



Kathleen Adams

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50 million  
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## INTERVIEW

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### Testing will make or break your 2000 fix

*For some information technology managers, the year 2000 problem could be a career ender. But not for Kathleen Adams. The assistant deputy commissioner for systems at the Social Security Administration is confident that her systems will be ready to go.*

*In fact, last year she caught the attention of the Office of Management and Budget and last year also became the chairwoman of the Chief Information Officers's Council Subcommittee on the Year 2000. In this position she's helped guide efforts toward uniform language on vendor software warranties and in the Federal Acquisition Regulations relating to the year 2000.*

*Adams is a graduate of the University of Maryland. She has had a variety of technical and managerial jobs in systems, policies and budgeting for SSA and the Health Care Financing Administration. CGN editor Thomas R. Temin interviewed Adams during last month's Federation of Government Information Processing Councils conference in Orlando, Fla.*

GCN: How did SSA first notice the year 2000 problem back in 1989?

ADAMS: A system broke. It was a system that tracked repayments of people who owed us money. Someone in a field office tried to input a repayment schedule out to the year 2000. The system abended, which means it came to an abrupt ending. It didn't work. It was probably the best thing that could have happened to us. We did a work-around to get the system back up manually, because it wouldn't handle dates after 2000. But the good part of that is it made us realize that 2000 wasn't that far off. When we finally did figure it out later that day, when we saw what went wrong, we realized that other systems were going to break. So we set up pilot projects to get an idea of what we might be looking at.

GCN: How many software modules are involved?

ADAMS: We counted 21,884--not only modules we were planning to fix, but also modules that were compliant because they were built to be compliant.

GCN: How many lines of code does SSA have altogether?

ADAMS: Lines of code is such a funny expression, because everybody counts lines of code differently. Not including any commercial, off-the-shelf packages, but just software that was written in-house and maintained in-house, we have about 33 million lines of mainframe software.

GCN: Of those modules take the number that need fixing. How many will you junk and how many will you keep?

ADAMS: The vast majority of our inventory is going to be renovated. We were able to throw some software away. But probably 90 percent of the software we had when we first started our inventory is going to be fixed. We're completely through with assessment. In terms of renovation, actually changing our software, of the 33 million lines of code that need to be brought up to compliance, we have 50 percent converted and through regression testing and put into production. Another 15 percent have been converted and are in testing and waiting to go into production. Our plan is to have all of that software converted, integration tested, and forwardyear tested by December of 1998. Actually we're trying to move that up to around September of '98, which will give us in excess of a year to run in production with fully-tested software. We do a lot of workloads that are just run once a year, like the benefits rate increase. We only run that in late November for the January payment. We change every record. We want to make sure we go through every annual operation prior to 2000.

GCN: What is the oldest code you have running?

ADAMS: We joke about that. We've done so many things to re-engineer it and optimize it, but we probably have software in production which was built in the early '60s. We had a software improvement project maybe 10 years ago when we ran all of our code through optimizaers. We try to keep our code up to the latest version of Cobol.

GCN: Explain the problems of data exchange

ADAMS: We've inventory all of our data exchanges and have actually built a tracking system to track our exchanges and to document that we've contacted everyone we exchange with.

GCN: It's like tracking the blood supply

ADAMS: Exactly. We are writing letters everyone and making sure we agree on what the formats are going to be and the dates on which we'll start using those formats. We exchange data with the Veterans Affairs Department--we tell VA who we're paying benefits to and VA tells us who they're paying benefits to. Or we may exchange data with the Health Care Financing Administration. We exchange information with the Railroad Retirement Board, the Office of Personnel Management to see if perhaps a person is getting a government pension. Those are our most critical exchanges. There are two things you need to be concerned about. Everyone seems to be focusing on the format, and that's important because you need to know when you're going to start using your formats. If the system I am exchanging with is going to be ready in April 1998 and mine isn't going to be ready until June of '98, then I need to put some type of a bridge in to handle that exchange for the two months. I need to keep track of the fact. To me the trickier issue is: If we're getting data, how do I know that when 2000 comes around, you're giving me accurate

data? The worst problem for the year 2000 is that your systems don't break but keep going and produce the wrong result. At SSA, we edit the data now. But [we need] to put in some kind of parameter testing or what I call reasonableness testing. For example, if data from you looked a certain way, and now all of a sudden it's 2000 and you're sending me numbers that are very, very different.

GCN: How do you edit data? You can't sit and comb through tens of thousands of records.

ADAMS: A lot of edits are built into data exchanges. We need to look at what kinds of edits we are doing now, and if they are sufficient, or do we have to build in additional screening criteria to make sure it's good stuff coming in. Our volumes are so high that everything has to be automated. We have a low tolerance for defects because of our volumes. With 42 million Title II payments and 6.5 million Title 16 payments a month, a 1 percent error rate means 500,000 people with messed-up checks. They're going to be upset with you, calling the office, calling the 800 number on the same day. We've always been focused on testing and configuration management and control. Maybe you don't move as fast as other agencies, but on the other hand, when a project like this comes along, it's to your advantage.

GCN: How many work hours is SSA going to need for the year 2000 fix?

ADAMS: Our estimates are about 350 work years total. So far, we've probably expended 150 to 200. That's around \$35 million, and we put out about 50 million payments a month. That's less than \$1 a payment. That's not a bad investment to make sure it comes out right. Testing is going to be very big. We've built a separate testing facility that is operational now. We're testing vendor packages on it. Our plan is to test the 50 percent of the code that's been converted and for which we've done integration testing. We'll begin doing forward-year testing on that in the fall.

GCN: Did you have to acquire hardware for this?

ADAMS: Yes. We're very fortunate because we were in the process of updating the computers in our data center. We were able to establish a requirement, as part of that buy, for the year 2000 test facility. We're doing a logical partition, so a piece of one machine is dedicated to the year 2000 testing and will be now through 2000.

GCN: Tell us about the CIO Council Subcommittee on the Year 2000. Has that been effective?

ADAMS: That's been very positive. As issues are raised, we've been able to take them to the council, like data exchange. Bruce McConnell, (OMB's Information Technology and Policy Branch Chief) asked SSA to be the champion for the year 2000, and the council has been extremely supportive. Ultimately, every CIO and every agency head is responsible for their own software. What the subcommittee can do is exchange best practices, tackle issues like a vendor database of when everyone will

be compliant.

(Another issue is) warranty language for year 2000 compliancy. When we first started this, no one had a clear definition of what year 2000 compliancy was. Now we've come up with a definition ; it was published as an interim rule in the Federal Acquisition Regulation and it will be final, I think, in July. We'll have standard warranty language. Now industry isn't dealing with different definitions from every agency. Those are the kinds of things where OMB and the CIO Council and the year 2000 subcommittee can add value. It's a way of moving government very swiftly.

GCN: Do you like this work?

ADAMS: That's a funny question. For something that sounds like such a dull issue, it really isn't.

You are talking about legacy systems, Cobol, grunt work--but the issues surrounding it and trying to develop a strategy are actually very interesting.

I guess I do.

GCN: Are you confident SSA will make it?

ADAMS: Yes, absolutely. We have no choice but to make it, and we will make it. We cannot manually issue 50 million payments.