software Support Services within the Company



Multiple responses permitted

Corporate policies on user interaction with various third-party vendor customer support services showed the following:

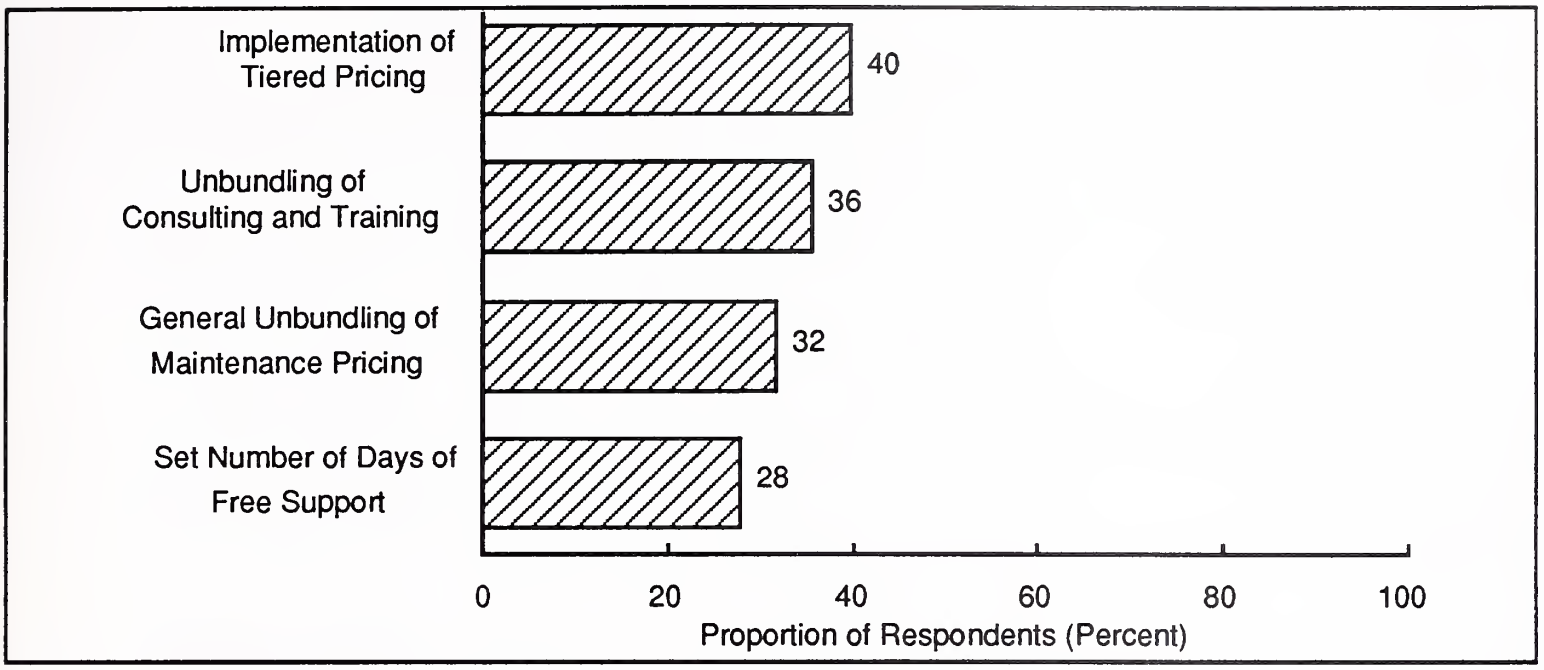
- Close to 90% of the companies required the user to go through the internal central support desk personnel.
- Only one-fourth of outside vendors provided on-site training of their product.
- Thirty-five percent of the companies relied primarily on product documentation and/or internal support help desks for vendor product support services.

Software vendors should concentrate on self-help features in their applications to reduce the frustration users encounter with "inaccessibility" of direct vendor support services.

Seventy-five percent of the respondents experienced more than one recent change in vendor support and services program delivery. As shown in Exhibit IV-4, the most frequently mentioned changes reflect vendors unbundling and restructuring of support pricing.

EXHIBIT IV-4

Recent Changes Experienced by Users in Vendor Software Support and Services



Multiple responses permitted

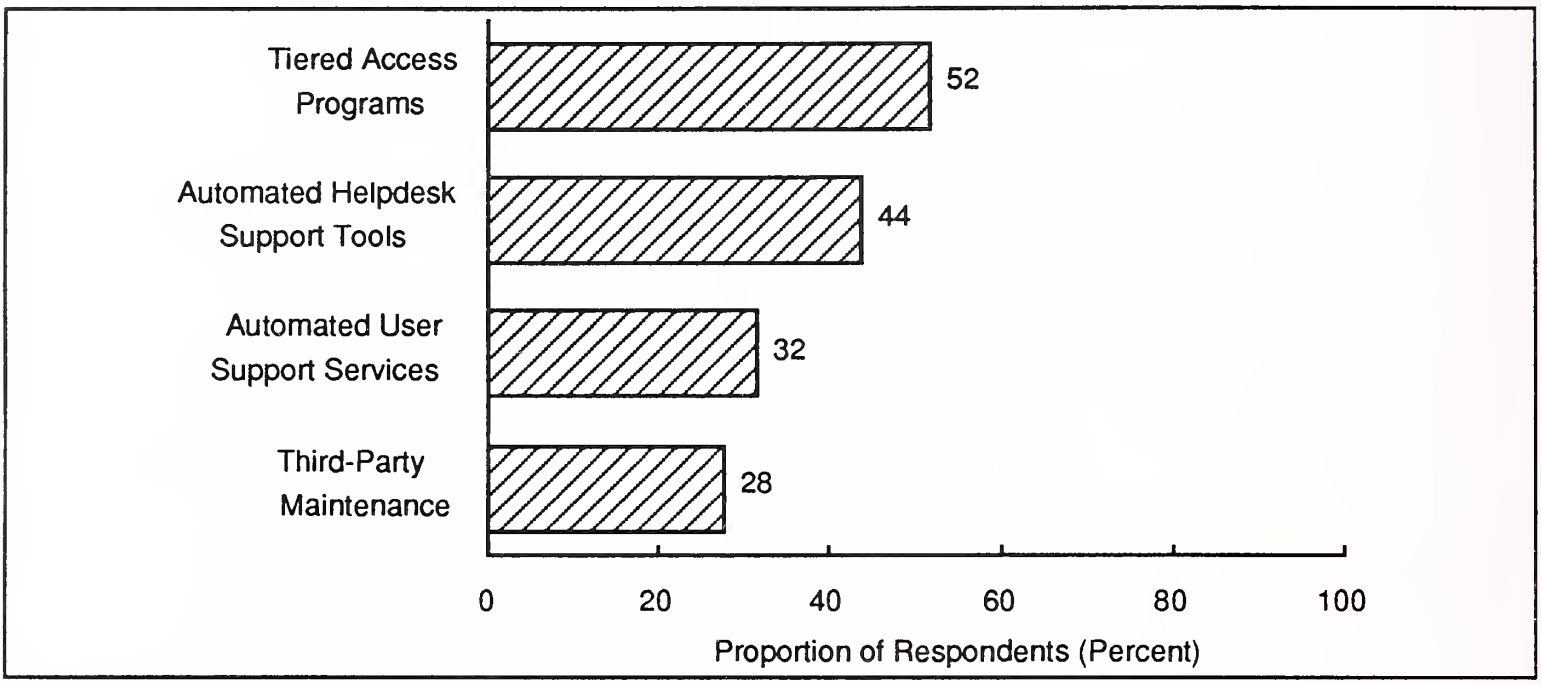
As shown in Exhibit IV-5, respondents are observing increased use of automation by software product vendors in their support functions as well as increased structure in the product support function.

Respondents hesitated to provide specific names of software product vendors who provided them with particularly effective product support programs. This usually reflects corporate policies about not allowing individual employees to speak for the entire company on strengths and weaknesses of particular vendors.

Companies that were mentioned as providing good software support included: Corporate Software, GE Computer Services, Hewlett-Packard, IBI, IBM, Lotus, Microsoft, WordPerfect, Novell, SAS Institute and Vanstar. Only 6% of the respondents thought all their software product vendors provided a substandard level of support.

EXHIBIT IV-5

Trends in Software Vendor Approaches to the Increasing Complexity of Software Product Support

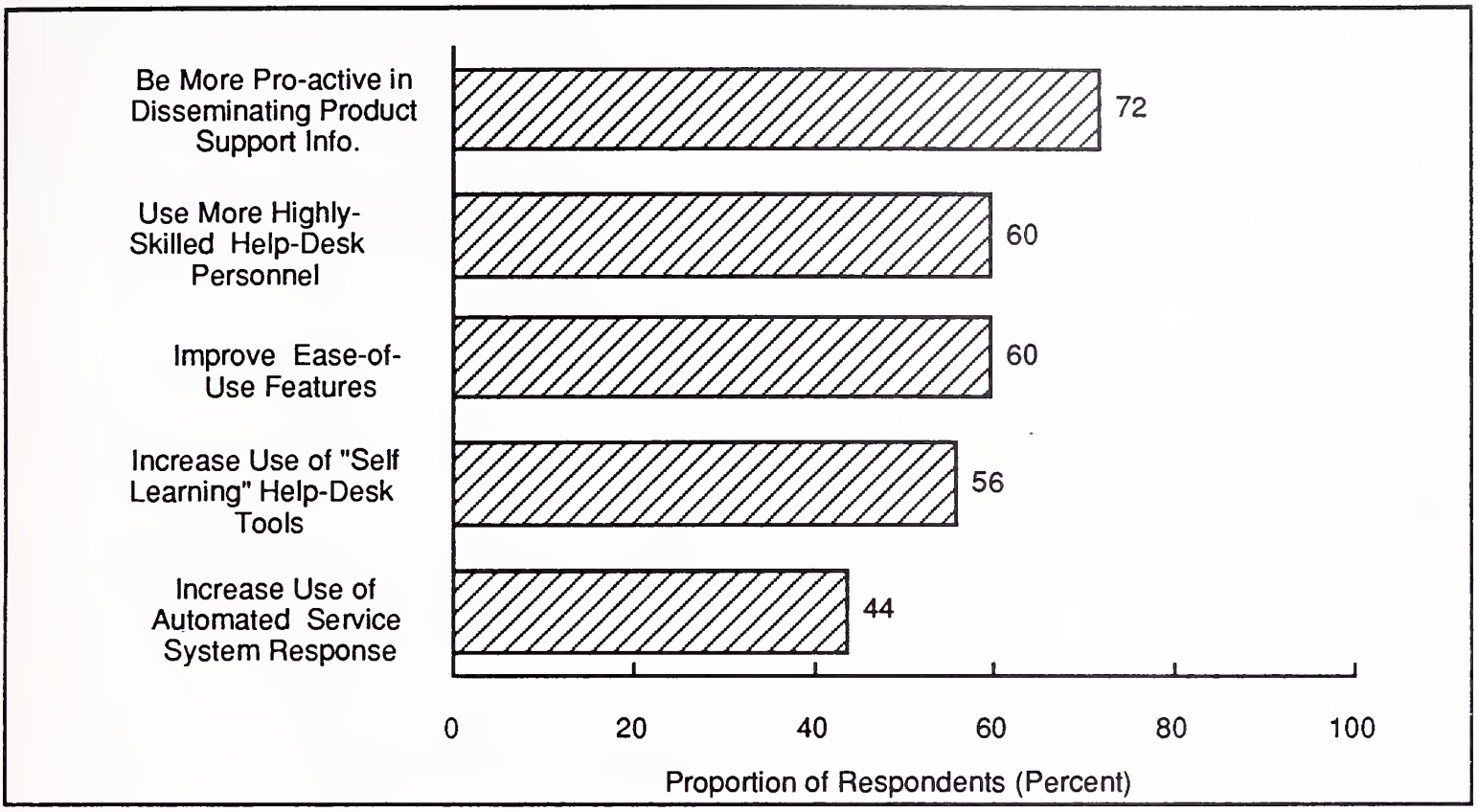


Multiple responses permitted

Exhibit IV-6 shows the improvements that vendors can make in their product support practices most frequently indicated by respondents.

EXHIBIT IV-6

Suggested Improvements in Vendor Software Product Support Practices

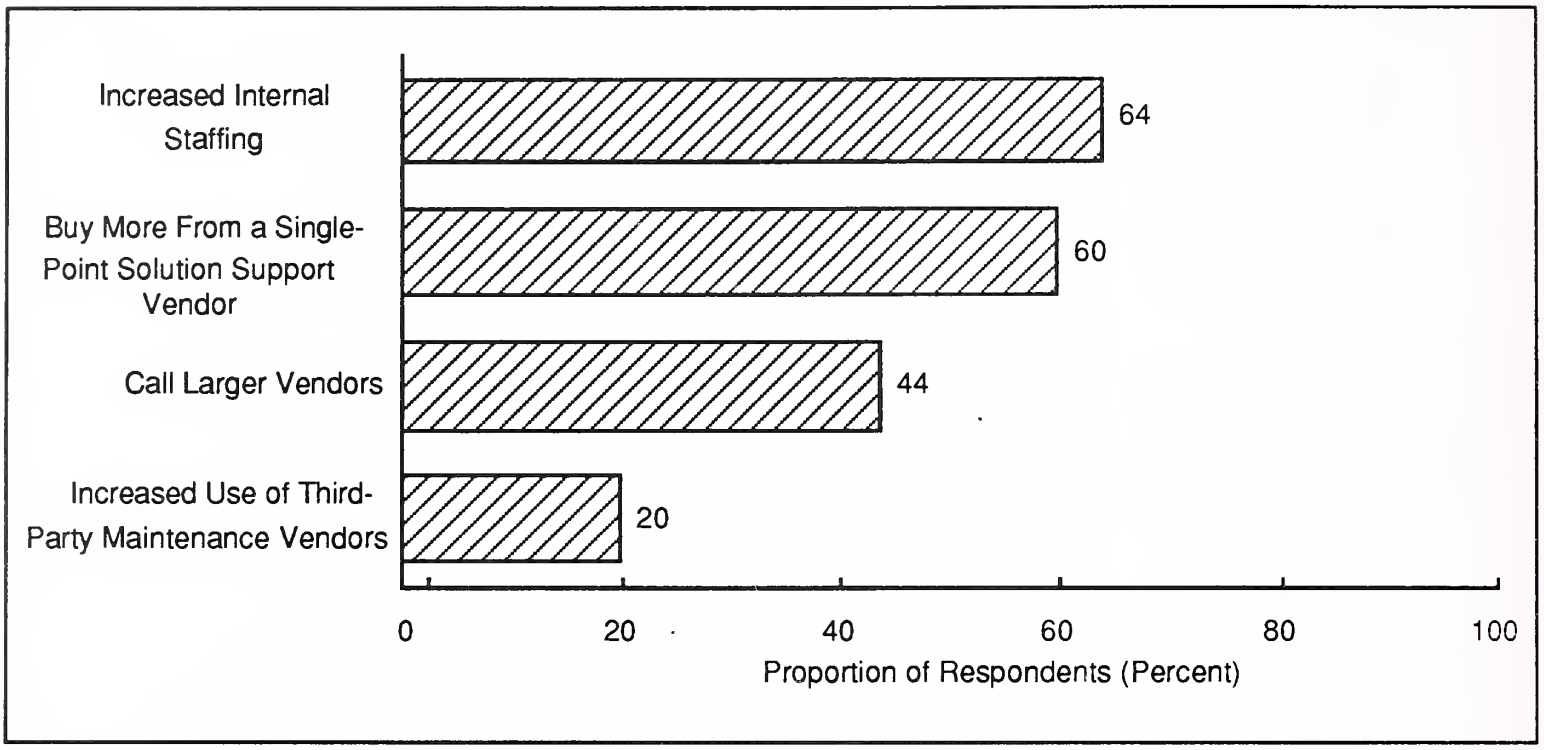


Multiple Responses Permitted

The bias to using in-house staff is shown by the plans buyers have to deal with multivendor software product support issues. (Exhibit IV-7) It also indicates, however, a trend to the return of "single-point" buying in order to reduce the problems.

EXHIBIT IV-7

User Approaches to Multivendor Software Product Support Issues



Multiple Responses Permitted

The following anecdotal comments were made about multivendor support:

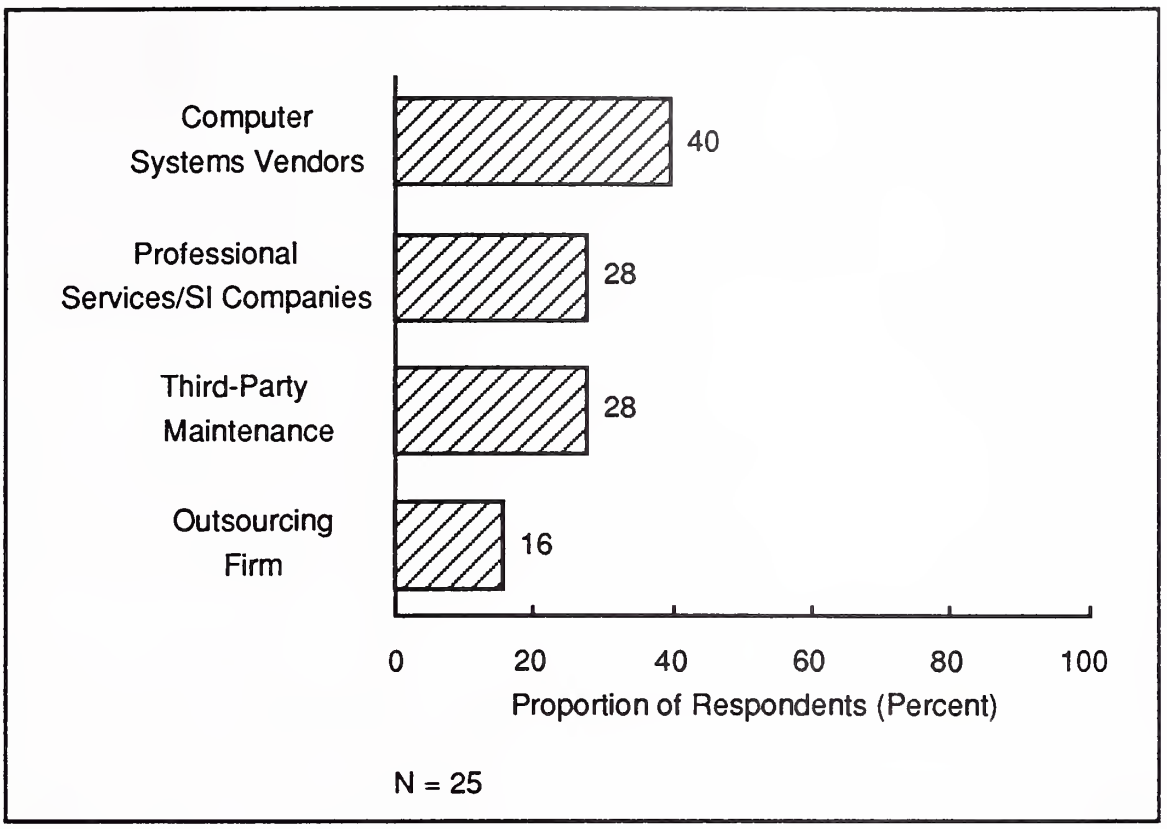
- "We use one proven vendor for 80% of all third-party software product support."
- "Product reliability is a principal underlying issue."
- "We are not handling it well."
- "We are working with vendors more closely as partners to address the issues."

Nearly 85% of the respondents used some type of third-party support service other than that provided by their specific product vendors. In some cases, respondents used more than one third-party support vendor.

Computer systems vendors represented the largest group of third-party software support vendors. (See Exhibit IV-8)

EXHIBIT IV-8

Use of Third-Party Support Vendors by Type



Multiple Responses Permitted

Longer-term, systems integration, outsourcers and third-party maintenance providers will be key support partners for independent software products companies, especially smaller ones.

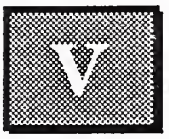
The major product support deficiencies of software product vendors that were identified by respondents were:

- Lack of timely response
- Lack of feedback on product problems
- Need for more highly trained support personnel

Many of the current software support problems identified are associated with PC software products.

However, many issues associated with user support in the PC software industry will eventually have an impact on most software product vendors, regardless of platform.

(Blank)



Software Product Vendor Support Practices

A Introduction

Software product support and services are revenue and profit opportunities for software product vendors. Such services have more often been treated as a revenue source and a profit center by minicomputer and mainframe software product companies than with PC software product vendors.

As vendors diversify into client/server products, they face increasing support requirements at the same time as product prices decline.

The move to client/sever architectures has increased the cost of supporting desktop users. This has significantly reduced benefits from downsizing in many organizations This means that organizations either increase their own technical support staffs or pay for additional support from software product, computer systems, professional services, systems integration or third-party maintenance vendors.

It is important that software product companies realize they can no longer subsidize rising user software product support costs from product margins.

This rising cost of software product support and services represents a problem to users and many vendors, but also is a significant market opportunity for vendors who can provide support or other software-related services on a cost-effective basis.

B
Survey of U.S. Software Vendors on Support Services Practices

The profile of survey respondents included the following characteristics:

- Two-thirds of the total were companies of less than $200 million in revenues
- Thirty-seven percent developed their software product primarily for client/server platforms
- Twenty-two percent developed software primarily for personal computers (PCs)and/or workstations
- Seventeen percent were primarily mainframe software vendors
- Eight percent concentrated on minicomputer software; and
- The others were primarily turnkey systems vendors
- Forty-four percent of the respondents developed vertical or cross-industry applications software products
- The rest were somewhat evenly divided among desktop applications, applications development tool, systems management and multiline product vendors.

The profile of support services provided by vendor respondents are included in Exhibit V-1.

EXHIBIT V-1

Vendor Respondent Software Product Support Services Provided

Software Product Services	Proportion of Respondents (%)
Software hotline support as part of a maintenance contract	82
Software bug fixes as part of a limited period warranty	67
Professional services	59
Systems integration	52
Software enhancements and product support services, unbundled pricing	46
Training as part of a maintenance contract	23

**Multiple Responses Permitted* N = 28

Half of the vendors unbundle the pricing of their software support elements.

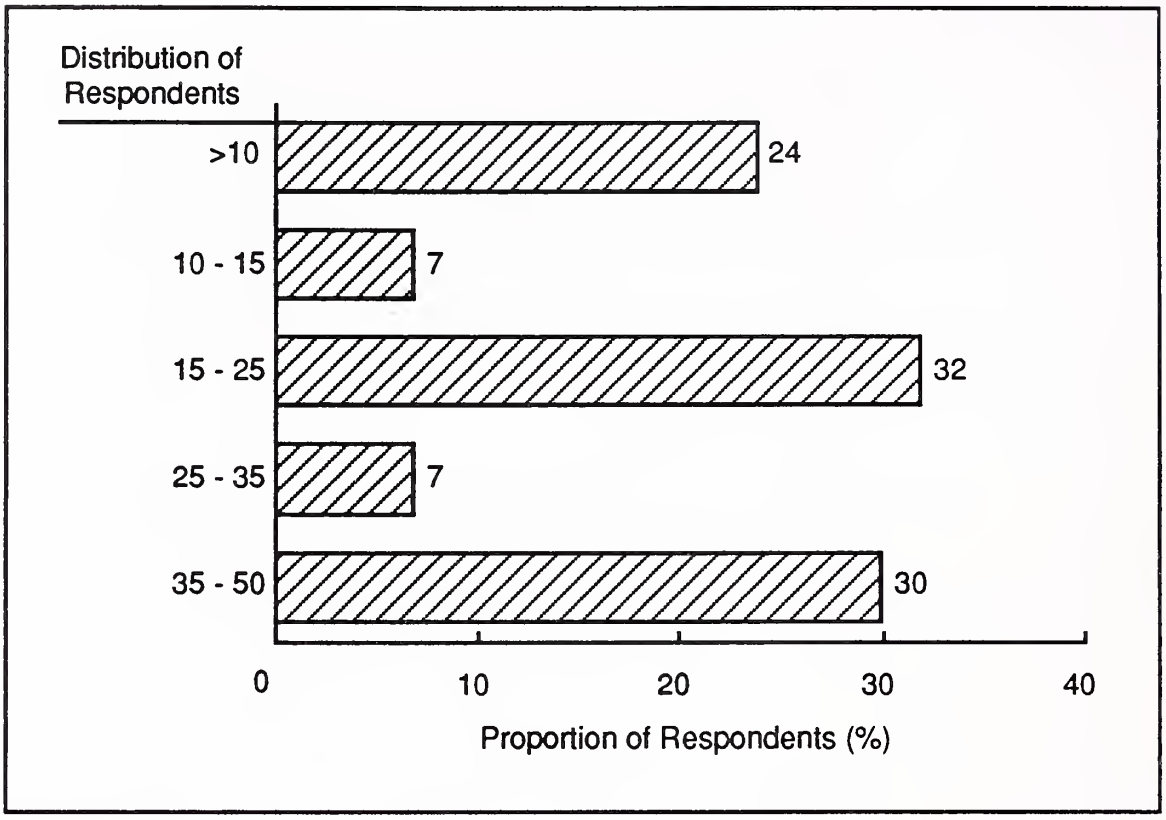
Thirty-five percent of the respondents have unbundled their maintenance services pricing structure within the past year.

Forty percent indicated that maintenance support does not represent a profit center for their company. A few noted that traditional software support services were not profitable. However, when included with other software services offerings such as consulting, software-related services were profitable.

As show in Exhibit V-2, respondents fell into three distinct categories in terms of the proportion of revenues derived from product support and services.

EXHIBIT V-2

Revenues from Software-related Services



INPUT's research indicates that new maintenance contracts revenues typically average between 15% to 20% of the software product license fee.

- Some companies providing software products such as client/server applications development tools can build up significant services revenue streams. These companies provide a variety of professional services to their customer base apart from typical maintenance services.

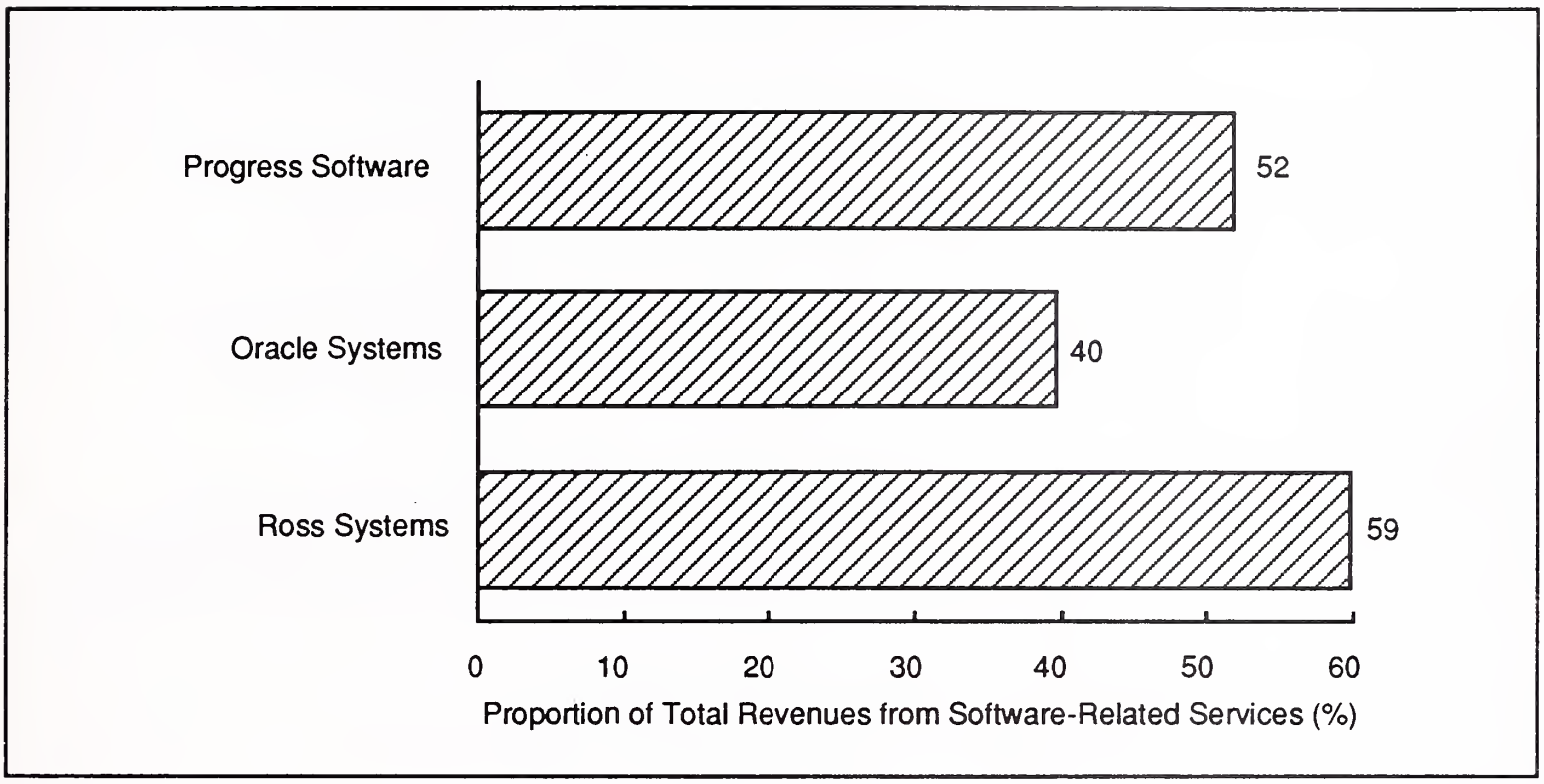
- Minicomputer and mainframe software product companies have built large recurring revenue streams from maintenance services: in some cases more than 50% of product-related revenues.

Of course, high proportions of software services revenues could indicate that software license revenue growth is slowing down or, conversely, that the company is deliberately putting more emphasis on software services for revenue growth. Such companies usually provide professional services as well as technical support services to their customer base.

Exhibit V-3 includes examples of software product companies with high levels of software-related services revenues.

EXHIBIT V-3

Selected Software Product Companies with High Levels of Software-related Services Revenues



Only twelve percent of the respondents had not experienced any significant pricing pressures in either software products or support services. These were primarily companies that had started out as client/server product companies.

A number of approaches to providing software support services are being used by the surveyed vendors:

Half of the respondents provide product updates and new product versions under maintenance contracts.

Thirty-seven percent of vendors indicated that software enhancements represented at least half of their total software related revenues, and 63% of the respondents indicated that software enhancements represented less than 20% of these revenues. This essentially represents a fundamental division between PC software companies and much of the rest of the software industry.

PC software product companies introduce enhancements and new product versions much more frequently than other types of software companies. This reflects, in part, the fact that many PC companies have not "locked-in" customers with maintenance contracts for software upgrades.

A limit on the number of free support days after product installation, usually three months, was typical.

One-fourth of the respondents indicated they were offering multiyear contracts based on a one-time fixed charge.

Exhibit V-4 shows that electronic bulletin boards and automated information response systems, such as fax-on-demand are becoming popular support services delivery alternatives.

EXHIBIT V-4

Vendor Methods of Pricing Software Product Support

Method Used	Proportion of Respondents (%)*
Tiered pricing based on service levels	41
Free implementation and a limited number of free support days	30
Free common access support services—bulletin boards	30
Automated information response systems	30
Time of usage pricing	26

Multiple responses permitted

Specific expansions in types of product support and services introduced by surveyed companies over the past two years included:

- Fee services accessed by an 800 number
- Automated fax response
- Electronic bulletin boards

- 24x7 coverage
- 24-hour premium support
- Fee-based services
- Subscription-based pricing for technical support
- Support credit card pricing
- Usage-based pricing
- Significantly increased technical support staffing
- Remote access
- 900 numbers for help desk support
- Credit card pay-as-you-go support
- Electronic software support
- CD ROMs
- Professional services or business consulting groups within customer service
- International, multilanguage support
- High-end, custom support

Survey respondents compared profit margins for software products with the profit margin of software support services. Many respondents either did not break out profitability in this manner (some indicated contribution to software products margin) or were reluctant to supply such information; others indicated that support services were not a profit center or did not positively contribute to the software revenue margin.

Profitability for software product support services was generally lower than for software products because of the people-intensive nature of services revenues. However, profitability for professional services, systems integration and other types of software-related services varies considerably based on the nature of contracts signed for such services (see INPUT's individual

reports on these various software services), and especially upon the utilization rate of the software services staffs.

One mainframe company respondent indicated that support services represented a 50% contribution to the software products gross margin. A personal computer product company indicated support services gross margins (minus cost of wages) of 20% to 30% compared to gross margins of 40% to 60% for its software product. One client/sever product company indicated that the gross margin for support services was 46% of the gross margin for software products. Another indicated the operating margin for software support services, including consulting and other high-valued services, was 25% higher than that for software products.

Certain software product companies today are "pulling away from the pack" of other software products companies in terms of revenue growth and profitability. Many such companies tend to be positioning themselves longer-term as professional services rather than software products companies.

Nearly all respondents conducted ongoing measurements of the success level of their software support services program. Principal methods for measuring effectiveness of their support services program included:

- Company-run customer surveys
- Customer surveys conducted by third-party market research firms
- Field sales personnel feedback
- Changes in level of user complaints

A major issue for all software product companies today is how to provide multivendor product support. This is a problem which will continue to significantly increase the cost and complexity of software support services. Exhibit V-5 shows that formal partnering among vendors has become a major approach to providing multivendor support services.

EXHIBIT V-5

Approaches to Multivendor Product Support

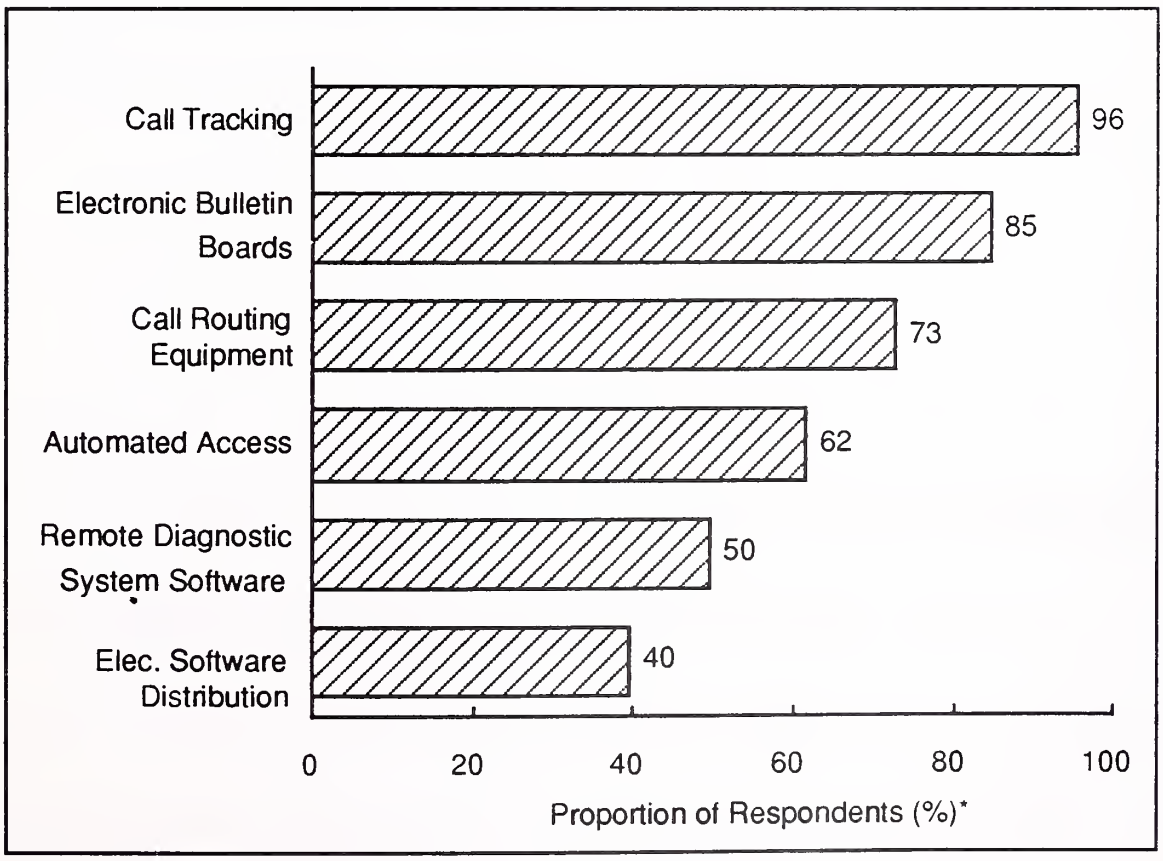
Approach	Proportion of Respondents (%)*
Formal partnerships with other vendors	78
Utilize other companies' support services	52
Support people receive cross-vendor training	44
Use VARs for multi-vendor support	15
Ignore such requests	14
Use third party maintenance firms	12

Multiple Responses Permitted

As indicated in Exhibit V-6, almost all respondents use some type of call tracking product for customer support services. Many of these products were developed internally. Only one-quarter of the respondents indicated they had purchased a help desk software product.

EXHIBIT V-6

Technology Used in Providing Software Support Services



**Multiple responses permitted*

Vendors were also asked to list what they considered the best features of their support services programs. Selected responses included:

- Depth of knowledge of software support services staff
- Breadth of knowledge of software support services staff
- Total solutions capability based on a tight integration of product and services staffs
- Guarantee of 100% satisfaction
- Critical issues handled through priority centers
- Rapid access to product experts
- Alliances with other companies to solve problems and provide one-stop support
- Dissemination of product issues within two hours to customers on a worldwide basis
- Implementation under ISO-9000 methodology
- Full-service capability, including systems integration
- Getting support tools into hands of users
- Dedication of customer support representatives to particular customers

C
Examples of Current Software Vendor Support Policies

Many software vendor changes in software support practices occurred within the past year. This reflects:

- Reduction in software product prices over the same period
- Acceleration in the rate of product units shipped
- Competitive changes in industry support policies

Vendors perceive customer support as a differentiator in customer software purchase decisions, especially in competitive environments where product feature differentiation may be diminishing.

The following vendor support services programs were selected to show a variety of different approaches. Profiled vendors are not necessarily included in the vendor survey on software support strategies summarized in Section B of this chapter. Information on the support services of the various companies was compiled from a variety of sources.

1. Microsoft

In 1993 Microsoft introduced a fee-based support pricing policy along with tiered support pricing.

Microsoft segmented its customer service offerings, following an assessment of various support requirement levels of its customers.

The company divided its service offerings into four product groups and four service levels. The product groups are:

- Desktop Applications
- Personal Operating Systems
- Development Tools
- Advanced Systems

Microsoft also intends to use third-party support services to off-load some of the support requirements.

Support service levels are:

- Premier Comprehensive, Premier Development support or both
    1. For mission-critical and developmental/OEM environments
    2. Includes a designated technical account manager (TAM) who can also provide customized support
    3. Covers all four product groups

4. Includes toll-free 24x7 access

5. Premiers Comprehensive's base price is $20,000/year and Premier Development charges $20,000/year flat fee

- Priority desktop support

1. 800 and 900 number, 24x7 access

2. Available for all customer's products within each product group

- Standard Support

1. Basic level of technical support

2. Unlimited for applications, such as word processing, spreadsheets and database produces; 90 days for personal operating systems and development tools

3. Toll telephone charges

- Electronic information services

1. 24x7 availability

2. No-cost to moderate-cost electronic information services

The new program is also not structured to be a profit center. Rather, it is structured on a partial cost recovery basis.

1. New service offerings range from free phone support for desktop applications for an unlimited period.

2. Annual corporate contracts providing 24-hour access range as high as $20,000. A similar level of support for operating systems products is free for 90 days after the first call.

For the 24x7 Priority option, alternative fees indicated in the initial announcement were a $195 annual fee, a $2-per-minute phone charge or a flat $25 rate per incident for desktop applications and/or operating systems. For development tools, the annual fee jumps to $1,495; $750 for 10 incidents; $2 per phone minute; or $95 per incident.

A small number of solutions providers with national presence are designated as authorized support centers. These include Hewlett-Packard, Digital Equipment , NCR and Corporate Software..

In early 1994, Microsoft Consulting Services also announced a new service, called Consulting Business Essentials (CBE), to help Microsoft Solutions Providers establish consulting services business extensions. Such consulting services could involve providing professional services on downsizing solutions or custom applications development. The program model is Microsoft Consulting Services own program, which is based on a life-cycle model of product development and support.

Microsoft provides these companies with business-development assistance and tools for enhancing their program using the Microsoft Solutions Platform products and technologies. This is a worldwide program.

2. Software Publishing Corporation (SPC)

Software Publishing announced in mid-1993 its SUBSCRIBE Maintenance Program. It provides two years of automatic upgrades for particular products.

Other Support Options of SPC include:

- HotLine ANSWERS

  Includes free technical support, including access to an advisor for 90 days from the first call to their hotline; expert assistance on installation, configuration and usability; technicians available from 10 a.m. to 7 p.m. EST.

- ReadyReference

  Automated service for the latest technical information on SPC's products. Available 24 hours a day, seven days a week, and features Fax-Back and Auto-Expert services.

  Fax-Back system allows technical notes, order forms, course schedules and other information to be faxed directly to an office or home. The Auto-Expert system allows troubleshooting common problems in an interactive voice response session.

- Electronic Services

  User participation forum on CompuServe. Includes free, unlimited access to SCPC's technical support engineers, as well as contract with other SPC software users

- Premium Support Options

  900 ANSWERS

  The ANSWERS line is staffed with experts on all SPC products. The first minute is free, then each minute is $2. The service is available Monday through Friday, 9 a.m. to 8 p.m. EST.

  800 Credit Card ANSWERS

  This support option includes charging technical support costs to a credit card at $25 per call. The service is available Monday through Friday, 9 a.m. to 8 p.m. EST.

  800 ANSWERS

  This service provides unlimited calls to SPC's technical support experts. It is available Monday through Friday, 9 a.m. to 8 p.m. EST. Price for 800 ANSWERS is $79 per year for Harvard Graphics and $39 per year for Professional Write (DOS).

  Corporate Help Desk ANSWERS

  It includes expert advice from SPC's support staff and a complimentary subscription to the *TechJournal*. Three designated help desk calls are allowed. It is available Monday through Friday, 9 a.m. to 8 p.m. EST.

  TechJournal

  Written by SPC's Customer Support Organization, it includes helpful tips, insightful techniques and feature articles for improving user productivity. The annual subscription price for six issues is $49 per year.

  Professional Training Services

  Software Publishing Corporation also provides on-site training.

  - Available for current and previous versions of particular products

- AccessMax: Multiple User Annual Plan

3. Lotus Development Corporation

Lotus Development recently announced it is scaling back its free support and adding several new fee-based support programs for its Notes and CC:Mail products.

Free support for CC:Mail and Notes was reduced from 90 to 30 days and will also require a toll charge to access.

A new communications program gives Notes sites access (via Notes) to the technical information database used by Lotus technicians for $20 to $50 per month. Or user sites can access a dedicated senior support analyst for $35,000 per year.

4. Adobe Systems Incorporated

In addition to its free support programs, Adobe provides a series of extended support programs.

- Three levels of ASC support ranging from $25 to $175. For the highest level, 10-ASC, The Adobe Technical Reference CD ROM is included free. This disc, for Macintosh or Windows, includes Adobe technical notes, saved in the Portable Document Format (PDF), Adobe Acrobat Exchange, which allows the user to view and print the technical notes and share PDF files with other Acrobat users; and the Adobe Type Browser for Macintosh, an on-line catalog for viewing and printing Adobe typeface samples before purchasing.

- 900-555-ADOBE, which provides infrequent users with help from an Adobe Technical Support representative. This business-to-business 900 service is $2 per minute plus a toll charge. It can also be access by an 800 number and charged to a credit card. Charges are $25 for one phone call of up to 15 minutes of support.

- Adobe Acrobat Corporate Help Desk, provided through an annual contract for support and training of a corporation's help desk, MIS or systems administration staff to use Adobe Acrobat software. The cost of $3,000 per year includes training and technical support services for two initially designated Help Desk contracts. Additional contacts are $1,500 per person.

5. Novell

Novell recently announced a worldwide consulting program to support corporations in their implementation of client/server solutions-based on Novell's server platforms and development tools.

This is part of a program designed to enhance the ability of its developers to enhance services program capabilities of its developers, such as systems integrators, VARs and independent software vendors.

The Enterprise Developers Program provides such services support as consulting, project management and education to customers who implement Novell's newer enterprise-wide products. This enhances support services traditionally provided by VARs, whose expertise may not extend to the corporate-wide environment.

To help implement the program, Novell will partner with a number of systems integrators to complement its own internal technical staff.

The program concept is somewhat analogous to the Microsoft Consulting Services program.

Novell also recently announced a number of support partners for its AppWare client/server applications development environment. These include companies such as Visual Edge Software, Ltd., Kaseworks, Inc., Powersoft Corporation and Guild Products, Inc.

6. SAP America, Inc.

SAP America, Inc., recently announced a bundled (turnkey type) product solution, called the Special Delivery Program, which includes a prepackaged client/server solution tailored to companies seeking to move from a mainframe systems to a distributed system. It is targeted for midsized companies that

need a quick implementation for up to 32 users. SAP also offers a 30-day evaluation period, after which clients can decide whether or not to implement the solution.

The SAP Special Delivery package also includes fixed price implementing/consulting and financing alternatives and support services.

7 Dun and Bradstreet Software (D&B Software)

D&B Software recently announced its Customer Choice Program, designed to provide customers with more value-based options for D&B software products, support and services. The program was co-developed with its customers. It includes options for multiyear lock-in pricing for maintenance, line item choices in support and maintenance, application credits toward client/server products plus a series of other new cost-saving product and service incentives.

Customers will be able to pick and choose services-based on their business needs, and multiyear maintenance contracts will enable customers to treat maintenance as a predictable and budgeted expense.

Line Item Choices let customers choose from several support, maintenance and training options. Customers choose from a range of several support options from basic maintenance with electronic-only access to direct access to D&B Software's Global Customer Support Center.

A Preferred Purchasing Power plan provides value-based product pricing for all customers, with special consideration given to current maintenance customers. Under this plan, D&B Software will provide special pricing on products which customers integrate with the D&B Software SmartStream client/server platform.

A Value Account option provides customers with a custom selection of service selections based on values assigned to particular D&B Software maintenance programs associated with the company's various software product offerings.

8. Bachman Information Systems

Bachman Information Systems provides the following categories of support services:

- Technical Support

  Its Technical Support program is available by telephone as part of the standard Bachman maintenance contract. Support representatives are available from 8:30 a.m. to 7 p.m. EST to answer any questions on product usage. They offer in-depth knowledge of Bachman's products and can access company experts and developers to deal with support issues ranging from installation procedures to advanced techniques. They also encourage users to share tips, techniques and product enhancement suggestions.

- Electronic Bulletin Board

  Also provided as part of the standard maintenance contract is 24-hour access to the Bachman Bulletin board, its electronic mail service. The service supplements telephone support and facilitates the transfer of design files between the customer and Bachman.

- Education Programs

Many independent applications development tools vendors are moving toward an integrated computer services delivery mode (based on a separate fee-based structure) at a faster rate than many other software product industry segments. Such tool vendors concentrate particularly on higher-value services, such as consulting, on implementation and applications development. The complexity of their product offerings for client/server implementation and the lack of trained staff at the customer site for the newer generations of client/server development tools provide a significant market opportunity for such vendors.

An illustration of such a vendor is Easel Corporation, which provides a broad base of client/server development tools, including an object-oriented product family, for the OS/2, Windows and enterprise-wide environment. In fiscal 1993, computer support services represented 42% of total software-related revenue.

9. Easel Corporation

Automated technical support services include:

- Computerized call tracking supported by consultants for Easel product syntax support and problem identification
- An automated fax response system which provides a variety of technical, company, and product information about Easel products and services
- Electronic bulletin board service that facilitates dialogue among the Easel corporate staff and its customers; a library of technical information and sample codes; and allows transfer of the sample code to its support group for review
- A subscription-based product upgrade service

Easel consulting services include:

- On-site problem resolution
- No-risk optimization services, with guaranteed improvement or no charge for the services
- Installation and configuration of Easel and third-party products
- Applications development services for designing and coding Easel applications
- Internally developed tools, such as Easel Wizard, enhance the cross-product applications development and support servicing capabilities of the Easel customer support staff

Easel training services include:

- Instruction on the Easel language and Easel development environments for OS/2 and Windows application, taught through lecture and hands-on programs
- Educational programs for developing Easel applications that use Dynamic Data Exchange (DDE), compilers and related tools
- 3270/5250 applications development training

- Training on the fundamentals of creating SQL applications with DB/Assist to access SAA databases such as IBM DB2/2

Another source of software product support, particularly for many large PC software vendors, is the technical publishing industry. Their text material often provides documentation support for the novice user. These materials not only provide a significant additional dimension of product support for the larger PC software companies, in particular, but also a model for ease-of-use product documentation that should be emulated where possible by the software product vendors.

Software Support Product and Services Vendors

A Introduction

Products and services that can enhance user and vendors software support programs will be presented in this chapter.

Automated call tracking and other types of customer support service products, such as software defect resolution, routing systems and automated user information feedback systems, are major new product categories used to enhance the efficiencies of customer service support for vendors and users.

Many of these are based on various levels of expert systems functionality and relational database architectures. Some of these products are now incorporating object-oriented storage and configuration management tools.

A few of the many vendors in this emerging growth market are profiled in this chapter.

A number of third-party maintenance and outsourcing firms also address support services needs of the corporate desktop user.

Among the larger of the several hundred independent maintenance support services companies that have emerged in recent years are: Bell Atlantic Business Systems Services, formerly Sorbus, Inc.; BancTec Services Corp., a subsidiary of BancTec, Inc., of Dallas, Texas; Corporate Software in Cambridge, Mass.; AGS in Atlanta, Georgia (now part of Kearne); Software Support, Inc., in Heathrow Florida; Sykes Enterprises in Sterling, Colorado; and Vanstar, which is the

third-party services support program of the former Computerland.

Other major categories of firms providing thirdparty software support services are systems integrators, computer systems and outsourcers.

Some of the large PC software products vendors, in particular, are signing contracts with third-party maintenance and other types of these third-party support firms along with providing certification training programs for such organizations. Many of the larger PC software vendors are also establishing their own consulting and /or systems integration divisions to enhance the quality and profitability of their support services offerings.

Sun Microsystems, a computer systems vendor, formed a wholly-owned services subsidiary in mid-1993 called SunService, Inc. The SunSpectrum Support program provides systems and network support, education and value-added services to users, service partners and resellers of all Sun products across the enterprise.

In addition, SunService provides a new set of value-added services called Enterprise Services which include installation, graphics porting, network management, software migration and disaster recovery. Sun Microsystems also provides remote diagnostics tools.

B
Customer Service Software Product Companies

Many of the companies profiled in this section were founded in the 1990 time period. The customer service support software market, in which most of these companies participate, is highly fragmented and growing at an estimated annual rate of more than 30%. INPUT estimates that the current U.S. customer service management software product market to be approximately $200 million. Many current systems are still developed by companies internally. The broader customer services market that includes the automation of sales marketing and customer service functions, is estimated to be over $1 billion and includes several hundred companies.

The large computer systems and other more traditional information technology companies are also expected to increase their presence in this market over the intermediate term.

Examples of Customer Support Services Product Vendors

1. Scopus Technology, Inc.—headquartered in Emeryville, CA, is a leading supplier of client/sever-based customer information management systems.

The company's principal product family, ProTEAM, is a groupware product that automates and integrates the operations of technical support, engineering, quality assurance, sales and marketing and customer contract services. The particular client/server-based applications for customer and product information management include: SupportTEAM—for call tracking and customer support, QualityTEAM—for quality management and defect resolution and SalesTEAM—for sales cycle management.

ProTEAM builds a customer-center information asset, based on an enterprise model for the capture and reuse of customer support information across multiple departments and geographical areas. ProTEAM can be customized to meet a company's unique business rules.

The company's products support the following operating environments: Oracle, Sybase, HP, IBM & Sun workstations, PCs, Macintoshes and X terminals, UNIX and Windows NT operating systems on the server platform and Macintosh, UNIX and Windows operating systems on the client platform.

The customer base includes organizations in financial services, telecommunications, CAD/CAM/CAE, hardware systems, petrochemical and companies supporting shrink-wrap and customizable software products. Representative customers include companies such as Andersen Consulting, Corporate Software, Rockwell, Sybase, Smith Barney, Shearson and Sun Microsystems.

Marketing and distribution partners include companies such as Microsoft, Hewlett-Packard, IBM, Sybase, Oracle, Intersolv, Northern Telecom, Access Graphics, Sun Microsystems and Inference Corporation.

In the fall of 1993, Scopus Technology announced the integration of Scopus' SupportTEAM, its customer support module, with Genesys Inc.'s T-Server. T-Server is that provides a common interface to enable integration of telephony devices such as Automated Call Distributors (ACDs), Private Branch Exchanges (PBXs), Integrated Voice Response Units (IVRs), Voice Messaging Systems and Predictive Dialers with Scopus' customer support application. This expands the automation of the customer support process by providing service representatives with immediate access to a caller's information from the database. Customer information can be automatically popped on the agent's screen and shared with others to help solve the problem or have it transferred to another group.

2. Remedy Corporation—based in Mountain View, CA, is a leading supplier of help desk, contracts and licenses and network management client/server applications that speed and simplify the resolution of software support problems. Two of its principal products families are the Action Request System and the Remedy Health Profiler.

A particularly unique product is the Software Bug Tracking application for tracking and resolving software bugs and enhancement requests. It addresses the needs of developers, QA, customer support and management.

Based on a customizable work flow process technology, the product builds a history database of how bugs and enhancement requests get resolved. The database can also be shared with customers to reduce calls to the support desk.

The company's technology also offers a new concept in active notification—the Desktop Beeper. Notification can be sent to support teams and developers when new bugs are submitted, escalation occurs, or when responsibility is passed along to another member of a company for a software problem. After a bug is resolved, customers or corporate personnel can be notified via E-mail or the Desktop Beeper.

Remedy Corporation's products are supported on the following server platforms: Sun SPARCstations, HP 9000, IBM RS/6000 and SGI; and the following client platforms: Sun SPARCstations (OPEN LOOK, Motif); MS Windows 3.0, HP 9000 Motif, IBM RS/6000 Motif, SGI Motif and Remote X Windows.

Databases supported include the Remedy starter database, Informix, Oracle and Sybase.

3. Aurum Software—headquartered in Santa Clara, CA, provides the Aurum Customer Resource Planning™ (CRP) System--a suite of modular client/server applications which automate the field sales, telemarketing, customer support, field service and quality management functions of an organization. The individual CRP applications can be used as standalone departmental solutions or integrated into an enterprise-wide system. The CRP System can also be interfaced with existing finance and manufacturing applications.

The company currently has more than 100 installations, including IBM, American Airlines, Cisco Systems and Motorola.

Particular product segments which are directed to the software support services markets include: SupportTrak™, Quality Trak™ and ServiceTrak™.

SupportTrak features include intelligent call handling, problem resolution and escalation and report analysis. QualityTrak features include process workflow and event triggers, failure analysis and technical bulletins. These two products are designed to increase the efficiency of customer support departments called centers and help desks.

The ServiceTrak product is designed for organizations that use field service representatives to support their products. Product features include: intelligent call handling, problem resolution, intelligent dispatch, escalation, advanced contracts, price books, quotes, orders, contract renewals, report generation and integration with telephone and auto paging systems.

The company's entire family of products is designed to provide a broad-based customer support solution from tracking of sales lead through automation of multiple levels of customer support.

The products are written with the Unify development language and are hardware independent. They can run on any database that Unify supports, such as Oracle, Informix, Unify and Sybase.

Another significant segment of their business is their Consulting program. Aurum provides technical and functional system

implementation services as well as life-cycle management services for their products. These services include: system definition and design, system modification, customized product documentation and application migration assistance. Also included in its professional services offerings are user and technical training along with maintenance and support contracts for its products.

4. Answer Computer, Inc.—headquartered in Sunnyvale, CA, provides the Apriori GT integrated call and problem management help desk system for centralized product support.

Apriori consists of three principal modules. The base module is a problem management application providing for problem resolution, tracking and escalation capabilities. Call Management is an optional package that logs, tracks and queues calls. ReadOnly, another optional package provides a copy of the master information base to branch offices, distributors, or customers that provides details on problem resolution.

The word apriori comes from the Latin term for deductive reasoning. The software is designed as a self-learning (expert systems) problem solver. It associates reported problems with proven solutions. It creates a library of information about known problems, proven solutions and solutions-in-progress and uses this knowledge to coach support team members through the problem-solving process.

Its customer base includes companies such as J.C. Penney Co., Barclays Bank PLC and Motorola.

Apriori runs on several UNIX platforms, including HP 9000, IBM RS/6000 and the SUN SPARCstation.

5. Clarify, Inc.—headquartered in San Jose, CA, provides the Customer Service Management (CSM) system. The Clarify system encompasses a broad base of service organization functions, including call handling, workflow management, problem solving, configuration management, contract verification, defect tracking and field service inventory.

The individual software applications of the Clarify CSM system include ClearSupport™, the technical support management system; ClearQuality™, the defect tracking system; and

ClearLogistics™, the field service inventory management system. It is based on a highly scaleable architecture and can daily support hundreds of engineers and thousands of customer calls.

The Clarify system is based on a client/server architecture with support for the Macintosh, PC and UNIX workstation platforms as well as RDBMS such as Sybase Oracle, among others. Graphical user interfaces supported include the MacOS, Motif and MS-Windows.

It is also designed with customization tools that allow users to tailor the product themselves.

In addition, the Clarify system is optimized for remote access, allowing individual dial-in with a modem rather than a regular phone line, E-mail access and special support for remote centers connected over dedicated lines.

The Clarify customer base includes companies such as Cisco Systems, Silicon Graphics, Sybase, Tandem Computers, The 3DO Company, Wellfleet Communications and Xyplex.

6. Copia International, Ltd.—*FaxFacts* Interactive Fax-On-Demand product is sold through a number of resellers in the United States. It is representative of one of the more popular self-help, automated response type customer support management products.

The *FaxFacts* Fax-On-Demand system provides sales people, customers, or service personnel 24-hour product information support. The system consists of an integrated PC, voice and fax board-controlled by software developed by Copia International.

The system can be customized to create menus and other options for particular types of callers.

FaxFact features include:

- A personalized voice message guides the caller through the process of selecting the desired information by making choices on their telephone keypad.
- Mailboxes that allow the caller to leave fax or voice messages.

- Interactive Voice Response (IVR) features which allow the system to send specific information based on the caller's choices.
- A credit card processor for the fax information
- Interface capability with Cardiff forms processing
- The ability to cut to a live operator
- Multilingual support
- The capability to locate names and fax numbers in a standard database

7. Brock Control Systems, Inc.—headquartered in Atlanta, Georgia, is a public company that provides customer service support software and services. Industry sources indicate estimated revenues for 1994 of approximately $30 million.

The Brock Activity Manager Series consists of the following software modules:

- Database Marketing, with tools for building databases, creating marketing campaigns and tracking and analyzing leads
- Telemarketing—provides functions to capture, qualify and nurture leads and determine lead qualification
- Sales Activity Manager—tracks account information, sales activity
- Customer Care Systems—tracks incoming customer calls and prioritizes problems for appropriate response management for customer service and support, consumer relations and internal help desks.
- Field Sales Automation—provides information management, productivity and reporting capabilities of the Brock Sales Activity Manager on a portable or laptop computer

The software products are based on a client/server architecture and support standard relational database architectures.

Operating systems supported include Microsoft Windows, Novell, Netware and multiple versions of UNIX.

Brock also provides a number of services, including training, customization and installation to support is products.

8. Crescent Project Management—headquartered in Palo Alto, CA, provides consulting services, forums, reports and training on a variety of telecommunications and computer systems solutions.

In the customer support management area, the company publishes a guide to more than 80 support automation and diagnostic systems. A recent publication is the *Diagnostic Practices Benchmark Study*. It includes an in-depth analysis of product- problem resolution processes of two dozen high technology, industry-leading companies. It also provides consulting services on the establishment of company customer support centers.

9. Aspect Telecommunications Corporation—with North American headquarters in San Jose, CA, produces automatic call distribution (ACD) telephone call management systems. The product is a turnkey systems solution.

A principal product for the help desk environment is the AspectCallCenter, which will coexist with a company's private branch exchange (PBX) and data processing systems.

The CallCenter accepts, routes and connects calls to the most appropriate telephone sales or support representatives.

For customer support, such ACD systems, to help maximize the efficiencies of call escalation—particularly appropriate for vendors that provided tiered-access support programs.

The Aspect Application Bridge feature allows callers to input an account number or other identifying code. The CallCenter then checks a company's database to determine how to route the call then synchronizes the display of the initial information for the sales or support agent.

The Aspect CallCenter is designed to be used for a range of small to very large corporations.

Aspect Telecommunications is a public company with recent annual sales in the $100 million range.

C
Third-party Maintenance Firms

Third-party software product support firms maintain that they can provide better service at a lower cost that individual software product vendors or corporate support services programs. Third-party maintenance firms also can address the significant issues associated with multivendor product support in a one-stop-shopping solution.

Third-party maintenance firms compete with a variety of companies that are expanding their third-party information technology support services offerings. These include: computer systems, network services, professional services (consulting), systems integration and outsourcing firms. Many of these companies have traditional business sources in the corporate applications development and network integration markets and third-party support services represents a natural extension of their businesses.

These types of companies (along with outsourcing companies) are likely to become major sources of IS product and services support for corporations and many software vendors in the latter half of this decade. Strengths of many of the potential competitors to current third-party maintenance firms is the size of many of these companies and often their ability to provide a more one-stop-shopping-type support services.

Some of the services offerings of the larger third-party maintenance firms are:

1. **BancTec Services Corporation (BSC)**—provides support for computer, operating systems software and LANs for the PC desktop environment.

BSC is one of the leading independent maintenance services providers for the PCs, workstations and LAN environments. It is a wholly-owned subsidiary of BancTec, Inc.— public company.

Historically, most of BSC's support services business has been for hardware maintenance. More recently, the company has expanded its software support emphasis.

In 1992, the company announced that it would provide nationwide onsite service for Dell Computer Corporation. Many of the PC hardware companies are now providing bundled systems software with their product sale. BancTec Services can provide the operating system and hardware maintenance support for such vendors.

BSC provides technical telephone support for Novell networking operating systems software.

The company emphasizes multivendor customer support. A major customer of its multivendor support services is the National Association of Securities Dealers (NASD). This contract includes support for Novell LANs, workstations, Novell file servers, laptop computers and NASD's PLATO professional Development Centers.

BSC offers three principal multivendor support programs:

- BSC ServiceOne for hardware service
- BSC AnswerOne for software support—customers have telephone access for hardware and software support by phone and BSC's Certified Network Engineers (CNEs) provide telephone and one-site network operating system support. The company will also sell AnswerOne software support without the ServiceOne hardware support service.
- BSC ProjectONE planning and installation program with multivendor product support

2. Bell Atlantic Business Systems Services—formerly Sorbus, Inc.—one of the oldest and largest of the independent computer service organizations. It provides enterprisewide support for the mainframe center to the distributed, client/server environment. Its focus is to provide a convenient single point of contract for multivendor, multiserver support. Other products serviced include desk and tape drives, bridges, routers, modems, CD ROM equipment and terminals.

The company supports more than 100 different software products, including numerous operating systems, applications, languages, utilities and connectivity software.

In addition to traditional preventive and remedial systems maintenance, Bell Atlantic Business Systems Services offers remote support, system configuration assistance, software support, local area network (LAN) support, disaster recovery services and a variety of consulting services such as site planning and relocation, migration planning, service management, asset management, performance turning and software update installation.

The company provides service to corporate desktop users as well as computer and peripheral manufacturers, remarketers and value-added resellers (VARs) as well as dealers and systems integrators.

Bell Atlantic Business Systems Services has signed strategic service alliances with a number of information technology companies to expand its multivendor computer services capabilities. These include companies such as: Amdahl, CGI Consulting, Hewlett Packard, NCR, NeXT, Novell, The PARSEC Group, Sequent Computers, SunGard Recovery Systems and Sun Microsystems.

Through its Business Systems Services' 3Xtra Support Programs, customers have toll-free access to software support experts. Less than its Direct Access Customer Service (DACS) program the company offers qualified customers access to Business Systems Services' central dispatch system from the customer's own in-house help desk. DACS allows customers to open their own service calls and monitor their progress.

3. Software Support, Inc.—provides technical support services for NetWare 3.x, 4.x and Lite; Microsoft Windows NT, Windows NT Advanced Server and Windows for Workgroups. Services pricing alternatives include a one-year, unlimited-use subscription basis through a tool-free hot line; per-incident; and minute-by-minute pricing.

4. Corporate Software, Inc.—provides a broad range of services that assist customers in managing the acquisition, implementation, administration and support of software in user

organizations. These are subdivided into procurement support services that combine product selection, post-sale technical support services and fee-based services that are contracted for by customers with additional requirements. In 1992, Corporate Software established a process, called ADVANCE™ which is a re-engineering tool for changing the process of acquiring, distributing and managing their software resources. Corporate Software works with the client in a consulting capacity to develop and implement ADVANCE™.

Many of the company's services are targeted at the customer's internal help desks that provide support to users. These include hotline advisory services to assist internal help desks in making product selections and supporting supports. Some of the support programs include product support hotline specialists, electronic databases and technical support services publications.

Fee-based services , which are based on a separate contract from the software product license, generally provide for higher-level technical support needs. These can include on-site as well as telephone services for users and corporate IS personnel, software integration services (certified by software product vendors), outsourcing and migration support services.

D
Cross-Vendor Support Partnerships

Increasingly, software vendors of all sizes are forming product support partnerships to address the complexities of support in a multivendor customer environment. A brief example of one of the more formally structured alliances is included below.

The Customer Support Consortium

This group of some 20 or more companies was formed to find ways to improve the quality and timeliness of multivendor support and reduce individual vendor support costs.

Founding members include 3M Corp., Banyan Systems, Hewlett-Packard, AT&T Global Information Solutions (NCR) and Intel. Other newer members include IBM Corp., Legent Corp., Candle Corp. and KnowledgeWare, Inc. The managing partner is

Symbologic Corp. There is also a chapter in Japan, indicating that the system is designed to provide global support.

A major focus of the group is the development of a customer service software package that members can use within their own support organizations. The system is customized for each member. Features include trouble shooting procedures, on-line documentation, problem/solution sets, fax and bulletin-board systems and a base of product knowledge. It will also provide wide-area connectivity to link product knowledge bases across distributed support centers.

Conclusions and Recommendations

A Conclusions

Software product support problems are escalating for vendors and users, particularly for products based on a distributed architecture. This architectural transition is changing the nature of software support services requirements of vendors and users.

- Product installation now requires knowledge of multiproduct integration and interoperability
- Indirect product delivery channels, such as distributors, retailers and VARs may have limited multivendor support services capabilities. Consideration of such limitations have to be made in selecting and pricing of products sold through such channels.
- Many PC and workstation software products companies have not charged separately for software product support and services. As they add products that address the LAN-based, multivendor processing environment, they must increase the size and technical capabilities of their customer services staffs.

- Traditionally, software industry pricing practices included annual increases in maintenance contract fees based somewhat on an inflationary indexed pricing model. The combination of a slowing inflation rate, downsizing and software product maturity in many market segments has contributed to the reversal of this upward trend in software product and services pricing in many software product segments.

- Lower software prices, however, have expanded the size of several software products markets as measured by unit sales, which has resulted in a rapid expansion in the number of customers that require technical support.

- Distributed computing has greatly expanded the number of "user" customers, who are often much less computer literate than the more traditional corporate user in the IS department. Frequently, these new users are also the customers that are using lower-margin software products.

The distributed/LAN-based processing transition is particularly negatively impacting PC software companies as they move to a client/server product offering. At the same time they are dealing with major price declines in PC software pricing. These are the vendors who have traditionally offered "free" support as part of the software license fee.

Such vendors are responding with a number of new support programs, including the introduction of fee-based pricing, often with a tiered, value-added structure. For those vendors who have offered bundled services maintenance contracts, a trend has been to unbundle the various components of the maintenance program.

Vendors of PC software products are more often using third-party support services from outsourcing and third-party maintenance firms.

Minicomputer and mainframe software products vendors are facing a similar set of software support problems with the acceleration in the movement to client/server architectures.

Most software companies have traditionally priced their software products on a proportionate basis to the hardware platform cost. The declining cost of minicomputer and mainframe hardware,

along with the competitive pressures from higher performance desktop hardware products, has elicited a number of pricing initiatives from the larger platform software product vendors. These include user-based pricing, enterprise licensing and usage or transaction-based pricing.

Support services pricing has also recently become a competitive issue among minicomputer and mainframe software product vendors. Multiyear licenses at pre-determined rates and unbundled pricing of various support services have become popular alternatives.

In addition, vendors of software products across all platforms have been adding new services, such as consulting, systems integration and outsourcing to take advantage of the large available market that has developed within corporations for network-based computing support services.

The markets for software technical support and other types of software-related services are expanding at rates in advance of many of the markets for software products

B Recommendations

Software product vendors in general are facing what could be a long-term trend of declining prices. This is reflective of the maturing of product growth curve of a multi-billion dollar. Growth rates for software products in U.S. markets have come down from a 20% annual growth rate five years ago to a growth rate on average of 10% for software products.

At the same time, the cost of software product development is accelerating, with a recent trend to more frequent product updates as well as the requirement for multiplatform product development. These trends, as indicated in the previous section, are significantly increasing the cost of software product support services.

Software product vendors are making a number of changes in product support services delivery in order to adjust to the changing environment. However, the longer term pricing trends

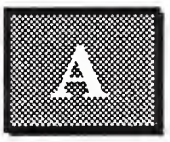
will likely continue to negatively impact software product pricing and the cost of software support. Eventually, this will lead to a substantial shakeout in the software products industry.

A software product vendor should consider the following product and product support alternatives in order to help maintain growth and continue as a viable competitor over the longer term:

- Minimize support personnel for lower margin software products by using electronic support services.
- Use multimedia tools such as desk top video conferencing for more effective support services, such as product training.
- Use electronic software delivery to reduce software manufacturing and distribution costs.
- Concentrate more expensive support services, such as software engineering personnel, on more complex, higher value software products.
- Concentrate on unique products which can enhance professional services profitability, such as business process re-engineering, customization, implementation, applications development and maintenance.
- Combine software products with professional services delivery where there are relative development efficiencies compared with those of the customer base. Examples would be systems software companies that can provide applications development templates and maintenance and migration services with their software products.
- Combine applications software product with processing or other types of outsourcing services where the product can be delivered more cheaply as a service for particular types of customer needs.
- Use outsourcing or third-party maintenance for at least part of cross-vendor product support requirements.
- Build internal capabilities in object-oriented development technology and in vertical markets to address leading-edge trends in product development.

- Re-engineer current customer support services to include such approaches as tiered support services and automated call center support services
- Systems and network management companies should address the central IS help desk services function with integrated software applications for managing distributed corporate-wide computing architectures.
- For larger corporations that have the resources to support multivendor products, consider expanding into the support services outsourcing business,
- For larger corporations, also re-examine turnkey systems and systems integration delivery solutions.
- All software product vendors should develop expertise in cross-vendor applications development tools and/or partner with complementary vendors that can provide such expertise.
- Software product companies should also partner with companies that provide broadly-based software services offerings to maximize synergies of product and services solutions sales. Companies in this category include systems integrators, professional services companies, computer systems companies and some of the large applications development tools vendors

(Blank)



Vendors of Software Products Survey Questionnaire

CONFIDENTIAL

Software Product Support Strategies

INPUT's **definition** of software product support services provided by software product vendors—Maintenance category: product enhancements, software hotline support, training. Other information services categories often provided by software product vendors include: professional services (consulting, implementation, etc., not closely linked with traditional maintenance revenue from a particular product); systems integration; network services; and processing services.

A. Describe the approximate size of your company's software products and services revenues, according to the following parameters.

____1. Less than $50 million

____2. Between $50 million and $200 million

____3. Between $200 million and $500 million

____4. Between $500 million and $1 billion

____5. More than $1 billion

B. Identify the principal software products of your company.

_____

_____

_____

C. Check the following types of software support services you provide.

____1. Software enhancements as part of a maintenance contract

____2. Software bug fixes as part of a limited-period warranty

____3. Software hotline support as part of a maintenance contract

____4. Consulting as part of a maintenance contract

____5. Training as part of a maintenance contract

____6. Software enhancements and hotline support as part of an unbundled pricing structure

____7. Professional Services (i.e., applications development, implementation, business process re-engineering, etc.).

____8. Systems Integration

____9. Outsourcing

D. Indicate how you define, for revenue reporting purposes, your software product support services. (Check more than one category where appropriate)

____1. Maintenance revenue (pricing bundled–product enhancements/bug fixes, product hotline support, consulting, training)

____2. Maintenance revenue (pricing unbundled-product enhancements, product hotline support, consulting, training)

____3. Maintenance and services revenues (maintenance-bundled-product enhancements, product hotline support) and consulting, training, etc., as separate services revenue categories

____4. Maintenance and services revenues (maintenance-unbundled-product enhancements, product hotline support) and consulting, training, etc., as separate services revenues

____5. Other. Please explain

_____

_____

_____

E. Have you unbundled your maintenance and/or services pricing structure over the past year?

____Yes ____No

If yes, generally describe the unbundled fee structure.

_____

_____

_____

F. Identify the types of software support contracts you offer.

(Check more than one category where appropriate)

____1. One-year—renewable

____2. Multiyear—fixed price

____3. Multiyear—predetermined annual price increases

____4. Bundled—maintenance category

____5. Unbundled—maintenance category–fee-based

____6. Unbundled—maintenance and services categories–fee-based

____7. Other

_____

_____

G. Identify by percentage, the approximate proportion of your maintenance and/or other support services revenues represented by the following categories.

____1. Software enhancements

____2. Software hotline support

____3. Consulting

____4. Training

____5. Professional Services

____6. Systems Integration

____7. Outsourcing

H. What methods do you use to price your software support services?

(Check more than one where appropriate)

____1. Free implementation and a limited number of additional free support days

____2. Tiered-pricing based on service levels

____3. Tiered pricing based on hardware platform

____4. Priced on time of usage basis–based on level of technical personnel used

____5. Free common access support services–bulletin boards, etc.

____6. Automated information response systems–toll call–fax-on-demand, database searches, etc.

____7. Free services accessed by an 800 number

____9. Free services accessed by a toll call

___ 10. Services charged through a 900 number

___ 11. Other

_____

_____

I. Identify your approach to product enhancement pricing.

(Check more than one where appropriate)

____1. A fixed % of initial software product license

____2. Contract renewed annually—with price adjustments

____3. Contract renewed annually—without price adjustments

____4. A fixed-period warranty covering software "bug" fixes

____5. Product enhancements and new product versions covered under maintenance contract

____6. New product versions are not covered under the traditional maintenance contract

____7. Multiyear contracts based on a one-time fixed charge which is a % of initial software product license

____8. Multiyear contracts based on a predetermined price escalation formula

____9. Product enhancement/maintenance contracts can be transferred based on additional charges for changes in platform supported

____10. Product enhancement/maintenance contracts can be transferred based on change in usage formula

J. Are software support services (as part of a maintenance agreement) currently a profit center for your company?
____Yes ____No

K. Describe any expansion in types of product support services (maintenance and other information services) provided by your company over the past two years.

_____

_____

_____

L. Approximately what percentage of your current total software-related revenues comes from maintenance and/or other software support services?

____1. Less than 10%

____2. 10-15%

____3. 15-25%

____4. 25-35%

____5. 35-50%

____6. More than 50%

M. What percentage of your total software-related revenues are from product enhancements or new versions?

____1. less than 10%

____2. 10-20%

____3. 20-30%

____4. 30-40%

____5. more than 50%

N. How does your operating profit margin for software product compare with those of software support services?

Software product operating margin _____%

Software support services operating margin _____%

O. Describe the principal methods you use to measure the level of success of your software support services programs.

(Check more than one where appropriate)

____1. Customer surveys—company run

____2. Customer surveys—by third-party market research firm

____3. User group feedback

____4. Changes in level of user complaints

____5. Careful control over initial product releases

____6. On-site customer visits

____7. Field sales personnel feedback

____8. Other

_____

_____

P. How do you provide multivendor product support?

(Check more than one where appropriate)

____1. Formal partnership with other vendors designated to support companies for particular products

____2. Support people receiving training in other vendors' products

____3. Ignore requests for usage support questions on other vendors' products

____4. Have formal arrangements that support people that use technical support services of other companies

____5. Use third-party maintenance organizations to support more complex products

____6. VARs expected to provide support for multivendor-sourced product

____7. Other

_____

_____

Q. What technologies do you use to provide software support services?

(Check more than one where appropriate.)

____1. Call tracking/help desk product

____2. Call routing telecommunication equipment

____3. Automated access to services databases, fax-back, etc.

____4. Electronic bulletin boards

____5. Remote diagnostics systems software

____6. Electronic software distribution

____7. Other

_____

_____

R. Within five years, what percentage of your total software revenues might come from software services?

____1. 10% or less

____2. 10-20%

____3. 20-30%

____4. 30-40%

____5. 40-50%

____7. 50-60%

____8. 60-70%

S. Currently, where is there more pricing pressure—software product or support services?

Please elaborate

_____

_____

_____

T. Do you currently use a third-party help desk software product?

____Yes ____ No

If yes, what product?

_____

U. What do you consider to be your unique software service characteristics?

_____

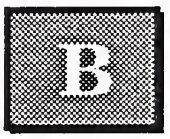
_____

_____

_____

Thank you for your assistance. We will send you a copy of the Executive Overview of the Software Product Support Strategies Report as a thank you package for your participation in the survey.

(Blank)



Users of Software Product Support Services Survey Questionnaire

CONFIDENTIAL

Users of Software Product Support Services

Software product support provided by software product vendors include: product enhancements, software hotline support, and training. Additional software-related information services include systems integration, professional services, outsourcing, and processing services.

A. Identify some of the principal software products which you purchase from third party developers.

1. _____

2. _____

3. _____

4. _____

5. _____

B. How would you characterize client/server application usage at your company?

(Check more than one where appropriate)

____1. Inter-departmental applications

____2. Mission-critical, production-oriented applications

____3. Primarily single department-based applications

____4. Minimal usage

____5. Prototype stage

C. How has the implementation of client/server-based data processing solutions impacted your internal software product support requirements?

_____

_____

_____

_____

D. What is the location (structure) of software support services at your company.

(Check more than one where appropriate).

____1. Centralized (IS Department)

____2. Specialized--based on technology focus--LAN, desktop services, mainframe, services, etc.

____3. De-centralized by department

____4. Total software support needs addressed at each support location

____ 5. Heavy emphasis on third party software support services

E. What are the authorized individual employee types of interfaces with outside software (or third party) product support services?

(Check multiple responses where appropriate).

____1. Must always go through internal central support desk personnel

____2. Assigned to a particular fee-based tiered level of vendor support

____3. Desktop users can call vendor directly for product support help

____4. Vendor provides on-site training of product

____5. Primary reliance on vendor product documentation and/or internal support help desk services

F. What have been recent changes by your software product vendor/s in their maintenance product and services program delivery.

(Check more than one where appropriate).

____1. General unbundling of maintenance pricing

____2. Change to various fee-based pricing for different levels of product support

____3. Initial installation and a set number of days of free support

____4. Change to yearly maintenance contract renewal

____5. Change to long-term, fixed price maintenance contracts

____6. Consulting and training fees separated from other product support programs

____7. Product enhancements separately priced from traditional maintenance support services

____8. Changes in product versions separately priced from traditional maintenance support services

G. What trends are you observing in software vendors' approaches to the increasing complexity of software product support?

____1. Tiered access programs--engineers available for higher level problems, etc.

____2. Automated support services access programs--support services database search facilities, etc.

____3. Increased usage of VARs for solutions-type support

____4. Increased usage of third-party maintenance firms

____5. Greater utilization of automated help desk support tools--call track/expert systems technology

H. Identify software product vendors with particularly effective product support programs.

1. _____

2. _____

3. _____

4. _____

5. _____

I. Identify ways software vendors can improve upon their current product support practices.

(Check all that are appropriate).

____1. Increase use of automated service response systems for more common support problems

____2. Utilize more highly skilled personnel on their help desks

____3. Increase usage of event driven and other types of "self-learning" help desk tools

____4. Improve product reliability

____5. Improve product ease-of-use features

____6. Be more pro-active in disseminating product support information

____7. Provide longer-term fixed rate maintenance contracts to allow for better budgeting of support service costs

____8. Unbundle software update costs from other types of maintenance programs

____9. Other _____

J. How does your company deal with multivendor product support issues?

(Check all that are appropriate).

____1. Increased usage of third party maintenance vendors

____2. Call larger vendors with expectations that they have more comprehensive cross-vendor software knowledge

____3. Increased internal staffing to deal with cross-vendor support issues

____4. Increasing tendency to buy more software product from a vendor that can provide single-point solution support.

____5. Other

_____

K. If you utilize third party support, describe nature of such vendors.

(Check all that are appropriate.)

____1. Computer systems vendor/s

____2. Professional Services/SI companies

____3. Outsourcing firms for broad-based support requirements

____4. Outsourcing firms for specialized or commodity-type services

____5. Third party maintenance companies

L. List major product support deficiencies of your current software product vendor/s

1. _____

2. _____

3. _____

4. _____

5. _____

M. Do you use any product (hotline) support software packages from third party vendors?

Yes ____ No ____

1. If yes, could you identify the vendor/s _____

2. Do you utilize broader product support applications of such vendors—i.e., sales support, inventory support product, etc.
Yes ____ No ____

Explain _____

N. Describe the approximate size of your company according to the following revenue parameters.

____1. Under $50 million

____2. Between $50 million and $200 million

____3. Between $200 million and $500 million

____4. Between $500 million and $1 billion

____5. Over $1 billion