

## INVESTIGATING THE IMPACT OF THE YEAR 2000 PROBLEM

to respond adequately to Y2K-related emergencies. The overall Y2K preparedness status of state and local emergency service agencies remains unknown, as does the extent to which these agencies have considered Y2K as an event for which they must creatively plan.

In his testimony before the Committee, Mr. Bob Cass, city manager of Lubbock, Texas, described the Y2K emergency simulation exercise that Lubbock had conducted just 2 days prior to the date of the Senate hearing. This exercise gained major nationwide media attention and served as an excellent example of the type of emergency planning activity that local, county and state governments should replicate. Bruce Romer, Chief Administrative Officer of Montgomery County, Maryland, also testified about Montgomery County's plans to conduct a similar exercise in December 1998. Mr. Romer has stated to the Committee staff that Montgomery County plans to activate its Emergency Operations Center prior to December 31, 1999, and said that in the event of a Y2K emergency, he "doesn't want to be looking around for people they will need." Both Lubbock, Texas and Montgomery County, Maryland represent model cases of effective Y2K emergency preparation.

In his written statement to the Committee, Sergeant Powell emphasized the difficulty of accommodating the additional demand for emergency services that may accompany the century date change, due in part to

the possible increase in public fear toward the end of 1999. Of great concern to the Committee is the need for effective dissemination of credible information to the general public about the expected level of severity of Y2K disruptions. Governments at all levels must work constantly over the next year to obtain accurate information in order to dispel irrational and unwarranted fears about the potential impact of Y2K disruptions.

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### FEDERAL AGENCIES

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#### Overview

On the whole, federal agencies have been slow out of the gate in the race to cross the finish line for Y2K efforts. In this race, even though one agency or another may at times lead the pack, all agencies must cross the finish line together in a tie. As the race enters the home stretch, agencies must pick up the pace and sense of urgency. Although much progress has been made this year, the home stretch of this course is daunting.

As expected, those that started the earliest generally lead the pack. The Social Security Administration and Small Business Administration are notable agencies in front that started in the late 1980s. Considering the lead these agencies have over those that started in 1996, one can only conclude that late starters face a formidable task. The most notable agencies that have found themselves in that unenviable posi-

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tion include the Departments of Energy, Defense, and Health and Human Services.

All federal agencies are addressing the problem via a five-phased process: awareness, assessment, renovation, validation, and implementation. The next milestone occurs in January 1999 when agencies should complete the validation phase. The last milestone, completion of implementation, occurs in March 1999. Due the tremendous scope and pervasiveness of potential Y2K problems, federal agencies have managed the problem through a triage process. They have identified those systems that are 'mission-critical' to their ability to perform core capabilities. This triage process is deceptively complicated due to the interconnectedness of today's systems. The total effort comes down to risk management, mitigation, and avoidance.

Although agencies are focused on mission-critical systems, many other systems are too important to be completely ignored. These systems are being tracked and actively worked on at a lower priority, according to agencies' reports.

### Initiatives

#### General Accounting Office

GAO has developed and published three guides that address the Y2K problem. These guides are available at [www.gao.gov/y2kr.htm](http://www.gao.gov/y2kr.htm). A short description of each follows:

- The first guide, Year 2000 Computing Crisis: An Assessment Guide, was published in September 1997. This guide walks step-by-step through the five-phase process and provides a program assessment checklist.
- An exposure draft of the Year 2000 Computing Crisis: A Testing Guide was released in June 1998 and was published in November 1998. This guide provides a Y2K testing step-by-step framework. As with the conversion model described in the first guide, the test model consists of five steps: testing infrastructure, software unit testing, software integration testing, system acceptance testing and end-to-end testing.
- The final guide in the series, Year 2000 Computing Crisis: Business Continuity and Contingency Planning, was published in August 1998. This guide recognizes that not all systems will be fully remediated through the five-phase process before there is a Y2K impact. Additionally, as always, the unexpected and unanticipated must be planned for even when systems have completed all five phases of remediation. An excerpt from the guide notes, "Every federal agency must ensure the continuity of its core business processes by identifying, assessing, managing and mitigating its Year 2000 risks. This effort should not be limited to the risks posed by Year 2000-induced failures of internal information systems, but

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must include the potential Year 2000 failures of others, including business partners and infrastructure service providers.” The structure described in this guide covers four phases: initiation, business impact analysis, contingency planning and testing.

### Emergency Supplemental Funding

Included in the Omnibus Consolidated and Emergency Supplemental Appropriations Act, 1999, Public Law 105-277, were provisions for \$2.25 billion for non-defense agencies and activities. The Department of Defense received a separate allocation of \$1.1 billion. These monies are to remain available until September 30, 2001. The purpose of these funds is to provide for expenses necessary to ensure that the information technology that is used or acquired by the federal government meets the definition of Year 2000 compliant and to meet other criteria for Year 2000 compliance as the head of each department or agency considers appropriate.

At the time this report was written, two submissions for release of emergency supplemental funds for non-defense agencies and activities had been made: November 6, 1998, and December 8, 1998. The total amount identified in these submissions is \$1.23 billion, \$891 million and \$338 million respectively. This accounts for almost 55% of the total emergency funds available for non-defense agencies and activities. The Department of Defense has yet to submit any documentation for re-

lease of any of its \$1.1 billion emergency funds for Y2K.

### House Committee on Government Reform's Subcommittee on Government Management, Information, and Technology and the House Committee on Science's Subcommittee on Technology

During the 104<sup>th</sup> Congress, the House held the first hearings to review and investigate the federal government's preparedness for Y2K. Its efforts have provided critical oversight and stimulation of agency efforts. To have the broadest impact possible, both Senators Bennett and Dodd consciously narrowed our Committee's primary focus to concentrate on the private sector and those federal agencies that provide a service to crosscutting segments of the private sector. Detailed information on Representatives Horn's and Morella's activities is found at [www.house.gov/reform/gmit/](http://www.house.gov/reform/gmit/) and [www.house.gov/science/y2k.htm](http://www.house.gov/science/y2k.htm).

### Office of Management and Budget

OMB is responsible for monitoring agency progress and efforts in addressing Y2K. Its strategy to ensure agency Y2K compliance is based on agency accountability. Progress is monitored through agency goals for compliance of mission-critical systems, progress on the status of mission-critical systems, status of mission-critical systems being repaired, and agency Y2K cost estimates. Progress reporting of federal agencies is on a quarterly and/or monthly basis depending on the tier that

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the agency is assigned to by OMB. The three-tier system that OMB is using consists of

**Tier 1** agencies: *NOT making adequate progress,*

**Tier 2** agencies: *making progress, but with concerns,* and

**Tier 3** agencies: *making satisfactory progress.*

Subsequent to agency submission of quarterly status reports to OMB, OMB generates a consolidated report based on agency self-reported information. OMB's 7<sup>th</sup> Quarterly Report was issued on December 8, 1998. It is based on data as of November 15, 1998.

Efforts by OMB to provide oversight are often augmented by internal audit organizations within agencies and by GAO.

### CIO Council Subcommittee on Year 2000

Among the Federal Government's Y2K initiatives, formation of the Chief Information Officers (CIO) Council Subcommittee on Year 2000, formerly the Year 2000 Interagency Committee, is the oldest. The committee was born in November 1995 when it held its first meeting. The Year 2000 Interagency Committee was an informal committee headed by Kathy Adams from the Social Security Administration. The Committee's purpose was to raise Y2K awareness, address crosscutting issues affecting many or all federal

departments or agencies, seek mutual solutions where possible and share best practices.

The Information Technology Management Reform Act established a CIO Council to review and provide guidance on crosscutting information technology (IT) issues. During November 1996, the CIO Council designated the Year 2000 Interagency Committee as an official subcommittee and renamed it the CIO Council Subcommittee on Year 2000. The Subcommittee was instrumental in assisting OMB's development of the Y2K quarterly status report.

### President's Y2K Conversion Council

Executive Order 13073 established the President's Council on Year 2000 Conversion in February 1998. The Council has the mandate to oversee agencies' activities to assure that their systems operate smoothly through Y2K. It is responsible for coordinating the federal government's Y2K efforts. Representatives from more than 30 major federal executive and regulatory agencies comprise the Council. These executive representatives are sufficiently senior so as to have 1) extensive knowledge of their agencies' Y2K efforts and external organizational relationships and 2) authority to commit their agencies.

The Council has established over 30 sector groups with coordinators from the appropriate federal agencies charged with outreach into the public and private sectors, both do-

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mestically and internationally. Looking internally at federal systems, the Council's oversight includes ensuring that adequate financial and personnel resources are committed to federal Y2K efforts and that they are used effectively.

Currently, of 24 major agencies that comprise the federal CIO Council, six are in Tier 1, seven in Tier 2 and 11 in Tier 3. Table 1 identifies these agencies by tier. This is based on self-reported progress on mission-critical systems.

### Assessments

Cost estimates continue to be on the rise for federal agencies. Since August, estimates have risen \$1 billion to \$6.4 billion. Over 80% of the increase is attributable to three departments: Health and Human Services (HHS), Treasury, and Defense. HHS hiked its estimate \$165 million for potential contingencies in fiscal year 2000, Treasury increased its estimate by \$53 million for increased testing and validation and Defense jumped \$591 million for increased independent verification and end-to-end testing. With much testing to go and schedules closer to possible slippage, it is likely that these cost estimates will continue to rise.

Sixty-one percent of federal mission-critical systems are now reported as compliant. This is a 10% increase since August. The remaining 39% is scheduled for completion by March 1999. Unfortunately, slippage is already apparent. Ten percent of mission-critical systems did not reach the renovation milestone of September 1998. As we move further into 1999, the risk of schedule slippage will increase.

Tier	Agencies
One	DOD, DOE, HHS, DOS, DOT and AID
Two	USDA, DOC, Education, DOL, DOJ, Treasury and OPM
Three	DOL, VA, EPA, FEMA, GSA, HUD, NASA, NRC, NSF, SBA and SSA

**Table 1: Current Status of Federal Agencies**

### Concerns

The Committee is very concerned about current agency progress. Despite an apparent increase in activity, it is still not enough. Many schedules show a steep improvement curve just before key OMB milestones. Both internal audit reporting and GAO reporting support the concern over schedule. Furthermore, hearings by the House specifically focused on the federal government's preparedness continue to raise warning flags. The federal government has never received a passing grade on any of the six report cards issued by Congressman Stephen Horn. Additionally, a large portion of testing, known to be one of the largest portions of the overall Y2K effort, is yet to come. Several agencies stand out as ones that require fo-

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cused oversight and stepped up efforts due to the risks associated with their current pace of progress: Healthcare Finance Agency (HCFA), Federal Aviation Administration (FAA), Department of Energy (DOE) and Department of Defense (DOD). In light of these risks, these agencies' business continuity and contingency plans become even more important.

The area of system interfaces is another concern that requires additional attention. These interfaces exist internally within each federal agency; they exist between different agencies, between agencies and state governments, and between agencies and local governments. Generally, these interfaces support government revenue collection systems and benefits payment systems. Often, it is not clear who is responsible for interfaces among federal, state and local governments. Furthermore, the testing is complicated by the need to test these interfaces as a portion of the overall testing strategy.

One prime example is HCFA, which is one the farthest behind in its critical systems remediation efforts. HCFA manages Medicare, Medicaid and Child Health programs serving over 74 million Americans. Problems with federal systems combined with Y2K failures state and local government systems, or the interfaces between them, could result in delayed benefit payments, payments not being received at all or delivered to the wrong party, eligible recipients not receiving payments or incorrect

amounts disbursed. Given the extreme volume of transactions that occur daily to support these programs, a contingency plan consisting of manual processes would not suffice.

Finally, half of the emergency supplemental funds for non-defense agencies have already been released within the past 2 months. These funds were intended to stretch over a 3-year period, which suggests that little will remain for true emergency requirements. It is not clear that OMB scrutinized funding requests as closely as the Committee would have hoped. While OMB is experienced in overseeing budgetary requests, another entity more involved with the Y2K issue, such as the President's Council, might have been better fit to evaluate the Y2K funding requests. Unfortunately, suggestions from the House to give more authority and responsibility to the President's Council have yet to take root.

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### DEPARTMENT OF DEFENSE

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In addition to the concerns expressed above, the Department of Defense (DOD), as the largest federal agency with nearly half of the federal government's computer assets, faces a monumental management challenge in addressing Y2K. The department relies on computer systems to conduct nearly all of its functions, including strategic and tactical military operations; sophisticated weaponry; intelligence collection, analysis, and dissemina-