Process-Based Financial Reporting

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The views expressed in this report are those of the author and not necessarily those of AGA.

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Abstract

- There is widely held agreement among government officials that the federal financial and performance reporting model needs to be reformed. The current model skews too much toward compliance with regulations at the expense of providing information needed for making sound business decisions. This model is not cost-effective, nor is it effective in linking cost and performance information.

- As part of reform, a 2007 Association of Government Accountants (AGA) study sponsored by Grant Thornton LLP recommends using process-based accounting to develop integrated financial and performance reports.

- Such reports are in the best interest of taxpayers. They will help show citizens that their taxes are spent properly and deliver results, will increase transparency, will highlight problems and opportunities for operations improvement, and will increase the amount of forward-looking information for government decision-making.

- Already, some federal agencies use or plan to use many of the tools they need for process-based accounting. Integrating and institutionalizing these tools through process-based accounting will create value-added financial and performance reports.

About the Study

AGA, with funding from Grant Thornton LLP, initiated this research study in 2006 to determine the applicability of process-based accounting to federal agencies. Process-based accounting was first proposed by James A. Brimson in his book *The Handbook of Process-Based Accounting: Leveraging Processes to Predict Results* (American Institute of Certified Public Accountants, 2002). The study included interviews with 28 federal CFOs and other top government executives involved in financial management. These executives gave their views on the current and potential value of financial reporting, internal controls, performance measurement and related topics. Some agencies provided financial data to use in constructing conceptual models of process-based financial statements, including the one shown in Figures 1 and 7 of this report (see pages 6 and 15).
Introduction

In the federal government, both executive and legislative branch organizations and many chief financial officers (CFOs) are calling for the reform of the existing model of financial and performance reporting. For example, in 2007:

- The federal CFO Council and the President’s Council on Integrity and Efficiency (PCIE) are working together to improve the cost-effectiveness of producing audited financial statements. According to Linda M. Combs, controller of the U.S. Office of Management and Budget (OMB), “By improving the cost-effectiveness of our current activities, we will empower our financial leaders to expand their focus beyond clean audits and material weakness resolution into other critical areas of fiscal responsibility, such as the reporting of the full costs of federal programs and activities so that federal managers have better information to make key business decisions.”

- Comptroller General of the United States David M. Walker said “… after a decade of reporting at the government-wide level, perhaps now is an appropriate time to step back and consider the need for further revisions to the current federal financial reporting model, which would affect both consolidated and agency financial functions.”

- Federal financial executives surveyed in this study said that the current model holds little value for financial and operations managers who want information for business decisions.

A movement toward financial reporting reform is also under way in the private sector. This includes studies by the AICPA and a concerted effort by industry to reduce the complexity of the Sarbanes-Oxley Act (SOX) requirements.

Reporting Skewed Toward Compliance

Under the current financial and performance reporting model, CFOs spend too much time in compliance activities and too little in helping to manage costs and performance—and the situation is getting worse. For the past half-decade, every year has added more reporting requirements to federal financial and management functions. This policy buildup limits the ability of financial managers to make government more effective. Growing pressure from financial auditors to raise the bar on material weaknesses stresses after-the-fact auditing of problems, instead of prevention.

In reality, many CFOs are now “Chief Compliance Officers” who must spend half or more of their resources to meet audit and external reporting. They have little time left to fix internal problems. It is hard to justify such resource distribution, according to most CFOs interviewed for this study. While they think the process of developing reports under the current model has improved stewardship, these CFOs are not sure that the results are worth the cost. What happens when the overstretched band binding together financial and performance activities finally bursts? One near-future possibility is the implosion of the federal financial function, resulting in a surge of disclaimer opinions on annual financial statement reports.

Further, federal financial reports lack the transparency needed to make them valuable for citizen-centric oversight and management decision-making. Information that is opaque to the user, no matter its accuracy or documentation, has little value. Finally, a common theme of this study is that the reports have not driven the integration of cost and nonfinancial performance data, a government goal since the 1990s.

Change is Starting

An important goal of reform should be a sea change from overemphasizing compliance to a proper balancing of stewardship, transparency and management decision making. Fortunately, this transformation is already well under way in government, such as through legislation like the Federal Funding Accountability and Transparency Act of 2006 (FFATA). The changes will help reduce the work of financial and performance reporting while making the reports and internal systems more valuable to all agency managers, to external stakeholders and to taxpayers. This change has already started in the private sector with SOX.

Another hopeful move toward change is the effort to develop a common accounting code across government. Such standardization helps increase transparency, data sharing and cross-comparability among agencies. Also, industry and some federal entities are adopting XML/XBRL technology that enables greater data flexibility, accuracy and security while reducing data collection and manipulation cost.

Many Process-Based Accounting Tools Already in Place

Reform is more than the work of a day, but process-based accounting can help speed progress. One reason is that implementing process-based accounting requires many of the same tools, concepts and activities as reform. For example, 90 percent of respondents to the survey conducted for this study said their federal entity uses business process engineering, which makes heavy use of process mapping. More than two-thirds were using or planned to use activity-based costing, and 40 percent use statistical process control. Organizations that apply any two of these three tools are well on their way to process-based accounting, which in turn will speed reform.

Common sense, an emulation of the commercial sector and a mass of complaints from federal entities are prompting a rethink of how to shift emphasis from compliance to how financial managers can better support achieving agency performance goals. Both financial and program decision-makers are searching for better and innovative tools for measuring stewardship, cost and performance.

Recommendations

Based on the research, this study proposes that using process-based accounting and management will add value to program and financial performance reporting while integrating various reporting requirements currently required for federal entities. Further, integrating process-based financial data with process and reporting controls (as part of complying with OMB Circular A-123, Management’s
Responsibility for Internal Control improves the integrity, reliability and utility of program and financial data.

- **Process-based accounting** is a multidimensional accounting approach that arrays existing financial data into a process view. Processes are how work gets done in an entity. Process-based accounting aligns financial reporting with an entity’s business operations or processes, outputs and outcomes. This form of accounting and reporting enables the easy rollup of financial data from lower to higher levels of processes and, vice versa, facilitates钻 drilling down into operations to search for root causes and problem resolution. Most federal entities today practice some form of process-based management for program delivery. Thus, adding a process focus to financial reporting only enhances this overall process management approach. As described in this research study, the use of process-based accounting greatly improves an entity’s compliance with the requirements of the Statement of Federal Financial Accounting Standards Number 4, *Managerial Cost Accounting Concepts and Standards for the Federal Government*.

- **Process and reporting controls** are a means of improving performance. Here, the control objective is to minimize variation and achieve the intended output of a process. To do this, controls of critical process variables are routinely and continuously monitored to identify decaying performance or out-of-control situations. These controls give policymakers, executives and line supervisors alike the reliable and predictive feedback they need for decision-making. In 2004, OMB reformed Circular A-123 to include specific elements of financial reporting in Appendix A, while the process and program efficiency controls remained in Section 2 of Circular A-123. Process-based financial reports are the first attempt to integrate Circular A-123 with program and financial data.

A **process-based financial statement** should be added to the set of annual financial statement reports now required of federal entities by the Chief Financial Officers Act of 1990 (CFO Act). This statement would integrate cost, performance measurement and financial reliability analysis into a single report. Initially, it would be ad hoc and unaudited.

The report would help meet objectives for operating performance, systems and controls of federal financial reporting. These objectives call for determining the costs and accomplishments of programs and for information about the adequacy of controls over financial and nonfinancial performance data.

Figure 1 shows this type of statement (abbreviated), which includes key controls from an entity’s Circular A-123 approach along with financial performance information (see Figure 7 on page 15 for a more detailed example.) Most of the data needed to populate the various columns and fields of these statements is already available in an agency’s information systems.

In this example, the columns are:

---

### Figure 1: Sample Process-Based Financial Statement for Installation Services

<table>
<thead>
<tr>
<th>Process Based Statement Installation Services</th>
<th>Cost ($M)</th>
<th>Units</th>
<th>Unit Description</th>
<th>Unit Cost</th>
<th>Performance Measure</th>
<th>Value</th>
<th>Variation</th>
<th>Internal Control Variation (Actual)</th>
<th>Internal Control Variation (Best Practice)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OPERATING FORCES SUPPORT</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air Operations</td>
<td>$14.0</td>
<td>30</td>
<td>station aircraft</td>
<td>$0.5M</td>
<td>mission hours lost per aircraft</td>
<td>120</td>
<td>63%</td>
<td>90%</td>
<td>93%</td>
</tr>
<tr>
<td>Port Operations</td>
<td>$5.5</td>
<td>3,000</td>
<td>ship-days</td>
<td>$1,833</td>
<td>steaming mission hours lost per ship</td>
<td>80</td>
<td>70%</td>
<td>92%</td>
<td>95%</td>
</tr>
<tr>
<td>Operations Support</td>
<td>$3.5</td>
<td>300</td>
<td>commands serviced</td>
<td>$11,666</td>
<td>total mission hours lost per command</td>
<td>100</td>
<td>65%</td>
<td>78%</td>
<td>85%</td>
</tr>
<tr>
<td>Total Operating Forces Support</td>
<td>$23.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>COMMUNITY SUPPORT</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personnel Support</td>
<td>$5.7</td>
<td>7,000</td>
<td>base population</td>
<td>$814</td>
<td>complaints per 1,000 personnel</td>
<td>50</td>
<td>70%</td>
<td>85%</td>
<td>67%</td>
</tr>
<tr>
<td>Housing</td>
<td>$5.0</td>
<td>500</td>
<td>housing &amp; BOQ units</td>
<td>$10,000</td>
<td>% utilized</td>
<td>94%</td>
<td>42%</td>
<td>90%</td>
<td>75%</td>
</tr>
<tr>
<td>Total Community Support</td>
<td>$10.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>BASE SUPPORT</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Facility Support</td>
<td>$7.1</td>
<td>2.0M</td>
<td>square foot</td>
<td>$4</td>
<td>utilization %</td>
<td>90%</td>
<td>66%</td>
<td>80%</td>
<td>80%</td>
</tr>
<tr>
<td>Environmental</td>
<td>$0.3</td>
<td>5</td>
<td>incidents handled</td>
<td>$50,000</td>
<td>environmental liability</td>
<td>$1.5M</td>
<td>80%</td>
<td>95%</td>
<td>95%</td>
</tr>
<tr>
<td>Public Safety</td>
<td>$4.0</td>
<td>2.0M</td>
<td>square foot</td>
<td>$2</td>
<td>critical incidents</td>
<td>175</td>
<td>70%</td>
<td>85%</td>
<td>85%</td>
</tr>
<tr>
<td>Command &amp; Staff</td>
<td>$6.0</td>
<td>3,000</td>
<td>military population</td>
<td>$2,000</td>
<td># of audit exceptions</td>
<td>37</td>
<td>80%</td>
<td>85%</td>
<td>88%</td>
</tr>
<tr>
<td>Total Base Support</td>
<td>$17.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grand Total</td>
<td>$51.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1. **Process.** Processes are how an entity does its work.
2. **Costs.** These are the costs incurred to date by process.
3. **Number of units.** A process output measure.
4. **Unit description.** The nature of the unit.
5. **Unit cost.** The cost to complete one unit of output.
6. **Performance measure(s).** These are nonfinancial measures of performance toward achieving outcomes.
7. **Performance value.** The numeric value of the performance measure.
8. **Performance variation.** The deviation in process outputs over time.
9. **Internal controls variation.** A measure of the effectiveness of process controls.
10. **Internal controls best practice.** The best level of effectiveness known for a particular process control.

A process-based financial statement provides predictive (forward-looking) management information that can be used to support future years’ performance-based budgets while also enhancing confidence about process control effectiveness.

- **XML/XBRL.** Many respondents to this study’s survey said the use of process-based financial information arrayed with program information would add value to the current system that presents summarized historical data. However, the technology needed is available today through XML (eXtensible Markup Language), a flexible way to create and share common information formats and data on the web, intranets and elsewhere. XBRL (eXtensible Business Reporting Language) is an XML-based specification for publishing financial information and gives every individual transaction its own permanent “DNA”-like tag that enables later analysis and multidimensional arraying of data. Data with XBRL tags need be assigned only once to be available for financial, process and cost accounting applications, singly or in concert.

**Next Steps**

More research is needed to develop process taxonomies for XML/XBRL (the initiative to develop a federal standard accounting code is a move in that direction). Also, the government needs to expand the conceptual foundation of multidimensional accounting (and the resulting process-based financial statements) and work with agencies to determine where and how this new reporting can add value to program delivery. Fortunately, there is a critical mass of leaders in the federal government who have experience with, and the desire to apply, the right tools for this research.

**Methodology**

Twenty-eight CFOs and other managers at federal entities and oversight groups were interviewed to learn their thoughts concerning current financial reports and systems. They were asked about the degree to which financial reports and systems add value to managing these entities and what were the information needs of program and financial managers. Using sample financial data supplied by cooperating federal entities, research leader James A. Brimson created conceptual models of federal process-based financial statements similar to those described in his Handbook of Process-Based Accounting.

Next, Brimson used the conceptual model as a template to create a proof of concept for multidimensional accounting as a cornerstone of federal accounting simplification and reform. The study explored key areas of accounting and reporting—reform such as transparency; the role of XML/XBRL; and integrating cost, performance and process controls, and reporting information.

During the study, government officials shared with us their frank and honest opinions of the issues explored in return for anonymity. AGA appreciates their candor and support for this endeavor.

**Background**

Transparency in government means that public servants are accountable for communicating accurate and timely information about the cost and performance of public services in ways that are open, meaningful and understandable. Nearly all federal financial management information is relatively accurate and open. However, is it meaningful and understandable to the public? The answer is probably “No,” as we show below—and “No” not just to John Q. Public, but also to Congress, oversight groups, and entity executives and managers. While anyone can obtain almost any federal financial management statement, few understand them and fewer still can effectively use the information. In this sense, the statements fail to do all they should for government transparency.

The premier financial report of the federal government is the set of financial statements prepared annually to comply with requirements of the Chief Financial Officers Act of 1990 (CFO Act). They include separate Statements of Financial Position (balance sheet), Net Cost, Changes in Net Position, Budgetary Resources and Financing. The annual financial report includes the statements plus an independent auditor’s opinion on the reliability of the processes used to develop the information the statements present. Federal entities and oversight groups spend hundreds of millions of dollars assembling and auditing the statements, but what do they—and by extension, the public—get in return?

The return is mixed, according to this study’s interviews with 28 government executives (25 federal CFOs, deputy CFOs, and other ranking program and financial executives plus three oversight group executives). Almost all agreed that the discipline of the process of preparing annual financial reports adds value. They said that the process adds rigor and reliability to federal financial data because the statements are audited and agencies pay more attention to internal controls over financial information. As one oversight entity said, “The financial statements are the foundation of financial management. If the information in the financial statements is flawed, then the rest of the financial management decision-making process is flawed.”
Yet, when asked about the value of the data to making business and program decisions, survey respondents gave the reports a 2.8 average score on a scale of 1 to 7—hardly a healthy return on investment (see Figure 2).

One federal CFO interviewed summarized the utility of the annual financial reports as follows: “Financial statements are an historical perspective of how public funds were spent. While important, this form of ‘look-back’ reporting has limited use in forward decision-making. Also, financial statement information is displayed for accounting purposes, but its value to program managers is not readily evident.”

Several interviewees said that annual financial statements were never intended to be used for making business, program or budget decisions. If that is true, why do oversight organizations give them such high priority, and why do departments and agencies spend so much time and money preparing them? This is especially true considering the challenges that interviewees said they face for improved financial reporting. We asked the interviewees to rank their challenges on a scale of 1 (insignificant) to 7 (extremely significant). Figure 3 shows the results of this question:

If CFOs feel challenged by all the factors listed in Figure 3, then it is very likely that they think the current bundle of financial management reporting is not working. Central agencies that promulgate rules and regulations concerning financial reporting have started to think so, too. According to one central agency executive, a cause of the problem is the failure to consider whether the cost of compliance is justified by the benefits it delivers. For example, if doing steps one through three in a compliance process generate enough information to prevent the vast majority of fraud, waste and abuse, then why go through the expense of steps four through seven for the small marginal benefit they deliver? Dollars chasing pennies is not sound stewardship.

Given the results of this and earlier studies by AGA and Grant Thornton, we conclude that any call for more rigor in the current audit-oriented model of federal financial reporting system may be misguided. Instead, a major overhaul of the entire package of federal financial and performance reporting requirements is needed. The root cause of the problem is the lack of a comprehensive framework that enables senior management to focus on the important activities that will lead to better outcome achievement.

Also needed is information that reveals to taxpayers, Congress and other stakeholders the link between cost and performance, instead of simply confirming compliance with accounting rules. The framework this study proposes is multidimensional financial management, which is enabled by process-based accounting.

### Multidimensional Financial Management

Today's financial reporting is single-dimensional. In a single-dimensional reporting system, an accounting regulator creates a set of consistent principles for how the financial effects of transactions and events are to be measured, recorded and reported. The Federal Accounting Standards Advisory Board (FASAB) develops generally accepted accounting principles for federal government entities. The Governmental Accounting Standards Board (GASB) does the same for state and local governments. The resulting universal principles make it easier to compare and understand a financial report and limit an entity’s ability to manipulate reporting.

However, such single-dimensional reporting is often insufficient. Entities must disaggregate data in various ways to view costs from assorted perspectives, especially where

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**Figure 2: How valuable are your entity's financial statements for decision making?**

- **Not Valuable**
- **1**
- **2**
- **3**
- **4**
- **5**
- **6**
- **7**
- **Extremely Valuable**

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**Figure 3: Federal CFOs' View of Challenges to Financial Reporting**

**Question:** What are the most significant challenges facing financial reporting in your entity?

1 = insignificant challenge; 7 = extremely significant challenge

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Average Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transparency</td>
<td>5</td>
</tr>
<tr>
<td>Internal controls</td>
<td>5</td>
</tr>
<tr>
<td>Performance information</td>
<td>5</td>
</tr>
<tr>
<td>Forward-looking information</td>
<td>5</td>
</tr>
<tr>
<td>Ability to understand</td>
<td>5</td>
</tr>
<tr>
<td>Use by internal stakeholders</td>
<td>5</td>
</tr>
<tr>
<td>Use by external stakeholders</td>
<td>5</td>
</tr>
<tr>
<td>Data integrity and maintenance</td>
<td>5</td>
</tr>
<tr>
<td>Integration of budgeting and accounting</td>
<td>5</td>
</tr>
<tr>
<td>Changes in regulation</td>
<td>4</td>
</tr>
<tr>
<td>Integration of funds control/obligations</td>
<td>4</td>
</tr>
<tr>
<td>Adequate financial system(s)</td>
<td>4</td>
</tr>
<tr>
<td>Adequate performance system(s)</td>
<td>4</td>
</tr>
<tr>
<td>Ability to produce Performance and Accountability Report (PAR)/financial reports</td>
<td>3</td>
</tr>
</tbody>
</table>
there are pronounced differences among missions. A single set of principles must be flexible enough to accommodate these differences, though such adaptability gives reporting entities the ability to manipulate reporting to their advantage. Private industry’s practice of “income smoothing” is a good example of such manipulating.

Single-dimensional accounting’s most glaring problem is that one view is insufficient for financial statement users to analyze performance. This is especially true in government because the “bottom line” is expressed in how many and how well program services were delivered. The solution is multidimensional reporting that presents several contrasting views of an entity’s performance. Each view is a valuable insight into the “whys” of reported performance. None of the dimensions is necessarily more important than any of the others, but instead each simply provides different insights. Figure 4 shows the concept of multidimensional financial reporting as a way of obtaining one or more views of the same information: process, financial, organizational performance and compliance.

Multidimensional reporting solves two problems: First, presenting all pertinent financial data related to a complex government entity in one report is unrealistic, which is why agencies are using more financial statement notes. Second, a statement that included all important financial aspects in one financial view would be difficult to understand. The Statement of Net Costs acknowledges this challenge because it requires entities to array cost data by responsibility segment and program; however, we must now take further steps toward multidimensional accounting.

Fortunately, the current understanding can be enhanced through a series of views that present different aspects of an entity’s financial status. This is what multidimensional reporting does very well, as shown in Figure 5 on page 10.

**Figure 4: Multidimensional Accounting**

- **Process Based Accounting**
- **Budgetary Accounting**
- **Proprietary Accounting**

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**Separating Source-Data from Data Assumptions**

For government agencies, collecting data is no problem, and most have lots of it. The challenge is how to manipulate the data to create meaningful insights into performance. In multidimensional reporting, the basic solution is to separate source data from data manipulation. Source data should include only the intrinsic facts, while arraying the data in meaningful ways falls within the reporting regulations. For example, in buying an asset, the intrinsic source data includes the asset type, purchase price and date acquired. However, the asset’s estimated life is assumed, and such assumptions are to be governed by reporting regulations.

Source data rules focus on accuracy and should be based on international standards. Source data must be safeguarded to preserve its accuracy and completeness, so its rules must prevent someone from manipulating the data after it enters computer systems. Indeed, data extraction and edit rules must be integral to computer applications. (Later in this report, we discuss the use of XML/XBRL technology in the handling of source data.)

A different set of rules governs financial reporting, so that each reporting dimension or view has its own set of data manipulation and reporting standards. However, all views derive from a common set of source data, so that the cost from any reporting dimension automatically reconciles with that of the others.

**Multidimensional Financial Management and Performance**

Most executives interviewed for this study said their entities integrate performance and financial information manually or with separate applications (such as activity-based costing, other cost accounting tools or data warehouses). A few entities have integrated performance information within their accounting structure, mostly in reimbursable or fee-based entities. They present this information in the Performance and Accountability Report (PAR). Figure 3 shows that most of those interviewed said that performance measurement information was a challenge for them. When executives refer to integration, they mean automatically transferring data among applications or reporting data from different sources in a common report.

Multidimensional financial management looks at cost and performance integration from a different perspective to understand what influences cost and performance and how these two factors relate. This understanding leads to predicting cost and performance, instead of just reporting past performance.

Having only a single view—financial accounting—is not robust enough for decision-making. In addition, said some survey participants, cost and performance information in their entities tends to be at too high a level to be useful to program or operational managers. Instead, these managers create their own functional management tools to look at performance that, while useful to a few users for one or a few processes, are not integrated with other related financial information. Such isolation of these tools prevents the
synergy sorely needed for sound financial and program management.

Synergy would create greater transparency to aid in federal financial management, as can be seen by the list below of the users of financial and accounting information and the uses to which they apply it:

Users of accounting and financial information
- Accountants: Auditing
- Auditors: Benchmarking
- Congress: Budget decisions
- Executives: Cost management
- Line supervisors: Evaluation
- Media: Operations decision-making
- Oversight groups: Program improvement
- Program managers: Resource strategy
- Public interest groups: Stewardship

A process-based financial statement and process-based accounting can link cost with operational performance for both outside and in-house users and at all levels of management. This will help to satisfy the requirements of the Government Performance Results Act of 1993 (GPRA) by providing accurate and useful information for multiyear strategic plans and annual performance plans and reports. They will help meet requirements of the U.S. Office of Management and Budget (OMB) Circular A-130, Management of Federal Information Resources, for entity performance measures and management processes that monitor actual performance against expected results.

**Process-based financial reporting** is the logical next step in establishing a multidimensional reporting system. Such reporting is a product of process-based accounting. Processes are how work gets done in an entity, so process-based accounting and financial management align with an entity’s operations, outputs and outcomes. This form of accounting enables the easy rollup of financial data from lower to higher (macro) levels of processes and cost objects and, vice versa, facilitates drilling down into operations to search for root causes of problems.

The vision for such a system is as follows:

**Vision for multidimensional financial management**
- Different user groups (executives, managers, oversight groups) will be able to quickly obtain the information they need for decisions without laborious special studies or data calls.
- Executives can deploy resourcing strategy through macro process outcome targets.
- Program or operational managers can improve processes to enhance performance.
- Budgets can be based on process workload and improved process performance.
- XML/XBRL technology will automatically gather base performance data.
- Statistical analysis will monitor process variation to further guide process improvement efforts.
- The audit will be transformed from after-the-fact inspection to real-time validation and process controls.
- Financial statements will monitor process cost and performance for senior management, OMB, Congress and other interested parties.
- The financial management process will be a seamless stream of interrelated activities with each process feeding back to previous processes and feeding forward to yet-to-be-executed processes.

Achieving the vision will require visionary leaders, people who can think outside the box and overcome obstacles. Their new way of thinking will change how entity executives manage financial processes, information systems gather and process data, auditors audit, oversight groups scrutinize performance, OMB provides guidance, FASAB sets accounting standards and Congress allocates funding. Yet the rewards are enormous: more effective and efficient government services, more resources flowing to value-adding activities, less crisis management, more fulfilling work and better communication with the taxpayer.
Process-Based Accounting

Most government entities have long recognized the importance of managing their processes and activities. For example, of 18 entity financial executives in our survey, 16 said that their entities do process or workflow mapping, an important component of process-based accounting. The motivation for the majority of these mapping projects was to improve performance, internal control or reliability of results or to implement computer systems. Methods like Six Sigma, activity-based costing and management, and reengineering rely on process mapping as an important first step.

Unfortunately, when asked how their entities actually used process mapping, only eight of the 18 financial executives could provide definitive answers. This is in line with our own experience working in and for entities. Although federal entities benefit from short-term returns of process mapping projects, few take the critical next step of making process management a routine part of their regular management approach. If they did so, process-based accounting would be a natural addition to their management toolbox. However, the elements of process-based accounting already exist, and this research study concluded it is the integration of the various pieces that is the missing link.

Process Views

Process-based accounting is based on a multidimensional accounting technique that transforms existing data into a process format. Process-based financial statements integrate cost, performance measurement and financial reliability analysis into a single report. More important, the three performance components are related to the specific process that generated performance. This relationship is an important point. Some people naively think that adding performance measures to a financial statement will resolve the disconnection problem between cost and performance. Their suggested way of doing this is to add performance measures to the financial statement notes. On the contrary, merely adding disparate performance measures does not enable a financial statement user to evaluate whether an entity is likely to sustain its current level of cost and performance.

A process view of cost is an essential adjunct to the traditional organization structure, which equates management and accountability with a vertical manager/subordinate responsibility structure. Traditional accounting systems mirror this hierarchical structure and are very good at reporting the resources going into departments, agencies, offices and so on down the organizational chart. Further, the traditional accounting process follows the transaction processing flow. For example, labor accounting transactions are recorded when employees are paid; however, the payroll cycle is disconnected from the entities’ actual workflows. Such accounting accurately portrays actual salary and wages cost, but cannot link it to work that generated a need for paying employees, except through a separate data collection step. Such extra steps are wasteful and prone to errors.

Process accounting links salary and wages to work flow and economic value. Employee cost is a resource consumed as part of a work process. Intrinsic characteristics of the employee cost influence the total salary and wages cost. These include what the entity pays a person with a certain experience and training, the amount of worker time needed by a process to complete a unit of output, and how much workload was completed during the reporting period. Such information gives a financial statement or report user a better understanding of the economic value of an entity’s salary and wages cost.

XML, discussed later in this report, is the key to effectively associating worker time and resources to processes. The traditional off-the-shelf computer systems in use today rely on cumbersome and inaccurate time-reporting systems to calculate process cost. In the future, XML will capture resource and output base data as a by-product of entering data into computer applications. A multidimensional accounting system will use taxonomies with quantitative rules to associate resources to outputs to calculate process cost and performance.

In summary, traditional income statement reporting accurately reports total labor cost. A process-based statement helps understand what work created the need to pay an employee. Neither dimension of cost is better than the other, but each provides a different view that is informative to the statement user. It is easier to understand why an entity incurred salary and wage cost when the cost flow is linked to the work people do.

Forward-Looking Information

As shown in Figure 3, survey respondents rated the challenge of finding forward-looking information with a score of 5 on a 1-to-7 scale of difficulty. Process-based accounting can project future financial and performance results. It is more predictive because much of the operational data used by processes is already closely tracked and monitored by nonaccounting systems. Output (workload) data provided by the operational systems is merged with financial data. In most entities, workload is relatively predictable in the short term: work backlog is known and demand patterns understood. By linking resource consumption to upcoming workload, future short-term financial performance can be projected.

Standardization

Standard processes and accounting codes—department chiefs want them for their component agencies, and the Administration wants them for all federal entities. Having standard processes for functions like purchasing, property maintenance, accounting and human resources would make it possible to reduce information technology costs and compare performance among different entities. Standard processes would facilitate the development of a standard accounting code, making it easier to understand the operation of the entire government.

Process-based accounting and its components (such as process mapping) and cousins (activity-based costing and management) quite naturally lead to the discovery that
some processes are basically the same across most entities. These might include processes for purchasing, payroll, travel, asset management and a host of others. If agencies have similar processes, to what degree does performance vary from entity to entity because of differences in structure versus efficiency? Below the entity level, it is possible to make such comparisons at the office or program level, providing an indication of management effectiveness.

Process-Based Performance Measures

Process-based financial statements provide a common framework for assimilating cost and performance into a seamless reporting structure. Process-based accounting is a starting point for isolating, curing and monitoring process problems.

Survey respondents rated obtaining performance information as a 5 on a difficulty scale of 1 to 7 (as shown in Figure 2). They face a major problem in linking cost to performance, which is what a Process-Based Financial Statement does quite well. Both cost and performance are quantitative measures of an entity’s results. Cost measures the amount of resources an entity consumes. Performance measures assess how well an entity completes its mission. Both measure the same entity during a period of time.

Unfortunately, in government the two types of measure are managed and reported independently of each other. The reason is that cost and performance are computed using entirely different systems. Cost is derived from financial transactions that measure resource consumption. Performance measures are a loose collection of statistics considered meaningful by management that are collected from operational systems. These measures have been subjectively developed from experience and shared knowledge.

There is no universally agreed upon standard of what should be included or excluded in the calculation of performance. As such, there are many variations from entity to entity—and even among groups within the same entity—of these commonly used performance metrics. Because there is no common foundation for creating them, the selected measures are a mixture of some that directly measure performance and others that measure the cause of performance problems.

A Common Framework for Cost and Performance

As noted at the start of this section, process-based financial statements are a framework for integrating cost and performance information into a holistic reporting structure. This framework helps to understand intrinsic process attributes as a basis for creating performance measures. Intrinsic properties are the basic indisputable facts that are independent of assumptions. An extrinsic property is its assumptions or its relationships with other things. Extrinsic properties give context to data, including the surrounding circumstances, conditions or events that influence its reported value.

Intrinsic process attributes universally apply to all levels of a process, from a cross-entity macro process to its sub-processes. Understanding a process’s intrinsic attributes will enable the government to create a standard set of process measures that can be used to assess performance across all entities. Process measures are most beneficial when limited and standardized across government entities to facilitate monitoring and management. Measuring and monitoring performance—and its variance—is a fundamental prerequisite for identifying efficiencies and best practices and spreading them throughout the government.

Performance Measures: Basic Categories

There are three interdependent categories of process performance: cost, quality and cycle time.

- **Cost** is the amount paid for resources, in terms of money, including people, materials, etc., that was consumed by the process during the analysis period. An example is the cost of immigration screening for arriving passengers at airports.
- **Quality** is the measure of how well the process accomplishes its milestones. There are two types of accomplishment: outputs and outcomes. Outputs relate to the quantity of goods or services produced, and outcomes relate to the results of those outputs. Quality measures the degree to which outputs and outcomes conform to their targets.
- **Cycle time** measures provide information about the total process cycle time and the time to complete one unit of output.

Any process change or significant changes in external factors will potentially impact all three attributes. Process-based financial reports assess all three attributes for all macro processes and subprocesses during the reporting period. The information enables financial statement users to simultaneously assess all three attributes of performance.

**Process performance measures** ascertain cost, cycle time, conformance to targets, quantity and quality performance. The process-based financial statement incorporates several intrinsic process performance measures:

- **Workload measures** indicate the number of process executions required, and thus the necessary staffing and capacity levels.
- **Unit cost** is the amount of resources consumed by a process to produce a unit of output. This measures overall process productivity. Productivity determines how much output can be produced in a specified period of time. It is related to the concept of efficiency, which is the amount of output produced relative to the amount of resources (time and money) that go into the production. All else constant, it benefits an entity to improve productivity, which over time lowers cost and improves ability to meet its targeted outcome.
- **Process throughput** (or process velocity) is the number of units completed in a particular period.
- **Queue time** is the period of time between the moment at which one is ready for an activity to start and the moment at which this activity actually begins. Other
related measures include average wait time and average peak wait time, which are important for evaluating capacity, use and service levels.

Process variation is a statistical measure of the deviation from the norm of process performance. All processes vary, and the amount of variation affects process efficiency and effectiveness. On average, a stable process has minimal variation, producing the same result at the same cost during the same cycle time. Process variation is influenced by many factors, referred to as “cost and performance drivers.” Improved performance comes from improving by adjusting to the drivers that cause process variation. Thus, process measures are improved by making changes to the process that minimize variation and the adverse effect of cost and performance drivers.

A quality measure assesses the number of times a process fails to meet its output specifications. Any process change should not be made if it adversely impacts the quality.

Process loss measures the number of inspections that do not detect a quality problem.

Measures that relate cost to performance provide information about the production of an output at a given level of resource use and demonstrate an entity’s capability when compared with previous results, internally established goals and objectives, generally accepted norms or standards, or results achieved by similar entities.

Each type of measure shown above can be generated as part of process-based accounting. Each can be displayed in a process-based financial statement or be used in a GPRA annual report, a PAR and several other mandated reports.

Internal Controls

A process-based financial statement will enable a financial statement user to evaluate the reasonableness and sustainability of reported cost and performance. Uniting internal controls and process-based accounting is a powerful way of helping managers find the root causes of problems that cause material weaknesses. Once stabilized, process performance maintained and improved through appropriate process-based internal controls will help minimize process variation.

In the survey, respondents gave internal control a score of 5 on the 1-to-7-point challenge scale. Internal control has been a priority in the federal financial community since the December 2004 changes to OMB Circular A-123, Management’s Responsibility for Internal Control. Specifically, OMB added Appendix A for financial reporting controls, while Section 2 of A-123 has remained steadfast on process efficiency and effectiveness controls. One respondent to the research survey said, “Financial report preparers and feeders of financial information seem now to understand better the importance of maintaining and entering into the system complete, accurate, timely and supported information.” Another said, “A-123 has been effective in going across entities to component heads to communicate that they have financial management responsibility and not simply programmatic responsibility.”

Other respondents indicate that outside users of financial statements are beginning to pay more attention to controls weaknesses described in auditors’ opinions. Assessing financial statements’ reasonableness has always been in the purview of the audit function. Internal auditors (inspectors general), external auditors and GAO periodically examine and verify entities’ financial and accounting records and supporting documents to assess their reasonableness. In our opinion, such “after-the-fact” audits are inadequate for evaluating the sustainability of cost and performance.

Controls and Process Variation

In the government, unstable processes are the greatest cause of inaccurate or misleading reported performance. An unstable process will cause widely varying results and inaccurate data that cannot be relied upon. To be accurate, the data that underpins financial reporting must provide a factual representation of a government entity’s events. If the actual financial results fail to be recorded or if recorded results do not represent normal performance, then financial statements have little value to their users.

Integrated financial systems and XML/XBRL are critical to minimizing data variation resulting from errors or fraud. Integrated systems enable data to be entered one time only, which decreases errors. As discussed in the next section of this report, XBRL tags transactions as they are entered into a ledger system and then safeguards the tagged data.

Most data failures are caused by process variation. A process that has significant variation gives unpredictable results, so that any financial representation of process performance will be inaccurate. Unstable or highly varying processes also tend to have a larger number of data-recording errors because it is difficult to maintain accurate records of a volatile process. Instability typically extends to record keeping.

Process and Reporting Controls

Process and reporting controls are a means of minimizing variation and keeping processes within specified boundaries of accuracy. They are at the heart of OMB Circular A-123’s Section 2 and Appendix A. Process controls are established in computer systems to routinely and continuously monitor the variables of a process so that out-of-control situations are discovered quickly. The critical variables generate statistical process control (SPC) charts that highlight process problems and show how the process is performing.

SPC is founded on the concept that errors are most effectively detected by checking for outliers. An outlier is a data value that is “far away” from the normal data results. Financial reports that are derived from data that include outliers can be misleading when the outlier is significant. Some financial results will be further away from their expected values than what is deemed reasonable. This outlier result can indicate faulty data, erroneous procedures or areas where certain destabilizing events have occurred. A financial report that recognizes and compensates for outliers is said to be “robust.”
Adopting process-based accounting will immediately open the possibilities of new and powerful control tools such as SPC. The fact that SPC and its related statistical methods are not unfamiliar to financial analysts and auditors and are also used by program managers to improve processes will help to facilitate the adoption of a new family of internal control methods.

XML/XBRL

XML (eXtensible Markup Language) is a technology that extracts critical information from computer transactions and creates tags that store a transaction’s “DNA” for later analysis and reporting. The power of XML lies in its simplicity. XML is completely invisible to the user, who simply enters work into a computer application as always. XML tests for data integrity (which is why it is sometimes called an “auditor in a box”) and, once a transaction is accepted, automatically extracts the critical information for later use. XBRL (eXtensible Business Reporting Language) is a subset of XML that applies to financial transactions.

Agencies can start now to prepare for the power of XML/XBRL. They can use their collective power as buyers to influence commercial off-the-shelf (COTS) vendors to start installing XML features in new releases and upgrades, using agency-developed taxonomies. The standard accounting code initiative now under way within the federal government would provide a government-wide taxonomy. In the interim, agencies can use stand-alone markup translators to tag data.

Survey respondents gave a rating of 5 on the challenge scale of 1 to 7 to both data integrity and maintenance. Said one, “It may not be visible to the user, but a lot of time and energy is expended to derive data and put everything together. There are many workarounds needed to do this.”

Data integrity problems are particularly acute in integrating budgeting and accounting, according to another respondent, which rated a score of 5 in difficulty. XML/XBRL offers a way to improve data integrity while making it easy to integrate cost and performance information.

Computer applications since their inception have incorporated edits and extracted information from transactions. What makes XML/XBRL revolutionary is its “tags,” which are based on international standards that are independent of the using entity and the source computer application. This independence is important because it enhances data accuracy and reduces the possibility of fraud. XML/XBRL tag safeguards ensure that users are less likely to manipulate data for financial reporting. As an example of minimizing data manipulation, the information in the tags can be tested for reasonableness by relating it to other data, past history and benchmark standards. The edits are even more comprehensive than those done during the annual audit, and 100 percent of the transactions are tested. Indeed, using XML/XBRL is like having an auditor inside your computer testing every transaction.

As shown in Figure 6, XML/XBRL tagging simplifies creating multidimensional data views. The tags enable business performance information to be built up and arrayed in multiple formats facilitating new insights. In this way, XML/XBRL enables entities to eliminate the distinction between management accounting and financial reporting—all will use the same data source. Data that would have to be manually collected in today’s accounting systems can be automatically extracted from XBRL and XML tags, removing the biggest roadblock to multidimensional accounting.

Federal Progress with XML/XBRL

Federal regulators, including the Securities and Exchange Commission and the Federal Deposit Insurance Corporation, already use XBRL to collect and report filings from the companies and financial institutions they oversee. The National Park Service, the U.S. Department of Housing and Urban Development, the Census Bureau and the U.S. Department of the Treasury have been pilot-testing XML applications in different areas. Agencies report that the benefits of XML include reduced staff time for preparing reports and better, more reliable data. It is too early for results of the Treasury project, but we note that among its objectives is to replace existing quarterly variance analysis of five financial reports from 26 agencies with a new reporting mechanism based on XBRL.

AGA is launching a research project directly related to how XBRL can add value to federal financial reporting, with
<table>
<thead>
<tr>
<th>Process Based Statement</th>
<th>Cost ($M)</th>
<th>Units</th>
<th>Unit Description</th>
<th>Unit Cost</th>
<th>Performance Measure</th>
<th>Value</th>
<th>Variation</th>
<th>Internal Control Variation</th>
<th>Best Practice</th>
</tr>
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<tbody>
<tr>
<td><strong>OPERATING FORCES SUPPORT</strong></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<td>Air Operations</td>
<td>$14.0</td>
<td>30</td>
<td>station aircraft</td>
<td>$0.5M</td>
<td>mission hours lost per aircraft</td>
<td>120</td>
<td>63%</td>
<td>90%</td>
<td>93%</td>
</tr>
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<td>• Airfield Operations</td>
<td>$9.0</td>
<td>30</td>
<td>station aircraft</td>
<td>0.3M</td>
<td></td>
<td>120</td>
<td>66%</td>
<td>93%</td>
<td>95%</td>
</tr>
<tr>
<td>• Aviation Support</td>
<td>$5.0</td>
<td>30</td>
<td>station aircraft</td>
<td>0.2M</td>
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<td>120</td>
<td>60%</td>
<td>88%</td>
<td>90%</td>
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<td>Port Operations</td>
<td>$5.5</td>
<td>3,000</td>
<td>ship-days</td>
<td>$1,833</td>
<td>steaming mission hours lost per ship</td>
<td>80</td>
<td>70%</td>
<td>92%</td>
<td>95%</td>
</tr>
<tr>
<td>• Port Services</td>
<td>4.0</td>
<td>3000</td>
<td>ship-days</td>
<td>1,833</td>
<td></td>
<td>80</td>
<td>72%</td>
<td>94%</td>
<td>95%</td>
</tr>
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<td>• Other Port Ops</td>
<td>1.5</td>
<td>300</td>
<td>ships serviced</td>
<td>5,000</td>
<td></td>
<td>80</td>
<td>68%</td>
<td>90%</td>
<td>95%</td>
</tr>
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<td>Operations Support</td>
<td>$3.5</td>
<td>300</td>
<td>commands serviced</td>
<td>$11,666</td>
<td>total mission hours lost per command</td>
<td>100</td>
<td>65%</td>
<td>78%</td>
<td>85%</td>
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<td>• Other Ops Support</td>
<td>5.0</td>
<td>300</td>
<td>commands serviced</td>
<td>1,666</td>
<td>requests done on-time</td>
<td>100</td>
<td>70%</td>
<td>90%</td>
<td>95%</td>
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<td>• Supply</td>
<td>3.0</td>
<td>300</td>
<td>commands serviced</td>
<td>10,000</td>
<td>incomplete orders filled</td>
<td>100</td>
<td>60%</td>
<td>65%</td>
<td>80%</td>
</tr>
<tr>
<td>Total Operating Forces Support</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$23.0</td>
<td></td>
<td></td>
<td></td>
</tr>
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<td><strong>COMMUNITY SUPPORT</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>Personnel Support</td>
<td>$5.7</td>
<td>7,000</td>
<td>base population</td>
<td>$814</td>
<td>complaints per 1,000 personnel</td>
<td>50</td>
<td>70%</td>
<td>85%</td>
<td>67%</td>
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<tr>
<td>• Child Development</td>
<td>0.2</td>
<td>200</td>
<td>children enrolled</td>
<td>1000</td>
<td>standardized testing</td>
<td>75% quartile</td>
<td>70%</td>
<td>90%</td>
<td>80%</td>
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<tr>
<td>• MWR</td>
<td>0.3</td>
<td>700</td>
<td>base population</td>
<td>36</td>
<td>complaints per 1,000 personnel</td>
<td>10%</td>
<td>60%</td>
<td>90%</td>
<td>75%</td>
</tr>
<tr>
<td>• Galley</td>
<td>5.0</td>
<td>2.0M</td>
<td>meals served</td>
<td>3</td>
<td></td>
<td>100%</td>
<td>80%</td>
<td>80%</td>
<td>60%</td>
</tr>
<tr>
<td>• Fleet &amp; Family Services</td>
<td>0.2</td>
<td>3000</td>
<td>military population</td>
<td>50</td>
<td></td>
<td>40%</td>
<td>60%</td>
<td>90%</td>
<td>65%</td>
</tr>
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<td>• Other Community Support</td>
<td>0.1</td>
<td>25</td>
<td>events</td>
<td>4000</td>
<td></td>
<td>20%</td>
<td>60%</td>
<td>90%</td>
<td>75%</td>
</tr>
<tr>
<td>Housing</td>
<td>$5.0</td>
<td>500</td>
<td>housing &amp; BOQ units</td>
<td>$20,000</td>
<td>% utilized</td>
<td>94%</td>
<td>42%</td>
<td>90%</td>
<td>75%</td>
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<tr>
<td>• Family Housing</td>
<td>2.0</td>
<td>250</td>
<td>housing units</td>
<td>8,000</td>
<td></td>
<td>96%</td>
<td>45%</td>
<td>90%</td>
<td>75%</td>
</tr>
<tr>
<td>• Bachelor Quarters Ops</td>
<td>3.0</td>
<td>250</td>
<td>BOQ units</td>
<td>12,000</td>
<td></td>
<td>92%</td>
<td>40%</td>
<td>90%</td>
<td>75%</td>
</tr>
<tr>
<td>Total Community Support</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$10.7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>BASE SUPPORT</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Facility Support</td>
<td>$7.1</td>
<td>2.0M</td>
<td>square foot</td>
<td>$4</td>
<td>% utilized</td>
<td>90%</td>
<td>66%</td>
<td>80%</td>
<td>80%</td>
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<tr>
<td>• Utilities</td>
<td>3.0</td>
<td>2.0M</td>
<td>square foot</td>
<td>2</td>
<td>% available</td>
<td>99%</td>
<td>80%</td>
<td>90%</td>
<td>95%</td>
</tr>
<tr>
<td>• Facility Management</td>
<td>2.0</td>
<td>400</td>
<td>facilities</td>
<td>0.5M</td>
<td>% utilized</td>
<td>90%</td>
<td>70%</td>
<td>85%</td>
<td>80%</td>
</tr>
<tr>
<td>• Facility Services</td>
<td>0.3</td>
<td>2.0M</td>
<td>square foot</td>
<td>0.15</td>
<td>% utilized</td>
<td>90%</td>
<td>50%</td>
<td>75%</td>
<td>80%</td>
</tr>
<tr>
<td>• Base Support Vehicle &amp; Equipment</td>
<td>0.03</td>
<td>200</td>
<td>vehicles (all)</td>
<td>1,250</td>
<td>% utilized</td>
<td>90%</td>
<td>85%</td>
<td>80%</td>
<td>90%</td>
</tr>
<tr>
<td>• SRM</td>
<td>1.5</td>
<td>0.2M</td>
<td>square foot renovated</td>
<td>8</td>
<td>% requests completed</td>
<td>20%</td>
<td>40%</td>
<td>60%</td>
<td>70%</td>
</tr>
<tr>
<td>Environmental</td>
<td>$0.3</td>
<td>5</td>
<td>incidents handled</td>
<td>$50,000</td>
<td>environmental liability</td>
<td>$1.5M</td>
<td>80%</td>
<td>95%</td>
<td>95%</td>
</tr>
<tr>
<td>Public Safety</td>
<td>$4.0</td>
<td>2.0M</td>
<td>square foot</td>
<td>$2</td>
<td>critical incidents</td>
<td>175</td>
<td>70%</td>
<td>85%</td>
<td>85%</td>
</tr>
<tr>
<td>Command &amp; Staff</td>
<td>$6.0</td>
<td>3,000</td>
<td>military population</td>
<td>$2,000</td>
<td># of audit exceptions</td>
<td>37</td>
<td>80%</td>
<td>85%</td>
<td>88%</td>
</tr>
<tr>
<td>• Command</td>
<td>1.0</td>
<td>30</td>
<td>region budgets</td>
<td>33,333</td>
<td></td>
<td>2</td>
<td>80%</td>
<td>80%</td>
<td>90%</td>
</tr>
<tr>
<td>• Resource Management</td>
<td>2.0</td>
<td>30</td>
<td>region budgets</td>
<td>0.1</td>
<td></td>
<td>8</td>
<td>70%</td>
<td>80%</td>
<td>85%</td>
</tr>
<tr>
<td>• Information Tech Services</td>
<td>2.0</td>
<td>500</td>
<td>seats managed</td>
<td>4000</td>
<td></td>
<td>12</td>
<td>68%</td>
<td>75%</td>
<td>85%</td>
</tr>
<tr>
<td>• MILPERS Services</td>
<td>1.0</td>
<td>3000</td>
<td>military population</td>
<td>333</td>
<td></td>
<td>15</td>
<td>90%</td>
<td>85%</td>
<td>95%</td>
</tr>
<tr>
<td>Total Base Support</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$17.3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grand Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$51.0</td>
<td></td>
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</table>
research results due later this year. The investment on the government’s part would be minimal, but the return considerable. The financial community will benefit from financial information being reported in a standard format. Consistency streamlines the collection and reporting of data, enhances data quality, reduces errors and decreases the opportunity for fraud. Also, XBRL minimizes time now wasted in researching and validating data.

**Pulling it All Together with a Process-Based Financial Statement**

We asked the survey participants what would make financial reports more value-added. Their responses seem to echo the information presented throughout this report and include the following:

- **Usefulness to citizens.** “I would like to see more integration between performance and financial information, so that taxpayers know what their money is being use for and can make judgments about whether it’s being used wisely,” said a central entity deputy CFO. “Get to the highest level of clarity so citizens can pick up the book and understand what is happening,” said a department CFO.

- **Usefulness to managers.** A department CFO: “In current statements, the categories are too broad, so it is difficult to look at a statement and see where it can help you. It would be better if the categories were drilled down.” A department deputy CFO: “Department-wide statements are useless to business-line/component-level segments, and no one uses them for decision-making. Reports need to be developed at a lower level.” A department CFO: “Financial reports would be more value-added if these were more readily understandable to the rank-and-file managers and senior leaders.”

- **Standard.** A department CFO: “We are going to standardize reports and make them more frequent, moving from annual to weekly. Sort of standard dashboard reports.”

- **Controls.** An entity director of finance and budget: “Financial reporting needs to provide a better view of the status of funds—identify controls and things to improve controls.”

- **Analysis and management.** A department CFO: “Easy, flexible financial information that highlights variations. Future-looking information.” An entity director of finance and budget: “Accountants and budgeters need to get out of the mentality of just providing reports and put greater effort on analytics.” A department CFO: “Simplify the reports; do process-based information down to the level that managers find them useful. This makes them into profit centers so that they can manage toward a target profit.” A major field center CFO: “Use forward-looking indicators.” A department deputy CFO: “Financial reports need to incorporate program activity data to tie budget and finance to the program output to evaluate program effectiveness and costs.”

**Figure 7** is an example of a process-based financial statement. Note that it addresses all the responses just listed, from usefulness to citizens and managers through enabling analysis and better management. This study proposes that this type of statement be included in the federal government financial statements package.

The sample process-based financial statement is based on data supplied during this study by a cooperating entity and has been altered for the sake of confidentiality. The statement includes only potential process descriptions (row headings) and measures (column headings). After the statement, we present explanations of each column.

1. **Process.** This statement or report is organized by macro process and subprocess. The process view represents the entity’s work. Government employees execute processes routinely over time, and these processes and work activities consume people and other resources. Entities cannot manage the “budget” without managing the processes that consume these resources. When resources (people and budget) are applied to stable and repeatable processes, an entity can predict and look forward to intended results. Conversely, when resources (people and budget) are applied to unstable and widely varying processes, an entity cannot effectively predict results, and there is great uncertainty when looking forward to intended performance. An additional benefit of using processes terminology is that these words resonate with program personnel. The process label means that people other than traditional financial managers will likely care to use these reports in managing their projects.

2. **Costs.** This element of the process-based statement reports the costs incurred to date in completing the various process steps. The ultimate source of this information is the financial management system, plus other records that provide additional information, such as earned value management (EVM) applications. The Cost column includes disbursements and accrued obligations. The dollar amounts included here can be reconciled to a Statement of Net Cost.

3. **Number of units.** The units column shows the process workload volume. The process unit of measure is typically referred to as an “output measure”—a transaction, event or condition that indicates process completion. Good quality and timely outputs are critical to outcome achievement.

4. **Unit description.** The type of unit being measured and reported on, such as an aircraft, type of financial transaction, report reviewed and so on.

5. **Unit cost.** The unit cost column shows the cost to complete one unit of output. Unit cost is a measure of productivity. It is used to compare the cost of similar processes among different agencies and as a basis for measuring productivity improvement.

6. **Performance measures.** Each process will achieve its targeted outcome to a greater or lesser degree, as indicated by nonfinancial performance measures such as time and quality.

7. **Performance value.** The numeric value of the performance measure for the designated period.
8. **Performance variation.** The variation column summarizes how much each process varies. Variation is the difference in the output of a process (or inputs to a process) over time. Performance variation represents the actual variation compared with the original process performance targets.

9. **Internal controls variation.** This element of the statement shows process control effectiveness. Controls variation is a measure to determine whether controls are in place and working to provide predictable and satisfactory results. As appropriate, Six Sigma or statistical process control methods will help determine this measure.

10. **Internal controls best practice.** Best practices and process controls for each process will be evaluated to assess conformance to internal controls best practice. ISO 9000 and other quality initiatives will be used to help determine this measure.

Benefits of the proposed statement include that it will:

- Provide predictive (forward-looking) management information that can be used to support future years’ performance-based budgets
- Give confidence that internal controls are effective
- Enable performance budgeting
- Support performance improvement

**Recommendations**

Government financial reporting is at a crossroads. It can continue on its current path and become increasingly laborious and, unfortunately, irrelevant. Alternatively, it can embrace the need for greater transparency and begin to address the myriad issues raised in our survey and by the financial management community.

In light of the urgent need for improved transparency and forward-looking characteristics in financial reporting, it is recommended that the federal government begin action on several initiatives that can be implemented over the next few years. These initiatives should be a cornerstone of any streamlining and reform efforts. The report’s recommendations are based on augmenting traditional reporting with process-based financial reporting (and, in the future, other multidimensional financial statements) while using XML/XBRL to automate data collection. Transparency is improved by presenting several alternative views of a single set of base data. Each view enables the financial statement user to better understand a different aspect of the government entity’s performance.

Our recommendations are based on the observation that all government entities benefit from improved financial reporting transparency. However, this report emphasizes that because of the variety of entity missions there must be a continued effort to understand the impact of these differences on financial reporting requirements so that appropriate content will be available to satisfy diverse needs.

Attention must be directed to both the nature of the content available and to the needs of particular government entities.

Here are the actions we recommend as a result of Phase I of the AGA process-based financial reporting project.

**Financial statements must be more transparent.**

Financial reporting transparency is a prerequisite for an efficient government. Multidimensional financial reporting will improve transparency by providing alternative views of the base data. It is recommended that OMB, Congress, FASAB, GAO, CFOs and other interested parties work together to transform the existing reporting structure to facilitate increased transparency and consider where less valuable reporting requirements might be eliminated or deferred.

As part of this reform, the federal government must jettison wasteful compliance practices that are sinking the financial function’s ability to add value to control, reporting and business/program decision-making activities. Only then will financial managers have the time to introduce useful tools. Introducing cost/benefit analysis into the process of formulating financial compliance reporting regulations and audit standards would be most welcome, because it will focus attention on the practice of dollars chasing dimes.

**Financial statements must be more forward-looking.**

The challenge of balancing short-term government expenditures with current deficits demands a more forward-looking financial reporting structure. Unfunded government obligations are mounting, and financial reporting is not expansive enough to include projections of all future obligations. Process-based financial reporting can focus on the long-term sustainability of trajectory government spending and performance.

**A common foundation is needed to integrate cost and performance.**

Government agencies need to create a management framework that integrates cost and performance. A process framework provides a common basis for understanding both cost and performance.

**Process and reporting controls must be tightly integrated into internal controls.**

Process and reporting controls are how operations managers control and improve quality. Internal controls are managed by financial people to ensure the integrity of financial statements. Government agencies must embrace the need for stronger process controls. A process that is in control will produce stable operating results. It will also produce more accurate financial data. Shifting emphasis from internal controls to process and reporting controls will have the dual benefit of improving performance and providing more reliable financial reporting.

**Greater use of XML/XBRL technology is needed to provide the data necessary for greater transparency.**

XML/XBRL will be able to provide the data needed to improve transparency and process controls. The power of XBRL/XML is that it is transparent to the computer applications users. It also is less expensive to implement than integrated computer systems.
Next Steps

Several initiatives will address the report’s recommendations, including:

**Refine the concepts that underpin the new reporting requirements.**

Today there are uncertainties in any proposal to improve financial reporting. This report highlighted several areas of process-based financial reporting that require additional development. The first initiative should be to clarify the guidelines for greater transparency. There is a need to very clearly articulate the type of information that outside stakeholders have a right to know. Conversely, the guidelines need to identify the type of proprietary information that is private to the government entity.

Accounting has relied on accounting theory to provide the foundation of principles that underlie external reporting. It is proposed to expand accounting theory to include principles of transparency and that a working group be established to create the principles. The group should include academics, accounting theory experts at the major accounting regulators and entity CFOs.

A second issue that needs greater clarification is where process-based accounting is applicable. A working group should be assembled to evaluate the usefulness of process-based accounting to the various functions of government agencies. The effort will map the characteristics of each function to process-based accounting elements. The evaluation will clarify the value of the concept to its functional requirements.

**Develop a government process-based taxonomy that incorporates existing process efforts.**

Taxonomy is the technical term for the guiding principles behind the organization of information. Process-based financial statements report performance at the macro process and subprocess levels. Macro process and subprocess are summarizations of activities and business processes. A significant amount of work has been done on activity and business process definitions. To properly create a macro process and subprocess taxonomy requires creating a set of guidelines.

AGA has proposed a working group to research the creation of a governmentwide taxonomy guideline for macro processes and subprocesses. The Treasury Department is exploring the development of a United States Standard General Ledger (USSGL) taxonomy for the federal government. Any taxonomy should provide a logical framework for agencies to map their activities and business processes and identify a logical output measure and performance measures for all macro processes and subprocesses.

**Do case studies in several entities.**

Process-based financial statements should be created for several government entities. The case studies will illustrate the applicability of the concepts to different government functions, guiding where process-based statements are less suited. The case studies should include not only entities that are well suited to process management concepts but also those that are less suited.

**Create an XML project to define nonfinancial data standard tags.**

Identifying and collecting the data needed to improve financial statement transparency is critical. XML offers the opportunity to provide the necessary data without a cumbersome data collection effort. It is recommended that a working group be established to create nonfinancial data standards that form the foundation of process-based reporting. The working group should coordinate its efforts with existing entities such as XBRL. It should clarify the roles of integrated computer systems and XML technology in supplying the needed data. The issue of legacy and proprietary systems needs to be considered.

**Conclusion**

The vision of federal financial reporting presented in this report is:

*Streamlined compliance reporting and greater transparency through multidimensional reporting.*

In this vision, the amount of time and resources devoted to data collection and auditing will be dramatically reduced and material weakness eliminated. Prevention will replace detection as the cornerstone of financial reporting data integrity. Important elements of this vision include:

- Data collection will be a by-product of normal transaction recording. XBRL and XML for nonfinancial information will collect, audit and safeguard the base data.
- Auditing will be less invasive and more comprehensive. XML and XBRL will be “auditors in the box” to automatically check the reasonableness of the data.
- Process variation will be monitored, while reducing variation will become the responsibility of every person in a government entity. Less variation delivers improved performance and more reliable financial reporting.
- The role of internal controls will be transformed from data auditing to improving process controls to minimize improper data manipulation.
- Compliance to FASAB reporting standards will be simplified, such as by incorporating changes to standards in XBRL updates.

The transparency of financial reporting will be greatly enhanced, making reports more relevant to all levels of agency management. To achieve this part of the vision:

- Process-based accounting will monitor and report process performance. Process-based financial statements will be the first multidimensional statements to supplement the tradition object class reports.
- Outcome measures and their associated process performance measures will be reported in tandem with unit cost measures.
Organizations that set accounting standards will disassociate data integrity standards from reporting standards. Implementing process-based accounting in the federal government is an evolution rather than a revolution. Its key elements are already in wide use in agencies, and there are initiatives under way to facilitate its further adoption. Finally, process-based accounting will provide information useful to all levels of government management, to stakeholders and, ultimately, to citizens and taxpayers.

End Notes


3. The Federal Funding Accountability and Transparency Act was signed into law as Public Law 109-282 on September 26, 2006.
