BEST PRACTICES

Improved Knowledge of DOD Service Contracts Could Reveal Significant Savings
The leading commercial companies GAO studied reported achieving and expecting to achieve billions of dollars in savings by developing companywide spend analysis programs and service-contracting strategies. Spend analysis answers basic questions about how much is being spent for what services, who are the suppliers, and where are the opportunities for leveraged buying to save money and improve performance. To obtain these answers, companies extract internal financial data, supplement this data with external data, organize the data into categories of services and suppliers, and have the data analyzed by managers or cross-functional teams to plan and schedule what services will be bought on a company wide basis. The results of spend analysis are also used for broader strategic purposes—to develop reports for top management, to track financial and other benefits achieved by the company, and to further improve and centralize corporate procurement processes.

DOD is in the early stages of a spend analysis pilot. Although DOD is moving in the right direction, it has not yet adopted best practices to the same extent as the companies we studied. Whether DOD can adopt these practices depends on its ability to make long-term changes necessary to implement a more strategic approach to contracting. DOD also cites a number of challenges, such as its large and complex need for a range of services, the fragmentation of spending data across multiple information systems, and contracting goals for small businesses that may constrain its ability to consolidate smaller requirements into larger contracts. Challenges such as these are difficult and deep-rooted, but companies also faced them. For DOD to change management practices for the contracting of services will require sustained executive leadership at DOD as well as the involvement and support of Congress.

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Source: GAO analysis.
# Contents

## Letter

- Results in Brief ............................................................ 3
- Background ...................................................................... 4
- Leading Companies Have Developed Formal Spend Analysis Programs to Improve Services Procurement .............................................. 11
- DOD Launches a Pilot Spend Analysis with an Eye toward Developing a More Strategic Approach .................................................. 30
- Conclusions ...................................................................... 37
- Recommendations for Executive Action ............................. 38
- Agency Comments ............................................................. 38
- Scope and Methodology ...................................................... 40

## Appendix

- Comments from the Department of Defense ....................... 43

## Tables

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 1: Leading Companies We Studied and Their Reliance on Buying Services</td>
<td>8</td>
</tr>
<tr>
<td>Table 2: Companies’ Reported 2001 Procurement Spending and Savings</td>
<td>10</td>
</tr>
<tr>
<td>Table 3: Comparison of DOD’s Spend Analysis with Leading Company Practices</td>
<td>31</td>
</tr>
</tbody>
</table>

## Figure

- Figure 1: DOD Contract Dollars for Goods and Services ............. 5

## Abbreviations

- DOD: Department of Defense
- IBM: International Business Machines

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The Department of Defense (DOD) faces critical challenges in deciding how best to obtain the services it needs to achieve its mission. Within the federal government, DOD is the dominant buyer of services in terms of contracting dollars spent, accounting for $79 billion in 2001, more than half the $140 billion spent by the entire federal government.\(^1\) DOD spends more on services than it does on supplies and equipment, and that spending is increasing year after year. In spite of this, our work as well as that of DOD’s Office of Inspector General has found that DOD’s spending on services is not well managed—the current process is decentralized, insufficiently rigorous, and unreliable. Although DOD is taking actions to address these problems, it has a long way to go.

Like the federal government, private companies increasingly rely on services and also struggle with methods to better manage their purchasing. Last year we reported that to reduce costs, improve productivity, and more effectively procure services, many companies have adopted a strategic approach—centralizing and reorganizing their operations to get the best value for the company as a whole—that is based on the implementation of a variety of best practices.\(^2\) These range from learning much more about their service spending to buying services on an enterprisewide rather than business unit basis. Pursuing such an approach

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clearly pays off. One recent survey of 147 companies in 22 industries indicated a strategic approach to procurement had resulted in savings of more than $13 billion in one year. The very same practices employed by the private sector could serve as a foundation for improving the acquisition of services in DOD.

When adopting a strategic, best-practices approach for changing procurement business processes, companies begin with a “spend analysis” to examine purchasing patterns to see who is buying what from whom. By arming themselves with this knowledge, companies can leverage their buying power, reduce purchasing costs, and better manage their suppliers. In essence, spend analysis is the road map to procurement cost-savings and performance improvements.

To follow up on our earlier work, you asked us to further evaluate (1) the best practices of leading companies as they relate to conducting and using spend analysis, and (2) the extent to which DOD can pursue similar practices.

To conduct this work, we reviewed the spend analysis practices of five leading companies that take a strategic approach to managing services acquisitions: International Business Machines (IBM), ChevronTexaco, Bausch & Lomb, Delta Air Lines, and Dell Computer. They reported a combined spending for goods and services between $92 billion and $94 billion in 2001. We selected these companies for review on the basis of extensive research and because they have been recognized by their peers for highly effective procurement and spend analysis processes. However, we did not verify the accuracy of the procurement costs and benefits reported to us by the companies. More information is presented in our Scope and Methodology section beginning on page 40 of this report.

The leading commercial companies we studied report achieving—and expecting to achieve—billions of dollars in savings by developing companywide spend analysis programs and services contracting strategies. These companies’ spend analysis programs answer some basic questions—how much is being spent for what services, who are the suppliers, and where are the opportunities for leveraged buying to save money and improve performance. To obtain the answers, these companies extract internal financial data, supplement that data with external data, organize the data into categories of services and suppliers, and analyze it. To obtain this information quickly, spend analysis programs use automated systems that consolidate accounts payable data, and supplement it when necessary with purchase card data and additional information on suppliers’ status and services purchased. Once organized, the data are analyzed by managers or cross-functional teams to plan, prioritize, and centrally source what services will be bought from what specific suppliers. At this stage, spend analysis helps companies make the proper adjustments to achieve expected savings. Spend analysis is also used to develop reports for top management to establish quarterly and annual savings goals, to track financial and other benefits achieved, and to reorganize corporate procurement processes under a more centrally led management structure.

In response to recent legislation requiring management and cost-saving improvements in service contracts, DOD is in the beginning stages of a spend analysis pilot. DOD leadership agrees that viewing spending from a DOD-wide perspective will help identify large-scale savings opportunities and other efficiencies over the current decentralized procurement environment. Although moving in the right direction, DOD has not yet adopted private sector best practices to the same extent as the companies we reviewed. Whether DOD can adopt these practices depends on the ability to make long-term changes that are necessary when organizations decide to implement a more strategic approach to service contracts. DOD also cites a number of challenges that may hamper adoption of these practices. These include the size and complexity of DOD’s need for services, the fragmentation of the services’ spending data across multiple financial and procurement systems, and socioeconomic goals for contracting with small and diversely owned businesses. Contract management challenges such as these are difficult and deep-rooted and will require sustained executive leadership at DOD as well as the Congress’s continued involvement and support.

This report includes recommendations intended to help DOD adopt spend analysis best practices and to use the resulting information to implement a
more strategic approach to planning and managing the acquisition of services.

DOD commented on a draft of this report. DOD concurred with the recommendation to adopt the spend analysis processes employed by leading companies—and now intends to automate the process of data collection and analysis to make it repeatable, rather than a one-time effort. However, DOD did not concur with the recommendation to develop a plan to institute changes in management structure and services contracting business processes and to do so as part of its 2005 budget submission. In response to the portion of DOD’s comment that such a timeframe would be premature, we modified the recommendation to allow more time for DOD to complete the spend analysis pilot and use the results to develop a plan. The DOD comments can be found in appendix I.

DOD is historically the federal government’s largest purchaser of services. Between 2001 and 2002, DOD’s reported spending for services contracting jumped almost 18 percent to about $93 billion. In addition to the sizeable sum of dollars involved, DOD contracts for a wide and complex range of services, such as professional, administrative, and management support; construction, repair, and maintenance; information technology services; research and development; medical services; operation of government-owned facilities; and transportation, travel, and relocation. In each of the past five years, DOD has spent more on services than it has on supply and equipment goods (that includes contracting for ships, aircraft, and other military items) (see figure 1).

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4 GAO analysis of data extracted from the Defense Contract Action Data System, adjusted to represent constant fiscal year 2002 dollars. Includes actions categorized as research, development, test, and evaluation activities, and excludes actions $25,000 or less and purchase card use.
Figure 1: DOD Contract Dollars for Goods and Services

Note: Data extracted from the Defense Contract Action Data System for 1998–2002. Figure is in constant 2002 dollars and includes actions categorized as research, development, test, and evaluation activities. Figure excludes actions of $25,000 or less and purchase card spending.

Source: GAO analysis of DOD data.
Despite this huge investment in buying services, our work—and the work of the DOD Inspector General—has found that DOD’s spending on services is inefficient and not being managed effectively. In fact, we have identified overall DOD contract management as a high-risk area, most recently in our Performance and Accountability Series issued this past January. Responsibility for acquiring services is spread among individual military commands, weapon system program offices, or functional units in various defense organizations, with limited visibility or control at the DOD or military-department level. Too often, requirements are not clearly defined; competition is not adequately pursued; rigorous price analyses are not performed; and contractors’ performance is not sufficiently overseen. Information systems that provide reliable data and are capable of being used as management tools are lacking, and DOD has established few enterprisewide contracting-related performance metrics. Further, DOD lacks a strategic plan to identify and prioritize future service contracting-related efforts for better management.

Seeking longer-term remedies to bring about sorely needed reform, the Congress has passed legislation to direct DOD to adopt best practices used by leading companies and to achieve significant savings through improved management approaches for services contracts. The National Defense Authorization Act for Fiscal Year 2002 directs DOD to improve its management structure and oversight process for acquisition of services. One of the law’s aims is to prompt DOD to undertake a comprehensive spend analysis of its services contracts. This analysis is intended to provide DOD the basis for expanding its use of cross-functional commodity teams to leverage its buying power, improve the performance of its services contractors, organize its supplier base, and ensure that its dollars are well spent. Moreover, expecting that DOD could achieve significant savings without any reduction in services, the legislation also

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6 Although DOD is taking actions to address these issues, most of these actions are in the early stages of implementation. It is uncertain whether the corrective actions can be fully and successfully implemented in the near term. See GAO-03-98.


8 A commodity is a category of products or services segmented by commonality of materials or service type. The term does not imply an expendable or non-complex item. This grouping will allow volume and technical leveraging of organizational spending and the establishing of a network of commodity experts.
establishes savings goals that DOD should achieve by employing commercial best practices and effective management. In addition, Congress reduced the amounts appropriated to DOD in fiscal years 2002 and 2003 by a total of $2.5 billion to reflect savings from business process reforms in the procurement of services.

Increasingly, private sector companies have been purchasing a wide range of services from outside suppliers at a cost rising at an average of 3.5 percent a year. The leading companies we interviewed—IBM, ChevronTexaco, Bausch & Lomb, Delta Air Lines, and Dell—reported between $92 billion and $94 billion in combined annual procurement spending for goods and services in 2001, and they use a large part of their purchasing dollars to buy services (see table 1).

Private Sector's Use of Spend Analysis Bolsters Strategic Approach

9 Section 802 of the 2002 Authorization Act established savings goals of 3 percent in fiscal year 2002, 4 percent in fiscal year 2003, 5 percent in fiscal year 2004, and 10 percent in fiscal year 2011. The following year, because DOD had been unable to develop a method for measuring savings achieved through the improved management of services contracts, these goals were modified to instead focus on increasing the number of services contracts that are competitive- and performance-based. Bob Stump National Defense Authorization Act for Fiscal Year 2003, Sec. 805, Pub. L. No. 107-314, Dec. 2, 2002.


### Table 1: Leading Companies We Studied and Their Reliance on Buying Services

<table>
<thead>
<tr>
<th>Company</th>
<th>Function</th>
<th>Reported 2001 procurement (in billions)</th>
<th>Reliance on buying services</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBM</td>
<td>A global leader in business services and computer hardware and software; 2002 revenue of $81.2 billion.</td>
<td>$42.4</td>
<td>IBM’s diversification from strictly computer hardware and software manufacturing to a broader business model of consulting, information technology, and financing services has expanded its procurement scope to include services as well as material goods needed for production. About 52 percent of IBM’s annual spending is for general services procurement including complementary workforce, advertising, telecommunications, and facilities management.</td>
</tr>
<tr>
<td>ChevronTexaco</td>
<td>A leader in the oil and gas industry, with 2001 sales and operating revenues of $104.4 billion. Involved in exploration and production, refining, marketing and transportation, chemical manufacturing and sales, and power generation.</td>
<td>$16 - $18</td>
<td>An estimated 60 percent of ChevronTexaco’s annual spending pays for contracted services that support the company’s worldwide oil and gas extraction, refining, and distribution; construction and maintenance of facilities (such as retail gas stations); and corporate operations, including consulting and professional services.</td>
</tr>
<tr>
<td>Bausch &amp; Lomb</td>
<td>A global vision care manufacturer of contact lenses, lens care products, surgical equipment, and pharmaceuticals, netting more than $1.7 billion in 2001 sales revenue.</td>
<td>$0.9</td>
<td>About half of Bausch &amp; Lomb’s $535 million in purchases from U.S. suppliers was for various services to support marketing and advertising, corporate business operations, and research, development, and engineering activities. In 2001, Bausch &amp; Lomb’s largest spending category was management, business, professional, and administrative services.</td>
</tr>
<tr>
<td>Delta Air Lines</td>
<td>A leader in air transportation for passengers and freight throughout the United States and around the world; 2001 revenue was $13.9 billion.</td>
<td>$7 (approximate)</td>
<td>About 60 percent of Delta’s annual procurement spending is accounted for by service suppliers. Delta contracts with private vendors to perform various functions, including fueling and cleaning planes and handling baggage.</td>
</tr>
<tr>
<td>Dell</td>
<td>A worldwide manufacturer of home and business computer systems and servers and provider of computer support services, with net 2001 sales revenue of $31.9 billion.</td>
<td>$26</td>
<td>Although the bulk of Dell’s $26 billion procurement spending goes toward purchasing materials and component parts to manufacture its computer hardware products, between $3 billion and $4 billion per year is spent on general services. The services include consulting, facility management, financial operations, training, logistics, marketing, installation and future product support, and travel.</td>
</tr>
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Source: GAO analysis.

Note: GAO analyzed information from IBM, ChevronTexaco, Bausch & Lomb, Delta Air Lines, and Dell. Reported 2001 procurement for goods and services.
As service acquisition costs have increased, companies have sought to reduce them by taking a strategic approach, starting with the use of spend analysis processes to provide the necessary data. A strategic approach pulls together participants from a variety of places within an organization who recommend changes to a company’s personnel, processes, structure, and culture that can constrain rising acquisition costs. These changes (often referred to as “strategic sourcing”) can include adjustments to procurement and other processes such as instituting enterprisewide purchasing of specific services; reshaping a decentralized process to follow a more center-led, strategic approach; and increasing the involvement of the corporate procurement organization, including working across business units to help identify service needs, select providers, and manage contractor performance.

A critical component of an effective strategic approach is a comprehensive spend analysis program. An initial spend analysis permits company executives to review the total dollars spent by a company each year to see how much is spent, what was bought, from whom it was bought, and who is purchasing it. This analysis thus identifies where numerous suppliers are providing similar services—and at varying prices—and where purchasing costs can be reduced and performance improved by better leveraging buying power with the right number of suppliers to meet the company’s needs.

Overall, spend analysis permits companies to define the magnitude and characteristics of their spending, track emerging market spending, understand their internal clients and supply chain, and monitor spending with diverse suppliers for socioeconomic business goals. Spend analysis is an important driver of strategic planning and execution, and it allows for the creation of lower-cost consolidated contracts at the local, regional, or global level. At the same time, as part of a strategic sourcing effort, spend analysis allows companies to monitor trends in small and minority-owned business supplier participation in order to address the proper balance with equally important corporate supplier diversity goals.

Studies have reported significant cost savings in the private sector, with some companies achieving reported savings of 10 percent to 20 percent of their total procurement costs through the use of a strategic approach to buying goods and services. A recent Purchasing Magazine poll finds that companies employing procurement best practices—including employing
effective spend analysis processes—are routinely delivering a 3 percent to 7 percent savings from their procurement costs.\textsuperscript{12} Research by A.T. Kearney, Inc., suggests that, if all companies using procurement best practices to some extent matched the savings rates of the leading companies, total savings could reach as much as 41 percent more than the $13.5 billion achieved in 2000.\textsuperscript{13} The leading commercial companies we studied report achieving and expecting to achieve billions of dollars in savings by developing companywide spend analysis programs and services contracting strategies, as shown in table 2.

### Table 2: Companies’ Reported 2001 Procurement Spending and Savings

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Source: GAO analysis.

Note: GAO analyzed information from IBM, ChevronTexaco, Bausch & Lomb, Delta Air Lines, and Dell.


\textsuperscript{13} A.T. Kearney, Inc., \textit{Assessment of Excellence in Procurement 2002}. 
Although the financial and other results of spend analysis clearly are worth the effort, initially setting up these programs can be challenging, according to research organizations and our interviews with company executives. Companies have experienced problems accumulating sufficient data from internal financial systems that do not capture all of what a company buys or are being used by different parts of the company but are not connected. Because simplified data may not exist or be available, companies have frequently been unsure who their buyers are and have had to contend with databases that include listings of items and suppliers that in reality are identical to each other but which are all stored under different names. Companies also found that existing databases have not captured anywhere near enough details on the services for which vendors are being paid.

Despite these challenges, companies that developed formal, centralized spend analysis programs found that they have been able to resolve their problems over time and go on to engage in effective spend analysis on a continuous basis through the use of five key processes, according to our review of research organizations’ findings and interviews with company executives. The processes involve automating, extracting, supplementing, organizing, and analyzing data.

**Spend Analysis: Key Processes**

1. **Automation:** Data automatically compiled.
2. **Extraction:** Essential data culled from accounts payable and other internal systems.
3. **Supplemental information:** Additional data sought from other internal and external sources.
4. **Organization:** Reviewing data to ensure accuracy and completeness; organize data into logical, comprehensive commodity and supplier categories.
5. **Analysis and strategic goals:** Using standard reporting and analytical tools, data analyzed on a continual basis to support decisions on strategic sourcing and procurement management in areas such as cost cutting, streamlining operations, and reducing the number of suppliers. Scope generally covers organization’s entire spend.

Source: GAO analysis.

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14 Research organizations’ studies on effective spend analysis processes we reviewed included Aberdeen Group (Boston, Mass.), AMR Research (Boston, Mass.), RAND (Santa Monica, Calif.), and The Yankee Group (Boston, Mass.).
Building the foundation for a thorough spend analysis involves creating an automated information system for compiling spending data. The system routinely extracts vendor payment and related procurement data from financial and other information systems within the company. The data are then automatically compiled into a central data warehouse or a spreadsheet application, which is continually updated. Most of the automated spend analysis systems currently in use were developed in house, although some companies have hired third-party companies for expertise and technology.

The data are primarily extracted from accounts payable financial systems and reviewed for completeness. Accounts payable data can be voluminous and very detailed. Companies process large numbers of vendor invoices for payment each year, and each of those must be examined by their spend analysis systems. When necessary, the accounts payable data are supplemented with other sources, such as more detailed purchase card data obtained from external bank-card vendors’ systems or other information, such as suppliers’ financial status and performance information. Companies must obtain as much information as possible from both internal and external sources to gain a complete understanding of their spending for services contracts.

Data files must be accurate, complete, and consistent. The data are subjected to an extensive review for accuracy and consistency, and steps are then taken to standardize the data in the same format, which involves the creation of uniform purchasing codes. The data are typically organized into comprehensive categories of suppliers and commodities that cover all of the organization’s purchases. Simultaneously, commodity managers, councils, or teams are established to access and analyze the information on a ongoing basis, using standard reporting and analytical tools. Each group is responsible for one or more commodities, which may also include responsibility for a number of sub-categories. Once the spending data have been organized and reviewed, companies use the data as the foundation for a variety of ongoing strategic efforts.

The following company profiles illustrate significant aspects of the spend analysis and strategic-sourcing processes. Each profile begins with a description of the savings targets the company has set, achieved, and expects to achieve in the future. This is followed by a discussion of the difficulties the company experienced before implementing spend analysis; the components of its spend analysis system—including how it extracts, supplements, organizes, and analyzes its data; an example drawn from
company practice of a successful application of spend analysis; and how the company expects to keep improving its system over time.

Despite the uniformity of this framework, these companies are not identical in the manner that they implement spend analysis or strategic sourcing. Some have more mature systems than do others, while some have strengths or creativity demonstrated in specific aspects of the process. Each, however, has been cited by procurement and industry specialists as a role model for procurement and spend analysis, and our interviews and subsequent analysis have borne that out.
Year after year, IBM’s global procurement organization focuses on delivering a sustained competitive advantage across its entire portfolio of purchases, which totaled $42 billion in 2001. IBM’s procurement transformation began in 1994 and continues to evolve. As a result, IBM reports having achieved significant efficiencies and globally leveraged its spending through strategic sourcing to reduce the number of suppliers and save hundreds of millions of dollars.

In the beginning of its transformation, IBM lacked sufficient knowledge on what it was spending across the enterprise. Company buyers were calling the same items and suppliers by different names and being charged different prices for the same product or service. The company had disparate accounts payable systems, and the procurement organization was unable to gather easily a consolidated view of spending with IBM suppliers. Aggregated data were unavailable, and the linkage between procurement and accounts payable was inadequate for leveraging the company’s buying power. To launch a comprehensive spend analysis, IBM had to address four major challenges: (1) linking its disjointed legacy systems, (2) investing in a single-enterprise resource-planning system, (3) establishing uniform naming conventions for suppliers, goods, and services, and (4) creating a single procurement management system to support a global process.
To address these challenges, IBM developed an extensive “end-to-end” procurement system, which includes a paperless process for requisitions and purchase orders, electronic linkages to suppliers, a worldwide accounts payable system that receives and processes all suppliers’ invoices, and a centralized spend analysis program built around an automated business data warehouse for efficiently extracting accounts payable and other enterprise spending data in a common format. Initially, IBM's data management system did not support aggregating all of the accounts payable and other data to support management decision making. Recognizing this situation, IBM quickly responded by implementing a centralized global business data warehouse to facilitate decision making based on accounts payable and other data covering the entirety of IBM's purchases.

IBM's global procurement organization has used spend analysis to establish a substantial level of control by the company’s 31 “commodity councils”.15 The councils analyze the spending data in order to meet the needs of IBM groups worldwide and to enter into deals with suppliers by leveraging IBM's total buying power to gain proper volume discounts. Before 1995, IBM's decentralized buyers controlled only 45 percent of the company's purchasing; centralized councils now control almost 100 percent. Although IBM business units initially found it difficult to give up decentralized control over buying to the global procurement organization, IBM's global procurement organization used spend analysis presentations to demonstrate the savings that were possible and to achieve buy-in to the new purchasing process while being responsive to business units’ needs.

IBM’s spend analysis approach also supplements information from internal accounts payable with business intelligence data on suppliers’ businesses and market status from an outside party. This information is part of the spend analysis process used to create up-to-date profiles on IBM’s top suppliers. IBM spend analysis also integrates external information on average prices paid in the market in order to measure the company’s strategic-sourcing performance in achieving a competitive advantage.

15 Since 1994, commodity councils have been a central feature of the single procurement management system established by IBM. The term commodity council describes a cross-functional sourcing group charged with formulating a centralized purchasing strategy and establishing centralized contracts for enterprisewide requirements for a selected commodity grouping. Following the council’s sourcing actions, decentralized units then execute tactical ordering against those pre-established business agreements.
through its procurement processes. IBM works with third-party consultants to obtain credible market intelligence in order to determine the “best in class” price for a given commodity and whether or not IBM is obtaining the lowest market prices from its suppliers.

IBM’s global procurement organization created uniform purchasing codes and upgraded data entry processes for accounts payable in order to organize the spend analysis categories of products and services commodities that could be leveraged for strategic-sourcing purposes. For example, IBM’s procurement data, which include related accounts payable data, are organized under 31 broad categories that correspond with the commodity councils. Each category encompasses a number of subcommodities that cover the company’s production-related services and general procurement. For example, one high-level services procurement grouping is temporary technical services—a multi-billion dollar annual spending category for IBM—which includes eight sub-commodities, such temporary services as programmers, systems engineers, technical writing, and systems help-desk support.

Currently, the councils use spend analysis to support their negotiations with suppliers and to work with internal business units in order to bring the best value to bear. For example, the technical services commodity council relied on spend analysis to carry out a strategic-sourcing effort. The council’s analysis revealed that the company was spending billions annually for temporary technical services, that its hiring process was taking 10 days on average, and that multiple suppliers were sending in candidate resumes. As a result of the council’s effort, a centralized Web-based hiring system was developed internally for sourcing external technical services. Requesters can go online and select candidates from a database, conduct interviews, and submit requisitions, while reducing the process of hiring to less than 3 days. Costs were reduced by a reported $40 million in 2001 as a result of the commodity council’s prenegotiating various skill payment rates with two-thirds fewer suppliers.

In summary, IBM has implemented a number of strategic enhancements to its global purchasing approach. Ongoing enhancements, including

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16 “Production” procurement covers components parts, materials, and other items bought by a company to directly support the manufacturing of its own products. “General” procurement covers products and services bought by a company for other business operation purposes that are indirectly related to its manufacturing operation, but directly related to services provided to internal and external customers.
corporate spend analysis capabilities, will focus on deeper integration of the procurement process into the company’s supply chain management aimed towards a new level of global buying effectiveness. IBM is making changes to exploit greater electronic procurement capabilities and to consolidate purchase order processing and procurement support services in centralized locations around the world. Such changes are intended to remove administrative workload from the commodity councils, allowing them to focus on management of suppliers, internal customers, and IBM costs.
ChevronTexaco’s phased approach to the strategic sourcing of its entire procurement spending is expected to result in savings of at least $300 million a year by 2003 and $1.3 billion a year after 2005. The company’s annual spending on procurement is currently between $16 billion and $18 billion. The company’s procurement savings goals, established after the two historically decentralized companies merged in 2001, are based on spend analysis.

Before the merger, each separate company had difficulty understanding its own spending practices. Chevron had a limited number of personnel working on the task—it’s purchasing unit had only a few analysts who laboriously collected, reviewed, and organized all the accounts payable data after issuing data calls to various business units. The information collected was consolidated in large spreadsheet binders, but these did not capture all company spending or details on suppliers’ diversity of interest to corporate leaders. Chevron lacked the data to negotiate effectively with suppliers, who knew more about what was being spent and what business they had with Chevron. Texaco also had difficulty understanding its supplier base and what it was buying because its accounts payable data were stored in 14 systems, suppliers’ names were not standardized in those systems, and not enough details were captured on the goods or services for which vendors were being paid.
Once the companies merged, ChevronTexaco adopted, as its global procurement focus, the development of accurate, detailed information on spending. ChevronTexaco’s spend analysis system now automatically extracts accounts payable data on most purchased goods and services from these systems. For greater precision, ChevronTexaco supplements the accounts payable data with external information and internal expertise to obtain more detailed insight into the products and services being bought and the vendors that supply them. The data are organized into three dozen broad categories, including 250 products and services, which cover most of the company’s annual spending.

ChevronTexaco’s global procurement leadership and several decision support staff (who work with a few dozen cross-functional commodity teams) analyze the spending data. These teams link the procurement organization, strategic-sourcing processes, and business units by collaboratively using the spending data to identify, plan, and recommend sourcing projects for goods and services, including capital projects. For example, three consulting and professional services commodity teams are responsible for analyzing data related to spending for temporary accounting staff, financial and information technology management, and legal and technical services.

An initial commodity team analysis of the consulting and professional services’ spending data showed close to $600 million spent on consulting services and many subcategories that needed to be identified. Further spend analysis showed that the company was using 1,600 suppliers, that buying was highly fragmented with little standardization, and that consultant contracting was not sufficiently competitive. The spend analysis identified five consulting services’ supply markets for separate consideration—financial, information technology, general management, legal, and technical. The team discovered that most of the five were ripe for competition, that some were reducing staff and seeking larger client bases, and that some were laying off employees and going through a slump. After taking into account internal business unit readiness for supplier consolidation, the team finally recommended separate strategic-sourcing projects in information technology, legal, and general management consulting. ChevronTexaco estimates net savings to be between 8 percent and 10 percent of the company’s total spending on those 3 consulting and professional services’ subcategories.
ChevronTexaco uses spend analysis to document and report direct savings that result from negotiated price reductions, volume discounts, and leveraged discounts.¹⁷ Spend analysis supports ChevronTexaco’s active supplier diversity program by permitting strategic-sourcing teams to track the company’s spending with small and diversely-owned businesses and identify opportunities to attract competitive offers from such suppliers. Analysis of the spending data has also been used to meet a wide range of the company’s strategic goals, including identifying the right stakeholders for participation in a global procurement organization coordinating key business areas. To win support, procurement executives used spend analysis to promote internally the need for procurement reengineering to help business units reduce costs without sacrificing operations, safety, and services. Spend analysis also underpins the development of performance measures used throughout the company’s standardized procurement processes.

ChevronTexaco plans further improvements to its spend analysis system. The company is investing in a third party’s suite of electronic procurement applications. One of the applications is an automated spend analysis tool that will more quickly extract even more detailed data from the company’s financial system.

¹⁷ Volume discounts are gained in return for purchasing more units from individual suppliers. Leveraged discounts are gained in return for buying more than one type of product or service from a single supplier.
Bausch & Lomb’s strategic sourcing effort saved the company a reported $20 million a year from 1998 through 2001, and is anticipated to save an additional $11 million in each year through 2005. These savings were generated through a one-third reduction in the number of Bausch & Lomb’s suppliers from 20,000 to 13,500 and negotiation of discounts on the volume of business with the remaining suppliers.

In 1997, Bausch & Lomb was having difficulty coordinating information from multiple internal information systems as it attempted to understand what it was spending. To overcome this problem, the company contracted with a consultant during the first 2 years of its effort to create and automate master vendor files through a central database and directly provide spend analysis support. Bausch & Lomb’s spend analysis—which focused on developing a comprehensive database and targeting categories with the most suppliers and the most spending—became the foundation of its strategic sourcing effort.

To perform its spend analysis, Bausch & Lomb extracted accounts payable data from more than 50 internal systems and sent the data to the consultant to review and correct the records to eliminate duplication and identify “families” of suppliers connected through corporate ownership that could be used to negotiate better terms. The consultant also used its technology tool to compile and automate the analysis of Bausch & Lomb’s spending data. Spending data were standardized by using two publicly

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**Company Profile**

**The savings:** $20 million a year reported from 1998 through 2001 and an additional $11 million a year through 2005.

**The tools:** Hires consultant to create master vendor files and provide spend analysis support; extracts accounts payable data from legacy systems; records standardized by consultant using publicly available classification systems; supplements data with information on supplier risk and status from consultant database; organizes data into categories of products and services and analyzes the data; regularly updates data with support from consultant.

**Strategic benefits:** Used to develop strategies and business plans for commodities.

Sources: GAO and Bausch & Lomb.

Note: Bausch & Lomb’s logo is used by permission.
available classification systems, allowing for comparisons to be made between vendor identifiers and the affiliated commodity codes. These internally available data were supplemented with other information from the consultant’s business intelligence database that addressed suppliers’ risk\(^\text{18}\) and status as minority or women-owned businesses and with purchase card expenditure data.

Bausch & Lomb then organized the data into 50 broad categories of products and services, each of which was subdivided into 4 to 12 commodities. Responsibility for the categories was divided among several headquarters commodity managers—including those specializing in information technology, pharmaceuticals, and business processes. The commodity managers analyzed the spending data and sought input from business units to develop strategic sourcing strategies and business plans for each of the commodities to combine the company’s total buying power and rationalize the supplier base. The commodity managers now oversee the corporate procurement of specific goods and services across all the business units.

For example, when the business process commodity manager applied spend analysis to Bausch & Lomb’s use of temporary personnel services, the outcomes included the opportunity to reduce the number of suppliers, lower costs, and achieve other streamlining benefits. Business units had been using purchase orders to obtain temporary services, and the spend analysis revealed that although 60 suppliers were being used, one national company was the top temporary services provider. This knowledge enabled Bausch & Lomb to negotiate a 17 percent reduction with that company for temporary services by consolidating the supplier base from 60 companies to 1. The remaining temporary services company agreed to this reduced rate because it was guaranteed a greater volume of individual purchase orders and because Bausch & Lomb’s business units were required to use that preferred company unless they had a need that it could not meet. Bausch & Lomb’s ongoing spend analysis of this $13 million commodity also enables it to monitor business unit compliance with the contract to use the preferred company and achievement of savings targets.

\(^{18}\) Managing supplier risk is important to companies to avoid supply chain disruptions and performance problems that could jeopardize business operations. A number of financial measures are used to assess risk of a supplier, including business experience, financial condition, ability to pay bills, suits, liens, and judgments.
Bausch & Lomb’s procurement organization now performs and regularly updates the spend analysis with support from the consultant. Each year, Bausch & Lomb refreshes its spend analysis data with new supplier information obtained from the consultant. The annual spend analysis examines how much its divisions are spending on specific commodities to determine its potential bargaining power with its suppliers and to review the risks of existing suppliers. Its commodity managers identify which strategic sourcing projects to tackle based on the dollar amount spent, the number of suppliers, the potential cost savings, and opportunity to consolidate suppliers. The company’s annual updating of the spending data gives enough information to focus strategic efforts in the right direction. To enhance their spend analysis, Bausch & Lomb is also working with its consultant to start extracting more detailed data from its general ledger systems.
Spend analysis has been a key element in Delta’s transformation of its more than $7 billion\textsuperscript{19} procurement operation and its adoption of a strategic sourcing process. Since 2000, the company’s reported payback has been rapid—more than $200 million saved through strategic sourcing projects and other supply-chain management transformation efforts.

Almost 3 years ago, Delta’s supply chain management organization faced challenges in its ability to aggregate purchasing data due to the presence of multiple legacy systems and a lack of data integrity. In July 2000, those legacy systems were replaced with a new core financial system, which was also useful when the supply chain management organization decided to launch its current spend analysis program.

Delta’s spend analysis program is based on the automated extraction of accounts payable records from its core financial system. The extracted data are placed in a data warehouse and then compiled in an integrated, off-the-shelf software tool (accessible through the company’s intranet) that is used to develop spend analysis reports. All company managers and supply chain management staff can access the company’s spend analysis reporting tool. The internal financial data are supplemented with...

\textsuperscript{19} Figure is Delta Air Lines’ reported procurement spending in calendar year 2001.
purchase card spending data, totaling about $75 million per year, from the company’s bank card vendor. In addition, Delta worked with a third party to validate the information received from small, minority, and woman-owned businesses in order that supplier diversity information was accurately coded in its core financial system.

Delta organized its spending data to correspond with its six broad purchasing areas: fuel and airport services, corporate operations (such as finance and human resources), technical operations (such as aircraft maintenance), marketing and in-flight services, corporate real estate, and fleet planning and acquisitions. Those 6 purchasing areas are responsible for purchasing goods and services in more than 270 commodities, such as consultants, legal, and temporary services. Delta’s supply chain management organization worked with a team to create the commodity codes following a review of the goods and services the company buys. These codes have made it possible to organize accounts payable and other data by commodity to support the company’s initial spend analysis, a key part of the first two steps in its strategic-sourcing process.

Beginning in September 2000, Delta’s supply chain management organization took steps to realize the value that a transformation could bring. Key elements of this transformation included the implementation of a strategic sourcing process; establishment of cross-functional teams; and expansion of the supply chain management organization’s scope of involvement in company spending. Commodity teams began analyzing the spending data to obtain an upfront understanding of the supplier base, the company’s buying power, and the estimated savings from consolidated buying. In mid-2002, commodity teams across Delta’s purchasing areas were actively managing 58 cost-saving projects developed through spend analysis and reported operating savings of $82.2 million from projects already completed that year. Delta’s supply chain management organization also uses spend analysis to track and report the company’s spending with small business and minority- and women-owned businesses in order to measure the outcome of the teams’ strategic-sourcing projects in terms of the company’s supplier diversity goals.

An example of Delta’s successful outcomes with spend analysis is its information technology commodity team’s strategic sourcing effort in 2001. The team’s analysis revealed the company was using more than 60 different information technology contract services suppliers and purchasing approximately $16 million in external services. The requisition processes varied within each of the business units; limited formal metrics
were in place for managing supplier performance; and the existing contracts’ pricing structures did not facilitate cost reduction efforts.

An external industry analysis indicated that Delta could benefit by bidding information technology contract services given that the supplier market was hard hit by the downturn in the economy and that a surplus of high quality information technology service suppliers existed. Using this knowledge, the commodity team, which included representatives from the company’s human resources and technology business units, developed a new consolidated-proposal request for external services and used an online reverse auction\textsuperscript{20} to complete the sourcing effort. The new contracts resulted in reported annual savings of $3 million and reduced the number of suppliers from 60 to 6 companies—3 of which qualified as diverse-owned businesses.

Despite Delta’s accomplishments in spend analysis, challenges remain in obtaining reliable and complete data, and its supply chain management organization is working to improve financial system data integrity and automated reporting to provide the information needed for real-time business decisions. Last year a team was formed to improve the quality of information on suppliers, commodity codes, and buyers. Recommendations on process improvements will be made in 2003, followed by an effort to clean up Delta’s purchase order and contract files. A related team is working to improve the availability of automated reporting from Delta’s off-the-shelf spend analysis reporting tool. The company expects increased accuracy in its spending information will provide greater visibility into buying patterns and enhance strategic sourcing decision making and results.

\textsuperscript{20} According to industry sources on electronic commerce applications, reverse auctioning is where suppliers bid, online and in real time, for product and service contracts as defined by detailed request for quotes. Each supplier can see the competing bids as they are made, but bidders are kept unidentified. Through a prequalification process, all issues are generally settled between the procuring organization and potential suppliers before the time of the bidding event. The buying organization may not necessarily choose the lowest bidder, but rather may use reverse auctioning as a negotiating tool. FreeMarkets, Inc., \textit{The Strategic Need for Real-Time Competitive Bidding in the Public Sector Procurement Process} (Pittsburgh, Pa.: 2002).
Dell’s earlier success in using spend analysis and strategic sourcing in its manufacturing procurement operations prompted the company to establish a new procurement savings goal of 20 percent from the $3 billion to $4 billion it spends in purchasing of nonmanufacturing services and products.

Before 2000, Dell’s spend analysis and strategic-sourcing focused only on production procurement to support its manufacturing operations. The company had no spend analysis program to track general procurement of goods and services needed to support the company’s nonmanufacturing operations. However, once the company decided that general procurement merited the same strategic approach as production procurement, the procurement organization quickly developed a second spend analysis program.

Since 2000, Dell’s procurement and finance organizations have worked together on its internally developed spend analysis system, which provides automated on-line reporting and cost analysis of the company’s general procurement purchasing. Every month, the system extracts accounts

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Company Profile

**The savings:** Company has savings goal to reduce its $3 billion to $4 billion general procurement spending by 20 percent.

**The tools:** Internally developed spend analysis system provides automated on-line reporting and cost analysis of general procurement purchasing; extracts accounts-payable records and supplements them with data from external sources; identifies vendors by commodity supplied and uses more detailed analysis on those that do not fit; uses variety of commodity teams to develop strategies.

**Strategic benefits:** Continued improvements planned for spend analysis program, particularly in generating reports on detecting corporate relationships among suppliers.

Sources: GAO and Dell.

Note: The Dell logo is a trademark and used by permission of the Dell Computer Corporation.

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21 Since 1992, Dell has used a different automated system that it developed to extract and automate production procurement spend analysis to support strategic sourcing of direct materials for manufacturing.
payable records from one of the company’s two financial systems for consolidation into the data warehouse used for spend analysis. The consolidated spend analysis reports are supplemented with supplier diversity, business intelligence, and purchase card information obtained from external sources. For example, Dell obtains business intelligence information from an outside party about its suppliers’ financial health and utilizes that independent information to determine percent of revenue based on sales to Dell. The company also obtains detailed vendor data for purchases obtained under the corporate purchase card program. However, the supplemental business intelligence and purchase card information must be separately analyzed vendor by vendor, item by item, and compared with the consolidated reports from the accounts payable information.

The need to organize the accounts payable and purchase card data for spend-analysis and strategic-sourcing purposes required the procurement organization to identify 15 high-level categories, each encompassing many products and services commodities. This involved research with business units familiar with Dell’s vendors in order to “tag” each vendor according to the commodity being supplied. Consulting is one example of a high level category, and it encompasses consultant services such as information technology, electronic commerce, financial, legal, and Dell technology. New suppliers are similarly tagged to keep the spend analysis system updated. One current limitation to Dell’s tagging methodology is that some vendors do not fit neatly under a single commodity. Dell’s system organizes purchase data for those vendors under a miscellaneous category, and the staff regularly analyze the data to later sort spending with those suppliers into the appropriate commodity.

Dell’s procurement organization has four senior managers who are responsible for several commodity teams in the areas of marketing and communications, corporate services, and operations. In these teams, commodity managers partner with the primary business owners to manage strategic sourcing and other procurement activities in specific spending areas. Each commodity team uses spend analysis to identify, prioritize, and leverage the company’s combined buying power with suppliers in order to reduce costs and improve supplier performance.
As an example of a successful outcome using spend analysis, one of the senior managers worked with the customer services team on a strategic-sourcing project to staff support call centers and provide certified technicians and related on-site services for Dell computer hardware repair. The spend analysis revealed that Dell’s business units were spending more than $200 million annually on an ad-hoc basis with 8 suppliers for the same services. The team discovered that it was difficult to manage eight suppliers and expensive to have each provide the entire scope of services on a worldwide basis. The new sourcing strategy cut the number to four suppliers and provided a volume price discount, efficiencies in supplier management, and capacity to support Dell’s growing sales in the U.S. and overseas. Dell required two of those suppliers to provide a global array of services and two to work only in the U.S. In taking this action, Dell also successfully met its supplier diversity objectives by awarding two of the new contracts to diversely-owned companies.

Dell procurement officials plan continued improvements to the spend analysis program, such as automating the production of analytic reports and generating reports that focus on detecting corporate relationships among suppliers. Enhanced analysis and reporting of relationships can be used to leverage Dell’s buying power for additional savings with related suppliers.
DOD is in the very early stages of setting up a spend analysis program. The agency’s leaders have made a commitment to improve how DOD acquires services and to adopt best commercial practices. Although these are the right first steps, the agency has yet to emulate the best practices of spend analysis to the same extent as the private sector. DOD also has not yet pursued more strategic approaches like reorganizing its procurement processes under a more centrally led management structure.

DOD’s initial actions include issuing new policy in May 2002—in response to our work and the 2002 national defense authorization legislation—to elevate major purchases of services to the same level of importance as the purchase of major weapon systems. In February 2003, the Deputy Secretary of Defense tasked a new team to complete, by September 2003, a pilot spend analysis of services acquisition data across DOD and to determine if larger scale efficiencies and savings could be achieved over its current decentralized procurement environment. DOD requested proposals from interested vendors with commercial spend analysis experience to provide contract support to the DOD team. Pilot projects associated with the spend analysis will be completed by September 2004.

Information we obtained during preproposal discussions with prospective vendors suggest that the DOD pilot project may not engage the full range of spend analysis best practices as have the private sector companies we interviewed. (See table 3.)
Table 3: Comparison of DOD’s Spend Analysis with Leading Company Practices

<table>
<thead>
<tr>
<th>Spend analysis process</th>
<th>Leading company practice</th>
<th>DOD practice</th>
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</thead>
<tbody>
<tr>
<td>Automation</td>
<td>Data automatically compiled to expedite and repeat the spend analysis process.</td>
<td>DOD furnishes the data to the vendor, which may employ commercially available automation tools to compile the data to expedite the spend analysis. However, this is a one-time requirement. The vendor will not develop an automation tool to consistently repeat the spend analysis process.</td>
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<tr>
<td>Extraction</td>
<td>Essential data extracted from accounts payable and other internal systems.</td>
<td>DOD wants the pilot spend analysis to cover all its acquisition of services “as best possible”. DOD will furnish only data extracted from two databases for services contract actions, but is excluding analysis of research and development services, and the databases do not include contracts for $25,000 or less. DOD acknowledges this data may be insufficient, but also says that data that could be derived from better sources such as accounts payable or other internal systems may be neither available nor feasible to incorporate within the project’s time frame.</td>
</tr>
<tr>
<td>Supplemental information</td>
<td>Additional data sought from internal and external sources, such as supplier performance and purchase card data.</td>
<td>The vendor may ask for DOD’s help in getting supplemental data for the spend analysis from DOD, other government agencies, and commercial sources, such as purchase card and logistics data. While DOD will help, it cannot guarantee it can provide the data requested.</td>
</tr>
<tr>
<td>Organization</td>
<td>Ensure accuracy and completeness of data; organize data into logical, comprehensive categories of commodities and suppliers.</td>
<td>The vendor will cleanse and validate data DOD has furnished based on its spend analysis experience and knowledge. DOD allows the vendor’s discretionary use of external databases to help organize the spend analysis database. The vendor may also propose classification systems to organize categories of commodities and suppliers, to meet DOD’s requirement to identify the top ten service categories to target for strategic sourcing.</td>
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<tr>
<td>Analysis and strategic goals</td>
<td>Using standard reporting and analytical tools, data analyzed on a continual basis to support decisions in strategic sourcing and procurement management to help cut costs, streamline operations, reduce number of suppliers, achieve supplier diversity, etc. Scope generally covers entire procurement spending.</td>
<td>Within 60 days of contract award, the vendor must provide the key metrics for reviewing DOD’s spend analysis database. Within 90 days, the vendor must analyze DOD’s spend data, identify the top ten services contract areas with the largest dollar savings, and prepare business cases and strategic sourcing strategies for the top ten services in light of DOD’s requirements to fulfill socioeconomic and establish savings goals. In the second phase, the vendor may have to supply special analyses to support the DOD team’s review of the ten business cases and development of strategic sourcing procurement strategies for at least five pilot service categories.</td>
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Source: GAO analysis of DOD information.

Although DOD does seek to include basic elements of the key private sector spend analysis best practices in the prospective pilot, its efforts fall short of the private sector standard. Its efforts at automation involve only a one-time requirement, not the repeatable process found in private companies. Efforts to extract data are restricted to those taken from two centrally available databases on services contract actions (excluding
research and development\textsuperscript{23}) in excess of $25,000, a limitation due to the agency’s self-imposed 90-day time frame for completing the spend analysis.\textsuperscript{24} Although superior data—obtained by the vendor from other internal and external sources with DOD’s help—may be used to supplement what has been extracted, DOD cannot guarantee that it will be able to provide what the vendor may request.\textsuperscript{25} The scope of the pilot is also relatively limited, compared to the more expansive private sector programs. Ten service category business cases are being considered, and procurement savings strategies will be tested for at least five categories. If time permits, DOD’s pilot manager told us that more than five categories could be tested.

While DOD expects to learn from this pilot spend analysis, only a small number of procurement actions will result from it. As DOD moves forward to adopt commercial best practices for service acquisitions on the basis of its pilot, the scope of its strategic approach may be limited to smaller organizational units, rather than a major more centralized reorganization of DOD’s procurement processes. To justify its “wait and see” approach with a pilot, DOD cites several factors that set it apart from commercial companies. These include its much larger and more complex services supplier base, decentralized acquisition environment with many procurement offices spread across the military services and defense agencies, and no single financial data system relative to procurements. According to DOD, it must also fulfill numerous socioeconomic goals for contracting with small and diversely-owned suppliers and has more regulatory and budgetary constraints around the acquisition process. In citing these factors in advance of the pilot, DOD is being cautious about viewing procurement as a strategic (i.e., DOD-wide) process that simplifies

\textsuperscript{23} In fiscal year 2002, DOD reported a total of 33,440 contract actions of more than $25,000 for research, development, test, and evaluation services, totaling about $26.9 billion.

\textsuperscript{24} DOD will furnish the contractor a few dozen data field elements extracted from the Defense Contract Action Data System (for fiscal years 2000 through 2002) and the Federal Procurement Data System (for fiscal years 2001 and 2002). In fiscal year 2002, DOD reported more than 254,000 contract actions in excess of $25,000 for non-research and development services, totaling about $66 billion.

\textsuperscript{25} A sizeable sum of DOD spending is through other procurement methods and not captured in the data DOD is furnishing to the spend analysis vendor on contract actions for more than $25,000. For example, in fiscal year 2002, DOD reported almost 5 million contract actions for goods and services of $25,000 or less, totaling about $9.8 billion. In fiscal year 2001, DOD purchase card spending for goods and services totaled $6.1 billion.
acquisitions, saves money, and increases the quality of purchased services, compared to its current tactical process of numerous individual contract actions.

Once the pilot spend analysis is complete, DOD faces the challenge of making the best use of the results. It needs to decide what long-term changes are required to bolster the current organizational structure and processes to foster a more strategic approach to acquiring services. The extent to which DOD makes these changes will determine its success in meeting congressional expectations for major management reform of—and substantial savings from—the procurement of services.

Spend Analysis Could Guide Development of a Strategic Approach to Meet DOD’s Diverse Needs

As we reported last year, DOD’s size and complex service needs may lead it to pursue different approaches within the defense agencies, military departments, and individual commands. In this regard, private sector experience suggests that DOD must start with spend analysis to identify and prioritize specific contracted services and then follow through with organizational and process changes, such as the establishment of full-time dedicated cross-functional teams or commodity managers, to improve the coordination and management of key services.

As DOD attempts to reengineer its approach to purchasing services, it faces challenges similar to those faced by private sector organizations. For example, DOD is subject to statutory and regulatory goals for contracting with small businesses and other socioeconomic categories, such as woman-owned small businesses and small disadvantaged businesses, that may constrain it from consolidating numerous smaller contracts into larger ones. This is an approach often taken by the companies we studied. Those constraints must be considered in the

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26 GAO-02-230.

27 Contracts that combine requirements to such an extent that they present a barrier to small businesses’ ability to compete are considered to be “bundled contracts.” The Small Business Reauthorization Act of 1997 defines contract bundling as “consolidating two or more procurement requirements for goods or services previously provided or performed under separate, smaller contracts into a solicitation for offers for a single contract that is unlikely to be suitable for award to a small business concern.” 15 U.S.C. Section 632 (O) (2). For more information regarding measures and information that will be used to monitor agencies’ progress in eliminating unnecessary contract bundling and mitigating the effects of necessary bundling, see U.S. General Accounting Office, Small Business Contracting: Concerns about the Administration’s Plan to Address Contract Bundling Issues, GAO-03-559T (Washington, D.C.: Mar. 18, 2003).
business cases to be developed by the spend analysis vendor. The experience of private sector companies—which also are keenly aware of the importance of small and diversely-owned business participation as suppliers—may offer DOD valuable insights into addressing this challenge.

Companies we studied use spend analysis to carefully and successfully balance supplier consolidation and cost-savings strategies with corporate supplier diversity goals of equally high priority. Companies’ commodity teams often include supplier diversity specialists, who propose concrete steps for considering small, minority-, and woman-owned businesses throughout the strategic-sourcing process.28 Like the companies, DOD can use spend analysis to understand its current level of supplier diversity on a commodity-by-commodity basis and to balance cost-saving strategies and socioeconomic goals. Spend analysis can also support DOD’s efforts to comply with small business requirements to review potential bundling of procurement requirements in order to determine if the bundling is necessary and justified.

DOD cites its lack of a single financial data system relative to procurements as another challenge. Because of the pilot’s 90-day time frame for completing the initial spend analysis, DOD acknowledges that the data it will use may be less complete than what is used by business, but it cannot guarantee that it will be able to provide data from other sources that its vendor may request to perform the first DOD-wide spend analysis. DOD is instead asking the vendor to make a recommendation on the feasibility of using other DOD financial systems—such as systems used to process invoices and pay commercial vendors for goods and services bought by DOD organizations—that might be considered for use in the future.

Although DOD will need to consider how existing problems in its financial management systems29 could affect spend analysis and services-

28 Examples of concrete steps to improve supplier diversity outcomes during the strategic sourcing process are determining baseline spend with diverse suppliers; including diverse suppliers in requests for information and following up if initial response rate is low; developing selection criteria to enable inclusion of diverse suppliers; considering the use of regional or multiple requests for proposals; seeking creative solutions from suppliers such as partnerships; and encouraging and negotiating aggressively with diverse suppliers.

29 For example, DOD continues to confront pervasive weaknesses in its financial management systems, hindering its ability to produce timely and accurate financial information needed to make sound business decisions and ensure accurate vendor payment for goods and services. See GAO-03-98.
contracting initiatives, we believe a more businesslike approach is possible. The companies we interviewed faced similar challenges in accumulating accounts payable and other internal data that were highly fragmented across multiple financial and management systems and not easily accessible. However, the companies automated the extraction of accounts payable and other internal data and made the spend analysis process repeatable and more efficient. To see if DOD could engage in similar actions, we discussed this matter with DOD sources and others knowledgeable about DOD and commercial vendor payment systems. Based on these discussions, DOD’s systems could provide the type of accounts payable data that companies use and thus could be a data-rich source for DOD spend analysis. In fact, vendor payment data from multiple processing locations are already centrally collected by the Defense Manpower Data Center for auditing and other financial management purposes. Use of this data could reduce DOD’s need to extract and organize data for spend analysis efforts by providing a “one-stop shop.”

DOD is also likely to face resistance to giving up decentralized buying authority, cultural barriers, and other impediments to implementing broad-based management reforms. The companies we studied found several ingredients critical to overcoming such challenges. For example, senior management must provide continued support for common services acquisitions processes beyond the initial impetus, since the companies are engaging in long-term efforts. Second, communication has to be seen as vital in educating and keeping staff on board with changes. To achieve buy-in, companies used spend analysis to make a compelling case to business units that reengineering would enhance service delivery and reduce costs. Companies also involved the business units in a new center-

30. Once companies consolidated spending data from various sources, the companies also subjected the data to an extensive review to make corrections and ensure that the data were sufficiently accurate, complete, and consistent for supporting informed strategic sourcing and procurement management decisions.

31. The Defense Finance and Accounting Service operates about 14 systems at several sites to process invoices and disburse payments to vendors for goods and services sold to Army, Navy, Air Force, and other DOD organizations.

32. Our reports have highlighted a number of underlying causes impeding past reform efforts at DOD. For example, cultural resistance to change and autonomous operations have hindered DOD’s ability to implement broad-based reforms because stakeholders were not able to put aside their particular military services’ or agencies’ interests to focus on DOD-wide approaches. See GAO-03-98.
led approach by making extensive use of cross-functional commodity teams to make sure they had the right mix of knowledge, technical expertise, and credibility.

To cut across traditional organizational boundaries that contributed to the fragmented approach to acquiring services, companies restructured their procurement organizations, assigning them greater responsibility and authority for strategic planning and oversight of the companies’ service spending. Also, companies extensively used metrics—based on spend analysis—to measure total savings and other financial and non-financial benefits, to set realistic goals for improvement, and to document results over time. DOD recently developed new management structures in response to the 2002 national defense authorization requirements to improve practices for the acquisition of services, but the changes are not as far-reaching as those adopted by companies we studied. For example, although the Under Secretary of Defense (Acquisition, Technology, and Logistics) and each of the military departments now has a process for reviewing particular large-dollar or sensitive acquisitions for adherence to competition and other contracting requirements, the reviews are piecemeal and focused on approving individual acquisitions rather than achieving a coordinated approach for managing services’ contracts. DOD could use spend analysis as a basis for tailoring how the new management structures can adopt the type of organizational tools and metrics employed in the private sector to foster an enterprisewide strategic approach that would meet DOD’s unique requirements.

To implement best practices and manage services effectively, DOD must have the right skills and capabilities in its acquisition workforce. This is a challenge given decreased staffing levels, increased workloads, and the need for new skill sets. DOD is engaging in a long-term strategic planning effort to identify the competencies needed for its future workforce. Private sector experience indicates that taking a strategic, integrated, enterprisewide approach can also help DOD address its acquisition workforce challenges. In our study, companies’ efforts to reengineer their procurement operations have often been accompanied by acquisition-staffing reductions. The experience has been that using spend analysis and coordinated sourcing processes allows for more efficient use of procurement personnel resources by streamlining the number of contracting tasks. Reducing duplication and fragmentation in contracting activities also helps free up limited acquisition workforce resources to perform more strategic business functions, such as acquiring and using knowledge of market conditions and industry trends to better manage fewer suppliers and contracts.
While seemingly daunting, each of the challenges to be faced by DOD has been faced and overcome by the private sector companies. Careful observation and analysis of their practices will help the agency to adapt variations and even to create new approaches through which it will be able to reach its savings and strategic targets.

Without effective spend analysis, organizations are limited in their ability to understand buying patterns; maximize purchasing power; carry out informed acquisition and contracting decisions; measure the impact of changes in purchasing costs and supplier diversity; and carry out other planning and management functions for the acquisition of services.

Given that DOD’s spending on services’ contracts is approaching $100 billion annually, the potential benefits of overcoming the challenges and using best practices to establish an effective spend analysis program are significant and can

- achieve a total-spending perspective across DOD,
- make the business case for collaboration in joint purchasing rather than fragmented purchasing,
- organize an effective management structure to assign accountability and exercise oversight,
- identify potentially billions of dollars in procurement savings opportunities by leveraging buying power, and
- identify opportunities to achieve other procurement efficiencies such as reducing duplication in purchasing, supporting supplier diversity, and improving supplier performance.

With the federal government’s short- and long-term budget challenges, it is more important than ever that DOD effectively transform its business processes to ensure that it gets the most from every dollar spent. At the same time, DOD’s management challenges related to contracting for services will not be resolved overnight. Two common elements that pervade discussions of ways to address DOD’s challenges are the need for (1) sustained executive leadership and (2) a strategic, integrated, and enterprisewide approach. In addition, ensuring that these efforts achieve the intended results will require the Congress’s continued involvement and support. Such support has already been demonstrated through the 2002 national defense authorization legislation requiring that DOD establish a management structure to enhance the acquisition of services and to collect data on the purchase of services. DOD could use this legislation—and its first spend analysis effort—as the means for taking a more strategic

Conclusions
To achieve significant improvements across the range of services DOD purchases, we recommend that the Secretary of Defense direct the Under Secretary of Defense for Acquisition, Technology, and Logistics to work with the military departments and other DOD organizations involved in the spend analysis pilot to adopt the effective processes employed by leading companies. Key elements of DOD’s approach should address

- using technology to centrally automate the spend analysis process to make it repeatable,
- using accounts payable and other internal financial and procurement data to gain a comprehensive and reliable view of spending,
- supplementing internal data with external information such as purchase card expenditures and business intelligence to gain a more complete picture of DOD spending and to refine analysis,
- reviewing purchase data for accuracy and consistency, organizing the data by commodity and supplier categories in order to identify opportunities to leverage buying power,
- promoting enterprise collaboration aimed at gaining the best value, including the establishment of cross-functional teams to continue developing strategic-sourcing projects, and
- presenting relevant spending reports to appropriate decision makers to establish strategic savings and performance goals, assign accountability, and measure results.

To ensure that DOD moves forward in a timely manner on its commitment for taking a more strategic approach to the acquisition of services, we recommend that the Secretary of Defense direct the Under Secretary of Defense for Acquisition, Technology, and Logistics develop a plan and a schedule for accomplishing changes in management structure and business processes for contracting for services. The plan and schedule should be based on the results of the spend analysis pilot and should be submitted to the congressional defense committees for consultation and approval as part of the fiscal year 2006 budget submission and justification process.

In commenting on a draft of this report, DOD agreed with our findings and conclusions that the commercial best practice of spend analysis is important to the design of a strategic approach to acquisitions and can be
used by DOD to achieve substantial savings comparable to those in the private sector. Moreover, DOD concurred with the recommendation to adopt the effective spend analysis processes employed by leading companies—and now intends to automate the process of data collection and analysis to make it repeatable, rather than a one-time effort.

However, DOD did not concur with the recommendation to develop a plan as part of its 2005 budget submission process (i.e., early in 2004) to institute changes in management structure and business processes for contracting for services. Rather, DOD contends that ongoing initiatives—including follow-on sourcing projects it anticipates developing after the current spend analysis—may make such changes unnecessary. In addition, DOD answers that developing a plan and schedule for making changes in management structure and business processes before completing the current spend analysis pilot (expected by September 2004) would be premature.

As we have recognized since our first report on this matter, DOD’s size and complex service needs may lead it to pursue different approaches within the defense agencies, military departments, and individual commands. However, private sector experience suggests that DOD must follow through on its initial spend analysis pilot with organizational and process changes such as the establishment of full-time, dedicated cross-functional teams or commodity managers to improve the coordination and management of key services. The extent to which DOD makes these changes will determine its success in meeting congressional expectations for major management reform of—and substantial savings from—the procurement of services. Moreover, for DOD to change management structure and business processes for services-contracting will require sustained leadership at DOD as well as the involvement and support of Congress. Thus, for purposes of accountability and transparency in support of such involvement and leadership, DOD needs to develop a plan for timely changes necessary to implement a more strategic approach to contracting.

In response to DOD’s concern, we modified the recommendation to allow time for DOD to complete its current spend analysis pilot and use the results to develop a plan. Although we are encouraged by DOD’s commitment to undertake the pilot, we firmly believe that once the pilot is

33 GAO-02-230.
complete, DOD needs to make long-term changes to bolster the current organizational structure and processes to foster a more strategic approach to acquiring services.

The DOD comments can be found in appendix I.

**Scope and Methodology**

The Chairman and the Ranking Minority Member, Subcommittee on Readiness and Management Support, Senate Committee on Armed Services, requested that we develop a body of work that examines the practices of leading companies and identify best practices that could yield benefits to DOD in the acquisition of services. This engagement focused on (1) the best practices of leading companies as they relate to conducting and using spend analysis, and (2) the extent to which DOD can pursue similar practices.

To conduct our best practices work, we conducted literature searches, reviewed studies related to spend analysis and best practices for services contracting prepared by research and consulting organizations, attended private sector seminars and conferences, and contacted experts in purchasing practices. On the basis of these discussions and analyses, we selected five leading companies that were recognized for their strategic approach to managing services acquisitions. We provided a standard agenda to each company prior to our interviews, and conducted interviews to determine the companies’ motivation for undertaking a procurement transformation; corporate strategic goals; the organization and role of the purchasing function; the key processes used for collecting, analyzing, and using spending data—including the use of technology—to be strategic in planning and managing services acquisitions; and performance metrics and accountability.

We also asked each company to discuss in more detail a specific service buy that best exemplified the use of spend analysis for making strategic acquisition decisions. In addition, we discussed potential challenges and barriers to employing a spend analysis and subsequent strategic sourcing efforts. After our visits, we provided a summary of the information obtained to ensure that we had accurately recorded and understood the information each company provided. We provided each company a copy of our draft report for review and comment. The companies we visited were:

- Bausch & Lomb, Rochester, New York;
- ChevronTexaco Corporation, San Ramon, California;
- Dell Computer Corporation, Round Rock, Texas;
Delta Air Lines, Atlanta, Georgia; and
International Business Machines Corporation, Somers, New York.

To assess current efforts underway by DOD to improve its enterprisewide knowledge of spending on services contracts, and how DOD can better emulate the best practices learned from these leading companies, we interviewed procurement policy and management officials in the Office of the Under Secretary of Defense (Acquisition, Technology, and Logistics) and the military departments. To assess the feasibility of using internal accounts payable data similar to the data used in leading companies’ spend analysis programs, we interviewed Defense Finance and Accounting Service officials knowledgeable about DOD systems used to process invoices and pay commercial vendors for goods and services supplied to military and other DOD organizations. We also reviewed policy memorandums, guidance, and other documents pertaining to ongoing and planned initiatives that affected service contracting. We discussed with these officials our assessment of the leading companies’ approaches and obtained their views on their approaches’ similarities and differences. In addition, we discussed potential challenges and barriers to employing the best practices approaches we identified.

Our report summarizes the key elements the companies employed to conduct spend analysis as one part of their strategic sourcing initiatives—in particular as they relate to services acquisitions. We did not verify the accuracy of the procurement costs and benefits the companies reported receiving from their strategic approaches and spend analysis outcomes. Our report is not intended to describe or suggest that we evaluated or endorse all business practices of the companies. Nor is this report intended to suggest that all companies have followed exactly the same approach in achieving similar results. Also, we were limited in our ability to obtain and present some relevant data that companies considered proprietary in nature.

We conducted our review from March 2002 to May 2003 in accordance with generally accepted government auditing standards.
request. In addition, the report will be available at no charge on the GAO Web site at http://www.gao.gov.

If you have any questions about this report or need additional information, please call me at (202) 512-4841, or David Cooper at (202) 512-4125. Major contributors to this report were Lily Chin, Ralph Dawn, Carolyn Kirby, Nicole Shivers, Shannon Simpson, Cordell Smith, Bob Swierczek, Ralph White, and Dorothy Yee.

Jack L. Brock, Jr.
Managing Director
Acquisition and Sourcing Management
Appendix: Comments from the Department of Defense

OFFICE OF THE UNDER SECRETARY OF DEFENSE
3000 DEFENSE PENTAGON
WASHINGTON, DC 20301-3000

MAY 21, 2003

Mr. Jack L. Brock, Jr., Managing Director
Acquisition and Sourcing Management
United States General Accounting Office
441 G. Street N.W.
Washington, DC 20548

Dear Mr. Brock:

This memorandum is in response to your May 6, 2003, request for DoD comments to the GAO draft report, 'BEST PRACTICES: Improved Knowledge of DoD Service Contracts Could Reveal Significant Savings,' dated May 2, 2003 (GAO Code 120133/GAO-03-661).

The Department concurs with the first recommendation to perform a commercial type spend analysis but does not concur with the second recommendation to develop a plan to institute changes in the management structure and services contracting business processes. With transformation efforts underway, DoD is pursuing strategic business solutions utilizing commercial best practices wherever possible. As you cite in your report, the commercial best practice of spend analysis is important to the design of viable, strategic acquisition solutions and has allowed for substantial savings in the commercial sector. We share your optimism that this type of analysis will allow us to obtain similar results. We are committed to developing this functionality within the Department and will pursue its usefulness to the maximum extent practicable.

Thank you for giving the DoD this opportunity to comment on the draft report. My point of contact is Mr. David Boyd at (703) 697-6710 or via e-mail at david.boyd@osd.mil

Sincerely,

[Signature]
Deidre Lee
Director, Defense Procurement & Acquisition Policy

Attachment:
As stated
RECOMMENDATION 1: To achieve significant improvements across the range of services DoD purchases, the GAO recommended that the Secretary of Defense direct the Under Secretary of Defense (Acquisition, Technology and Logistics) to work with the Military Departments and other DoD organizations involved in the pilot to adopt the effective spend analysis processes employed by leading companies. Key elements of DoD’s approach should address:

1. Using technology to centrally automate the spend analysis process to make it repeatable;
2. Using accounts payable and other internal financial and procurement data to gain a comprehensive and reliable view of spending;
3. Supplementing internal data with external information such as purchase card expenditures and business intelligence to gain a more complete picture of spending and to refine analysis;
4. Reviewing purchase data for accuracy and consistency, and organizing the data by commodity and supplier categories in order to identify opportunities to leverage buying power;
5. Promoting enterprise collaboration aimed at gaining the best value which would include the establishment of cross-functional teams to continue developing strategic sourcing projects; and
6. Presenting relevant spending reports to appropriate decision makers to establish strategic savings and performance goals, assign accountability, and measure results. (pgs. 34-35/GAO Draft Report)

DOD RESPONSE: Concur in general. The Department and the Military Departments have taken a number of steps to improve the acquisition of services. We currently have a spend analysis initiative underway which will provide a foundation for future work in this area. While our initiative does not exactly mirror the methodologies followed by the commercial firms discussed in your draft report, it does contain the essential elements necessary to conduct a spend analysis replete with commercial data enhancement and the formation of commodity teams to develop acquisition strategies for pilot programs. The Joint Integrated Process Team responsible for overseeing the effort consists of members from all facets of the acquisition business process. We are contracting with a commercial firm experienced in this area to employ commercial spend
Appendix: Comments from the Department of Defense

analysis techniques. Your report recognizes our time constraints that affect the amount of data and number of projects that can be completed. The Department will utilize the results of this effort to see how best to incorporate spend analysis and strategic sourcing into our business practices. The Department does not intend the current spend analysis to be a one-time effort but intends to automate the process of data collection and analysis as much as possible to facilitate future decision-making regarding the acquisition of services.

RECOMMENDATION 2: To ensure that DoD moves forward in a timely manner on its commitment for taking a more strategic approach to the acquisition of services, the GAO recommended that the Secretary of Defense direct the Under Secretary of Defense (Acquisition, Technology and Logistics) to develop a plan and a schedule for accomplishing changes in management structure and services contracting business processes and submit those to the congressional defense committees for consultation and approval as part of the fiscal year 2005 budget submission and justification process.

(p. 35/GAO Draft Report)

DOD RESPONSE: Non-Concur. The Department does not believe that a separate acquisition business process re-engineering effort should be performed as an integral part of the spend analysis initiative. The Department is already pursuing internal changes through the President’s Management Agenda as well as other business process initiatives that we anticipate will allow us to support enhanced data collection and analysis.

As part of our current efforts to perform a spend analysis and develop Department-wide acquisition strategies for pilot programs, we will identify any deficiencies in our management structure or business processes. To develop a plan and schedule for making changes in management structure and business processes before completing our current efforts, therefore, would be premature. Further, the pilot programs may indicate that such changes are neither needed nor beneficial.

No single commercial firm compares in size or volume to the Department of Defense. Any major changes in management structure and acquisition business processes must be carefully developed, coordinated and implemented in consonance with all other business process change efforts. The Department is committed to seeking improved, more efficient methods of acquiring services and will change our acquisition business processes accordingly to support them.
The General Accounting Office, the audit, evaluation and investigative arm of Congress, exists to support Congress in meeting its constitutional responsibilities and to help improve the performance and accountability of the federal government for the American people. GAO examines the use of public funds; evaluates federal programs and policies; and provides analyses, recommendations, and other assistance to help Congress make informed oversight, policy, and funding decisions. GAO’s commitment to good government is reflected in its core values of accountability, integrity, and reliability.

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