

U.S. INFORMATION SERVICES  
VERTICAL MARKETS, 1986-1991  
INSURANCE SECTOR

DECEMBER 1986



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CONTENTS

	<u>Page</u>
I ISSUES, TRENDS, AND EVENTS .....	III-IN-1
A. Introduction	III-IN-1
B. Life	III-IN-2
C. Property/Casualty	III-IN-5
D. Health	III-IN-10
E. Reinsurance	III-IN-12
II MARKET FORECASTS.....	III-IN-13
A. Introduction	III-IN-13
B. Life and Health	III-IN-16
C. Property/Casualty	III-IN-16
D. Other Insurance	III-IN-19
III COMPETITIVE DEVELOPMENTS .....	III-IN-21
A. Introduction	III-IN-21
B. Vendor Profiles	III-IN-23
1. ARC/AMS	III-IN-23
2. Advanced System Applications, Inc.	III-IN-25
3. The Continuum Company	III-IN-26
4. CYBERTEK Computer Products	III-IN-28
5. Equifax, Inc.	III-IN-30
6. ISI Systems, Inc.	III-IN-32
7. Information Systems of America, Inc.	III-IN-34
8. Packaged Automated Life/Liability Management Inc.	III-IN-35
9. Policy Management Systems Corporation	III-IN-38
10. Redshaw, Inc.	III-IN-41
IV INFORMATION SYSTEMS DEPARTMENT .....	III-IN-43
APPENDIX IN-A: FORECAST DATA BASE .....	III-IN-47
APPENDIX IN-B: FORECAST RECONCILIATION .....	III-IN-53



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VERTICAL MARKETS, 1986-1991  
INSURANCE SECTOR

EXHIBITS

		<u>Page</u>
I	-1 Lines of Life Insurance Policies Available	III-IN-3
	-2 Property/Casualty Product Lines	III-IN-6
II	-1 Insurance Sector Market Forecast Comparison, Industry-Specific Information Services, 1986-1991	III-IN-14
	-2 Insurance Sector Forecast, Industry-Specific Information Services, 1986-1991	III-IN-15
	-3 Life and Health Segment Forecast, Industry-Specific Information Services, 1986-1991	III-IN-17
	-4 Property/Casualty Segment Forecast, Industry-Specific Information Services, 1986-1991	III-IN-18
	-5 Other Insurance Segment Forecast, Industry-Specific Information Services, 1986-1991	III-IN-20
III	-1 Vendor Shares of Insurance Sector Industry-Specific Information Services in 1985	III-IN-22
IV	-1 1986 Budget Distribution and 1986/1987 Changes in the Insurance Sector	III-IN-44
IN-A	-1 Insurance Industry Sector, Industry-Specific User Expenditure Forecast, 1986-1991	III-IN-48
	-2 Insurance Industry Sector, Life and Health Segment	III-IN-49
	-3 Insurance Industry Sector, Property/Casualty Segment	III-IN-50
	-4 Insurance Industry Sector, Other Insurance Segment	III-IN-51
IN-B	-1 Insurance - Data Base Reconciliation of Market Forecast By Delivery Mode	III-IN-54



## I ISSUES, TRENDS, AND EVENTS

### A. INTRODUCTION

- The segments included in the insurance sector forecast are:
  - Life.
  - Property/casualty.
  - Health.
  - Reinsurance.
- Life and property/casualty agents and brokers are covered in their respective segments.
- Credit insurance is included in life.
- Health insurance policies are underwritten by life and property/casualty insurance companies as well as health insurance companies.
- Medicare/Medicaid is included in health.





## B. LIFE

- The life insurance segment continues to feel the impact of diversification into financial areas.
  - During the past decade, life insurance companies have responded to the thrust of banks' entrance into insurance activities by introducing new products with enhanced investment characteristics.
    - These new products include universal life, variable life, and universal variable or flexible premium variable life insurance policies. Exhibit I-1 describes the different product lines of life insurance offered.
  - Despite the Federal Reserve Bank's decision to reject Citicorp's attempt to acquire a South Dakota bank in order to market insurance services nationwide, and despite the failure of Congress to enact legislation permitting depository institutions to sell insurance, bank entry into insurance seems inevitable.
    - In addition to deregulation, legislation or proposed legislation that will affect the life insurance sector include the Gramm-Rudman tax reform act and proposed legislation that would prohibit gender-based rate setting.
- The life insurance segment is dominated by direct writers. Although this segment is facing increased competition from benefits consultants for group business, full service financial planners, and other financial institutions, some insurers are converting their direct agent networks into independent brokers who (initially) primarily handle their former companies' products.



**EXHIBIT I-1**

**LINES OF LIFE INSURANCE POLICIES AVAILABLE**

<b>Universal Life</b>	<b>Policy holder can vary the amount of insurance protection and the size and timing of premium payments.</b>
<b>Variable Life</b>	<b>The death benefit varies according to a stock fund's performance. The premium payments are fixed.</b>
<b>Flexible Premium Variable Life</b>	<b>Combines premium payment flexibility of universal life insurance with equity-based death benefit of variable life insurance.</b>
<b>Whole Life</b>	<b>Provides death benefit at insured's death. The premium payments are fixed. The policies have a cash value against which loans can be made at an interest rate specified in the policy.</b>
<b>Term Life</b>	<b>Death benefit is payable only if the insured dies within the period specified in the policy. Premium payments are fixed.</b>



- The introduction of interest-sensitive products has developed the need to monitor investment rates in order to offer attractive and competitive products and to supply agents with information systems that will aid them in constructing policies that fulfill individual customer needs.
  - Heavy emphasis has been placed on systems that support the marketing, administration, and processing of these new complex policies.
    - While many insurers have purchased software or contracted for outside processing services, CIGNA has contracted for Cybertek Computer Products to provide total facilities management for the sale and administration of its group universal life policies.
  - Although the relationship between the direct writer insurance company and its agents has been weakening in past years, the proliferation of new and more complex products has pushed some companies into offering financial incentives to agents for purchase of personal computers.
- Another trend in this segment is a change from a product orientation to a customer orientation. Although there is an interest in systems that allow single-file access to all of a customer's policies, rather than access to the customer's policy within each product line file, development and implementation of customer data base systems is currently low.
- While individual life insurance continues to be the principal type of life insurance protection, group life insurance is growing rapidly. Credit life insurance is also growing, although from a much smaller base.
  - Group life insurance contracts are issued to employers, unions, professional associations, and other groups.



- Credit life insurance is designed to pay the balance of loans if the borrower should die before repaying the amount due.

### C. PROPERTY/CASUALTY

- There is a trend toward the use of the term liability instead of casualty.
- Exhibit I-2 describes the different types of property/casualty policies available.
- The property/casualty segment of the insurance industry is beginning to show the first signs of recovery from the hard years between 1979 through 1985.
  - In the late 1970s and early 1980s, premiums were dramatically lowered to compensate for excessively high premiums charged between 1974 through 1978.
  - During the high interest rate years of 1980 through 1982, underwriting losses were offset by investment income.
  - During 1983 and 1984, investment income declined as interest rates dropped and underwriting losses increased as insurance companies struggled to gain market share by maintaining or further lowering premiums. Large settlements awarded to claimants during the past few years have also contributed to the tight market conditions. Operating earnings after tax for the industry as a whole were lowest in 1984 and 1985.
  - During 1985 and early 1986, insurance companies have either maintained premiums while increasing productivity and lowering or maintaining expenses or have increased premiums dramatically.





## PROPERTY/CASUALTY PRODUCT LINES

### PERSONAL LINES

- **Auto**                      Covers bodily injuries and property damages caused by insured and/or sustained by insured and passengers.
- **Residential**              Covers damages to the residence due to fire, windstorm, and other common perils, theft of personal property, and legal liability for bodily injury or damage to property of others.

### COMMERCIAL LINES

- **Property**                      Covers damages due to allied lines (sprinkler leakage, flood, earthquakes, business income, and extra expense), marine, crime, suretyship, and other property lines.
- **Liability**                      Covers insurance benefits that are payable to a third-party to which the insured is legally responsible.
- **General Liability**              Includes the following two sublines
  - **Contractual**                      Covers losses that arise from a business's assumption of liability under a written or oral contract.
  - **Products or Completed Operations**              Covers losses that arise from the sale, manufacturing, handling, or distribution of the insured's products.



PROPERTY/CASUALTY PRODUCT LINES

● **Liability (Cont.)**

- **Workers Compensation**      **Covers work-related injury, death, and disease for employees regardless of fault.**
- **Professional**      **Includes the following three sublines**
  - **Malpractice**      **Coverage for medical professionals against loss for damages from alleged error in the performance of the insured's services.**
  - **Errors and Omissions**      **Covers against losses from others resulting from failure, through error or unintentional omission, on the part of the policy holder.**
  - **Directors' and Officers'**      **Protects directors and executives against financial claims arising from errors in judgement, omissions, breach of duty and wrongful acts related to their business activities.**
- **Umbrella**      **Covers against losses in excess of amounts covered by other liability insurance policies. Also protects the insured in many situations not covered by usual liability policies.**



- The effects of these past trends are widespread.
  - The relationship between insurance companies and agents is changing. Insurance companies are relying more heavily on agents to write higher premium volumes in order to remain competitive. Many insurance companies are cutting back on the number of agents used, retaining the larger volume agents while cancelling agents who do not meet premium volume guidelines.
  - Both direct writers and independent agent insurance companies are pressuring their agents to automate.
    - Some companies, such as Aetna Life and Casualty and Travelers Corporation, offer financing assistance or other incentives in order to tempt agents into automating.
    - Other insurance companies have set up two-tiered commission schedules where agents who provide underwriting as well as scheduling and claims administration services receive higher commissions than agents who only provide underwriting.
    - One result of the push to automate independent agents is a trend for these agents to become more like brokers, in effect losing some of their independent status.
  - Insurance companies are tightening underwriting standards and lowering liability limits partially in response to large settlements awarded to claimants in recent years and to underwriting losses in general.
    - Insurance companies need a larger number of policies at the lower liability limits in order to maintain market share.



- Many companies are having difficulty in obtaining or affording coverage for umbrella, general product, and/or professional directors' and officers' liability. Some companies are going without insurance while others have banded together to form captive insurers, insurance companies that are financed by their own policyholders.
  - There is great pressure upon the government from business and professionals to institute uniform standards and award limitations for commercial professional and product liability.
- Some insurance companies are entering new markets by acquiring companies that provide software and services to the insurance industry.
  - A few insurance companies have formed or acquired information services companies to provide software and services outside the insurance industry.
- The implications to information services vendors of these issues include the following:
  - Property/casualty companies are developing new or enhancing existing claims processing systems in efforts to reduce one of the most significant cost areas in the property/casualty segment.
  - Casualty rating systems are needed to assist underwriters in analyzing risks and setting premiums while insurers are tightening underwriting standards.
  - Agent support systems are of high priority to increase agent productivity and to lower costs.





#### D. HEALTH

- The health insurance segment is under tremendous pressure from employers/customers to contain costs as premiums have increased steadily and dramatically in the past decade.
  - Although rising medical care costs are the major factor for increasing premiums, administrative and clerical errors also contribute to the increase in premiums. Hospital billing errors are commonplace, but especially for hospital bills over \$10,000. Errors range from billing for unperformed surgical procedures to gross overcharges for medical supplies such as sterile gloves or pills.
    - Some employers are scrutinizing their bills more carefully or hiring outside auditors to review them. Other employers have set up incentive plans for employees to catch errors on their individual bills.
    - Insurance companies are feeling the heat because employers do not believe they are aggressive enough in uncovering hospital errors or their own errors.
  - This segment is facing intense competition from organizations that employers/customers have turned to in order to reduce health care benefit costs.
    - Health maintenance organizations (HMOs) provide medical care to members using physicians and facilities affiliated with the HMO for a fixed annual fee.
    - Preferred provider organizations (PPOs) allow members to receive medical care from the physicians of their choice for a fixed annual fee.



- Self-insurers are usually large corporations that choose to insure themselves for all but major medical expenses.
- Individual physicians and local or regional hospitals have banded together to form physician or hospital cooperatives in order to share overhead expenses and reduce prices to patients.
- Health insurers must offer contemporary flexible benefit plans to fulfill individual employer/customer needs and offer services such as prepayment audits in order to survive.
- The implications these issues have on information vendors include the following:
  - Claims processing systems must be improved to lower costs. Cost management features such as the ability to process second opinions claims, ambulatory surgery, and PPOs as well as to provide prepayment audits need to be included in claims processing systems.
  - In other attempts to reduce costs and errors, claims processors are moving from batch to on-line systems.
  - Health insurance marketing systems must be flexible as insurers build benefit plans to suit individual customers' needs.
- The federal government is exerting pressure on hospitals to reduce health care costs. The federal government has changed from a cost reimbursement payment system to a fixed-fee or prospective-payment system for its Medicaid, Medicare, and other medical assistance programs.



- Hospitals and other providers to Medicaid/Medicare patients need information systems that will provide cost-based accounting and claims administration and processing.

#### E. REINSURANCE

- Reinsurance is an arrangement by which one insurer transfers all or part of its risk under a policy or group of policies to another insurer (reinsurer). The net effect is the reduction of risk to the original insurer. Reinsurance is primarily taken out for life and property/casualty insurance policies.
- This segment is facing similar problems to those of the property/casualty segment.
  - Reinsurance was underpriced in recent years, and currently insurers are not able to collect from reinsurers that have gone out of business or are in deep financial trouble.
- The reinsurance capacity shortage stems from the reluctance of reinsurers to take an additional reinsurance business or, in some cases, accept reinsurance of particular risks.
- In addition to the standard insurance applications, such as claims processing and financial reporting, reinsurers also need unique applications which include processing of ceded and assumed risks, contracts permitting syndication, quota share, treaty abstract, calculations or reinsurance, retrocession, reinstatement, and currency conversion.



## II MARKET FORECASTS

### A. INTRODUCTION

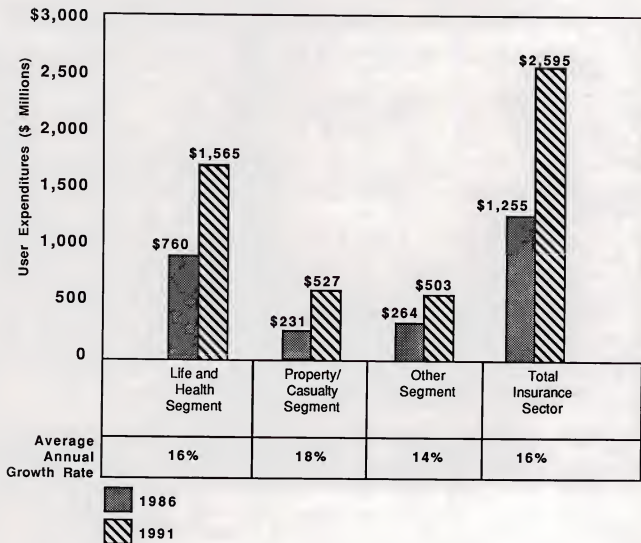
- The insurance sector includes organizations that fall into SIC codes 63 and 64. These include carriers for life insurance; accident and health insurance; medical service plans; fire, marine, and casualty insurance; surety insurance; title insurance; and pension, health, and welfare funds.
- INPUT divides the insurance sector into three segments: life and health (which also includes pension, health and welfare funds and Medicaid/Medicare), property/casualty (which also includes surety and title insurance), and other insurance (which also includes agents and brokers).
- User expenditures of industry-specific information services for the insurance sector will grow 16% annually through 1991, increasing from \$1.3 billion in 1986 to \$2.6 billion in 1991. For details, please see Exhibits II-1, II-2, and IN-A-1.
- Exhibit IN-A-1 contains the forecast data base for each year from 1985 to 1991 for the total insurance sector as well as for the life and health, property/casualty, and other insurance segments.





EXHIBIT II-1

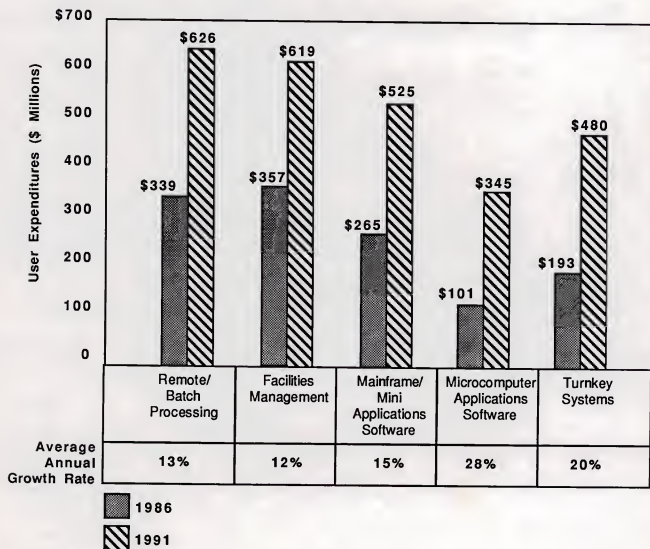
INSURANCE SECTOR MARKET FORECAST COMPARISON  
INDUSTRY-SPECIFIC INFORMATION SERVICES,  
1986-1991





# EXHIBIT II-2

## INSURANCE SECTOR FORECAST INDUSTRY-SPECIFIC INFORMATION SERVICES, 1986-1991





## B. LIFE AND HEALTH

- The life and health marketplace consists of a few major players for each segment--life, health, and Medicaid/Medicare--and a greater number of smaller vendors.
- Life and health information services will grow 16% annually through 1991, increasing from \$760 million in 1986 to \$1.6 billion in 1991.
  - Total Medicaid/Medicare information services will be \$500 million in 1986 will be split between the state and local government sector and the insurance sector. Medicaid/Medicare for the life and health insurance segment will total \$295 million, with \$197 in processing facilities management and the remaining \$98 million in remote computing services.
  - Mainframe/mini and microcomputer applications software for the life and health segment are expected to grow 14% and 29%, respectively, through 1991. Turnkey systems are expected to grow at 21% annually and processing services at 15% annually. For details, see Exhibits II-3 and IN-A-2.

## C. PROPERTY/CASUALTY

- The property/casualty marketplace is dominated by Policy Management Systems Corporation (PMS). However, a few other vendors are gaining market share and are beginning to compete directly with PMS.
- Property/casualty information services will grow 18% annually through 1991, increasing from \$231 million in 1986 to \$527 million in 1991, as shown in Exhibits II-4 and IN-A-3.



# EXHIBIT II-3

## LIFE AND HEALTH SEGMENT FORECAST INDUSTRY-SPECIFIC INFORMATION SERVICES, 1986-1991

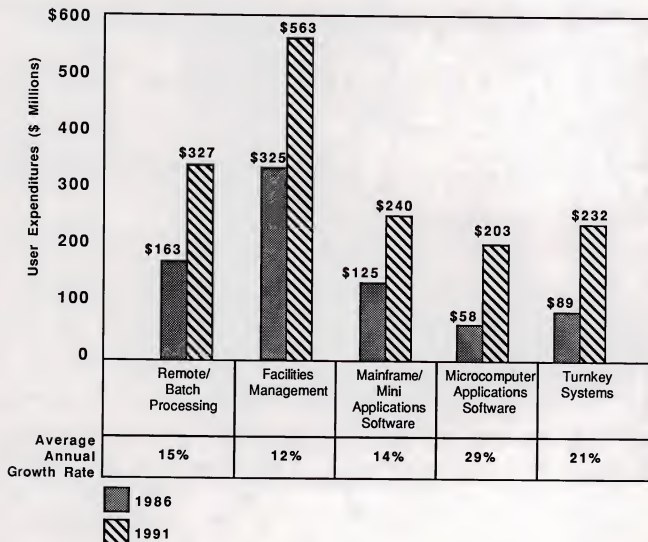
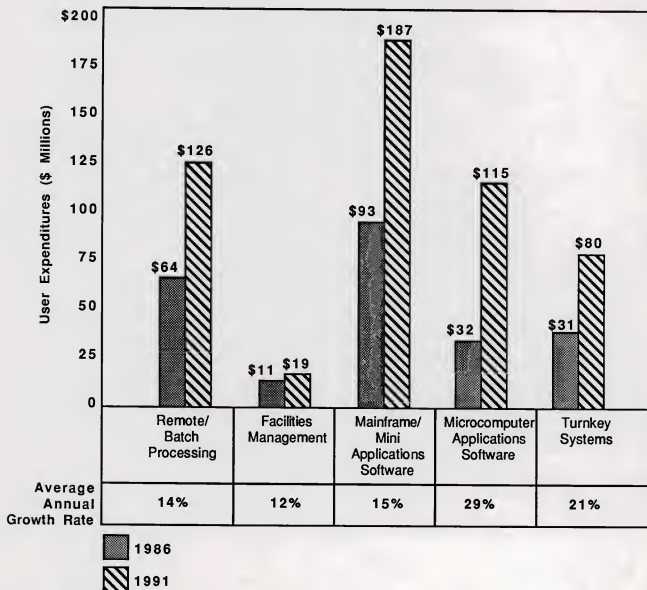






EXHIBIT II-4

PROPERTY/CASUALTY SEGMENT FORECAST  
INDUSTRY-SPECIFIC INFORMATION SERVICES,  
1986-1991





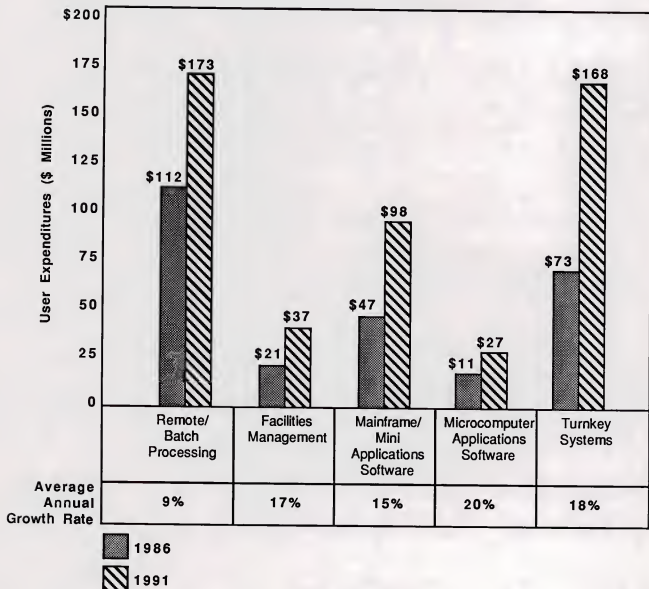
#### D. OTHER INSURANCE

- The other insurance segment will grow at 14% annually, as shown in Exhibits II-5 and IN-A-4. The push for agents to automate is fueling growth in this segment, while the elimination of smaller, lower-premium, volume agents is offsetting the growth.



EXHIBIT II-5

OTHER INSURANCE SEGMENT FORECAST  
INDUSTRY-SPECIFIC INFORMATION SERVICES,  
1986-1991





### III COMPETITIVE DEVELOPMENTS

#### A. INTRODUCTION

- The insurance information services market is characterized by:
  - The presence of large, well established vendors.
  - The growing number of information services vendors owned by an insurance carrier or group of insurance carriers.
- The market shares of the leading vendors in the insurance sector are shown in Exhibit III-1.
- Leaders in the life insurance market include: The Continuum Company; Cybertek Computer Products; and PALLM.
- Leaders in the health insurance marketplace include: Advanced System Applications; Erisco; Dyer, Wells and Associates; McDonnell Douglas Information Systems Group; and Electronic Data Systems (EDS).
- Leaders in the Medicaid/Medicare market include: The Computer Company; System Development Corporation; EDS; Computer Sciences Corporation; and McDonnell Douglas Information Systems Group.





## EXHIBIT III-1

**VENDOR SHARES OF INSURANCE SECTOR INDUSTRY-SPECIFIC  
INFORMATION SERVICES IN 1985  
(\$ MILLIONS)**

	Segment	Processing Services	Applications Software	Turnkey Systems	Total	Percent Share of Total Insurance I.S. (1985)
ARC/AMS	Property/ Casualty Agency	\$16		\$ 24	\$40*	4%
Advanced System Applications	Health	4	\$ 30		34*	3%
The Continuum Company	Life, Health	8	16		24*	2%
Cybertek Computer Products	Life	9	13		22*	2%
Equifax	Property Casualty Agency	124	8		132*	12%
ISI Systems	Property Casualty	15	10		25*	2%
Information Systems of America	All Segments		6		6*	1%
PALLM	Life, Property/ Casualty		9		9*	1%
Policy Management Systems	Property/ Casualty	39	37	6	82*	7%
Redshaw	Agency/ Broker			40	40*	4%
Total		\$215	\$129	\$ 70	\$414*	38%

\* Excludes professional services revenue



- Leaders in the property/casualty market include: Policy Management Systems; PALLM; and ISI Systems.
- Leader in agency market include: ARC/AMS; Information Systems of America; AGENA; Insurnet; Redshaw; and Equifax.

## B. VENDOR PROFILES

### I. ARC/AMS (One Heritage Drive, North Quincy, MA 02171)

#### a. Products/Services

- ARC/AMS provides IBM Series I-based minicomputer and IBM PC-based microcomputer turnkey systems and batch and remote batch processing services.
  - Available software modules for turnkey systems are:
    - ARC/AMS Series I: Accounting, billing, daily retrieval, claims, client services, diary, insured reporting, system control, letter-writer, query, and marketing (prospecting and sales analysis).
    - ARC/AMS Micro: Accounting, billing, claims, marketing (profiling and query), daily retrieval (forms and interface), and diary.
    - ARC/AMS Micro can be used as a standalone system, as a terminal to the ARC/AMS Series I system, or as a workstation networked to an IBM AT control unit.



- "The Batch Service" provides batch and remote batch processing services.
  - Available systems include the Full Basic, TrimPak-1, TrimPak-2, Agent-Rite Claims, payroll, accounting, consolidation package, central management reporting, and surplus lines tax program.
- Two software packages, ARC Batcher and Batcher PC, are offered for use in conjunction with ARC/AMS processing services. The packages run on IBM PC, PC/XT, or PC/AT microcomputers.

b. Markets Served

- ARC/AMS provides products and services to independent agents/brokers within the insurance industry sector.

c. Company Strategy

- ARC/AMS is an industry innovator in agency/company interface development.

d. Recent Activities

- ARC/AMS has assembled the "Agency Team" to assist its users in determining the best marketing and equipment service vendors in their fields. There are currently seven Agency Team members for field engineering service, extended training, marketing products and services, appraisal services, forms and supply products, automation consulting, and integrated rating.
- INPUT estimates that ARC/AMS' 1985 revenue was \$40 million.



2. ADVANCED SYSTEM APPLICATIONS, INC. (One ASA Plaza, Bloomington, IL 60108)
  - a. Products/Services
    - Advanced System Applications, Inc. (ASA) provides on-line application software and data processing services.
    - ASA's IBM mainframe software products include the following:
      - Claims Administration and Payment System (CAPS) covers basic, major medical, comprehensive, disability, dental, and vision health insurance plans.
      - Claims Administration System (CASII) processes medical, dental, and vision claims.
      - CAPSule is a health claims reporting system.
      - Advanced DentaLogic Subsystem (DLS) automates the methodology of American Dental Examiner, Inc.'s Dental Claim Manual.
      - ACCESS converts data to the CAPS standard and creates a new eligibility file for updating records.
      - ADMIN is a group billing and administration system.
    - Remote processing applications available include CAPS, ACCESS, and selected CAPSule reports.





b. Markets Served

- ASA targets the health insurance industry sector and large companies that administer in-house insurance plans.

c. Company Strategy

- The company will continue to concentrate on the health insurance segment. The company expects its rapid growth to continue from sale of its software products which address productivity measure and cost containment concerns.

d. Recent Activities

- Revenue in 1985 was \$34 million. Revenue in 1986 is expected to reach \$44 million.

3. THE CONTINUUM COMPANY (3429 Executive Center Drive, Austin, TX 78731)

a. Products/Services

- The Continuum Company (TCC) provides software products and processing and professional services. TCC offers the following software products.
  - TCC's primary revenue generator is the Client/Contract Administration (CCA) System used for designing, selling, and servicing insurance and financial services products. CCA consists of four modules:
    - CLIENT MANAGEMENT System.
    - PRODUCT MANAGEMENT System.
    - CONTRACT MANAGEMENT System.
    - DISTRIBUTION MANAGEMENT System.



- TCC's Continuum® Systems consist of software for policy management. Available system components include:
  - Home office administration systems.
  - Support systems.
  - Optional systems.
- Life-COMM III, acquired from Informatics General in 1984, is an integrated administrative system that supports new business, policy, agency, and actuarial administration; corporate accounting; and field force requirements.
- Microcomputer software products include:
  - Continuum Life Agency Support System (CLASS).
  - Sigma for agency management.
  - Ratebook Entry System for the development/rating of policies to be entered with TCC's Policy Administration Systems.
- Professional services include:
  - Custom programming.
  - Systems design.
  - Project management.
- TCC's mainframe software is available to clients as a remote computing service.



b. Markets Served

- TCC provides products and services to the life, health, and annuity insurance markets.

c. Company Strategy

- TCC will continue to use advanced technology development to maintain its leadership position in the life insurance industry.

d. Recent Activities

- The company posted a loss of approximately \$1.8 million on revenue of \$52.7 million for the fiscal year ended March 31, 1986. The loss is the first since fiscal 1976.
- Revenue for the second quarter ending September 30, 1986 was \$14.1 million with net income of \$636,000.

e. Future Directions

- The goals of TCC are dependent on the success of CCA. Development of CCA is scheduled to be completed during 1987.
4. CYBERTEK COMPUTER PRODUCTS, INC. (6133 Bristol Parkway, Culver City, CA 90230)

a. Products/Services

- CYBERTEK offers processing services, software products, and professional services.



- CYBERTEK's primary software is CYPROS/AP, an integrated marketing, administration, and communication system.
  - Subsystems include new business, in-force policies, agent's system, and administrative support systems.
  - Micro Information Manager<sup>T.M.</sup> (MIM) is available as part of CYPROS/AP or as a separate product. MIM permits the networking of IBM PCs for office automation and life insurance functions. MIM/NET is a local area network product.
- SalesPro is a standalone integrated proposal software package that operates on IBM PCs.
- Processing services consists of facilities management services and remote computing services.
  - Applications available to processing clients include CYPROS/AP and MIM.
- Professional services available to CYBERTEK software clients include project planning, system installation and modification, customer training, and technical consulting.

b. Markets Served

- CYBERTEK provides products and services to the life insurance industry sector only.

c. Company Strategy

- CYBERTEK will continue its emphasis on programs for support and professional services to be extended over the lifetime of software licenses.





d. Recent Activities

- CYBERTEK entered into a long-term agreement to provide total data processing services for Connecticut General Life Insurance Company's Group Universal Life Insurance Marketing Program.
- Revenues for the year ended March 31, 1986 reached \$24 million with net income of \$1.2 million.
- Revenues for the six months ending September 30, 1986 reached \$13 million with net income of \$1 million.
- CYBERTEK completed the final development stage of I-SYSTEM, a new software system that provides processing for a range of advanced and traditional life insurance products and related financial services.

e. Future Directions

- The company will continue to develop new software and services to meet demands as life insurance and financial services companies introduce more sophisticated policies, products, and services.
5. EQUIFAX, INC. (1600 Peachtree Street N.W., Atlanta, GA 30309)

a. Products/Services

- Equifax provides processing services and software products. Equifax's products and services to the insurance industry include the following:
  - The company offers IBM-compatible software products that may be purchased or used as a processing service. Modules available include:



- . Automated Underwriting System.
  - . Micro Rating System.
  - . Policy Information and Management System.
  - . Distributed Communications System.
  - . Company Communications System.
  - . Data Rearrange System.
  - . Universal Billing.
  - . Agency Bill.
  - . Universal Distributor System.
  - . Premium Accounting and Claims Administration.
  - . Worker's Compensation Unit Statistical Reporting System.
  - . Universal Commercial System.
  - . Universal Personal System.
  - . Information Gateway System.
- An additional processing application provides motor vehicle record information to automobile companies. The three modes of delivery include:



- Remote.
- Remote batch.
- Batch processing.
- Other products and services not related to the insurance industry sector include customer credit reporting and processing and software products for the utilities industry.

b. Markets Served

- Equifax provides products and services to the life/health and property/casualty insurance industry sectors, as well as the banking/finance, retail, and utilities industries.

c. Recent Activities

- Total 1985 computer services revenue reached \$269.7 million. Revenue from divisions providing services to the insurance industry was \$132.2 million.

6. ISI SYSTEMS, INC. (161 Forbes Road, Braintree, MA 02184)

a. Products/Services

- ISI Systems provides processing services and applications software products.
- Processing applications available include the following:
  - Mass-Auto for Massachusetts auto insurance companies.
  - ARTS (Assigned Risk Teleprocessing System).



- ICAPS--similar to ARTS but for commercial auto business.
- Administrative Billing System.
- Pol\*Star--policy storage and retrieval system.
- Analyzer--expert system for risk analysis.
- Software packages available include the following:
  - ACC-U-RATE is an Apple microcomputer system for rate/quote for package and monoline policies, as well as private passenger and homeowner policies.
  - Insurance Writer, a more comprehensive rate/quote package, is replacing ACC-U-RATE.
  - Ratabase is a premium calculation and statistical package for use with insurance policy writing systems. It runs on a mainframe or on IBM PC/XT or AT microcomputers.

b. Markets Served

- ISI provides products and services to the property/casualty insurance sector only.

c. Company Strategy

- ISI will continue to concentrate solely on the property/casualty sector and expects to continue the considerable growth in revenues it has enjoyed in past years.





d. Recent Activities

- In June 1986, ISI Systems became a private, independent company. Between 1976 and May 1986, ISI was a subsidiary of Grumman Corporation. Currently, the company is wholly owned by its president, Charles C. Johnston.
  - ISI System's 1985 revenue was \$25 million. Revenue for 1986 is estimated at \$28 million.
7. INFORMATION SYSTEMS OF AMERICA, INC. (500 Northridge Road, Atlanta, GA 30338)

a. Products/Services

- Information Systems of America, Inc. (ISA) markets and supports financial and management applications software products. ISA also provides product enhancement and consulting professional services to its clients.
- ISA provides the following IBM mainframe and compatible software products:
  - ISA Accounting, Budget, and Cost Systems is a financial management and reporting system.
  - ISA Cash Disbursements System centralizes and controls the entire disbursements process.
  - ISA EXTRACTO is a file management reporting system.
  - TELEXTRACTO is a report generator.
  - PRISM is a portfolio reporting and investment securities management system.



- OSCARS, PRISM's predecessor, is an on-line securities control, analysis, and reporting system.
- FORETAX provides tax planning and compliance.
- TAX DIRECTOR is a microcomputer version of FORETAX.

b. Markets Served

- ISA provides services to the insurance, banking and finance, state government, and other sectors.

c. Company Strategy

- ISA continues business expansion into the U.K. through UIS, Limited, a sister subsidiary.

d. Recent Activities

- ISA's total revenue for 1985 was \$9.6 million. Approximately 65% was derived from the insurance sector.

8. PACKAGED AUTOMATED LIFE/LIABILITY MANAGEMENT INC. (2606 Fortune Circle, East Drive, Indianapolis, IN 46241)

a. Products/Services

- PALLM provides applications software products and professional services consulting.
- PALLM offers the following software products for home office management.



- PALLM-VECTOR is for life/health insurance companies. Available modules include the following:
  - . New Business/Policy Issue.
  - . Policyholder Service.
  - . Premium Billing.
  - . Premium Processing.
  - . Accounting and General Ledger.
  - . Marketing and Agency/Commissions.
  - . Marketing and Agency Performance.
  - . Agent Licensing.
  - . Universal Life I.
  - . Variable Universal Life II.
  - . Client Management.
  - . Actuarial Reporting.
  - . Annuity Administration.
  - . Teleprocessing Executive.
  
- PallmPAC® is for property and casualty insurance companies. Available modules include the following:



- . Reinsurance Billing and Payables.
  - . Automobile Rating.
  - . Homeowner's Rating.
  - . Policy Administration.
  - . Claims Administration.
  - . Billing and Collections.
  - . Accounting and General Ledger.
  - . Disbursements/Check and Draft Reconciliation.
  - . Quote Management.
  - . Bureau Reporting.
  - . Alpha Inquiry/Client Access.
  - . Investment Accounting.
  - . Automated Depreciation.
- Professional services consulting to assist in customization of its software packages to meet specific client requirements is also provided.





b. Markets Served

- PALLM serves the life/health and property/casualty segments of the insurance industry.

c. Company Strategy

- PALLM plans to increase its presence in the property and casualty insurance segment and directly compete with Policy Management Systems, the acknowledged industry leader.

d. Recent Activities

- In August 1986, PALLM announced PALLM V-TASC (VECTOR Turnkey Administrative Software and Computers), a minicomputer turnkey system for smaller life and health insurers.
- Revenue for the year ended March 31, 1986 was \$17 million.

e. Future Directions

- PALLM will continue to modify and develop products to serve the life and health segment while continuing its push into the property and casualty segment.

9. POLICY MANAGEMENT SYSTEMS CORPORATION (P.O. Box Ten, Columbia, SC 29202)

a. Products/Services

- Policy Management Systems Corporation (PMS) provides processing services, software products, professional services, and turnkey systems.



- PMSC's primary IBM or compatible mainframe software packages are:
  - Policy Management System.
  - Insurance Management Information System.
  - Account Reconciliation System.
  - Financial Management System.
  - Securities Management System.
- IWS-Premium Handling System and IWS-Claims Handling System are micro-computer software products marketed under the trade name Insurance Work Station.
  - A microcomputer tool, Agency Work Station (also known as the Bundle), automates rating for multiple states and multiple companies.
- Processing services include facilities management and remote computing services.
  - Available remote computing applications include automobile policy, property/casualty, assigned risk, and claims estimating.
  - PMSC's data base service offers Insurance Information Bank.
- The Basic Processing System is a turnkey system based on IBM 4300 series computers and is targeted to small- to medium-sized insurance companies, brokers, and agents.
- Professional services provided to PMSC clients include project planning services, implementation and migration services, education services, and consulting services.



b. Markets Served

- PMSC provides products and services to the property and casualty insurance industry sector.

c. Company Strategy

- The company continues to invest a large portion of total revenues on research and development activities and to acquire products and/or companies whenever acquisition is more cost-effective than internal development.

d. Recent Activities

- As a result of the acquisition of Sterling Software's Insurance Systems Division, PMSC now offers software services and data processing for the group insurance industry.
  - Product offerings for group insurance include the CASE WRITER, the EXAMINER, and a new product, MICRO-EXAMINER.
- Revenue in 1985 was \$102.8 million with net income of \$14.4 million. Revenue for the nine months ended September 30, 1986 was \$107 million with net income of \$9.8 million.

e. Future Directions

- PMSC plans to continue its expansion into the group insurance market and its diversification into foreign markets.



10. REDSHAW, INC. (103 Yost Blvd., Pittsburgh, PA 15221)

a. Products/Services

- Redshaw provides turnkey systems, associated support services, and hardware/software upgrades to existing systems.
- Redshaw's turnkey systems are based on its Comprehensive Insurance System, a total agency management information system that integrates file retrieval, accounting, and word processing functions. The turnkey systems' hardware configurations, telecommunications/networking capabilities, and reporting capabilities vary by model.
- The target markets of turnkey systems offered include the following:
  - Comprehensive Insurance System is targeted to insurance agencies and companies with annual premium volumes of \$500,000 to \$10 million, processing up to 50,000 policies a year.
  - Series/2 is targeted to property and casualty insurance agencies and brokers with annual premium volumes over \$10 million.
  - MicroPlus is targeted to agencies with \$500,000 to \$3 million in annual premium volume.
  - Redshaw Advantage is targeted to agencies with \$2 million to \$10 million in annual premium volume.

b. Markets Served

- Redshaw provides products and services to independent property and casualty insurance agents and insurance brokerage firms. The majority of customers have annual premium volumes of \$1 million to \$20 million.





c. Recent Activities

- In August 1986, Redshaw introduced Superlink, a line of advanced terminal emulators that enable agents to run Wang PCs and IBM PC/XTs as integrated Redshaw System workstations.
- Redshaw's 1985 revenue was approximately \$40 million. Estimated 1986 revenue is \$45 million.



#### IV INFORMATION SYSTEMS DEPARTMENT

- The insurance sector's IS department budgets are not heavily dependent on revenue or profits primarily because of the critical nature of projects to the long-term success of the company.
- Although insurance companies' IS budgets are growing at a slower rate than the previous year's, the 7.3% growth rate indicates the realization that spending now for automation will assist significantly with long-term cost reduction. Insurance companies cannot afford to lose market share or further depress profitability by deferring necessary but costly projects.
- Exhibit IV-1 shows the 1986 budget distribution and projects the percentage growth of budget categories in 1987.
  - The largest budget growth areas include microcomputers and professional services.
  - The smallest budget growth areas include external software, other hardware, and mainframe processors.
  - Of the respondents that included voice communications in their IS budgets, voice communications represents 10.8% of their total IS budget.



**EXHIBIT IV-1**

**1986 BUDGET DISTRIBUTION AND  
1986/1987 CHANGES IN THE INSURANCE SECTOR**

<b>BUDGET CATEGORY</b>	<b>1986 PERCENT OF I.S. BUDGET</b>	<b>1986-1987 EXPECTED BUDGET GROWTH</b>
<b>Personnel Salaries and Fringes</b>	<b>32.8%</b>	<b>7.8%</b>
<b>Mainframe Processors</b>	<b>13.9%</b>	<b>4.5%</b>
<b>Minicomputers</b>	<b>2.2%</b>	<b>6.4%</b>
<b>Microcomputers</b>	<b>3.2%</b>	<b>20.6%</b>
<b>Mass Storage Devices</b>	<b>4.4%</b>	<b>6.9%</b>
<b>Other Hardware</b>	<b>8.4%</b>	<b>3.7%</b>
<b>Total Hardware</b>	<b>32.1%</b>	<b>4.1%</b>
<b>Data Communications</b>	<b>13.1%</b>	<b>10.0%</b>
<b>Voice Communications</b>	<b>6.6%</b>	<b>10.8%</b>
<b>Total Communications</b>	<b>19.7%</b>	<b>10.2%</b>
<b>Professional Services</b>	<b>1.2%</b>	<b>23.9%</b>
<b>Outside Processing Services</b>	<b>1.3%</b>	<b>9.1%</b>
<b>External Software</b>	<b>5.0%</b>	<b>2.8%</b>
<b>Software Maintenance</b>	<b>1.6%</b>	<b>8.3%</b>
<b>Hardware Maintenance</b>	<b>4.3%</b>	<b>10.0%</b>
<b>Other</b>	<b>2.0%</b>	<b>12.6%</b>
<b>Total</b>	<b>100%</b>	<b>7.3%</b>

The first part of the paper discusses the importance of the research and the objectives of the study. It then presents a literature review of the existing research on the topic. The methodology section describes the research design and the data collection process. The results section presents the findings of the study, and the conclusion section summarizes the main findings and provides recommendations for future research.

The study was conducted in a laboratory setting, and the data were collected using a series of questionnaires and interviews. The results of the study show that there is a significant relationship between the variables studied, and the findings are consistent with the existing literature. The study also identified some limitations and suggested areas for future research.

The study was conducted in a laboratory setting, and the data were collected using a series of questionnaires and interviews. The results of the study show that there is a significant relationship between the variables studied, and the findings are consistent with the existing literature. The study also identified some limitations and suggested areas for future research.

- Comparing 1986 with 1985, the budget line for personnel expenditures has declined as a percent of the total IS budget (43.9% to 32.8%), while the total hardware budget line has increased (32.1% versus 22.8%). This reflects the industry's motivation to automate insurance functions by increasing the capacity of the hardware and anticipating the increased productivity of personnel.
- Approximately 91% of all respondents indicated that their 1987 IS budgets would increase over 1986.
  - Factors contributing to increases in the IS budgets include (in order of most frequently mentioned factors):
    - New or upgraded hardware.
    - Introduction of new products.
    - Personnel.
    - Inflation.
    - General business expansion.
  - Factors contributing to decreases in IS budgets include:
    - Purchase of hardware in previous years—capacity is sufficient.
    - Staff reductions.









## APPENDIX IN-A: FORECAST DATA BASE

- This appendix contains the following forecast information, as shown in Exhibits IN-A-1 through IN-A-4.
  - Market size by delivery mode for each year from 1985-1991.
  - Market growth rates for 1985-1991.
  - Average annual growth rate (AAGR) for each delivery mode for the five-year period 1986-1991.



# EXHIBIT IN-A-1

## INSURANCE INDUSTRY SECTOR INDUSTRY-SPECIFIC USER EXPENDITURE FORECAST 1986-1991

SEGMENTATION BY DELIVERY MODE	(\$M) 1985	85-86 GROWTH	(\$M) 1986	(\$M) 1987	(\$M) 1988	(\$M) 1989	(\$M) 1990	(\$M) 1991	AAGR 86-91
PROCESSING SERVICES									
REMOTE COMP/BATCH	304	12%	339	383	430	485	564	626	13%
FACILITY MANAGEMENT	325	10%	357	394	449	502	558	619	12%
TOTAL PROCESSING SERVICES	629	11%	696	777	879	987	1122	1245	12%
APPLICATION SOFTWARE									
MAINFRAME/MINI	230	15%	265	304	346	391	451	525	15%
MICRO	81	25%	101	125	176	225	282	345	28%
TOTAL APPLICATION SOFTWARE	311	18%	366	429	522	616	733	870	19%
TURNKEY SYSTEMS	164	16%	193	230	281	342	411	480	20%
SECTOR TOTAL	1104	14%	1255	1446	1682	1945	2266	2595	16%



EXHIBIT IN-A-2

INSURANCE INDUSTRY SECTOR  
LIFE AND HEALTH SEGMENT

SEGMENTATION BY DELIVERY MODE	(\$M) 1985	85-86 GROWTH	(\$M) 1986	(\$M) 1987	(\$M) 1988	(\$M) 1989	(\$M) 1990	(\$M) 1991	AAGR 86-91
PROCESSING SERVICES									
REMOTE COMPI/BATCH	146	12%	163	189	218	253	302	327	15%
FACILITY MANAGEMENT	296	10%	325	359	409	457	508	563	12%
TOTAL PROCESSING SERVICES	442	10%	488	548	627	710	810	890	13%
APPLICATION SOFTWARE									
MAINFRAME/MINI	108	16%	125	142	160	179	205	240	14%
MICRO	46	26%	58	78	102	132	168	203	28%
TOTAL APPLICATION SOFTWARE	154	19%	183	220	262	311	373	443	19%
TURNKEY SYSTEMS	75	19%	89	108	134	166	202	232	21%
TOTAL	671	13%	760	876	1023	1187	1385	1565	16%





EXHIBIT IN-A-3

INSURANCE INDUSTRY SECTOR  
PROPERTY/CASUALTY SEGMENT

SEGMENTATION BY DELIVERY MODE	(\$M) 1985	85-86 GROWTH	(\$M) 1986	(\$M) 1987	(\$M) 1988	(\$M) 1989	(\$M) 1990	(\$M) 1991	AAGR 86-91
PROCESSING SERVICES									
REMOTE COMP/BATCH	58	10%	64	74	85	98	116	126	15%
FACILITY MANAGEMENT	10	10%	11	12	13	15	17	19	12%
TOTAL PROCESSING SERVICES	68	10%	75	86	98	113	133	145	14%
APPLICATION SOFTWARE									
MAINFRAME/MINI	81	15%	93	107	122	139	161	187	15%
MICRO	26	23%	32	44	56	75	95	115	29%
TOTAL APPLICATION SOFTWARE	107	17%	125	151	180	214	256	302	19%
TURNKEY SYSTEMS	26	19%	31	37	46	57	69	80	21%
TOTAL	201	15%	231	274	324	384	458	527	18%



## EXHIBIT IN-A-4

INSURANCE INDUSTRY SECTOR  
OTHER INSURANCE SEGMENT

SEGMENTATION BY DELIVERY MODE	(\$M) 1985	85-86 GROWTH	(\$M) 1986	(\$M) 1987	(\$M) 1988	(\$M) 1989	(\$M) 1990	(\$M) 1991	AAGR 66-91
PROCESSING SERVICES									
REMOTE COMP/BATCH	100	12%	112	120	127	134	146	173	9%
FACILITY MANAGEMENT	19	11%	21	23	27	30	33	37	12%
TOTAL PROCESSING SERVICES	119	12%	133	143	154	164	179	210	10%
APPLICATION SOFTWARE									
MAINFRAME/MINI	41	15%	47	55	64	73	85	98	16%
MICRO	9	22%	11	13	16	18	19	27	20%
TOTAL APPLICATION SOFTWARE	50	16%	58	66	80	91	104	125	17%
TURNKEY SYSTEMS	63	16%	73	85	101	119	140	166	18%
SECTOR TOTAL	232	14%	264	296	335	374	423	503	14%







## APPENDIX IN-B: FORECAST RECONCILIATION

- This appendix contains the following information:
  - Exhibit IN-B-1 which indicates the changes made in this year's forecast as compared to last year's.
  - An explanation of any changes that were made to the forecast.
- The forecasts for applications software were increased because the slowdown in the market was not as great as anticipated.





EXHIBIT IN-B-1

INSURANCE - DATA BASE RECONCILIATION  
OF MARKET FORECAST  
BY DELIVERY MODE

DELIVERY MODE	1985 MARKET			1990 MARKET			85-90 AAGR	86-91 AAGR
	1985 FORECAST (\$M)	1986 REPORT (\$M)	VARIANCE AS % OF '86 RPRT	1985 FORECAST (\$M)	1986 FORECAST (\$M)	VARIANCE AS % OF '86 FCST	FORECAST IN '85 REPORT (%)	FORECAST IN '86 REPORT (%)
PROCESSING SERVICES								
REMOTE COMPUTING/BATCH SERV.	304	304	0%	564	564	0%	13%	13%
FACILITY MANAGEMENT	319	325	-2%	558	558	0%	12%	12%
TOTAL PROCESSING SERVICES	623	629	-1%	1122	1122	0%	12%	12%
APPLICATION SOFTWARE	286	311	-8%	912	733	24%	26%	19%
TURNKEY SYSTEMS	164	164	0%	411	411	0%	20%	20%

