1999

IT Outsourcing Market Forecast, U.S. 1998-2003

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Abstract

This report analyzes the IT outsourcing market in the US in all industry sectors, including federal, state and local government segments, but excluding transaction processing. Although the IT outsourcing market has shown high growth rates for a number of years, there are no signs of growth slowing at any time during the forecast period to 2003. Beyond that date, innovations in e-business and e-commerce will likely accelerate the desire of organizations to outsource as a way to focus on core competencies and remain competitive. The current high market growth is being sustained by the simultaneous impact of a number of factors, including the reployment of budget allocations that had been directed toward Y2K remediation to outsourcing services that support e-business and e-commerce. The prior trend towards distributed IT infrastructures is being offset by a parallel move back to centralized computing due to renewed interest in thin-client configurations based on various Internet appliances and the demands of e-commerce. Also, "Internet rates of speed" infect rates of technology change within the IT industry as a whole, clients are increasingly reluctant to undertake independent, in-house migrations to upgraded architectures and applications.

These driving forces will have greatest impact on Internet / Intranet management, to a lesser degree on distributed systems management, i.e. desktop services and network management, and fall heavily on application management, which is being transformed by the advent of the Application Service Provider (ASP model, which comes in several varieties. Consequently, there will be a relative decline in the importance of data center management though this will likely be offset by the demand for centralized computing to support e-business and e-commerce.

This report is intended to assist IT vendors in identifying:

- The size and nature of constituent parts of the US IT outsourcing market;
- The most significant influences and trends that will affect market growth.

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Introduction

A
Scope and Objectives

In many respects, growth in the U.S. IT outsourcing market has matured during recent years in terms of acceptance, sophistication and size. Yet a high level of growth will likely continue over the next five years, fueled by fundamental changes taking place in the IT infrastructures of many organizations as they focus increasingly on their core competencies and attempt to cope with the fast pace of changes in technology and the global market place.

Acceptance of IT outsourcing has expanded strongly in the areas of business process operations outsourcing, telecom and cross–industry internet/intranet management.

The objectives of this report are:

- To identify the major market trends taking place in the U.S. outsourcing market
- To forecast the size of the U.S. outsourcing market by delivery mode and industry
- To provide league tables of outsourcing vendors.

Outsourcing is defined by INPUT as follows.

Outsourcing is a long-term relationship (greater than one year) between a client and vendor in which the client delegates all, or a major portion, of an operation or function to the vendor. The operation or function may be solely Information Systems Outsourcing-based, or merely include Information Systems Outsourcing as a prominent component of the operation (at least 30% of the budget).

INPUT's Operational Services research program includes transaction processing, business process management and related services in addition to IT outsourcing. However, this report provides forecasts for the market for IT outsourcing and business process management only.

The critical components defining an outsourcing service are:

- Delegating an identifiable area of the operation to a vendor
- Single vendor responsibility for performing that delegated function
- Intended, long-term relationship between the client and vendor
- Contract term is at least one year
- Client's intent is not to perform this function with internal resources
- The contract may include non-Information Systems Outsourcing activities, but Information Systems Outsourcing must be an integral part of the contract
- Outsourcing is a collection of services integrated under a single, long-term contract with one vendor responsible for its operation and management.

Business Process Outsourcing (also known as Business Process Management) is a relationship in which one vendor is responsible for performing an entire business/operations function including the IT outsourcing that supports it. The IT outsourcing content of such a contract must be at least 30% of the total annual expenditure in order for INPUT to include it in the BPO market.

Information Systems (IS) outsourcing can be viewed as a component of the Business Operations Outsourcing market (i.e., Information Systems Outsourcing is a business/operations function, see Exhibit I-1). However, in order to delineate between outsourcing contracts that are solely IS versus those that include IS as well as other functions, IS Outsourcing will be segregated from Business Operations Outsourcing. Information systems Outsourcing is divided into four service components as shown in Exhibit I-2.

- *Systems Operations* outsourcing describes a relationship in which a vendor is responsible for managing and operating a client's "computer system"/data center (Platform Systems Operations) or developing and/or maintaining a client's application as well as performing Platform Operations for those applications (Applications Systems Operations).

- *Desktop Services* is a relationship in which a vendor assumes responsibility for the deployment, maintenance and connectivity of personal computer, workstations, client/server and LAN systems in the client organization. To be considered as Desktop Services outsourcing, a contract must include a significant number of the individual services listed below.

  Software Product Supply

  Equipment Supply

  Equipment/Software Installation

  Equipment Maintenance

  LAN Installation and Expansion

  LAN Management

  Network Interface Management

  Client/Server Support

  Logistics Management

  User Support

  Help Desk Functions

  User Training and Education

- *Network Management* outsourcing is a relationship in which a vendor assumes full responsibility for operating and managing the client's data telecommunications systems. This may also include the voice, image and video telecommunications components

- *Application Management* is a relationship in which the vendor has full responsibility for developing and maintaining all of the application, or function.

- *Internet / Intranet Management* outsourcing comprises the services specifically required to support Internet-enabled functions of an organization's electronic business and/or electronic commerce activities.

Exhibit I-1

Business Operations Outsourcing

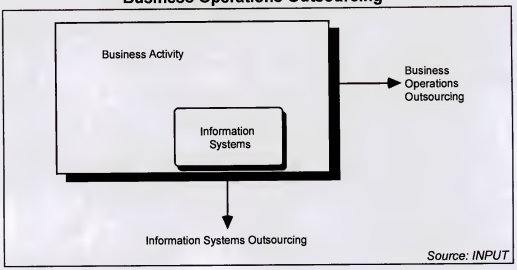
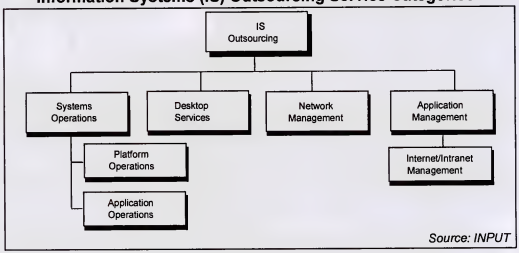


Exhibit I-2

Information Systems (IS) Outsourcing Service Categories



The above definitions focus on the services covered in the outsourcing contract. For example, an Application Operations contract can include all facets of Information Systems Outsourcing (platform operations, desktop services, network and application management).

The key to INPUT's market definition is the service contract. If a customer only wants to outsource the network, the contract would be considered network management outsourcing. If an airline, for example, wishes to outsource its reservation operation, which includes not only the network, but also its infrastructure, applications and the people running the operation, the agreement would be considered a Business Operations Outsourcing contract.

Exhibit I-3 shows the service components that may be included in each outsourcing service category.

Exhibit I-3

Outsourcing Service Components

Component	Platform Ops	Appl. Ops.	Desktop Services	Network Mgt.	Appl. Mgt.	Internet/ Intranet Mgt.	Business Ops.
Project/Contract Management	x	x	x	x	x	x	x
Data Center Management	x	x					x
Client/Server Operations	x	x	x			x	x
Equipment Maintenance	x	x	x				x
System Software Maintenance	x	x	x	x			x
Application Software Maintenance		x	x		x	x	x
Application Development		x			x	x	x
LAN Management		x	x	x		x	x
Network Management		x		x		x	x
Transaction Processing Services		x					x
Other Professional Services		x	x		x	x	x
Business Process Operations						x	x

Source: INPUT

The largest, most visible contracts awarded over the past year have been typically Application Operation outsourcing contracts since they included management of the infrastructure (various computing platforms) and the support of legacy applications. In the past, most Application and Platform Operation outsourcing contracts included network management, but recent contracts have also included desktop services.

INPUT excludes from the outsourcing category the following:

- Project based services are not considered as part of outsourcing. Thus, Systems integration and application development projects are excluded
- Services that were never intended to be performed internally. Maintenance-only services do not constitute an outsourcing function in themselves. However, responsibility for hardware and software maintenance is assumed in most outsourcing contracts
- Processing services contracts of less than one year
- Voice-only network management

- Business operations with minimal information systems content. For example, the outsourcing of the marketing communication function to an outside agency is not covered by INPUT's analysis. A function or business operation must at least have 30% of its budget attributed to information technology to be included.

B
Methodology

The data shown in this study was derived from the following combination of sources:

- Ongoing telephone interviews with more than 40 key software and services vendors and/or users of IT outsourcing contracts active in both the U.S. domestic and global IT services outsourcing market
- A special forecast survey conducted among 50 outsourcing vendors that yielded more than thirteen detailed responses.
- INPUT's continuous analysis of the delivery modes and vertical industry sectors comprising the computer software and services market
- INPUT's extensive library and database of information relating to the U.S. outsourcing market.

From time to time in this report, there are references to contract values and vendor rankings based on these contract values. These are based on INPUT's extensive database of over 2,000 IT outsourcing, business process management, transaction processing and related contracts. Contract values are recorded based on disclosed total values and years of duration. When unavailable, INPUT provides estimates of value and duration.

For purposes of this database and related research based on it, contract values reflect total value to the vendor winning the award over the life of the contract.

However, these values are difficult to project and subject to a variety of factors that affect the ultimate, actual value of the contract to the vendor, including subcontracting, subsequent revisions, unforeseen cost increases and organizational budget problems. All of these factors exacerbate the difficulty of estimating total contract values for the federal sector where many contracts are now awarded on an indefinite basis (IDIQ).

As a result, while estimated contract values are valuable for certain analytic purposes, the market forecasts compiled in this report reflect

estimates of actual annual spending independent of potential, total contract values.

C
Report Structure

Chapter II consists of the Executive Summary, which is a summary of the key findings of the report.

Chapter III provides forecasts of the U.S. outsourcing market by service category.

Chapter IV provides forecasts of the U.S. outsourcing market by vertical industry market.

D
Related Reports

Electronic Business Market Forecast, U.S. 1998-2003 (August, 1999)

Evaluation of Business Process Outsourcing, U.S. 1999 (July, 1999)

Evaluation of Human Resources Services - U.S. (January, 1999)

Outsourcing Vendor Performance Analysis, U.S. - 1999 (April, 1999)

Trends in Worldwide IT Operational Services Contract Awards, 1998-1999 (April, 1999)

IT Services Contract Activity Summary - 4Q 1998 (June, 1999)

IT Services Contract Activity Summary - 1Q 1999 (June, 1999)

IT Services Contract Activity Summary - 2Q 1999 (August, 1999)

Operational Services Market Forecast, US 1997-2002 (March, 1998)

II

Executive Summary

A
"Why We Don't Want You to Buy Our Software"

Under this provocative heading to a recent media article, Scott McNealy, CEO of Sun Microsystems summarized concisely the most cogent, current reason why IT outsourcing continues to grow robustly:

"What you want to handle in-house is the stuff that gives you an edge over your competition—your core competencies. I call it your "secret sauce." If you're on Wall Street and you have your own program for tracking and analyzing the market, you'll hang onto that. At Sun, we have a complex program for testing microprocessor designs, and we'll keep it.

"You don't want to worry about which operating system you're running on, which mail program you're using, or which calendar. Even today, anyone can get free versions of that stuff right off the Internet. So why would you keep paying the exorbitant cost of owning, maintaining and upgrading it all?...

"The old model for the information technology department was 30,000 people hiring 50,000 consultant. The new model is more like buying telephone services. You'll have three purchasing agents buying services. If that sounds a little far-fetched, consider this: ...the market for application hosting services [is expected] to reach $21 billion by 2001 (Wall Street Journal, 1 Sept 99).

McNealy brought the argument home in his typical, down-to-earth fashion by writing, "At Sun Microsystems we are leading the charge to outsource everything that's not a core competency. Our customers don't care who cooks the food in our cafeteria, cleans our buildings, or waters the shrubs. Nor will they care who runs our e-mail systems or accounting applications. But our shareholders care if our overhead

is too high

because we're not outsourcing the things that we should be." McNealy calls this the "Utility Model."

Added to the appeal of McNealy's Utility Model, which represents the "pull" of a typical "push-pull" demand model in economics is the "push" represented by the rush of IT services vendors to re-orient their capabilities and marketing to target outsourcing as the advancing calendar deflates their sales balloon of their Y2K profits.

One IT executive provided a pithy analogy by saying, "Y2K work? It's like cocaine. It's hard to stop once you're hooked..."

Another respected industry observer added, "These services companies have achieved a brand name through Y2K, and they've gained a credibility at the CIO level. Now they're going to try to parlay this name into other services. E-business is the next gold rush. If you can spell it, you'll have customers" *(Peter Bendor-Samuel, Outsourcing Journal).*

Two other secondary trends are fueling the growth of IT outsourcing and business process management—the rapid acceleration thin-client replacements for PCs (that lack the functionality of PCs) and the urgent need to prepare for full-scale e-business and e-commerce.

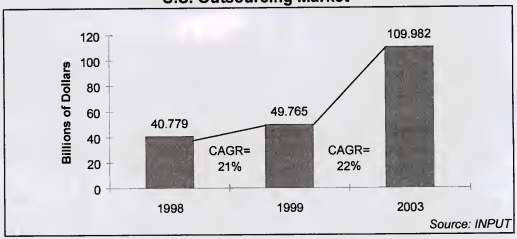
On the horizon, the impending, large-scale adoption of Internet-enabled, wireless devices of all types will boost demand for networking upgrades, new ERP customization, and expanded desktop services outsourcing that includes this new technology.

In 1H 1999 alone, shipments of thin-client network computers were up 83% year-over-year. Top vendor, Wyse Technology, saw its sales soar 200% year-over-year; HP's rose 125%. Significantly, thin-client, network computer architectures impel a return to mainframes, centralized platform computing—out outsourcing to cope with the cost and complexity of the re-engineering required.

To reflect the new e-business Gold Rush, as well as powerful secondary trends, INPUT's revised 1999 estimates for the U.S. IT outsourcing and business process management (BPM) market to include a new segment called "Internet/Intranet Management." This, along with higher estimates for BPM growth, accounts for the most important influences at work in the U.S. outsourcing market today and over the next five years.

INPUT's overall forecast for the U.S. outsourcing market is shown in Exhibit II-1.

Exhibit II-1



This forecast includes IT outsourcing, business process operations outsourcing and a portion of the transaction processing market.

Over the last few years, Business Process Operations (BPO) outsourcing has become has become increasingly accepted by a wide variety of companies in various industries. Over the period, 1998-2003, INPUT forecasts a long-term growth rate of 29% for a market expected to grow during the period from $7.4 billion to $26.5 billion.

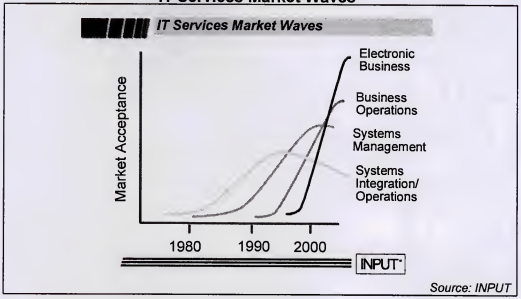
Overall, the IT services market is being transformed in a variety of ways that are transforming the profile of customer demand in the outsourcing market.

The changes taking place in the IT services market are summarized in Exhibit II-2.

For the first time in this report, the impact of electronic business on outsourcing is being forecast primarily by the addition of a segment called "internet/intranet management."

Exhibit II-2

IT Services Market Waves



Source: INPUT

The IT services market is now moving rapidly into the electronic business phase.

Electronic Business is the combination of information technology and business process to form a new way of working and involves the embedding of IT into a business, or other organizational process, in order to enable that process to operate. Electronic Business is typically much more externally focused on the organization's clients and suppliers than the more traditional uses of IT to support business processes.

In this phase, the principal market drivers are changing, producing a significant change in client requirement. Electronic business is emerging at different rates across industry sectors, and vendors with an emphasis on IT outsourcing services will need to build complementary partnerships with organizations possessing expertise in areas such as call center services, marketing and design services and logistics.

One significant consequence: internal IT departments no longer dominate IT spending and, in some cases, they may not represent the bulk of an organization's total IT spending for outsourcing. As IT outsourcing is perceived increasingly as important strategically rather than merely operationally, the decision-making process is moving upstream to the CEO and the highest level of management.

Larry Ellison, CEO of Oracle, exemplified this transformation when he made the following remarks at a professional meeting in London in

June 1999: "Computers have fragmented businesses badly - we don't know

what is going on anymore. The Internet cuts that down to a single server sending unified information," in his view.

He told listeners that the IT skills shortage is not due to poor training but has been created by an over-ambitious computer industry: "Systems are ridiculously complicated, they're absurd."

Ellison added: "We [the computer industry] have made a huge series of mistakes. The Internet is going to change all that - the race is on." According to Ellison, Oracle will be selling all its products exclusively over the Web by June 2000. He also claimed the Internet would radically alter the company's pricing structure by moving away from individually negotiated licenses to standard one-price-for-everyone packages. "Uniform pricing will come in as customers become smarter," he said, "at the moment it's like a Turkish bazaar."

Ellison warned that businesses must gear up for the Internet economy or face ruin: "Four years ago I thought the Internet would change the computer industry," he said, "I was wrong. The Internet will change all industry." He concluded: "You have to be an e-business. Unless you are armed with the right information you will not be competitive."

For these reasons, as well as those emphasized by Scott McNealy, in the case of large Business Process Outsourcing and "extreme" outsourcing, entire functions that had once been executed internally are being transferred to outsourcing vendors. In large part, this trend underpins the robust growth forecast for the U.S. outsourcing market over the next five years.

Outsourcing contracts that involve on-line applications are usually shorter in duration, include many service level agreements, and typically bundle multiple vendors, in contrast to the longer-term, straightforward, single-vendor contract models the dominated the prior, mainframe era.

Also, Web-based, e-business outsourcing frequently includes customer support and on-line marketing components—centered on a company's critical Web sites.

B
Evolution of User Selection Criteria for Outsourcers

Customers interviewed by INPUT during 1998-1999 described the criteria used for the selection of outsourcing vendors with emphasis on the following:

Reputation and past performance—Though provisions are made in every contract to safeguard again unsatisfactory partnering, many customers hesitate to utilize it. So when looking for a vendor to enter into an agreement with, customers what someone with a solid record of excellence and a proven reputation for quality. Tales of incompetence and inability to complete the task at hand no doubt disadvantages vendors in the eyes of most customers, while success stories and positive endorsements put some vendors ahead of the rest.

Industry knowledge—When customers outsource, they don't just want a functional solution, they want something customized to their needs and company objectives, something inline with their company mission. A vendor must be in tune with the customer's industry and have the potential to evolve with the customer's changing needs. There has been a level of comfort expressed concerning vendors that are not only working for a customer, but with a customer to achieve a common goal. Successful vendors are those that understand the direction of the customer's business and are able to contribute significantly to the company's long-term success.

The vendor's ability to offer a combination of industry knowledge a d a high level of technical competence is especially powerful in a period when in-house IT departments are increasingly short of the required number of qualified staff.

Strategic partnership—While quality is an important factor in choosing which vendor to award a contract to, it is not always the deciding vote. Speed, efficiency, and economic feasibility are all substantial issues, and customers want just the right mix from their vendors. Ideally, one agreement should provide a customer with everything needed, all conveniently placed in front of them with minimal difficulty. Partnering doesn't mean "one happy contract," it means a strong working relationship over the years and profitable for all involved.

Ability to meet needs—A vendor that understands what a company needs, knows what should be implemented, but lacks the ability to do so is worthless to a customer. Companies not only need the solutions that will carry their companies down the path of success but the ability to implement these solutions well. And as the needs of the customer change, so must the provisions made by the vendor. The IT industry moves so quickly that needs stated in an initial contract may not reflect at all the needs that will be the focus of the end result. A vendor must be able to adapt and provide as a customer's needs just as rapidly as they evolve with the same quality and expertise that

they were hired for. And if they can't meet the changing needs, they must be flexible enough to incorporate the solution from another source.

Specifically,

- Winning vendors had extensive project management experience.
- They were available immediately and had established relationships.
- Key criterion was NOT price: "[The] client was not shopping price and we weren't the cheapest vendor in the market."
- Best overall position—demonstrated ability to partner effectively, able to offer list of references [prior satisfied customers]
- Winning vendors need strong [human] communications skills.
- Success in the U.S. federal market requires special expertise [that not all vendors have].
- Successful vendors either have, or must develop quickly, training programs for account managers. This is a pivotal role. The project manager must have both technical credibility and business savvy.
- Ability to partner successfully is critically important, especially in the public sector. Prime vendors need "robust" subcontracting procedures (especially for risk allocation), including ability to assure that the "personal chemistry" of participants is positive.
- Some U.S. federal contracts are being won on the basis of demonstrated ability to follow a standardized approach to software deployment developed by Carnegie Mellon University.
- Military clients wanted a vendor with ample experience in large payroll/personnel systems projects. Also, it insisted on a vendor with a team approach and credible IT capabilities—also able to offer cost-effective terms.

Benefits from Outsourcing Being Sought Are Also Evolving

Exhibit II-3, summarizes the types of benefits the organizations that are currently awarding outsourcing contracts say they are seeking.

Exhibit II-3

Key Benefits Sought by Customers

Benefit	Comment
Management and Support	*Many customers expressed the desire to outsource common functions, such as billing and technical support, so that they could concentrate their efforts on the core competencies of their industry.* *While dictating the overall direction and vision for the future of their company, they expressed a desire to bring in a vendor capable of supporting their needs and understanding their goals.* *With a vendor who could handle the infrastructure, management would be able to focus their attention on the functions of business vital to success.*
Improved Services	*Money previously tied up in Y2K compliance solutions is now available for outsourcing. Customers showed a strong desire upgrade, integrate, or add on to improve their services.* *Customers in different industries implied that services today must be efficient, cost effective, and unique in order to foster the competitive edge that companies require to get ahead in the market. One facet of this benefit often stated was the hope that the outsourcing would lead to streamlined functionality.* *Now that the customers have technology support in every sector of their business, they want all parts to operate as a cohesive whole, and they look to outsourcers for the answer regarding integration.*
New Functionality	*Though not prevalent in customer responses, the need for new technology and services is still a sought after benefit.* *The rapid growth of the information technology industry, coupled with the newly emerging demands from different consumers is forcing customers to add new functionality to their businesses.* *Customers require vendor able to design and implement the technology to satisfy new demands, as well as possibly integrating this solution into their existing system, or even starting over.*
Enhanced Customer Service	*In order to increases revenues, companies must pull in new customers and keep existing clientele happy. While upgrading or implementing new solutions, several companies expressed an end goal of not only improving overall productivity and function, but also improving customer service relations.* *For many companies, the current state of customer care is lacking. Some companies are opting to outsource certain levels of customer service, while others are employing vendors to implement or revamp that customer service interface to increase quality and satisfaction.*
Reduce Costs	*"Cost savings" was a frequent response to questions regarding the benefits sought by customers. Customers crave efficient, well run, and top-notch systems that reduce waste and ultimately cost.* *As one senior VP at FNB Lincolnwood said in response to the choice of EDS as a vendor, "EDS has helped us…lower costs by providing systems that help our staff be more efficient and reduce the amount of paper we have to handle." That sentiment is shared by many customers.*

Source: INPUT

Changing Attitudes Toward Outsourcing

While consultants warn companies that use outsourcing in their IT department to leave some processes in-house, INPUT research confirms that most midsize and large companies are not willing to give up all of their IT operations to outsourcing. About 90% of midsize and large companies would choose to outsource specific functions of their IT operations, but few companies see complete IT outsourcing as the answer. Gross margins from outsourcing are down to 34% from 42% a decade ago. Only about 30% of the largest U.S. companies have signed big outsourcing contracts thus far, though there has been plenty of opportunity.

Among a variety of reasons given why companies choose to outsource, three main themes arise. Improving a company's competitive edge is the driving force behind most technological investments by companies. Following close behind come Y2K compliance issues, a reason that in the turn of a few months will be nothing more than an urban legend for most organization. Ranking third in the list of reasons are cost-cutting measures.

However, the belief that outsourcing will aid in lightening a company's financial burden is not necessarily accurate. While about 60% of large organizations expect to save money through outsourcing part or all of their IT department, companies are well advised not to look for quick financial returns resulting from IT outsourcing. The benefits from outsourcing tend to run along the lines of faster service implementation and better service quality. In order for a corporation to see a profit, vendors must be more 25-35% more efficient than the organization buying their services, considering vendors must provide 20-30% for profit margins and IT must invest 5-7% to manage the vendor.

While outsourcing is less costly, avoids retention of unnecessary excess employees, and improves the overall quality of service, there are a few key rules to remember in order to insure a happy, productive, and successful outsourcing relationship. First, the internal IT department must continue to designate the strategic direction of the company as well as oversee and maintain the partnership. Second, the vendor must be given a clear sense of purpose, requirements, and expectations. Once these points have been established, the relationship can take off.

By 2000, roughly 75% of companies are expected to employ parts of IT outsourcing as a means to improve their competitive edge or add to resources and skills. Among areas that are becoming popular in outsourcing is Network/Carrier Management. Network management,

previously handled in-house by most organizations, is the next probable large-scale outsourcing opportunity as they consider turning the job over to telecommunications operators. Roughly 33% of outsourcing came from mainframe assignments (the bulk); web-based development and e-commerce accounted for 12% of the total industry in 1998.

Another Important Development In Vendor Selection: Sole-Sourcing

When midsize and large companies do decide to outsource, they often turn to their technology vendors and resellers to provide the services that they require. Significantly, of the larger contracts awarded to vendors last year, many were won without any competitive bidding.

Sole-sourcing used to consist of about one-third of the total dollars represented by contracts, but last year it consumed two-thirds of the total revenue. In order to make money, vendors are diversifying their services to meet the demands of enterprises. Companies that have been fierce competitors in the past or that come from different disciplines have been coupling so as not to be left out of the competition due to a lack of skills in one area.

New Goals, New Technology Focus

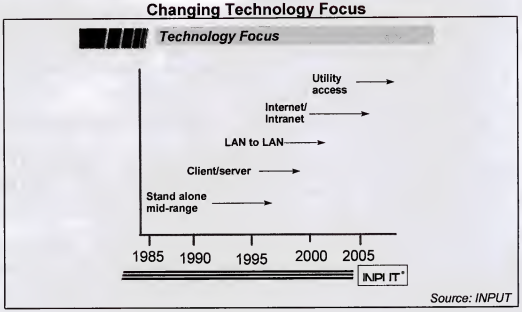
In response to these new goals, the technology focus of many clients is changing as shown in Exhibit II-4.

The change in emphasis described above is leading to an increasing emphasis on outward-facing services based on the Internet and linked call center technologies.

Consequently, one of the key issues for outsourcing vendors (and their selection by users) is that the mainframe platform, though central to many existing IT outsourcing contracts, is no longer the principal focus of client attention. Over the past few years, all eyes were on the quality of distributed systems management, including desktop services.

Exhibit II-4

Changing Technology Focus



Source: INPUT

Yet, the systems management technologies and processes required to manage such environments cost-effectively have did not track this switch in emphasis on the part of users. Accordingly, desktop services outsourcing services is only now reaching the level of maturity attained by data center-based services ten years ago. As a result, outsourcing vendors have suffered from relatively low levels of satisfaction and relatively low profitability in desktop services. At the same time, for reasons indicated above, Internet-based e-business appears to be compelling many organizations to reconsider their distributed, client-server architectures and dust off neglected mainframes.

However, driven by this move to electronic business, the client requirement is already moving on, resulting in increasing expectation of vendor ability to implement and manage Internet and Intranet based infrastructures.

These changes are creating major opportunities in distributed systems management. Many wide area networks will have to undergo fundamental re-engineering over the next few years if they are to play an effective part in their organization's use of information technology. However, for many organizations this requires an intolerable magnitude of investment to upgrade the technology of their corporate data network, with the consequence that network outsourcing becomes a highly compelling proposition.

At present, many of the major IT outsourcing contracts in the U.S. market are handled by a consortium, with one partner handling the

IT infrastructure, another the telecom's infrastructure and another application management. At present, IBM Global Services, EDS and CSC are the major players in IT infrastructure management; AT&T and Sprint are major players in wide-area network management; and Andersen Consulting is a major player in application management.

However, the change in technology emphasis has considerable ramifications for infrastructure support. Two trends can be observed:

- One, toward end-to-end service management, which treats the IT infrastructure as an integrated whole, and away from supporting the IT infrastructure on a piecemeal basis, with one vendor supporting data centers, another supporting networks, and a third supporting the desktop environment.

- At the same time, as noted above, the requirements of e-business (as well as increasing sophistication among users) are driving organizations to distribute smaller contracts that cover highly specific functions to a larger number of boutique outsourcers.

A Tidal Force Behind Growth of the Application Service Provider Market Segment

Membership in the Application Service Provider (ASP) consortium has soared to more than 60 members since its formation in May 1999. Currently, the focus of the consortium is on small- and medium-sized businesses. Due to the IT labor shortage, tightening budgets, and shrinking IT departments, those companies are turning their business to ASP, allowing their smaller number of employees to concentrate on the core competencies of their business. Through ASP, companies can save money on hosted e-mail and messaging. ASP can also help avoid the necessity of costly ERP, HR, and customer service management applications. In 3 - 5 years, Trevor Green-Kennedy, chairman of the organization, anticipates that ASP be will ready for large enterprise markets.

ASP board members have met to set up working committees that will establish technical specifications and best-practice policies. These policies are slated to be presented to the International Standards Organization by the end of the year. When these standards are adopted, IT managers will turn to third- party recognition before proceeding with an ASP vendor. The standards adopted internationally will help alleviate the risk taken by IT managers concerning their jobs and their companies when contracting with an ASP vendor.

Larger companies such as EDS, Dell, HP, SAP, Oracle and Microsoft expressed interest in the area of application outsourcing, lending

credibility to a process that has not yet established itself as an alternative to ERP.

EDS announced that it plans to partner with ISPs and carriers to host e-commerce and other high-end applications for enterprises, sold under the names of the service providers. Dell and Microsoft took a different route, each buying a 10% stake in ASP navigate Inc. IBM, Sun Microsystems Inc., and Hewlett-Packard Co. are rushing to market technologies and programs that let service providers offer services that range from basic e-mail and Web hosting to network management outsourcing and enterprise application hosting via that Internet. Either way, as major companies show increasing interest, IT managers will realize that sizable companies with a solid history of customer service are available in this service segment.

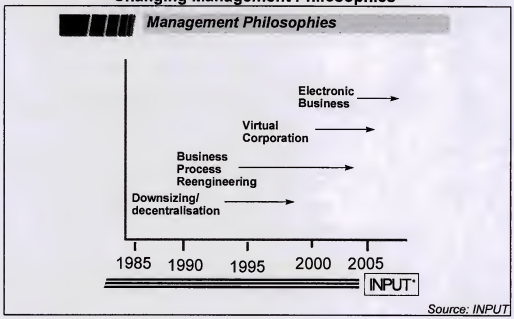
Summary Outlook

- Expect Business Process Outsourcing (BPO) to fuel growth over the next few years.
- Historical reasons why clients outsource will continue to be applicable, only more so: the internal IT organization needs fixing; company wants to offload [noncore] functions to Business Process Operations outsourcers, and streamline efficiency, such as linking CRM to ERP and a Web-site front end application.
- Client interest in regard to the benefits of outsourcing have shifted. Now, there is less emphasis on cost and more on the total business impact of outsourcing.
- Revenue sharing between clients and outsourcers is not big now, but will likely grow in popularity.
- The process-delivery model of outsourcing continues to evolve.
- While the (Internet-enabled) Application Service Provider (ASP) market segment will likely grow dramatically, it will only represent a small part of the total business of established IT outsourcers such as CSC.
- Yet, even for CSC, this segment is expected to double within three years. Ex: outsourcing PeopleSoft and SAP/Sun applications form remote operations centers.
- As companies build their front-end Internet access, they still need to manage their ongoing IT infrastructure. As a result, large organizations will need help in building more robust IT infrastructures capable of supporting both existing and new, e-business-related functions.

- Industry is now at the beginning of a new wave of IT investment and technological change.
- In fact, the penetration rate of full e-business deployment is low even among Fortune 500 companies.
- Access to skilled staff will continue to be a growth driver, especially for application outsourcing.

Exhibit II-5

Changing Management Philosophies



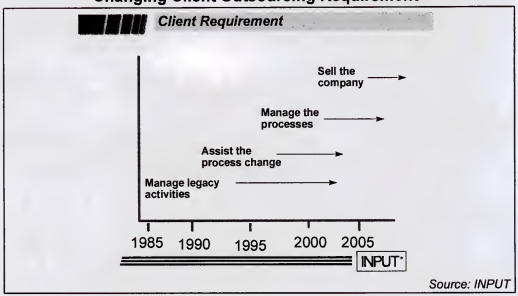
Source: INPUT

The possibilities created by new technology are leading to an increasing belief in electronic business as a way of doing business as shown in Exhibit II-5

However, the co-existence of a multiple levels of organizational evolution in regard to e-business results in a complex mix of outsourcing requirements (and demands on vendors of IT outsourcing services), ranging from some standard management of legacy platforms through innovative business process outsourcing needed to succeed in electronic commerce, as shown in Exhibit II-6.

Exhibit II-6

Changing Client Outsourcing Requirement



Source: INPUT

Outsourcing contract customers interviewed during the past 18 months revealed their key criteria, overall, for vendor selection. When pressed to provide a ranking of selection criteria, the following comments were made repeatedly:

Scalable solutions – Because many outsourcing contracts are being awarded for the purpose of retiring legacy IT infrastructures and implementing next-generation solutions, customers are very sensitive to the untimely risk of "maxing out" the capacity of their new infrastructure. This fear affects contract negotiations as seen in the emphasis on vendor flexibility and in an unwillingness to commit to any technology that isn't interoperable with all conceivable standards. At the same time, customers seek to retain the ability to downsize their IT infrastructure as necessary by changing business conditions, renegotiate contract terms, and reconfigure networks as necessary.

Project management expertise—As customers encounter the frictions generated by the need to advance a number of high-priority IT projects simultaneously, such as Y2K remediation and e-commerce solutions, they put an ever higher premium on vendors with demonstrated skill in managing multiple projects efficiently, particularly in regard to the relations between prime vendors and subcontractors. While a few of the largest enterprises are able to shoulder this responsibility in-house, serving as their own general contractors for a series of subcontractors, the majority of firms lack sufficient IT staff to manage these relationships. Also, vendors are being evaluated increasingly on their ability to select and attract partners that bring best-of-breed solutions and their

willingness to eschew the more profitable path of sole-sourcing the work to their own staffs.

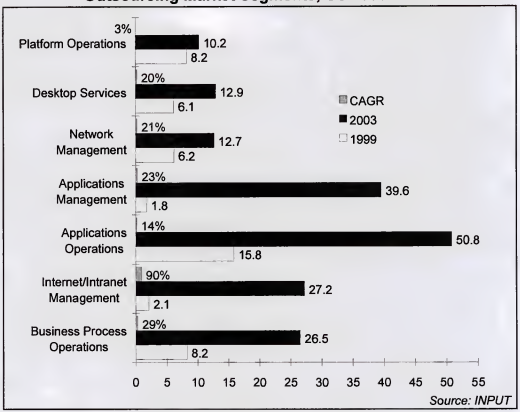
Money—While customers may not select IT vendors entirely on the basis of the lowest bid, they do continue to insist that successful vendors reduce their Total Cost of Ownership (TCO). Vendors unable to document such cost reductions are clearly vulnerable to either losing an initial contract, or losing their incumbency to a new vendor at contract renewal time.

Continuity—For enterprises with mission-critical applications in place, incumbents often retain a consistent edge over challengers due primarily to customer fears that any handover from the incumbent vendor to a replacement could jeopardize the efficient flow of daily operations. Sophisticated customers are insisting on detailed initial contract terms (called "prenuptial agreements") that spell out the terms by which an incumbent vendor would hand over a contract to a successor. Yet, many customers continue to fear putting these provisions to the test and, unless an incumbent vendor proves grossly unsatisfactory, customers are likely to overlook small frictions and avoid considering a new vendor.

Exhibit II-7 provides a forecast of the growth in the U.S. outsourcing market by segment.

Exhibit II-7

Outsourcing Market Segments, US 1998-2003



The fastest-growing sectors of the U.S. outsourcing market are forecast to be e-business related internet/intranet management and business process operations.

As forecast in our prior report, for a variety of reasons, Platform Operations will continue to be the segment with the lowest growth. Factors contributing to the decline of this segment include changing business models and the continuing move away from mainframes toward distributed, client/server configurations, to be only gradually offset by the factors indicated above. These include the increasing attractiveness of thin client, network computers and the growth of Internet-enabled, e-business functions that will be outstrip the capacity of servers and fuel demand (again) for mainframes and outsourcing of platform operations.

The attractiveness of Business Process Operations outsourcing continues to grow as more and more firms make IT vendors their strategic partners. Together, they are focussing attention on the distinction between core competencies that should be retained in-house, and peripheral functions that can better be executed by a specialized services vendor for a predictable, fixed price at specified levels of service.

The Internet Takes All

Like successive, stormy waves pounding the beach, Internet technology continues to buffet the IT outsourcing contract marketplace. While the largest vendors such as EDS and IBM Global attempt to reposition themselves so as to be able to deliver Internet-based products and services as part of the suite of comprehensive deliverables that comprise their fulfillment of large contracts, smaller vendors such as USWeb/CKS, Sapient and Proxicom are stealing the lead by offering cutting-edge innovations. Larger vendors are being forced to cede niche areas of such smaller vendors while reinforcing their own expertise in the area of providing customers advice on strategic business process reorganization required by the Internet.

As exemplified by Compaq's decision to drastically pare its VAR list for hardware distribution in deference to the reality of the Internet's marketing impact on companies such as Dell and Cisco, the Internet is changing fundamental business model relationships between suppliers, distributors and end-users.

Taking the lead, Sun MicroSystems announced the fruits of the Sun-Netscape Alliance—a sophisticated Internet hosting service for companies wishing to market Web-based products and services. Sun has already concluded agreements with EDS, CSC, Andersen Consulting, Cap Gemini and PricewaterhouseCoopers. Also onboard, business-to-business ISPs such as Digex and Exodus

Similarly, Deloitte Consulting and Kenan Systems announced a "global team" to provide worldwide, convergent (Internet-based) billing solutions in the telecom industry, including the wireline, mobile, Internet and broadband market segments.

Siebel Systems announced that it was making available without cost software that allows a company's sales force to share information through a Web site. At the same time, through a special arrangement, Compaq customers will be first to benefit from proprietary Siebel software that provides Web-based travel services, networking services, and sales data tracking.

As desktop management becomes increasingly commoditized, a new series of offerings are proposing to facilitate backup functions by making them Web-based services. For example, @Backup is selling a software application called "SkyDesk" that allows users to access their desktops and applications from any browser-based PC [is this hacker's paradise?]. Users are able to access applications and store changes centrally—as a service for $10 monthly.

Perot Systems announced a new collaboration with Pyramid Services to deliver Web-based solutions to the insurance industry. Perot will provide project management, business consulting, systems configuration and conversion services in support of Pyramid's advanced claims administration and risk-management systems. Pyramid envisions Internet-accessible, 32-bit solutions that will facilitate specialized data interchanges of all types of claims forms.

Managements Push, Customers Pull Vendors Into New Shapes—Example: the "New" Oracle

Apart from newly formed companies intending to get in front of the trend toward unbundling ERP and other expensive software packages and offering them on a monthly, "rent-an-app" basis, established software developers are themselves hoping to transform themselves into outsourcing service providers.

They are being pushed by company managements that are either enthusiastic, or desperate (depending on the company) to tap new sources of revenue, and being pushed by customers that are demanding greater flexibility in their purchasing choices.

Oracle won much publicity with its announcement that it was launching a much heralded Business Online hosting venture that would provide customers an alternative to on-site installation of ERP and front-office system software—and putting it in direct competition with PeopleSoft and its Application Service Provider (ASP) allies. These vendors, like SAP, Siebel Systems and Baan, are scrambling to make their applications accessible through Web browsers on the Internet, or hosted on private networks.

They are targeting a lower tier of Small and Medium-sized Enterprises (SME) that cannot afford the cost of licensing and installation of their own software. Oracle proposes to host a full suite of applications at its own data centers in the U.S. and the U.K. Other centers will be managed remotely in cooperation with several telecom providers.

Charter customers of Oracle's service hope to save $15-20,000 monthly by using this alternative. Oracle plans to scale its prices according to number and types of users in an organization, at amounts ranging from $395 to $895 per month per user. In particular, customers appreciate the convenience and flexibility of this approach; they can scale their usage up or down according to changing business requirements; also, they are freed from onerous maintenance and network maintenance burdens. Oracle's charter customers include Triton Network Systems, Robert Mondavi, and Core Technology Group.

One surprise: Fortune 500 companies are beginning to show as much interest in the hosted approach as SMEs, especially those that require a minimum of customization.

PeopleSoft already offers its software on a similar basis through Corio and USInternetworking. SAP and Baan are in the process of making similar arrangements.

Elsewhere, HP announced a $500 million investment for hardware, software and services to support Qwest Communication's application-hosting centers in exchange for a slice of monthly revenues generated from Qwest's hosting of SAP's R/3 ERP software over the Web. Qwest's offer will include the industry's first SLAs for network-hosted applications.

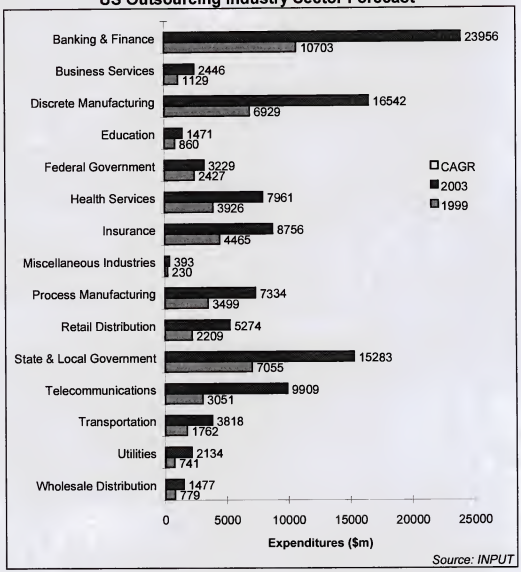
Siebel offers its products as well through USInternetworking, and may elect to establish direct hosting links to its own customers. Baan has an agreement with EDS to offer outsourced applications on a proprietary network.

In either a complementary or defensive move, depending on one's point of view, two dozen IT vendors recently formed the Application Service Provider Industry Consortium whose ostensible mission is to sponsor research and foster standards in this new market segment, which may exceed $20 billion in value within the next three years. Clearly, the ASP segment is poised to grow very fast over the next few years and carve out a chunk of business that would have gone/could have gone previously to large "stand-alone" IT outsourcers and VARs of all types.

C
Industry Sector Forecast

Exhibit II-8 provides a forecast for the US outsourcing market by industry sector. The forecasts shown in this exhibit include business operations outsourcing in addition to IS outsourcing.

Exhibit II-8



The financial services sector has dominated IT outsourcing in the U.S. and this situation is expected to continue through the 2003 forecast period. Financial institutions are undergoing a period of rapid consolidation and transformation from a local, bricks-and-mortar model to a new, "clicks-and-mortar" model in which geography may be unimportant. As they undergo difficult (and expensive) re-engineering in order to cope better with new competitors, outsourcing offers many compelling advantages. In this process, financial institutions are using business operations outsourcing as a means of withdrawing from non-core business activities, such as check processing.

The telecommunications industry, another sector that is undergoing major changes, is generating strong demand for outsourcing, particularly for call center-related activities, such as customer care and Internet bill payment and presentment.

D

Vendor Alliances and Market Restructurings Track Changes in Client Demands

Exhibit II-9 shows the leading outsourcing vendors in the US outsourcing market at the end of 1998 and Exhibit II-9 shows the changes in market share that took place between 1996 and 1998.

Exhibit II-9

Leading Vendors: US — 1998

Vendor	Estimated US Revenues ($m)	Estimated Market Share
IBM Global Services	5465	*14%*
EDS	4976	*13%*
CSC	2058	*5%*
First Data	1400	*4%*
Compaq	1152	*3%*
MCIWorldCom	1150	*3%*
Lockheed Martin Bus. Serv.	938	*2%*
FiServ	840	*2%*
Andersen Consulting	710	*2%*
ACS	600	*2%*
UNISYS	600	*2%*
AT&T Solutions	600	*2%*
Perot Systems	500	*1%*

Source: INPUT

Exhibit II-10

Leading Vendors: US —1996 - 1998

1996	Estimated Market Share (%)	1998	Estimated Market Share (%)
EDS	*25*	IBM Global Services	*14*
CSC	*12*	EDS	*13*
ISSC	*6*	CSC	*5*
First Data	*2*	First Data	*4*
Digital	*2*	Compaq (acquirer)	*3*

Source: INPUT

EDS, although the prior market leader, has been suffering from declining profitability in its traditional IT outsourcing market and weakness in the domestic US market compared with its European business.

During 1999, management took important steps to turn the company around through both a head-count reduction program and by increasing its focus on new areas of activity such as business operations outsourcing and electronic markets. Other major steps included the selection of a new CEO, the acquisition of Systemhouse from MCIWorldCom, and the signing of paired, megabillion-dollar outsourcing contracts. (See the EDS Vendor Profile in the Appendix to this report.)

The company has been moderately successful in making the switch to newer electronic markets outsourcing business even though it faces strong competition from vendors with a strong technology background such as IBM Global and Siemens. Most recently, EDS entered the Web-hosting niche where it hopes to fatten profits by pushing new business through underutilized data centers (and add-on customization business in the future).

Andersen Consulting has traditionally lacked a major infrastructure management capability and has targeted those areas where its strong industry focus and reengineering skills are most effective, primarily application management and business operations outsourcing. The company scored a major success by participating in the Pinnacle consortium together with other leading vendors. Andersen Consulting favors extensive use of partnerships and joint ventures with both partners and clients. Nevertheless, its sheer size prevents it from matching smaller and more nimble competitors.

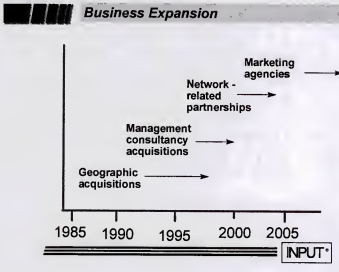
Over recent years, **CSC** has won a number of important outsourcing

contracts based on the market's perception of the vendor as both technically adept and committed to the highest levels of customer service, including strategic management consulting when necessary. To date, it has not attempted to match EDS' initiative in the area of Web-hosting, but it has made impressive improvements in its e-business offer.

Exhibit II-11 shows the pattern of merger and acquisition strategies adopted by leading outsourcing vendors.

Exhibit II-11

Partnership and M&A Strategies: Outsourcing Vendors



Source: INPUT

In the early 1990s, the major outsourcing vendors were on the acquisition trail.

However, as the need to deliver business change became increasingly important, a number of the leading outsourcing vendors acquired management consultancy organizations. The talks between Origin, Coopers & Lybrand and Price Waterhouse were an earlier manifestation of this trend.

The emphasis is now on acquiring the new skills required to operate in the new environment created by electronic business. Here there may be a need for outsourcing vendors to extend their service capability beyond IT and process change and form partnerships to deliver new business services such as marketing services, design services, call center capability and logistics fulfillment.

Important, recent industry changes include IPOs of Internet service vendors, new business alliances, restructurings and acquisitions.

Among the most important of these have been:

- AT&T's acquisition of IBM's Global Network,
- EDS' acquisition of Systemhouse from MCIWorldCom,
- Getronics' acquisition of Wang Global.

1. AT&T / IBM

In connection with AT&T's $5 billion cash purchase of IBM's Global Network, AT&T awarded two outsourcing contracts to IBM Global Services with a total value of $4.2 billion.

One, a software application processing agreement, runs for ten years; the second, a data center management agreement, runs for seven years. The deal is expected to win $2.5 billion in additional revenue to AT&T during the first year of operation. IBM said that it did not believe the transaction would have a material impact on its FY 1999 operating results. The IBM Global Network transmits data for 30,000 customers in 900 cities worldwide. IBM announced that it would use the cash proceeds of the sale for R&D, acquisitions and share repurchases.

In a complementary move, IBM awarded AT&T Solutions a five-year, $5 billion contract for provision of a large portion of IBM's own global networking requirements, ranking it briefly the largest outsourcing contracts ever signed. The subsequent award from the IRS to the CSC PRIME team, which was described above, soon eclipsed (it.) This contract is expected to double the network outsourcing revenues of AT&T Solutions and boost its further growth dramatically by putting the vendor in contact with a large, new base of established customers to whom it will be able to offer a wider range of services. AT&T gains one million individual Internet access accounts from users in 59 countries.

Under terms of the paired agreements, IBM will manage AT&T's legacy software applications, including billing, service-order processing, installation and maintenance for AT&T's long-distance business customers. IBM will also take management responsibility for AT&T's data processing centers that operate corporate IT systems including accounts payable and receivable, employee benefits and payroll. Anticipated staff transfers include a projected 2,000 AT&T employees moving to IBM. In turn, 5,000 IBM employees will join AT&T.

In many respects, the paired deals turned heads. Prior to the announcement, the media had been characterizing the IBM Global

Network as an unappealing collection of antiquated technologies. After the announcement, the same network was described as a "jewel" that AT&T had plucked from the marketplace for an unexpectedly high price. Harsh media critics wrote that "IBM has gotten rid of an albatross and can focus its business elsewhere. Certainly, they won't be dumping money down a rat hole to fix that infrastructure anymore." For its part, AT&T had been handicapped by the disadvantage of a historical orientation toward voice transmission in a world that is being increasingly dominated by demand for data and Internet traffic, or by combinations of these. As a result, it was losing business to MCI WorldCom, Equant and Cable & Wireless.

From the point of view of each vendor's management, the deals represented a "win-win" transaction. With it, AT&T vaulted into the top ranks of global network providers in a way that complemented its existing business. IBM insisted that the deal permitted the vendor to return to its core competencies, which were described as writing applications for using global networks (rather than operating them). Perhaps most important, there is speculation that these paired contracts will form the foundation for a future AT&T Solutions/IBM Global Services team that will constitute a formidable competitor when it bids jointly for future outsourcing contracts. Similar speculation over a potential EDS acquisition of MCI Systemhouse links EDS and MCI WorldCom as another powerful bidding team. (If there were no deal regarding MCI Systemhouse, Sprint could have taken MCI WorldCom's place on a future EDS team.)

Excluding these paired contracts, AT&T Solutions already had $10 billion booked under long-term contracts, including the recently signed, $1.4 billion outsourcing contract from Banc One and s $750 million contract from Citibank

2. EDS / MCI WorldCom

In February 1999, EDS and MCI WorldCom announced what they described as a "classic win/win" partnership with four primary elements:

- MCI WorldCom awarded EDS with a $5-7 billion 10-year contract that outsources "virtually all" of its IT infrastructure, software application development and maintenance functions.
- By a matching 10-year contract, worth $6-8.5 billion, EDS awarded MCI WorldCom a contract that outsources virtually all of its global network. MCI WorldCom will handle end-to-end management of voice and data communications services "on a preferred basis" for EDS and its customers.

- EDS acquired MCI Systemhouse for $1.65 billion in cash.
- The two companies pledged to develop a new partnership strategy for winning future business. It will be a nonexclusive, preferential alliance of the two companies.

About 12,000 employees-mainly in the U.S. and Canada were affected. Most significant, EDS gained MCI Systemhouse's technical staff, including its large presence in Ottawa and across Canada. In addition, EDS gained Systemhouse's European staff and business, which will augment its own in key markets, such as the U.K. Continued expansion is critical for EDS because more than half of its business is generated outside of the U.S.

The combined value of the paired outsourcing contracts that each partner will offer the other is unprecedented in its magnitude, and may eclipse the recently concluded purchase by AT&T of the IBM Global Network. Size captured the immediate attention of the IT and telecom industries. Yet, apart from sheer size, does this new alignment substantially change the competitive positions of the major players in the operational services (outsourcing) field?

Hype aside, some hard questions remained. These included:

How real are the "substantial synergies" expected from this new partnership?

The deal is unlikely to either dilute, or depress EDS earnings in the first year. Potential benefits would come in the second year.

Overall, the potential for synergies does appear real, but achieving them depends on a successful transition and, judging by EDS' A.T. Kearney acquisitions and the acquisition roll ups that formed Centrobe, success could be elusive. For its part, MCI WorldCom has admitted to problems in assimilating prior acquisitions.

MCI WorldCom will derive quicker benefit from EDS' expertise in systems integration, which it needs to integrate the IT infrastructures of the 68 companies that it has acquired in the past four years. Also, MCI WorldCom will strengthen its global telecom network substantially by grafting EDS' network onto it.

Both EDS and MCI WorldCom defended their freedom from conflicts of interest (such as noncompetitive pricing) by stressing their freedom to form new, opportunistic bidding partnerships with other vendors, such as IBM Global, AT&T Solutions, or CSC. If so, these high-profile alliances may affect the real world of bidding less than would otherwise be expected. There are no substitutes for the attractions of competence and price. Also, recall that the Banc One alliance, the

J.P. Morgan and Citibank contracts have brought all of these companies, including CSC, together for cooperative work. This will continue.

Was the EDS/WorldCom move merely a copycat repositioning of pieces with no tangible benefits? (Was EDS playing "catch up"?)

In many respects, this deal improves on the AT&T / IBM deal in 4Q 1998. For example, EDS paid no premium for Systemhouse over annual sales. In contrast, IBM sold to the highest bidder in an auction environment and the final price was above what IBM had expected.

Also, MCI Systemhouse left the playing field (assuming that it will be merged into oblivion). This crowds the top ranks of the largest vendors of IT outsourcing services. Systemhouse had clearly failed to fulfill its promise when it was acquired by MCI WorldCom and lacked sufficient size to bid credibly on large contracts as a serious competitor. (We can't help wondering why CSC and IBM Global were not attracted by these assets. They were clearly among the "large systems integrators" to whom MCI shopped Systemhouse over recent months.)

Its 9,500 employees at 120 offices could, in theory, fill almost all of EDS' currently advertised vacancies. While no layoffs are anticipated, staff mismatches due to skills and/or geography could sour employee relations despite EDS' relatively good track record.

EDS cut a better deal than AT&T, which, we think, is still trying to determine if it purchased an "albatross," or "the crown jewels." Key differences between the respective networks include:

The IBM network was primarily used for internal purposes. In contrast, EDS' network was developed to serve its commercial customers including GM's worldwide staff (who were more demanding than IBM's captive network users).

The IBM Network has established dial up nodes in 53 countries as well as a substantial number of consumer ISP accounts.

The EDS network is deployed primarily in North America and lacks significant ISP accounts.

If so, MCI WorldCom got less from EDS than AT&T got from IBM, even though the magnitude of AT&T's required, new capital investments in the network is still unknown.

Which global strategy will win--the partnership approach (whether AT&T/IBM Global, or EDS/MCI WorldCom), or the independent approach of CSC?

Several years ago, CSC rejected the option of aligning itself similarly with a telecom partner, believing it important to retain the independence and freedom to select best-of-breed bid partners as needed. It believes that

customers will prefer a vendor without strings that is able to cut low-cost, arms-length deals.

Nevertheless, our check with CSC customers suggested that at least some of them would--as contracts come up for renewal--find the EDS / MCI WorldCom partner approach sufficiently unseductive to warrant new competitive bidding. If so, CSC will find itself under increased bidding pressure, which may cause it to reconsider its basic strategy.

Beyond that, both customers and smaller vendors report that size isn't always a plus, either in banks or IT vendors. The largest customers with global businesses may be obligated to prefer the largest vendors of IT services, but smaller competitors will continue to capture a sizeable share of business with customers at the next tier down.

These customers don't want to relinquish control of their critical applications to these "end-to-end" vendors. Also, they prefer being a major client of a small vendor than a statistic on the sales list of the largest vendors.

Will customers of MCI Systemhouse and EDS welcome, or react with suspicion to this new alignment?

In the largely transparent, highly regulated federal market, this partnership is unlikely to change anything. Bidding teams will still be formed, unformed and adjusted according to the requirements of the RFB.

While MCI WorldCom and EDS managements insisted that customers demanded "seamless, end-to-end" solutions that included IT systems integration and telecom services, others are skeptical.

Also, customers may be skeptical of the "preferential" access and/or pricing that EDS and MCI WorldCom customers have been promised. Those who find preferential treatment attractive may be offset by others who resent their reduced scope of choice.

The partners don't expect defections by current customers under contract-"at first"-but this risk will overhang the deal for at least the next six months. Reasons will vary, but large numbers of disgruntled customers will be a sure sign of danger ahead.

In which market segments will the partners gain an advantage? In which will they be vulnerable?

This deal should vault EDS from the fourth or fifth rank in the

Canadian market to the number two spot, after IBM Global Services, based on MCI Systemhouse's installed base of business and 1,400-strong technical staff in place, primarily in the Ottawa area. Smaller Canadian vendors, such as CGI, have been doubling their revenues each year for several years and this move may stall their growth.

Despite potential conflicts of interest, the MCI WorldCom / EDS juggernaut will likely make a formidable bidder for top-tier outsourcing contracts in the $500 million-$1 billion + category; customers at this level are typically spending on business process management that permits them to focus their resources on core competencies.

Because execution depends increasingly on efficient, internal data flows, as well as communications with customers and markets, there is no longer any way to separate "plain vanilla" systems integration work from network / carrier management.

The sizzle for customers today is in electronic business and the Internet. They demand superior network services. Without a telecom partner, EDS believed itself to be at a marked competitive disadvantage. Without a major systems integrator, MCI WorldCom was "just" a telco, albeit an impressive one.

And there were some danger signs for EDS. Among them, will Bernie Ebbers of MCI WorldCom and newly appointed EDS CEO Dick Brown work well together? Brown's prior achievements at Cable & Wireless demand respect, but will their egos clash? This deal was essentially ready when Brown first came to EDS, but he delayed its completion until he could scrutinize it. This could be an example of management prudence, or a danger sign regarding terms. Another danger sign: Dick Brown refused to provide targets in regard to EPS growth or cost-savings.

He and Bernie Ebbers merely emphasized their goal of "building the top line" of revenue growth, which echoes the hubris of bankers merging for "size." Despite their obligatory talk about "building shareholder value," neglect of cost-savings and higher profit margins could cause the unraveling of this otherwise promising partnership.

Will the Deal Unravel?

In September 1999, held a press conference at which he expressed overt pessimism that the outsourcing agreements and purchase of MCI Systemhouse would be closed as expected.

Climbing down from the enthusiasm expressed initially, Brown now

predicted "at best" a 50/50 chance that the deals would be completed by year-end 1999, already a significant delay from the June 1999 closing that had been expected previously. Brown said that, if the two sides were unable to agree on terms for the paired outsourcing contracts, EDS could renegotiate the $1.6 billion price to be paid for MCI Systemhouse. Brown continued to favor the acquisition, but made a significant admission when he added, "It's clear [that] we wouldn't have bought Systemhouse as a single transaction," meaning as a stand-alone deal apart from the outsourcing contracts. However, he declined to clarify the specific issues that remained between EDS and MCIWorldCom.

A consultant familiar with the companies speculated that the delay reflected merger problems between the MCI and WorldCom halves of MCIWorldCom. He speculates that the MCI half dislikes outsourcing while the WorldCom half promotes it.

3. Getronics / Wang Global

The $2 billion acquisition of Wang Global by Amsterdam-based Getronics NV was announced in early May. The new entity will be the world's fifth-largest professional services supplier and a major, global player in the network services market with $4.8 billion in revenue, 33,000 employees, and operations in 44 countries. The deal caught observers by surprise, not because a sale of Wang Global hadn't been expected, but because acquirer Getronics, with 1998 sales of $1.7 billion, was the smaller of the two companies.

Getronics announced that three institutional investors had agreed to purchase Dfl 1 billion of equity on the condition that the Dfl 3.7 billion bid for the 100% acquisition of Wang Global is completed.

The new, combined company—to be called simply Getronics—is expected to be the largest supplier of desktop and network services in Europe. Also, the move will boost the ability of Wang's government unit to compete in the federal sector—albeit with some complications that result for its new, foreign ownership. In 1998, Wang did $378 million (12% of total revenues) in government sales compared to Getronics' $398 million (23% of total revenues) in public-sector sales. The planned acquisition is expected to close in June and represents Getronics' entry into the American market where it will compete directly with EDS and IBM Global. While no layoffs are anticipated at Wang, the "Wang" name is expected to be dropped.

The primary benefits of the acquisition will be increased size and better geographic coverage. Getronics is strong all over Europe, except for Sweden and Germany. Wang derived only about 35% of its

revenues in the U.S.

Nevertheless, the deal has provoked some skepticism due to overlapping products and services, Wang's inability to "re-invent" itself successfully in the past, and the general pitfalls inherent in large M&A deals. Wang reported a net loss of $55 million for 1Q 1999. Both entities are relatively week in the high-margin, high-growth market segments of large-scale enterprise IT systems integration and network management.

Other significant, recent alliances and partnerships include:

4. Andersen Consulting / J. D. Edwards

Andersen Consulting and J.D. Edwards announced a global strategic alliance to provide professional services, business strategy and enterprise software product targeting companies worldwide. The alliance will bring about a joint effort to transform the information infrastructure of organizations through the development of strategies, new business process and assisting in the management of pervasive organizational change. J.D. Edwards will install their software portfolio in all Andersen Consulting Enterprise Business Solution Centers, which enable collaboration, research, business process reengineering, change management and knowledge sharing, on-site.

Anderson Consulting approaches the alliance as part of their strategy to forge deep relationships with fast-growing companies, transforming their business infrastructure and integrate areas such as E-Commerce, supply chain optimization, customer relationship management, and human resources. The alliance builds up on J.D. Edwards' "Idea to Action" strategy that enables customers to change their systems as needs dictate, ensuring predictable and viable solutions as technologies change.

5. Vantive / IBM

The Vantive Corporation announced a premier partnership with IBM Global Services in May, as part of their Industry Partner Program. The partnership will deliver e-business and e-customer relationship management solutions and products by offering systems integration consulting and services in support of Vantive software. The general feeling among Vantive executives is that the partnership will help boost the deployment of Vantive's software and services on a global scale, this is attributed to IBM's expertise in providing customer-centered business solutions as well as their global reach as the largest software services provider.

Vantive's e-CRM software is the main focus of this partnership, as well as emphasis on rapid delivery of the benefits of the software to customers. In addition, it is hoped that, the partnership will address the growing CRM market while allowing Vantive to better serve clients who have selected the their suite of products for CRM initiatives.

6. SAIC / France Telecom

SAIC, the largest employee-owned research and engineering company announced a partnership agreement with France Telecom one of the world's leading telecommunications carriers. The benefits to be reaped from this partnership are clearly advantageous for both companies. The partnership will explore opportunities in electronic commerce and next generation networks, that both companies hope will develop into more opportunities to expand into additional technology markets.

France Telecom described this partnership as a demonstration of, "...our determination to meet customer needs as proactively as possible, by associating ourselves with market leaders in systems integration ".

7. Microsoft / AT&T

Microsoft announced that it was investing $5 billion in AT&T in an effort to widen its presence on the Internet. AT&T will increase its use of Microsoft software for advanced, set-top devices that provide access to telephone service and the Internet for cable TV subscribers. The deal foresees Microsoft capturing up to 40% of AT&T's cable software purchases. AT&T deflected concerns that this move would create anti-competitive, monopolistic market domination by the two companies by clarifying that Microsoft Windows CE operating software would not be used exclusively.

This became a concern due to AT&T's parallel acquisition of Media One Group for $58 billion, which made AT&T the nation's fourth-largest cable company, providing service to25 million households. Of these, 7-10 million will be configured to use Microsoft software. Skeptics fear that an alliance between the largest American software vendor and soon-to-become the nation's largest cable company will enable them to control critical access to the mass residential consumer market.

In February 1999, AT&T won FCC approval for its $32 billion acquisition of TCI, the second-largest cable company in the U.S.

8. PeopleSoft / Corio

Leading ERP software vendor PeopleSoft announced that it had made an equity investment of an undisclosed amount in Corio, a high-profile Application Service Provider (ASP). Also, the companies said that they would undertake joint research and development as well as coordinate their sales and marketing efforts. Furthermore, this

agreement gives Corio uninterrupted access to PeopleSoft's ERP products over the next five years. Corio rents Internet access to packaged financial,

manufacturing and HR software from PeopleSoft and host them on servers operated by Exodus Communications.

This development most directly affects Annapolis-based USInternetworking, a key Corio rival in the ASP market. USI also offers PeopleSoft ERP products on a monthly rental basis. It remains unclear whether the Corio investment will jeopardize USI's competitive offer.

9. Computer Sciences Corporation / Cognizant Technology

Wanting also to strengthen its presence in the application outsourcing market, CSC announced a strategic agreement with Cognizant Technology whereby CSC would market Cognizant's application outsourcing and R&D capabilities in Europe

10. Policy Management Systems / Lockheed Martin Integrated Business Solutions

Policy Management announced a strategic agreement with Lockheed Martin's business services vendor, IBS, to enhance the delivery of systems outsourcing and related IT services. Policy Management Systems offers enterprise-wide, proprietary systems and follow-on professional services outsourcing to property/casualty and life insurers and other financial services providers. Lockheed Martin's IBS unit offers various IT services, including data management, e-commerce solutions, mobile computing, Web solutions and object-oriented technologies. The unit had $6.5 billion in sales in 1997. The goal of the alliance was to enhance the vendors' ability to capture new outsourcing contracts.

11. Sema Group / BroadVision

In January 1999, Paris-based Sema Group announced a strategic alliance with (and a $5 million investment in) U.S.-based Internet software vendor BroadVision to develop systems for the telecom industry that permit consumers to receive bills and make payments over the Internet (EBP&P).

The move highlights Sema's aggressive move to strengthen its competitive position as a provider of IT services and to diversify away from its traditional base in aerospace and defense-related business. Currently, only 4% of Sema's revenues are generated in the U.S. market. The telecom industry, particularly the mobile sector, has been a special target for Sema. This sector represented 18% of Sema's first-half 1998 sales.

Restructurings

Mergers

On June 1, 1999, **AT&T** announced its completion of its $5 billion purchase of IBM Global Network, Japan from IBM. The acquisition will fold into its AT&T Solutions Group, a professional networking services business and the business will be renamed AT&T Global Network Services (AGNS). According to AT&T this deal will boost its assets and increase its workforce by 250 in Japan. In preparation for this deal, AT&T had made an earlier agreement with Nippon Telegraph and Telephone under which the two companies will work to operate jointly, invest in, and develop AGNS in Japan.

Healtheon, a web-based ASP and WebMD agreed, in late May, to merge to form an end-to-end Internet health care and e-commerce company in a $5.5 billion stock swap. The merger is seen as a means to dominate application services for the primary healthcare market in North America. It is expected to complete in the third quarter and the new company will be called Healtheon WebMD. Investors have pledged a total of $360 million with another $330 million pledged in order to substitute for monthly subscription payments over the next five years and an additional $180 million in advertising/sponsorship guarantees. It is hoped that the merger will lead to a rapid increase in market penetration from WebMD's existing base of 5,000 doctor subscribers.

Acquisitions

In early May 1999, **PricewaterhouseCoopers** announced the acquisition of the management consulting practice of KPMG in Belgium. The transaction involves the transfer of five partners and 70 consultants from KPMG into PricewaterhouseCoopers, Belgian management consulting practice. The pact promises to deliver enhances services to their clients and is the latest of a series of transactions that go to demonstrate the aggressive growth strategy of PricewaterhouseCoopers.

Computer Sciences Corporation acquired a majority interest in the Austrian I/T service firm Servo Data. The acquisition catapulted CSC into the position of leading I/T services provider in Austria as it acquired Servo Data's approximately 300 employees with annual sales revenue of $32 million.

The integration of operations will be carried out over the next 12 months resulting in combined operations that will have more than 400 employees and promises annual revenues exceeding $45 million. This acquisition, according to CSC's executives provides a strategic

doorway to expand their services in Eastern Europe.

Computer Associates International, Inc. (CA), the world leader in mission critical business computing, announced in early June, 1999 the closing of its acquisition of PLATINUM technology International, inc. (PLATINUM). CA has completed payment for all validly tendered shares of PLATINUM, at a price of $29.25 per share - in cash. The merger will become effective as soon as practicable, after the satisfaction of the conditions set in, and subject to the terms of the Agreement and Plan of Merger among PLATINUM, HardMetal, Inc. (CA's wholly owned subsidiary which offered the tender), and CA.

Cap Gemini (CG) acquired Beechwood, Inc., a specialized vendor of IT services for telephone carriers, for $200 million. This deal represents an important first step in CG's plans to expand through acquisition into the American market. Beechwood had $56 million in revenue in 1998 selling telecom operations support systems that oversee traffic and customer accounts.

The acquisition brings CG's US headcount up to 4,000. In the telecom sector, CG has a strong position based on a team of 750 consultants, anticipated 1999 revenue of $130 million and a full range of offerings.

CompuCom, the network integration vendor, paid $137.4 million to purchase Entex's Information Services division (TASD), which had $1.8 billion in sales for the 12 months ending in March 1998. This move enhances CompuCom's ability to serve Compaq, which also announced a drastic reduction in the number of resellers that it planned to use in the future. Post-acquisition, CompuCom will rank just behind Inacom. Management believes that it accelerated CompuCom's growth by two years compared to the time it would have taken to build a comparable division from internal resources.

The acquisition brings CompuCom 1,000 TASD employees, an inside sales force and senior executives. However, CompuCom is restricted for one year from selling into Entex's top 100 accounts.

Entex management considered the sale of TASD to be a pre-emptive strike in advance of Compaq's drastic paring of its re-seller distribution list, and a general restructuring of the VAR business. It intends to concentrate on developing new services business in three main areas: (1) professional services (comprising systems, groupware,, enterprise management and inter-networking), (2) outsourcing and (3) technical resources, including high-end staffing solutions.

Keane acquired Parallax Solutions, a consulting firm that specializes

in the automotive, retail finance and capital market industry sectors. Parallax had an annualized revenue run rate of £9 million. This move represented its second U.K. acquisition within the last ten months. Keane described the move as part of an effort to reinforce its expertise in building customer-transaction applications for e-commerce. Overall, the acquisition fills out Keane's capabilities in the area of Customer Relationship Management software used to track sales, customer service and call center operations. Secondarily, these developments benefit Keane's profile as an IT outsourcer.

In March 1999, Keane acquired Boston-based Advanced Solutions, a vendor of applications development software and e-commerce solutions.

Computer Associates acquired H-W Services, an Australian vendor of financial software and services whose clients include major Australian corporations and government organizations.

French-based **Alcatel** spent $2 billion to purchase Xylan, a U.S. vendor of data networking software used to handle Internet traffic.

USWeb / CKS continued its international expansion by acquiring Case Consult, a professional services firm specializing in Internet application design and development, with offices in Belgium and the Netherlands. This brings USWeb / CKS' European headcount to 550 in eight countries.

In a bid to strengthen its capabilities in Customer Relationship Management offerings, Oracle acquired Tinoway Nederland, a vendor of field service software that links field service agents to their home offices over a wireless network. This represented Oracle's third acquisition within the past eight months. Oracle described the move as a bid to "topple" Siebel Systems as the top-ranked vendor of front-office software. Siebel had 1998 revenues of almost $400 million and has its own Web-based product line.

SAIC acquired Boeing's government information services division, which has estimated annual revenue of $250 million. The estimated sale price is 50-75% of this figure. Overall, the unit appears to offer a good fit with the rest of SAIC's business, which is heavily weighted toward the federal sector.

Exodus Communications acquired Cohesive Technology Solutions for $100 million as a means of strengthening its capabilities in the areas of networking, Web applications and technology solutions. The move was aimed at reinforcing Exodus' position as a vendor of managed services, particularly mission-critical Internet sites. The

market for such "complex Web hosting" is estimated at $8 billion.

Computer Associates' proposed $3.5 billion acquisition of Platinum Technology was subjected to intense regulatory scrutiny on the basis that it may be anti-competitive in the market for enterprise software.

Similarly, the Justice Department investigated **First Data's** bid to acquire 45% of Paymentech for $408 million (the remaining shares are owned by Banc One). The proposed acquisition would join the first and third-ranked U.S. bank card transaction processors.

Montreal-based **CGI** strengthened its position in the U.S. market by acquiring DRT Systems International, a unit of Deloitte Consulting that offered systems development and systems integration services. Paying between $40-60 million for Toronto-based DRT, CGI will benefit from the fact that 80% of DRT's revenue is generated in the U.S. At present, CGI is the sixth largest IT firm in North America. DRT has annual revenues of $100 million and CGI had pre-acquisition revenues of over $1 billion. In addition, CGI gains almost 1,000 skilled professionals.

In February 1999, **Inacom** announced its acquisition of Vanstar for $465 million, creating one of the world's largest IT services companies with nearly $7 billion in revenue ($850 million from services) and 12,000 employees. Omaha-based Inacom specializes in the design and installation of large, corporate computer systems. Atlanta-based Vanstar builds and manages large PC networks for public and private-sector enterprises.

Initial Public Offerings

IXL Enterprises, an Atlanta-based, global Internet services company, completed its Initial Public Offering of six million shares of its common stock, on June 3, 1999. The barely three-year old company, has since its inception, acquired more than 34 Web, video, and interactive media companies, boosting its revenue to nearly $65 million in 1998, while accumulating a debt of up to $55 million about a third of it long-term. The new shares of the company opened at $15 1/8, well above the $12 offering price and surged to 24 ½, easing down to around $19 in late trading. Net proceeds of the offering will be used for repayment of debt and general corporate purposes, including working capital requirements and acquisitions.

Cap Gemini announced plans to list its shares on the New York Stock Exchange—ostensibly as a vehicle to facilitate these anticipated U.S. acquisitions.

During 1Q, 1999, German vendor **Siemens** announced plans to spend $600 million on acquisitions of U.S. data networking companies in an effort to become a major supplier of Internet technology. While details are as yet lacking, Siemens may have spent as much as $1 billion in total in March acquisitions.

Shares of **Razorfish**, an April IPO, more than doubled during their first day of trading, documenting once again the depth of investor demand for Internet stocks. Razorfish provides Web site design and other Internet-related services. The vendor has already attracted an impressive client list and begun to siphon business away from the major outsourcing vendors, such as EDS, that would otherwise have expected to win Electronic Markets contracts from such clients (Charles Schwab and eBay).

Hoping to duplicate this success, **Viant,** another professional services provider, announced during 1Q 1999 an IPO by which it hope to raise $50 million. Viant offers consulting services to clients wanting to integrate the Internet into their business strategies. These services include help in setting up Web sites suitable for e-commerce transactions, as well as help in setting up intranets and extranets.

Such Internet-based, professional services firms could generate over $30 billion in annual revenue by 2002 compared with $5 billion in 1998.

Overall, Internet IPOs did very well in 1Q 1999. Compared to 1Q 1998, the total value of 1Q IPOs rose a record-breaking 50% to $11 billion. The top two best-performing IPOs were **VerticalNet** (an operator of Web sites for business-to-business e-commerce), up 549%, and **Healtheon** (a vendor of specialized health care document and business process automation), up 432%.

Shares of **Perot Systems** rose 20% immediately after the company's February IPO.

III

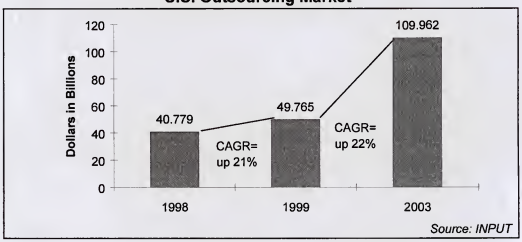
U.S.— Operational Services

A
U.S. Outsourcing Market to Average 22% Annual Growth Until 2003

INPUT's overall forecast for the U.S. outsourcing market including business operations outsourcing is shown in Exhibit III-1.

Exhibit III-1

U.S. Outsourcing Market



Source: INPUT

The U.S. continues to be the most advanced outsourcing market in the world with:

- A strong emphasis on desktop services and network management
- A wide range of business operations outsourcing contracts.

Reflecting the rapid growth of e-business and e-commerce, INPUT has included for the first time forecasts for the "Internet / Intranet Management" segment, which includes primarily Web-hosting contracts and related services that directly support business done on the Internet.

Exhibit III-2 forecasts the U.S. outsourcing market by delivery mode over the period 1998-2003.

Exhibit III-2

U.S. Outsourcing Market, 1998-2003

	Market Forecast (U.S. $ Millions)				
	1998	Growth 1998-1999 (%)	1999	Growth 1999-2003 (%)	2003
Platform Operations	7554	*9*	8234	*3*	9369
Desktop Services	4947	*24*	6134	*20*	12719
Network Management	4889	*26*	6160	*21*	13205
Applications Management	1469	*20*	1763	*23*	4035
Applications Operations	13522	*17*	15821	*14*	26721
Internet/Intranet Management	1034	*102*	2089	*90*	17445
Total IS Outsourcing	**33415**	***20***	**40200**	***20***	**83494**
Business Process Operations	7364	*29*	9565	*29*	26488
Total Outsourcing	**40779**	***21***	**49765**	**22**	**109982**

Source: INPUT

This chart provides a complete forecast for outsourcing including the business operations activity carried out by IT services vendors.

Business Operations contracts are becoming more and more commonplace as companies move beyond IT outsourcing. Acceptance for this kind of contract is now growing in the state & local government sector, the telecommunications sector, and the transportation sector.

Although the IT outsourcing market has shown high growth rates for a number of years, there are no signs of growth slowing at any time during the forecast period to 2003. Beyond that date, innovations in e-business and e-commerce will likely accelerate the desire of organizations to outsource as a way to focus on core competencies and remain competitive.

The current high market growth is being sustained by the simultaneous impact of a number of factors, including:

- The redeployment of budget allocations that had been directed toward Y2K remediation to outsourcing services that support e-business and e-commerce. Y2K fears had motivated much of the demand over recent years for IT infrastructure management and, in particular, desktop services. The end of remediation allocations are not forecast to result in lower levels of overall spending.

- The prior trend towards distributed IT infrastructures is being offset by a parallel move back to centralized computing due to renewed interest in thin-client configurations based on Internet appliances that lack any independent processing capacity. Also, electronic commerce is putting legacy network infrastructures under considerable pressure since these are typically inadequate to meet the demands of high-bandwidth, highly scaled Internet-enabled transactions either within the enterprise, or with external clients and partners.

- As "Internet rates of speed" infect rates of technology change within the IT industry as a whole, clients are increasingly reluctant to undertake independent, in-house migrations to upgraded architectures and applications. Outsourcing offers an increasingly attractive way to control costs, maintain high levels of secure, reliable functionality, and retain access to expertise in staff and technical solutions.

These driving forces will have greatest impact on Internet / Intranet management, to a lesser degree on distributed systems management, i.e. desktop services and network management, and fall heavily on application management, which is being transformed by the advent of the Application Service Provider (ASP model, which comes in several varieties. Consequently, there will be a relative decline in the importance of data center management though this will likely be offset by the demand for centralized computing to support e-business and e-commerce.

Clearly, it will still remain an important component of total IT infrastructure management and applications operations contracts. While the "glass house" of prior years is not poised to return, organizations are becoming increasingly aware of the costs and limitations of distributed computing in the Internet age.

Exhibits III-3 and III-4 provide summary details of significant contracts over $300 million (on a projected total contract value basis) for first half 1999 on a global market basis.

Exhibit III-3

Major Contracts Announced: 1Q 1999

Vendor	Customer	Industry	TCV ($m)
IBM Global Services	Washington Mutual	Banking & Finance	1000
Qwest Communications	TRW	Federal Government	1000
MCI WorldCom	GSA [FTS 2001]	Federal Government	750
AT&T Solutions	McDermott International, Inc.	Discrete Manufacturing	600
EDS	ENI	Process Manufacturing	466
Wang Global	Lockheed Martin	Federal Government	453
IBM Global Services	Dayton Hudson	Retail Trade	400
EDS	Australian Tax Office	Govt. - Int'l (N)	350
IBM Global Services	Mitsubishi Trust	Banking & Finance	350
Siemens Business Information Services	Global One	Telecommunications	328
CSC	Republic Services	Banking & Finance	320
ICL	Lord Chancellor's Dept. [UK]	Govt. - Int'l (N)	302
CSC	AT&T	Telecommunications	300
IBM Global Services	Ford Motor Company	Discrete Manufacturing	300

Source: INPUT

Exhibit III-4

Major Outsourcing Contracts Over $300m, 2Q 1999

Vendor	Customer	Industry	TCV ($m)
Tech Data	GE Capital IT Solutions	Business Services	6000
Nortel	Bell South	Telecommunications	5000
SRA International	GSA (Millennia)	Federal Government	5000
EDS	Delphi	Discrete Manufacturing	2500
SAIC	GSA (Millennia)	Federal Government	2500
EDS	National Association of Securities Dealers	Misc. Industries	2000
Litton / PRC	GSA (Millennia)	Federal Government	1895
Lockheed Martin	GSA (Millennia)	Federal Government	1895
DynCorp	GSA (Millennia)	Federal Government	1895
Logicon	GSA (Millennia)	Federal Government	1895
OAO Corp	GSA (Millennia)	Federal Government	1895
Raytheon	GSA (Millennia)	Federal Government	1895
Booz-Allen Hamilton	GSA (Millennia)	Federal Government	1895
Boeing Information Services	GSA (Millennia)	Federal Government	1895
CSC	GSA (Millennia)	Federal Government	1895
CSC	Pratt & Whitney	Discrete Manufacturing	1200
CSC	Enron Energy Services	Discrete Manufacturing	1100
IBM Global Services	Parion	Insurance	800
CGI	BCE Mobile	Telecommunications	509
UNISYS	GSA (Millennia)	Federal Government	445
CSC	Fidelity & Guaranty Life	Insurance	425
EDS	General Motors	Discrete Manufacturing	335
Lockheed Martin	Gateway	Discrete Manufacturing	300
IBM Global Services	Ford Motor Co.	Discrete Manufacturing	300

Source: INPUT

Trends Turnaround: Average Contract Values Rise, Median Values Fall

In 2Q 1999, total contract values rose at a very high rate of 230%, shedding fears that Y2K has not caused significant deferrals of IT spending and that growth in new markets will offset weaknesses in traditional markets. The U.S. economy remains strong, as evidenced by its 97% share of total contract value in 2Q 99.

Contract award data verify the continuing trend toward reduced dominance by major vendors and market share gains by a plethora of smaller vendors that are winning medium-to-small-sized contracts. However, the median contract value dropped 83% as the composition

of outsourcing customers changed during the quarter. Despite a series of Federal GSA contract wins at the billion-dollar level, the large number of number of small, million-dollar contracts still dominated the market.

Exhibit III-5 demonstrates on a quarterly comparison basis for total contract values the offsetting trends during recent quarters.

Exhibit III-5

Comparison of Trends in Quarterly Contract Awards

Quarter	Total Value (mil)	% Ch.	Average (mil)	Value % Ch.	Median (mil)	Value % Ch.
2Q 1998	$12,115	+10	$130	+46	$63	133
3Q 1998	$18,797	+55	$269	+107	$50	-20
4Q 1998	$30,708	+63	$291	+8	$30	-40
1Q 1999	$15,241	-50	$221	-24	$100	+233
2Q 1999	$50,338	+230	$275	+24	$17	-83

Source: INPUT

While the total value of quarterly contracts rose 230% in 2Q 1999 from 1Q 1999, the average contract value rose only a fraction as much (24%), which unlike previous quarters keeps a handful of billion-dollar contracts from obscuring the total market trend.

The decline in median contract value (-83%) between 1Q and 2Q reflects the large number of small contracts from diversified vendors that serve mid-size companies rather than a plethora of large federal sector contracts.

There were seventeen $1 billion, or larger, contracts awarded in the quarter, but almost 140 contracts valued at less than $100 million. And once again, vendors sharing these lower-valued contracts included some of the largest players, including AT&T, Lockheed Martin, CSC, UNISYS, EDS, Andersen Consulting and SITA. Also, some of the smaller players received awards in the billion-dollar range, as we saw last quarter.

Customer Satisfaction with Outsourcing Vendors Eroding

Clients of outsourcing vendors in the U.S. are typically satisfied with the overall service that they receive. Yet, when asked the likelihood of their renewing contracts with their current supplier, approximately 20% said it is currently likely to switch outsourcing vendors on contract renewal. Three principal challenges emerged in 1998 to explain the dilemma: vendors need to deliver higher levels of client responsiveness, achieve greater business benefits, improve value for

money and contractual flexibility.

Clients perceive that vendors' reactive service capabilities to have worsened in the last year. However, this probably reflects less a fall in standards of service by the vendors than the rapidly increasing numbers of personnel dependent on IT and the strain being placed on help-desk services. In addition, the contractual style of outsourcing often appears cumbersome, making change management a difficult process for clients.

The result is that clients often perceive vendors to be inflexible both in terms of reacting to, and anticipating, changing circumstances. Vendors need to overcome these negative impressions of outsourcing. Also, if outsourcing vendors are to become business advisors and change agents, they must develop contractual styles that complement the implementation of change rather than impede it. Despite much talk of shared risk/reward, such contractual styles are currently rare. In practice, vendors are frequently reluctant to take on a level of risk that threatens more than their profit margin on an individual contract. At the same time, clients tend to negotiate a fixed price and are often reluctant to make major investments outside their existing contractual agreements. The resulting stalemate can lead to stagnation of the client's IT and a lack of process innovation.

Outsourcing Contract Activity Remains Robust, Defying Predictions of a Y2K-Induced Downturn in Spending

At more than $50 billion on an estimated total contract value basis, IT outsourcing contract activity in 2Q 1999 rose more than three times above the 1Q level of $15.2 billion, and more than four times the 2Q 1998 total of $12.3 billion—both on the basis of projected total contract values.

INPUT identified 183 significant contracts whose total value reverses 1Q's dip, based primarily on 55 contracts awarded in the federal sector with an estimated value of $27.3 billion. However, even when IDIQ federal contracts with indefinite values are excluded (GSA's Millennia project), total commercial sector contract activity of $24 billion rose 162% over 1Q and 232% over 4Q 1998's total value of $7.3 billion. More importantly, these figures include as well the cancellation of the EDS award from the State of Connecticut, which had been valued at over $1 billion. Tech Data was the top vendor in 2Q with a 12% market share based on a huge contract win from GE Capital IT Solutions

Excluding the large federal Millennia project, Tech Data took a 34% share of 2Q total contract values, Nortel, 28%, followed by EDS with

25% and CSC with 13%. Tech Data took the top rank in the business process management segment, and IBM Global in the electronic markets and insurance segments. Nortel took the top spot in network management, EDS in manufacturing, Getronics Wang in banking, UNISYS in the state and local government segment and the Sabre Group in transportation. Geographically, North America dominated 2Q contracts (97%) compared with Europe's 3%, down from 11% in 1Q 1999.

The resurgence of strong contract activity in 2Q counters the skeptics who had forecast a severe downturn in spending on new outsourcing projects due to Y2K issues.

While there has been rotation among industry segments and contract types, overall spending remains robust. Also, EDS, CSC, IBM Global and other top vendors report huge pipelines of business yet to be finalized. Even if San Diego County were to back down from awarding an expected $1 billion outsourcing contract in September, the trend toward increased spending shows every sign of continuing. The State of Connecticut intends to spend large amounts, albeit in smaller contracts to a wider range of IT vendors

The leading outsourcing vendors in the US, based on projected total values of contracts awarded during the year backlog and on-going annualized revenues, are listed in Exhibit III-6.

Exhibit III-6

Leading Outsourcing Vendors, US 1998

Vendor	Estimate US Revenues ($m)	Estimated Market Share
IBM Global Services	5465	13.4%
EDS	4976	12.2%
CSC	2058	5.0%
First Data	1400	3.4%
Compaq	1152	2.8%
MCI WorldCom	1150	2.8%
Lockheed Martin Bus. Serv.	938	2.3%
FiServ	840	2.1%
Andersen Consulting	710	1.7%
ACS	600	1.5%
UNISYS	600	1.5%
AT&T Solutions	600	1.5%
Perot Systems	500	1.2%
Entex	309	0.8%
Convergys	300	0.7%
Hewlett Packard	320	0.8%
BISYS	290	0.7%
DynCorp	253	0.6%
Sabre Group	250	0.6%
PricewaterhouseCoopers	250	0.6%
Boeing Info Syst	225	0.6%
Pinacor	200	0.5%
GetronicsWang	159	0.4%
Cap Gemini	135	0.3%
Federal Data	110	0.3%
debis Systemhaus	66	0.2%
SunGard	50	0.1%
Sprint	50	0.1%
Siemens Business Inf. Serv.	50	0.1%
Subtotal	**24006**	**59%**
Other	16773	41%
Total	**40779**	**100%**

Source: INPUT

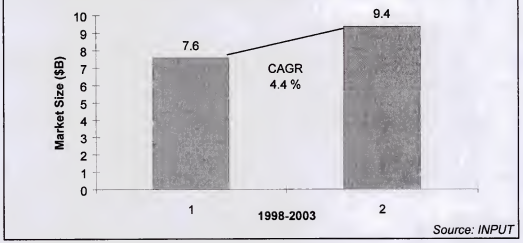
B

Platform Operations Decline Offset by Demands of E-Business

The growth rate of the platform operations segment within the outsourcing market continues to be the lowest by a wide margin. Nevertheless, this sector remains the second largest, accounting for 24% of the outsourcing market in 1996, 22% in 1997, 19% in 1998, slipping to only a forecast 9% in 2003. INPUT projects that this market will grow at a CAGR of only 3% between 1999-2003, increasing from $7.5 billion in 1998 to $9.4 billion in 2002, as shown in Exhibit III-7.

Exhibit III-7

Platform Operations Outsourcing Market, 1998-2003



Source: INPUT

The platform operations market continues to be driven by the desire to reduce the cost of running mainframe data centers and by the trend to phase out mainframes in favor of more distributed IT infrastructures.

In 1997, the datacenter management component represents nearly 50% of outsourcing revenues. But INPUT projected this component to fall to 30% of the market value by 2002.

Two new developments favor the view that this long-term decline may moderate:

1. The rising, urgent demand for infrastructure upgrades to accommodate e-commerce and related enterprise applications.

2. The renewed appeal of thin-client (network computers) systems in which limited function terminals (often without hard drives) and/or other types of Internet appliances; they are linked to a central server where all operating systems and applications reside, and which does computing as well as prove Internet access.

Some call this the "Return of the Glass House"; others call it the "Resurrection of the Mainframe." In either case, the trend may offset, or at least reduce the decline of the platform operations segment of IT outsourcing. This trend is being fueled by four powerful, corollary developments:

- The migration to wireless subnotebook computers and other special purpose Internet devices;
- The fast-growing attraction of XTML and Java programming to obviate dependence on Microsoft, or any other single operating system;
- The growing push by many organizations to reduce costs by eliminating the need for desktop PC upgrades, software maintenance and administration.
- The advent of Application Service Providers that deliver all-inclusive, Internet-based application services for which thin-clients are ideal end-user hardware.

Hoping to capitalize on all of these trends, in September 1999, Sun Microsystems introduced a new product, Sun Ray (formerly known as Corona) for $499 called by Sun an "enterprise application" or "internet appliance." Despite the disappointments that followed the introduction of "network computers" in 1997 and the long-delayed Java Station that was to serve as their primary rationale, the return of the new thin-clients comes with promise of greater substance.

The Sun Ray has no operating system and requires no client-based administration. Advocates are enthusiastic that the product is "stateless," meaning that it is ideal of "hot deskers", i.e., workers who migrate from office to office. They can utilize a thin-client terminal in any office by inserting a smart card with their personal identification and, as a result, access from a new office all of the applications and files that they were using at their prior location.

Much of the initial enthusiasm surrounding network computers in 1997 derived from their lower prices. However, in the months that followed their introduction, prices of ordinary PCs fell sharply, thereby rendering impotent the price argument.

Sun Micro is offering these new Sun Ray appliances on a lease

program for $9.99 monthly, including maintenance. Bundled deals that include server, software, switch, appliances and monitors will also be available.

IBM, Mitsubishi, Compaq and UNISYS have announced their intentions to follow Sun's initiative. IBM already reports a 40% year-over-year rise in sales of its own thin-client product, called Network Station.

The only requirement that is, at least temporarily restraining the enthusiasm of some, is the need for Sun Ray units to be connected to a high-speed data network with at least 100 megabit per second capacity for quality video transmission. Yet, this high-bandwidth requirement is compatible with the needs of ASPs. As a result, most organizations have (or are) committing themselves to upgrading their bandwidth capacity in any case—independent of any potential interest in the Sun Ray product.

This new product may not (yet) prove to be the long-heralded "PC-killer," but it may at the least stem the decline of the Platform Operations segment of the IT outsourcing market by encouraging a return to centralized computing and the need for centralized operational support.

As an example of how this trend is being reinforced, Microsoft and SAP announced at the end of August 1999 plans to develop technology for connecting Windows CE-based mobile devices to SAP's business applications through the Internet. The vendors envision that ultimately end-users will be able to utilize sophisticated SAP software applications through handheld, or wearable Internet appliances (Sun Spots?) that utilize XTML protocols.

Significant contracts signed in the 1998-1999 period include the following:

UNISYS / Subaru of America

In February 1999, Subaru of America awarded UNISYS with a five-year, $34 million contract to provide data center management, support for network operations and the help desk. In addition, UNISYS will support an IT network for 600 dealers and distribution centers, including PC and laptop support. In the contract's second phase, UNISYS will implement an e-commerce solutions and undertake a migration to midrange platforms.

EDS / U.S. Central Credit Union

This national credit union umbrella organization awarded EDS a seven-year, $50 million contract to enhance the client's Web-based capabilities and Internet connectivity to members [which comprise a national network of 11,000 credit unions]. The client's goal: to create

an electronic processing platform, which illustrates some of the trends discussed earlier.

debis Systemhouse / Freightliner Corporation

As a similar example of trends discussed earlier, in December 1998, Freightliner Corporation awarded German vendor debis Systemhouse (a subsidiary of Daimler Chrysler) a five-year, $70 million contract for comprehensive IT system support, including migration from client/server configuration to Internet-based platform.

ACS / Roadway Express

In September 1998, Roadway Express awarded ACS with a five-year, $115 million contract to maintain its worldwide technology platforms. This includes mainframe and midrange hardware along with LANs and frame relay communications technology.

C

Desktop Services — Desktop Services – Last Year's Commodity, Next Year's Puzzle

The U.S. desktop services market reached $4 billion in 1997 and an estimated $5 billion in 1998. INPUT forecasts that it will jump 24% to $6.1 billion in 1999, followed by a moderated, long-term CAGR of 20% over the five next year period ending in 2003 (see Exhibit III-6).

Over the past three years, the desktop services market has come to be regarded increasingly as a "commodity" suitable for "body shop" vendors (who staff their operations with indistinguishable "bodies"). As prices for desktop services have come down, large, high-overhead vendors have been abandoning the field to smaller, specialized vendors—except in those cases where desktop services can be bundled together with other, more lucrative services.

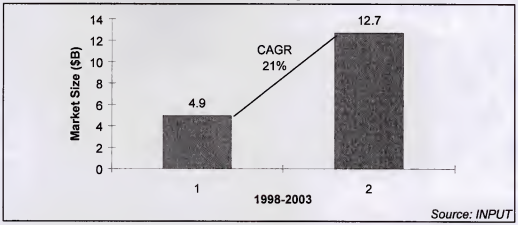
If so, why the puzzle?

While demand for desktop services outsourcing benefited from the long-term migration of organizations from centralized computing architectures and away from mainframes, for reasons discussed previously, the tide may be turning. Insofar as thin-clients and other Internet appliances gain in acceptance, the drive toward distributed computing may weaken. When it does, the demand for desktop services will weaken with it.

Accordingly, INPUT forecasts some moderation of growth in this market, reflecting the combined effect of changes in hardware, business models for delivering software, and e-business.

Exhibit III-8

Desktop Services Outsourcing Market, 1998-2003



Source: INPUT

The desktop services market is characterized by a wide range of vendors. Contract lengths also tend to be shorter in this market segment than other areas of the outsourcing market, typically around three years.

The federal sector has been particularly active, as evidenced by very large contracts awarded by the General Services Agency. NASA and the Department of Transportation for seat management.

For example, in January 1999, the **U.S. Department of Transportation** awarded **Lockheed Martin** a seven-year, $150 million outsourcing contract under the ITOP-II program for network support, software maintenance, seat management, help desk and telecom services. This IDIQ contract has a $10 billion potential for 25 award list vendors. Lockheed Martin has won two task orders. **UNISYS** won a similar award worth $200 million under the same program to provide systems engineering, operations and management services, including seat management, help desk, network mgmt, telecom, e-commerce and business process re-engineering.

Other significant contracts signed in the period 1998-1999 include the following:

Getronics / First Union

In April 1999, First Union—one of the largest banks in the U.S.—awarded a ten-year, $220 million contract to Getronics (then operating as Wang Global). Wang will provide desktop services, project and procurement management, network installation, and software support.

IBM Global Services / The Boeing Company

In September 1998, the Boeing Company awarded IBM Global Services a five-year, $2 billion contract. This represented the restructuring of an existing ten-year contract that had been signed originally with McDonnell Douglas before its acquisition by Boeing. The contract covers design and support of telephone and video teleconferencing services, responsibility for management of data center and desktop services.

DynCorp / NASA

In July 1998, NASA awarded DynCorp a ten-year, $1.2 billion contract for desktop and intranet services, along with desktop support, LAN management, and desktop management operations analysis and training

Getronics / NASA

In June 1998, NASA awarded a nine-year, $500 million to Getronics (operating as Wang Global) for desktop services, intranet services as well as desktop support, LAN management, and desktop management operations, analysis, and training

In addition to these major desktop services contracts, a large number of smaller-sized contracts for desktop services is signed annually.

D

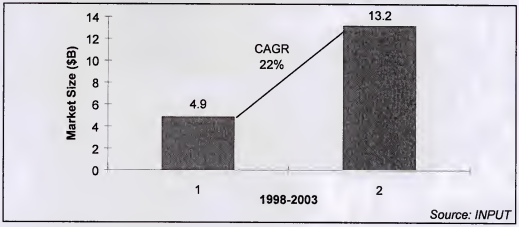
Network Management Growth To Benefit from Electronic Business Growth

After Internet/Intranet management and Business Process Operations, this segment has the third-fastest growing prospects for long-term growth.

Exhibit III-9 provides forecasts for the network management market over the period 1998-2003. The market is forecast to grow by 26% between 1998 and 1999, and at a long-term CAGR of 21% through 2003 when it will reach $13.2 billion.

Exhibit III-9

Network Management Outsourcing Market, 1998-2003



State of Virginia Breaks New Ground

In September 1999, the State of Virginia announced a large, new outsourcing contract for desktop services. This innovative desktop outsourcing initiative will include all state agencies, local governments and educational institutions, making it the first statewide seat management program in the nation.

The contract, which transfers responsibility for the state's desktop personal computers from the government to the private sector, will cover an estimated 60,000 desktops and be worth more than $70 million just among the state agencies.

Next month, Virginia's Department of Transportation will complete a one-year, $2 million pilot project with Halifax Corp. of Alexandria, Virginia, which took over desktop procurement, maintenance, technology refreshment, training and other services for more than 1,500 desktops for the department.

Under the Halifax contract, the average cost per seat for the department runs about $1,350, significantly less than the estimated $4,500 per seat cost when the department handled these services internally.

In addition to budget savings, seat management provided state transportation department with predictable costs, standardized equipment and state-of-the art technology.

A Seat Management Workgroup at the state level has been examining the outsourcing alternative since November 1998 and is preparing a report that will recommend moving to desktop outsourcing on a statewide basis.

An Aug. 17 draft report contains a number of significant recommendations, including:

- The scope of seat management could be modeled after multivendor programs among federal agencies;
- The technology secretary should establish a Seat Management Office as a point of contact for the state;
- Government agencies will need $7.2 million to fund the transition to a seat management program;
- Virginia should begin implementing the program by July 1, 2000.

The report forecasts the annual cost for seat management at about $1,200 per seat, though this will vary with the particular needs of the agencies and their users.

State officials were optimistic that local governments and state universities would embrace desktop outsourcing and pointed out that the Council on Technology Services included representatives from local government and Virginia universities as well as from the state government.

Both the University of Virginia and the College of William and Mary are preparing to implement seat management projects, and the University of Virginia has volunteered its initiative as a pilot project for higher education.

Desktop outsourcing is not expected to produce a revenue bonanza for local vendors, but it is expected to be a focus attention on this high-growth area. Although the Virginia initiative would be the first statewide desktop outsourcing project, many companies have received attractive contracts in this arena in different industries.

For example, in California, IBM has a nine-year, $217 million contract to provide desktop management and other services for California's child welfare system. In New York, IBM has two four-year contracts with a total value of $125 million to manage desktops for the state's child support enforcement system. Vendors see only slightly less interest in desktop services outsourcing at the state level than at the federal level.

In January 1999, UNISYS won a five-year, $75 million contract to provide network and desktop management to the city of Chicago, and Intellisource Information Systems Inc. of Vienna, Virginia, was awarded a desktop management contract by the city of Philadelphia.

The North Carolina Department of Health and Human Services also is developing a request for proposals for seat management that could evolve into a statewide program.

The two federal agencies that have been in the forefront of desktop outsourcing, the General Services Administration and NASA, have been very active. NASA awarded a $500 million task order to OAO Corporation of Greenbelt, Maryland, for services at four NASA centers over nine years, and a $114 million GSA task order to Litton-PRC Inc. of McLean, Virginia.

To make seat management more attractive for individual government agencies, which may be reluctant to give up ownership of their in-house IT capabilities, the states will try to structure their contracts with as much flexibility as possible to allow the agencies to select the vendors and services they want.

Halifax is developing a model for seat management that will allow government agencies and entities to select from a menu of desktop services. While desktop outsourcing can provide many benefits to government, the potential for cost savings is expected to remain its real selling point.

Other significant contracts awarded during 1998-1999 include the following:

UNISYS / The Harleysville Group

In January 1999, The Harleysville Group insurance organization awarded UNISYS with a three-year, $45 million contract to provide network design and deployment services; help desk support, remote network management & maintenance, and Y2K remediation. UNISYS also developed and managed the client's distributed computing environment.

Sprint / General Services Agency [FTS2001]

In December 1998, the GSA awarded Sprint a $750 million, eight-year contract to provide comprehensive telecom services, switched data, wireless and value-added services. The contract also included work on Internet-based services, billing, ordering, network management & repair capabilities. The contract has an $8 billion expansion potential and could be worth as much as $25 billion collectively to all vendors participating in the FTS 2001 program.

AT&T Solutions / IBM Global Services

In December 1998, IBM Global awarded a $5 billion, five-year

contract to AT&T Solutions in connection with the sale its IBM's Global Network to AT&T. IBM Global Services outsourced to AT&T through its subsidiary, AT&T Solutions all communications network management over the contract period.

ADP / Discover Brokerage Direct

In November 1999, Discover Brokerage Direct awarded a five-year, $15 million contract to provide full back office IT outsourcing services, including order processing and order network management.

EDS / Motorola

In September 1998, Motorola awarded EDS with a five-year, $150 million contract for the outsourcing of desktop systems management for 6,000 users. The contract also include systems management, server administration and network management, along with planning and consulting services.

UNISYS / Integrated Health Services (IHS)

In August 1998, IHS awarded UNISYS with a three-year, $42 million contract for help desk, network management, maintenance and asset management services

E

Application Management at Crossroads: Decline in Y2K Demand Countered by Strong Pull of ASP Model

The market for applications management outsourcing reached $1.5 billion in 1998 and is forecast to reach $4 billion in 2003. (see Exhibit III-10).

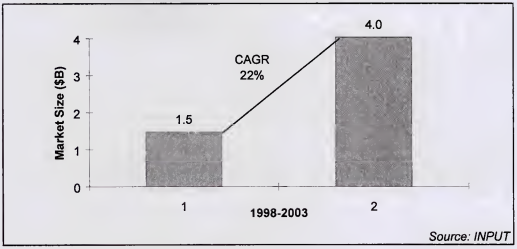
Application management is expected to show high growth rates over the forecast period as organizations position themselves to compete in an exploding e-commerce and e-business environment. As the complexity, cost and maintenance demands of mission-critical software applications rise, organizations are increasingly pressured (for reasons discussed above) to re-deploy their resources on mission-critical, core competencies. This pressure is inducing an increasing number of organizations to conclude that their application management functions can be safely and cost-effectively outsourced, probably to a specialized ASP.

The compounded annual growth rate (CAGR) over the period 1999-2003 is 23%, which is slightly higher than the outsourcing market as a whole, and up from the estimated 20% growth that occurred

between 1998 and 1999.

Exhibit III-10

Application Management Outsourcing Market, 1998-2003



Source: INPUT

One source of the relatively strong growth forecast for applications management stems from the inability of many organizations to hire or retain sufficient, high-quality IT staff required to maintain their in-house capabilities. Predications are being made that this shortfall could reach 1.2 million by 2003 under present conditions.

One survey found 400,000 jobs unfilled, despite rising salaries. At the same time, these same understaffed organizations explicitly shun worker training due to short development cycles and product lives. Companies need required applications, services and functionality now, and not in 6-12 months at which time new workers can be trained. Also, they are reluctant to invest money in workers who may well take their skills elsewhere after they gain valuable experience.

For these reasons, among others, outsourcing of application management will likely show strong growth. Outsourcing service vendors are able to offer staff much more attractive career opportunities than can most employers with their in-house IT staff. "Internet time" has spread to every aspect of business operations and e-commerce transactions are growing so rapidly that companies believe they have little alternative to availing themselves of outsources to obtain required services. The complexity and importance of integrating back-office systems with e-commerce sites demands immediate, not staggered solutions.

Beyond that, demand for sophisticated application management and application development services is fast shifting to specialists with Web and Java expertise. Attempts to retain staff with skills in these areas has proven extremely difficult.

Significant contracts for applications management awarded during the 1998-1999 period include:

USInternetworking / the Baltimore Sun

In June 1999, the Baltimore Sun newspaper awarded a three-year contract with an estimated value of $1.5 million to nearby, Annapolis, Maryland-based USInternetworking. USI will provide applications management and client support for The Sun's web site.

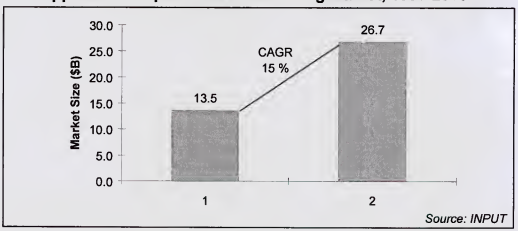
F
Applications Operations Affected by Transitional Factors

The applications operations segment dominates the U.S. outsourcing market, accounting for nearly 33% of the 1998 U.S. market. At the end of the forecast period, in 2003, it is expected to be matched by the Business Operations Management segment—each one representing 24% of the market Accordingly, INPUT estimates that—at $26.7 billion—the applications operations category will account for one quarter of the U.S. market in 2003

Exhibit III-11 provides forecasts for the applications operations market over the period 1998-2003.

Exhibit III-11

Applications Operations Outsourcing Market, 1998-2003



Source: INPUT

The applications operations market will grow over the forecast period, but at a markedly slower rate than the overall outsourcing market, 14% versus 22%.. Some of this growth will be at the expense of the platform operations market, as the principal drivers of IS outsourcing shift from cost reduction to improving the effectiveness with which IT supports e-business and e-commerce.

For a variety of reasons, the attractiveness of all-inclusive applications operations contracts appears to be giving way to more targeted, smaller contracts for applications management. Even these contracts may be segmented between prime and subcontractors. Organizations with several years of experience in IT outsourcing have increasing confidence in their abilities to manage multiple vendors. Also, they feel under intense pressure to obtain "best-of-breed" services, not merely whatever the largest outsourcing vendors may happen to be able to provide—after resources have been allocated to the vendor's most important customers.

Important applications operations contracts signed in the U.S. in the period 1998-1999 include:

SAIC / General Services Agency [Millennia]

The GSA awarded SAIC a ten-year, IDIQ contract with a total potential value of $2.5 billion for software engineering, communications, systems integration, software management and development.

Similar contracts in this program were awarded to Lockheed Martin, CSC and other vendors. (See prior comments on IDIQ contracts in Chapter I).

This contract, aptly named the "Millennia" contract, provides a broad range of high-quality information technology (IT) services, that will allow GSA to continue to use streamlined, responsive acquisition support procedures to meet the Federal government's demand for large system integration and development projects in a timely and cost effective manner.

The 10-year $25 billion contract, was awarded to 12 prime contractors namely; Boeing Information Services, Inc., Booz, Allen & Hamilton, Inc., CSC, DynCorp, Lockheed Martin, Logicon, OAO Corporation, PRC Inc., Raytheon, SAIC, SRA, and UNISYS Corporation. Under the terms of the contract, each contractor is expected achieve a small business goal of 35%. Within that 35%, 10% of the subcontractors must be small, disadvantaged businesses and 5% must be women-owned, small businesses.

G

Internet / Intranet Management Growth to Outpace All Other Market Segments

The Internet / Intranet Management market segment is showing very

high rates of growth that reflect the restructuring of global business toward electronic business and electronic commerce.

Electronic business (e-business) is rapidly becoming one of the most important methods of buying and selling goods and services. The term e-business is very broad, and covers everything from consumers purchasing products from Web sites to businesses transmitting purchase orders using decades old EDI technology. INPUT's definition of e-business encompasses the electronic sale or purchase of goods or services. This would include transactions involving the purchase of books online as well as buying insurance policies. E-commerce is a more narrow term, encompassing the electronic sale or purchase primarily of tangible goods, rather than intangible services.

According to INPUT's most recent market forecast for electronic business, the Application Software Products category, which includes both EDI and Internet based commerce-related applications that drive e-business, will grow from $1.9 billion in 1999 to $9.9 billion in 2003.

This market includes (among other types of applications) traditional EDI messaging software as well as newer Web based catalogs.

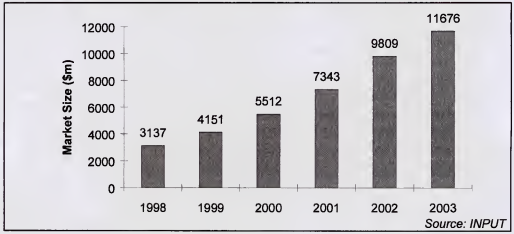
The total e-business market, of which outsourcing small parts, is discussed in detail in that report. Clearly, as Internet commerce grows in popularity and importance, companies are finding that designing, developing, and maintaining cutting edge Web sites and e-business applications is increasingly time consuming and expensive. In response to this development, a new breed of outsourcing services are being introduced to alleviate the headaches associated with managing high-volume Web sites.

These new companies are often called Internet data centers, Web service providers, or co-location firms. Much more sophisticated than yesterday's stodgy ISP, these high-performance co-location firms provide a sophisticated set of services including capacity on demand, multiple redundancies, enhanced security, system maintenance and monitoring, and database administration. Such services are increasingly important to companies wanting to sell their products on-line.

Within the e-business world, operations outsourcing is one of the fastest growing industries. The most common form of outsourced solutions continues to be Web hosting of companies sites, both commerce enabled and non-commerce enabled. Exhibit III-12 shows INPUT's estimate for primarily the Web-hosting segment of outsourced solutions related to e-business.

Exhibit III-12

Market for Select E-Business Outsourcing, U.S.



The Internet / Intranet management outsourcing segment included in INPUT's forecast for the total outsourcing market comprises additional types of contracts and tracks the high rate of growth forecast for Web-hosting—a 30% CAGR over the period 1998-2003. The larger Internet / Internet management segment is forecast to grow even faster, from $1 billion in 1998 to $17 billion in 2003.

Overall, spending on Internet-related outsourcing is fueled by industry expectations for extremely high and rapid growth in electronic commerce, $1 billion in consumer trade and over $1 trillion in business-to-business trade by 2003.

In addition to Web-hosting, organizations preparing to participate seriously in e-business require support for electronic shopping carts, electronic payments and billing, database management as well as integration services that link front-end and back-office operations, especially to ERP software.

Significant contracts awarded in the 1998-1999 period in this market include:

EDS / National Association of Securities Dealers

In June 1999, the National Association of Securities Dealers awarded EDS a large, ten year, $2 billion contract to provide application development and maintenance, Internet & Intranet development, Web hosting, and distributed systems support.

USInternetworking / Liberty Financial Companies

In the same month, Liberty Financial awarded USInternetworking a contract to host Liberty's BroadVision software application for several

of Liberty's operating companies. INPUT estimates the contact value at $3 million over a three-year term.

AT&T Solutions / Xerox

Also in June 1999, Xerox Corporation awarded a three-year, $100 million contract to AT&T Solutions to provide local, long-distance, wireless, data & Internet management services.

Lockheed Martin Information Services / Nike

In March 1999, Nike awarded Lockheed Martin Information Services with a five-year, $200 million contract for a variety of services, including Internet management. Lockheed will provide comprehensive IT management services, including network, business software applications, Internet and telecom network; 180 Nike IT staff will transfer to the vendor.

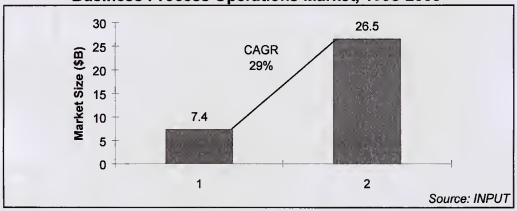
H

Business Process Operations, Still The Fastest Growing Segment of the Outsourcing Market

Business Process Operations (BPO) outsourcing extends the outsourcing concept beyond the IT department to (potentially) every facet of a company's operations. In some cases BPO outsourcing serves as the catalyst for a wide-ranging organizational re-engineering to streamline functions, cut costs, and focus on core competencies. In other cases, it is the byproduct of such re-engineering efforts. The result is the same: BPO is the fastest growing segment of the outsourcing market, increasing from $7.4 billion in 1998 to a projected $26.5 billion in 2003 (see Exhibit III-13).

Exhibit III-13

Business Process Operations Market, 1998-2003



The business process outsourcing market comprises various distinct service offerings, including:

- Payroll services
- HR services
- Accounting services
- Procurement services
- Billing and back-office services
- Front-office CRM services
- Real estate management.

Which segments will fuel projected growth in the U.S. BPO market?

INPUT's most recent market forecast devoted entirely to this sector provided the following data provide an insight into the answer in Exhibit III-14.

Exhibit III-14

External Sourcing of Business Functions: 1999 & 2002

Function	1999 (%)	2002 (%)	Percentage point Increase
Front-office CRM Services	0.5	3.5	3.0
Billing & Back-office Administration Services	0.8	4.2	3.4
Real Estate Management	1.5	6.5	5.0
Procurement Services	1.3	3.5	2.2
HR Services	9.0	17.0	8.0
Accounting Services	4.0	8.0	4.0
Payroll Services	39.0	47.0	8.0

Number of Respondents: 50 *Source: INPUT*

While payroll services outsourcing will continue to be the most prominent form of business process outsourcing throughout this period, it is a mature market with a number of established vendors such as ADP and Ceridian and with low-growth prospects.

The related area of HR services will be a high-growth area over the forecast period but the greatest changes in levels of activity are expected in customer relationship management outsourcing and billing and back-office administration services. However, although a significant increase in activity in these areas is expected over the next three years, current levels of activity are very low and only a small proportion of total activity in these areas is expected to be outsourced over the next three years.

In the U.S market, improved quality of service within key activities is much less important than in Europe. In the U.S., the principal driving forces are:

- Improved cost-effectiveness
- Removing management focus from on-core services that provide the organization with little competitive differentiation.

This explains the anticipated profile of outsourcing of business services in the U.S.. Over 95% of business services activity in core activities such as front-office services, billing & back-office services and procurement services is still expected to remain in-house at the end of 2002. The major area of growth is now the provision of transaction-processing services into new areas such as order taking and customer service.

Exhibit III-15 lists the business operations contract values (on a total

contract value basis) won by a number of leading outsourcing vendors in the 1999.

Exhibit III-15

Key Worldwide Business Process Operations Contracts Awarded: Jan-June 1999

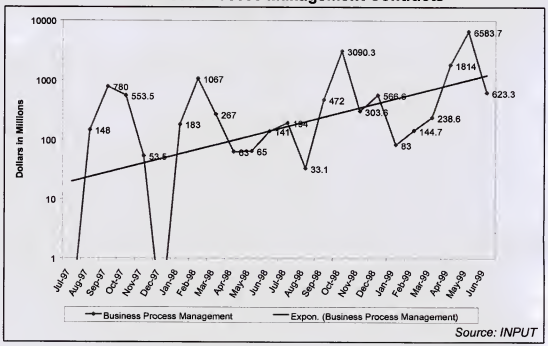
Vendor	Total Contract Value ($m)
Tech Data (2Q)	6000
CSC (2Q)	1100
CSC (2Q)	425
IBM Global Services (2Q)	300
Motorola (2Q)	278
SRA International (1Q)	124
Lockheed Martin (1Q)	80
EDS (1Q)	60
Andersen Consulting (1Q)	30

Source: INPUT

Contract activity has been volatile, but the long-term trendline is clearly rising, as shown in Exhibit III-16 according to the values of monthly contracts awarded.

Exhibit III-16

Regression Trendline for Business Process Management Contracts



Source: INPUT

The rising trendline reflects the recent pickup in BPM contract activity over the past few months, peaking in May 1999 at about $6.6 billion in contrast to the 1Q 1999 peak of $239 million in March.

Data for second half-1998 and first-half 1999 confirm a previous theory of a certain maturing of BPM contract activity, or at least a growing acceptance of this type of IT outsourcing.

Examples of major business operations contracts in 1998-1999 include:

Perot Systems / Cedars-Sinai Health System

In June 1999, Cedars-Sinai awarded Perot Systems a 10-year, $10 million contract to assume operational responsibility and provide services that include professional consulting application maintenance and operations, help desk and desktop support, network services and technical infrastructure operations.

DotOne / Sprint

In the same month, Sprint awarded DotOne a $1.5 million, three-year contract to provide outsourced, managed, and hosted messaging services for Sprint corporate customers.

Cyntergy / Abercrombie & Fitch

Also in June 1999, the retailer Abercrombie & Fitch awarded Cyntergy a $2.5 million, three-year contract Cyntergy to provide help-desk support services including technology implementation and training, call center/help desk, documentation and project management.

BISYS / Shay Assets Management

In the same month, Shay Asset Management awarded BISYS with a three-year, $1.5 million contract. BISYS will provide fund accounting, fund administration, and transfer agency services.

Litton / PRC / City of Las Vegas

In May 1999, the City of Las Vegas awarded Litton / PRC with a ten-year, $18 million contract to modernize the Las Vegas metro police department's positive ID and information management systems.

SAIC / FirstWorld

In the same month, FirstWorld awarded SAIC with a three-year, $3

million contract to implement and integrate new business applications for billing, operational support and customer care systems.

Tech Data / GE Capital IT Solutions

Also in May 1999, GE Capital IT Solutions awarded Tech Data with a three-year, $6 billion contract Tech Data to perform all IT procurement, configuration/assembly and logistics services for GE.

CSC / Pratt & Whitney

In 2Q 1999, CSC was awarded a contract from Pratt & Whitney for $1.2 billion during 2Q 1999. The 10-year contract covers the outsourcing of the majority of Pratt & Whitney's IT systems, including management of a SAP R/3 installation.

CSC will acquire and manage engineering, manufacturing, and business distributed systems including advanced engineering and desktop applications, Unix and NT servers and systems, 20,000 desktops and related peripherals, VMS midrange systems, help-desk and voice, video and data networks.

IV

Vertical Industry Markets

A

Industry Sector Forecast – US, 1998-2003

Exhibit IV-1 provides a forecast for the U.S. outsourcing market by industry sector over the period 1998-2003.

This forecast includes both IS outsourcing and business operations outsourcing.

Exhibit IV-1

Industry Sector Breakdown, US 1998-2003

	U.S. $M 1998	Growth 98-99 %	U.S. $m 1999	Growth 99-03 %	U.S. $m 2003
Banking & Finance	8536	25	10703	2	23956
State & Local Government	5695	24	7055	21	15283
Federal Government	2338	4	2427	7	3229
Insurance	3784	18	4465	18	8756
Health Services	3285	20	3926	19	7961
Process Manufacturing	2940	19	3944	20	7334
Discrete Manufacturing	5471	27	6929	24	16542
Retail Distribution	1758	20	2209	24	5274
Education	754	14	860	14	1471
Transportation	1145	22	1762	21	3818
Wholesale Distribution	678	15	779	17	1477
Business Services	933	21	1129	21	2446
Telecommunications	2365	29	3051	34	9909
Utilities	588	26	741	30	2134
Miscellaneous Industries	209	10	230	14	393
TOTAL	**40779**	**22**	**49765**	**22**	**109982**

Source: INPUT

B

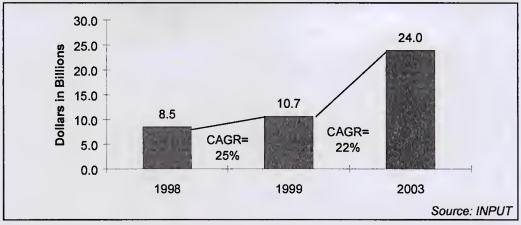
Banking & Finance Industry Market, 1998-2003

Banking and finance companies have traditionally been more receptive to outsourcing arrangements than any other sector's organizations. In part, this reflects the rapid pace of consolidation underway in the U.S. financial services market, including banking, securities brokerage, and other investment products. Mergers and acquisitions usually leave a trail of lucrative outsourcing contracts behind them as acquirers struggle to absorb, standardize and rationalize the IT infrastructures of constituent organizations. This sector is the largest segment of the outsourcing market, representing approximately 20% of the U.S. outsourcing market in 1998.

INPUT expects the banking and finance sector to exhibit growth rates consistent with the overall outsourcing market, growing from about $8.5 billion in 1998 to $20.7 billion in 2003 (see Exhibit IV-2).

Exhibit IV-2

U.S. Outsourcing Market, 1998-2003 - Banking & Finance Services



Source: INPUT

As noted above and exemplified by the contracts described below, the financial services sector has been in the vanguard of outsourcing in the U.S. market. Despite its historically prominent role, there are no signs of any significant deceleration of growth in outsourcing contract awards.

In 2Q 1998, EDS returned to first rank among vendors in the finance sector. After two disappointing quarters, the completed deal with Banca di Roma in Italy resulted in a contract worth $1.5 billion. Typically, EDS wins a few very large contracts in the banking sector rather than a multitude of smaller ones. Although EDS 3Q 1997 and 2Q 1998 vendor rankings were due primarily (i.e. 99%) to one contract win, on a cumulative basis the company won approximately 56% of all disclosed finance sector contracts during 1998.

Contracts Awarded in 1998

AT&T Solutions / Citibank

This five-year deal arose from Citibank's urgent need to impose order on its worldwide network. Prior to this agreement, Citibank administered eleven different networks worldwide. This lack of integration prevented Citibank from becoming a truly global player. The integration of all worldwide IT networks is said to have cost $750 million, but to have saved Citibank $250 million overall. The networks were to be integrated within 12-15 months, at which time AT&T would manage the networks for the remaining four years.

AT&T Solutions / McGraw Hill

This contract represented the first vendor switch of 1998. After working with Sprint for almost two years, McGraw Hill decided to

turn its back and return to AT&T Solutions because of a strategy designed by AT&T which would capitalize on their Electronic capabilities with the development of tailored electronic commerce/publishing strategy.

This $210 million, seven–year deal integrates McGraw Hill's three different main business segments – financial services, education and professional publishing, and media services – into a single network infrastructure while maintaining autonomy. AT&T Solutions will also manage the corporate administrative network, the company Intranet, electronic mail and administrative functions of its 15,700 worldwide employees. This innovative solution enabled McGraw Hill to service and support customers who come to its Website through the Internet, dedicated frame relays or dedicated private line connections. Front-end automation will record the callers private information (name, account number, need, etc.) to provide better service and security. AT&T Solutions placed 36 employees at the McGraw Hill site.

AT&T Solutions - IBM Global Services / Banc One

Banc One awarded jointly AT&T Solutions and IBM Global Services a $1.8 billion contract for the outsourcing of telecom and data center management. AT&T won a $1.4 billion share over six years for a project to merge the bank's voice and data network, and to build an Internet protocol communications network system. IBM Global Services won a $420 million share over seven years to manage the bank's data center operations, including help desk support, mainframe and midrange serve management. About 550 bank employees will be transferred to the vendors while working for the project partnership. Banc One announced that it expects to save $100 million through this outsourcing initiative, which follows the formation in 1966 of the $2 billion Pinnacle Alliance by J.P. Morgan, AT&T, CSC, Andersen Consulting a Bell Atlantic.

Contracts Awarded in 1999

IBM Global Services / Washington Mutual

This contract, with an estimated value of $1 billion, represents an extension of a prior, $533 million, five-year contract that had been signed in 1996 for desktop and network services. Since then, however, acquisitions have increased Seattle-based Washington Mutual's total number of desktops from 5,600 to 36,000 at 2,000 branches. The new contract will run until 2009.

The initial contract foresaw the need for renegotiations when certain growth breakpoints were reached. In fact, the client's growth has been

more rapid than was anticipated. In 1996, Washington Mutual acquired American Savings Bank for $1.2 billion. This deal was followed quickly to the Great Western Financial acquisition for $6.6 billion in 1997, and the acquisition of H.F. Ahmanson in 1998. During this period, Washington Mutual's assets grew from $20 billion in 1996 to $165 billion presently. It is now the nation's eighth-largest banking institution.

Beyond providing the new hardware required to support such expansion, IBM Global provides project management, help desk services and software-distribution tools required for the rapid conversion of the acquired banks' IT systems to the OS/2 platform that was Washington Mutual's standard. The original IBM Global team of 35 has been augmented by staff transfers from acquired institutions. Today, the team totals about 300 members

In 1H 1999, IBM Global swept the Banking & Finance sector by winning a $1 billion contract from fast-growing Washington Mutual and a $350 million award from Mitsubishi Trust in Japan. (It also took top rank in the Retail Trade sector).

CSC / Republic Services

Republic Services, a subsidiary of Republic Bank of New York's holding company, awarded CSC a ten-year contract valued at $320 million. The contract covers management of the bank's data center, help desk, network and communications operations. Connected with the contract, 113 of the bank's 114 IT staff will transfer to CSC in New York City.

Republic National Bank is a holding company with assets of $50 billion, operating as a full-service commercial bank serving both domestic and international clients. Presently, the contract only covers Republic's domestic operations. CSC expects expansion provisions in the future to include the bank's foreign operations. (This is particularly important for CSC because, in 1998, only one-third of its revenue was generated outside of the U.S.)

This contract strengthens CSC's position in the banking sector and complements its prior contracts with J.P. Morgan (which awarded CSC and its partners a seven-year, $2 billion contract in 1996) and First Chicago (which was acquired by BankOne) in 1995.

EDS / US Central Credit Union

EDS won a $50 million contract from the U.S. Central Credit Union to enhance the client's Web-based capabilities and Internet connectivity

to members [which comprise a national network of 11,000 credit unions]. The goal is to create an electronic processing platform available to all member institutions.

EDS / American Express Bank

At the same time, American Express Bank announced that it was taking back application development, maintenance, help desk and desktop services as a result of poor performance by EDS as its key outsourcer. Nevertheless, the bank agreed to a new, 10-year contract for an undisclosed value to EDS to provide data center management services. This replaces a prior, 10-year, $350 million contract awarded in 1994, which was described as "essentially dead."

CSC / CNA Financial

Meanwhile, CNA Financial announced its intention to end its contract with CSC. The two companies agreed last month to end their 10-year, $500 million outsourcing relationship, which had already been scaled back from $2 billion because of changes to CNA management. One consequence: 500 employees who expected to transfer to CSC will be returning to CNA.

EDS / TNB Card Services

EDS was awarded a three-year, $1.5 million contract by TNB Card Services to provide image-based payment processing for its credit card receivable payments. This contract allows TNB Card Services to extend their service bureau offerings to more than 400 customer credit unions across the Southwest to offer cards to its members—and affords EDS excellent visibility in the industry.

EDS / FNB Lincolnwood Bank

FNB Lincolnwood awarded EDS a $7 million contract requiring the vendor to provide the bank with a variety of financial IT services. EDS will provide a customer information system and an item processing system

EDS / TNB Card Services

In June 1999 EDS was awarded two Business Process Operations contracts one of, which was a contract from TNB Card Services worth $1.5 million to provide image-based payment processing for credit card receivable payments.

Other Developments

EDS lost its first place in the Banking and Finance sector in 2Q 1998. None of its 3Q contracts were in this sector, and in 4Q there was only one $7 million contract with First Indiana Bank. In 1Q 1999, EDS returned with a small $50 million contract from U.S. Central Credit Union and a $7 million contract from FBM Lincolnwood. In 2Q 1999, EDS still held only two relatively small contracts, one with Whitney National Bank for $2 million, and the other with TBN Card Services for $1.

In April 1999, Wang Global ranked second with a 17% market share represented by three contract wins. A $220 million award from First Union Corporation; a $100 million contract awarded by Hughes Network Systems, a unit of General Motors' Hughes Electronics; and an estimated $60 million contract awarded by NationsBank Montgomery Securities LLC.

In September, BISYS won an important endorsement by the American Bankers Association. The organization now gives high profile, preferential recommendation to BISYS' core banking IT solution, "TOTALPLUS." The ABA defended its decision by explaining that BISYS had undergone a rigorous due diligence process, including the retention of an independent, third party consultant to evaluate vendors comprehensively.

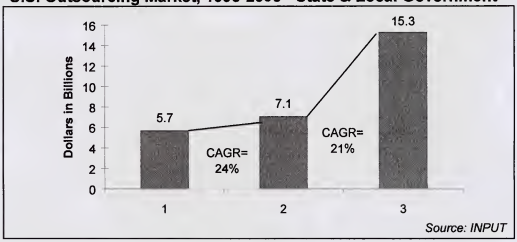
As another advance in the direction of consolidating its position in the banking industry, BISYS announced in February that it had signed a joint marketing agreement with another powerful industry vendor, Carreker-Antinori, (CA) covering specialized banking software solutions. Typically, CA has concentrated on serving the largest 200 financial institution in the U.S. With this new agreement, CA will expand its product reach by offering BISYS software to the smaller-sized, community-banking segment. For its part, BISYS has focused on financial institutions with assets less than $15 billion.

C
State & Local Government Industry Market, 1998-2003

Outsourcing at the state & local government continues to gain acceptance. As shown in Exhibit IV-3, growth in this market is forecast to rise from 13% between 1998-1999 to an average annual rate of 21% over the period 1999-2003.

Exhibit IV-3

U.S. Outsourcing Market, 1998-2003 - State & Local Government



Source: INPUT

A Contract Floats Down the Connecticut River

By far the most significant development over the past 18 months has been the collapse of EDS' historic, billion-dollar deal with the State of Connecticut.

At year-end 1998, Connecticut tentatively awarded a massive contract to Electronic Data Systems to outsource virtually the State's entire IT infrastructure and operations. The contract was announced as a path-breaking model to be replicated elsewhere in the public sector, particular in San Diego County, California, which will announce in September the winner of a similar, large contract.

The EDS contract was described as "signed", but pending approval of the State Legislature. Now, after unsuccessful attempts to agree on terms of the deal, contract negotiations have ended. The failure has been largely attributed to intense pressure mounted by the union representing the State's IT workers who criticized the scope of the contract as excessive and found inadequate EDS assurances of job security for those who transferred from the State civil service to the vendor's rolls. EDS had guaranteed them at minimum continuation of their current salaries for the next two years.

However, soon after the contract was signed, EDS announced the layoffs of thousands of employees and promised further staff reorganizations. Clearly, Connecticut state worker opposition to the EDS pact only grew as time passed.

The contract negotiations are being carefully watched by other state and local governments with an interest in similarly outsourcing their computer operations. Now, all attention is turning to San Diego County to see what effect, if any, Connecticut's decision to cancel will have on officials there.

Significantly, Connecticut didn't abandon the concept of outsourcing. Rather officials abandoned the attempt to use a single outsourcer for such an all-inclusive contract. Now, they intend to award smaller, limited scope contracts to a series of vendors that could include EDS.

The State of Connecticut contract, awarded to EDS in late 1998, was a huge agreement. The seven-year contract, estimated to be worth $1-1.5 billion, was the largest ever offered in Connecticut history and the first of its kind in the nation. Governor John Rowland pushed privatization as a way to save the State $50 million a year in computer costs while providing high-tech service and streamlining communication among state offices. The seven-month competition drew bids from companies such as IBM Global Services, Computer Sciences Corp., and even the State's own unionized employees. No state had, as yet, turned its core IT functions over to a single outsourcing firm. Yet, interest grows because state and local governments are finding it increasingly difficult to recruit, train, and retrain top IT staff. Outsourcing was conceived to be the best solution to both technology and staffing problems.

In mid June, CSC asked the State of Connecticut to reconsider its decision to award the contract to EDS. CSC charged that the State had stolen part of its bid proposal. CSC's Connecticut employees had devoted months to preparing a proposal for the State, an effort that cost the company over $3 million.

Part of the CSC proposal allowed 500-800 state employees to keep their jobs while turning over the management of the State's computer operations to a private firm. This was one of the prime objections from the state employee unions. The state employees submitted their own proposal in hopes of keeping the operations in-house, fearing the loss of their jobs or transfer to a private company. After their proposal failed to make the top three, the unions began to urge the state legislators to reject the contract agreement before the terms were even known. The contract would affect about 700 state employees from about 65 agencies, boards, and commissions, covering every governmental branch except higher education, judicial, and legislative. However, under the CSC proposal, most employees would have kept their state jobs. CSC complains that EDS will benefit from the ideas stolen from CSC. The State replied that it would

reconsider CSC's proposal only if negotiations failed with EDS,

the first-place bidder, and then IBM, the second-place bidder, because CSC had ranked third in the bidding process.

Now, the prospect of such reconsideration is not as unreal as it had seemed in June. When the June 15 negotiation deadline to finalize the contract arrived, Connecticut state officials asked for more time to hammer out the details. They were given until June 25; if the second contract couldn't be negotiated, the State could begin negotiations with runner-up IBM, or scrap privatization entirely. On June 29, EDS and the State of Connecticut announced that negotiations had been concluded for the modernization of the State's computer systems, and that the contract would not be pursued.

EDS and the State worked diligently to create a contract to transform the government through enterprise IT outsourcing. EDS is committed to the vision of enterprise IT outsourcing as a way of delivering services more efficiently to citizens. However, recent changes in the industry caused the State to pull the plug on the contract with EDS. The State now favors an approach that may involve a number of companies, including EDS, to make improvements in individual segments of its IT operations instead of one outsourcing company for the whole task. Gregg Regain, Connecticut's head of information technology, attributed the failure to negotiate a contract to inability to reach an agreement on total cost and pricing of specific services. He said the State would consolidate and update operations using its own employees and consultants.

While this decision may not deter other state and local governments from pursuing outsourcing for IT operations, it definitely posts a warning sign.

San Diego's long-anticipated and much contested IT outsourcing contract—expected to be worth $700 million to $1 billion—is scheduled to be decided in September 1999. Meanwhile, the county's chief administrative officer, Larry Prior, announced his resignation in order to become president of a local high-tech firm. His replacement, Walt Ekard, will serve as "source-selection authority" for the pending contract.

San Diego County's decision will inevitably be watched as a bellwether for the direction of future growth in the state & local government outsourcing market. Should the contract be awarded, as expected, vendors will conclude that the Connecticut decision was likely an anomaly that will not derail growth in this market. On the other hand, should the contract be either cancelled, or restructured along the lines of the ultimate package offered in Connecticut, vendors will conclude that growth in this market will be both slower

and more difficult than had been anticipated.

3Q 1999 Contract Activity Provides Fresh Evidence of Sector Outlook for Strong Growth

In September 1999, The General Services Commission of the state of Texas today named AT&T Solutions as its outsourcing contractor for the state's TEX-AN 2000 network, which will serve as a backbone delivering data communications and e-commerce applications to state and local government agencies and educational institutions.

The TEX-AN 2000 project will be coordinated by the General Services Commission's Telecommunications Services Division, which chose AT&T Solutions to build and operate the network backbone.

The contract is worth a minimum of $250 million during its initial five-year term, with a potential value of up to $1 billion over 10 years. The potential value of the deal depends on how many government agencies connect to the network and whether the state, after the initial five years, opts to renew the contract year-by-year for another five years.

As envisioned by Texas government officials, the network will connect to 250 state agencies at 4,500 sites. Among the agencies included are cooperative purchasing program members, municipal governments, counties, school districts and others.

AT&T Solutions will design and build a hybrid network combining ATM (asynchronous transfer mode) and frame relay transmission technologies.

Pennsylvania Deal Dispels Gloom

Under the heading, "Pennsylvania succeeded where Connecticut failed," the state of Pennsylvania announced a $500 million data center outsourcing contract to UNISYS. Pennsylvania officials emphasized that they had learned from the mistakes of others, particularly neighboring Connecticut, which in June cancelled its record-breaking, $1 billion outsourcing contract with EDS.

Hoping to avoid Connecticut's errors, Pennsylvania officials limited the scope of their outsourcing project to the consolidation of 20 data centers, commissioned extensive preplanning, retrained state IT employees and addressed public-records security.

"Pennsylvania learned the lesson of biting off what they can chew and paying close attention to change management," said Steven Schafer, CIO for the state of Nebraska, in Lincoln. *"Those are two key rules for any IT project."*

Pennsylvania's contract stands as one of the largest state outsourcing contracts ever, a distinction that many had thought would go to Connecticut when it entered negotiations with EDS to take over all of the state's IT functions.

Connecticut's negotiations with EDS were sabotaged by its scope and by the lack of an inventory of IT assets prior to negotiations. The deal also encountered strong opposition from the union representing IT employees who, in the end, were able to exert very powerful political pressure on state legislators. It should be noted that the timing was not opportune for EDS, which announce large layoffs and reorganizations in the period during which the legislature was considering the deal.

Four years ago, Pennsylvania officials hired an outside consultant to help inventory IT equipment and determine what they needed. Officials found too many costly data centers—most within a seven-mile radius of Harrisburg, the state capital.

While Connecticut envisioned outsourcing IT completely, called "extreme outsourcing", Pennsylvania opted to offload just the data center operations to focus time and money on e-commerce and Web projects. Officials consciously limited the scope of the projected outsourcing deal saying, *"We did not want to get out of the IT business."*

A year prior to signing the contract with UNISYS, a local vendor located in Blue Bell, Pennsylvania, state officials were able to minimize the impact of outsourcing on the state's 380 data center employees. Personnel received training in areas such as LAN and desktop management and were re-assigned other duties, Haines said. Some will be offered jobs with UNISYS. As a result, fewer than 30 employees face layoffs because of the contract.

In addition, Pennsylvania gained the cooperation of federal agencies, including the Department of Labor and the FBI. These federal agencies were concerned about giving a third-party vendor access to sensitive data.

IT managers in other municipal bodies, dismayed after the unraveling of Connecticut's contract negotiations, are heartened by the Pennsylvania contract. California's San Diego County continues to evaluate proposals from IBM Global Services, EDS and Computer Sciences Corp. for a proposed, seven-year, $500 million contract.

San Diego County is expected to make a decision before the end of September 1999 hopes to present a contract to county commissioners

in October. County officials said the scope of the project is focused, and Pennsylvania's success makes them even more confident.

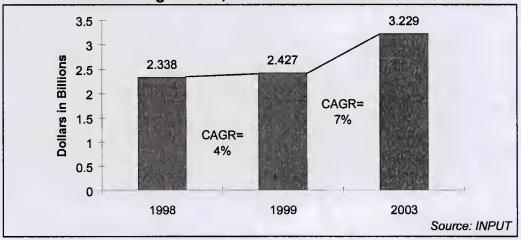
D
Federal Government Industry Market, 1998-2003

The growth rate of the outsourcing market in the federal government sector is one of the lowest among all US industries—despite the dramatic IT initiatives announced by many federal agencies. INPUT projects that, on the basis of actual, annual budget disbursements, the federal market will grow at an average annual rate of 7% over the forecast period, 1998-2003, increasing from $2.3 billion in 1998 to $3.2 billion in 2003.

Yet, a number of very large contracts were awarded in 1999, albeit most on an Indefinite Quantity Indefinite Delivery (IDIQ) basis. As indicated earlier, estimating total contract values for such contracts is difficult at best. The government typically make awards that merely assure winning vendors a place on the preferred list, along with other vendors, for a contract with a large potential value over a period of years. Individual agencies are free to use, or not to use, vendors on the list. Also, they may switch vendors during the period as short-term contracts are completed and subject to renewal. Lastly, vendors are being pressured to subcontract in order to assure "best-of-breed" IT solutions (as well as to implement diversity by including minority and small-sized partners).

Exhibit IV-4

U.S. Outsourcing Market, 1998-2003 - Federal Government



Source: INPUT

Important contracts federal sector contracts awarded in 1999 include the following:

January 1999

MCI WorldCom / General Services Administration [FTS 2001]

This highly controversial contract was won by MCI WorldCom from the GSA for the Federal Technology Service 2001 [FTS] program that superseded FTS 2000. It represented MCI WorldCom's largest contract win since its recent merger. The contract will be used by government agencies to acquire comprehensive telecom service, switched data and value-added services as well as wireless service contracts. In December 1998, Sprint was awarded the first ten-year contract under the FTS 2001 program—also for $750 million. (Sprint had previously won ten-year a contract award in 1988 under the prior program.)

While these contracts were awarded on an Indefinite Delivery, Indefinite Quantity (IDIQ) basis, the minimum value of the print award will be $750 million over four years in a program with a potential value of $5-8 billion in future awards (task orders). Based on historical data, INPUT projects the total potential value of the contract to MCI WorldCom at $1.9 billion over the life of the contract. However, due to the uncertainties regarding the actual timing and amounts of future awards under this contract, the lower, guaranteed value has been entered into INPUT's outsourcing contract database used for this report.

AT&T competed in both the first and second round of bidding, but was unsuccessful in winning a new award—only a two-extension of its contract under FTS 2000 to facilitate the transition to new IT vendors. Other unsuccessful bidders included EDS, Bell Atlantic, Booz-Allen & Hamilton, CSC, DynCorp, HP, IBM Global, OAO, TRW, UNISYS, SAIC and Wang Global.

A GSA spokesman predicted that this contract would save the government $4 billion over eight years based on the price of the average telephone call dropping to about $0.05 per minute initially and to $0.02 by the end of the contract term. The government had been paying a national average rate of $0.27 per minute in 1988.

The contract was controversial on three points:

- The advent of long-awaited convergence of voice / data and Internet communications into IP telephony, which will greatly facilitate videoconferencing, e-commerce, as well as both low- and high-speed data transmission through frame relay and Asynchronous Transfer Mode (ATM) technology.
- The high-profile failure of AT&T to win a new award.
- It opened the door to competition between federal agencies and between vendors based on a perceived overlap between the FTS 2001 program and the Transportation Department's Information Technology Omnibus Procurement program (ITOP-II), which also announced awards in January. This is essentially a turf battle. Vendors who have won awards under a particular program are unhappy that vendors with awards under another (rival) program will be able to win business from "their" agencies, i.e., those considered captives of vendors that had previously won awards.

Pricing under the first award of this program to Sprint have already undercut costs compared with FTS 2000 by 60%. AT&T, which handles currently 72% of federal government telecom business, lost in both rounds of bidding. Another significant difference between the two programs: federal agencies were required to buy telecom services off of the FTS 2000 contract, while use of the FTS 2001 contract is not mandatory (which provides another reason to book total contract values to vendors conservatively).

AT&T may protest the award to MCI and insisted that it remained committed to the federal market, however, a consensus of opinion in the IT industry regards the AT&T loss as a "devastating blow", costing it 70-80% of federal telecom business, which it will be unable to replace easily. Some are speculating whether or not AT&T may not have fallen below the "critical mass" needed to maintain a presence in the federal market place.

Clearly, AT&T's purchase of the IBM Global Network announced last month (along with the award of matching IT outsourcing contracts) signaled a possible re-orientation toward the commercial market—based on the millions of new account relations that the deal brought with it to AT&T from IBM.

Taking the high road, vendors with prior awards are complaining that newcomers will "muddle an already complex process" (referring to the transition to IP telephony and from AT&T to its successors). A TRW spokesman complained in print that it was "reckless for [Department of] Transportation [vendors under ITOP] to attempt to fix telecom issues with information-technology-oriented companies." He added that "It takes a very particular type of expertise to help agencies get

through the transition without AT&T."

In short, if agencies select the "wrong" vendor for a future task order, based on confusion regarding the expertise required, this transition will be seriously compromised. It would also cost certain vendors a lot of lost business. Complicating the issue is a perceived reluctance by agencies, such as the Transportation Department, to pay a surcharge of up to 1% to use vendors under GSA awards when they can set up their own program to acquire professional services.

MCI WorldCom executives considered the contract award a powerful boost to the vendor's new profile in the market place: "We have been on the outside looking in at this enormous feast taking place between AT&T, Sprint and the government. Now, we are allowed to participate. It's a huge endorsement."

Other significant features of the contract include provision for the following:

Special arrangements for mission-critical users, e.g., high-availability circuits for emergency users.

- Continuous competition designed to allow agencies to act as "smart shoppers" in a commercial market place.
- Government customers are offered services on par with commercial customers, including access to new services.
- No up-front payments are required.
- No possibility for "stranded" government investments.
- The contract allows MCI WorldCom to offer local services, which will leverage MCI's unique local-to-global telephony.

On this last point, MCI WorldCom is pushing ahead on multiple fronts simultaneously. For example, the vendor announced recently that it expects to offer residential, local telephone service as well as long-distance service to customers in New York State. It will use network capacity leased from Bell Atlantic—expanding its existing market of business customers to whom it offers local service in more than 100 markets.

At the same time, AT&T is also moving aggressively into the local service market through its recent acquisition of TCI cable operations, which already provide access to millions of local residences.

February 1999

Qwest Communications / TRW

TRW awarded Qwest this seven-year subcontract under its prior award from the Treasury/IRS or a $1 billion, ten-year contract under the Treasury Communications System (TCS) program. Qwest management estimates the value of the subcontract at $1 billion as well. Because the original federal contract was awarded on an Indefinite Delivery, Indefinite Quantity (IDIQ) basis, both values are tentative. However, TRW was paid a tangible $425 million in September 1995 on the contract, at which time the value ceiling was raised to $1 billion.

Qwest will provide the Treasury department with ATM-enabled and frame-relay, desktop-to-desktop data network services that will connect all agency offices in the U.S., Canada and Mexico. Services to be provided will include e-mail, e-commerce, security and video-conferencing.

Qwest won the award in competition with MCI WorldCom, AT&T, Sprint and GTE. Accordingly, the vendor regards the TRW award—pulled from the teeth of these much larger rivals—as a substantial validation of its credibility in the commercial market.

Clearly, Quest is on a roll. Currently, Denver-based Qwest Communications is the fourth-largest long-distance phone company in the U.S. Its 4Q 1998, sales rose 319% and revenues jumped 300% year-over-year. Pretax earnings for the same period rose 400%. During recent months, Qwest also won contracts from Ford Motor Company, America Online and ADP.

CSC / USPS

This nine-year, $198 million contract award from the U.S. Postal Service—the largest civilian employer in the U.S. with 850,000 employees—covers technology-consulting services. It calls for CSC to provide comprehensive business consulting and IT services for the purpose of improving the USPS' payroll benefits function. Working with CSC on the project will be Litton/PRC, KPMG Peat Marwick, and Atlantic Duncans International.

Tasks to be completed include business process re-engineering, software selection, application development as well as systems integration and deployment.

The award was made under the USPS' Preferred Portfolio Partnering Agreement, which is an enterprise-wide ordering agreement that

targets a specific functional area. CSC won an award last May under the same program for IT-enabled applications

April 1999

SRA International / GSA

The General Services Agency awarded SRA International a four-year contract worth $250 million to provide critical infrastructure protection services and products to all federal government agencies. This award will help the federal government in addressing the requirements of Presidential Decision Directive 63 that orders the strengthening of the nation's defenses against emerging, conventional threats to critical infrastructures, the physical and cyber-based systems essential to the functioning of the U.S. economy and government.

SRA will provide services and products in the many areas that include critical infrastructure asset identification, vulnerability and treat assessment and readiness and contingency planning.

Global Management Systems / Bureau of the Census

Global Management Systems, Inc. was one of the seven contractors awarded The Bureau of the Census contract to acquire IT services for systems development, programming, operations and communications expertise to support information technology activities across the Bureau. The project objective provides centralized management of future contractor support for IT services on an as-needed basis for all program areas of the Bureau of Census. Global management Systems will be competing with the other contractors to fulfill task orders requirements. The total contract is worth approximately $150 million over a five-year period

May 1999

Twelve Select Vendors/ GSA

This contract, aptly code named "Millennia", provides a broad range of high-quality information technology (IT) services, that will allow GSA to continue to use streamlined, responsive acquisition support procedures to meet the Federal government's demand for large system integration and development projects in a timely and cost effective manner. The 10-year $25 billion contract, was awarded to 12 prime contractors namely: **Boeing Information Services, Inc., Booz, Allen & Hamilton, Inc., CSC, DynCorp, Lockheed Martin, Logicon, OAO Corporation, PRC Inc., Raytheon, SAIC, SRA,** and **Unisys Corporation**. Under the terms of the contract, each contractor is

expected achieve a small business goal of 35%. Within that 35%, 10% of the subcontractors must be small, disadvantaged businesses and 5% must be women-owned, small businesses.

Exhibit IV-5 lists the leading providers of outsourcing services to the federal government industry in first-half 1999, excluding the Millennia contract.

Exhibit IV-5

Leading Federal Government Outsourcing Vendors, 1998-1999
Estimated Total Contract Values

1998		1999	
Vendor	**Est. Total**	**Vendor**	**Est. Total cont.**
EDS	1500	IBM Global Services	1350
AT&T Solutions	1400	CSC	320
AT&T Solutions	960	Getronics	280
IBM Global Services	900	Getronics	220
IBM Global Services	833	Andersen Consulting	200
First Data	250	IBM Global Services	160
FI Group	180	IBM Global Services	100
EDS	172	EDS	57
IBM Global Services	167	Unisys	45
Unisys	165	BISYS	10
IBM Global Services	150	Fiserv	9
Compaq	120	Fiserv	9
CSC	111	FDR Limited (First Data)	3
EDS	100	Alltel	3
Sybase	100	EDS	2

Dollars in Millions
**Getronics is the successor of Wang Global*
***1H 1999, year to date, period ending in June;*
Source: INPUT

Exhibit IV-6 specifies important federal contract awards for May 1999. ("STS" denotes Systems and Technology Services, typically systems integration, platform operations and related application and network services.)

Exhibit IV-6

Most Significant Federal Sector Contracts, May 1999

Vendor	Customer	Type	Total Value ($m)
Tech Data	GE Capital IT Solutions	BPM	6000
SRA International	GSA	STS	5000
SAIC	GSA	STS	2500
Lockheed Martin	GSA	STS	1895
Booz-Allen Hamilton	GSA	STS	1895
CSC	GSA	STS	1895
Boeing Information Services	GSA	STS	1895
Litton/PRC	GSA	STS	1895
Logicon	GSA	STS	1895
OAO Corp	GSA	STS	1895
Raytheon	GSA	STS	1895
DynCorp	GSA	STS	1895
CSC	Pratt & Whitney	STS	1200
CGI	BCE Mobile	STS	509
Unisys	GSA	STS	445
CSC	Fidelity & Guaranty Life	BPM	425

Source: INPUT

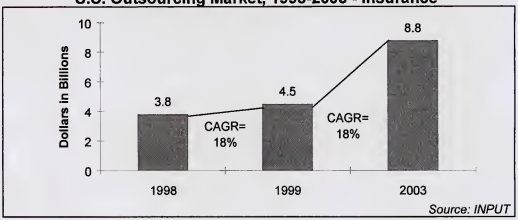
E
Insurance Industry Market, 1998-2003

In the past, insurance companies have been reluctant to outsource. However, because of increased competition, companies in this sector are re-examined their core processes, or competencies, and are showing increasing acceptance of outsourcing as a viable alternative to in-house IT solutions.

INPUT projects that this market will grow at an average annual growth rate of 18% over the next five years, expanding this market from $3.7 billion in 1998 to $8.7 billion in 2003, and making it the fourth-largest sector in the overall U.S. outsourcing market. (see Exhibit IV-7).

Exhibit IV-7

U.S. Outsourcing Market, 1998-2003 - Insurance



Source: INPUT

Important insurance sector contracts awarded in 1999 include the following:

May 1999

CSC /Fidelity and Guaranty Life Insurance Co.

F&G Life extended an original agreement with CSC, which began in 1995, for another five years, boosting the overall contract value to $540 million over an 18-year period. The original agreement was worth approximately $115 million for Business Process Outsourcing services over a period of 13 years. The extension calls for an expansion of services and strengthens the strategic alliance and cooperative relationship between CSC and F&G Life.

The partnership provides F&G Life with handling of business operations such as, insurance policy administration, new business processing, underwriting, customer service and management of supporting information technology infrastructures

July 1999

IBM Global Services/ ACE INA

Under the terms of this 10-year, $700 million contract, IBM will be responsible for managing the complete transition and integration of the U.S. IT infrastructure acquired through the CIGNA deal, and for maintaining IT support after the transition. The IT infrastructure acquired by ACE INA supports more than 8,000 employees worldwide and nearly 5,00 in the U. S.

F

Health Care Services Market, 1998-2003

Although smaller and slower to develop than other industries in regard to acceptance of IT outsourcing, the U.S. health care services market appears poised for solid growth over the next five years. Average annual growth of 19% is projected to reflect contracts covering a wide range of functions from front-office automation to medical records, diagnostic databases and telemedicine.

Worth noting, the health care sector has long been enthusiastic about facilities outsourcing that covered food services, maintenance, nursing home operations, laundry and housekeeping as well as functions such as physical therapy, supplies, pharmacy, transportation and rehabilitation. Only IT outsourcing has lagged due to industry fragmentation, regulatory restraints and concerns about patient as well as institutional privacy (and legal liability). Progress is being made in overcoming all of these barriers, but significant difficulties remain. Of these, perhaps the most serious is the conflict between effort to cut costs and efforts to insure the highest quality medical services. The hope is that IT outsourcing will contribute toward substantive cost-savings while improving medical outcomes.

As an example of the rapid development of Internet-based health care services, online health care firms Healtheon (itself a recent IPO) and WebMD have agreed to merge to form what will be, to date, the biggest health care Internet company.

These companies also will enter a $50 million online-information venture with outpatient surgery-center operator HealthSouth. WebMD and HealthSouth expect to offer a sports-medicine channel on WebMD's Internet site for consumers, with news, expert advice, locations of HealthSouth clinics, and other information. WebMD will provide subscriptions to more than 50,000 doctors connected to HealthSouth and will network HealthSouth's 2,000 medical centers to improve communication.

Healtheon links doctors, patients, insurers, and other health care companies through the Internet and has arranged to provide medical information to Web sites such as Yahoo. Closely held WebMD markets physician services and consumer information over the Web.

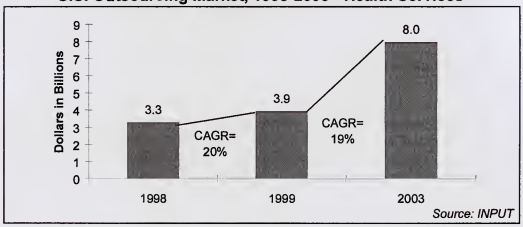
HealthSouth, based in Birmingham, Alabama, focuses on providing surgery and rehabilitation services to patients who do not require an overnight stay in a medical facility.

As consumers and business become accustomed to accessing health care services from the Internet, the demand for ancillary support services to providers will grow—and much of this will likely take the form of outsourcing. Online sales of pharmaceuticals alone are expected to reach almost $1 billion by 2003. If so, they will require a rapid development of IT infrastructure for the high-volume, e-commerce transactions that such a forecast implies.

Exhibit IV-8 provides a forecast of the market for outsourcing services within the health care sector over the five-year period from 1998 to 2003.

Exhibit IV-8

U.S. Outsourcing Market, 1998-2003 - Health Services



Source: INPUT

One bellwether of change in the sector: in September 1999, i-NOC, a small, Jacksonville, Florida-based ASP announced that it had signed an outsourcing contract on undisclosed terms to Borland-Groover Clinic, a $12 million gastroenterology medical practice resulting from the merger of four medical offices. Using Citrix Systems application-server software, i-NOC will supply the clinic with a new practice-management IT solution. A clinic spokesperson described the primary attraction of the ASP model as "enabling us to continue growing without being slowed down by our IT infrastructure."

The clinic expects Total Cost of Ownership (TCO) savings of 65% over the next five years.

One corollary benefit: the ability to make a painless transition from a UNIX-based system to a MS-Windows-based user interface.

Significant contracts awarded during the 12998-1999 period include the following:

Compuware / Detroit Medical Center

In August 1999, Compuware and its health care subsidiary CareTech Solutions won a ten-year, $1 billion contract from the Detroit Medical Center (DMC) for the outsourcing of the organization's entire information systems division. Three hundred DMC employees will transfer to Compuware. The contract covers data center operations, applications and voice/information systems. This represents one of the largest health care outsourcing contracts of its kind to date. Under the agreement's terms, Compuware and CareTech committed themselves to achieving economic goals, including a reduction in operating expenses and capital labor costs. (The vendor participates in these savings through incentive provisions.) Also, the vendors agreed to achieving "cultural objectives", including efforts to raise minority employment and City of Detroit residency. Overall, the contract vehicle was designed such that the vendor could/would contribute toward the improvement of health care service delivery to metropolitan Detroit patients as a primary goal and an immediate priority.

G
Process Manufacturing Industry Market, 1998-2003

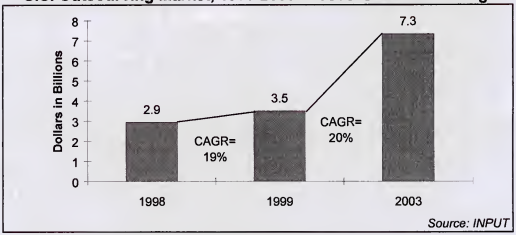
The healthy growth projected for this sector reflects, in part, the robust health of the U.S. economy where consumer sales, business-to-business sales, and e-commerce have all been rising dramatically in an essentially noninflationary environment.

Exhibit IV-8 provides a forecast of the market for outsourcing services within the process-manufacturing sector in the five-year period from 1998 to 2003. Average annual growth of 20% reflects the strong U.S. economy, competitive pressures resulting from globalization of markets, and the urgent need for manufacturers to improve efficiency and cut costs when they are unable to raise prices.

Increasingly, they are accomplishing these aims by offloading noncore IT functions to outsourcers so that they can focus on their core competencies.

Exhibit IV-9

U.S. Outsourcing Market, 1998-2003 - Process Manufacturing



Source: INPUT

Cost effectiveness remains the most potent driver of outsourcing in the process manufacturing sector.

A large portion of projected spending for Business Process Outsourcing will be made in this sector, which is expected to grow significantly over the forecast period, from $7.3 billion to $26.5 billion.

Exhibit IV-10 lists the leading providers of outsourcing services to the process manufacturing industry for the period 1998-1H 1999.

Exhibit IV-10

Leading Process Manufacturing Outsourcing Vendors

1998		1999	
Vendor	**Est. Contract Value**	**Vendor**	**Est. Contract Value**
EDS	90	Motorola	15
EDS	70	Intelligroup	5
Andersen Consulting	63	Origin	1.6
Andersen Consulting	60		
IBM Global Services	41		
Andersen Consulting	39		
Cap Gemini	36		
Perot Systems	30		
CSC	25		
CSC	25		

1H 1999, period ending in June;
Source: INPUT

Significant contracts awarded in the Process Manufacturing sector during the 1998-2003 period include the following.

1998

IBM Global Services / SC Johnson Wax

Over the ten-year term of this global alliance, IBM Global Services will manage SC Johnson Wax's data center operations throughout Europe and support manufacturing sites in the UK and Holland. Application development and maintenance, the management of their network servers, and multi-lingual help desk support are included in the contracted services. SC Johnson Wax was an existing customer of IBM Global Services.

EDS / Chevron

For this five-year contract, Chevron will outsource a large percentage of its telecommunication and Information Technology needs to EDS, GTE, and Sprint. EDS will provide information technology services including mainframe support, voice and data networking services, and overall technical support. The total contract value is $450 million, of which INPUT estimates EDS will garner approximately $300 million

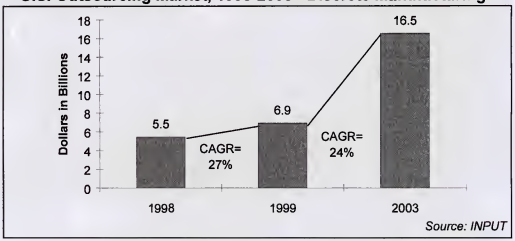
H
Discrete Manufacturing Industry Market, 1998-2003

The third-largest industry sector in the U.S. outsourcing market continues to be discrete manufacturing, which is projected to have narrowed the gap with the second-ranking State and Local Government sector in 1998. This sector is projected to move to the second rank by 2003, overtaking the state and local government sector.

INPUT projects that the discrete manufacturing market will grow at 25% CAGR over the forecast period, increasing from $5.4 billion in 1998 to $16.5 billion in 2003 as shown in Exhibit IV-11.

Exhibit IV-11

U.S. Outsourcing Market, 1998-2003 - Discrete Manufacturing



Significant contracts awarded during the 1998-1999 period include:

1998

CSC / General Dynamics

General Dynamics awarded CSC a seven-year, $500 expansion contract in order to retain CSC as its exclusive provider of IT services.

CSC has been historically strong in this vertical market. Their Second Quarter results, however, are owed to one company – General Dynamics – who contributed 100 percent of CSC's discrete manufacturing revenues.

Computer Sciences Corporation received an extension of its outsourcing contract with General Dynamics three years ahead of schedule. The original ten-year, $3 billion agreement, signed in 1991, was scheduled to expire in 2001. General Dynamics agreed to a new seven-year contract, extending from 1998 through 2004, at an estimated value of $500 million in additional revenue to CSC

Within the contract, CSC will continue to be the exclusive provider of information technology services for all of General Dynamics' business units and all future acquisitions. As a part of the deal, General Dynamics, who supplies defense systems to the United States and its allies, transferred 2600 of its employees to CSC along with three data centers.

1999

AT&T Solutions / McDermott International, Inc.

New Orleans-based McDermott awarded AT&T Solutions a $600 million, ten-year contract to take responsibility for the firm's global IT infrastructure. It expands on an existing relationship (and $5 million contract) dating from 1995 when AT&T won a contract to manage the firm's WAN and data network; 280 McDermott IT staff will transfer to AT&T Solutions.

The scope of contract includes 10,000 desktops, 350 servers, LAN and WAN networks, as well as network management for 60 locations worldwide. One major goal of the contract will be to effect a standardization of McDermott's global IT assets in order to provide more efficient and cost-effective services to its customers.

McDermott manufactures steam-generating equipment as well as other environmental equipment and products, primarily for the U.S. government. It also provides engineering and construction services, largely for the offshore oil and natural gas industry.

AT&T Solutions' CEO, Rick Roscitt, described the deal as one of the vendor's largest ever for "network-centric IT services." Beyond "dollars," he insisted that the deal represented "exactly the kind of business that we've been itching to get into..." He added that, "our network of Global Client Support centers, based in Durham, N.C., will assure that users can connect to the business information and applications [that] they need anytime, anywhere via the McDermott global networking platform, rendering the physical location of the application irrelevant.

Emory Worldwide Global Logistics / Wyse Technology

Wyse Technology chose Emory Worldwide Global Logistics for a $12 million contract that called for a comprehensive IT restructuring in order to streamline business processes, including returns management, customer support, testing and manufacturing.

IBM Global Services / Ford

Ford awarded IBM Global Services this $300 million, five-year contract to provide application development and deployment services that should reduce time-to-market, reduce application development overall cost, allow Ford to focus on strategic initiatives and yield worldwide cost efficiencies. IBM will help Ford establish an Accelerated Solutions Center (ASC), a facility designed to support and

enable the accelerated applications development software. The ASC will be located in Dearborn, MI, and will eventually host more than 1,000 people. IBM will support up to 150 concurrent projects every 4-6 months in areas such as distribution, finance, human resources, marketing and sales, manufacturing and product development.

Total Logistic Control / WLR Foods

Total Logistic Control was awarded a contract from WLR Foods worth $135 million to manage food shipments, and identify and implement supply chain process improvements.

HP / Delphi Automotive Systems

Hewlett-Packard was selected by Delphi Automotive Systems for a $25 million contract to implement and manage R/3 ERP installations for accounting, sales and distribution, and production planning.

CSC/Pratt & Whitney

Under the terms of the $1.2 billion, ten-year contract Computer Sciences Corporation will acquire and manage Pratt & Whitney's global IT systems. CSC will support the company's global business operations in more than 130 countries, as well as, the company's implementation of SAP to standardize business processes and drive efficiencies across the organization. The agreement will involve the transfer of about 650 of Pratt 's employees from their offices in Connecticut, and Florida to CSC.

EDS/Delphi Automotive Systems

After successfully separating the critical business and systems infrastructure of Delphi from General Motors, Delphi awarded EDS this $2.5 billion, five-year contract to provide support and connectivity of its worldwide computer systems, as well as its Extranet designed to connect OEMs to suppliers, and suppliers to each other. EDS will also provide engineering and manufacturing IT support to Delphi facilities in 36 countries.

Exhibit IV-12 lists the leading providers of outsourcing services to the discrete manufacturing industry for the period 1998-1H 1999 based on projected total contract values.

Exhibit IV-12

Leading Discrete Manufacturing Outsourcing Vendors

Vendor	1998 Est. Contract Values	Vendor	1999 Est. Contract Values
British Telecom	800	EDS	2880
Cap Gemini	642	CSC	1200
CSC	590	CSC	1100
Andersen Consulting	132	AT&T Solutions	600
CSC	130	IBM Global Services	400
CSC	130	Lockheed Martin	300
CSC	110	IBM Global Services	300
Compuware	100	Hewlett Packard	200
Getronics	100	Lockheed Martin	200
IBM Global Services	100	Total Logistic Control	135
Unisys	100	AT&T Solutions	100
Siemens Business Information Services	100	Hewlett-Packard	25
PricewaterhouseCoopers	60	Emory Worldwide Global Logistics	12
IBM Global Services	50	Unigraphics Solutions	8
IBM Global Services	50	Entex	7
EDS	45	EDS	6
EDS	40	ACS	5
Inacom	35	Torch Energy Advisors	4
Convergys	25	Integris	3
CSC	25	USInternetworking	3
IBM Global Services	24	Futurelink	3
Sutherland	20	Ideal Technology Solutions	2
Compaq	16		
Inacom	15		
EDS	15		
Arthur Andersen	12		
IBM Global Services	10		

1H 1999, period ending in June;
Source: INPUT

I
Other Industries

1. Retail Industry Market, 1999-2003

The U.S. retail industry is undergoing a period of restructuring as brick-and-mortar retailers confront "click-and-mortar" vendors, partly as e-commerce adversaries on the Internet that exist only in cyberspace, and partly with other established retailers that are attempting to adjust their business models to the new realities of the Internet.

In addition, retailers, merchandise suppliers and transportation providers are spending large amounts of money to streamline their communications, logistics systems, billing, payment and inventory links. IT spending is raising the competitive barrier as smaller players find it increasingly difficult to match larger competitors in technology spending. One solution has been for Small and Medium-Sized Enterprises (SME) to make use of application service providers. Under this model, they pay one fixed monthly amount that can cover access to required software applications, application maintenance, upgrades, IT platform operations and help desk support.

As an example, USInternetworking, a leading ASP, has signed a number of new customers in the retail sector for its hosted ERP, HR, sales management and other specialized applications on terms that have proven very attractive to retailers.

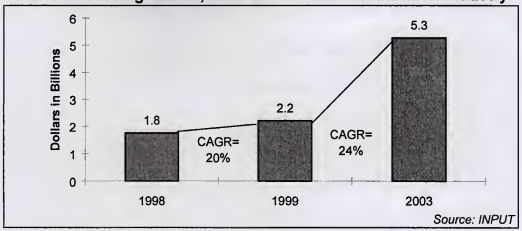
In addition, retailers are rapidly adopting business-to-business Electronic Bill Payment and Presentment (EBP&P) solutions which, when coupled with EDI technology (being updated to the Internet and XTML), promises to permit small players to achieve some of the advantages that were reserved previously for Wal-Mart and other giant organizations.

Exhibit IV-13 provides a forecast of the market for outsourcing services in the retail industry during the five-year period from 1998 to 2003.

Outsourcing in the retail sector is forecast to grow from $1.7 billion in 1998 to $5.3 billion in 2003, representing a robust CAGR of 25%.

Exhibit IV-13

U.S. Outsourcing Market, 1998-2003 - Retail Distribution Industry



Source: INPUT

Significant sector contracts awarded in the 1998-1999 period include:

February 1999

IBM Global Services / CompUSA

CompUSA awarded IBM Global Services this $200 million, seven-year contract to provide software application development services and data center management. In addition, IBM Global will provide ERP services for the purpose of implementing an 18-24-month migration to a new SAP installation. IBM Global will handle the day-to-day operation and maintenance of the R/3 system from its data center in Denver.

Under terms of the contract, 115 CompUSA staff will transfer to IBM. CompUSA expects to redeploy its remaining IT staff to work in the area of e-commerce.

This deal was described as the largest-ever from a retailer to IBM Global.

The scope of the contract covers CompUSA's 210 retail stores in 79 metropolitan markets as well as related businesses, such as technical services, training, manufacturing and call center operations. The client expects that the consolidation of its legacy IT infrastructure and the implementation of SAP will lead to greater efficiencies and lower costs.

Worth noting, cost-savings acquired greater importance at the beginning of March 1999 when a weak earnings announcement caused CompUSA shares to fall. One securities analyst called the announcement "a disaster." Management announced that the

company will likely post losses for both 3Q and 4Q 1998, due largely to intense competitive pressure from other retailers, such as Circuit City, Best Buy, and from online marketers, Dell and Gateway.

March 1999

IBM Global Services / Dayton Hudson

Under the terms of this $400 million, five-year contract with retailer Dayton Hudson, IBM Global Services will operate the client's mainframe computer systems that control critical business functions, such as credit card transactions; 75 Dayton Hudson IT staff will transfer to IBM Global. The retailer operates 1,182 stores in 41 states across the U.S.

In addition, IBM Global will take responsibility for all data center operations, mainframe technical services and mainframe DB support. IBM was described as "a long-time partner of Dayton Hudson."

Securities analysts noted that, at the end of 4Q 1998, Dayton Hudson took a year-end pretax charge of $42 million stemming from this contract.

Wholesale Distribution

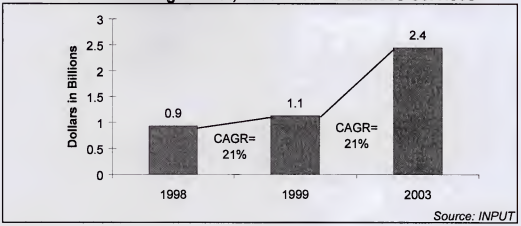
The wholesale segment of the distribution industry is smaller than the retail segment ($678 versus $1.7 billion in 1998) and is forecast to grow more slowing in regard to outsourcing, rising 15% between 1998 and 1999, with a CAGR of 17% versus 24% for the period 1999-2003. The reasons for these discrepancies in relative size and growth are varied, including differing structures of each segment of the industry, differing levels of acceptance for IT outsourcing and differing levels of change in market conditions. The retail segment is more subject to consolidation, business reorganizations and supplier pressure to adopt standardized industry approaches to logistics.

3. Business Services Industry Market, 1998-2003

Exhibit IV-14 provides a forecast of the market for outsourcing services in the business services sector for the five-year period from 1998 to 2003. This market is forecast to grow from $933 million in 1998 to $2.4 billion in 2003, representing a CAGR of 21%.

Exhibit IV-14

U.S. Outsourcing Market, 1998-2003 - Business Services



Source: INPUT

Significant business services sector contracts awarded in the 1998-1999 period include the following:

1998

IBM Global Services / GE Capital Services

In the beginning of March, GE Capital Services decided to outsource its mainframe and midrange processing for its own businesses to IBM Global Services. IBM also acquired GE's data center outsourcing business, GE Capital Services Technology Management Services. IBM will manage the data center and various network operations for GE Capital Services' businesses, as well as for GE Capital Services' customers. The agreement, estimated at over $1.5 billion, extends the already extensive relationship between GE Capital and IBM. As a part of the agreement, IBM Global Services will employ approximately 590 of GE Capital Services employees and set up an initial IT infrastructure in Georgia, Texas, Toronto and Canada.

MCI Systemhouse / IVANS

MCI and IVANS signed a $260 million agreement to provide distributed computing services to the insurance and health care industries. MCI will be responsible for delivering the integrated Local Area Network (LAN) Wide Area Network (WAN) and desktop support services through MCI's Enterprise Management offering. The agreement covers 50,000 desktop systems and enables IVANS and their customers to concentrate on their core competencies without worrying about the management of their modems, routers and servers. This announcement builds on a ten-year relationship with IVANS.

May 1999

Tech Data /GE Capital IT Solutions

Tech Data was awarded an outsourcing agreement worth nearly $2 billion from GE Capital IT Solutions. Under the terms of this three-year agreement, Tech Data will become GE Capital's procurement, configuration and assembly, and logistics services provider.

With this agreement, GE can focus on customer service and business service and product development, while Tech Data handles logistics, system customization, and overall product fulfillment. GE will no longer need to stock, configure, or assemble technology products prior to delivery. Tech Data will assume control over GE Capital's 200,000 square foot facility in Maryland as of August. All of the GE Capital employees in the Maryland facility will become Tech Data employees.

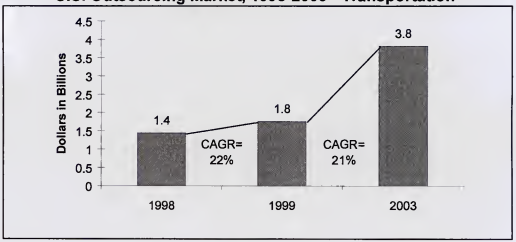
4. Transportation Industry Market, 1998-2003

Exhibit IV-14 provides a forecast of the market for outsourcing services in this sector over the five-year period from 1998 to 2003. The growth of this market should reach 21% during the forecast period, growing from over $1.4 billion in 1998 to $3.8 billion in 2003.

Historically, the transportation sector has seen a series of mega-contracts, including an award from Ryder System, Inc. in 1997, which signed a 10-year contract with IBM Global Services and Andersen Consulting valued at $1.4 billion. The biggest contract identified by INPUT remains the 10-year applications operations contract signed in 1991 by EDS with Continental Airlines Holding valued at $2.1 billion dollars.

Exhibit IV-15

U.S. Outsourcing Market, 1998-2003 - Transportation



Source: INPUT

More recent, significant contracts awarded in the 1998-1999 period include:

CSC / Budget Auto Rental

In January 1999, Budget Auto awarded CSC with a five-year, $200 million contract to manage all data centers, IT networks; provide user support services, including application maintenance; 130 Budget employees will transfer to CSC.

IBM Global Services / Roadway Express

In September 1998, Roadway Express trucking company awarded IBM Global a five-year, $115 million contract to operate its mainframe and midrange systems, local area and frame relay networks.

IBM Global Services / Consolidated Freightways

In November 1998, Consolidated Freightways trucking company awarded IBM Global a five-year, $110 million contract to outsource virtually all of its IT operations, except for e-commerce applications, for which Consolidated will retain a staff of 140.

EDS / Frontier Airlines

In January 1999, Frontier Airlines awarded EDS a five-year, $60 million contract to provide customer service IT system, including comprehensive reservation and passenger processing, telecom services and electronic ticketing capabilities.

iXL, Inc. / Delta Airlines

Also in January 1999, Delta Airlines awarded iXL with a five-year, $50 million contract to develop Internet-based Web site and intranet applications, Web design and back-end IT system integration, including interactive customer service systems for on-line transactions.

US Web/CKS / National Airlines

In February 1999, National Airlines awarded USWeb/CKS a three-year, $25 million contract to build and support Intranet, extranet and data warehouse functions; also, vendor will manage financial, purchasing, inventory support and maintenance operations. ThecClient is new, start-up airline whose business plan is to outsource virtually all operations.

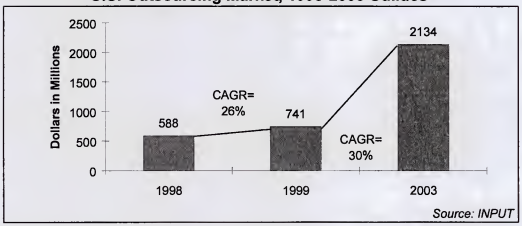
5. Utilities Industry Market, 1998-2003

Traditionally, the utilities sector has been one of the smallest vertical markets for outsourcing in the U.S.. However, this segment is beginning to show some new activity and INPUT forecasts that it will grow faster than many larger sectors—26% between 1998 and 1999, and 30% average annual growth between 1999 and 2003. If so, the market will rise from $588 million in 1998 to $2.1 billion in 2003 (see Exhibit IV-16).

As is the case in other industries, deregulation and other competitive pressures are compelling utilities to use IT outsourcing to permit them off-load responsibility for business functions that are not mission critical or representing their core competencies. In particular, utilities are showing growing enthusiasm for outsourcing all aspects of their billing functions.

Exhibit IV-16

U.S. Outsourcing Market, 1998-2003 Utilities



Source: INPUT

Significant contracts awarded in the utilities sector in the 1998-1999 period include:

1998

IBM Global Services / Halliburton

The agreement between IBM Global Services and Halliburton, a seven-year, $400+ million pact, involves a high degree of innovation and internet capability. IBM Global Services landed this outsourcing contract to provide one of the world's largest private intranets when Halliburton, a worldwide energy services and engineering company, decided it best to provide a global network infrastructure for over 26,000 employees in the 54 countries in which Halliburton does business.

The core responsibilities include help desk management, WAN and LAN Management, operating, reporting and managing file, print and e-mail servers, administration of e-mail, web site hosting, Internet connectivity with firewall servers, and infrastructure design and implementation. Included in the bidders for this contract were EDS, MCI, British Telecom and AT&T Solutions.

12. Telecommunications Industry Market, 1998-2003

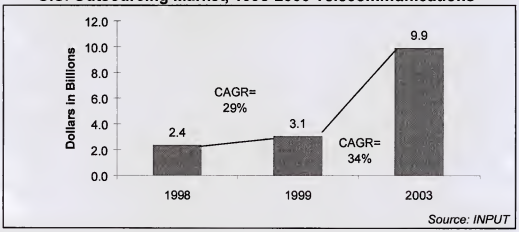
The U.S. telecommunications industry is undergoing rapid consolidation and restructuring at the same time that it confronts the challenges of convergence of voice/data/Internet traffic. New competitors include wireless cellular service vendors, cable companies and large, global media giants that own television, cable, movie studios, publishing and distribution arms.

INPUT forecasts an accelerating adoption of IT outsourcing, reflecting one of the highest long-term CAGR rates of 34% between 1999 and 2003. It will grow at one of the fastest rates of any industry, at 28% per year. If so, telecom spending on outsourcing will grow from $2.3 billion in 1998 to $9.9 billion in 2003.

Exhibit IV-17 summarizes this projected growth for the sector.

Exhibit IV-17

U.S. Outsourcing Market, 1998-2003 Telecommunications



Source: INPUT

Significant contracts awarded during the 1998-1999 period include:

1998

Digital / Direct TV

This six-year contract expansion called for approximately 50 Digital specialists to support more than 2,000 customer service representatives.

Digital will take-over the management of DirectTV's computers and billing applications in the United States.

May 1999

CGI/BCE Mobile

BCE and CGI closed this ten-year, renewable agreement, for $509 million in early May. Under this contract, CGI will provide Bell Mobility all their information technology services. According to President and CEO, Randall Reynolds, BCE hopes that this association "...will enhance the efficiency" of their IT operations enabling better service to their customers. The agreement also involves the transferring of 450 Bell Mobility employees to CGI. The size of the contract in subsequent years will be dependent on Bell Mobility's growth and specific future requirements

June 1999

Nortel/BellSouth

Bell South awarded Nortel this $5 billion, ten-year contract to supply communications equipment, software and services. This deal will allow BellSouth to continue investing in new technologies, including wireless data, and internet provider services in the U.S. and overseas markets.

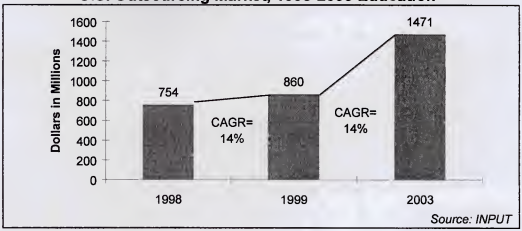
1. Education Industry Market, 1998-2003

Exhibit IV-18 provides a forecast of the market for outsourcing services in this sector in the five-year period from 1998 to 2003. INPUT projects that the education sector will grow more slowly than the overall outsourcing market, growing at an annual rate of 14% over the forecast period, from $754 million in 1998 to $1.5 billion in 2003.

In this sector, Systems and Computer Technology contracts predominate, but educational institutions also signed contracts during 1998-1999 for Internet-related services and management consulting.

Exhibit IV-18

U.S. Outsourcing Market, 1998-2003 Education



Source: INPUT

While many educational institutions are turning to IT outsourcing for reasons similar to those of commercial organizations, their unique characteristics and growing size in the overall economy is attracting a wide range of IT oursourcers.

Currently, Internet-enabled "distance learning" is the siren tempting many educational institutions to consider calling in outsourcers. Politicians, college administrators and private businessmen see this as an attractive, growing and lucrative market able to appeal successfully to students who are unable to pay ordinary tuition fees and attend educational institutions in person.

At the same time, university professors are attempting to slow down or stop this bandwagon of enthusiasm. They believe that the push to offer for on-line undergraduate degrees has been motivated by "short-sighted cost-cutting strategies that aimed to make a quick buck at the expense of students."

Teachers fear that the quality of education delivered by Internet will seriously compromise traditional goals. Also, they are suspicious that administrators will ultimately expect them to provide "content" for, and supervision of on-line education with no additional compensation.

Clearly, foot-dragging by the foot soldiers of the educational industry will brake the development of distance learning. In contrast, the outlook for IT outsourcing of institutional infrastructures, desktops and applications remains good and demand for such traditional support will continue to fuel modest growth in the industry.

Among the significant contracts signed during the 1998-1999 period are the following:

SCT / Oakland Community College

In March 1998, SCT won a three-year, $6.7 million contract to implement the Learner Center technology segment of the college's total IT plan.

SCT / McGill and Concordia University

Also in March 1998, SCT won a two-year, $15 million contract to implement and support the universities' financial software. A primary goal was to permit the universities to rationalize their IT operations.

Zmax Corp / Columbia University

In October 1998, Zmax won a two-year, $5 million contract to provide IT consulting services to the university.

Cohesive Technology Solutions

Cohesive won this three-year, $11 million contract from the New Orleans Public Schools system to manage a total renovation of the system's IT infrastructure, including statewide connections of public schools to the Internet.

Ciber, Inc. / University of Houston

In May 1999, Ciber won a five-year, $10 million contract from the University of Houston for the provision of consulting services for PeopleSoft HR software, financial and student administration applications.

National Computer Systems / South Carolina Department of Education

Also in May 1999, National Computer won a five-year, $30 million contract to provide IT systems and services, including a high-speed telecom network linking schools across the state.

Revised Outsourcing Market Forecasts, 1998-2003

Exhibit A-1 presents detailed outsourcing market forecasts.

Exhibit A-1

U.S. Outsourcing Market, 1998-2003

	1998	1999	2000	2001	2002	2003	CAGR % 98-03
Total US Market	**40779**	**49765**	**60661**	**75054**	**94008**	**109982**	***22%***
Platform Operations	7554	8234	8728	9077	9259	9369	*4%*
Desktop Services	4947	6134	7544	9204	11045	12719	*21%*
Network Management	4889	6160	7515	9094	10958	13205	*22%*
Applications Management	1469	1763	2142	2624	3240	4035	*22%*
Applications Operations	13522	15821	18194	20741	23437	26721	*15%*
Internet/Intranet Management	1034	2089	4199	8398	15536	17445	*76%*
Total IS Outsourcing	**33415**	**40200**	**48322**	**59137**	**73475**	**83494**	***20%***
Business Process Operations	7364	9565	12339	15917	20533	26488	*29%*

Source: INPUT

Exhibit A-2 provides a forecast for U.S. outsourcing market by industry sector over the period 1998-2003.

This forecast includes IT outsourcing, business process operations outsourcing and related transaction processing.

Exhibit A-2

U.S. Industry Sector Breakdown, US 1998-2003

	US $m 1998	1999	2000	2001	2002	2003	Growth 1998-2003
Total US Market	**40779**	**49765**	**60661**	**75054**	**94008**	**109982**	***22%***
Banking & Finance	8536	10703	13281	16610	20763	23956	*23%*
Business Services	933	1129	1366	1660	2042	2446	*21%*
Discrete Manufacturing	5471	6929	8731	11140	14571	16542	*25%*
Education	754	860	982	1144	1327	1471	*14%*
Federal Government	2338	2427	2560	2740	2986	3229	*7%*
Health Services	3285	3926	4711	5653	6841	7961	*19%*
Insurance	3784	4465	5269	6296	7594	8756	*18%*
Miscellaneous Industries	209	230	255	290	339	393	*13%*
Process Manufacturing	2940	3499	4199	5248	6455	7334	*20%*
Retail Distribution	1758	2209	2651	3260	4108	5274	*25%*
State & Local Government	5695	7055	8748	10979	13814	15283	*22%*
Telecommunications	2365	3051	3935	5175	7142	9909	*33%*
Transportation	1445	1762	2150	2634	3240	3818	*21%*
Utilities	588	741	919	1171	1535	2134	*29%*
Wholesale Distribution	678	779	904	1053	1253	1477	*17%*

Source: INPUT

The leading outsourcing vendors in the U.S. are listed in Exhibit A-3.

Exhibit A-3

Leading Outsourcing Vendors, U.S. 1998

Vendor	Estimated US Revenues ($m)	Estimated Market Share
IBM Global Services	5465	*13.4%*
EDS	4976	*12.2%*
CSC	2058	*5.0%*
First Data	1400	*3.4%*
Compaq	1152	*2.8%*
MCIWorldCom	1150	*2.8%*
Lockheed Martin Bus Serv	938	*2.3%*
FiServ	840	*2.1%*
Andersen Consulting	710	*1.7%*
ACS	600	*1.5%*
UNISYS	600	*1.5%*
AT&T Solutions	600	*1.5%*
Perot Systems	500	*1.2%*
Subtotal	**20989**	***51.5%***
Other	19790	*48.5%*
Total	**40779**	***100.0%***

Source: INPUT

Survey Questionnaire

Introduction

The purpose of this survey is to obtain revenue forecast data from IT outsourcing vendors in order to project industry growth over the period 1998-2003, in both the US and Europe, according to specific market segments.

You will be provided with an executive summary of the results of this survey.

A. Historical 1998 Figures

1. What proportion of your **total 1998 revenues** was generated by IT outsourcing? _____

2. What was the amount of your total 1998 revenues? _____

3. Of this amount, how much was generated in the **U.S.**?_____

4. How much was generated in **Europe**?_____

5. If possible, please breakdown **European** outsourcing revenues as follows:
   5a._____France
   5b._____Germany
   5c._____UK
   5d._____Eastern Europe
   5e. *Smaller markets*: 5f. Austria _____; 5g. Belgium _____; 5h.Denmark _____; 5i.Finland _____; 5j.Greece_____; 5k. Ireland _____; 5L. Italy _____; 5m. Netherlands _____; 5n. Norway _____; 5o. Portugal _____; 5p. Spain _____; 5q. Sweden _____; 5r. Switzerland _____

6. Of total US outsourcing revenues, what proportion did each of the following categories comprise?
   6a. _____Platform operations

6b. _____Desktop services
6c. _____Network management
6d. _____Application management
6e. _____Electronic markets (Internet, e-commerce)
6f. _____Business process management
6g. _____Business IT services (ASP, hosted apps _____; ERP _____, CRM, customer care ____; HR____; financial ____; other _____.

7. Of total European outsourcing revenues, what proportion did each of the following categories comprise?
7a. _____Platform operations
7b. _____Desktop services
7c. _____Network management
7d. _____Application management
7e. _____Electronic markets (Internet, e-commerce)
7f. _____Business process management
7g. _____Business IT services (ASP, hosted apps ____; ERP ____, CRM, customer care ____; HR_____; financial _____; other ____.

8. If possible, please indicate the proportion that **individual European national markets** contributed to these categorical revenues.
8a. Platform operations_____
8b. Desktop services_____
8c. Network management_____
8d. Application management_____
8e. Electronic markets (Internet, e-commerce)_____
8f. Business process management_____
8g. Business IT services (ASP, hosted apps) ____
8h. ERP _____
8i. CRM, customer care ____
8j. HR_____
8k. financial _____
8l. other _____

9. Please indicate what proportion of your **U.S.** outsourcing revenues were derived from each of the following vertical industries:
9a. Government (local ____; central _____; international ___
9b. Health care _____
9c. Manufacturing (discrete ____; process _____)
9d. Financial services (banking / securities / other financial ___; insurance _____)
9e. Distribution (Retail _____; wholesale _____)
9f. Transportation_____
9g. Utilities _____
9h. Other _____

10. Please indicate what proportion of your **European** outsourcing revenues were derived from each of the following vertical industries:
    10a. Government (local ___; central ___; international ___
    10b. Health care ___
    10c. Manufacturing (discrete ____; process ____)
    10d. Financial services (banking / securities / other financial ___; insurance ___)
    10e. Distribution (Retail ____; wholesale ____)
    10f. Transportation___
    10g. Utilities ___
    10h. Other ___

B. Forecast Revenue Growth

11. What growth do you foresee for your **US** outsourcing revenues in the following periods?
    11a. _____1998-2000
    11b. _____2000-2003

12. What growth do you foresee for your **European** outsourcing revenues in the following periods?
    12a. _____1998-2000
    12b. _____2000-2003

13. How fast do you expect the following categories of outsourcing to grow in the period 1998-2003?

	US?	**Europe?**
13a. Platform operations	_____	_____
13b. Desktop services	_____	_____
	US?	**Europe?**
13c. Network management	_____	_____
13d. Application management	_____	_____
13e. Electronic markets (Internet, e-commerce)	___	___
13f. Business process management	_____	_____
13g. Business IT services including (ASP& hosted apps)	_____	_____
13h. ERP	_____	_____
13i. CRM, customer care	_____	_____
13j. HR	_____	_____
13k financial	_____	____
13l. other	_____	_____

14. As I mentioned, we will be sending you an executive summary of this data. Who would you say is the most appropriate decision maker in your organization to receive this summary? Would you have the e-mail address for this person?

Name/Title:
Phone #:
E-mail Address:

15. Would you be interested in taking part in some of our upcoming research or could you refer us to your CIO?
___ You may call me again
CIO: _____
Phone: _____

Thank you for your time and consideration.

C

Forecast Reconciliation

Exhibit D-1

Information Systems Outsourcing Market Forecast Reconciliation, US Market

Dollars in Millions	|---1998 Market --|				|---- 2003 Market ----|			1998	2003
Delivery Mode	**1997 Report (Fcst)**	**1999 Report (Act)**	**Variance (Amount)**	**Variance (%)**	**1997 Report (Fcst)**	**1999 Report (Fcst)**	**Variance (Amount)**	**Variance (%)**	**Report CAGR (Fcst)**	**Report CAGR (Fcst)**
Systems Operations	21851	21076	-775	*-4%*	42272	36090	6182	*-15%*	*NA*	*NA*
- Platform Operations	7554	7554	0	*0%*	11407	9369	-2038	*-18%*	*9%*	*3%*
- Application Operations	14297	13522	-775	*-5%*	30865	26721	-4144	*-13%*	*17%*	*14%*
Desktop Services	4997	4947	-50	*-1%*	14824	12719	2105	*-14%*	*24%*	*20%*
Network Management	4889	4889	0	*0%*	15763	13205	2558	*-16%*	*26%*	*21%*
Application Management	1728	1469	-259	*-15%*	4332	4035	297	*-7%*	*20%*	*23%*
Internet/Intranet Management	*NA*	1034	*NA*	*NA*	*NA*	17455	*NA*	*NA*	*102%*	*90%*
Total IS Outsourcing	**33630**	**33415**	**-215**	**-6%**	**76606**	**83494**	**+6888**	**+9%**	**20%**	**20%**
Business Process Operations	4590	7364	+2974	*+60%*	20925	26488	+5563	*+27%*	*29%*	*29%*
Total Outsourcing	**38220**	**40779**	**+2559**	**+7%**	**96504**	**109982**	**+13478**	***+14%***	***21%***	***22%***

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values. *Source: INPUT*

Comments:

- The forecast CAGR for Platform Operations will moderate in comparison with the prior estimate due to changes in market structure.

- The rapid decline in data mainframe data center spending in favor of client/server architecture will be offset by a rise in e-business and e-commerce, which promotes a return to mainframes. Other offsetting factors include the higher bandwidth requirements of Internet-enabled e-commerce and the advent of Internet-linked handheld devices, including wireless digital assistants and other special function devices—most using the JAVA operating system and lacking their own processing capabilities.

- Desktop services spending will moderate due to the commoditization of services and fiscal reallocations to platform operations as required for e-business and e-commerce.

- Network management spending growth will moderate due to reallocations of funds to the new internet/intranet segment.

- Higher growth forecasts for applications management reflect the restructuring of the IT market, e.g., fewer data center contracts, more targeted spending on e-business, and the growing attractiveness of application-hosting services.

- Very high initial forecasted annual growth for internet/intranet spending will moderate over the next five years, but remain relatively high. The magnitude of this growth was unclear in the 19960-1997 period when the prior forecast report was prepared.

- Higher forecast Internet spending reflects a restructuring of the market that has taken place since the 1997 report was prepared (based on 1996 figures).

- While our CAGR estimates for the BPO segment are lower than in the prior report, our estimate of the market size for this segment has been sharply increased to reflect structural changes in the market (as detailed in our recently published BPO reports on the U.S. and European markets). Acceptance of the BPO alternative is growing rapidly. (See the Vendor Profile on EDS that follows.)

- The 1998-2003 report includes forecasts for the first time for the Internet / Intranet Management sector in recognition of the growing importance of the Internet, electronic commerce and electronic business. Forecast figures reflect an amalgam of spending that was previously allocated to other delivery modes and new spending generated by transformations in technology and competitive positions.

Vendor Profiles

A
USInternetworking

Since going operational in April 1999, Annapolis, Maryland-based USi has grown rapidly in every respect. Today, the company has approximately 500 employees and expects to reach 1,000 by year-end 1999.

It has signed about 30 clients to application outsourcing contracts, of which about half are already operational.

USi was founded in January 1998 with a $10 million, unsecured start-up investment from Cisco. The company was given another $33 million in venture capital funds that permitted the establishment of a fully-equipped, scalable operations center in Annapolis, Maryland (the second was set up in Milpitas, California). US West invested (uncharacteristically) to purchase a 10% stake in USi and acquired a seat on its Board of Directors. In August 1998l, USi attempted to sell $200 million in a high-yield bond offer that was ultimately unsuccessful. Yet, in December 1998, the company secured $62 million of additional venture capital funds, followed in April 1999 by a successful IPO that raised $140 million of the planned operating funds budget of $200 million.

At present, USi has $30 million in booked contracts (with an average value of $2 million). Current clients include Hershey Foods, Sunburst Hospitality, Legg Mason, Liberty Financial, GE Capital, Sothebys, BASF, Lattice Communications, Sunspot Online, Franklin Covey, NetGift Registry, US West, Arthur Andersen, Liveprint.com, Hensley Segal Rentschler, and the Hunter Group.

1Q 1999 revenues were $1.2 million and contract bookings of $16.3 million compared to 4Q 1998 contract bookings of $4.9 million. So far, management believes it is on target to turn profitable based on

recurring revenues and cumulative cash flow some time in the next year, assuming long-term amortization of USi's high initial capex. Securities analysts are forecasting midyear 2000 revenues of $100 million. These sales will continue to depend to a large degree on leveraging the efforts of the software vendors' own sales forces. Yet, both USi's and software vendors' management insist that sales personnel will not be given incentives to induce clients to select the rental versus purchase option. They believe that the case for rental is so compelling that all but the largest enterprises will find it appealing. USi has been somewhat surprised to discover that, among its current customers, average enterprise size is larger than they had expected—proving that the rental case may, in fact, have no upper ceiling in regard to attractiveness as had been assumed.

USi has fulfilled its client promise to provide turnkey software application functionality, application management and implementation, network services, security and help desk functions all for a single monthly fee.

During the past year, many ASP competitors have appeared, but few if any can offer credibly such comprehensive services on a "one-stop shopping" whereby the service provider takes full responsibility for all aspects of software application functionality. USi believes that the most important distinguishing factor between itself and its competitors is its ability to promise clients that a single trouble ticket to USi can resolve all aspects of functionality with no "finger pointing" to other business partners.

USi management appears unconcerned about the estimated 160 ASP competitors that have appeared during the past year because it regards its true competitor as the in-house IT department that typically believes it can (and should) follow the "old" model for delivery of IT functionality.

Because USi typically owns the software license that clients use, as well as the operations center, network infrastructure, security and data recovery technology used to deliver functionality, it retains complete control over all aspects of the required services and can resolve problems through a single call to its help desk. Similarly, USi's monthly price for these bundled services remains attractively priced in comparison with the "unbundled" totals offered by competitors.

USi's target is resolution of 90% of all trouble tickets with the first (Tier 1) telephone call. USI uses an independent firm to survey clients on a monthly basis to monitor their satisfaction with company services. Customer care teams of 2-4 staff are assigned 2-6 individual

clients as their primary responsibility and their compensation is partially at risk depending on client satisfaction. Each client has a dedicated 800 number to use in contacting this assigned team. Level 2 application engineers are available as needed on 24 call, as are Tier 3 software experts from partner vendors.

Also important, USi offers its clients a high level of flexibility in various areas. Clients may retain ownership of software if they prefer. They can even retain responsibility for application management and use USI for application (or Web) hosting only, if this option better suits their needs. USI will also work together with other vendors as partners in the event that a client chooses to outsource (to it) only specific applications while retaining others either for in-house, or allocating them to another IT services vendor. Clients may also elect a preference for VPN, Internet, or other network alternative for application service delivery.

In every case, clients benefit from USi extensive investment in network security, availability, and redundancy for security purposes. In particular, USi has arranged for a high level of dedicated Internet access (called "PriorityPeering") to obviate "choke points" on the public Internet.

However, one trade-off remains: while USi can cost-effectively undertake a limited amount of custom-fitting during the short 3-6 week implementation process, USi clients must be able to use, in effect, a standard software package that will be shared with multiple clients, which precludes extensive customization. USi has currently an implementation staff of 200 that is expected to grow to 1,000 before year-end 1998.

While USi's current business plan calls for rapid expansion of its client list for its current menu of enterprise application services, top management is already looking ahead to the potential for providing clients data mining, data warehousing and other high-priority enterprise IT functions as value-added outsourcing services.

Yet, at present management believes that one critical key for keeping USi's costs under control remains the discipline of offering a restricted menu of popular, top-of-the line enterprise applications, such as PeopleSoft, BroadVision, Siebel, and Sagent. These will be expanded cautiously. Management expects to add 3-5 new enterprise software products during 2H 1999.

On the topic of pricing, USi has been accused of "premium pricing" by newer competitors. However, close examination usually reveals that their value proposition is lower (to match their lower prices). Most

important from the client's point of view, USi offers an all-in flat rate billing option that includes application functionality, implementation, maintenance, security, network services, disaster recovery and help desk all for monthly fees that range from $20,000-40,000, representing an average of 85 seats billed at $350 each.

In contrast, a large ERP implementation can cost $1 million, or more. Even for smaller, discrete packaged software, all-in costs are high. For example, a BroadVision license costs $60,000—a Sun license $120,000, exclusive of implementation and network configuration costs. According to USi, a traditional enterprise application software implementation follows the following model:

License	$180,000
Hardware	$ 50,000
Implementation	$480,000
Total Investment	$710,000
Maintenance	$ 3,000
Disaster Recovery	$ 4,000
Bandwidth	$ 2,000
Operations	$ 17,000
Total Monthly Expenses	$ 26,000
Time-to-Benefit	6-24 months

In contrast, USi's version of the ASP model provides all of the elements listed above for a typical monthly fee of $36,000 and a completed implementation that provides full functionality within 4-12 weeks.

Over the term of a typical five-year contract, the traditional purchase model for enterprise software would cost a company $2.2 million ($1.6 million in monthly expense and $710,000 in one-time expense). In contrast, the USi delivery model could cost roughly the same amount, but with a much faster implementation, higher level of security and lower level of operational risk.

The total market opportunity is huge—as suggested by Sun MicroSystems' expectation that two-thirds of its software business will be sold on a rental (recurring revenue) basis within the next five years. Some vendors foresee the effective demise of user-owned software altogether, as the "rent-an-app" delivery model becomes increasingly attractive to smaller firms.

As such, USi believes that there is room in this fast-growing model for many vendors offering tailored alternatives, including the "wholesale" Web-hosting option favored by EDS and Corio whereby the client retains ownership of the software and utilizes an independent data communications network provider. As another alternative, as

indicated earlier, Oracle, PeopleSoft, SAP and other software developers are beginning to offer clients rental along with purchase options. In fact, PeopleSoft uses both Corio (in which it has made a start-up venture capital investment) along with USi as delivery alternatives.

Andrew Stern, USi's CFO, addressed the common fear that EDS, IBM Global and other top-tier IT services vendors will become the "category killers" of the ASP market and, ultimately, drive out smaller competitors, including USi.

In his view, this will not happen for several reasons, including:

- USi and its peers are targeting smaller, midsize enterprises that have typically found the largest vendors too expensive (and have been neglected by them), and this market is very large.
- While the ASP concept may be portable, execution is not. Hence, the key to success will be flawless execution of the concept. Historically, top-tier IT vendors have been faulted frequently for lapses of execution and customer service.
- In contrast to the typical client of top-tier IT vendors that require high levels of customization, the ASP model calls for the iteration of essentially similar services to an ever-increasing number of customers on the same scalable hardware platforms.
- As a result, this standardization of service makes it possible to substitute the cable industry model of profitability (high upfront investment, long-term, recurring revenues) from a series of renewable term contracts for the historical systems integration model (high margin, high value-added services from discrete, unique projects).
- Where systems integrators implement technology, ASP vendors deliver functionality as a service. Few top-tier IT vendors are likely to be able to transform themselves sufficiently to excel in this new market.

Currently, USi has implemented 18 clients with no (to date) delays or overruns. (In any case, cost overruns would not be charged to the client.) In the process, USi believes that it has belied the myth that "ASP is easy," requiring—in effect—only the marketing of excess server capacity along the lines of the old mainframe time-share model. In fact, USi emphasizes the critical importance of superior skills in three areas, operations, networking and customer service.

As noted earlier, despite the already crowded ASP playing field which includes EDS, IBM, the Big 5 consultants, Qwest, Digex, Exodus,

GTE, Oracle, along with PeopleSoft, HP, Sun, Cisco, EMC and Intel, USi believes that its main competitor is still the in-house IT department.

Yet, when USi's client panel convened, almost without exception, each representative cited as a reason to outsource the inability to either assemble or maintain an in-house IT staff adequate to deliver the required functionality on a cost-effective basis. In some cases, cost wasn't even an issue: the skills were simply unavailable. For this reason, the USi's promise to eliminate system integration risk, implementation risk, maintenance risk, network risk and cost risk looks increasingly attractive.

When queried in particular on the subject of risk, USi's clients are highly pragmatic. While they admit that dependence on an ASP for deliver of critical enterprise IT functionality puts them, in theory, at mortal risk if the vendor is unable to deliver, they confront the same risk when they attempt to buy their own software and execute according to the in-house model. As the most qualified IT staff migrate to the highest-paying outsourcers who offer the most attractive career paths, they are at the mercy of staffs with second level skills that may, or may not, be adequate for the job at hand.

When pressed, USi's clients admit that—were they obligated by disappointing performance—to look for a new ASP, the task would be aided by the standardized, "plain Vanilla" nature of the popular software being provided. Accordingly, they don't anticipate any dangerous inability to transfer to from an incumbent to a successor ASP.

Clients prefer increasingly to target their remaining in-house IT assets on high-priority, special development projects rather than squander them on delivery of daily services. Beyond that, they pointed out that in-house IT staffs have not been historically very much attuned to customer service. Yet, high levels of customer service are becoming critical to enterprise users as well as extranetworked customers. Fast-changing market conditions make the historical, leisurely, 12-24 month implementations of systems integrators intolerably slow; ASPs such as USi deliver full application and network functionality in 3-6 weeks. In addition, in the Internet era enterprise IT infrastructures need to be quickly scalable either up or down as literally millions of customer transactions appear, or disappear from the data screen over very short periods of time.

Steve McManus, USi co-founder and president disclosed that 40% of current clients are enterprises of more than $1 billion in revenues. USi's current revenue mix reflects a 50/50 mix between ERM/ERP

and e-commerce applications. From the point of view of customer count, 60% of current clients are in the e-commerce market; 38% are in the ERM/ERP market. While the sales cycle in the initial period was six months, it has fallen to 5-6 weeks. The USi goal: establish a customer base along the ADP model with long-term (average 14-year) life cycle of recurring revenues. Like ADP, USi hopes to increase its account penetration by selling existing clients, over time, a larger array of services.

USi partners, such as Siebel, stress that companies typically underestimate their Total Cost of Ownership and become deeply frustrated with cost overruns. Similarly, software developers tend to underestimate the cost of application support, particularly in regard to customization. As a result, Siebel and other software developers see the USi model for ASP delivery of their software products as a means of addresses both of these dangers. Nevertheless, USi's software partners are not limiting their options. For example, PeopleSoft has invested in Corio as an alternative delivery system. HP has alliances with Qwest as well as USi and SAP. (HP supplies hardware to USi as well.) USi has recruited EMC as a partner in the expectation—as indicated earlier—that outsourced, Internet-enabled delivery of data storage and data mining services will soon become a major source of business along with delivery of ERP software. EMC has been growing at a 35% CAGR over the past few years and has achieved a high level of industry respect. Yet, like the ERP software developers, it is actively seeking ways to make its technological solutions available to smaller enterprises (with less deep pockets).

At the very end of June, USi announced the formation of two new business groups. The first, the E-Commerce Group, is a Strategic Business Unit (SBU) that will specifically address the success of the Broadvision and Microsoft e-commerce solutions. This sector will alone handle the increasing number of clients of e-commerce. The second new group, the Complex Web Group, will focus on the USi AppHost product line designed for independent software vendors. It will also handle the Complex Web Hosting platform created to provide solutions concerning "eFear." USi also introduced a new Federal Sales Group to meet the demand by government agencies for application outsourcing services.

B
CompuCom

Traditionally a provider of network integration services and distributed desktop products for large corporate customers nationwide, CompuCom is currently making itself known for

implementing an integrated channel distribution model, as well as offering complete outsourcing solutions for companies needing acquisition, management, and consulting services for network infrastructure. The three channel innovations: co-location, extranets, and a virtual branch model are the core facets of CompuCom's business idea of allowing clients to focus on core competencies and reduce the cost of IT systems and solutions by evaluating, acquiring, and deploying the necessary technology.

Since it was founded in 1987, CompuCom has grown to its present size approximately 2,600 engineers and 4,500 employees. The company began as a value-added reseller, and even today it maintains close relationships with most major computer hardware manufacturers and software publishers. Through this partnering, CompuCom offers its customers not only quality products but training, service, and price discounts not often available through direct contact with a vendor. Some of its partners include Apple Computer, AT&T Global, Blue Sky Software, Cheyenne Software, Cisco Systems, Compaq Computer, Corel Corporation, Epson America, Hewlett Packard, Hitachi, IBM, Intel Corporation, Iomega, Lotus, Microsoft, Mitsubishi, Motorola, Nokia, Novell, Sony, Symantec, Texas Instruments, 3Com, Toshiba America, UNISYS, and Xerox to name a few.

Several new initiative to integrate production and improve overall business went into effect shortly after the release of the first quarter report in April of this year, which showed mixed results for the company. Revenue for the quarter ending in March was up 13% from the same period the previous year from $440 million to $493 million. However, the company posted a net loss of $2.3 million for the quarter compared to the previous year's net earnings of $3.8 million. This was versus a product revenue increase of 12% from the first quarter in 1998, as well as a 20% increase in services revenue year over year and a rise in service gross margins from 32.2% to 34% from the year before.

CompuCom's services business exhibited a strong performance. The company was also able to lower its operating expensive from those in the fourth quarter of 1998 through recent restructurings, including the implementation of a virtual office model and the reduction in the workforce of about ten percent. These two components were not enough to balance out the losses incurred from weaker than expected product demand and lower gross margins. About 80% of the losses resulted from CompuCom's e-commerce business unit PCSave and consulting fees generated by the drafting and execution of the new sales model. CompuCom president and CEO Edward Anderson

attributes the less than expected gross margins and demand to Year 2000 issues, which tied up IT money that normally would have been spent on desktop upgrades.

The first major improvement to CompuCom's business margins was the merger of ClientLink, Inc., its majority owned subsidiary, with E-Certify Corporation, an Internet security company recently launched by TRW. Under the name E-Certify, Inc., the companies combined to provide software development and integration capabilities in a secure infrastructure. E-Certify will bring aboard its secure applications development sector for Internet user, and ClientLink will provide expert custom care applications developed expressly for the needs of each client. They will market their combined services, as well as offer development and deployment of emerging Internet secure services. They will target companies with outdated legacy systems that are seeking integration into a secure infrastructure.

Another unique initiative undertaken in April was the opening of two co-location facilities, one with Toshiba and the other with IBM. This brings the total of co-location partnerships with manufacturers to three, including 78,000 square foot facility operating on Compaq Computer Corporation's Houston, Texas campus since June 1998. The idea behind a co-location facility is to streamline distribution of products and custom services, and deliver products to market in a more timely, efficient manner.

CompuCom has also made some steps to improve services and core offering. In late April of this quarter, the company launched a formal Strategic Alliances Program to increase its range and functionality of services. Customers worldwide select, install, and manage their technology through CompuCom, and the new program allow customers to engage the most efficient technology tools and maximize their return. CompuCom customers look help managing the acquisition process, improving end user productivity, and reducing both support management and procurement expenditures. This frees them to focus on core, strategic issues and shorten their time-to-market implementation.

Through nine new firms in four business categories, CompuCom can provide greater numbers of choices to its customers. It added two firms for cabling services, three for engineering services, three for training, and one for asset disposal and refurbishment, each leaders in the companies' respective service segments. Each company, in part of the two-year development of the alliance, assists in sales efforts, custom proposal development, services standards, and e-commerce solutions.

For even greater leverage in the network infrastructure market, CompuCom completed the purchase of ENTEX Technology Acquisition Services Division (TASD) in early May. Through the deal it acquired about 1,000 of the employees from the national sales force in major U.S. markets and the corporate account center personnel in Mason, Ohio, as well as the configuration and distribution center located in Erlanger, Kentucky. CompuCom purchased product inventory, certain fixed assets, and the distribution center at fair market value in addition to the $30 million paid for the TASD operations for a total of about $137.4 million. The purchase provides CompuCom with 500 additional large enterprise clients in synch with the new strategic direction. Also, the product division is worth almost $2 billion annually, as well as increase size and scale, allowing for greater leverage with customers.

In June 1999, CompuCom announce a new service strategy base on Addvent, the company's proprietary methodology. Addvent adapts to the client's environment, defines the process, and ensures successful engagements. It synchronizes applications and technology through Internet technology.

Currently, the technology services industry is growing at a rate of about 25%, as is CompuCom, so to remain at this competitive level, it is aiming to do more than offer an efficient acquisition process or a list of reactive IT solutions. It is offering custom services including consulting, engineering, and products specific to the customer's needs and business goals. The five leading factors behind this initiative are Business Development, Methodology, Experience, Integration of Expertise, and Strategic Alliances.

C
First Data Corporation

First Data Corporation, already a leader in the electronic payments services industry, made moderate progress during 2Q in the e-commerce market. Strategic partnership with vendors such as Verio, iMALL, and IBM to provide complete e-commerce services to businesses, several contracts in different markets, and clever acquisitions and divestitures all aided First Data Corp. in keeping pace with the financial outsourcing competition.

In the beginning of the quarter, First Data Corporation announced a renewal of its contract with Fleet Credit Card Services, L.P. The 10-year agreement for First Data's card issuing unit provides bankcard processing for some 8 million Fleet bankcard customers. Fleet will continue to utilize First Data Corporation's credit card transaction

processing and other card portfolio management services, in addition to a broad range of services offered by the other business units such as investment, Cash Tax, and Western Union.

Soon after the company announce a ten-year outsourcing contract with State Street Global Advisors to provide full record-keeping and administrative services. Through this contract, 168 employees from State Street would join First Data's Investor Services Group and put the company in charge of State Street's 60 daily-valued retirement plans and 170,000 participants currently being serviced by the Minneapolis, Minnesota office.

A similar investment services deal was struck with SEI Investments. The five-year agreement calls for the retirement plan and mutual fund services and distribution subsidiary of First Data to provide full-service daily defined contribution record-keeping and administration for SEI's bundled program serving over 20,000 participants. First Data will accomplish this through WySTAR, its premiere daily record-keeping system, DCXchange, a fully automated trading platform, and IMPRESSNetSM, an Internet solutions plan for administrators and participants.

First Data Corp. signed an agreement with Southeast Bankcard Association for six years that will put 38,000 merchant locations, representing over 70 merchants and handling 680,000 credit and debit card accounts, in the hands of First Data to be processed. First Data in the past has provided credit and merchant processing services for Southeast Bankcard Association, as well as recently contracted Internet service, consisting of a Web site where member institutions' cardholders can view and download account information.

Seven new banks signed on to First Data's TransPoint LLC division in early May, which delivers Internet bills and operates a pilot payment program. This system allows clients to provide e-bills to their online banking customers. TransPoint is the joint venture formed in the first quarter this year between First Data Corp. and Microsoft Corp., with Citibank as a minority equity investor. The banks were Compass BancShares Inc., Bank United Corp., First Tennessee National Corp., BankcorpSouth Inc., Firstar Corp., AmSouth Bank, and Amarillo National Bank. This is in addition to Banc One Corp., Citibank, First Union Corp., PNC Corp., Key Bank, Mellon Bank, Corp., and Wachovia Corp., as well as over 50 major billing companies.

Chase Merchant Services, L.L.C., a joint venture between First Data Merchant Services Corporation and Chase Manhattan Bank announce an agreement to process Visa and MasterCard transaction for American Airlines. Transaction processing, settlement, and funding services are all included in this multi-year deal. American Airlines will be able to electronically resolve chargebacks and view real-time financial data essential to its day-to-day operations. This agreement virtually eliminates the need for paper by using electronic solutions. Chase Merchant also announced the addition of 17 new currencies to their processing capabilities, bringing the number of supported currencies to 40, including the Euro.

First Data Corporation ended the 1Q 1999 strong. Revenues from continuing operations increased to $1.3 billion, up 11%. Including business divested in 1998, total revenue grew by 5%. The net income was up 8% from $131 million to $141 million. Part of this is from the Payment Instrument revenues, which rose 20% over the previous year. Especially dominant in that area was Western Union International, with revenues and transaction up more that 55%. Merchant processing revenues were up 10% in the first quarter with operating profits up 26%, reflecting strong progress over the first quarter in 1998. Much of the profitability of First Data Corporation can be attributed to growth in its e-commerce sector, as well as new services and operating execution.

In light of the recent happenings with Western Union over the high cost to send money to Mexico, First Data Corp. still expects to post profitable margins for this quarter. A nationwide class action lawsuit was filed against Western Union Financial Service, Inc., and Orlandi Valuta, both subsidiaries of First Data Corporation. Also included in the lawsuit was MoneyGram, a former subsidiary of First Data Corp. that was divested in 1996. People Mexican descent in the United States send almost $6 billion back to their families in Mexico each year. Money sent from U.S. workers to Mexico is the country's third largest source of income, after oil exports and tourism. The money is usually sent by money order or wire transfer since mail is often opened in Mexico before it reaches the recipient, and checks take weeks to cash.

Western Union and MoneyGram up until a few years ago handled about 90% of the wire transfers. Western Union reports that Mexico is its top foreign destination. But now, in addition to increased competitors in every niche of the money transfer business, they face lawsuits claiming the major wire transfer firms bilked Mexican workers millions of dollars in hidden exchange rate fees. Western Union Financial Services, Inc. and Orlandi Valuta received a preliminary approval for a proposed settlement of all claims in the nationwide class action lawsuit in May of 1999. A judge in the United States District Court for the Northern District of Illinois preliminarily approved the agreement and issued an injunction prohibiting further prosecution of any similar lawsuits, including those currently pending in California and Texas. Under terms of the agreement, each of the companies will issue discount coupons for future transaction to Mexico to any customer who transferred money from the U.S. to Mexico after January 1, 1987.

In addition, Western Union will issue discount coupons for use in future Western Union money transfers to Mexico to MoneyGram customers who transferred money from January 1, 1987 to December 10, 1996, when First Data Corporation still owned MoneyGram. From here on out, the companies have to modify their disclosure regarding currency exchange on their consumer money transfer forms or receipt, as well as in their price-related money transfer advertising. As final stipulation, Western Union and Orlandi Valuta will create a $2 million charitable fund designated for helping Mexican and Mexican-American causes.

The court's final approval is expected in the fall of 1999 and the coupons will possibly be distributed sometime in 2000. First Data Corp. took a second quarter charge of approximately $18 million after-tax to reflect legal fees, the charitable fund, and other

administrative costs in connection with the settlement. First Data Corporation does not anticipate that these setbacks will detract from its year-end estimated ranges of projected earnings in 1999. And the company has stated that it does not expect the settlement to affect its long-term objective to achieve internally-driven growth in revenues, net income, and earnings per share of 13-16% per year, compounded.

On the other hand, First Data Corporation announced that it had finished selling the stock of Innovis, a small credit group, to CBC Companies, Inc. of Columbus, Ohio. The sale, worth about $20 million, is additionally beneficial for First Data in light of the legal fees incurred in the same period. And the benefits previously not available that result from selling the company rather than discontinuing operations will provide an after-tax gain of approximately $37 million.

First Data Corporation entered into an agreement with infoUSA in June 1999 to divest its Donnelley Marketing subsidiary for about $200 million cash. Donnelley Marketing, a consumer database and database marketing company, brings in annually approximately $90 million. infoUSA will provide certain First Data subsidiaries with consumer and business database content and data processing services. First Data expects to report an after-tax loss of about $15 million in this quarter due to the sale.

The company also received good news in May 1999. It was approved by the Department of Justice, under the Hart-Scott-Rodino Antitrust Improvements Act of 1976, for the acquisition of outstanding public shares of Paymentech, Inc. The transaction is subject to approval by Paymentech's shareholders and other conditions, but First Data expects the transaction to close early in the third quarter.

Direct Banking, a division of First Data, merged with Home Account Network Inc. to combine their unique strengths and complementary services, providing a strong Internet-based financial services solutions. Home Account Network produces software for Internet banking, bill payment, and financial planning applications for banks and other financial institutions. The merged companies will operate under the name Home Account with more than 80 customers. First Data will provide scaleable outsource solutions for access to credit card data via a secure Internet platform. Together they will operate the fullest range of services available in either in-house or outsource solutions. First Data will maintain a minority ownership in the new entity, and continue its data processing services with Home Account Network.

The company also purchased BANK ONE Transaction Processing

Services from BANK ONE CORPORATION for an undisclosed amount in May. It is the platform used to process debit cards and checks for case management accounts, credit cards for community banks and group service providers, and the majority of BANK ONE's Visa Check Cards. In the agreement, approximately 350 BANK ONE employees will become First Data employees. First Data currently processes more than 6.7 million debit cards for BANK ONE, and this agreement will bump the number up to 3.8 million more off-line debit cards and 1.5 million broker debit cards. It also gives First Data the chance to expand its services in broker debit processing, handling about 136.6 million broker checks.

First Data Corporation started out the second quarter strong by announcing an alliance with Verio Inc., the world's largest domain-based Web-hosting company and a leading supplier of e-commerce services, and iMALL Inc., a leading provider of e-commerce solutions. Together with First Data's suite of Internet payment processing solutions, the three will offer complete e-commerce services to businesses. The planned operation, named VerioStore, will include highly integrated e-commerce applications and Web traffic generation via iMALL's Stuff.com shopping portal. The plan is to bundle Web site hosting and domain registration services.

The VerioStore will offer small and mid-sized businesses a complete, affordable, and easy way to set up virtual storefronts on the Web. It plans to include a fully integrated payment gateway, online merchant account establishment, online product catalogs, a search engine, shopping cart, cash register, and shipping and sales tax calculations. Through Verio, the site will have seamless integration and serve as a one-stop shopping site for all components of an electronic commerce-enabled Web site. Once operational, clients will access VerioStore through Stuff.com, which is also where all purchase and products will be found.

Verio will offer the iMALL/FDMS solution as a preferred e-commerce service through verio.com, Web sites, and direct marketing. iMALL will offer Verio's Web hosting services as its preferred hosting solution. It will also offer all Verio merchants unlimited product listings through Stuff.com. And both companies will utilize a slew of First Data Corporation's Internet payment options to maximize the service to their customers. Additionally, Old Kent Merchant Services, an alliance between First Data Corporation and Old Kent Bank, will provide the acquiring services to merchants selecting the VerioStore plans. While a sophisticated Web site developer could purchase the individual components of VerioStore for about $5,000 plus $145 per month for Web-hosting services, VerioStore, opened in May, offered

its services for plans beginning at approximately $199 per month.

Similarly, iMALL and First Data are teaming together to provide "one-stop" e-commerce services to SmartAge's more than 250,000 existing members as well as its new customers. SmartAge customers will be able to build commerce-enabled Web storefronts or add e-commerce features to existing Web sites. The imall.com and stuff.com shopping portals will provide browser-based store building tools, hosting services, e-commerce components such as a virtual cash register, shopping cart, sales tax calculation and shipping coordination, merchant accounts via an Internet application, and an integrated payment gateway.

In what appears to a marked trend for First Data in 2Q 1999, IBM HomePage Creator teamed with First Data and iMALL to deliver key elements required for merchants to quickly and easily begin selling products and services over the Internet. Along the lines of the other agreements, this will allow small and medium-sized businesses to establish merchant accounts, take secure online credit card orders over the Internet, and help drive traffic to their Web sites. HomePage Creator will have access to First Data and iMALL's e-commerce features.

D
IBM Global Services

Global Database Market Leadership

The demand for Internet applications, content management, and an increasingly mobile workforce are all expanding the size of the worldwide database market industry, which will be worth about $10 billion by 2003.

At the beginning of 2Q 1999, IBM was the market share leader in the worldwide database market. Based on revenue, IBM garnered about 32% of the market in 1998, followed by Oracle with 29% and Microsoft with 10%. The expansion and success of IBM in the second quarter emphasizes the company's role as a major e-commerce service provider.

E-Commerce

Though the government market for e-commerce lags behind the commercial market, vendors are slowly realizing the potential growth of this market. IBM has been setting their sites at electronic commerce, procurement and citizen services projects in both domestic and international markets. While only 10% of global

government services are delivered electronically, IBM believes that number will climb to 80-90% in the near future. It is estimated that the government will spend about $1.3 billion on electronic government projects in 2000. IBM already has several projects in the works, such as building a better system for distributing data for the Census Bureau, implementing smart cards for the GSA employees, and replacing the point of sale machines for the U.S. Post Office. They are currently bidding for more.

E-Commerce Alliances

Part of the success of IBM's e-commerce solutions comes from the broad range of partners, allowing IBM to provide a multitude of services. More than 25% of total sales for distributed database are due to IBM's business partners. Vantive joined the team mid quarter, with the task of delivering e-business and e-customer relationship management services and products. The Vantive practice will offer systems integration consulting and services in support of Vantive software. Vantive's e-CRM, or e-customer relationship management software and its other Web-enabled software aids companies in their sales and marketing strategy, as well as call center, help desk, and field services.

IBM partnered with First Data Corporation and iMALL to deliver e-commerce sites over the Web. The suite of comprehensive e-commerce services enables small and medium businesses to build online storefronts and begin transacting Internet commerce, including complete online payment solutions, within a matter of hours. IBM HomePage Creator, an authoring, maintenance, and hosting service, will use iMALL's portals and First Data's financial services to create key elements for merchants to quickly and easily sell products and services over the Internet. The features will include a virtual cash register, shopping cart, sales tax calculation, shipping coordination, merchant bank account via an Internet application, online credit card transaction processing, fully integrated payments gateway, and the popular portals Stuff.com and imall.com to help drive Internet traffic to stores.

Rational Software Corporation went into partnership with IBM in the first quarter to co-develop and market software that will help customers accelerate the development and deployment of e-business applications. The goal is to make the transition to an e-business less costly and risky. Both companies emphasize their commitment to providing e-business software that is based on open industry standards such as XML and Java. They will together seamlessly design, develop, test, and deploy enterprise-scale e-business applications. They will provide solutions that support the entire application development process. In turn they will provide business process modeling and requirement definition, visual modeling, code generation, configuration management, defect tracing, testing, deployment and systems management, with optimal tools for each stage.

Software Services

Another factor of IBM's success is its continued development and

release of software and services. IBM released software in the beginning of the quarter that links a single commerce Web site to more than 35 different platforms, including ERP systems, an industry first. IBM Commerce Integrator, an optional feature of IBM Net.Commerce, integrates commerce web sites with back-end systems and corporate data. This technology provides small and medium-sized businesses with an easy growth path as their business needs change and their Web presence intensifies. The software is meant to improve efficiency of core business processes such as fulfillment, logistics, and customer service. Until this development, companies had to integrate their e-commerce Web site with custom software code written between the commerce server and each back-end application. Commerce Integrator eliminates this type of solution.

Transaction Processing

IBM unveiled plans to create a Design Center for e-transaction processing this quarter. There, customers can explore e-commerce options and develop new strategies to e-business. This center caters to customers because the number of business-to-business transactions far outpaces consumer Internet spending. Over $43 billion was spend in 1998 through e-commerce on the business side, and that number should reach about $1 trillion in the next four years. The Design Center will support customers worldwide, with onsite engineers and network, communications and software architects. Through e-transaction processing, e-business-related IT transactions can be completed end-to-end without intervention. It permits companies to create systems that can handle the increasing volume and sophistication of e-business transactions in a highly secure, available environment. Expected to be operational in July, the Center will assist companies with complex and unique applications and system designs.

Other Recent Initiatives

In early May 1999, IBM launched its Small Business Program. Backed by $100 million marketing campaign, the program helps small businesses utilize existing information technology to enable increased success through e-commerce. It includes a new customized Web link, competitively priced hardware and software bundles, e-business tools, and technology service and support programs. Additionally, the company is recruiting business partners who support smaller businesses, such as companies with fewer than 100 employees, as part of IBM's initiative to reach its customers through various distribution channels. Other initiatives included the release of IBM's PC 300GL Small Business Series, the first commercial desktop designed specifically for small businesses, and a

deal with American Express to provide discounted products for small business corporate card members.

In mid May 1999, IBM announced PartnerWorld, a marketing and enablement program designed to create new revenue and market opportunities. It will also provide customers with e-business solutions such as products, services, technologies, and financing. It makes IBM easier to work with for its business partners by establishing a common design for the sales and marketing support, incentives, education and technical support that enable the selling of IBM solutions, including those that address the needs of the $600 billion e-business marketplace. There is a three tiered structure of membership levels across all business models, brands, and offerings, a unified technology infrastructure to support a single on-line portal for entry to IBM's information, support, and tools, and single relationship agreement for all marketing and enablement programs for all models. Partners who invest more in support of IBM's offerings will receive greater benefits. Over 50 different existing programs will be integrated, making it easier for business partners to work with IBM. Currently, IBM has about 45,000 Business Partner companies. Future enhancement will be announced throughout 1999 and 2000.

Another new product to improve e-commerce is IBM SecureWay Software. It will proved an integrated link between network functions – directory, connectivity, and security. Using Lightweight Directory Access Protocol (LDAP), TCP/IP, and public key infrastructure (X.509) (PKIX), it will assist customers in located resources such as people, information, and applications in the network. It will connect customers, partners, and employees across multiple systems and address the concern of how to secure communications, data, and transactions.

In Asia Pacific, IBM expanded its e-business services by adding two new programs. They serve to measure the return on web investments and proactively test the security of Internet environments. Web ROI (Return on Investment) assists customers in calculating the ROI of an e-business initiative for informed decision information before the decision is made. This service is available except in Japan. The second service, IBM Internet Emergency Response Services, provides ongoing testing of Internet environments and offers the option of real-time intrusion detection. The package includes access to IBM's advanced network monitoring capabilities, which check for intrusions 24 hours a day. Emergency response teams are available to deal with any detected intrusion. Also, a security overview is conducted to highlight and address possible physical and electronic security weaknesses.

Through the use of the IBM Merchant Enablement Program, financial institutions can utilize the technology to transform retailers into e-tailers. The program allow banks and credit card processors to offer companies a portfolio of turnkey IBM solutions that make setting up online Web shops easy. It gives financial institutions the ability to offer value-added payment and commerce services such as pre-packaged merchant and payment server software, hardware, and web-hosting services. It also provides help at the different stages of e-business so those customers can deliver tailored solutions to merchants, depending on their needs. The program also teams with ISPs and partners to offer a full range of electronic commerce services.

Another new program to make e-business easier and more efficient was announced at the end of the quarter. Storage Area Network (SAN) initiative includes a SAN-ready server and storage technology, software, and services to help enterprises centrally manage, build, access, and store critical information. It puts storage on a separate dedicated network to allow any size business to get important data. It doesn't depend on the operating system, helpful for customers coping with rapid growth of information. By 2002, IBM estimates that 70% of all medium and large-sized companies will implement SANs for better information management and sharing. The IBM Netfinity 8500R 8-way server, mentioned briefly before, is SAN ready. It offers an exclusive, Microsoft-certified, 8-node clustering extension for Netfinity servers. If also includes a SP Switch for high-performance clusters.

Financial Performance

Finally, IBM's financial statements reflect the gains achieved this quarter. IBM's first quarter 1999 results, announced in mid April, broke first quarter records for the company. Net income totaled $1.5 billion compared with $1.0 billion in 1Q 1998. First-quarter 1999 revenues grew 15 percent to $20.3 billion. IBM signed $9.8 billion in services contracts in the 1Q and concluded the quarter with a total services contract backlog of approximately $55 billion. About 25% of IBM's revenues were generated by e-commerce business solutions projects.

IBM's e-business projects are currently generating more revenue and profit than all of the top Internet companies' earnings combined.

E

Qwest Communications International Inc.

Primarily in 2Q 1999, Qwest executives explored alternatives to partner or acquire companies that will aid the company's entry into the systems integration market. This increasingly lucrative market has attracted the attention of many new players and Qwest hopes to gain a foothold in the business of selling system-integration work to multinational businesses.

Other vendors are following the same call include MCI WorldCom Inc., which is making a similar push through extensive partnering with EDS and AT & T Solutions. In this quarter, Qwest forged a partnership with KPMG LLP with the intention to break into this market, as well as announced $55 billion in unsolicited bids to purchase both Frontier Corporation and US West. It also completed the first nationwide fiber-optic network, enabling it to quickly and easily host a variety of applications online.

New Partnership and ASP Initiative

Qwest and KPMG announced in June that would form a joint venture called Qwest Cyber.Solutions LLC. The newly formed company provides Internet-based end-to-end application service provider (ASP), application hosting (AH), and application management (AM) services. In order to do so, Qwest and KPMG utilized existing relationships with Hewlett-Packard, SAP AG, and other leaders in the industry in the areas of hardware and software providers. Qwest Cyber.Solutions provides customers with a wide range of vendor products available for Enterprise Resource Planning (ERP), Customer Relationship Management (CRM), and Back Office solutions in the marketplace. It also includes a state-of-the-art Internet Protocol (IP) broadband network, industry leading CyberCenters, and an initial skills base of more than 450 certified applications specialists provided by KPMG.

Qwest Cbyer.Solutions is a facilities-based applications service provider with assets of more than $120 million that provides integrated services for Internet-based delivery of mission critical business application for customer s worldwide. It has multiyear contracts already under management due to the combination of Qwest and KPMG's existing customers that total more than $400 million. These serve as a base for competition in the global application management market which, under current estimates, could grow to $25 billion before the end of 2000. Qwest owns 51% of the joint venture, and KPMG own the other 49%. Both companies are contributing assets to facilitate the upstart of the new company.

Qwest contributed domestic and international access to its fiber network and access to the newest CyberCenter hosting facilities (three now, seven by the year's end) providing worldwide access to secure IP connectivity, including top industry service level agreements to outsourced data and applications. KPMG adds methodologies, templates, software, and help desk facilities. Known for its fast, efficient, flexible, quality software implementations, KPMG's core competencies include, delivering solutions for the middle market and providing complete IT and AM outsourcing. Companies seeking network-based applications solutions, such as mid-range enterprise organizations and larger enterprises looking to outsource their management of services will be the prime customers for the new venture. In light of the new venture, Qwest notified the Securities and Exchange commission that it has switched its accounting firm from KPMG to Arthur Anderson LLP.

Planned Acquisition

In addition to the strategic partnership formed with KPMG, Qwest announced its intention to acquire both Frontier Corporation and US West. Frontier is a telecommunications company that combines its own and other's long distance, local, cellular, internet, data, and paging services into integrated service packages for more than two million business, carrier, and residential customers in the US, Canada and the UK. Though Frontier's Board of Directors has agreed to meet and explore Qwest's acquisition proposal, Frontier already reached a merger agreement with Global Crossing.

The decision by Frontier's Board to meet with Qwest is merely a preliminary step. This decision in no way reflects a change in the Frontier Board's current approval and recommendation of the Global Crossing merger agreement. However, Qwest's CEO, Joseph Nacchio, expressed pleasure that Qwest was not completely out of the running. Qwest also has a similar meeting planned with US west, though in recent announcements US West clarified that it would prefer a "merger of equals" to a buyout. Though nothing official has been replied, Qwest's CEO indicated that he doesn't believe such arrangements are effective. Qwest is offering $69 a share, or about $35 billion.

BellSouth Corp., a 10% shareholder in Qwest, considered acquiring it in the middle of the quarter. So far BellSouth, unlike its rivals, has chosen to forge ahead without deals or alliances. Its focus is on building its local business in nine states and boosting its ties to Latin America. But in a filing with the U.S. Securities and Exchange Commission in June, the company suggested that it has considered

purchasing Qwest. It also stated that Qwest's management could support the move. Currently, subject to U.S. law and regulations, no telephone company can own more than 10% of a long-distance carrier. Yet, most of the Bell telephone companies are seeking permission to enter into the long-distance arena. Until those laws change, though, BellSouth's consideration to buy Qwest is little more than a thought spoken out loud.

Roadblocks to Planned Acquisitions

BellSouth's announcement of intent came shortly after the U.S. Appeals Court upheld the decision by the Federal Communications Commission that the 1996 Telecommunications Act barred regional Bell companies like Ameritech and US West from selling long distance service from Qwest. Under that act, which states that the Bell companies may not jump in to the US$90 billion long-distance telephone market until they prove they have opened their own networks to competitors in the $110 billion local telephone market, Baby Bells and now regional companies are barred from providing long distance. The decision squared marketing agreements Qwest made with Ameritech and US West. Ameritech and US West, both dominant carriers within their regions, wanted to offer their customers a complete package of telecommunications services relying on long distance service from Qwest. The FCC decided in September that the deals would lessen the Bells' incentives to open their local networks as the Telecom Act intended.

Network Infrastructure Upgrade

At the end of 2Q 1999, Qwest completed its nationwide fiber-optic network designed for Internet Protocol (IP) applications and services.

The first of its kind, Qwest installed the entire required conduit and constructed approximately 18,500 miles of network cable. With the completion of the network, Qwest offers nationwide OC-48 IP backbone, the highest speed IP over SONET network available today. The network connects major U.S. markets including hubs in Atlanta, Chicago, Dallas, Houston, Kansas City, Los Angeles, San Francisco, San Jose, Seattle, New York, and Washington, DC. Qwest is also building network capacity for local broadband connectivity in 19 key market around the U.S. the scalability, reliability, and security of the network are boasted by their announcement of contracts and proposed contracts with 48 of the Fortune 50 companies, as well as 300 other major companies and government agencies.

Qwest and Cisco extended their alliance with a multiyear agreement to develop an advanced communications platform to support

migration from traditional legacy networks to Qwest's high-speed IP network. In addition to the speed of the network, it offers several hosted online applications. Qwest began hosting Oracle's suite of business applications through a browser front end. Qwest handles all the management and hosting of the applications. This pact comes after Qwest's mid-May 1999 agreement to team up with Hewlett-Packard an SAO to provide hosted ERP applications. This is the third such agreement, including the one with Siebel Systems in which Qwest provides hosting and help desk support for Siebel's Sales for Workgroups application.

F
Wang Global

In early May 1999, Amsterdam-based Getronics NV announced that it would acquire Wang Global in a $2 billion cash deal, after which it would abandon the "Wang" name, despite its long history and name recognition dating from its founding in 1951. The combined company will have $5 billion in annual revenues, 33,000 employees, and operations in more than 44 countries. (On its own, Getronics had 12,500 employees at year-end 1998.) The new company will be the largest providers of network technology services and business solutions in Europe, and one of the five largest in the world. Excluding hardware-related revenues, it will be the sixth-largest vendor in the European services market—trailing the American firms IBM Global, EDS, Andersen Consulting and CSC, as well as the European firms debis Systemhouse, Sema Group and Cap Gemini.

Nevertheless, challenges remain.

"Who the Hell is Getronics?" asked an American industry analyst, suggesting that one of them will be visibility and credibility. The announcement raised eyebrows partly because Getronics is half of Wang's size (the other reason is endemic American provincialism).

One remedy for industry incredulity about the deal: for F1Q ending in March 1999, Wang announced a net loss of $57.7 million on revenues of $789 million and layoffs of 3,100 by year-end even though the company had 1998 revenues of more than $3 billion.

Clearly, this survivor of the 1980s—at which time it had been one of a handful of premier IT companies—had fallen on hard times.

Wang had tried to reinvent itself from an uncompetitive hardware vendor to an aggressive services outsourcer, but the strategy was running out of steam. The company filed for bankruptcy protection in

1992 and emerged in 1994 based on a core imaging business. This was sold to Kodak in 1997. Since then, Wang has tried to compete in the network and desktop services market—strengthening its position in 1998 by the acquisition of Olsy Services from Olivetti for $2.3 billion.

In 1998, Wang Global generated 53% of its total sales in Europe, 36% in North and South America, and 121% in the Asia/Pacific region. It had a professional staff of 20,000 and operations in 22 European countries, 40 worldwide. In that same year, 65% of profits were generated by network technology services and solutions.

Getronics described the move as motivated primarily by a desire to reinforce its ability to bid for large IT outsourcing contracts, and secondarily to serve client demand for wide geographical service coverage and a full range of products. The two companies are projected to incur minimal overlaps, or gaps. Prior to this acquisition, Getronics had no U.S. presence.

ICT services (digital information and communications technology), Getronics' key business, comprises software solutions, HR solutions, outsourcing and consulting. Systems integration and network services comprise SI activities along with infrastructure and network services. The combined company will rely heavily on the hardware maintenance market, which is highly competitive.

One low-profile winner: Olivetti, which still owns 18.5% of Wang Global resulting from the prior Olsys acquisition. It hopes to net a profit of $380 million, which it will apply to its on-going bid to acquire Telecom Italia.

Getronics' rosy year-end 1998 results will likely motivate a quick respect for the new company among North American industry analysts, customers and rival vendors.

Revenues from business solutions and consulting rose 67% year-over-year compared to a 20% rise in revenues from systems integration and network services. Its software solutions business (ICT) revenues rose 40%; this segment's operating margin rose to 10.3% from 9.2% in the prior year. In 1998, 34% of total revenues were generated outside of the Netherlands.

G
Compaq

During the 2Q 1999, Compaq suffered a spate of negative media publicity.

For example, company management denied that the departure of John Rando, Compaq's senior VP and general manager of services, signaled additional management changes and insisted that his leaving was "his own decision" motivated by personal reasons ("to brush up on his golf") rather than any "grand plan" by Compaq's new chairman, Ben Rosen. Rando was the fourth executive to leave since the departure of CEO Eckhard Pfeiffer. Journalists insisted that Rosen was "cleaning house" and predicted further departures. Some predicted that management turmoil could undermine Compaq's long-term viability.

Yet, there is ample circumstantial evidence that the vendor will not, and cannot continue to operate "business as usual."

Rando was only one of three Digital Equipment executives to join the top ranks at Compaq after their $9 billion merger last year. Under his supervision, Compaq's services division was regarded as one of the company's "crown jewels." Its revenues grew 9% to $1.6 billion in 1Q and had the most attractive profit margins of any Compaq unit.

In a bid to maintain this unit's profitability, Compaq announced a new "FutureSourcing" offer that would expand its capability as an Application Service Provider (ASP). This new offer consists of SAP's R/3 4.0 software purchased by Small and Medium-sized Enterprises (SME) on a ready-to-roll service basis. Compaq will offer Internet delivery from its operations center in Colorado Springs.

Even though Compaq ranks among the top U.S. PC manufacturers—selling 16% of the eight million units shipped and capturing a 13% market share, it lost 2.1% of its domestic share compared to year-ago figures while rival Dell gained 3.2% to capture a 14.3% share, up from 11.4%. In comparison, IBM sales grew 26%, HP's rose 39%, and Gateway's 40%.

Unsurprisingly, Compaq warned the Street to expect 1Q 1999 earnings that would be half of analyst projections—as a result of share erosion in the key PC market. This deterioration served as a primary catalyst for the April 18 ouster of CEO Eckhard Pfeiffer and his replacement by Ben Rosen.

In a related move, Compaq caused a tempest among resellers by announcing that was consolidating its PC and server distribution channel "to reduce complexity and costs," with the obvious emphasis on the later. Beginning on August 1, Compaq will use only four distributors—Inacom, Ingram Micro, Merisel and Tech Data. Others will be obligated to buy from one of these four. At the same time, Compaq announced that it would expand its "build-to-order" offer

from business customers to retail consumers in a transparent bid to borrow a page from Dell's highly successful and profitable business strategy.

Why these sharp changes in direction of a $30 billion multinational organization with established ways of doing business?

One Compaq executive was quoted as having explained the company's motivation by saying, "Compaq had hit the wall."

At least since the acquisition of Digital Equipment Corporation in 1998, Compaq has labored under a cloud of uncertain generated by speculation regarding whether it would be able to absorb DEC successfully.

Another executive summarized the experience by saying, "Instead of bringing PC economics to the enterprise, we brought enterprise economics to the PC world."

The result: in April 1999, Compaq announced a loss of almost $3 billion on revenues of $31.23 billion in contrast to a prior-year gain of almost $2 billion on smaller revenues of $24.6 billion.

Currently, the mood at Compaq appears positive on the belief that "the worst is behind us." Accordingly, the 2Q 1999 loss was smaller, $184 million of revenues that were up 17% year-over-year. There is a strong hope that various new initiatives will enable the vendor to build on this turnaround. However, these problems have clearly left Compaq a minor player in the IT outsourcing market, a status at odds with its otherwise high profile in the computer hardware and computer services industries.

H
Cap Gemini America

Over the past two years, Cap Gemini America's US outsourcing revenues doubled from $50 million to $100 million. While Cap Gemini Group in Europe undertakes very large outsourcing projects of all types, the U.S. The outsourcing division targets applications management contracts. CG Group did $1 billion in global outsourcing business last year and wants to grow the U.S. division's outsourcing business.

CG America will walk away from generic data center management contracts because they are viewed as low value-added, low margin, commodity business suitable for other services providers.

CG America will undertake contracts that include responsibilities for data center or help desk management, along with other responsibilities, if these include as well significant applications management and/or development work where CG can apply its unique expertise. Art added, "We are not mainframe outsourcing - centric."

How can CG America win contracts in competition with much larger competitors?

According to a high-level CGA executive, the key is to:

1. Leverage CG America's strengths in applications management [e.g. ., ERP applications];
2. Focus on neglected segments of the market [that are being underserved by the leading vendors];
3. 3. Highlight CG America's investments in infrastructure [i.e., people, IT operations centers in St. Louis and Tarrytown, NY].

CGA forecasts revenue growth of 50% year-over-year for the next few years. In management's view, CG America's outsourcing business is NOT cyclical; it will be unaffected by any Y2K-induced slowdown, or general economic downturn.

Despite its mid-tier target in regard to customer size, CG America is about to announce a significant outsourcing contract from a Fortune 50 company.

Question: Why didn't such a company go to EDS, CSC or IBM Global?

Answer: Management told us that it would prefer working with a competent, but smaller IT vendor for whom it would be an important client, rather than work with a megavendor for whom it would be just another client among many.

Conclusion: Even the largest customers want hand-holding (quick and responsive service).

What important changes have occurred in outsourcing market over recent years?

According to a CGA spokesman: "Over the past 10 years outsourcing has become respectable among CIOs. It's no longer a hard sell by any means."

Previously, CIOs typically reported to CFOs who were only willing to outsource what they perceived to be nonstrategic functions. In reality,

these turned out to be anything with which CFOs were not concerned on a daily basis, such as payroll and HR.

Today, any and all business functions are being outsourced (due, in part, to growing inability to distinguish between strategic and nonstrategic functions)."

One consequence of this has been a proliferation of smaller contracts that are attractive to smaller vendors, but unattractive to the major vendors due to their much higher levels of overhead.

The profile of CG America's typical outsourcing contract has three versions: small, medium and large.

"Small" is: (1) fixed price (no risk sharing or time and materials); (2)

three-year terms, valued at $1-2 million per year; (3) work to be performed on customer's premises, if necessary, but preferably by remote management at our own operations centers.

"Medium" is: contract value of $5-10 million for a five-year term with Service Level Agreement provisions. "Large" is:

- large, complex contracts for applications management as well as other functions, such as help desk;
- terms of 5-10 years;
- contract values from $5-10+ million.

Regarding risk-sharing contract provisions, CGA management insists that, during the past two years, no client has ever asked for such provisions.

Regarding the contract bidding process, CG America will walk away from business that it considers unprofitable (but it could subcontract a portion of work at no markup on a large, long-term, profitable contract).

Key customer benefits promised: ability to provide reliable services for

stable, fixed dollar amounts; ability to do the work better than it could be done in-house and usually at a lower price. Also, CG America offers a level of expertise based on ample experience that in-house IT staffs can't match.

For example, after completing numerous ERP implementations, we know what needs to be done

How important is vertical industry expertise?

CGA management: "It is important in the sales process, but not as important in the implementation process."

Executives remarked that many companies THINK their IT costs are low because they have not factored in corporate overhead (as must the vendor). When comparable accounting treatments are used, CG America can usually offer customers lower real costs.

It is true that business shifting from mainframe-based, systems integration work in favor of electronic market (Web, Internet, etc.) types of work, BUT--mainframes haven't disappeared, and they won't for many years, if ever. MIPS simply get cheaper and all types of hardware will continue to need software (and software application development).

Another example, in ERP implementations, the proportion of total cost represented by (mainframe) hardware keeps dropping; today, 90% of total costs represent software and software-related expenditures.

This reflects the general trend of the past 10 years: hardware costs are becoming negligible as a proportion of total IT costs.

Another comment on cost in relation to contract bidding negotiations. CG America will not drop bid prices to match a competitor's unreasonably lower bid. Typically, customers find that the lower bid

is, in fact, was computed on some other basis and, is not comparable to CG America's fixed, "all-in" bid.

CGA management: *"If the lower bid really is comparable, I ask the customer if he really wants to partner with a vendor that will be losing money over the next ten years."*

Renewals: CGA estimates (contrary to the media) that 90% of all

contracts are renewed with the same vendor. CG America has had no cancellations to date. No customer has brought his IT work back in-house.

CGA calls this "unlikely " because the reasons for outsourcing originally still apply (assuming that virtually no customer wants to incur massive new expenses to re-staff and re-equip his internal IT shop).

What is the competitive landscape among vendors like?

CGA: "There are no vendors, only bidding teams."

By this, he explained that CG America only meets particular bidding teams that competitors assemble for particular contracts. Other teams elsewhere that are working on other contracts may project a totally different face to customers and competitors.

This works to the advantage of smaller vendors such as CG America because the top vendors are seldom able or willing to squander their top assets on bid team staffing for work on small-size contract bids. This in itself gives CG America a competitive advantage.

Andersen Consulting

Significant among contracts known to be in Andersen's backlog is a potentially very large award under discussion with BP Amoco to outsource the IT system acquired with the December 1998 of Amoco.

Andersen is now in the sixth year of a prior seven-year contract with BP. At the same time PricewaterhouseCoopers also has an outsourcing contract with BP Amoco for accounting and accounting-related IT functions. This, while the customer is attempting to consolidate accounting, exploration, and IT functions in the U.S. and Europe. BP management appears to want to outsource production and marketing IT functions, but this goal will be complicated by prior agreements between BP and Mobil in Europe. A decision regarding IT outsourcing of Los Angeles-based Atlantic Richfield, which the new BP Amoco is in the process of acquiring must wait until final regulatory approval of the deal.

In Jan. 1999, Andersen Consulting (AC) was found not responsible for Y2K glitches in a system implemented in 1991 in a court case against its client J Baker, a retail clothier. A Massachusetts court ruled that the lawsuit had no basis because the 1991 contract made no mention of Y2K remediation.

- Andersen posted $8.3 billion in 1998 revenue, up 25% from the previous year. This was the fifth consecutive year that the company had revenue growth of 20% or more. Head count was up 22% to 63,134. Management said growth was driven by clients managing change, such as the switch to the euro currency in Europe. Danger signs include the possibility of an economic recession, and slowed ERP sales growth.
- Andersen Consulting is still in dispute with Arthur Andersen Accounting for independence. The matter is now in the hands of the International Chambers of *Commerce
- AC made a $4 million investment in Security First Technology, which builds and operates transactional Internet application for financial organizations. Jack Wilson of AC will be named to the board of directors for Security First.
- Andersen is expected to add 150-200 new technical experts to its Ottawa Canada operations

J
EDS

Three recent developments at EDS merit attention as corroboration of the trends in outsourcing discussed earlier, i.e., (1) the fast growth of application hosting and the Application Service Provider market subsegment (ASP) and (2) the tidal force of e-business on vendors of IT services, including outsourcing; (3) a far-reaching business re-organization announced on September 9, 1999.

What is EDS' strategy behind its summer 1999 announcement of the new "Apps on Tap" program?

The communications industry represents 10% of EDS' total revenues. The goal is to grow these revenues by offering Web-hosting application software services that address electronic commerce.

EDS has much experience in running data centers, and this new initiative should be seen as an extension of that. "Apps on tap" was conceived as a new front end to be attached to existing data centers.

Will the new program be profitable?

EDS expects "reasonable" margins, tempered by the fact that this is a wholesale service program that will position EDS better to serve telco (and related) clients better. The program follows a "package" model, i.e., any Internet service provider (ISP), telco, or similar company, can connect its existing network to EDS in order to provide its clients with an expanding product/service offer in the area of e-commerce.

For example, communications sector clients want to offer expanded services to their small and medium-sized businesses (SME) customers—down to companies with as few as 25 employees. EDS can "warehouse" the telco clients' offer to such customers. This approach plays to the trend toward convergence from a service perspective. The key benefit is enhanced time to market.

One primary EDS corporate goal is, admittedly, to better utilize excess capacity at existing data centers located around the world. Success in this regard will, in itself, contribute significantly to total profitability.

What synergies exist in this area between EDS and its new partner, MCIWordCom?

MCIWorldCom has its own network system and would only bring its "pipe" to EDS. In the end, EDS doesn't care who owns the network, whether MCIWorldCom, Sprint, Bell Atlantic, or another telco. Each client has its target market at the SME level.

MCIWorldCom may become a client of these new EDS services.

The difference between EDS and the Application Service Providers (ASP), such as USInternetworking, Corio?

Their offer is retail; the EDS offer is wholesale. EDS conceives of its offer as a broad-based access to ERP, e-mail, Web-hosting, i-billing and other software required to enable e-commerce functionality to SME customers of communications sector clients, including vertical supply-chain management.

The key benefits are:

- Fast time to market
- Reduced risk
- Quality (and security) of services provided

The structure of a typical contract will follow one of three guidelines: (a) percentage/minimum pricing model; (b) transaction-generated (to be offered later); and (c) flat rate.

Also important, step-up time and expense to EDS' clients will be minimal.

EDS can support integrated consulting services excluded from the application service offer, but the typical client will be unlikely to require very much spending for up front integration under this "apps on tap" program. Hook up costs will be included under initial contact terms. The goal is to implement the offer within 30 days. Because the telco's typical customer could be a small company with as few as 25 employees, these application solutions can be templates to which SMEs adapt their own processes. SMEs typically have greater flexibility than larger organizations to adapt their own processes, as necessary, than do large organizations.

EDS' goal is to provide highly repeatable solutions that are applicable by customers in virtually every vertical industry. Regarding geographical targets, EDS will begin with the North American market and later abroad. EDS' communications information group is active in more than 25 countries and makes use of data centers located around the world.

Ultimately, EDS expects the "apps on tap" offer to attract clients outside of the communications sector because the wholesale model can work even without a second-step retail level. The key differentiating factor will be off-the-shelf repeatability–and EDS has a reputation for delivering a high level of repeat business.

What the "apps on tap" program is NOT:

Customized—end-user customers need to do their own customization.

Retail—this is not a retail offer. All of EDS' clients for this program will market the contracted applications directly to their own end-user customers.

Future potential includes an offer of data storage, data mining and related services—all of which reflect the advantage of EDS' direct ownership of its data centers.

The growth target for the program is $6.5 billion in application hosting within the next five years. Market interest expressed since EDS' initial announcement has been very encouraging. Clearly, there is a large, as-yet untapped market for these wholesale services. Best

of all, EDS operational executives feel even better prepared to deliver on their promises than had expected to be.

EDS' advantages include direct ownership of its own data centers, the size and scope of its global operations, and its ability to provide a full range of services, or which this "apps on taps" offer is only a part.

Will EDS suffer from competition from software developers that are attempting to implement the same (or similar) strategy?

While it is true that SAP, PeopleSoft, Oracle and other software developers, they are not competing for the same target market. Their market is, in effect, the internal IT department. The nature of future competition will hinge on the question of who the real target customers are. For example, Oracle is unable to duplicate the EDS offer in any serious way because it lacks a network of global data centers comparable to those of EDS.

Each of EDS' existing partners understands the need to re-examine traditional revenue models. This initiative may compel them to alter their existing models.

Exit strategy—what happens when a Web-hosting, apps-on-taps client decides to terminate its agreement with EDS?

Exit strategies are built into initial contracts. The entire sales cycle, while varying from case to case, should range between 60-90 days.

Target customers include telephone companies, RBOC and others, such as Bell South, SBC; Internet Service Providers, cable companies, other data/content providers, Internet exchange carriers and facilities providers and wireless carriers.

EDS expects the wireless market to grow rapidly as the technology improves. Rapid proliferation of wireless IP and other Internet-enabled communications devices will fuel demand for remote hosting of software applications. The potential for high-speed, laptop-enabled delivery of expanded services depends on making software delivery cheaper. EDS is well positioned to service this growing demand due to its proven ability as a technology innovator, the ability of the Internet to make locally specified software anachronistic, and the sheer size of EDS with its corresponding potential to provide end-to-end solutions.

The delivery chain for the "apps on tap" offer permits clients to concentrate on their core businesses.

HP is an important new partner of EDS in this venture. It will provide hardware and infrastructure, and profit from on-going, recurring

revenues that result from new contracts. Minimal new capital investment will be required to launch this program because existing data centers are underutilized. However, HP sees potential for future sales as this gap is closed, and exceeded.

The "apps on tap" concept was developed after the arrival of new CEO Dick Brown, principally by Charles Angeli, the head of the communications sector business unit

As if to prove once again that imitation is the sincerest form of flattery, IBM announced plans to build several "computing megacenters" to serve the very strong demand that it anticipates in the near future for Web-hosting services. Like EDS, IBM stressed the importance of geographical dispersion of these centers in order to minimize the "hops", latency and packet loss that degrades site performance. IBM insists that 40% of companies are still hosting their Web sites internally, and expects this number to decline rapidly as the complexity of IT infrastructure management rises and the benefits of keeping operations in-house sink.

Intel made a similar announcement, forecasting that it would also have such center operational by spring 2000. At the same time, investors have been extremely bullish on the idea. For example, shares of Web-hosting vendor Digex rose 31% in their first day of trading after a July 28 IPO, even though Digex—like many Internet companies—has yet to show a profit. Over the past year, sales have tripled as losses doubled.

In a related move, on September 9, 1999, EDS announced that "it will fundamentally alter the way it does business to meet the demands of the new digital economy" by focusing on four lines of business:

1. A.T. Kearney
2. E-solutions
3. Business Process Management
4. Information Solutions

Reasons given for the re-organization included the need to provide "a clear client focus," fully integrate EDS' global businesses, highlight global industry expertise and "enhance career growth and development opportunities."

The "e-solutions" unit will address the $120 billion (EDS' estimate) solutions consulting market for the full range of e-business capabilities, such as e-communities, Internet solutions and

applications, and enterprise applications.

The Business Process Management (BPM) unit will address the + $130 billion (EDS' estimate) market for BPM, especially in areas of EDS strength, such as enterprise customer management, claims processing and settlement processing solutions.

A.T. Kearney, described as the second-largest firm in the $25-35 billion, high-value consulting market will focus on offering strategic, operational, IT consulting and executive search services to leading global companies.

The Information Solutions unit will focus on managing centralized IT systems, distributed systems, communications, and applications development. EDS believes this market to exceed $110 billion annually.

The media have described EDS as "rocked by the changes in business brought on by the growth of the Internet and e-commerce" and, they imply, having been compelled by the new market that results to make these substantive changes in the way it does business globally.

Time will tell whether this new plan imposed from the top will succeed in actually changing how EDS does business on the ground worldwide. If successful, the new organization appears likely to benefit EDS' real growth in all of its designated market segments.