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# FINANCIAL MANAGEMENT AT THE DEPARTMENT OF HEALTH AND HUMAN SERVICES

## HEARING

BEFORE THE

SUBCOMMITTEE ON GOVERNMENT EFFICIENCY AND FINANCIAL MANAGEMENT

OF THE

COMMITTEE ON GOVERNMENT REFORM

HOUSE OF REPRESENTATIVES

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# FINANCIAL MANAGEMENT AT THE DEPARTMENT OF HEALTH AND HUMAN SERVICES

**THURSDAY, SEPTEMBER 30, 2004**

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON GOVERNMENT EFFICIENCY AND
FINANCIAL MANAGEMENT,
COMMITTEE ON GOVERNMENT REFORM,
*Washington, DC.*

The subcommittee met, pursuant to notice, at 2 p.m., in room 2247, Rayburn House Office Building, Hon. Todd Russell Platts (chairman of the subcommittee) presiding.

Present: Representatives Platts and Turner.

Staff present: Mike Hettinger, staff director; Larry Brady and Tabetha Mueller, professional staff members; Nathaniel Berry, clerk; Adam Bordes, minority professional staff member; and Jean Gosa, minority assistant clerk.

Mr. PLATTS. This hearing of the Subcommittee on Government Efficiency and Financial Management will come to order.

Today's hearing continues the subcommittee's oversight of Federal financial management and focuses on one of the most important building blocks for success: financial system implementation.

The clear goal of management reforms passed over the past two decades is timely, accurate, useful information, financial data that can be used to manage and make decisions. Without this information, the Federal Government cannot analyze costs and benefits or gather an accurate assessment of program performance. In our oversight we have seen time and time again the importance of financial system implementation and how Federal agencies must construct the proper framework to achieve the goal of sound management.

As part of our oversight of these system implementations, we requested that the Government Accountability Office review the multi-year effort now underway at the Department of Health and Human Services to implement the Unified Financial Management System. The UFMS implementation is critical to the Government's delivery of vital services to millions of citizens, and we look forward to discussing both the progress that has been made and the concerns that have been raised regarding this implementation.

We are honored here today to have Jeff Steinhoff, Managing Director of Financial Management and Assurance at the Government Accountability Office. He is joined by Keith Rhodes, Chief Technologist at the GAO Center for Technology and Engineering. We also have Kerry Weems, Acting Assistant Secretary for Budget, Information, and Finance at the Department of Health and Human

Services before us today. We are glad to have you back as well, and have your knowledge as a panel shared with us again today.

Mr. Towns is not going to be able to join us today. So we are going to move forward right into your opening statements. As a practice of the full committee and this subcommittee, if we can have you rise, I will swear you in and we can get started.

[Witnesses sworn.]

Mr. PLATTS. Thank you. The clerk will note that all witnesses affirmed the oath.

We appreciate the written testimony you have provided to give us a chance to prepare for today's hearing. As far as your opening statements, if we can roughly be guided by 5 to 10 minutes, we are not going to be real sticklers because it is just more of an intimate dialog here today.

Mr. Steinhoff, if you would like to begin, then we will proceed to Mr. Weems.

**STATEMENTS OF JEFFREY C. STEINHOFF, MANAGING DIRECTOR, FINANCIAL MANAGEMENT AND ASSURANCE, GOVERNMENT ACCOUNTABILITY OFFICE; KEITH A. RHODES, CHIEF TECHNOLOGIST, CENTER FOR TECHNOLOGY AND ENGINEERING, GOVERNMENT ACCOUNTABILITY OFFICE; AND KERRY N. WEEMS, ACTING ASSISTANT SECRETARY FOR BUDGET, INFORMATION, AND FINANCE, DEPARTMENT OF HEALTH AND HUMAN SERVICES**

Mr. STEINHOFF. Thank you very much, Mr. Chairman. It is a pleasure to be here today to discuss HHS' efforts to implement a Unified Financial Management System. At the outset, I want to thank you for the leadership you and this subcommittee have provided over your tenure to really move financial management ahead. This is very important. The challenges that HHS is facing, as well as the other CFO agencies, in working on difficult systems issues really require oversight and understanding by the Congress. So, thank you for all of your efforts.

The report we are releasing at today's hearing, which was prepared at your request, includes 34 recommendations that focus on mitigating the risks associated with this project. For eight of these recommendations in particular, we recommended that until they are substantially addressed, HHS should delay the October 1st planned deployment of the new system at CDC. As you will hear today, they have, in fact, done that.

The core concepts and goals of financial management are captured well in the 1990 CFO Act. At the heart of the act are three provisions that require, first, the systematic measurement of performance; second, the development of cost information; and third, the integration of systems, program budget, and financial. Good financial management is having reliable, useful, and timely information needed for day to day decisionmaking and management. This requires first rate financial management systems that go far beyond core accounting and financial statement preparation. The systems must address the broader concepts imbedded in the CFO Act and addressed in the President's Management Agenda which is moving us toward a business-centric Government.

We support HHS' decision to replace its five outdated accounting systems. We are not questioning whether a new system is needed or HHS' commitment to making this happen. Our work focused on whether the project was being managed in a way that best ensures long-term success. This is a major project. All projects are difficult; a major project, you multiply that several-fold. Full implementation is targeted for 2007, so there is a lot of time to address issues, and the estimated cost of this project is around $700 million. Not only must the system ultimately replace five accounting systems, but it must also interface with about 110 other systems.

When all is said and done, how does one define success? In 2007, in addition to basic accounting and financial reporting, we think of it in terms of three results. First, a system that routinely provides the day to day management information envisioned by the CFO Act and the President's Management Agenda; second, a system that operates efficiently, meaning, it does not require a whole lot of manual processing to make up for shortfalls in design or implementation; and third, a system that does not require expensive rework. All systems require some. The real goal is to control any rework.

By any measure, the implementation of a new information system, whether in Government or the private sector, this is not a government-centric issue, is difficult and brings with it a degree of risk. As I said before, for a major project the risk is much greater. While risk cannot be avoided, it can be managed and reduced to acceptable levels through the use of disciplined processes, which, in short, represent best practices that have proven their value in the past.

Our experience is that serious implementation problems are generally the result of not effectively implementing disciplined processes. It is easy to forego, shortcut, or delay key steps, especially when your project is date-driven; you have pressures to meet schedule, to meet budget. We have seen this in our work at other agencies and it has had serious repercussions for them.

At HHS we found that some best practices were adopted. For example, the project had strong support of senior officials, as well as verification and validation oversight by independent experts, commonly called IV&V. We also view HHS' decision to follow a phased implementation to be a sound approach.

At the same time, at the time of our review, the project demonstrated some of the classic symptoms of schedule-driven efforts for which disciplined processes, such as requirements management, and testing had not yet been effectively implemented. In addition, compounding the project-specific risks were department-wide weaknesses in information technology management, enterprise architecture, and information security. Finally, staff shortages and limited strategic work force planning resulted in the project not always having the needed resources.

For these reasons, we concluded that HHS had not yet reduced its risk to an acceptable level. Among our 34 recommendations, as I mentioned at the outset, we called for HHS to delay deployment at CDC until certain actions had been completed to reduce the risk to an acceptable level. Last week, HHS advised us that it had decided to defer full deployment of the system at CDC for 6 months.

This additional time provides HHS the opportunity to address our concerns as well as similar concerns raised by its IV&V contractor.

Keith Rhodes will now highlight what we think are some of the things that need to be done, and done now, to take full advantage of this 6 month period. He will focus on four key areas.

Mr. RHODES. Thank you, Mr. Chairman. HHS will face a number of challenges in the upcoming 6 months. The key challenge being, as Mr. Steinhoff stated, to move from a schedule-driven project to an event-driven project. This will be critical to address problems that both we in GAO and the IV&V contractor have identified. I will focus my comments on four areas: First, requirements management; second, testing; third, quantitative measures; and fourth, data conversion and interfaces.

We view requirement managements and testing as two of the pillars of successful efforts, while quantitative measures are critical to understand the risks that are being undertaken and whether the project is ready for deployment. Finally, good data conversion and interfaces are critical to being able to provide the kind of management information that will be needed to meet the goals of the CFO Act and the President's Management Agenda.

Regarding requirements, requirements must one, describe the functionality needed to meet user needs; two, be defined in a way that is clear and unambiguous; and three, support an effective testing process, meaning that compliance with the requirement can be validated through quantitative means. Once you have the good requirements, HHS will be in a position to conduct effective testing activities.

The foundation of an effective testing program is a documented testing plan that describes how testing will be carried out and controlled. For example, HHS will need to implement effective functional testing and user acceptance testing which will enable HHS to know what the system can and cannot do, and whether the system meets the users' needs, including being user friendly. In the private sector, you are doing the user acceptance testing to figure out what the take-up of the system is going to be.

Quantitative measures. HHS will need to use quantitative measures to evaluate the success of the events that are used to measure project progress in order to help ensure that it is adopting event-driven processes. Without reliable and rigorous quantitative measures, it is impossible to see where you are on the playing field. Intuitively, you might think that you are moving ahead and making progress. But how far and in what direction is the bigger question.

Finally, HHS' ability to convert data from its legacy systems to the new system will be critical to the success of the project, as will the ability to interface the system with, as Mr. Steinhoff stated, 110 other information systems that support key functionality, such as grant accounting. For example, HHS expects that UFMS will need to support about 30 system interfaces for the CDC deployment alone.

This does not mean that by successfully addressing these four areas alone HHS will have reduced its risks to acceptable levels. Rather, relatively speaking, we view these areas as being critical and needing to be fully addressed between now and the planned April 2005 full deployment.

In closing, if the past is prologue, taking the time to effectively implement the disciplined processes discussed in our report and called for by HHS' IV&V contractor will pay long-term dividends, and to do otherwise has proven to be counter-productive and costly in the long term.

Mr. Chairman, this concludes our summary comments. We would be pleased to respond to any questions that you may have.

[The prepared statement of Mr. Steinhoff and Mr. Rhodes follows:]

United States Government Accountability Office

GAO

Testimony

Before the Subcommittee on Government Efficiency and Financial Management, Committee on Government Reform, House of Representatives

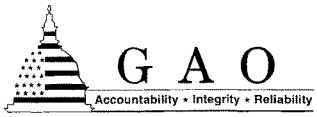
For Release on Delivery
Expected at 2:00 p.m. EDT
Thursday, September 30, 2004

# FINANCIAL MANAGEMENT SYSTEMS

# HHS Faces Many Challenges in Implementing Its Unified Financial Management System

Statement of Jeffrey C. Steinhoff
Managing Director, Financial Management and Assurance

Keith A. Rhodes
Chief Technologist, Applied Research and Methodology
Center for Engineering and Technology




GAO-04-1089T

September 30, 2004

GAO
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# Highlights

Highlights of GAO-04-1089T, a testimony before the Subcommittee on Government Efficiency and Financial Management, Committee on Government Reform, House of Representatives.

## FINANCIAL MANAGEMENT SYSTEMS

# HHS Faces Many Challenges in Implementing Its Unified Financial Management System

### Why GAO Did This Study

GAO has previously reported on systemic problems the federal government faces in achieving the goals of financial management reform and the importance of using disciplined processes for implementing financial management systems. As a result, the Subcommittee on Government Efficiency and Financial Management, House Committee on Government Reform, asked GAO to review and evaluate the agencies' plans and ongoing efforts for implementing financial management systems.

The results of GAO's review of the Department of Health and Human Services' (HHS) ongoing effort to develop and implement the Unified Financial Management System (UFMS) are discussed in detail in the report *Financial Management Systems: Lack of Disciplined Processes Puts Implementation of HHS' Financial System at Risk* (GAO-04-1008). In this report, GAO makes 34 recommendations focused on mitigating risks associated with the project. In light of this report, the Subcommittee asked GAO to testify on the challenges HHS faces in implementing UFMS.

### What GAO Found

HHS had not effectively implemented several disciplined processes, which are accepted best practices in systems development and implementation, and had adopted other practices, that put the project at unnecessary risk. Although the implementation of any major system is not a risk-free proposition, organizations that follow and effectively implement disciplined processes can reduce these risks to acceptable levels. While GAO recognized that HHS had adopted some best practices related to senior level support, oversight, and phased implementation, GAO noted that HHS had focused on meeting its schedule to the detriment of disciplined processes.

GAO found that HHS had not effectively implemented several disciplined processes to reduce risks to acceptable levels, including

- requirements management,
- testing,
- project management and oversight using quantitative measures, and
- risk management.

Compounding these problems are departmentwide weaknesses in information technology management processes needed to provide UFMS with a solid foundation for development and operation, including

- investment management,
- enterprise architecture, and
- information security.

GAO also identified human capital issues that significantly increase the risk that UFMS will not fully meet one or more of its cost, schedule, and performance objectives, including

- staffing and
- strategic workforce planning.

HHS stated that it had an aggressive implementation schedule, but disagreed that a lack of disciplined processes is placing the UFMS program at risk. GAO firmly believes if HHS continues to follow an approach that is schedule-driven and shortcuts key disciplined processes, it is unnecessarily increasing its risk. GAO stands by its position that adherence to disciplined processes is crucial, particularly with a project of this magnitude and importance.

HHS indicated that it plans to delay deployment of significant functionality associated with its UFMS project for at least 6 months. This decision gives HHS a good opportunity to effectively implement disciplined processes to enhance the project's opportunity for success.

www.gao.gov/cgi-bin/getrpt?GAO-04-1089T.

To view the full product, including the scope and methodology, click on the link above. For more information, contact Jeffrey Steinhoff (202) 512-2600, steinhoffj@gao.gov or Keith Rhodes (202) 512-6412, rhodesk@gao.gov.

Mr. Chairman and Members of the Subcommittee:

We are pleased to be here today to discuss the efforts by the Department of Health and Human Services (HHS) to develop and implement its Unified Financial Management System (UFMS). We would like to thank the Subcommittee for having this hearing. Hearings such as this one today foster meaningful financial management reform. Our work focused on whether the UFMS project was being managed in a way that best ensures long-term success of this important project. At the time of our review, the complete implementation of UFMS was targeted for 2007 and the estimated total project cost was over $700 million.[1] Not only must the system ultimately replace 5 accounting systems, but it must also interface with about 110 other systems. By any measure, this is a major undertaking that brings with it a degree of risk. Risk, though, can be managed and reduced to acceptable levels through the use of disciplined processes, which in short, represent best practices in system development and implementation that have proven their value in the past.

Our report,[2] which was prepared at the request of the Subcommittee and is being released at this hearing, discusses in detail the issues we identified with the UFMS project and includes 34 recommendations that focus on mitigating project risk. Our testimony today[3] will (1) highlight the importance of adhering to disciplined processes for a system development and implementation effort such as UFMS, (2) summarize our findings on HHS' management of the UFMS project, and (3) provide our perspective on actions needed for HHS to mitigate the risk to this project and move forward.

[1]The costs for this financial management system improvement effort can be broken down into four broad areas: (1) National Institutes of Health (NIH); (2) Centers for Medicare and Medicaid Services (CMS); (3) all other HHS entities including the Centers for Disease Control and Prevention (CDC); and (4) a system to consolidate the results of HHS' financial management operations. HHS estimated that it would spend about $110 million for NIH, $393 million for CMS, and $210 million for the remaining HHS organizations. HHS has not yet developed an estimate of the costs associated with integrating these efforts into a unified financial management system.

[2]GAO, *Financial Management Systems: Lack of Disciplined Processes Puts Implementation of HHS' Financial System at Risk*, GAO-04-1008 (Washington, D.C.: Sept. 23, 2004).

[3]This testimony is based on our report and does not assess HHS' other financial management improvement efforts at the National Institutes of Health (NIH) and Centers for Medicare and Medicaid Services (CMS).

## Disciplined Processes Are Key to Successful System Implementation

The ability to produce the information needed to efficiently and effectively manage the day-to-day operations of the federal government and provide accountability to taxpayers and the Congress has been a long-standing challenge for federal agencies. To help address this challenge, many agencies are in the process of replacing their core financial systems as part of their financial management system improvement efforts. Although the implementation of any major system is not a risk-free proposition, organizations that follow and effectively implement disciplined processes can reduce these risks to acceptable levels. The use of the term acceptable levels acknowledges the fact that any systems acquisition has risks and will suffer the adverse consequences associated with defects. However, effective implementation of the disciplined processes reduces the potential for risks to occur and helps prevent those that do occur from having any significant adverse impact on the cost, timeliness, and performance of the project. A disciplined software development and acquisition process can maximize the likelihood of achieving the intended results (performance) within established resources (costs) on schedule.

Although there is no standard set of practices that will ever guarantee success, several organizations, such as the Software Engineering Institute (SEI)[4] and the Institute of Electrical and Electronic Engineers (IEEE),[5] as well as individual experts have identified and developed the types of policies, procedures, and practices that have been demonstrated to reduce development time and enhance effectiveness. The key to having a disciplined system development effort is to have disciplined processes in multiple areas, including project planning and management, requirements management, configuration management, risk management, quality assurance, and testing. Effective processes should be implemented in each of these areas throughout the project life cycle because change is constant. Effectively implementing the disciplined processes necessary to reduce project risks to acceptable levels is hard to achieve because a project must effectively implement several best practices, and inadequate

[4]SEI is a federally funded research and development center operated by Carnegie Mellon University and sponsored by the U.S. Department of Defense. The SEI objectives are to provide leadership in software engineering and in the transition of new software engineering technologies into practice.

[5]IEEE develops standards for a broad range of global industries including the information technology and information assurance industries.

implementation of any one practice may significantly reduce or even eliminate the positive benefits of the others.

Successfully acquiring and implementing a new financial management system requires a process that starts with a clear definition of the organization's mission and strategic objectives and ends with a system that meets specific information needs. We have seen many system efforts fail because agencies started with a general need, such as improving financial management, but did not define in precise terms (1) the specific problems they were trying to solve, (2) what their operational needs were, and (3) what specific information requirements flowed from these operational needs. Instead, they plunged into the acquisition and implementation process in the belief that these specifics would somehow be defined along the way. The typical result was that systems were delivered well past anticipated milestones; failed to perform as expected; and, accordingly, were overbudget because of required costly modifications.

Undisciplined projects typically show a great deal of productive work at the beginning of the project, but the rework associated with defects begins to consume more and more resources.[6] In response, processes are adopted in the hopes of managing what later turns out to have been unproductive work. Generally, these processes are "too little, too late" because sufficient foundations for building the systems were not established or not established adequately. Experience has shown that projects for which disciplined processes are not implemented at the beginning are forced to implement them later when it takes more time and the processes are less effective.[7]

A major consumer of project resources in undisciplined efforts is rework (also known as thrashing). Rework occurs when the original work has defects or is no longer needed because of changes in project direction. Disciplined organizations focus their efforts on reducing the amount of rework because it is expensive. Experts have reported that fixing a defect during the testing phase costs anywhere from 10 to 100 times the cost of fixing it during the design or requirements phase.[8] Projects that are unable

[6]Steve McConnell, *Rapid Development: Taming Wild Software Schedules* (Redmond, Wash.: Microsoft Press, 1996).

[7]McConnell, *Rapid Development: Taming Wild Software Schedules.*

[8]McConnell, *Rapid Development: Taming Wild Software Schedules.*

to successfully address their rework will eventually only be spending their time on rework and the associated processes rather than on productive work. In other words, the project will continually find itself reworking items.

## HHS Had Not Effectively Implemented Disciplined Processes, Information Technology Management Practices, and Human Capital Planning

We found that HHS had adopted some best practices in its development of UFMS. The project had support from senior officials and oversight by independent experts, commonly called independent verification and validation (IV&V) contractors. We also view HHS' decision to follow a phased implementation to be a sound approach.

However, at the time of our review, HHS had not effectively implemented several disciplined processes essential to reducing risks to acceptable levels and therefore key to a project's success, and had adopted other practices that put the project at unnecessary risk. HHS officials told us that they had carefully considered the risks associated with implementing UFMS and that they had put in place strategies to manage these risks and to allow the project to meet its schedule within budget. However, we found that HHS had focused on meeting its schedule to implement the first phase of the new system at the Centers for Disease Control and Prevention (CDC) in October 2004, to the detriment of disciplined processes and thus had introduced unnecessary risks that may compromise the system's cost, schedule, and performance. We would now like to briefly highlight a few of the key disciplined processes that HHS had not fully implemented at the time of our review. These matters are discussed in detail in our report.

- *Requirements management.* Requirements are the specifications that system developers and program managers use to design, develop, and acquire a system. Requirements management deficiencies have historically been a root cause of systems that do not meet their cost, schedule, and performance objectives. Effective requirements management practices are essential for ensuring the intended functionality will be included in the system and are the foundation for testing. We found significant problems in HHS' requirements management process and that HHS had not developed requirements that were clear and unambiguous.

- *Testing.* Testing is the process of executing a program with the intent of finding errors.[9] Without adequate testing, an organization (1) is taking a significant risk that substantial defects will not be detected until after the system is implemented and (2) does not have reasonable assurance that new or modified systems will function as planned. We found that HHS faced challenges in implementing a disciplined testing program, because, first of all, it did not have an effective requirements management system that produced clear, unambiguous requirements upon which to build its testing efforts. In addition, HHS had scheduled its testing activities, including those for converting data from existing systems to UFMS, late in the implementation cycle leaving little time to correct defects identified before the scheduled deployment in October 2004.

- *Project management and oversight using quantitative measures.* We found that HHS did not have quantitative metrics that allowed it to fully understand (1) its capability to manage the entire UFMS effort; (2) how problems in its management processes would affect the UFMS cost, schedule, and performance objectives; and (3) the corrective actions needed to reduce the risks associated with the problems identified with its processes. Such quantitative measures are essential for adequate project management oversight. Without such information, HHS management can only focus on the project schedule and whether activities have occurred as planned, not on whether the substance of the activities achieved their system development objectives. As we note in our report, this is not an effective practice.

- *Risk management.* We noted that HHS routinely closed its identified risks on the premise that they were being addressed. Risk management is a continuous process to identify, monitor, and mitigate risks to ensure that the risks are being properly controlled and that new risks are identified and resolved as early as possible. An effective risk management process is designed to mitigate the effects of undesirable events at the earliest possible stage to avoid costly consequences.

In addition, HHS' effectiveness in managing the processes associated with its data conversion and UFMS interfaces will be critical to the success of this project. For example, CDC's ability to convert data from its existing systems to the new system will be crucial to helping ensure that UFMS will

[9]Glenford J. Myers, *The Art of Software Testing* (John Wiley & Sons, Inc., 1979).

provide the kind of data needed to manage CDC's programs and operations. The adage "garbage in garbage out" best describes the adverse impact. Furthermore, HHS expects that once UFMS is fully deployed, the system will need to interface with about 110 other systems, of which about 30 system interfaces are needed for the CDC deployment. Proper implementation of the interfaces between UFMS and the other systems it receives data from and sends data to is essential for providing data integrity and ensuring that UFMS will operate as it should and provide the information needed to help manage its programs and operations.

Compounding these UFMS-specific problems are departmentwide weaknesses we have previously reported in information technology (IT) investment management,[10] enterprise architecture,[11] and information security.[12] Specifically, HHS had not established the IT management processes needed to provide UFMS with a solid foundation for development and operation. Such IT weaknesses increase the risk that UFMS will not achieve planned results within the estimated budget and schedule. We will now highlight the IT management weaknesses that HHS must overcome:

- *Investment management.* HHS had weaknesses in the processes it uses to select and control its IT investments. Among the weaknesses we previously identified, HHS had not (1) established procedures for the development, documentation, and review of IT investments by its review boards or (2) documented policies and procedures for aligning and coordinating investment decision making among its investment management boards. Until HHS addresses weaknesses in its selection or control processes, IT projects like UFMS will face an increased likelihood that the projects will not be completed on schedule and within estimated costs.

- *Enterprise architecture.* While HHS is making progress in developing an enterprise architecture that incorporates UFMS as a central component,

[10]GAO, *Information Technology Management: Governmentwide Strategic Planning, Performance Measurement, and Investment Management Can Be Further Improved*, GAO-04-49 (Washington, D.C.: Jan. 12, 2004).

[11]GAO, *Information Technology: Leadership Remains Key to Agencies Making Progress on Enterprise Architecture Efforts*, GAO-04-40 (Washington, D.C.: Nov. 17, 2003).

[12]GAO, *Information Security: Agencies Need to Implement Consistent Processes in Authorizing Systems for Operation*, GAO-04-376 (Washington, D.C.: June 28, 2004).

most of the planning and development of the UFMS IT investment had occurred without the guidance of an established enterprise architecture. An enterprise architecture is an organizational blueprint that defines how an entity operates today and how it intends to operate in the future and invest in technology to transition to this future state. Our experience with other federal agencies has shown that projects developed without the constraints of an established enterprise architecture are at risk of being duplicative, not well integrated, unnecessarily costly to maintain and interface, and ineffective in supporting missions.

- *Information security.* HHS had not yet fully implemented the key elements of a comprehensive security management program and had significant and pervasive weaknesses in its information security controls. The primary objectives of information security controls are to safeguard data, protect computer application programs, prevent unauthorized access to system software, and ensure continued operations. Without adequate security controls, UFMS cannot provide reasonable assurance that the system is protected from loss due to errors, fraud and other illegal acts, disasters, and incidents that cause systems to be unavailable.

Finally, we believe it is essential that an agency take the necessary steps to ensure that it has the human capital capacity to design, implement, and operate a financial management system. We found that staff shortages and limited strategic workforce planning have resulted in the project not having the resources needed to effectively design, implement, and operate UFMS. We identified the following weaknesses:

- *Staffing.* HHS had not filled positions in the UFMS Program Management Office that were identified as needed. Proper human capital planning includes identifying the workforce size, skills mix, and deployment needed for mission accomplishment and to create strategies to fill the gaps. Scarce resources could significantly jeopardize the project's success and have led to several key UFMS deliverables being significantly behind schedule.

- *Strategic workforce planning.* HHS had not yet fully developed key workforce planning tools, such as the CDC skills gap analysis, to help transform its workforce so that it can effectively use UFMS. Strategic workforce planning focuses on developing long-term strategies for acquiring, developing, and retaining an organization's total workforce

(including full- and part-time federal staff and contractors) to meet the needs of the future. Strategic workforce planning is essential for achieving the mission and goals of the UFMS project. By not identifying staff with the requisite skills to operate such a system and by not identifying gaps in needed skills and filling them, HHS has not optimized its chances for the successful implementation and operation of UFMS.

## Action Is Needed to Mitigate Risk

To address the range of problems we have just highlighted, our report includes 34 recommendations that focus on mitigating the risks associated with this project. We made 8 recommendations related to the initial deployment of UFMS at CDC that are specifically tied to implementing critical disciplined processes. In addition, we recommended that until these 8 recommendations are substantially addressed, HHS delay the initial deployment. The remaining 25 recommendations were centered on developing an appropriate foundation for moving forward and focused on (1) disciplined processes, (2) IT security controls, and (3) human capital issues.

In its September 7, 2004, response to a draft of our report, HHS disagreed regarding management of the project and whether disciplined processes were being followed. In its comments, HHS characterized the risk in its approach as the result, not of a lack of disciplined processes, but of an aggressive project schedule. From our perspective, this project demonstrated the classic symptoms of a schedule-driven effort for which key processes had been omitted or shortcutted, thereby unnecessarily increasing risk. As we mentioned at the outset of our testimony, this is a multiyear project with an estimated completion date in fiscal year 2007 and a total estimated cost of over $700 million.[13] With a project of this magnitude and importance, we stand by our position that it is crucial for the project to adhere to disciplined processes that represent best practices. Therefore, in order to mitigate its risk to an acceptable level, we continue to believe it is essential for HHS to adopt and effectively implement our 34 recommendations.

In commenting on our draft report, HHS also indicated that actions had either been taken, were under way, or were planned that address a number of our recommendations. In addition, HHS subsequently contacted us on

[13]This includes the eventual incorporation of CMS and NIH.

September 23, 2004, to let us know that it had decided to delay the implementation of a significant amount of functionality associated with the CDC deployment from October 2004 until April 2005 in order to address the issues that had been identified with the project. HHS also provided us with copies of IV&V reports and other documentation that had been developed since our review. Delaying implementation of significant functionality at CDC is a positive step forward given the risks associated with the project. This delay, by itself, will not reduce the risk to an acceptable level, but will give HHS a chance to implement the disciplined processes needed to do so.

HHS will face a number of challenges in the upcoming 6 months to address the weaknesses in its management of the project that were discussed in our report. At a high level, the key challenge will be to implement an event driven project based on effectively implemented disciplined processes, rather than a schedule-driven project. It will be critical as well to address the problems noted in the IV&V reports that were issued during and subsequent to our review. If the past is prologue, taking the time to adhere to disciplined processes will pay dividends in the long term.

Mr. Chairman, this concludes our statement. We would be pleased to answer any questions you or other members of the Subcommittee may have at this time.

## Contacts and Acknowledgments

For further information about this statement, please contact Jeffrey C. Steinhoff, Managing Director, Financial Management and Assurance, who may be reached at (202) 512-2600 or by e-mail at steinhoffj@gao.gov, or Keith A. Rhodes, Chief Technologist, Applied Research and Methodology Center for Engineering and Technology, who may be reached at (202) 512-6412 or by e-mail at rhodesk@gao.gov. Other key contributors to this testimony include Kay Daly, Michael LaForge, Chris Martin, and Mel Mench.

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Mr. PLATTS. Thank you, Mr. Steinhoff and Mr. Rhodes.

Mr. Weems.

Mr. WEEMS. Mr. Chairman, thank you for the opportunity to appear before you today. It is probably rare that somebody sincerely thanks the subcommittee when asked to appear in response to a GAO report. However, I believe we have a strong story to tell, so my thanks are sincere. I am here to discuss the HHS Unified Financial Management System. When completed in 2007, we believe it will be the largest integrated financial management system in the world.

In 2001, HHS was engaged in replanning and budgeting for our five major financial management systems. Secretary Thompson, believing that current technologies would allow for consolidation of the five systems into a single system, producing lower cost and better financial outcomes, challenged us to plan, procure, and implement a single system. I direct the committee's attention to my first chart, which is a reproduction of the Secretary's memorandum directing us to begin that endeavor.

Looking just briefly at the goals that this memorandum looked for, it looked for consolidation, it looked for better management reporting, and lower administrative cost. This was very early in the Secretary's tenure, as you can see from the date, and this is how long this charge has been with us.

To illustrate what the Secretary gave us in this charge, this next chart illustrates how we moved from our former decentralized environment to a new business intelligent shared services environment. Currently, Mr. Chairman, we struggle every year to be able to get a clean opinion because of the nature of our financial systems. We looked for a financial system to provide that information in an integrated way and to make that essentially a slam-dunk every year.

We look forward to going to a shared services environment where a single service center can, for instance, pay bills for the entirety of the agency rather than having separate service centers. That is the vision. And also, to be able to provide us reliable, business intelligent information about the direction of program activity and about the direction of HHS overall.

The scope of the undertaking is breath-taking. HHS has the largest budget of any cabinet agency, projected to be nearly $580 billion in the fiscal year that starts tomorrow. Within that budget is an extremely complex array of spending arrangements, including mandatory spending, discretionary spending, loan programs, the Government's largest grant portfolio, single and multiple year appropriations, buildings and facilities account, Medicare payments, user fees, revolving funds. The list goes on. The task of implementing a single system to manage those various business arrangements and to provide HHS leadership with meaningful financial information for decisionmaking is a monumental task.

I am happy to report to this subcommittee that HHS has achieved a number of successes and stands on the cusp of achieving more. In doing so, I would like to acknowledge the Government Accountability Office and their efforts to better help us manage this undertaking. Before I review those successes with the committee, I would like to discuss the draft GAO report.

The thrust of the GAO report was that certain management practices increased the risk of the UFMS project, and the report contained a number of recommendations to mitigate the risks. HHS has accepted and implemented a number of those recommendations. From our perspective, the GAO comments can be distilled into five main areas of concern: Requirements management and traceability; testing and data conversion; concept of operations; information technology infrastructure; and project management. I would like to discuss each one of these in turn.

HHS chose an off-the-shelf software package, Oracle Federal Financials. The effect of making such a choice is to say HHS will mold its business practices to the software. That is very different than a ground-up software development effort where all requirements are identified at the finest level of detail and the new software is coded to meet the demands of the business practices. For HHS, the choice of molding our business practices to the software means that we can have uniformity of business practice, exactly what the Secretary envisioned in standardizing our business practices across the 12 operating divisions in HHS.

The managerial benefits of standardization are immense. A bill to be paid can be booked and paid exactly the same way in FDA as it is in CDC, or, indeed, a payment for all agencies can be made from a single center. Since many of the requirements are contained in the software, requirements can be managed at a higher level of granularity.

HHS has a central repository of over 2,100 requirements for UFMS, which includes the requirements specified by the Joint Financial Management Improvement Program. Those requirements not met by the software underwent a business change process to conform business practices to Oracle Federal Financials, or, in a few limited instances, an extension was written for the software. HHS has also built a requirements traceability verification matrix to verify that all requirements are met by the system and to demonstrate to HHS and outside parties that we have satisfied the system requirements.

At the time of GAO's review, full test plan and test scripts were not available for review. So, understandably, GAO raised concern. Since that time, a full test plan has been developed and implemented. Testing is appropriate to Oracle Federal Financial's mature product. Therefore, our testing is unit testing, integration testing, and user acceptance testing. These tests focus on items such as interfaces developed specifically from, as I say, user and feeder systems. Testing continues to this day.

As GAO notes, data conversion is a difficult task. HHS originally planned two mock conversions, essentially dress rehearsals for final data conversion. We now intend to conduct four. This demonstrates that our project management was flexible enough to accommodate difficulties outside of the plan but still stay on course.

The GAO report urges HHS to adopt a concept of operations; that is, what operations must be performed, who must perform them, and where and how they must be performed. Our own independent verification and validation contractor, Titan Corp., has also urged us to do so.

In July 2002, HHS developed and adopted a target business model, a description of business operations and how a design of those operations will be performed at HHS. We believe that this business model provides a suitable concept of operations while maintaining flexibility required by our rapidly changing business environment, including changes to travel, acquisition, grants management, financial management, and information technology. Let me give you an example. The idealized concept of operations would say how bills get paid in HHS and who will do it. Our business model has the "how" but not the "who."

The implementation of the unified financial management system will foster a significant organizational transformation for HHS, a department that has traditionally followed a decentralized approach to financial management. Although this initiative relies on technology at its core, it is a business transformation initiative, emphasizing the importance of standardization across our business units.

For a number of business functions, we have asked our operating divisions to prepare business plans and bid to be a service provider. This produces internal competition for business and produces a better result than a pre-determined "who." So our divisions are essentially competing to be one of the providers of the services.

Finally, we have a governance structure, which we illustrate here, that allows us the flexibility to adopt our concept of operations to changing business needs. GAO also noted our governance structure as a best practice, the department from top to bottom is heavily invested in this program, from the users of business systems to our leadership. Changes are run through this model. Also, this model and this structure is used to implement other business changes in HHS, for instance, the recent changes that we have made to e-travel. Because UFMS is the central architecture to these things, we use this structure as a means of decisionmaking for those items. Users, managers, and leaders all share a voice.

GAO noted several deficiencies in HHS information technology infrastructure, especially security. I am happy to report that HHS has greatly increased security for its systems. Right now, of the 175 systems, 96 percent have completed a risk assessment, 95 percent have security plans, and 93 percent have been certified and accredited for security. Eighteen of the nineteen systems that interface with UFMS have been certified and accredited.

As the accrediting official for UFMS, I expect to accredit UFMS in the next several days. UFMS will run on a new secure network recently implemented in HHS, called HHS-net, which is slated for certification and accreditation in October 2004, making 19 of 19 systems. In fact, UFMS will be the first enterprise-wide system deployed over HHS-net.

In the area of program management, we found a number of areas where we agree with GAO. We agree we were prematurely closing identified risks. And we have modified our risk management accordingly. We agree that the management of human capital has been and continues to be a significant risk. And we agree that our project status monitoring could be strengthened further.

Where we do not agree is in the overall management strategy. GAO believes that the project should be event-driven and the

project should be governed by the achievement of objectively measured milestones. In a perfect world I would agree with GAO. However, we are a schedule-driven project, even though that means increasing risk.

The legend about Federal employees and Federal executives is that they are not risk-takers and they seek the path of least risk and least resistance. In HHS we are undergoing a tremendous metamorphosis in the way that we do business. Our employees want to be very much a part of that, and my job as a manager is to harness that enthusiasm and to translate it into real outcomes for HHS. I believe we have succeeded. Through outreach, demonstration, and training, there have been nearly 6,000 experiences for HHS employees with UFMS. Awareness and expectation exceed even those levels.

So, what are the consequences of being schedule-driven? In February of this year a sober, objective, hard review of where we stood on CDC implementation revealed that perfect execution would be required to meet full implementation in October. Understanding the consequences of that, our team was excited because they believed perfection to be within their reach.

By May, our assessment was that a heroic effort would be required, but we pressed on. For members of the team it meant workdays that extended to 12 or 14 hours, workweeks that extended into 6 days or more, and limited or no leave during this period. The amount of personal sacrifice on the part of our employees was tremendous. The amount of sacrifice on the part of our contractor, the systems integrator, BearingPoint, was tremendous also. And I am grateful for all of their sacrifices.

On August 20, I received an alert from our independent verification and validation contractor asking me, among other things, to obtain a briefing from the project team on systems readiness. I met with the project team here and in Atlanta and conducted a systems readiness review. At the conclusion of those reviews, and using objective, quantifiable measures of readiness and completion, we decided to deploy UFMS in October for CDC and FDA. The deployments would include general ledger and payroll for both, and grants for CDC later that quarter. Other functionality for CDC is phased to April to match that of FDA, and we have completed a project plan accounting for that phasing.

In conclusion, I believe that UFMS continues to succeed. We were able to capture the enthusiasm and know-how of a remarkable group of Federal employees and contractors to complete two implementations of UFMS. We are proud of the milestones that we have achieved. The implementation at NIH will have functioned for a year. This year's financial reports for NIH will come from that implementation.

The October deployment of general ledger, payroll, and grants remains a tremendous accomplishment. The overall schedule for UFMS remains the same. We still plan to have full implementation across HHS by the end of 2007, a date that seems less distant all the time. The work that has been accomplished is valuable and has been preserved by the phased implementation strategy. Participants can look back with pride on their accomplishments and forward to even more successes in the future.

Finally, Mr. Chairman, in the days when Federal managers are being urged to take risks and Federal employees are criticized as being risk-averse, we took a calculated risk by being schedule-driven. We believe it to have been a necessary risk and one in the best interest of the project. I want to publicly thank the members of the UFMS team across the department for their dedication and diligence. I would also like to thank GAO for their comments, and this committee for your oversight and for having this hearing today. Thank you.

[The prepared statement of Mr. Weems follows:]

**TESTIMONY OF**

**MR. KERRY WEEMS**

**PRINCIPAL DEPUTY ASSISTANT SECRETARY**

**BUDGET, TECHNOLOGY AND FINANCE**

**BEFORE THE CONGRESS OF THE UNITED STATES**

**HOUSE COMMITTEE ON GOVERNMENT REFORM**

**SUBCOMMITTEE ON GOVERNMENT EFFICIENCY**

**AND FINANCIAL MANAGEMENT**

**SEPTEMBER 30, 2004**

**WRITTEN STATEMENT**

## Introduction

Good morning, Chairman Platts, Madam Vice-Chairman and Members of the Committee.

I am honored to have been asked to provide testimony here today on the Department's Unified Financial Management System (UFMS). Today, at your request, I will be addressing the Department's efforts to develop the UFMS and respond to the Government Accountability Office's (GAO) Report, "Financial Management Systems: Lack of Disciplined Processes Puts Implementation of HHS' Financial System at Risk, GAO-04-1008."

In June 2001, Health & Human Services (HHS) Secretary Tommy Thompson, through an Executive Memorandum, directed that a unified accounting system be established for the Department of Health and Human Services. The Secretary wanted to achieve greater economies of scale, eliminate duplication, and provide better service delivery. His mandate established the Unified Financial Management System (UFMS) Program, which is focused upon achieving the following **strategic objectives**:

- Eliminate redundant and outdated financial systems by implementing a modern integrated HHS-wide system
- Produce accurate, timely, reliable, and relevant financial information to help HHS managers make fact-based decisions to improve customer service
- Comply with applicable Federal financial management system requirements, accounting practices, and transaction standards
- Strengthen internal controls by instituting standard business rules, data requirements, and accounting policies across HHS
- Streamline operational activities to achieve more efficient and cost-effective business performance
- Continue to achieve unqualified audit opinions on annual financial statements

UFMS was designed as an integrated financial system for HHS and all of its operating components. It is not only a vital element of Secretary Thompson's vision of "*One HHS*," it is also responsive to the President's Management Agenda calling for more efficient and effective government.

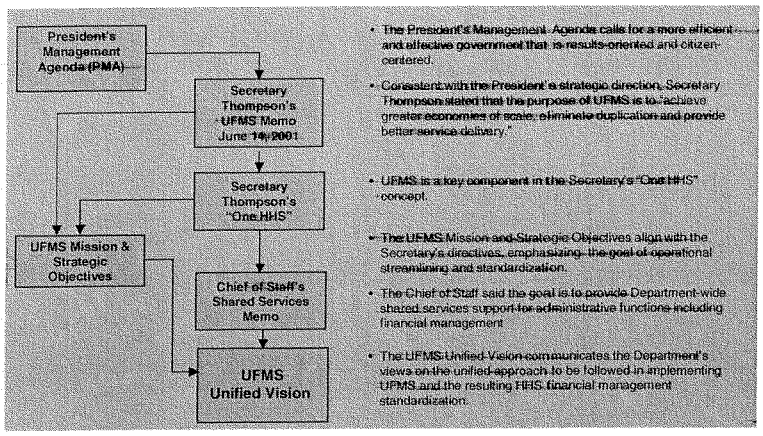


**Figure 1: UFMS Unified Vision**

The UFMS program is comprised of several large systems development efforts including the NIH Business system (NBS), the Health Integrated General Ledger Accounting System (HIGLAS) for Medicare Contractors, and the UFMS Global System for the rest of HHS. GAO's report was focused on the UFMS global effort and, therefore, I will direct my remarks to that aspect of the UFMS (see Appendix 1: HHS Response to GAO Recommendations for Action).

To appreciate the size of the systems development effort we have undertaken, one needs to appreciate the size and complexity of HHS. In terms of budget and programs, we have become the largest

department in the Federal Government, with almost a quarter of total federal outlays. In fiscal year 2003, HHS was responsible for $505 billion in net outlays. We administer more grant dollars than all other federal agencies combined. Our Medicare program processes more than 1 billion claims per year. Our Food and Drug Administration alone regulates products that represent 25 cents of every dollar in U.S. consumer spending. HHS total employment nationwide is 66-thousand employees. The total budget for the UFMS global is $209 million and the current estimated Return on Investment (ROI) is 15%.

We have one of the most complex accounting environments in the Federal government. HHS has multi-year as well as annual appropriations, entitlement as well as discretionary programs, loan programs, etc. This environment presents a major challenge in designing and developing a unified system.

Among the reasons UFMS is a more complex program than its name may imply are the following:

- HHS has a variety of organizational cultures in its operating components
- UFMS represents a change in the Department's traditionally decentralized financial management model
- Some operating components were implementing and/or pursuing new financial systems independently at the time of the Secretary's June 2001 memo

UFMS is one of HHS' most significant e-business initiatives. In addition to these challenges, the system implementation itself is daunting. Five "legacy" accounting systems are in use across HHS. They employ different technologies and disparate data definitions and are not electronically integrated. Implementing one financial system that can support the diverse, complex needs of each operating component requires significant collaboration across the Department. HHS is responding by building a knowledgeable team with representation from every operating component to address these challenges head on.

**Benefits of UFMS**

UFMS is designed to deliver the following benefits:

- Lower administrative costs, freeing up resources for HHS programs
- A more secure systems environment
- Capability for more timely and accurate information for management decision-making purposes
- Standardization and streamlining of processes and procedures across HHS
- Elimination of redundant systems and databases
- Capability for updating financial information in a timely manner
- Improved ad hoc reporting capability
- Allow HHS to meet the PMA standards including bringing the Department into compliance with the Federal Financial Management Improvement Act and eliminate material weaknesses

Our achievements in developing the UFMS to date include the facts that:

- All the agencies are going down the same path, supporting a UFMS vision.
- Successful conference room pilots (CRPs) were held at CDC, FDA, and the PSC; these helped demonstrate some of the system's functionality.
- There is agreement on consistent accounting treatment according to USSGL.
- We've streamlined the business processes and anticipate reducing the number of reports.

**Strategies for Achieving Success**

Throughout the implementation process, we have stressed the need for management involvement, and the UFMS governance structure ensures that involvement. We have deputies from all HHS operating components participating in the Steering Committee. Operating component Chief Information Officers (CIOs) and Chief Financial Officers (CFOs) sit on the Planning and Development Committee. Operating component staff are involved in the business analysis, technical analysis and business transformation teams.

As stated above, the implementation of a unified financial system will foster a significant organizational transformation for HHS, a department that has traditionally followed a decentralized approach to financial management. Although this initiative relies on technology, it is at the core, a business transformation initiative. From the outset, HHS acknowledged the significance of business transformation activities as a critical success element for the program.

There are several strategies we employed that were specifically derived from best practices and lessons learned, always focusing on the outcomes desired:

- Executive commitment
- Focus on cultural transformation for complex organization
- Investing in change management from the beginning
- Individuals who know the business are involved to ensure the business requirements will be met
- Widespread participation and support across all HHS operating components
- Limit scope to core financials
- Use phased implementation strategy to reduce risk
- Reuse assets of other agencies
- Use detailees from HHS operating components to insure built-in agents of change and knowledge transfer, and thereby avoid building another federal bureaucracy
- An innovative multidimensional and blended training strategy

**The Challenge**

From the outset, the UFMS team understood that the implementation of a *unified* financial management system across HHS posed technical as well as significant organizational and operational challenges. History tells us that most large system implementation projects fail. Sources report that these failure rates fall between 50-80%. The challenge--how could we ensure success, especially considering the complexity of bringing together twelve separate operating components and five accounting systems?

## Strategy for Implementing the Unified Financial Management System

I would now like to focus my comments on the important topic of the UFMS implementation approach that HHS chose at the inception of the program. The GAO report offers a critique of the UFMS implementation as at risk due to the lack of a disciplined approach. However, HHS' approach is not only disciplined and appropriate for implementing commercial software, it has in fact kept the UFMS program in reach of success. The UFMS implementation plan does contain significant risk, but is supported by a risk mitigation process, which is carefully managed daily., I would like to share with this subcommittee how HHS has, from its inception, viewed the UFMS system development philosophy.

To this end, please allow me to explain how the four key facets of the UFMS implementation approach have set the program on a path to success.

**Management Vision and Governance**

As mentioned earlier, the UFMS program began with a vision by Secretary Thompson in 2001. We have kept aim on that vision ever since. In the first eight months of this program HHS managers, together with a system integrator and Independent Verification and Validation (IV&V) partners, focused on completing a clear, compelling business case and a detailed UFMS implementation plan. Several management directives and implementation processes were put in place as a result of this work that we have followed with great discipline. One of the key management decisions that we made during the planning phase of UFMS was to manage this program as a business transformation initiative and not just a system development program. This meant that we had to ensure that the transformation would occur in a manner that produced benefits along the way. First, we had to construct approaches and management frameworks to ensure that business requirements for financial and accounting operations were met by the system. We chose to meet this challenge by adapting HHS financial business processes to commonly accepted practices in financial management that are already designed into the Oracle software application. As discussed in a recent Government Computer News (GCN) article, "Agencies Get Out of the Box", federal agencies are on an upward trend in using commercial software to change financial business practices. In 2003, ten of thirteen federal agencies used commercial software as the foundation for their core financial system implementations.[1] The UFMS program is a significant part of this trend. As we move down this path we are doing some important things:

- We are following industry accepted implementation methods that focus on requirements management, quality assurance, risk management and configuration management to configure the software for the business needs of HHS.[1]
- We collaborate with and leverage the collective lessons as well as assets of other federal agencies who are implementing or have already deployed the Oracle Federal Financial software.
- We have expended a great amount of energy and focus on communicating our UFMS business objectives and training the workforce on how to use the system. This will drive a steeper ROI curve by ensuring that our employees are ready to operate our new financial business model well in advance of the UFMS deployment.

The last point is important because, from inception, HHS has believed that building new competencies and acceptance for the UFMS is the path to achieving the Return on Investment (ROI) documented in the original UFMS business case.

As described earlier, to ensure that this business-centric approach is executed effectively, we designed a multi-faceted governance structure for UFMS that drives program decisions from key business and technology managers from all of the HHS operating components. Figure 2 below depicts the structure and components of the UFMS governance structure.

[1] GCN, August 30, 2004, Vol. 23, No. 25 "Agencies Get Out of the Box", by Jason Miller

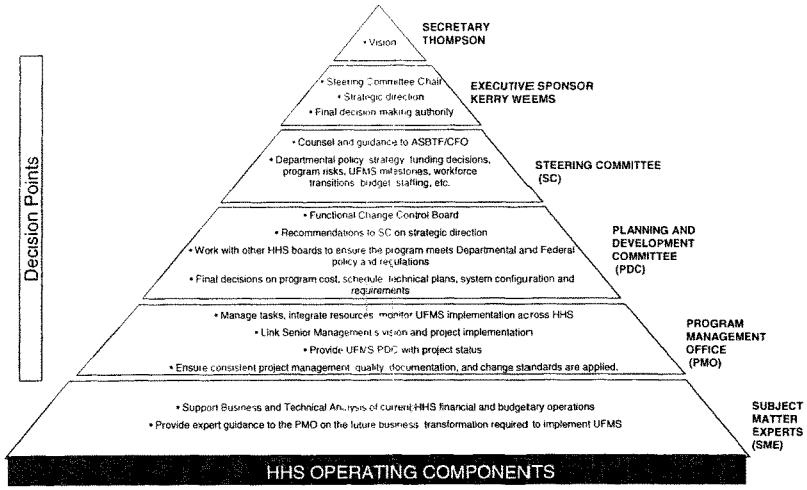


**Figure 2: UFMS Governance**

For the past two years this governance organization has provided great benefits to this program such as:

- Serving as an best practice governance model and forum for collaborative management between UFMS and other HHS enterprise initiatives such as eTravel and eGrants
- Executive leadership from HHS operating components that communicates the UFMS strategic goals and the importance of participating in the program to their operating components and build support throughout HHS and to external stakeholders.
- Clearly defined lines of demarcation between UFMS strategic direction setting activities and daily program management. The UFMS Steering Committee keeps the program aimed at strategic goals and stays abreast of federal management agendas and their impacts on the program. The UFMS Planning and Development Committee, comprised of the CIOs and CFOs of all HHS operating components, oversees performance of the program at a more tactical level

and makes recommendations to the UFMS Steering Committee on matters related to the strategic direction and pace of this program.

I am confident that the UFMS governance organization and management processes are among the most effective for this type of program anywhere in the federal government.

**UFMS Concept of Operations and Requirements Management**

I would like to cover a few thoughts on the UFMS concept of operations and how this relates to the requirements development and tracking that we are managing during the implementation. GAO's report points out that a good Concept of Operations document "should contain a high-level description of the operations that must be performed, who must perform them, and where and how the operations will be carried out." This approach defines only one means of successfully deploying a system – building a complete Concept of Operations at the start of the program. It also presupposes that a natural constituency for the system already exists. HHS is composed of a broad group of operating components with diverse missions that share the common objective of securing the public health and welfare of the American people. With this long history of autonomy, building a case for UFMS as a "Unified" system has been a huge undertaking.

We started with the components of the Concept of Operations that we could define. Over the course of the first year of the program, HHS held numerous workshops focused on the "Case for Change," "High Level Business Processes," and finally "UFMS System Requirements Specification." These efforts laid the groundwork for what would follow and continued the process of building the necessary organizational support for the program. In short, HHS leaders unified employees before we began unifying a system. Figure 3 below depicts some of the thinking we completed along this vein.

| Pre- UFMS | Implementation of UFMS (We are here) | UFMS Enabled |
|---|---|---|
| • Redundant Systems | • Replace/Consolidate Systems | • Single, Integrated Dept-wide System |
| • Decentralized Accounting Operations | • Decentralized Accounting Operations | • Decentralized Accounting Operations |
| • Inconsistent Processes | • Standardizing Processes | • Standardized Processes |
| • Transaction Processing | • Financial Analysis | • Business Intelligence |
| • Material Weaknesses | • Enhanced Internal Controls | • Reduced Administrative Costs |
| • Clean audit opinion | • Clean audit opinion | • Maintain clean audit opinion |

**Figure 3: Evolution of HHS Financial Management Operations**

As UFMS moved through the COTS implementation life cycle, we attained additional buy-in through the use of Conference Room Pilots, commonly referred to as CRPs, training classes, workshops and other events aimed at building competence and adoption around the new system. The CRPs, in particular, brought a broad base of managers and users together for live demonstrations of the evolving UFMS system. I participated in several of these CRPs and am proud to report that they met their objective. We now have broad support across HHS for the new financial system.

With a supportive and educated user community in place, HHS was finally able to complete the last stage of the overall concept for UFMS. We embarked on a shared services study to determine the "who" and "where" of the UFMS Concept of Operations. In late 2003 we contracted to perform the study and deliver several options to the department. These options were vetted with the operating components and a final course of action selected. This was documented in the "Financial Shared Services Study Concept of Operations" in April 2004.

In COTS systems, requirements statements need to be more flexible and less specific since COTS products are designed to meet the needs of a marketplace instead of satisfying the needs of a particular organization. The UFMS implementation is focused on refitting existing HHS business practices to use the software as the vendor designed it and configuring the software to meet the needs of the HHS business. Let me cite a couple of examples of how our business practices will change as a result of implementing the software's inherent capabilities.

**The HHS Common Vendor File** – Today, each HHS component agency maintains separate vendor files. UFMS requires a single common vendor file. The single vendor file supports the transition to the Common Contractor Registry (CCR) for all HHS Agencies and will enable our managers to perform vendor performance and other procurement analyses across agencies. This capability will also give HHS the foundation for analyzing past and current contracts with our vendors. With the common vendor file, HHS can more effectively manage and negotiate better contractual arrangements with our vendor partners.

**Shared Accounting Data** – Currently, HHS maintains accounting data within separate databases at each Agency, with little commonality in structure or format. UFMS is being implemented to take advantage Oracle's ability to share data values such as for HHS-wide accounting segments that support financial processing and reporting. This will promote efficiency in maintaining common data elements, and enable more effective department-wide reporting and analysis on HHS programs.

Note that in each of these examples we are embedding better capabilities that prepare us to fulfill our vision of unifying our operations and implementing a more robust accounting shared services business model. We built the Concept of Operations one step at a time along a deliberate path to achieve the necessary support from all HHS operating components. It was the right path.

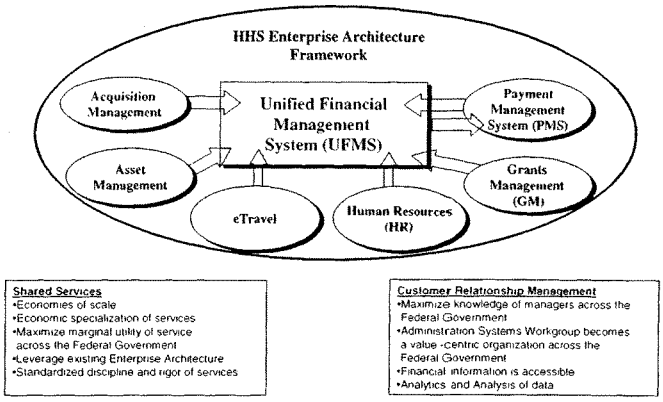


**Figure 4: HHS Enterprise Architecture Framework**

### Sound Implementation Strategies

The UFMS program is driven by several guiding implementation strategies aimed at reducing risk and ensuring the program's success. First, we decided that HHS must base its financial system implementation on standards. With UFMS we are implementing standards for the selected technology platform, data management and business processes. We chose a commercial software package, Oracle Federal Financials, as the technology standard. This decision supports the goal to streamline financial operations and processes and reduces business and financial system complexity. With this new technology platform HHS can now design and enforce financial data standards for transaction processing, data exchange and reporting. For example, we have developed a budget and accounting classification structure (BACS) that is JFMIP-compliant and gives us common data elements, naming conventions, organization of general ledger data and other attributes that all of the HHS operating components use for accounting. We have been and are designing common interfaces with the HHS

administrative systems that feed the UFMS. This gives us additional control over how financial data is exchanged and significantly reduces the amount of work across HHS that is required to maintain data exchange mechanisms. Finally, and most importantly, collaborative efforts across HHS to redesign and streamline processes and internal controls have resulted in a unified business model that links operating components through process standardization. As you'll see later in this testimony, we have spent much implementation effort focusing on building the competence and confidence of employees in the UFMS capabilities to ensure that HHS requirements are met and the Secretary's vision is achieved.

A second implementation strategy is aimed at limiting the scope of business and system transformation efforts to the core financials capabilities as defined by the Joint Financial Management Improvement Program (JFMIP)[2]. Table 1 describes the mandatory JFMIP core financial management functions within the scope of the UFMS Program.

Continuing to adhere to this principle enables us to exert better control over the UFMS implementation timeline, investment, and other related risks.

[2] "Core Financial System Requirements" (JFMIP-Sr-02-01, November 2001) JFMIP uses these requirements to certify vendors' COTS packages as meeting the core financial functionality required by Federal agencies.

**Table 1. JFMIP Mandatory Core Financial Management Functions**

| Function | Description |
|---|---|
| Core Financial System Management | Processes necessary to maintain system-processing rules consistent with established financial management policy. Sets the framework in which all other core financial system functions operate. This function includes the:<br>■ Accounting classification management process<br>■ Transaction control process |
| General Ledger | The central function of the core financial system provides summary information and maintains account balances by fund structure and individual accounts. This function includes the:<br>■ General ledger account definition process<br>■ Accruals, closing and consolidation process<br>■ General ledger analysis and reconciliation process |
| Funds Management | Primary tool for ensuring that HHS does not obligate or disburse funds in excess of those appropriated and/or authorized by the Congress. This function includes the:<br>■ Funds allocation process<br>■ Budget execution process<br>■ Funds control process |
| Payment Management | Provides appropriate control over all payments made by or on behalf of HHS. This function includes the:<br>■ Payee information maintenance process<br>■ Payment warehousing process<br>■ Payment execution process<br>■ Payment confirmation and follow-up process |
| Receivables Management | Supports activities associated with recording cash receipts, including servicing and collecting receivables. This function includes the:<br>■ Customer information maintenance process<br>■ Receivable establishment process<br>■ Debt management process<br>■ Collection process |
| Cost Management | Measures the full Federal Government cost of Government programs, their activities, and related outputs; essential for providing accurate program measurement information, performance measures, and financial statements with adequate disclosure of cost activities. This function includes the:<br>■ Cost setup and accumulation process<br>■ Cost recognition process<br>■ Cost distribution process<br>■ Working capital and revolving fund process |
| Financial Reporting | Provides financial information in a timely manner to support management's fiduciary role, budget execution, fiscal management of program delivery and program decision making, internal and external reporting requirements, and monitoring of the financial management system. |

The development and implementation of UFMS, like other complex technology projects is inherently risky. HHS has chosen an implementation strategy that is well governed and aggressive. We have also prudently placed the UFMS under the scrutiny of an independent verification and validation (IV&V) agent who has the duty of monitoring, assessing and reporting on the rigor and execution of our management processes to senior leadership of the Department, including myself, in the UFMS governance structure. Indeed, the findings in the GAO report were issues that were previously identified as a result of this governance and IV&V oversight. Our approach to using an IV&V was validated by GAO's use of UFMS IV&V contractor's analysis in the GAO report.

Finally, UFMS is being deployed using an incremental, phased deployment strategy. The first success came with the deployment of a new Oracle financial system at the NIH in October of 2003. We will next deploy releases of the software at the Centers for Disease Control and Prevention (CDC) and the Food and Drug Administration (FDA). As we develop the system we are using implementation processes and disciplines that are most appropriate for the configuration and deployment of commercial off the shelf software (COTS) applications. GAO cited in their report that UFMS was lacking in the manner in which we execute key disciplines such as requirements management, program management oversight and risk management. Because of these disciplines I am happy to report that, despite recent changes to the deployment schedule at one of our sites, the UFMS is a healthy program that is driven by an implementation team and workforce who are excited about the future of HHS financial management processes as they are implemented as a result of UFMS. We are proud of the fact that after almost 23 months of implementation progress HHS has met all UFMS major schedule milestones while simultaneously preparing the HHS workforce for the eventual release of the system into our business operations. We have also effectively navigated through control points that are designed to allow or disallow further progress until HHS management feels it prudent to proceed. A recent test readiness review (TRR) control point resulted in a modification of the software deployment strategy at one site to

allow additional time for system testing and defect resolution. We are confident that this type of discipline will continue to keep this program on a path to success, guided by informed and active HHS leadership and collaborations with industry partners.

**A Focus on Business Transformation**

Earlier in my testimony I mentioned that one of the UFMS implementation strategies is focused on ensuring that we manage UFMS as a business transformation initiative and not just a system implementation effort. This strategy has proven to be a correct one for UFMS and I would like to share a few thoughts on what we have accomplished at HHS so far and how we will ensure that the transformation continues to take place as the system is deployed.

At HHS we are confident that UFMS' past and future achievements in business transformation differentiate UFMS from other similar initiatives. A framework consisting of preparing leaders, communications, workforce transition and training drives transformation and change for the UFMS program. During the planning phase in 2002 the UFMS leadership designed into the governance and management structures a team of professionals who execute a full life cycle business transformation approach and framework that realizes the Secretary's vision and drives the needed changes across HHS to achieve that vision.

We are focused on the realities of what we must do to drive adoption of UFMS at HHS. At HHS we have many stakeholders who are actively engaged in pursuit of UFMS objectives. This includes everyone from the Secretary himself, executive leaders, union organizations and HHS employees. As the chart below shows, we are overcoming this one touch at a time with employees at HHS. It depicts the numbers of employee "touches" that we have achieved in our formal training sessions, system demonstrations, and workshops. We are succeeding in driving competency and adoption for UFMS.

Through an accumulation of many focused business transformation events like these we are impacting change and adoption of better ways to manage financial operations.

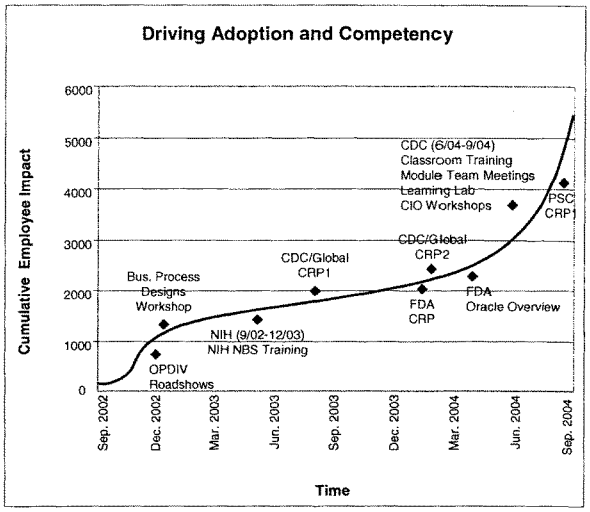


**Figure 5: Driving Adoption and Competency**

We have a creative and comprehensive communications program consisting of a website, newsletters, posters, emails and videos that communicate progress, benefits and other important facts about the UFMS program. For example, one of the most successful communications events to date was a "*Case for Change*" workshop conducted with senior HHS managers in September 2002 at the beginning of implementation activities. This workshop was aimed at early identification of UFMS critical success factors, benefits and barriers to success. As a result of this workshop leaders engaged with each other on these topics and actively participated in creating initial mitigation strategies for the issues identified. The knowledge and momentum gained from this workshop is still evident today among HHS leaders.

The UFMS training strategy is founded on adult learning theory, leading practices and lessons learned from multiple similar implementations in the Federal Government. It presents a blended learning solution that is anchored in a train-the-trainer approach. It also presents a series of highly integrated planning activities and workshops designed to build a robust learning infrastructure, including a wide network of UFMS super and master users. Curriculum development and learning activities are supported by a sophisticated training development platform, OnDemand. We planned training this way to account for the fact that the hundreds of people who will use UFMS not only have great diversity in their learning styles and preferences, but they are also geographically dispersed. We already see the positive effects of these efforts. Three years ago most HHS employees impacted by this business transformation had little confidence in the system. Today, many employees have already learned how to use the various modules that comprise the system.

## UFMS Achievements and Successes So Far

UFMS is scheduled for completion in FY 2007. As mentioned earlier we at HHS are very proud of the accomplishments we have achieved in partnership with the systems integrator and IV&V agent. I would like to spend a few minutes sharing with the committee a chronology of some major milestones we have accomplished to date on the path to significantly streamlining and transforming financial operations and systems at HHS.

- **November 2001**. Awarded the UFMS systems integration contract to KPMG Consulting Inc. (now BearingPoint Inc.)

- **September 2002**. Completed detailed planning for the UFMS implementation. In this plan we laid a strategic roadmap for the implementation, documented approaches and strategies for executing a successful program, laid initial staffing plans, and described overall governance, risk management

and performance measurement frameworks. We submitted this comprehensive plan to OMB where it was well received.

- **November 2002**. Submitted the UFMS business case document to OMB. This document described implementation approach alternatives and respective cost-benefit analyses were considered in UFMS planning.

- **November 2002**. Formally kicked off CDC implementation.

- **August 2003.** Global/CDC CRP1 was conducted at the CDC with teleconferencing to our PMO office in Rockville, Maryland. CRP is a prototyping technique used to help determine and validate UFMS design and configuration. It takes the form of an interactive, scripted working session in which subject matter experts provide feedback on proposed configurations, business requirements, and organizational impacts and anticipated training requirements.

- **October 2003.** Successfully deployed Oracle Federal Financials at the NIH. The NIH served as the initial UFMS "proof of concept." Its overwhelming success signaled the green light for implementations at other Agencies. The NIH Oracle General Ledger, Federal Administration and Projects Accounting financial modules were deployed in September 2003, along with an Enterprise Single Sign-On capability and Single Point of Entry Portal. Gelco Travel Manager was also deployed in September 2003 with Oracle Accounts Payable, Purchasing, Accounts Receivable and Cash Management as sub-ledger financial support modules. (Note: NIH will migrate to the eTravel solution by end of FY 2006).

- **October 2003.** Formally kicked off the FDA UFMS implementation.

- **February 2004**. Approximately 100 staff representing all Regional Offices and Centers attended the FDA's CRP1. The FDA Commissioner, the CFO and the Deputy CFO made a special appearance.

- **March/April 2004**. Global/CDC CRP 2.
- **April 2004**. Formally kicked off the PSC/Customer Operating Divisions implementation. The event drew 100 participants and included speeches by me and other key leaders from across HHS. Presentation topics included program team structure and governance, major milestones and the importance of involving subject matter experts from the impacted communities in all facets of the implementation.
- **August 2004**: PSC CRP 1 was conducted over a two week period in Washington, DC. Over 180 participants from the PSC and its customer operating components attended.
- **October 2004:** Deployment of General Ledger and Payroll at CDC and FDA.
- **First Quarter Fiscal Year 2005**: Deployment of Grants processing capability at CDC

## Deployment Strategy Update

The risk inherent in the HHS approach comes from an aggressive implementation plan, designed to begin securing value for the taxpayer and the HHS community at the earliest possible time. October 2004 was chosen as the aggressive goal for the pilot implementation in order to expedite discovery of system defects and increase chances that the system would go live in FY 2005. This strategy ensures adequate time to deploy a quality system in the event unsuspected technical issues and risks were uncovered. All things being equal, if a system functional capability becomes high risk for the pilot implementation, it can be deferred to a subsequent release without impacting the overall implementation.

One of the most challenging aspects of any COTS implementation is the continual management of the inter-related but sometimes competing priorities of cost, schedule, requirements, and resources. Early in

the program, the UFMS leadership team made the decision that incremental benefits from UFMS would be obtained through a phased deployment of the system. A well-defined set of phases was established. A core set of functional requirements will be available in the October 2004 release for Centers for Disease Control and Prevention (CDC) and Food and Drug Administration (FDA). Additional capabilities will be added in subsequent releases resulting in a complete, Department wide core accounting system in 2007. This is an industry best practice risk reduction technique, and also allows the UFMS program to give priority to meeting the October 2004 "go live" schedule for CDC and FDA.

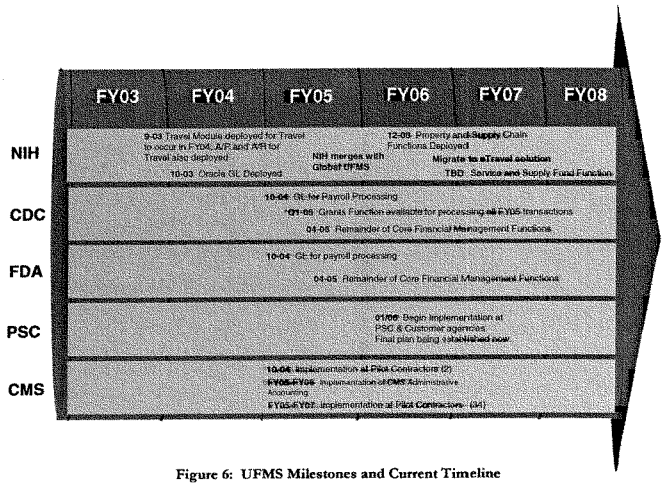


**Figure 6: UFMS Milestones and Current Timeline**

The flexibility afforded by the phased implementation approach, combined with the Capability Maturity Model (CMM) Level 3 compliant development processes, provide the balance necessary to manage the risks associated with an aggressive but achievable program schedule. One key risk in this approach, as GAO identified, is that the formal testing phase comes late in the overall timeline. This leaves limited time to resolve and retest unexpected issues as they are uncovered.

**Testing Strategy**

Testing of COTS software, like UFMS, takes on a significantly different focus from the testing of custom developed systems. A key reason for choosing a COTS software package is to leverage the investment made by the COTS vendor in producing a mature product that has been thoroughly tested. Very mature products, such as Oracle U.S. Federal Financials, require little or no low-level testing. It is sufficient to conduct functional testing to validate the application's ability to support HHS specific business processes. Consequently, the focus of the test efforts is system-level, and focused on code developed for HHS specific extensions and interfaces. The other important difference in COTS implementations is the inclusion of the Finance, Business, and Program stakeholders in the testing process. Industry experience has repeatedly shown that including key stakeholders in testing plays an important role in setting expectations and introducing future users to the system in a gradual way. The UFMS test effort is a multi-phased approach prefaced by Conference Room Pilot (CRP) activities, continuing with formal test activity, including unit, integration, and system testing, and culminating in a User Acceptance Test (UAT).

The GAO report takes issue with the timing of the testing in the program plan and HHS agrees that system testing ideally occurs earlier in the schedule. However, even though the testing occurs relatively late in the timeline, it is subject to extreme scrutiny and management oversight, with regular review meetings, daily summaries and detailed communication. All test scripts and results are rigorously tracked in "TestDirector," and testing teams manage defects on a daily basis. HHS believes that the majority of system defects will be identified as a result of this level of scrutiny, continuing heavy involvement in testing by Financial, Business and Program leaders, and the fact that UFMS is a very mature COTS product.

Each testing phase (CRPs, Unit-level testing, Integration Testing, System Testing, UAT) has a detailed plan developed that defines what will be tested, how it will be tested, where it will be tested, and who will test it. The results of each phase are recorded, defects noted, corrective actions taken, and functionality retested in each phase as necessary. A series of Go/No-Go checkpoints are built into these testing phases. These checkpoints had not yet been triggered at the time of the GAO review.

The UFMS implementation schedule for the CDC deployment was aggressive with significant risk in regard to meeting the October schedule. This led HHS to tailor its testing plans so that testing phases that normally occur sequentially have been allowed to overlap, but steps have never been skipped or eliminated. As testing has unfolded, HHS has taken the recommendations of the IV&V contractor and PMO and is analyzing system integration test results prior to deploying the first release of the system at the CDC and FDA. HHS does acknowledge GAO's comments that the testing of this system is occurring relatively late in relation to the October objective for deployment of the Global Pilot. At the time we prepared the response to the GAO report, HHS was analyzing system integration test results. This assessment resulted in a recommendation to the UFMS Steering Committee to modify the current software release strategy.

**Software Release Strategy**

UFMS has employed an ongoing software release strategy designed to ensure maximum capability while ensuring we meet scheduled milestones. Upon the completion of the "Gap Closure Analysis" in the summer of 2003, the UFMS Change Control Board reviewed the recommended actions to close requirements gaps. Many resolutions and extensions could be employed within the target go-live without impacting schedule. However some requirement gap actions would not be implemented within the time line. We understood that some functionality would be in a future release. In February 2004 at

the time of the schedule review, we understood the need for perfect execution of remaining tasks to meet the target of October go-live. We decided to press on with that understanding. In May, based on another schedule review, we realized the need not only for perfect execution, but also that meeting the October go-live target would require heroic efforts on the part of HHS staff and contractors. We also were aware that the ability to schedule certain system components for phased deployment would preserve all work done to date. We wished to retain a sense of urgency, and deliberately pressed on. In September 2004, we realized the need to revise the UFMS deployment strategy to maximize the investment in UFMS. This decision came due to results from test readiness review (TRR) and advice by IV&V.

Following a detailed system readiness review, and in keeping with industry accepted program management practices for COTS system implementations, the UFMS leadership team decided to follow a phased approach to the pilot UFMS deployment at the CDC. This results in a release strategy for the CDC, which allows adequate time to address technical issues identified during testing and readiness review and to deploy a quality system in FY 2005. The overall deployment plan for UFMS is on schedule for completion in FY 2007.

Through September, detailed updates to the UFMS deployment strategy have been developed to manage the tightly integrated deployments at the CDC and the FDA. Integration and system testing, certain conversion activities, the development of a grants module and CAN realignment, select infrastructure tasks, and the staff assigned to those activities, will continue through October 2004. User acceptance testing, training, specific conversion activities, and infrastructure tasks will require updated deployment schedules for the period October 2004 through April 2005.

October 2004 will see a significant achievement for UFMS. The Centers for Disease Control and Prevention (CDC) and the Food and Drug Administration (FDA) will deploy the General Ledger and the

Accounting for Pay System (AFPS) for payroll activities. For the FDA, this represents over 60% of its dollars. With the inclusion of grants processing in the first quarter of FY 2005, CDC will process over 50% of its dollars and transactions. CDC and FDA will deploy the comprehensive Oracle/UFMS suite in April 2005. This follows the successful deployment of the NIH phase of UFMS in October 2003.

## Conclusion

I hope that the information I have provided here today demonstrates how HHS has undertaken the UFMS project. We have utilized a number of industry best practices and have been schedule-driven. The benefits of this approach are that over the past three years we have been able to contain costs, contain scope and have made our workforce proceed on a daily basis with a sense of urgency. We understand the risks of this approach and have worked hard to mitigate and manage those risks. Unlike other systems development efforts that concentrate mainly on software and requirements, we have invested more of our energy in the people and institutions with the result that our people are being readied for the new system at a faster pace than would otherwise be possible. I believe our disciplined approach to the development of the UFMS will help ensure our ultimate success and that this information will be of value to this committee in their oversight efforts. At this time, I will be happy to answer any questions.

## Appendix 1: HHS Response to GAO Recommendations for Action

1. **Determine the system capabilities that are necessary for the CDC deployment.**

   **HHS has determined the system capabilities necessary for the CDC deployment over the last two years. Following details our approach.**
   - HHS has developed the UFMS Core Financial Target Business Model description of business operations and design of how the operations will be performed at HHS across multiple, coordinated entities.
   - For HHS, the target business model for financial management describes how financial management will be performed including at the CDC.
   - UFMS has established a central information repository (Rational's RequisitePro), which includes over 2100 requirements and their attributes (e.g. requirement type, origin, applicable Operating Divisions (e.g. CDC, FDA), status and other management information) pertinent to the UFMS environment.
   - UFMS requirements are also documented in the UFMS Baseline Requirements document that was reviewed and approved by the PDC and Steering Committee.
   - Requirements not satisfied by the basic COTS package (Oracle U.S. Federal Financials), were assessed to determine an appropriate business solution. These "Gap" requirements identifying either a business process change or an Interface, Extension, Report or Conversion program were prioritized based on the UFMS release schedule; therefore CDC required capabilities were developed first.

2. **Identify the relevant requirements related to the desired system capabilities for the CDC deployment.**
   - UFMS has established a central information repository (Rational's RequisitePro), which includes over 2100 requirements and their attributes (e.g requirement type, origin, applicable Operating Divisions (e.g. CDC, FDA), status and other management information) pertinent to the UFMS environment.
   - UFMS requirements are also documented in the UFMS Baseline Requirements document that was reviewed and approved by the PDC and Steering Committee.
   - Requirements not satisfied by the basic COTS package (Oracle U.S. Federal Financials), were assessed to determine an appropriate business solution. These "Gap" requirements identifying either a business process change or an Interface, Extension, Report or Conversion program were prioritized based on the UFMS release schedule; therefore CDC required capabilities were developed first.
   - For each Interface, Extension, Report and Conversion program identified as required for the CDC deployment a Functional Design Specification and a Technical Design Specification was developed. These design documents containing specific business rules (design constraints) that state unambiguously the functional UFMS must provide.
   - Each design constraint was captured in the central requirement repository and tied to the parent requirement that established the need for that particular interface, extension, report or conversion program at the CDC.
   - A release specific Requirements Tracability Verification Matrix (RTVM) has been built to verify that all requirements are met by the system deliverable and to demonstrate to HHS and outside parties that we have satisfied the system requirements allocated to the release (e.g. the CDC deployment).

3. **Clarify, where necessary, any requirements to ensure they (1) fully describe the capability to be delivered, (2) include the source of the requirement, and (3) are unambiguously stated to allow for quantitative evaluation.**
   - UFMS has established a central information repository, which includes over 2100 requirements and their attributes (e.g. requirement type, origin, applicable Operating Divisions (e.g. CDC, FDA, NIH), status and other management information) pertinent to the UFMS environment.

- UFMS requirements are also documented in the UFMS Baseline Requirements document that was reviewed and approved by the PDC and Steering Committee.
- Requirements not satisfied by the basic COTS package (Oracle U.S. Federal Financials), were assessed to determine an appropriate business solution. These "Gap" requirements identifying either a business process change or an Interface, Extension, Report or Conversion program were prioritized based on the UFMS release schedule; therefore CDC required capabilities were developed first.
- For each Interface, Extension, Report and Conversion program identified as required for the CDC deployment a Functional Design Specification and a Technical Design Specification was developed. These design documents containing specific business rules (design constraints) that state unambiguously the functional UFMS must provide.
- Each design constraint was captured in the central requirement repository and tied to the parent requirement that established the need for that particular interface, extension, report or conversion program at the CDC.
- Capabilities expressed in requirements that was assessed and demonstrated as being met by the basic COTS package have not been restated in additional detail. These "Fits" were verified through a series of Conference Room Pilots (CRPs).
- For each Interface, Extension, Report and Conversion program identified as required for the CDC deployment a Functional Design Specification and a Technical Design Specification was developed. These design documents containing specific business rules (design constraints) that state unambiguously the functional UFMS must provide.
- Each design constraint is captured in the central requirement repository and tied to the parent requirement that established the need for that particular interface, extension, report or conversion program.
- The RTVM is used to track all UFMS requirements and design constraints and verify they are all tested during testing.

4. **Maintain traceability of the CDC-related requirements from their origin through implementation.**
   - HHS has from the beginning maintained a detailed history of the UFMS requirements that includes mapping each requirement to the specific Integrated Business Processes where that capability is used, the test scripts that are executed to verify compliance and the results of each test script.
   - A release specific Requirements Tracability Verification Matrix (RTVM) has been built to verify that all requirements are met by the system deliverable and to demonstrate to HHS and outside parties that we have satisfied the system requirements allocated to the release (e.g. the CDC deployment).
   - Through the RTVM, requirements management and testing are inseparably linked. In addition:
     - The RTVM is used to track all UFMS requirements and design constraints and verify they are all tested.
     - The UFMS Final Baseline Requirements have been mapped to integrated business processes at the script level.
     - For each Interface, Extension, Report and Conversion program a Functional Design Specification and a Technical Design Specification is developed. These design documents containing specific business rules (design constraints) that state unambiguously the functional UFMS must provide.
     - The requirements module in TestDirector maintains the list of testable requirements, organized by module, in order to map requirements to Test Scripts.

5. **Use a testing process that employs effective requirements to obtain the quantitative measures necessary to understand the assumed risks.**
   - Each testing phase (CRPs, Unit-level testing, Integration Testing, System Testing, UAT) has a detailed plan developed that defines what will be tested, how it will be tested, where it will be tested, and who will test it. The results of each phase are recorded, defects noted, and corrective actions taken and functionality retested in each testing phase as necessary.
   - Testing is subject to extreme scrutiny and management oversight, with regular review meetings, daily summaries and detailed communication.

- All test scripts and results are rigorously tracked in TestDirector, and testing teams manage defects on a daily basis.
- The UFMS Final Baseline Requirements have been mapped to integrated business processes at the script level.
- To assess system stability and readiness we are tracking the following quality indicators:
  - Percent of release requirements tested
  - Number of requirement change requests
  - Percent of Integrated Process test scripts completed
  - Percent of test scenarios passed testing
  - Number defects detected
  - Number defects closed
- HHS instituted a series of Control gates (e.g. our Test Readiness Reviews [TRRs]) with defined go/no go criteria. These control gates provide HHS the ability to assess whether the UFMS project is fully prepared to begin the next phase. We check to determine that:
  - necessary documentation set is complete and up-to-date.
  - all hardware, software, and support tools are up-to-date and ready for use.
  - project controls, processes, and monitoring mechanisms are in place and fully understood.
  - any unresolved issues are fully addressed, including a discussion of any applicable risk mitigation strategies.

**6. Validate that data conversion efforts produce reliable data for use in UFMS.**

- Data conversions represent one of the riskiest areas of an ERP implementation. To mitigate this risk, UFMS is utilizing a series Mock conversions to perform dress rehearsals of the data conversion process.
  - The first mock conversion was the initial conversion and setup of necessary background data (e.g. vendor tables).
  - A series of additional mock conversions (3, 4, 5, and 6) further validated the conversion programs and data cleanup efforts. The data from one of these more mature mock conversions will be made available for system testing. Following these mock conversions, final adjustments are made to the conversion programs and additional data cleanup may occur.
  - A final test of the conversion programs is performed in the final month prior to go live and is used as the final data validation and reconciliation prior to User Acceptance Testing.
- The Accounting Treatment Team is examining each transaction to verify that the appropriate accounting codes are being used.
- HHS has brought in an independent vendor to review and validate the accounting actions preformed by UFMS.

**7. Verify systems interfaces function properly so that data exchanges between systems are adequate to satisfy system needs.**

- The focus of the test efforts is system-level, and focused on code developed for HHS specific extensions and interfaces.
- Each testing phase (CRPs, Unit-level testing, Integration Testing, System Testing, UAT) has a detailed plan developed that defines what will be tested, how it will be tested, where it will be tested, and who will test it.
- HHS has mapped each requirement to the specific Integrated Business Processes where that capability is used, the test scripts that are executed to verify compliance and the results of each test script recorded.
- Integrated Business Processes define data flow from "end-to-end"; from the input of data from feeder systems to the production of financial statements. These end-to-end processes are used at each level of testing; unit, integration and acceptance.

- The same code base is being used to build conversion programs and feeder system interfaces. This can be done because the same types of data is processed and results in the code being repetitively tested under a wider set of conditions than might otherwise be possible.
- UFMS built a comprehensive RTVM in which the requirements are mapped to Business Processes to Test Scripts, resulting in a full trace of requirements to the appropriate testable area of Oracle, and the method used to verify that each requirement has been satisfied. The RTVM is maintained in an industry standard COTS testing tool – Mercury's TestDirector.
- The RTVM is used to track all UFMS requirements and design constraints and verify they are all tested.
- The UFMS Final Baseline Requirements were mapped to integrated business processes at the script level.
- For each Interface, Extension, Report and Conversion program a Functional Design Specification and a Technical Design Specification is developed. These design documents containing specific business rules (design constraints) that state unambiguously the functional UFMS must provide
- The requirements module in TestDirector maintains the list of testable requirements, organized by module, in order to map requirements to Test Scripts.

**8. Measure progress based on quantitative data rather than the occurrence of events.**

- Since the inception of the project, HHS has focused on measuring three key program control facets instead of instituting outcome measures all along the implementation pathway. These areas are Quality, Cost, and Schedule.
- For two years now HHS has collected and assessed monthly Cost Performance Index data (CPI) and Schedule Performance Index (SPI) data to determine the degree to which the program is efficiently using budget and schedule.
- Critical path schedule analysis is used as a predictive schedule performance gauge to help our managers determine if schedule slippage is occurring.
    - any applicable risk mitigation strategies.
- Until HHS reached the testing phases of the UFMS implementation, most of the focus on quality dealt with UFMS documents and artifacts. We are now conducting a very through and rigorous process for quantifying the results of test defect tracking and resolution. To assess system stability and readiness we are tracking the following quality indicators:
    - Percent of release requirements tested
    - Number of requirement change requests
    - Percent of Integrated Process test scripts completed
    - Percent of test scenarios passed testing
    - Number defects detected
    - Number defects closed
- HHS instituted a series of Control gates (e.g. our Test Readiness Reviews [TRRs]) with defined go/no go criteria. These control gates provide HHS the ability to assess whether the UFMS project is fully prepared to begin the next phase. We check to determine that:
    - necessary documentation set is complete and up-to-date.
    - all hardware, software, and support tools are up-to-date and ready for use.
    - project controls, processes, and monitoring mechanisms are in place and fully understood.
    - any unresolved issues are fully addressed, including a discussion of

Before proceeding with further implementation of UFMS after CDC, GAO recommends the Assistant Secretary for Budget, Technology, and Finance following 14 actions:

1. **Develop and effectively implement a plan on how HHS will implement the disciplined processes necessary to reduce the risks associated with this effort to acceptable levels. This plan should include the processes, such as those identified by SEI and IEEE, that will be implemented and the resources, such as staffing and funding, needed to implement the necessary processes.**
   - HHS has an effective implementation plan that we have been executing since October 2002.
   - In October 2002 the HHS Steering Committee for UFMS approved a detailed Implementation Plan that identified the tasks, strategies, plans, and processes that would be required to implement UFMS.
   - In executing the approved UFMS implementation plan, HHS developed and is actively using the plans, strategies, processes, and lower level procedures it identified. These include the resource loaded Project Plan, Change Control Management Plan, Requirement Management Plan, Risk Assessment and Mitigation Plan, Quality Assurance Procedure, Interface Strategy, Conversion Strategy and Testing Approach.
   - Each plan, strategy, and process is tailored for HHS purposes but carefully designed to follow industry best practices, including those of Oracle itself. Tailoring is a common, accepted practice that is a recommended part of all development methodologies including those used by DoD.

2. **Develop a concept of operations, in accordance with recognized industry standards such as those promulgated by IEEE. The concept of operations should apply to all HHS entities that will be required to use UFMS. This concept of operations should contain a high-level description of the operations that must be performed, who must perform them, and where and how the operations will be carried out, and be consistent with the current vision for the HHS information system enterprise architecture.**
   - In July 2002 HHS developed a target business model, which has been a guiding document from its creation. This foundation document is the equivalent to the "Concept of Operations'.
   - The Core Financial Target Business Model is a description of business operations and design of how the operations will be performed at HHS across multiple, coordinated entities.
   - The target business model presents the target environment by each major JFMIP core financial functional area and associated major business. It also defines the interaction between OS at the Department-level and the component agencies (e.g., defining accounting policy), as well as the interaction between Program Support Center (PSC) and the PSC-serviced agencies (e.g., external reports submitted to the serviced agencies for review and approval).
   - HHS started with the "what" of the system. Over the course of the first year of the project, HHS held numerous workshops focused on the Case for Change, the High Level Business Processes, and finally the UFMS System Requirements Specification. These efforts both laid the groundwork for what would follow and continued the process of building the necessary organizational support for the project
   - Additional buy in was established through the use of Conference Room Pilots.
   - UFMS is at a higher level of Enterprise Architecture attainment than 97% of other agencies, having completed all of stage 2 readiness, along with significant components of stage 3. UFMS is a critical and defining part of the federal governments overall Enterprise Architecture.
   - Users of UFMS will access the system across HHSnet, the Department's new enterprise network.

3. **Implement a requirements management process that develops requirements that are consistent with the concept of operations and requires that the resulting requirements have the attributes associated with good requirements that include for each requirement (1) fully describing the functionality to be delivered, (2) including the source of the requirement, and (3) stating the requirement in unambiguous terms that allows for quantitative evaluation.**

- HHS has an established UFMS requirements management process that is a detailed, systematic approach to identify, document, organize, communicate, and manage changes in the requirements applicable to the UFMS Program.
- UFMS established a central information repository, which includes over 2100 requirements and their attributes (e.g. requirement type, origin, applicable Operating Divisions, status and other management information) pertinent to the UFMS environment. UFMS requirements are also documented in the UFMS Baseline Requirements document that was reviewed and approved by the PDC and Steering Committee.
- HHS has from the beginning maintained a detailed history of the UFMS requirements that includes mapping each requirement to the specific Integrated Business Processes where that capability is used, the test scripts that are executed to verify compliance and the results of each test script.
- For each Interface, Extension, Report and Conversion program a Functional Design Specification and a Technical Design Specification is developed. These design documents containing specific business rules (design constraints) that state unambiguously the functional UFMS must provide.
- Each design constraint is captured in the central requirement repository and tied to the parent requirement that established the need for that particular interface, extension, report or conversion program.
- The RTVM is used to track all UFMS requirements and design constraints and verify they are all tested during testing.

**4. Maintain traceability of requirements among the various implementation phases from origin through implementation.**

- HHS has from the beginning maintained a detailed history of the UFMS requirements that includes mapping each requirement to the specific Integrated Business Processes where that capability is used, the test scripts that are executed to verify compliance and the results of each test script.
- UFMS has established a central information repository, which includes over 2100 requirements and their attributes (e.g. requirement type, origin, applicable Operating Divisions, status and other management information) pertinent to the UFMS environment in a COTS product designed for this purpose: RequisitePro (ReqPro).
- Requirements and their associated attributes have been developed, adapted, and reused, which results in an efficiency that lowers the effort and cost of development at each site, as well as subsequent iterations and related projects.
- For each Interface, Extension, Report and Conversion program a Functional Design Specification and a Technical Design Specification is developed. These design documents containing specific business rules (design constraints) that state unambiguously the functional UFMS must provide.
- UFMS has built a comprehensive RTVM in which the requirements are mapped to Business Processes to Test Scripts, resulting in a full trace of requirements to the appropriate testable area of Oracle, and the method used to verify that each requirement has been satisfied. The RTVM is maintained in an industry standard COTS testing tool – Mercury's TestDirector.
- The RTVM is used to track all UFMS requirements and design constraints and verify they are all tested.
- The UFMS Final Baseline Requirements have been mapped to integrated business processes at the script level.
- The requirements module in TestDirector maintains the list of testable requirements, organized by module, in order to map requirements to Test Scripts.

- **Confirm that requirements are effectively used for:**
  **5. determining the functionality that will be available in UFMS at a given location,**
  **6. implementing the required functionality,**
  **7. supporting an effective testing process to evaluate whether UFMS is ready for deployment,**
- UFMS established a central information repository, which includes over 2100 requirements and their attributes (e.g. requirement type, origin, applicable Operating Divisions, status and other management information) pertinent to the UFMS environment. UFMS requirements are also documented in the

UFMS Baseline Requirements document that was reviewed and approved by the PDC and Steering Committee.

- A Requirements Tracability Verification Matrix (RTVM) has been built to verify that all requirements are met by the system deliverable and to demonstrate to HHS and outside parties that we have satisfied the system requirements. Through the RTVM requirements management and testing are inseparably linked. In addition:
    - The RTVM is used to track all UFMS requirements and design constraints and verify they are all tested.
    - The UFMS Final Baseline Requirements have been mapped to integrated business processes at the script level.
    - For each Interface, Extension, Report and Conversion program a Functional Design Specification and a Technical Design Specification is developed. These design documents containing specific business rules (design constraints) that state unambiguously the functional UFMS must provide.
    - The requirements module in TestDirector maintains the list of testable requirements, organized by module, in order to map requirements to Test Scripts.

**8. validating that data conversion efforts produce reliable data for use in UFMS, and**

- Data conversions represent one of the riskiest areas of an ERP implementation. To mitigate this risk, UFMS is utilizing a series Mock conversions to perform dress rehearsals of the data conversion process.
    - The first mock conversion was the initial conversion and setup of necessary background data (e.g. vendor tables).
    - Second and third mock conversions further validated the conversion programs and data cleanup efforts. The data from mock conversion 3 was made available for system testing in August. Following mock conversion 3, final adjustments are made to the conversion programs and additional data cleanup may occur.
    - A final test of the conversion programs (e.g. Mock conversion 4) is performed in the final month prior to go live and is used as the final data validation and reconciliation prior to User Acceptance Testing.
- The Accounting Treatment Team is examining each transaction to verify that the appropriate accounting codes are being used.
- HHS has brought in an independent vendor to review and validate the accounting actions preformed by UFMS

**9. verifying that systems interfaces function properly so that data exchanges between systems are adequate to satisfy each system's needs.**

- The focus of the test efforts is system-level, and focused on code developed for HHS specific extensions and interfaces.
- The Finance, Business, and Program leaders, have been active in the project and its design from the beginning, are heavily involved in testing the end product.
- Each testing phase (CRPs, Unit-level testing, Integration Testing, System Testing, UAT) has a detailed plan developed that defines what will be tested, how it will be tested, where it will be tested, and who will test it.
- UFMS built a comprehensive RTVM in which the requirements are mapped to Business Processes to Test Scripts, resulting in a full trace of requirements to the appropriate testable area of Oracle, and the method used to verify that each requirement has been satisfied. The RTVM is maintained in an industry standard COTS testing tool – Mercury's TestDirector.

**10. Develop and implement a testing process that uses adequate requirements as a basis for testing a given system function.**

- Testing of COTS based systems has a significantly different focus from the testing of custom developed systems. Among the keys reasons for choosing a COTS based implementation is to

leverage the investment made by the COTS vendor in producing a mature product that has been thoroughly tested. Very mature products, such as Oracle U.S. Federal Financials, require little or no low-level testing.

- The focus of the test efforts is system-level, and focused on code developed for HHS specific extensions and interfaces.
- The Finance, Business, and Program leaders, have been active in the project and its design from the beginning, are heavily involved in testing the end product.
- Each testing phase (CRPs, Unit-level testing, Integration Testing, System Testing, UAT) has a detailed plan developed that defines what will be tested, how it will be tested, where it will be tested, and who will test it.
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- The requirements module in TestDirector maintains the list of testable requirements, organized by module, in order to map requirements to Test Scripts.

- **Formalize risk management procedures to consider:**
  **11. all risks currently applicable to the UFMS project are identified, and**
  **12. that risks are only closed after the risk is no longer applicable rather than once management has developed a mitigation strategy.**
  - The UFMS project relies on a well-implemented risk management process that uses business best practices developed by leading providers across market segments.
  - The UFMS risk management process is the result of a Cooperative Research and Development Agreement (CRADA) between BearingPoint and the Software Engineering Institute (SEI) to co-develop a best practice based risk management program.
  - The continuous risk management process that is followed by the UFMS program includes weekly meetings with HHS Program Management to review current and past risks, update and refine mitigation strategies, and assess issues that might become risks to the success of UFMS.
  - HHS adjusted the risk management processes to keep all risks in an open status until they are either realized or an appropriate mitigation has been successful. In addition, the UFMS PMO has decided to maintain listings for both open and closed risks to maintain their visibility. It is important to note that the closed risks highlighted by GAO included risks (e.g., funding) that the UFMS PMO felt could be closed for one particular year and re-opened if the risk occurred during subsequent years within the life of the project.

**13. Develop and implement a program that will identify the quantitative metrics needed to evaluate project performance and risks.**

- For two years now HHS has collected and assessed monthly Cost Performance Index data (CPI) and Schedule Performance Index (SPI) data to determine the degree to which the program is efficiently using budget and schedule.
- Critical path schedule analysis is used as a predictive schedule performance gauge to help our managers determine if schedule slippage is occurring.
- To assess system stability and readiness we are tracking the following quality indicators:
  - Percent of release requirements tested
  - Number of requirement change requests

  - Percent of Integrated Process test scripts completed
  - Percent of test scenarios passed testing
  - Number defects detected
  - Number defects closed
- The continuous risk management process that is followed by the UFMS program includes weekly meetings with HHS Program Management to review current and past risks, update and refine mitigation strategies, and assess issues that might become risks to the success of UFMS.

**14. Use quantitative measures to assess progress and compliance with disciplined processes.**

- Our focus has been on measuring three key program control facets instead of instituting outcome measures all along the implementation pathway. These areas are quality, cost, and schedule.
- For two years now HHS has collected and assessed monthly Cost Performance Index data (CPI) and Schedule Performance Index (SPI) data to determine the degree to which the program is efficiently using budget and schedule.
- Critical path schedule analysis is used as a predictive schedule performance gauge to help our managers determine if schedule slippage is occurring.
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  - Percent of release requirements tested
  - Number of requirement change requests
  - Percent of Integrated Process test scripts completed
  - Percent of test scenarios passed testing
  - Number defects detected
  - Number defects closed

To help ensure that HHS reduces risks in the agency wide IT environment the following 7 actions should be taken:

1. **Conduct assessments of operating divisions' information security general controls that have not been recently assessed.**
   - HSS has progressively increased key system security metrics reported in the FISMA quarterly report. Key items for the 3rd quarter of 2004 included:
     - 96% of systems have been assessed for risk.
     - 95% of systems have security plans.
     - 93% of systems have been certified and accredited
   - A Managed Security Service (MSS) using an automated intrusion detection tool to monitor, detect, and report local and Department-wide system security weaknesses has been implemented.
   - Currently working to establish an automated centralized self-assessment process using the Security Self Assessment Tool (SSAT). Current participants include: NIH, HRSA, AHRQ, IHS, FDA, and AoA.

2. **Establish a comprehensive program to monitor access to the network, including controls over access to the mainframe and the network.**
   - A Department-wide IT security program has been developed and implemented, Secure One HHS that incorporates Secretary Thompson's One HHS Vision.
   - A Managed Security Service (MSS) using an automated intrusion detection tool to monitor, detect, and report local and Department-wide system security weaknesses has been implemented.
   - Developed a cohesive and up-to-date set of HHS IT Security Policies.
   - HHS IT security has developed in-depth guides in 13 specific areas.
   - UFMS is nearing completion of its Security Test & Evaluation Plan, System Security Plan and Standard Operating Procedures that include the specific processes that will be used to monitor and maintain user access to the system.
   - UFMS will contain an automated feature to disable user accounts that have not been active for a designated period of time.

- **Verify that the UFMS project management staff has all applicable information needed to fully ensure a comprehensive security management program for UFMS. Specifically, this would include identifying and assessing the reported concerns for all HHS entities regarding key general control areas of the information security management process:**
  3. **entity-wide security planning,**
  4. **access controls,**
  5. **system software controls,**
  6. **segregation of duties, and**
  7. **application development and change controls.**
  - A Department-wide IT security program has been developed and implemented, Secure One HHS that incorporates Secretary Thompson's One HHS Vision.
  - A Managed Security Service (MSS) using an automated intrusion detection tool to monitor, detect, and report local and Department-wide system security weaknesses has been implemented.
  - Developed a cohesive and up-to-date set of HHS IT Security Policies.
  - HSS has progressively increased key system security metrics reported in the FISMA quarterly report. Key items for the 3rd quarter of 2004 included:
    - 96% of systems have been assessed for risk.
    - 95% of systems have security plans.
    - 93% of systems have been certified and accredited
  - HHS IT security has developed in-depth guides in 13 specific areas.
  - UFMS has established end user roles & responsibilities which are specifically designed to maintain a separation of duties

- UFMS has a detailed Change Control Management Plan that defines the process by which changes to documents, software, hardware, and infrastructure must follow and the specific levels of approval required.
- UFMS is using PMOnline to capture and track all change requests, issues, and risks.
- UFMS is using TestDirector to capture and track all problems identified in the UFMS software and hardware.

To help improve human capital initiatives the following 4 actions should be taken:

1. **Assess the key positions needed for effective project management and confirm those positions have the human resources needed. If needed, solicit the assistance of the Assistant Secretary for Budget, Technology, and Finance to fill key positions in a timely manner.**
   - Staffing UFMS is a recognized at the program level as being a risk and is being addressed in accordance with our Risk Management Plan.
   - The Deputy ASBTF's have been conducting weekly status sessions with UFMS program leadership that include human resource needs.
   - I (ASBTF) have contacted the leadership of the HHS operating divisions requesting their support.

- **Finalize critical human capital strategies and plans related to UFMS such as the:**
  2. **skills gap analysis,**
  3. **workforce transition strategy, and**
  4. **training plans.**
  - Preparation of a Skills Gap Analysis, Workforce Transition Strategy, and development of Training Plans are complete for the CDC.
  - Instructor lead, classroom based training of the CDC workforce has been on going since June of this year (2004).
  - A COTS product, OnDemand is being used to provide desktop level learning aids for all UFMS users.
  - A Learning Lab has been established at the CDC to enable CDC employees to practice and maintain what they have learned.
  - Skills Gap Analysis, Workforce Transition Strategies, and Training Plans for the FDA, and PSC are currently being worked on at various levels of completion as laid out in the UFMS project plan.

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JUN 14 2001

**Memorandum to Heads of Operating Divisions and Staff Divisions**

Subject: Unified Financial Management System

In my May 25th memorandum on Workforce Planning and Restructuring, I stated that discussions have begun about moving toward "one HHS." I defined restructuring to include specific actions for changing the way we do business across the Department. The initiative to establish a unified financial management system is one of the efforts underway.

The purpose of this endeavor is to achieve greater economies of scale, eliminate duplication, and provide better service delivery. Specifically, I have determined that the most efficient way of getting to the unified system is to have two modern accounting systems: one for HCFA and its Medicare contractors, and one serving the rest of the Department. These systems would be configured to provide uniform, integrated financial information for all of HHS.

While HCFA is continuing with its modernization effort, the NIH Business System (NBS), using Oracle Federal Financials, which NIH is in the process of implementing, will be the system that will be tailored and expanded for the Department except HCFA. Therefore, I am designating NIH as Project Manager for systems implementation under a Department-wide Steering Committee comprised of Agency senior management and chaired by ASMB. NIH will also operate and maintain this system at the NIH data center. I am directing that necessary consultation with the agencies begin immediately to implement to NIH system and to ensure that this system meets the needs of the client agencies.

Compared to multiple systems, my decision will reduce costs, mitigate security risks and provide timely and accurate information for management purposes. With the unified system, we will have uniform business rules, data standards and accounting policies and procedures across HHS, and a more efficient implementation as administrative support functions are incorporated.

At the same time, I am directing that accounting services be consolidated by establishing a single accounting operation for HHS. This consolidation will help our restructuring effort to eliminate duplication of functions and provide better service delivery while taking advantage of economies of scale under a unified financial management system. These accounting services will include, at a minimum, traditional accounting functions such as bill paying, voucher examination and travel voucher payment. We will also

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institute a process for considering opportunities for future consolidation of other accounting functions such as Agencies' financial statement preparation and reporting. HCFA will be asked to identify and participate in consolidation opportunities in other administrative areas that do not impact the need for HCFA to maintain its own accounting system that provides administrative and program support to the Medicare Program.

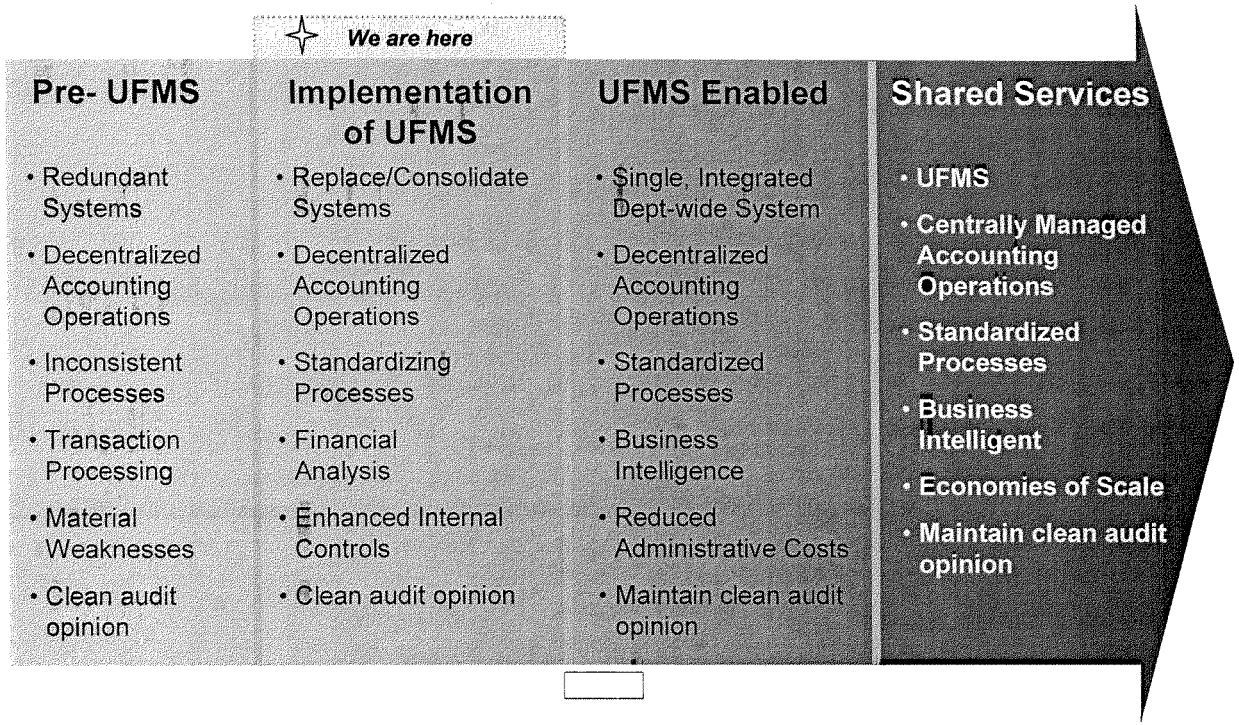
A specific entity will be designated to serve as HHS' central accounting operation. I will make that designation after a cost and quality of service business case analysis of agency proposals has been completed.

I am directing the ASMB, as CIO and CFO, to coordinate with the Agencies to develop the unified financial management system and consolidate accounting services, and to ensure that plans are consistent with the workforce planning and restructuring effort.

I know I can count on your full cooperation with the ASMB on this very important aspect of the Department's restructuring effort.

Tommy G. Thompson

# Evolution of UFMS Financial Management Operations



Today system testing continues and will continue into the first quarter of CY2005. Formal testing will continue through Friday October 8th. Formal testing of all functional components for the October release is complete. Several operational reports that became necessary with the modified release structure have not yet completed formal testing. User acceptance testing will be completed by October 14th. To date, formal testing has uncovered a total of 255 defects. Only 17 are still open and breakdown as follows (3 accounting treatment, 4 COTS, 3 configuration, 6 UFMS code, and 1 potential enhancement).

As expected, formal testing of UFMS identified defects in the overall system. When identified, our team categorizes the defect as a COTs package defect, a configuration defect, a custom code defect, an accounting treatment defect, or a potential future enhancement. I have included in the record two examples of defects uncovered during testing.

On August 31st, while executing scripts IT.6.20.1 "Import modified converted obligation", the testing team noted that the obligation workflow was not performing as expected. They entered DR #336 into the defect tracking system and notified the implementation team of the defect. Detailed investigation determined that the cause of the problem was a defect in the COTS software. The team filed the defect with Oracle who entered it as TAR #3970288.996. Oracle is in the process of correcting the defect. This capability is included in the April release.

On August 18th, while executing script IT.33.0.0 "Protection of data" the testing team noted that ID masking was not working properly. They entered DR #304 into the defect tracking system and notified the implementation team of the defect. Detailed investigation determined that problem was a defect in a portion of the UFMS custom code. The UFMS technical team corrected the problem with 5 hours of effort and submitted it for retest. The retesting completed successfully on August 26th. If this defect had not been detected until deployment the ID field would have been visible to users of the system.

Mr. PLATTS. Thank you, Mr. Weems. Again, my thanks to all three of you for your testimony here today and your written testimony.

Let me start, Mr. Weems, maybe where you left off in talking about risk-taking and the decision and approach you are taking being schedule-driven. In your testimony I think or your response to GAO, you suggest that the title of their report should have been better titled, "Aggressive Schedule Increases Risk of Implementation of HHS' Financial Management System." In making a decision for risk-taking, there is a cost-benefit analysis.

What is the substantive benefit to be achieved? I assume it is getting the system in place quicker. But what was the cost-benefit that was done in taking what you acknowledge to be greater risk to be schedule-driven as opposed to event-driven?

Mr. WEEMS. Thank you for the question, Mr. Chairman. In making that calculation, I think we looked at several things. First, we had a coalition of the willing who were ready to sit down and work enthusiastically on a project whose concept had already been proven at NIH. We had a group of people who were willing to work very hard in making this implementation happen. Our contractor, BearingPoint, uses a schedule-driven model as their best practice in implementing these systems.

Now, I would not say that we are exclusively schedule-driven, Mr. Chairman, and Mr. Steinhoff and I had the opportunity to discuss this beforehand. If we were purely schedule-driven, we would have not considered the empirical data we were getting from testing. We would have gone ahead with an October implementation. Instead, we were able to accomplish a tremendous amount of work. All of that work is still preserved.

Much of the system that will be implemented in April, that work is done. We are in the testing phase. I would say we simply ran out of runway to be able to achieve what we were going to achieve. We had a good test plan. We simply were not able to complete testing on time. Given that, we decided to pull back certain pieces of our implementation and implement what we were rock hard solid on.

So I would say the calculation that we made was to leverage the enthusiasm and know-how that our employees were willing to put to it. And frankly, Mr. Chairman, after 23 years in the Federal Government, I have seen projects that are not schedule-driven stretch out and become careers for people.

Mr. PLATTS. Let me follow that up. I certainly believe the accuracy of your statement—of the team you have and being committed to your efforts, and I am also grateful for their efforts and believe you and all involved in moving this daunting task forward should be commended, and I certainly share that. In your testimony, though, when you were making the decision up front, you talk about the team and the confidence and the enthusiasm, but in your testimony you said, "Three years ago most HHS employees impacted by this business transformation had little confidence in the system. Today, many employees have already learned how to use it."

It does not seem like there was that level of confidence when you were making that risk assessment and decision up front. It seems

like there was not yet a buy-in other than at the senior management level. Can you expand on that?

Mr. WEEMS. Sure. And that is a very good question. I think that at the initial inception of almost any change people are very skeptical. The Secretary himself is a leader of boundless enthusiasm and that enthusiasm is highly infectious. I think what we did—and if I could have that chart—one of the things that we have done on this project is to make sure that we went out and we touched people with this.

We had rapid early adoption where and when it was time to start selling this project, my predecessor and then, later, I went out on the road, met with every operating division head, met with each one of the agency CFOs and CIOs and said this is the direction that we are taking. I think that we were able to make a case that as they looked at their financial systems, which I think they would readily admit are held together with duct tape and baling wire, that they said this is the way to go and get me there now.

Mr. PLATTS. The other aspect of my question on the risk assessment or cost-benefit analysis is, again, not what resources or strengths you had going in, but why take higher risk? What will we see in the end be the benefit of greater risk, assuming we can avoid those risks?

Mr. WEEMS. Well, the benefits of the project, first of all. And I think those benefits have been clear from the outset. Right now, we pay bills all over HHS. We do not need that redundancy. We need to get to those benefits as quickly as we can. And it is not paying bills or booking accounts receivable. Those are things that I have functional responsibility for.

The thing that I have direct responsibility for, providing the Secretary, Members of Congress, and others information about the financial condition of HHS, I find that to be a very frustrating experience right now where we are. I want to get to the end. I want to be able to inform this committee, the President, the Secretary about some simple things about our programs and others more complex about the condition of finance in HHS.

Mr. PLATTS. Was there, I know some of this is really in relation to your predecessor, and I am asking you——

Mr. WEEMS. I am still responsible, sir.

Mr. PLATTS. I am asking you to draw from your predecessor. But I agree, the sooner we can achieve your ultimate goal, the better for everybody, and most importantly for you and all at the department making day-to-day decisions, and that serves then all of our citizens that your department works with.

Was there a calculated decision that if we take this approach to implementing the system, which is not what we are really focused on but how we are ensuring the implementation goes well, was there a decision in taking a schedule-driven approach we have higher risk than if we take an event-driven approach, but we can do it in 2007 instead of 2009? There must have been a timeframe, that if we take a more cautious, less risky way, it is going to take longer. That is my assumption.

Mr. WEEMS. I do not have a lot of insight into where that process would have driven us. I am afraid that is one thing that I do have to say that I probably do not know precisely how the decision-

making was done. But I would say, and, again, something for which I stand responsible, those alternatives have been presented to me as I have managed this project.

In February, when we knew that it would require perfect execution, I asked what the alternatives were. Those were clear—we would have to delay certain things, it would stretch out the time when HHS would be fully JFMIP-compliant. I took a decision that I did not want to do that, that I wanted to stick with schedule. The same thing in May. When we got to August, we had pushed the project I think as far as we could. We had gone through testing and the empirical metrics at that time said there are some things we can do and some things we cannot.

So we are going to do those things that we can do. Those things that we cannot, we have completed substantial work on. That is done. I think if we had pulled the project back, we would be in the same place we are today except for those things being done. We could do general ledger and payroll for CDC except we would not have all of the other functionality that we have virtually ready to go in the test phase right now. We would be working that through until April. So I would say we are much farther ahead of the game.

Mr. PLATTS. I want to followup on that a little bit. But I want to give Mr. Steinhoff a chance to comment on the decision. In your experience with various agencies, the additional risk, that HHS acknowledges in taking this approach, is your experience that taking a less risky event-driven decision would have added a great amount of time into the expected completion?

Mr. STEINHOFF. No. Basically, what we find are things fairly similar to what we saw at HHS—the folks are very committed to the project, they work very hard. There is no question about that. What we find is that there is such a desire to go on line with a new system that people do. And what typically occurs, they have problems in developing all of their requirements and they have testing problems.

And that is what happened basically at Interior a few years ago, that happened at NASA. They did not have metrics, they did not have ways to really look at their performance in specific terms. They had not defined every requirement.

HHS has I think something like 2,100 requirements. Many, probably most, are defined. Some are not. You have to define well what environment the system is going to be in, configuration management, integration. You have to test to try to find defects, and have very clear measures as to how many defects are acceptable. What we typically find when someone is date-driven, and oftentimes the beginning of the fiscal year is that magical date so the agency can have a complete fiscal year, they make that choice to roll out the system to meet the date.

And, typically, the problem falls into two areas; and that is, properly defining all the requirements and testing. A COTS package will do a lot for you, but there are other things one would need. One needs to know how the system is going to be applied in their environment, how it is going to be implemented, how is it going to be used by the user, what is the expected performance.

This is a huge endeavor. Mr. Weems stated it was one of the biggest ever. You are talking about three-quarters of a billion dollars

based on the present estimate. Basically, in our view, event-driven is really the way one should go. That does not mean you do not have a schedule, that you do not try to hold people's feet to the fire, but you assure you do not consider a step completed until that event has been proven to be successful, that you have determined that you have satisfactorily defined all of your key requirements, you have determined that you understand how the system is going to work, and that, whatever the environment the system is in, you have determined how interfaces with other systems will work. And to us, that is the way to approach these projects, especially one of this magnitude.

If you look at the views that we have, they are very similar to the IV&V. They have questioned requirements. Certainly along the way the IV&V has found requirements are better defined, but they have questioned the specificity of many requirements, whether they are ambiguous or not. It is hard to test against that. The IV&V had a fairly extensive critique of the testing, not just that the system was not quite ready to pass the test, but it raised concerns with planning for the test, how the test was conducted; it was really soup to nuts. They talked about the deterioration of some of the documentation in the latter stages before October 1st. That typically happens when people are under tremendous pressure to push something out by a given date. Short-cuts occur and you end up having problems.

What is difficult to say at this time, Mr. Chairman, is ultimately what will happen. No one has a crystal ball. And there are folks, I will acknowledge, that maybe do not follow a disciplined process and things work out for them. Others might follow disciplined processes but some things go awry later on.

But our belief is, and a very strong belief, that you should always be safe on these projects and that disciplined processes have been proven to be the way to go, and event-driven is what people really have found gives you the best chance for success.

We have a chart on page 15 of our report, a figure that shows what typically happens when all the key disciplines are not followed, or not followed substantially. You have a lot of visible progress in the beginning—again, you cannot always tell what your progress is because you have not really had the metrics in place to measure it well. Where you run into the problem is when you get to the end. And the real proof of the pudding for HHS will come sometime in 2007.

The goal that we have is really to provide our best thinking at this stage in looking at this project, given the fact that HHS has more time before project completion, and say here is what we think you should be doing now and here is what you should do to go to that next step. So, we feel strongly that event-driven is the way to go. But, again, only time will tell how this will turn out.

Mr. PLATTS. Let me expand on that approach. Mr. Weems, in talking about your decision to delay the October implementation plan, you said that in February there were kind of some early warning signs I guess.

Mr. WEEMS. Yes.

Mr. PLATTS. And your team said you would have to be perfect, but you think you can be perfect and go forward. Then in May, it

is going to take a heroic effort, but we are going to make that heroic effort to get it done. In August, IV&V comes back with I guess some more concerns about the ability to really do what you are planning. And then here in late September you make a final decision to not go forward.

I guess two aspects. One is, what is the likelihood you would have gone forward and tried to fix the process as you went forward if the GAO report was not coming out which added some pressure or scrutiny? And I would appreciate a frank dialog on that. And second, if you had back in February 20/20 hindsight, I openly acknowledge that, would the delay—right now you are looking at a 6-month delay is my understanding.

Mr. WEEMS. Yes.

Mr. PLATTS. So talking next April I guess, maybe May.

Mr. WEEMS. April.

Mr. PLATTS. Would it be April or May to be where you think you can go forward if you had not been driven by the October date, the schedule being October? I think I am paraphrasing this well, that if it was event-driven, you would say we are not worried about October, worry about just dealing with what we need to do right, and so we would have made changes back in February. Do you think you would have been delayed until April if that had been the case?

Mr. WEEMS. Sure. But let me take your first question first, and that is the events leading up to the decision that we took. I got the alert from the IV&V contractor. I get reports from them every 2 weeks, but from time to time they will issue a special alert, and that is what this was. It was outside of the normal process. It is something that says, Mr. Weems, you need to go pay attention to this now.

Obviously, I knew that our friends at GAO were looking at us. Though their engagement with us had ended at that point, I certainly was cognizant of their presence. But I would say that alert itself had some very discreet recommendations in it. We had just finished our readiness review, so there were some objective measures.

I sat with the team leaders down there, spent a good part of the day with them going through at a very granular level where are we, where are we, where are we. And as they looked at the empirics coming out of testing, as they looked at the amount of testing being done, there were a couple of things for which they could not offer me assurance. And I would say that in my mind those were the things that made up my mind.

I was not offered complete assurance of funds control by the time that we would turn the system on. That as somebody with delegated responsibility of CFO, I knew at that point we could not do it until I had that assurance.

The second piece was there was some question as to whether or not we would be able to pay bills timely. Causing consternation among our community to which we pay bills is not something that I was looking forward to. We had already, I would say, engaged that community to start telling them that there would be a 2-week delay in bill paying as we switched the system. Well, I was not going to let 2 weeks stretch into 3 weeks, stretch into 4 weeks.

And so I would say at that time I stepped back and I said, OK, we cannot go forward with full functionality. What can we do? And the team quickly came up with those things that had been rock hard in implementation and testing, general ledger, payroll, and we could get to grants. So those are the things that we decided to implement. So we went forward with an implementation, but those things that were not rock solid we pulled back.

To answer to your second question, sir, in talking to my team in February and in May about, OK, if we have to do something here, what would we do, a good deal of the advice that I was getting would say that we would have delayed for a year from October rather than to April. So I think taking the steps that we took, we got a lot of work done between February and September. The step that we took at the end of August and beginning of September now allows us to reflect on that work, to subject that work to testing, to implement it in April.

Mr. PLATTS. OK. Clearly, the empirical data associated with the testing played a big role in your decision.

Mr. WEEMS. Yes.

Mr. PLATTS. That would seem to make a strong case for what GAO argues of the importance of having more clearly defined standards, the requirements management up front, a tighter approach up front than a more flexible plan. It seems like you have had an example of that now. Is that going to cause you, along with the report in total, to look at maybe the need to revise some of your requirements now before you keep going forward?

Mr. WEEMS. Well, I think we are going to try and do both at the same time. We have accepted a number of the recommendations from GAO, and certainly we are grateful for their help in that regard. So with those revisions, I do think we are positioned to continue the project, continue pace and tempo, and to continue to measure how we are doing with objective measures, but to keep that April date in front of us, too.

Mr. PLATTS. Maybe a followup that kind of relates to how defined your standards are up front, your requirements up front. As I read the testimony in preparing for today, a big part between HHS and GAO is the different mindset with using a commercial off-the-shelf product. And your contention is that because you are using that COTS, you necessarily cannot be as defined as if it was a customized plan or product. GAO, your history with other departments and things, yours is that even with using a COTS system, there still needs to be more specifics than HHS is approaching.

Mr. STEINHOFF. Yes.

Mr. PLATTS. Mr. Steinhoff, if you want to expand on that, and I guess, specifically, you mentioned Interior. In your review of other departments and agencies that have undergone these efforts, I guess one thing is maybe address the difference in your belief that it should be more defined even though it is a COTS; and then second, is there a history of other agencies that have used a COTS product and thus thought they had to be less specific, but then in the end they had problems and we get into the rework and the cost of that?

Mr. STEINHOFF. Yes. Let me kind of talk a little bit about the philosophy behind COTS, and to say at first that I serve on the

JFMIP steering committee. I had chaired the committee for several years and I am now a member, been on it for many years.

What this process is about, this certification process, is the Government was buying commercial packages, working with vendors, doing a lot of customization. And the Government stepped back and said let us lay out what our requirements are, our core requirements. There may be A to Z specific requirements, and for an entity such as HHS there may well be many others. There are also mandatory requirements and value-added requirements, more value-added are becoming mandatory as time goes on.

But what the government basically said was let us have a process in place to look at commercial packages and to really make those packages meet a certain level, certain standards. We will define the requirements and we will test against those requirements. And at each step of the way, I think the testing itself has become more robust and more complete.

You have 331 requirements that are now tested by JFMIP and they are tested in a controlled environment, one environment, 1,500 transactions. COTS packages are not tested in HHS' environment, or Interior's environment, or NASA's environment. They might be configured differently. The systems might work a little differently and have different functionality you can turn off and on.

The issue of how precise you have to be in your requirements really comes after you purchase the package. As you are making your decision on purchasing the package, you can be I think more general; what does this do for me, and how does it roughly do it. And then the key, as Mr. Weems said correctly, is to then adjust your own processes to meet that system. There may be some areas where you do not. And there is probably no COTS package that is not customized in some manner. I am not sure exactly how many of these are going to be applied later one, but I think HHS had something like 2,100 requirements identified at the time of our work and the core functionality tested in the COTS package was 331, or about 15 or 16 percent.

So, once you have purchased the package, you have to sit down and really define exactly how it is going to be configured, you are going to have to look at the suitability, you are going to have to define how you want that requirement to work for you. And that is pretty much accepted practice. The JFMIP makes very clear on its Web page that these are things that you have to do. You have to test this in your own environment. You have to determine how you are going to use the functionality and determine the requirements.

And really looking at the methodology selected by HHS—and I will add that our differences with HHS is not so much with their methodology, it is in how far they have gotten along in the methodology; you know, the metrics or the rigor to it. HHS' methodology spoke about reviewing and updating requirements for design process workshops, establishing baselines, performing fit and gap analysis, developing gap closure alternatives, creating final baseline requirements.

We think those are proper things to do. What we and the IV&V contractor found were a number of requirements that were not yet specific enough to really even know what you were going to get

from that requirement, to actually develop a test script to test it. So it was really a matter of more needed to be done.

But regardless of whether you have a custom system, which we do not recommend people develope, the way to go is to buy the COTS packages, or whether you buy a COTS package, you still have to work hard on the requirements or you will get to the end and the system will not be able to do some things that are essential for you. I will give you an example at an agency that had really struggled with a COTS package because of the liability to readily process the transactions it has.

GSA, which has a high volume of transactions, found that the number of steps the software went through took too long. It is called scalability. And the way the software was designed, it was not set up to operate efficiently in GSA's environment. GSA found that out once it turned on the switch. The agency spent a lot of time and effort to work through that. The key is to identify problems before you turn on the switch, long before, and make those changes early on so you do not face the rework later on. Rework is where you spend a lot of money.

Mr. PLATTS. Mr. Rhodes, did you want to add anything regarding the approach and those standards or the specificity of some of the standards for which you have asked for more?

Mr. RHODES. I guess I would get back to the discussion on risk that you were having earlier. Mr. Weems is revolutionary. He is wanting to completely change. He is wanting to enact what the Secretary wants, which is to transform Health and Human Services. By definition, that is risk. As he stated, largest budget, widest and most diverse portfolio, etc.

I do not think, based on my having looked at the JFMIP requirements, I do not view that as a revolution template. That is ultimately a partial calibration of an accounting system. What Mr. Weems wants to do is revolutionize financial management at HHS. That is the correct thing to do.

But, with that in mind, then if I am going to establish cost as an independent variable and I am going to say there is $700 million and I am not going to break this budget, and I have the constraints of making certain that I pay the contractors and pay the bills of HHS on time, I have the operational requirement, and I have 110 systems that I have to interface, the concern that I have is that when words of perfection or heroic or Herculean effort and things like that are brought in, then I have to view it as risk.

In looking at it through risk, day 1, event-driven or schedule-driven, there is a great deal of rigor and specificity required for success. The fundamental difference between event-driven or schedule-driven is emphasis. The date is more important than the function, or the function is more important than the date. That is really the only distinction.

So, if I take Oracle's view, or PeopleSoft, or SAP, or whomever, I take Oracle's view of the universe, well, their having a market-centric view to get the JFMIP compliance, but they may not know anything at all about HHS. Fine. That means the onus is on HHS to do the gap analysis between how do we do things now and what does this bring to the table so that we can get the delta in place so that we can understand what we have to test for. As Mr.

Steinhoff said, what is critical, what is not critical, what can be deferred, what cannot be deferred.

The real challenge that I see for them is making certain that there is that, as I described for you last time when we were talking about the Department of Defense, that crimson thread of salvation that runs through this requirement set. It leads from concept of operations directly to large scale requirements bounced against the system that we are procuring, then you start getting down into the detailed requirements, and from that, we are building the test case that comes back and proves that the system actually does this. If that is in place and supports the schedule, then being schedule-driven is not bad because your requirement set is strong enough to say I believe my schedule. If it requires perfection, then I better have perfect requirements.

I am not trying to be tautological here. But the onus, the pressure is on to be absolutely correct and be correct the first time out of the can. And when your effort is already heroic because you are trying to transform something as large as the financial management at Health and Human Services, then the requirements had better be strong and they had better be precise, because there is going to be some work you have to do and if the ultimate changes you make to the system are greater than 25 percent, then you have just expended the same amount of energy you would if you had started from scratch.

And those are the things that need to be understood and you have to be collecting the metrics that let you know where you are. For example, it is not a matter of defect tracking, it is a matter of trend analysis—what problems am I encountering in this development cycle and am I getting better, is the number going down, are they able to bundle together, things like that. That is the kind of quantitative measures that provide you the trend analysis to know where you are headed. But they all come back to the stability, veracity, clarity, lack of ambiguity in your requirement set.

Mr. PLATTS. The fact that we have the five legacy systems and the 110 or so interfaces, and just the breadth of the whole transformation is part of that argument of why the greater detail up front?

Mr. RHODES. Absolutely.

Mr. PLATTS. Mr. Weems, I want to reemphasize if I did not say it earlier, we want you to have great success by 2007 so we can move you over to Defense and then replicate the success there. [Laughter.]

Because a $400 billion budget will be nothing after we succeed with $580, right?

Mr. WEEMS. That is right.

Mr. PLATTS. I had a number of points to followup on. I want to have everyone engaged in the dialog here. Mr. Weems, earlier you talked about, in taking the approach you have, a schedule-driven model, that it was BearingPoint's approach, that is their best practice. Was that a big part of the decision to go this way versus the approach that GAO has recommended, because BearingPoint being your contractor and you are trusting them once you make that decision that they are who you are in the battle with and their belief that this is best practice?

Mr. WEEMS. That certainly did bear on it that our partner was also engaged in this effort. I would also say the Oracle model follows the same type model as best practice for implementation. That was important, but I think the thing that makes us look to schedule is the benefits of the system, is having Federal managers across HHS look at what they have now, believe in the possibility of the future and say Kerry, get me there now, get me there sooner, I need that. I think that is the thing that drives us.

Capturing those benefits, having Federal managers understand where they are financially in an enterprise that is over half a trillion dollars a year is absolutely essential, and that is where our managers want to be. That is why they are saying get me there now.

Mr. PLATTS. I would think you would agree that enthusiasm is great and that buy-in is so critical. But part of your role is to see the whole picture and, you know, we want to get you there but maybe—and I will say it in the way as a parent might sometimes with kids. We could be going to the park and they want me to hurry and get them there because they want to get playing. But I have to stay within the speed limit, because getting them there as quickly as I can but safely is something that is my responsibility. And part of your role is to take all that excitement, enthusiasm, buy-in, but make sure it is still going to be at the end of the day truly the most responsible approach.

Mr. WEEMS. Absolutely, Mr. Chairman. I think that was the role that I and my leadership team played at the end of August and early September is that we stepped in, looked at where things were, and said we are not ready. We took an affirmative management action.

And when I took that decision, I immediately conferred with my leadership team and then we went right down that pyramid that I had up earlier. We talked to the managers, we told them where they were, and they were very accepting. So we took the decision that was appropriate at the time. If I and my team had taken no action, we would right now be hurtling toward full implementation starting tomorrow.

Mr. PLATTS. You certainly have appropriately emphasized the importance of all personnel buying-in and being part of this team effort. Can you address the issue of your staffing, that is one issue GAO has raised, and your having staffing that you need to move the ball forward in an appropriate fashion?

Mr. WEEMS. Yes. And that I certainly will admit from the beginning has been a particularly nettlesome issue because of the predicate from which we began, and that is that we were not going to build permanent Federal bureaucracy to implement this. That we were going to bring in a few key people, the rest of the Federal effort has been comprised of folks who have been detailed in from the agencies to fill roles.

Those details work for 6 months, in some cases a year, and then the agency needs them back. Other roles, especially in the site implementations, have been filled by people doing double duty, where they do their day job and then at 6 in the evening they go do their UFMS work. That is sort of a test of some of the dedication of the staff. They have worked very hard to do that.

Looking back, we probably should have opened up a couple of more permanent positions, if I had to say what would I have done differently. For the positions that we have that have been opened, we have offered temporary positions—why not come in, we will give you 2 years' worth of work, after that we are not sure what happens. We have not had particularly good luck in filling those positions. So I would say, as GAO notes, our overall human resources strategy is something that we need to take a step back to look at. We need to make sure that we have those positions filled with good, competent people.

One of the benefits though that we think that this strategy of using detailees and folks from the agencies is it cuts down substantially on our training costs. If somebody comes and works on the project for 6 months, for a year, and then goes back to the agency, they not only going to be fully trained, they are going to be a super user. When the system comes up they are going to say, hey, I worked on this project, I know how to do this. We think that is one of the benefits. We understand that we have some key vacancies and that certainly is something that we are going to have to spend some time working on. Hiring a Federal employee is very hard and the process is not particularly nimble.

Mr. PLATTS. I am glad to hear that acknowledgement—that you are actively looking at your human resource issue and how to address the challenges you are facing there. When I hear the heroic efforts and dedicated effort being put forth as you try to move forward to your October deadline, that is great.

But when I look and think we are basically on a 5-year plan and 3 years more to go, the ability to maintain that tempo without burning out key people and in the end losing that wealth of knowledge is something that we need to be careful of. And the fact that you are looking at how to correct that is good. And in this case I imagine you would like to have what DoD has, which is some hiring flexibility so that you can more quickly fill spots that you need as opposed to the bureaucratic process that takes a while.

Mr. WEEMS. I am also worried, though, about creating a permanent bureaucracy. Having three or four people, five people, a nucleus around which we can work I think is important. But in my 23 years in Government, sir, I have seen a lot of project offices turn into things that live well beyond their useful life and draw resources from the Government that they should not be drawing. And that is one of the things that we have tried to be careful to avoid.

Mr. PLATTS. Yes. Because once we create a position, it stays.

Mr. WEEMS. Yes.

Mr. PLATTS. Create a program, it stays, even if it out-lasts its appropriate use.

We have been joined by Mike Turner, a member of the committee. Mike, I appreciate your being with us. Did you have anything you wanted to say?

Mr. TURNER. I just appreciate the chairman's continued work on this issue.

Mr. PLATTS. Thank you. Let me talk about maybe some of the cost issues. With that three-quarters of a billion dollar estimate out there, I guess the testimony had information about the CDC pilot implementation, that NIH pilot, and that was about a $100 million

cost using the same COTS system and about $12 million to migrate that system over to the UFMS.

Mr. WEEMS. Yes.

Mr. PLATTS. I guess the first question would be, why the $12 million cost to migrate it over? And is that $100 million part of the $700 million?

Mr. WEEMS. Yes.

Mr. PLATTS. OK. That is good. I was hoping it was. [Laughter.]

Mr. WEEMS. So is the $12 million.

Mr. PLATTS. And the $12 million is?

Mr. WEEMS. Yes, sir.

Mr. PLATTS. Why, if it is the same COTS? Kind of educate this lay person to understand that.

Mr. WEEMS. It is an excellent question. When we started back in June 2001, the five systems that we were looking to replace were not in the same place. NIH was much farther along. Also, NIH's system brought to the table other administrative functions beyond financial management.

Our choice at the time was to use the NIH system as a model for the rest of the department. But their work was not scaled right for the rest of the department, their effort was not scaled right. So that did not seem like a viable alternative. Our other alternative was to stop NIH from what they were doing, delay the benefits of their implementation, and let the rest of the department catch up.

The third way was to let NIH proceed, let the rest of the department catch up, and at some later point merge the two implementations. That latter choice is the choice that we made. The $12 million cost, that is an estimate right now of what it will take. But the NIH implementation proceeded in a way to meet NIH's needs, not the needs of the broad HHS. That $12 million is the cost of bringing those two things together.

We think we made the right decision. Right now, we closed the books today. NIH is going to do financial reporting this year on its system. We did not want to delay that. NIH has a very efficient and effective e-travel system, way ahead of the rest of the department. We did not want to delay that. They are going to have other administrative functions like supply chain management. We did not want to delay the benefits of those things.

So, the short answer is, NIH developed an implementation for NIH. We allowed them to proceed. It meets their business needs. We will catch up with them this next year as we bring their business needs into UFMS and align their project with UFMS.

Mr. PLATTS. Mr. Steinhoff, in your assessment of that approach and kind of the focus on the cost issue, is that $12 million estimate of integrating it over something that seems viable, or is it going to actually be more?

Mr. STEINHOFF. We did not actually look at that at all. I would say though, Mr. Chairman, it gets back to our earlier discussion about COTS packages. Mr. Weems said it very well, that package was taken and configured for NIH. So, for every COTS package, it is very important that you configure it for your use and you determine how functionality is going to be employed.

So it is not surprising that HHS would have to make some changes to take the NIH package into the broader parameters here.

Also, as the department better defines its requirements, it may find other things are needed to assure that the NIH system is in fact meeting the broader needs. For example, the COTS package is primarily core accounting, whereas the vision is much broader.

So, we did not look at the estimate. But these are the kinds of costs that one would have, and it is not surprising to incur a cost to convert the same COTS package to another environment.

Mr. PLATTS. Mr. Weems, in talking about where you were with NIH, you touched on something that I was going to raise about the legacy systems. In June 2001, when the Secretary's memorandum came forward that HHS was basically going to have one—great vision and commendable effort that is going on—various components of HHS were already moving forward, like NIH. What is the status of those others? Have we continued to spend money elsewhere? Or were the other ones pretty much put on hold and are part of the big picture?

Mr. WEEMS. That is right.

Mr. PLATTS. OK.

Mr. WEEMS. In fact, Mr. Chairman, I remember this meeting very, very clearly with the Secretary. In February, just after he was confirmed, we sat down and we started working through the budget with him. And in CDC, in FDA, in PSC, in NIH, there were budget requests to build five different accounting systems. He looked at us and essentially said why are we doing this. Let us have one.

And that led to that memorandum. That budget meeting in February led to that memorandum. So since then we have done maintenance costs on the legacy systems to keep them going. But we are not building systems outside of UFMS. We absolutely put an end to that.

Mr. PLATTS. That is great and glad to hear that. Do you by any chance remember, ballpark, what those estimates were if you had gone forward with those independent efforts to rewrite them?

Mr. WEEMS. No, I do not remember the total project costs of each incremental budget cost or what we were looking at at that moment. I do not recall. But the thing that they were doing were simply buying new of what they had. There was not the vision in the agencies of being able to go to a shared service environment and say we are going to have one place in HHS that pays bills, and guess what, guys, we are going to compete to see who gets to do that. We are going to have one place that maintains the system, we are going to have one place that has a Help Desk for all of UFMS. That vision was not present in those budget requests. That vision was present in June.

Mr. PLATTS. And that is something with your vendors, all the private sector, that has to be something that they look forward to, I would think, that there is one place that pays bill so they know who to go to between the various entities.

Mr. WEEMS. I am sure our partners look very much forward to that, and certainly those of us who have to track financial transactions across the institution do too.

Mr. STEINHOFF. Mr. Chairman, if I may add.

Mr. PLATTS. Yes.

Mr. STEINHOFF. I will add that concept is one that we support strongly. I think Mr. Weems got to the bottom line of the issue in actually making that happen when the Secretary said you are not going to spend the money. You probably remember when we testified on DOD, we said part of the problem is the military services and other commands still have their own budgets and still have their own constituencies through appropriations and are building away. You have to control the money. You have to provide that discipline. And this approach is one we strongly support.

Mr. PLATTS. And it is a good model for other entities like DOD to follow.

Mr. STEINHOFF. Yes.

Mr. PLATTS. And for Mr. Weems, for you at the department headquarters and ultimately for the Secretary to have that knowledge. In our hearing in this room not too long ago with NASA, the CFOs are dedicating their efforts, but those independent NASA Centers are kind of going their own ways.

Mr. WEEMS. If I might make a point there, Mr. Chairman. We did not create a single budget for UFMS. The budget for UFMS is in every one of our operating divisions. They have a stake in the success of this project and they have not gone off with that budget and hired somebody else and said this is crazy. They have seen the benefits, they have stayed with us, they are using dollars appropriated to them, and we bring it all together through a Memorandum of Understanding in a central pot to expend it. But those dollars are appropriated to them and they have stewardship of those dollars.

Mr. PLATTS. Good approach. How about on the issue, as you move forward with your implementation, the need for manual efforts to really address shortcomings in the program that were not envisioned? What do you expect with CDC as you go forward? What is likely to be the level of manual operations or processes that are going to be required to make up for something that was not envisioned?

Mr. WEEMS. Well, the short answer is, a few. There will be some. But that I think follows the rule that you have to give a little to get a lot.

Mr. PLATTS. Are there some specifics, some examples that maybe you envision?

Mr. WEEMS. Oh, yes. Most of these actually have to do with existing interfaces that are going to be manual transactions now that will not be automated in the initial implementation. International invoices, how we pay our partners internationally, that is a fairly small workload, one that we did not think was worth writing an extension for. E-mail notification of purchase order exception processing, this purchase order did not work so we are going to send you an e-mail and tell you, we will have to have a manual work-around for that. CDC has an interactive voice recognition system that they use for some vendor payments, and we will have a manual work-around for that in this implementation too.

So there will be a few. We think that actually these will be taken care of in subsequent releases of UFMS. But there will be a few, and I am afraid I do not have any example with me, where writing an extension to the software just was not worth it and so we are

going to adopt the business change that using Federal Financials brought to us without writing an extension to do something manually. These will be small things where it just was not worth the dollars to write the extension for the software.

Mr. PLATTS. Mr. Steinhoff, is that something, I am not sure how much detail you looked at, that likely manual work-arounds are going to be required? Anything you want to add?

Mr. STEINHOFF. Well, they had not actually rolled out the system so you could not really see exactly what would be entailed there. It has been a problem with other agencies who have found that their system does not provide them what they need. So the staff immediately goes off and develop an ad hoc system or end up with 1,000 Excel spread sheets and they pull down data, or at times people find that the information is there but it is not there in a form that is easy for them to use it. So the performance of the system and the ability to meet the users' needs is lacking. But HHS was not yet in a position that we could tell what would happen. And you really tell that oftentimes when these things go live. And when the activities or entities that are using the systems find that it does not provide them the agility and the quality of information they need, they themselves will start developing those ad hoc systems.

Mr. PLATTS. Mr. Weems, it sounds like for those work-arounds that you purposely did not write an extension, you really are going to be looking to learn from that with CDC for the subsequent implementation efforts so to try to diminish the number of manual work-arounds.

Mr. WEEMS. Yes. And in some cases, for instance, the voice recognition system that CDC uses, we did not write an extension to that. CDC has found that a very useful functionality and it may actually be an instance where we want to pick up that functionality and look at it for the rest of the department. So, for instance, if CDC were to become our bill payer, that functionality would be very, very important and that would be the kind of thing that we would write an extension for or make sure that meshed with the software, because its value at that point, if CDC were our bill payer, would be very high.

Mr. PLATTS. That is something that will be down the road, that decision?

Mr. WEEMS. Yes. Yes.

Mr. PLATTS. Right. A couple more areas maybe to touch on. One is, actually when we were talking about the cost, and I realize that you are putting your best estimate out there on the whole cost, but one aspect of it is the integration of UFMS with your HIGLAS Medicare program. Is that something that is still in the works or not included in that estimate of $700 million?

Mr. WEEMS. Integration at the reporting level is included at the $700 million. The HIGLAS and the UFMS components will be able to produce consolidated financial reports within the $700 million plan.

Mr. PLATTS. As part of the $700 million, it really does include how to integrate the two then? I am not sure I am understanding you.

Mr. WEEMS. I think it depends on what we mean by integration. We will be able to produce integrated reports. They will not be, for a number of very good and proper reasons, integrated systems. Handling the Medicare workload is just so different both in volume, complexity, and just by its very nature is different from a good deal of the rest of what HHS does. So we are not going to integrate that at the systems level.

Mr. PLATTS. OK. So other than reports, you really do not envision that level of integration?

Mr. WEEMS. That is right. At least at this stage of the technology, we do not envision what a layman would call, and I certainly consider myself that, a full integration.

Mr. PLATTS. Is that a change from the initial memorandum of a single HHS system, the original vision?

Mr. WEEMS. I think even when this was written we knew that the volume and nature of things at CMS would mean that we would still need something separate at some level—at the machine level, at the code level, some level—where it just would not be fully integrated. The Medicare processing workload is immense. It is nearly a billion Medicare bills that are processed a year, and that is before Part D of the new prescription drug program.

Mr. PLATTS. And that is prior to all the baby-boomers retiring, right?

Mr. WEEMS. That is right. That is before I start submitting my bills. [Laughter.]

Mr. PLATTS. Mr. Steinhoff, do you have any thoughts about keeping those systems separate, that being good, bad, or it is hard to say at this point?

Mr. STEINHOFF. We really have not looked at that in particular. We noted that in pulling the plan together HHS had not stated how it was going to integrate those systems. So I think we have gotten the answer today. But that is something that we did not cover as part of our review.

Mr. PLATTS. OK. As we move toward a wrap-up here, we have talked about the interaction between GAO and HHS, the GAO report and its recommendations, 34 specific recommendations I believe, 9 that were more pressing, and then some others to work through. Maybe you would comment on how those sifted out; the ones you have embraced and you already have addressed, ones you are addressing, or ones that you disagree on. Is there a consensus of how you are going to go forward with those recommendations and what you are going to do in response to them?

Mr. WEEMS. I think that in HHS we have adopted a good number of them, and I think we have informed our friends at GAO of those that we have adopted. For others, such as requirements and testing, at the time of the engagement GAO's comments were proper. But things have changed since then and I think our requirements traceability matrix is much more defined. I think the testing that they have been put through reveals that. Also at the time of their engagement, we did not have a complete or good test plan. I think since that time those things certainly have changed.

So we, on balance, considered their comments very useful. We will continue to work on our management of human capital, for instance. That is something that was pointed out. Obviously, it had

been a concern of ours, but it is something that we need to do. We will use clear metrics in defining where we are going, but we are still going to continue to keep dates in front of people and to drive to those dates while maintaining the quality and integrity of the program.

Mr. PLATTS. Mr. Steinhoff, maybe if you could address any specific recommendations you have made where you have had dialog and maybe there is not agreement. Is there one or two or whatever number that you think are critical that HHS take a further look at?

Mr. STEINHOFF. I think the four things that Keith Rhodes talked about up front are really the most important areas now. Testing is critical, and testing is driven by the requirements. I am encouraged that the requirements issues have been resolved as Mr. Weems stated today because they were a concern to us when we were there. The question will be how effective has that been.

Mr. PLATTS. And on the testing, it sounds like your testing is more defined today than when GAO was reviewing.

Mr. WEEMS. Absolutely.

Mr. STEINHOFF. There were a number of recommendations made in the most recent IV&V report, both that special report Mr. Weems mentioned as well as the report the IV&V contractor issued on September 10th which covered their August activity. There were really a litany of issues surrounding testing and they are a variety of important tests. So I think HHS has a roadmap on what to do.

But it will be very important to assure you have the requirements in hand, and you have the test in a manner that is disciplined. It is seeking to find deficiencies because you want testing to be as rigorous as you possibly can have it. You want to be able to truly pass that test. You want to make sure the system is useable by the user. I read about a system the other day where I guess the users started crying when they turned on their computer screens. That is the last thing one wants.

Mr. PLATTS. Especially after $700 million.

Mr. STEINHOFF. Yes. You are going to have to work really hard, as Mr. Rhodes stated, when you get down to the ability to actually convert the information you now have to the new system as well as integrate with the other 110 systems, in the case of CDC the 30, and then the metrics are very key. We continue to believe that event-driven is the way to go. Our hope is that HHS will have both event-and date-driven. Have a date in front of people but assure that things have moved through certain events successfully and have the metrics to show that. Because we feel without that the risk is very, very high. And none of us want to be here in 2007 revisiting this.

Mr. PLATTS. We want to be here celebrating.

Mr. WEEMS. That is right.

Mr. PLATTS. Mr. Rhodes.

Mr. RHODES. I would just echo Mr. Steinhoff's points of what we consider key to their success. Just taking one example of the interfaces, for example, it is not the number, it is that as we have seen at HHS, which we have seen at DoD, which we have seen at NASA, which we have seen at Bureau of Indian Affairs and De-

partment of Interior, the systems to which they are trying to interface are not necessarily well-defined in and of themselves.

And so trying to figure out what that interface is both at a data level, at a process level, and then at the actual physical, electrical level is very complicated. That is extremely important because that is going to be their data source and that is really the pathway they move to the transformation that the Secretary and Mr. Weems are talking about. As long as the requirement leads to the test and it is being measured, they will be able to get there. But that is the challenge for them.

Mr. PLATTS. I think your feedback certainly has been well reviewed and is being weighed in good faith by the department. With Government in general, the joke sometimes is, I am from the Government, I am here to help. I imagine the departments sometimes view GAO that way, we are from GAO and we are here really to help, there is some skepticism. I hope that is not the case here because I think there is a wealth of knowledge and good faith effort to help HHS to be part of the team of this transformation.

The one thing I would add, and I think, Mr. Weems, you appreciate it, is that Mr. Steinhoff and Mr. Rhodes personally and GAO in a broad sense has a wealth of knowledge and historical perspective with other agencies and departments who have gone through similar efforts. The counsel they are sharing is not based on just some theory, but based on real practices, experiences elsewhere. So I appreciate you and your staff in your efforts in giving great weight to their input.

Thank you all for your great insights today and for helping to better educate this lay person on where we stand. I want to thank you each individually for your work and please convey to your respective staffs back in your offices my sincere thanks for theirs.

I think being a public servant is a very admirable profession. Earlier this week I had the pleasure of recognizing a postal service employee in my district, in Gettysburg, in fact, who, after 30 years of service and 1 million miles of safe driving delivering mail, was recognized and welcomed into the Million Mile Club. As one who commutes daily, drives about 30,000 miles a year in my commute from my district I think, I have to be here 33 years to catch up. [Laughter.]

But as I commended him, I commend each of you and your staffs for your work. We know you are truly looking out for the best interest of your fellow citizens, especially in important areas like NIH and CDC, and Medicare, because I want it to be there too when I get there.

I look forward to our committee and staff continuing to work with your offices as we move forward in this truly great vision that we want to become a reality. And I certainly thank committee staff on both sides for their legwork and also helping to educate and prepare this lay person. So, thanks for your testimony. We will keep the record open for 2 weeks for any additional information that needs to be shared.

This hearing stands adjourned.

[Whereupon, at 3:45 p.m., the committee was adjourned.]

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