U.S.A. MARKET SUMMARY
SYSTEMS SOFTWARE

ABOUT INPUT

THE COMPANY

INPUT provides planning information, analysis, and recommendations to managers and executives in the information processing ind ustries. Through market research, technology forecasting, and competitive analysis, INPUT supports client management in making informed decisions. Continuing services are provided to users and vendors of computers, communications, and office products and services

The company carries ou
depth research. Working
on important issues, INF
analyse and interpret
then develop recommen
ideas to meet client's n
reports, presentations,
which analyses are ba
consulting.

Many of INPUT's profes
have nearly 20 years
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marketing, or plannir
enables INPUT to supp
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USA MARKET SUMMARY - SYSTEMS SOFTWARE PRODUCTS

TABLE OF CONTENTS

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TABLE OF CONTENTS

I INTRODUCTION

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- This INPUT report was commissioned by Mr. Nick Willard of Systime on 10th August 1979. The report was required to be available before 19th August.

- The research for this report included:

  a) series of in-person and telephone interviews, conducted in June 1979, with top officers of systems software companies and with EDP managers,

  b) series of in-person and telephone interviews with turnkey systems vendors conducted in March and April 1979.

- All research was conducted in the USA.

II EXECUTIVE SUMMARY

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A. MARKET SIZE, SEGMENTATION AND GROWTH RATES

- Systems software is one of the fastest growing segments of the computer services industry.

  - The market for systems software is over $750 million dollars and is growing at 33% a year.

  - By 1983 the market will exceed $3.1 billion.

  - These figures include revenues from services companies and hardware vendors.

- The largest single vendor in the market is IBM, with a 33% market share. The market share data by vendor type is shown in Exhibit II-1.

- The largest independent systems software company has less than 3% of the market, but as a group, the 500 independents control 45% of the systems software market.

- The average systems software firm generates slightly less than $700,000 in revenues annually. However, the 450 smallest companies each average $300,000 in annual revenue production.

EXHIBIT II-1

UNITED STATES SYSTEMS SOFTWARE MARKET SIZE,
MARKET SHARE AND GROWTH RATES

VENDOR TYPE	1978 REVENUES ($000,000)	1978 MARKET SHARE	1983 REVENUES ($000,000)	AAGR*	1978 MARKET SHARE
• HARDWARE MANUFACTURERS	$360	47%	$1,692	36%	54%
IBM	250	33	1,345	40	43
OTHER LARGE AND MEDIUM COMPUTER MANUFACTURERS	50	6	124	20	4
MINICOMPUTER MANUFACTURERS	60	8	223	30	7
• REMOTE COMPUTING SERVICES COMPANIES	58	8	177	25	6
• INDEPENDENT SYSTEMS SOFTWARE VENDORS	345	45	1,281	30	40
TOTAL	$763	100%	$3,150	33%	100%

*AVERAGE ANNUAL GROWTH RATE

- Vendors selling systems software that operates on IBM hardware have the biggest market segment to target, nearly $600M dollars or 76% of the total market.

- There are nearly 20,000 IBM System/360 Model 20's or larger computers installed throughout the U.S. The average IBM installation pays $29,250 for systems software per year, of which $22,500 is for one new package.

- Non-IBM installations pay an average of $15,750 annually for systems software.

- The systems software market segments are all growing at 30% or more per year.

  - The systems operations market segment, those products which manage the computer resource during applications program execution, is growing at 33% a year. This segment will grow from $389 million in 1978 to $1,637 million by 1983.

  - The systems utilization product segment of the market, those products which aid in utilizing the computer system more effectively, is growing at 30% a year. The market segment will grow to $312 million in 1983 from a base of $84 million in 1978.

  - The implementation systems market segment, those products which prepare applications for execution, is growing at 33% a year. This segment will grow from $290 million in 1978 to $1,201 million by 1983.

B. SYSTEMS SOFTWARE VENDOR SALES AND MARKETING STRATEGIES: PRESENT AND FUTURE

- Exhibit II-2 shows some of the key personnel statistics for responding systems software vendors.

  - Development and maintenance organizations are the largest group in systems software firms. Most firms have one development and maintenance organization rather than separate groups for each technical function.

  - Sales and sales support staffs are approximately the same size.

  - The average annual compensation of all systems software professionals is $34,000. Sales and development/maintenance personnel compensation averages $37,000, while sales support staff personnel average $26,000 annually.

  - Systems software vendors average 10% to 15% of revenue as a pre-tax profit margin. The profit margin is inversely related to revenue, i.e., the higher the revenue, the lower the profit margin.

  - Training programs are brief and highly reliant on on-the-job-training (OJT).

  - Turnover is highest in the sales staff, but is still at a manageable level.

- Many systems software companies have not needed to refine their lead-generating or lead follow-up methods because it has been easier to add new products to generate incremental sales rather than to prospect, qualify, and close sales of existing products to new customers. The market obviously cannot sustain this "cream skimming" policy forever. However, many companies have successfully employed this approach for five or more years.

EXHIBIT II-2

RESPONDING SYSTEMS SOFTWARE VENDOR
KEY STATISTICS BY PERSONNEL CATEGORY

FACTOR	PERSONNEL CATEGORY					TOTAL
	SALES	SALES SUPPORT	MARKET-ING	DEVELOP-MENT	MAINTEN-ANCE	
PERCENT OF EMPLOYEES	21%	21%	5%	14%	39%	100%
PERCENT FEMALE	11%	22%	22%	16%	13%	14%
COMPENSATION COST AS A PERCENT OF REVENUE	10.7%	8.0%	2.1%	9.0%	15.4%	45.2%
AVERAGE SALARY ($000)	$37	$26	$34	N/A	$37	$34
TOTAL COST AS A PERCENT OF REVENUE	20.3%	15.1%	5.0%	7.2%	25.5%	73.1%
AVERAGE TOTAL TRAINING PROGRAM LENGTH (WEEKS)	11	8	N/A	10	10	10
AVERAGE FORMAL TRAINING PROGRAM LENGTH (WEEKS)	2	2	N/A	2	2	2
TURNOVER PERCENTAGE	22%	13%	10%	15%	17%	17%

N/A= NOT AVAILABLE

- Trade press advertising is the most commonly used lead-generation technique for systems software vendors.

  - Vendors rate this advertising as being less successful for generating leads compared to direct mail campaigns, telephone survey work, and seminars.

  - Some vendors now use trade press advertising only for company and/or product recognition rather than lead generation.

  - Successful lead-generating programs were generally measured in either sales closed or titles of lead respondents.

- Buyers of systems software indicated that trade press advertising was the most commonly used source for obtaining information on the availability of products.

- Nearly one half of the average number of leads generated per systems software company come from direct mail and marketing survey techniques. Buyers also rated direct mail as a major (31%) source of information on product availability.

- There is a clear trend for systems software vendors to sell their products outside of the U.S. The vendors are moving in the direction of direct representation in foreign markets, except in Japan.

  - Agents have not always generated a level of revenue commensurate with their sales territory when compared to U.S. results.

  - Vendors would prefer receiving 100% of the product revenue rather than a royalty for each sale (which may be 5% to 50% of the product sales price).

- Slightly less than one half of the systems software vendor respondents indicated that in-person sales calls were regularly made on the top DP executive of a prospect during the sales cycle. Another 25% of the vendors indicated that they planned to do this in the future. Systems software companies that called on top executives in the organization generally indicated that the sales cycle was smoother.

- In cases where the DP manager was not called on, the highest management level aware of the sales effort was the systems and/or programming manager.

- Over 80% of the systems software buyers indicated that the buying decision was made at the vice presidential level or higher if the package costs more than $5,000.

- Systems software vendors are primarily development rather than marketing oriented for new product additions. Marketing research is generally not used. Development drives product creation rather than the market.

- Systems software is priced according to what the market will bear. This includes software maintenance, which most respondents believed should be priced at 10% of the product purchase price.

- There appears to be a direct relationship between revenue production and the type of product sold. The more user-oriented the product (productivity aids, data base management systems, etc.), the greater the revenue generated per sales person. The more systems-oriented the product (spoolers, utilities, etc.) the less revenue generated per sales person.

- The majority of systems software buyers would prefer to buy software from vendors rather than develop equivalent packages in-house.

C. THE ROLE OF TURNKEY SYSTEMS VENDORS

- The majority of Turnkey System vendors are completely dedicated to the production and installation of Turnkey Systems.

- There are currently over 1,000 vendors of Turnkey Systems in the USA, 21% of which design and manufacture their own hardware. By definition they also produce their own systems software. A further 21% develop their own systems software for hardware purchased from other sources.

- The remaining 58% of vendors purchase systems software from an outside source; this is mostly the hardware manufacturer.

- Systems software purchased from hardware suppliers is broadly in line with the proportions of hardware purchases. The proportion of vendors purchasing from the most significant suppliers are:

Data General	24%
DEC	16%
Hewlett Packard	4%
CDC	6%

- The total number of DEC PDP II's installed in the US is in the range 30,000 - 50,000 (INPUT estimate). Less than 5% are using teleprocessing monitors (INPUT estimate).

- Of the total number of PDP II's installed in the US less than 10% (INPUT estimate) are supplied by a Turnkey System vendor. However Turnkey Systems are an increasingly popular means of supply of mini computers to the end user and the proportion of the population so supplied will increase.

- INPUT's estimate of the current size of the US domestic Turnkey Systems market is $325 M; it is also estimated that this market will grow at an average annual rate of 23% over the next five years.

D. TECHNICAL RECOMMENDATIONS

- Product user groups should be used to the fullest possible extent in determining existing product enhancements. Several vendors reported that their user groups vote on and then rank all product enhancements desired. Vendors, therefore, have a clear picture of where future technical product development should occur.

- A longer, more formal and more highly structured training program should be developed by systems software vendors. A prime reason for lengthening the training program is to raise the productivity of the personnel. Remote computing services vendors, for example, generate over 50% more revenue per sales person than do systems software vendors.

- Packages should be designed for demonstratability. The buyer wants to see the product output (even if only test data is used) on his own machine.

- Products must be technically sound and well documented. One of the most important assets of a vendor is the customer who can recommend a product to other prospects.

- Software vendors must carefully evaluate the impact of the movement of operating system functions into microcode by hardware vendors.

E. MARKETING RECOMMENDATIONS

- Systems software vendors must refine their lead-generating and follow-up methods in order to acquire new accounts with existing products. This strategy will generate more customers in the long run than the "cream skimming" approach of looking only for the quick sales.

- Systems software vendors must reconcile the difference between their image of trade press advertising and the buyers' image. Buyers expect to see vendor advertisements and actually claim to respond to ads when in need of a product. Vendors, however, are not satisfied with the number and quality of leads generated from the advertising.

- All systems software vendors should create strategies to exploit the use of direct mail and marketing survey techniques to generate more leads. These techniques have been extremely beneficial to the companies that have used them.

- Systems software sales in Europe are growing at a 61% annual rate. This is based on the survey for the 1979 ADAPSO Annual Report recently conducted by INPUT. Vendors should examine the economics of establishing direct sales organizations in Germany, France, England and the Benelux countries to exploit the growing popularity and acceptance of systems software in those markets.

- Systems software vendors must call higher in the prospect's organization to close sales faster. The buying decision point is at the vice president level for all major systems products, and for most other systems software products as well.

- Systems software vendors must become more marketing oriented and less product development driven when determining what new product should be added to their line.

- Vendors should seriously consider raising selected software maintenance rates to 15% of the product purchase price. This is especially true for complex software that is in a continual process of enhancement.

- Buyers of systems software indicated that vendors should have a greater degree of participation during the product evaluation process. Vendors should clearly heed this advice.

- Systems software vendors should perform careful market research before deciding to add any major products to their product line to ensure that the new product meets a real user need.

III STRUCTURE OF THE SYSTEMS SOFTWARE MARKET

III STRUCTURE OF THE SYSTEMS SOFTWARE MARKET

A. THE TOTAL INDUSTRY

1. PRODUCT DEFINITIONS

- Systems software products are software that enable the computer communications system to perform basic functions. System products are to be contrasted to application products as described in the definitions in Appendix A.

  - Systems operations products manage the computer system resource during applications program execution. Examples of such products are operating systems, DBMS, and communication monitors.

  - System utilization products utilize the computer system more effectively. Examples of such products are performance measurement systems, job accounting systems, and utilities.

  - Implementation system products prepare applications for execution by assisting in design, programming, testing and related functions. Examples of such products are languages, productivity aids, report writers, and program library systems.

- The terms product and package are used interchangeably in this report.

- Systems software is the generic term used to describe all packages of this class.

2. VENDOR TYPES

- Hardware manufacturers sell systems software and create the market for other vendors to sell systems packages.

  - Hardware manufacturers have historically given systems software to customers for a nominal fee or without charge.

  - Hardware manufacturers have concentrated on selling hardware so that software package development has been of secondary concern. This is reflected in sub-optimum package design, dependability, execution speed and maintenance support.

- Non-hardware manufacturers perceived that the market needed quality systems software that worked dependably and quickly, could be modified easily, and was well supported if problems arose in program execution.

  - Systems software vendors, therefore, designed products to fill the gap left by hardware manufacturers.

  - Some remote computing services (RCS) companies also sell systems software. RCS vendors have historically followed the lead of systems software firms in selling systems products. This may change as the RCS vendors search for ways to increase revenues. The potential of systems software makes it an attractive area for RCS vendors to consider.

3. MARKET DESCRIPTION

- The computer industry market forecasts are shown in Exhibit III-1. Systems software accounts for 9% of the total 1978 U.S. available market.

EXHIBIT III-1

COMPUTER SERVICES MARKET FORECASTS -
U.S. AVAILABLE REVENUES (1978-1983)

MODE OF SERVICE	$ MILLION		AVERAGE ANNUAL GROWTH RATE 1978-1983
	1978	1983	
PROCESSING			
REMOTE COMPUTING	$2,707	$6,885	21%
FACILITIES MANAGEMENT	1,082	2,410	17
BATCH	1,976	2,364	5
TOTAL PROCESSING	$5,765	$11,659	15%
SOFTWARE PRODUCTS			
SYSTEMS	$ 763	$3,150	33%
APPLICATIONS	473	1,235	21
TOTAL SOFTWARE PRODUCTS	$1,236	$4,385	29%
PROFESSIONAL SERVICES			
PROFESSIONAL SERVICES	$1,362	$2,515	21%
TOTAL	$8,363	$18,559	17%

- The data in Exhibit III-1 has been updated since the 1978 MAS Annual Report and is based on a new analysis of the systems software marketplace.

- The systems software segment of the market will grow at 33% per year through 1983. This forecast is derived from:

  - Interview data gathered for this study.

  - The 1979 ADAPSO survey carried out by INPUT.

  - A review of the revenue growth of major vendors.

B. HARDWARE VENDORS OFFERING SYSTEMS SOFTWARE

- Virtually all hardware vendors sell some systems software.

- Exhibit III-2 shows estimates of the systems software revenue generated by the major hardware manufacturers. Revenue includes package license sales, rentals and software maintenance charges for all systems software sold in the U.S.

- Hardware vendors, particularly those selling small computers, are unbundling their software from the total system price concept to individually priced packages. This trend is expected to continue over the next three to five years to the point where virtually all software sold will be unit priced.

C. SYSTEMS SOFTWARE VENDORS

- Independent systems software vendors account for 45% of the systems software market, or a total of $345 million dollars in 1978.

EXHIBIT III-2

ESTIMATED 1978 HARDWARE MANUFACTURERS' REVENUES FROM THE SALE OF SYSTEMS SOFTWARE IN THE U.S.

HARDWARE MANUFACTURER	1978 SYSTEMS SOFTWARE REVENUE ($ MILLION)	MARKET SHARE*
IBM	$ 250	33%
BURROUGHS	17	2
CDC	3	1
DEC (LARGE COMPUTERS)	3	1
H-P (LARGE COMPUTERS)	2	1
HONEYWELL (LARGE COMPUTERS)	8	1
NCR	6	1
UNIVAC	11	1
MINICOMPUTER MANUFACTURERS**	60	8
TOTAL	$ 360	47%

*SHARE OF TOTAL MARKET OF $763 MILLION DOLLARS
**INCLUDES DEC, HP, HONEYWELL AND OTHER VENDORS' REVENUE FROM MINICOMPUTER SYSTEMS SOFTWARE SALES, RENTALS AND MAINTENANCE

- There are approximately 500 independent vendors of systems software.
  - Seven vendors have revenue of $10 million or greater.
  - Twenty vendors each have annual revenue of between two and ten million dollars.
  - Less than two million dollars in annual revenue is generated by each of 465 vendors.
- The average systems software vendor generates slightly less than $700,000 of revenue annually. However, the 450 smallest companies each average $300,000 in annual revenue production.

D. ROLE OF THE RCS VENDORS

- RCS vendors followed independent systems software vendors into the systems package business. The 1979 ADAPSO Annual Report found that RCS vendors generate about 1% of their revenue from the sale of systems software.
- The RCS vendors presently account for about 8% of the total systems software market, but this share is expected to grow as these vendors acquire products or companies in this market segment. (For example, National CSS recently acquired Turnkey Systems).
- RCS vendors could potentially be a source of systems software packages in the future, whether they decide to sell their own internally developed packages to end users directly or to vendors who sell systems software.
  - Distributed processing and distributed data base software developed by RCS vendors could become a saleable product.

- Network and communications software that ties in minicomputers with large mainframes is another area where RCS vendors might develop saleable products.

- Operating system efficiency aids, utilities, and accounting systems could also be considered as potential systems packages of the future.

E. MARKET SIZE, SEGMENTATION AND GROWTH RATE

- Exhibit III-3 shows the forecast of the 1978 systems software market size. These figures indicate that 76% of the U.S. market for systems software is concentrated on IBM computers.

- The average IBM installation has at least four systems software packages, as shown in Exhibit III-4.

- The average IBM installation pays $22,500 for a new systems software package. The total spent on systems software annually per installation is $29,250.

EXHIBIT III-3

SYSTEMS SOFTWARE MARKET SIZE
FORECAST FOR 1978

HARDWARE MANUFACTURER	NUMBER OF INSTALLATIONS *	REVENUE PER INSTALLATION	ESTIMATED REVENUE ($ MILLION)	PERCENT
IBM	19,800	$ 29,250	$ 579M	76%
BURROUGHS	2,335	15,750	37	5
CDC	422	15,750	7	1
DEC (LARGE COMPUTERS)	863	15,750	14	2
HP (LARGE COMPUTERS)	908	15,750	14	2
HONEYWELL (LARGE COMPUTERS)	850	15,750	13	2
NCR	1,200	15,750	19	2
UNIVAC	1,295	15,750	20	2
MINICOMPUTERS**	N/A	N/A	60	8
TOTAL	N/A	N/A	$ 763M	100%

*BASED PRIMARILY ON COMPUTER INTELLIGENCE CORPORATION INFORMATION
**INCLUDES DEC, HP, HONEYWELL AND ALL SMALL COMPUTER MANUFACTURERS

EXHIBIT III- 4

SYSTEMS SOFTWARE PRODUCT INSTALLATIONS*

PACKAGE CATEGORY	CIC DATABASE COUNT	PROJECTED ACTUAL COUNT RANGE	AVERAGE PER INSTAL-LATION**
SYSTEMS OPERATIONS PRODUCTS	7,162	2,400-3,600	2
SYSTEM UTILIZATION PRODUCTS	4,043	13,000-20,000	1
IMPLEMENTATION SYSTEM PRODUCTS	4,872	16,000-24,000	1
TOTAL SYSTEMS PRODUCTS	16,077	53,000-80,000	4

*BASED PRIMARILY ON COMPUTER INTELLIGENCE CORPORATION INFORMATION
**ALL IBM 360/20 THROUGH 30 MODELS HAVE BEEN EXCLUDED FROM THE TOTAL IN DETERMINING AVERAGE NUMBER OF PRODUCTS PER INSTALLATION.

- An average of one new systems software package is acquired each year.

- Maintenance charges of 10% of the purchase price are paid on three additional systems packages, accounting for the total spent.

- Non-IBM installations buy a new systems package once every two years and pay maintenance charges for two additional packages each year for a total cost of $15,750 annually.

- The systems software market size and growth forecast are shown in Exhibit III-5. The overall market segment will grow at an average annual rate of 33%.

- Exhibit III-6 shows a forecast of market size and growth by systems software product type.

- The independent systems software vendors that participated in the study accounted for over 15% of the total systems software revenue and for over 33% of the total independent systems software companies revenue. Exhibit III-7 shows the respondents' 1978 revenue by system product type.

- The respondents sell a total of 70 products and have over 27,000 installations of those products.

- The 70 products of the respondents generated $116 million dollars of revenue in 1978.

EXHIBIT III-5

UNITED STATES SYSTEMS SOFTWARE MARKET SIZE
AND GROWTH FORECAST (1978 AND 1983)

VENDOR TYPE	MARKET SIZE		
	1978 REVENUE ($M)	1983 REVENUE ($M)	AAGR* 1978-1983
HARDWARE MANUFACTURERS			
IBM	$250M	$1,345M	40%
OTHER LARGE AND MEDIUM COMPUTER MANUFACTURERS	50	124	20
MINICOMPUTER MANUFACTURERS	60	223	30
TOTAL HARDWARE MANUFACTURERS	$360M	$1,692M	36%
REMOTE COMPUTING SERVICES COMPANIES	$ 58M	$ 177M	25
INDEPENDENT SYSTEMS SOFTWARE COMPANIES	$345M	$1,281M	30
TOTAL	$763M	$3,150	33%

*AVERAGE ANNUAL GROWTH RATE

EXHIBIT III-6

MARKET SIZE AND GROWTH FORECAST BY TYPE
OF SYSTEMS SOFTWARE PRODUCT

PRODUCT TYPE	MARKET SIZE		AVERAGE ANNUAL GROWTH RATE 1978-1983
	1978 REVENUE ($ MILLION)	1983 REVENUE ($ MILLION)	
SYSTEMS OPERATIONS	$ 389M	$ 1,637M	33%
SYSTEMS UTILIZATION	84	312	30
IMPLEMENTATION SYSTEMS	290	1,201	33
TOTAL	$ 763M	$ 3,150M	33%

EXHIBIT III- 7

RESPONDENT PRODUCT REVENUE STATISTICS
FOR 1978

PRODUCT TYPE	PRICE RANGE ($000)	NUMBER OF PRODUCTS	NUMBER OF INSTAL-LATIONS	1978 REVENUE ($000,000)	PERCENT OF REVENUE
SYSTEMS OPERATIONS	$4-132	22	8,200	$58.9	51%
SYSTEMS UTILIZATION	1.5-40	16	4,700	13.2	11
IMPLEMENTATION SYSTEMS	1-60	32	14,300	43.9	38
TOTAL	-	70	27,200	$116.0	100%

V SYSTEMS SOFTWARE VENDOR PROFILE

IV SYSTEMS SOFTWARE VENDOR PROFILE

A. SYSTEMS SOFTWARE VENDOR DESCRIPTION

- Systems software vendors sell software products that enable the computer/communications system to perform basic functions. The product areas are:

  - Systems operation which functions during application program execution to manage the computer system resource.

  - System utilization which is used by operations personnel to utilize the computer system more effectively.

  - Implementation systems which are used to prepare applications for execution by assisting in design, programming, testing, and related functions.

- Successful systems software firms have been categorized historically as entreprenuerial start-up operations that found a small market niche where a systems product could be used advantageously. Many of these companies had only one product to sell, and it was sold on the basis of low price and high quality.

- However, the profile of the successful systems software vendor has changed in the last five years.

  - There are still many entrepreneurial companies, but the start-up rate appears to be decreasing. Many of these companies now develop products for sale to other systems software vendors. Most software developers receive an ongoing royalty and occassionally an initial cash payment for their product.

  - The industry is also moving toward consolidation as some of the more established companies develop new product offshoots and acquire other products at a high rate. Most successful large systems software vendors have added an average of one new product a year to their product line for the last five years.

  - Sales forces of systems software vendors are increasing in size. In addition, as potential market penetration increases, the sales force needs new products to sell to maintain their present personal income level. Several vendors that had one sales person five years ago have a sales force of five or more today.

  - Systems software vendors of all sizes are acquiring products to sell. Since software packages can be acquired for little or no cash down payment, nearly anyone can find a product to market. Larger companies, like ADR, have acquired other companies with the sole purpose of adding software packages to their existing product line. One and two million dollar systems software vendors have acquired products on a royalty basis to bolster their product line. There have also been other cases where smaller, $100,000 companies have acquired additional products to supplement their existing line.

  - New program development is being stiffled in large companies because of the uncertain return of the investment. A new generation of large scale IBM computers has been expected for some years (System H), and

the threat of this new computer system has thwarted systems software development for new products. Product developers are unsure that new products would operate with the new IBM computer line.

- A list of leading systems software vendors and INPUT estimates of their 1978 systems software annual revenue is shown in Exhibit IV-1. INPUT interviewed 12 of the companies on this list.

B. SALES STRATEGIES

1. LEAD GENERATION

- The sales cycle begins with the generation of a lead: someone that might be a candidate to buy a product.

- It is instructive to examine the ways that systems software companies generate leads because several companies have developed techniques that appear to be very effective. Lead generation approaches are listed in Exhibit IV-2.

- The most commonly used approach for lead generation is trade press advertising. Virtually all respondents indicated that they used this technique.

  - About one-half of the respondents used the trade press to enhance company image or to foster company name recognition among potential buyers.

  - Nearly all respondents have used the trade press to announce or to stimulate interest in one product but have listed other products that are also available from the vendor in the ad copy.

EXHIBIT IV-1

ESTIMATES OF VENDORS' SYSTEMS
SOFTWARE REVENUES IN 1978

REVENUE	VENDOR
OVER $ 10 MILLION	APPLIED DATA RESEARCH, INC. CINCOM SYSTEMS, INC. INFORMATICS, INC. MRI SYSTEMS CORPORATION PANSOPHIC SYSTEMS, INC. SDI ASSOCIATES, LTD. SOFTWARE AG OF NORTH AMERICA, INC.
$2-10 MILLION	ALTERGO SOFTWARE, INC. BOOLE & BABBAGE, INC. CAPEX CORPORATION COMPUTER ASSOCIATES, INC. CULLINANE CORPORATION INNOVATION DATA PROCESSING JOHNSON SYSTEMS, INC. MATHEMATICA PRODUCTS GROUP THE COMPUTER SOFTWARE COMPANY TURNKEY SYSTEMS, INC. UNIVERSITY COMPUTING COMPANY VALUE COMPUTING, INC. WESTINGHOUSE ELECTRIC COMPANY WHITLOW COMPUTER SYSTEMS, INC.
LESS THAN $2 MILLION	DUQUESNE SYSTEMS, INC. DYLAKOR SOFTWARE SYSTEMS, INC. M. BRYCE & ASSOCIATES, INC. MANAGEMENT AND COMPUTER SERVICES, INC. SOFTWARE MODULE MARKETING, INC. SYNERGETICS UNIVERSAL SOFTWARE, INC.

EXHIBIT IV-2

RESPONDENTS' LEAD-GENERATING TECHNIQUES

VEHICLE/TECHNIQUE	NUMBER OF RESPONDING COMPANIES USING THIS APPROACH	LEVEL OF SATISFACTION WITH APPROACH*
TRADE PRESS ADVERTISING	10	2.3
MARKETING SURVEYS	2	4.5
SEMINARS	4	4.0
DIRECT MAIL	3	4.2
COLD CALLING	3	3.0

* MEASURED ON A 1 TO 5 SCALE WHERE 1 = LOWEST LEVEL OF SATISFACTION AND 5 = HIGHEST LEVEL OF SATISFACTION

- One company advertises only seminars on the general product area in the trade press. Several other vendors also advertise seminars but generally include the announcement as only one small element of the ad copy.

- Interestingly, although trade press advertising is used extensively, it is considered to be the least effective of the lead-generating techniques.

- Two companies are using marketing survey techniques to identify product prospects. The approach used is to call computer users to determine the user's reaction to the need for particular product(s). When users with specific product type needs are determined, their names are turned over to the sales force as leads to be qualified.

  - The people making the telephone calls to computer users may or may not be company employees (both techniques have been employed).

  - The products sold by the company are not identified in the market survey call, but the overall product type is identified. For example, a survey might be conducted on data base management systems, but IMS or DL/I would not be identified.

  - The list of computer users comes from the available lists in the industry (such as those from Computer Intelligence Corporation).

  - This lead-generating technique is considered to be very effective in creating new leads for the sales force and received the highest level of satisfaction rating from respondents.

- Respondents have found seminars describing problem areas and their product solutions to be very effective in generating qualified prospects (i.e., a prospect that has a need for a product).

- Participants typically responded to a direct mail flyer or an advertisement prior to signing up for the seminar.

- Seminars were rated very effective in generating product leads.

- Direct mail solicitations are used to generate product prospect leads. The effectiveness of this technique is very high because the direct mail piece can be designed to screen out prospects more easily than an advertisement because more room is available to say more in the direct mail piece.

- Few companies use the techniques of having the sales force cold call the computer community (only three respondents indicated that this was done). In other areas of business, most sales efforts require that new prospects be culled from every possible source just to be able to meet sales quota goals. It appears that few systems software companies have reached product penetration levels sufficient to require this amount of effort. Several respondents indicated that cold calling was not required because leads were generated from other sources in sufficient volume to keep the sales force occupied.

- Many systems software companies have not needed to refine their lead-generating or lead follow-up methods because it has been easier to add new products to generate incremental sales rather than to prospect, qualify, and close sales of existing products to new customers. The market obviously cannot sustain this "cream skimming" policy forever. However, many companies have successfully employed this approach for five or more years.

- The most commonly used advertising media for lead generation are shown in Exhibit IV-3. It is interesting to see that all trade press advertising is considered less than moderately successful. While all respondents indicated that press advertising was necessary for company name recognition and/or product identification, the quality of advertisement response they received was poor.

EXHIBIT IV-3

RESPONDENTS' LEAD GENERATION PRODUCTION

MEDIUM/SOURCE	AVERAGE NUMBER OF LEADS GENERATED PER YEAR PER COMPANY	QUALITY OF LEADS GENERATED*	AD SIZE RANGE
COMPUTER DECISIONS	800	2.3	1/8 TO 2 PAGES
COMPUTERWORLD	900	2.7	7" X 10" TO 2 PAGES
DATAMATION	1,650	2.6	1/8 TO 2 PAGES
ICP	150	2.0	N/A
INFOSYSTEMS	1,200	2.2	1/8 TO 2 PAGES
TRADE PRESS TOTAL	4,700	2.3	N/A
DIRECT MAIL	1,600	4.2	N/A
MARKETING SURVEY	2,300	4.5	N/A
OVERALL TOTAL	8,600	3.7	N/A

N/A = NOT APPLICABLE
*MEASURED ON A 1 TO 5 SCALE WHERE 1= LOWEST QUALITY AND 5= HIGHEST QUALITY

- The quality of leads generated was as high as it is because most companies felt that this method was necessary, even if closed sales could not be attributed to advertising. One respondent indicated that a $1 million annual advertising compaign generated 100 qualified leads, all of which came from INFOSYSTEMS or DATAMATION.

- Most respondents indicated that COMPUTERWORLD advertising was effective for company name identification only. Slightly less than one-half of the respondents expressed plans to drop all trade press advertising because of its lack of effectiveness.

- Nearly one-half of the average number of leads generated per company per year came from direct mail and marketing survey techniques. When you take lead generation effectiveness into account, direct mail and market survey are six to four favorites over trade press advetising.

- Respondents were asked to describe their measure of lead "quality."

  - One-half of the respondents indicated that closed sales were the main measure of lead quality.

  - One-third of the respondents indicated that lead quality was measured by job title and company of respondents.

  - One-fifth of the respondents indicated that lead quality was measured by the prospect having the right hardware and operating system for the vendor's product.

2. PROSPECT QUALIFICATION

- All respondents indicated that phone contact with the lead contact (prospect) is an important element of the sales cycle.

- One-half of the respondents try to close the prospect on a product trial or demonstration during the first phone conversation.

- One respondent uses the mail to solicit product trials on very simple products, but uses the phone to solicit trials on more complex products.

- One-half of the respondents indicated that the first phone call to the prospect is used to determine prospects product needs (need assessment). Based on the results of this conversation, the sales person will either drop the prospect, send more descriptive product literature, or push for a product presentation.

- Several respondents indicated that sales literature is designed to be self-qualifying for the prospect. This means that the prospect initiates the second series of discussions if he wishes to consider the product further.

3. SALES APPROACH

- One-half of the respondents indicated that sales strategy did not vary from product to product. The other half of the respondents expressed the following strategies by product type:

  - The major product offered by the vendor is sold by a direct sales force. Subsequent products are sold by the sales support staff.

  - Two companies use demonstrations for products that have easily visible effects, e.g., data base system is not easily demonstrable, but a system performance measurement tool is.

  - A sales support staff is used by two responding companies to sell the technical products in the product line.

  - One company sells a product to an end user group while the majority of its products are sold to the data processing group.

- There is a trend for systems software vendors to sell products to end users rather than the DP department. Users are involved with decisions to purchase software in the areas of data base management systems, report writers, and other end user oriented products.

- Vendors that offer demonstratable products push heavily for a free trial by the prospect. Most vendors have found that 50% to 80% of all free trials close.

- Systems software vendors generally either sell directly or use agents to sell for them. Only five joint venture arrangements are employed by systems software vendors and these are used by the largest vendors in the industry. The respondents' sales approaches used in various geographic markets are shown in ExhibitIV-4.

- Almost three-fourths of the respondents have at least some direct sales activity in Europe. Many vendors report significant revenue from their foreign operations.

- The trend is for more systems software companies to offer their products outside of the U.S. Several respondents also expressed an interest in changing many of the present agent relationships to direct sales organizations in response to increasing sales abroad. This trend does not yet apply to Japan, however, as the low level of activity there still warrants the use of agents rather than direct sales.

- One-fourth of the respondents use only the phone and mail as their direct sales approach in the U.S. Although these vendors are relatively small, they are considered to have excellent products, offer excellent service, and are very profitable.

- Slightly less than one-half of the respondents indicated that in-person sales calls were regularly made on the top DP executive of a prospect during the sales cycle. Another 25% indicated that they planned to do this in the future. Systems software companies that called on executives in the organization

EXHIBIT IV-4

SALES APPROACH USED BY RESPONDENTS
IN GEOGRAPHIC MARKETS

COUNTRY/ AREA	NUMBER OF COMPANIES USING THIS APPROACH			RESPONDENT AVERAGE OWNERSHIP	NUMBER OF RESPONDENTS USING MAIL AND PHONE ONLY TO SELL
	DIRECT SALES	AGENT	JOINT VENTURE		
U.S.A.	12	0	0	100%	3
CANADA	10	2	0	80	2
EUROPE	8	10	2	50	0
MIDDLE EAST	4	5	0	40	1
FAR EAST	2	8	0	20	1
MEXICO	4	2	2	50	1
CENTRAL AND SOUTH AMERICA	5	7	1	30	2

generally indicated that the sales cycle was smoother, but data gathered on the number of sales calls made prior to close of sale were inconclusive to support this statement.

- Those companies that call on the top DP executive do so an average of twice during the sales cycle.

  - One call is to introduce the company when necessary and to overview the product under consideration.

  - The other call is to finalize contract terms and have the order signed.

- The systems and programming manager or programming manager are generally called on an average of three times by the sales person. The project manager of the product evaluation, if different from the systems and/or programming manager, is also called on three or four times during the sales cycle.

- The technical evaluation group is generally called on once during the sales cycle. This group receives:

  - A product overview.

  - A technical product presentation (generally given by a sales support staff member).

  - A product demonstration where applicable.

- The majority of the respondents indicated that the sales cycle is changing. The most commonly voiced changes were:

  - The sales cycle must be oriented to the top DP executive.

- More users of DP services are participating in the decision process to acquire systems software. This is particularly true for data base management systems, report writers, and similar general use products.

- Respondents were asked to estimate the number of sales calls made prior to a prospect being dropped or until the sale closed.

  - The average number of on-site sales calls made on a prospect before dropping that prospect was seven calls, with a range of one to almost never.

  - The average number of on-site sales calls made on a prospect prior to closing a sale was five calls, with a range of one to twelve.

- Respondents should closely examine the utility of working prospects that will not close easily. With few systems software vendors approaching saturation with their products in the market, they would be better off calling on new prospects rather than spending time talking to users who do not buy.

C. EFFECTIVE MARKETING

1. NEW PRODUCT DEVELOPMENT

- New products provide the life blood for systems software vendors. Many vendors have been adding an average of one new product per year for the last five years.

- Respondents were asked to determine the critical factors that created an impetus for the additions of new products to the product line. The responses are tabulated in Exhibit IV-5.

EXHIBIT IV-5

RESPONDENTS' PERCEPTION OF WHY NEW PRODUCTS ARE CREATED*

FACTOR	COMPANY												TOTAL	AVERAGE
	1	2	3	4	5	6	7	8	9	10	11	12		
REQUIREMENT PERCEIVED BY SALES FORCE AND NOT OFFERED BY COMPETITOR	1	2	3	1	1	5	5	3	4	1	5	3	34	2.8
LOSS TO COMPETITION	1	1	3	1	5	3	2	1	3	3	1	1	25	2.1
RESULT OF IN-HOUSE DEVELOPMENT	1	4	3	1	3	2-3	3	2	1	5	2-3	2	30	2.5
MARKET RESEARCH PERFORMED IN-HOUSE	1	1	5	1	5	1	4	5	2	1	1	4	31	2.6
MARKET RESEARCH PERFORMED BY CONSULTANT	1	1	2	1	1	1	1	4	1	1	1	2	17	1.4
NEW HARDWARE INTRODUCED BY HARDWARE MANUFACTURER	1	1	3	1	2	3-4	1	1	1	3	3	3	23.5	2.0
TREND TO ON-LINE PROCESSING	1	3	4	1	4	3-4	1	3	4	2	5	3	34.5	2.9
DECISION TO SPECIALIZE BY INDUSTRY	1	1	5	1	1	1	1	1	1	1	1	4	19	1.6

*FACTORS ARE RATED ON A ONE TO FIVE SCALE WHERE 5= MOST IMPORTANT AND 1= LEAST IMPORTANT

- Respondents appear to be primarily development oriented on new product additions. Three out of four of the top rated factors indicate more concern with development than with marketing.

- The most important factor in new product additions is the trend to on-line processing. Respondents believed that this trend is having an impact on their product decisions when evaluating new product opportunities.

- The second most important factor in new product additions is a requirement perceived by the sales force and not offered by a competitor. Given the technical background of many of the systems software sales personnel, this factor also indicates more of a reliance on the technical staff than on marketing-oriented people.

- Respondents rated market research performed in-house as the third most important factor in new product additions. Only one respondent indicated that market research performed by a consultant would be acceptable to top management. This fact reinforces the conclusion that most systems software organizations are driven by the technical group rather than by the marketing group.

- The factor rated fourth was that new products were the result of in-house development. Respondents indicated that this type of development activity typically was done without formal market research input. Furthermore, this activity was often stimulated by the entrepreneurial owner who had started the original business by developing a product that the owner felt was needed in the marketplace. This decision was nearly always made without the benefit of market research to verify the product need in the marketplace. History has shown these few entrepreneurs to be correct in their market assessments to date, but the risk of failure from product development based on "gut" feeling can be very high.

EXHIBIT IV- 6

RESPONDENTS' REVENUE PRODUCTION
PER SALES PERSON

COMPANY	REVENUE PRODUCTION PER SALES PERSON ($M)
1	$ 1.85
2	1.00
3	0.55
4	0.55
5	0.35
6	0.31
7	0.30
8	0.29
9	0.25
10	0.21
11	0.18
12	0.08
AVERAGE	$ 0.39

APPENDIX A: DEFINITION OF TERMS

APPENDIX A: DEFINITION OF TERMS

COMPUTER SERVICES. These are services provided by vendors which perform data processing functions using vendor computers (processing services) or assist users to perform such functions on their own computers (software products and/or professional services).

PROCESSING SERVICES. Processing services encompass facilities management, remote computing services, and batch services: they are categorized by type of services bought by users as follows:

- General Business services are processing services for applications which are vendor; this can be a complete package, such as a payroll package, or an applications "tool," such as a budgeting model, where a user provides much of the customizing of the finished product it uses. General business processing is often repetitive and transaction oriented.

- Scientific and Engineering services are the processing of scientific and engineering problems for users across industries. The problems usually involve the solution of mathematical equations. Processing is generally problem solving and is non-repetitive, except in the sense that the same packages or "tools" are used to address different, but similar, problems.

- Industry Specialty services provide processing for particular functions or problems unique to an industry or industry group. The software is provided by the vendor either as an industry or industry group. The software is provided by

the vendor either as a complete package or as an applications "tool" which the user employs to produce its unique solution. Specialty applications can be either business or scientific in orientation; data base services, where the vendor supplies the data base and controls access to it (although it may be owned by a third party), are also included under this category. Examples of industry specialty applications are: seismic data processing, numerically-controlled machine tool software development, and demand deposit accounting.

- Utility services are those where the vendor provides access to a computer and/or communications network with basic software that enables any user to develop its own problem solution or processing system. These basic tools include terminal handling software, sorts, language compilers, data base management systems, information retrieval software, scientific library routines, and other systems software.

SOFTWARE PRODUCTS. This category includes users' purchase of applications and systems packages for use on in-house computer systems. Included are lease and purchase expenditures, as well as fees for work performed by the vendor to implement and maintain the package at the users' sites. Fees for work performed by organizations other than the package vendor are counted in professional services. The sub-categories of software products are:

- Application Products are software which perform processing to serve user functions. They consist of:

  - Cross-industry products which are used in multiple user industry sectors. Examples are payroll, inventory control, and financial planning.

  - Industry specialized products which are used in a specific industry sector such as banking and finance, transportation, or discrete manufacturing. Examples are demand deposit accounting and airline scheduling.

- System Products are software that enable the computer/communications system to perform basic functions. They consist of:

  - System operations products which function during applications program execution to manage the computer system resource. Examples include operating systems, DBMS, communication monitors, emulators, and spoolers.

  - System utilization products which are used by operations personnel to utilize the computer system more effectively. Examples include performance measurement, job accounting, computer operations scheduling, and utilities.

  - Implementation system products which are used to prepare applications for execution by assisting in designing, programming, testing, and related functions. Examples include languages, sorts, productivity aids, data dictionaries, report writers, project control systems, program library management systems, and retrieval systems.

PROFESSIONAL SERVICES. This category is made up of services related to EDP including systems design, custom/contract programming, consulting, education and training. Services are provided on the basis of:

- Time and Materials - The billing rate is measured in units of time rather than actual costs.

- Fixed Price - A firm price is agreed upon for a defined piece of work.

- Cost Plus Fee - The billing rate depends on actual costs plus a fixed fee.

Remote Computing Services. Provision of data processing to a user by means of terminals at the user's site(s) connected by a data communications network to the vendor's central computer. The three sub-modes of RCS are:

- Interactive (timesharing) is characterized by interaction of the user with the system, primarily for problem solving timesharing but also for data entry and transaction processing: the user is on-line" to the program/files.

- Remote Batch is where the user hands over control of a job to the vendor's computer which schedules job execution according to priorities and resource requirements.

- Data Base inquiry is characterized by the retrieval of information from a vendor-maintained data base. This may be owned by the vendor or a third party.

Batch Services. This includes data processing performed at vendors' sites of user programs and/or data which are physically transported (as opposed to electonically by telecommunications media) to and/or from those sites. Data entry and data output services, such as keypunching and COM processing, are also included. Batch services include those expenditures by users which take their data to a vendor site which has a terminal connected to a remote computer used for the actual processing.

Facilities Management (FM). (Also referred to as "Resource Management" or "Systems Management.") The management of all or part of a user's data processing functions under a long-term contract (not less than one year). To qualify as FM, the contractor must directly plan and control as well as operate the facility provided to the user on-site, through communications lines, or, mixed mode. Simply providing resources, even though under a long-term contract, and/or providing for all of a users' processing needs, does not necessarily qualify as FM.

APPENDIX B: RELATED INPUT REPORTS

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TITLE	PUBLICATION DATE	PRICE
Computer Services Industry 1978 Annual Report	Nov 1978	£ 200
1979 ADAPSO Annual Report	July 1979	£ 350
Impact Of Marketing compensation Plans In The Computer Services Industry - Impact Report #7	Dec 1977	£1,250
Sales And Sales Support Training - Impact Report #3	June 1979	£1,000
Data Base Systems Software Markets - Impact Report #8	May 1978	£ 750
Acquisition Strategies For Computer Services - Companies - Impact Report #12	Mar 1979	£1,250
Opportunities In User Site Hardware Services - Impact Report +11	Feb 1979	£1,000
Trends In Services And Software Pricing - Impact Report #9	July 1978	£ 750

APPENDIX C: DEC TURNKEY VENDOR CONTACTS

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COMPANY	ADDRESS	CONTACT	TEL. NO.
Agency Data Systems	140 N. Westshore Blvd. Suite 111 Tampa FL 33607	Ray Pierce V.P. Sales	(800) 237-2547
Creative Data Sys.	481 Farmington Avenue Hartford, Connecticut	John Grise President	(203) 232-7048
DIVA	607 Industrial Way Eantown N.J.	Jim Kelly Project Manager	(201) 544-9000
IRD Inc.	Farmingdale N.Y.	Dale Fisher Director of Eng.	(516) 249-6200
Martin Marrietta Data Systems	300 East Joppa Road Baltimore MD 21204	Carl Smith	(301) 321-5743