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Mobile users SWAT at notebook bugs

By Mindy Blodgett and April Jacobs

Mark McWhirter, vice president of information technology at Earle M. Jorgensen Co., thought the tough part of a large laptop and sales force automation deployment would be persuading people to go mobile.

But the biggest hurdle turned out to be the laptops themselves — a shipment of about 230 Texas Instruments, Inc. Extensa 555 and 560 models. Many of them just didn't work, he said.

"One of the more serious problems was that you would go to turn on the machine,

and it would say, 'Hard drive error, disk not found,'" McWhirter said. "It's been incredibly annoying."

He isn't alone. Users and industry observers have been complaining for months that vendors, in a rush to meet accelerating and unexpectedly high demand, are shipping laptops that haven't been adequately tested.

Laptop sales

International Data Corp. in Framingham, Mass., recently revised its notebook market forecast upward, predicting that 4.7 million notebooks will ship in the U.S. this year, up from 3.5 million last year.

Users also face configuration problems when their machines are preloaded with outdated software.

"My theory is that people are rushing new-generation products out the door without spending as much

Laptop, page 135

Year 2000 crash course offers IS career payoff

Silver lining

Year 2000 conversion projects are a great opportunity to:

- Hone your management skills
- Work closely with senior managers to show them you understand business as well as technical issues
- Get a valuable and rare overview of your information technology infrastructure and business processes

By Robert L. Scheier

If scare tactics haven't forced you to start fixing your year 2000 problems, maybe this will: Tackling that messy job could help you develop skills you'll need long after the turn of the century.

Those information systems skills include project management, an ability to explain highly technical issues in business terms and in-depth knowledge of a company's IS and business processes, said Bruce Hall, a research director at Gartner Group, Inc.

The very size and complexity that make year 2000 fixes so difficult are

Year 2000, page 135

Special Report: TAX SYSTEMS FIASCO



At a meeting last month of the National Commission on Restructuring the IRS, Sen. Bob Kerrey (D-Neb.), center, lambasted the IRS for failing to apply the right performance measures to its operations

IRS project failures cost taxpayers \$50B annually

By Gary H. Anthes
 WASHINGTON

It may be the most expensive systems development fiasco in history. Delays in overhauling the federal tax systems are costing the U.S. Treasury as much as \$50 billion per year, a *Computerworld* investigation has found.

That figure represents what the federal government *could* be collecting in additional taxes if the Internal Revenue Service had succeeded in its decade-long attempt to modernize its 1960s-era computer systems.

Now trying for the third

time to revamp its tax collection systems, the IRS spends hundreds of millions of dollars annually on the effort. But critics say much of that money is wasted through mismanagement and primitive development practices. And IRS officials concede many of those points.

Yet direct expenditures on the IRS' \$8 billion Tax Systems Modernization program pale beside a less-noticed cost: the revenue that might have been.

The IRS admits that the lack of progress in developing new automated compliance tools stands in the way of its goal to boost tax collections

IRS, page 28

INSIDE

- The IRS wants more credit for its successes. Page 28.
- Election-year attacks put focus on the tax agency's budget. Page 29.
- Time line traces three decades of tax systems modernization projects. Pages 28 and 29.
- Corporate IS offers advice on avoiding similar mega-project fiascos. Page 30.
- TSM unplugged — a look at the project's key pieces and price tags. Page 30.

In 1995, the IRS:



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- Collected \$1.4 trillion in taxes
- Paid out \$106 billion in refunds
- Handled 2 billion pieces of paper (a stack 200 miles high)
- Processed 206 million tax returns
- Assisted 110 million taxpayers by telephone
- Spent \$25.6 billion overall
- Spent \$1.6 billion on information systems overall
- Spent \$622 million on Tax Systems Modernization projects

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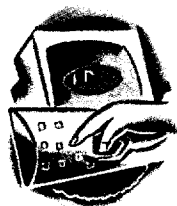
Time is taxing

1960

The IRS makes the first major automation with the Tax Administration System

1968

The IRS determines tax systems, based on 1950s concepts, need to be replaced. It launches a first attempt to modernize systems.


1978

The White House cancels the tax system overhaul, citing concerns about privacy and security.

1982

The IRS launches a second tax system replacement program, Tax System Redesign. Goals: upgrade hardware, speed information access, link related data, automate manual activities.

1985

The Treasury Department disapproves the IRS' project plan, saying the objectives are too general and the plan would outsource too much.

1986

The IRS wins Treasury approval for a third approach to redesign. The Treasury says it is troubled by lack of progress on the project.

1988

Oversight agencies express concern about the complexity of the huge program, which the IRS estimates at \$4.4 billion and expects to be completed in 1998.

1988

The IRS begins planning the Document Processing System (DPS), the key to its strategy of paperless processing of tax returns.


1990

The GAO faults the IRS for not having a master plan for the project — now called Tax System Modernization (TSM).

1991

The IRS' design master plan "does not address key issues vital to success of the modernization," the GAO says.

1992

The IRS' "planning, technological readiness and procurement and systems development processes" are badly flawed, the GAO says.

Special Report: TAX SYSTEMS FIASCO

IRS: Tough to get any respect

By Gary H. Anthes

The IRS has agreed with much of the criticism leveled at it over the years, but the agency claims it hasn't gotten the credit it deserves for having made substantial improvements to its systems.

"All this criticism is leveled by people who can't recognize a huge amount of progress," said Hank Philcox, former chief information officer at the IRS and now CIO at DynCorp in Reston, Va. "We wasted \$2.5 billion? No, we built an infrastructure. To say we made no progress ignores where we started from."

Philcox said that when he assumed responsibility for TSM in 1986, the IRS' computer systems were on the verge of collapse. Underpowered mainframes and inefficient software took five days to do "weekend" file updates. The 1985 tax-filing season was an information systems and public re-

lations disaster as tax refunds to 85 million individuals suffered long delays.

Essentially no data was available online, so IRS workers relied on tons of paper documents and computer printouts. Updates to the master file — on some 3,000 magnetic tapes — were propagated to regional centers by flying tapes across the country.

As a result of the 1985 fiasco, the IRS established three key systems priorities: boost computer power and optimize existing software, connect IRS centers with a high-speed data network and automate the manual processes of case workers by getting key tax information online. By the early 1990s, Philcox said, automation plus the network had reduced processing delays and manual effort so much that the IRS was able to eliminate 4,500 clerical positions.

Philcox said the new Integrated

Collection System, scheduled for full implementation in 1998, has improved by 30% the productivity of case workers where it is installed. But final roll-out of that system — and other worthwhile systems in the development pipeline — depends on the IRS' future budget for the Tax Systems Modernization program, said Mark Cox, director of the IRS' southwest district.

The budget and plans for this latest collection system are under review by the IRS. Cox said the IRS has accomplished much over the past five years. "I don't think it's a totally negative story at all," he said. "I keep hearing people externally saying we haven't gotten the mes-

sage, but folks internally have gotten the message on what needs to be done, and they are trying real hard."



The IRS' ex-CIO Hank Philcox: *'To say we made no progress ignores where we started from'*

The agency has also been listening lately to the siren song of outsourcing. Declaring that its expertise is in taxes, not systems, it has been parceling out more pieces of TSM.

Philcox agreed with the GAO's call for the IRS to do business process re-engineering, but he said the IRS' decision to automate only existing process-

es was the correct one at the time.

"Our strategy all along was to get the near-term improvements and to ensure a return on investment as we went along," he said. "And we did that."

Failures cost taxpayers \$50B

CONTINUED FROM PAGE 1

from 87% of amounts due today to 90% by 2001. At current collection levels, that 3% is worth about \$50 billion per year, or more than \$500 per U.S. household.

"The opportunity costs of not doing tax systems modernization are huge," said Lynda Willis, director of tax policy and administration issues at the U.S. General Accounting Office in Washington. "System improvements are necessary for getting to that 90%."

"I've seen abuse of the tax system that would turn your stomach," said Hank Philcox, former chief information officer at the IRS. "You wouldn't believe what some people get away with, and information technology can offset a lot of that unfairness."

But it doesn't — at least not yet. The IRS has 8,500 people in information systems management and development, and 2,000 of them are assigned to tax systems modernization. A recent estimate by a committee of the National Re-



IRS Commissioner Margaret Richardson: *'We recognize that our software capabilities, as well as those of our contractors, must be improved'*

search Council in Washington said there are 10 outside contractors working on the Tax Systems Modernization (TSM) program for every IRS employee on the project.

"The IRS has spent \$4 billion on TSM so far and has basically nothing to show for it," said Rep. Jim Lightfoot (R-Iowa), chairman of

the House committee that approves IRS funding. He is one of the IRS' most vocal critics.

Although the IRS has made some progress in recent years in improving its computer systems (see story, next page), critics have trained a harsh spotlight on some troubled development activities at the agency.

According to government and private groups that have reviewed the IRS' systems work over the years, the agency's biggest problems center on several key areas. They say the agency has done the following:

- Failed to do much-needed business process redesign before it began its systems development.
- Neglected to develop an overall systems architecture or development blueprint.
- Employed primitive and, at times, "chaotic" software development methodologies.
- Failed to manage information systems as investments.
- Neglected information security.

"We recognize that our software development capabilities, as well as those of our contractors, must be improved," said IRS

Commissioner Margaret Richardson. "We have taken steps in that direction."

To appease its critics, the IRS has made several major adjustments in its approach to the massive modernization program, which is a collection of about 50 projects. The agency last year overhauled its TSM plans, scaling back some activities and postponing others.

Cutting back

"Perhaps we took on too much, and we cannot afford to do all this at once," acknowledged Marilyn Soulsburg, a TSM executive at the IRS. She said the agency has decided to outsource more of the program and to cut back individual development efforts to no more than two-year projects.

But outsourcing won't be a "silver bullet," said Rona Stillman, chief scientist for computers and communications at the GAO. Her agency has written dozens of reports criticizing TSM management. "They'll do no better with outsourcing than they have with in-house development unless they can institute some discipline," she said.

Some earlier outsourced work, such as the \$1.3 billion Document Processing System (DPS), has produced dubious results so far. Intended to scan and capture data from incoming tax forms, the DPS

40 whacks with the budget ax

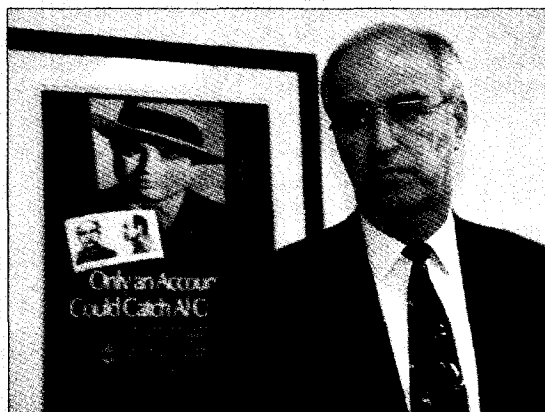
The IRS has proved an irresistible target in this election year. Reform Party candidate Ross Perot would abolish the agency altogether, and Bob Dole would reduce IRS staff by 30%. Meanwhile, Congress recently slashed the IRS' 1997 budget request for TSM by almost 50%.

"It's clear we can no longer give the IRS a blank check for TSM," said Rep. Jim Lightfoot (R-Iowa), chairman of the Treasury, Postal Service and General Government Subcommittee. "We cut [the total agency budget] 2% two years ago, and they squealed like stuck pigs, so we cut it 11% this year."

The IRS' 1997 funding, which Congress approved last month, earmarks \$420 million for TSM. The funding legislation directs the IRS "to transfer, by July 31, 1997, a majority of TSM development, deployment, management and testing to the private sector."

It also directs the IRS, by October 1997, to carry out the following recommendations from the GAO:

- Implement a rigorous process for selecting, prioritizing, controlling and evaluating major IS investments.
- Improve systems development practices from ones that are ad hoc to ones in which



Rep. Jim Lightfoot: *It's clear we can no longer give the IRS a blank check for [Tax Systems Modernization]*

process discipline ensures that successes can be repeated.

- Develop enterprisewide system blueprints — including an integrated system architecture, security and data architectures and configuration management.

The IRS said it intends to comply with Congress' wishes.

The budget reductions for the IRS "are both penny and pound foolish," said Deputy Treasury Secretary Lawrence Summers. He

cited an IRS study that showed the agency collects \$4.25 in tax revenue for every dollar it spends on tax-compliance measures.

Speaking recently to an American Bar Association convention, Summers said cutting collection efforts will add as much as \$1 billion to the deficit next year alone. "The IRS is too convenient a political target; it's politically popular to beat up on the IRS," said former IRS CIO Hank Philcox.

True enough, but even the tax system watchdog committees have tried to help out with some "Systems 101" advice for the IRS.

Among their suggestions were to hire more technically proficient managers, develop real metrics for IS performance and enforce standard interfaces on key applications.

"A lot of what has been developed could be rolled out today if they just had the funds," Philcox said. He cited two new systems that automate paper-intensive processes that have proved effective at a few sites but are being delayed by budget cuts.

— Gary H. Anthes

was conceived in 1988 as a cornerstone of the IRS' strategy for automating manual and paper-intensive processes. It was also considered essential to meeting TSM's quality and cost goals.

But after having spent nearly \$300 million on the DPS, the IRS last week officially pulled the plug on the project. It blamed the cancellation on "revised priorities and budget realities."

"They are now looking at very basic things — such as what forms to scan and what data to capture — after spending hundreds of millions of dollars [on DPS]," Stillman said. "Why are they asking requirements questions so late in the game?"

Cybermess with CyberFile
Stillman also pointed to the IRS' CyberFile project for electronic filing of returns. CyberFile was contracted out last year, but it collapsed last month under mismanagement after costing \$17 million.

"It was planned badly, contracted badly and built badly," she said.

In a letter to the House Governmental Affairs Committee, Stillman outlined 49 lapses in security alone in the CyberFile project. They included a hole in a data center wall large enough to walk through and passwords shared by employees and posted in public places.

"The bottom line is none of our

recommendations have been implemented — none," Stillman said. "Why? There is no organizational will. It's a matter of discipline, and nowhere have they exerted discipline."

In a written reply to that charge, the IRS told *Computerworld* it is "committed to implementing a more rigorous, disciplined approach to designing, developing and managing" IS investments. Next year will be "a transition year for TSM" in that regard, the agency said.

And while Congress rails, the GAO scolds and the IRS flounders, taxes go uncollected, shifting the tax burden to those who do pay their fair share.

When asked at a recent congressional oversight hearing how the agency can improve the collection of taxes, IRS Commissioner Richardson said, "Implementing the technology modernization program is vital."

Richardson said productivity increases from TSM will "translate directly into additional tax collections in the bank."

The TSM initiatives aimed specifically at increasing tax collections include the following:

- The Compliance Research Information System, which includes a sample database on which the IRS can model the effects of alternate compliance strategies. It is projected to increase tax collections

\$2.9 billion per year.

- The Corporate Accounts Processing System, which is the central taxpayer account database and processing system at the heart of TSM. It will let the IRS perform extensive compliance checks, such as income and withholding validations, before fraudulent refunds are made. Today, those compliance checks are usu-

"The IRS has spent \$4 billion on TSM so far and has basically nothing to show for it."

— Rep. Jim Lightfoot (R-Iowa)

ally done after the fact.

- New statistical tools, which will be used to spot suspicious returns and evaluate the effectiveness of compliance techniques.

The IRS has already shown that modest system improvements can boost tax collections considerably. With new and improved "computer filters," the IRS last year spotted and rejected 4.1 million suspicious electronic returns. That is

1992

The IRS' approach to data input, including the DPS, is "high-tech, high-risk and high-cost."
— GAO report

1993

"Significant problems and delays" cited in three key IRS systems by the GAO. The GAO also cited "unfinished studies of the IRS' business operations" that should have been reflected in 1991 master plan.

1994

The IRS awards a 15-year, \$1.3 billion contract to IBM for DPS. The amount is three times more than 1991 estimated cost of \$379 million.

FEBRUARY 1995

"After eight years and an investment of \$2 billion, the IRS' progress toward its vision has been minimal. Unmanaged risks threaten success." Completed systems bring "marginal benefits." — GAO report



DECEMBER 1995

The IRS "re-scopes" TSM, decides to increase the amount of work outsourced from 40% to 66%.

DECEMBER 1995

National Research Council finds "serious deficiencies" in the IRS' technical management, systems architecture, process improvement and systems security.

MARCH 1995

The IRS has "provided little tangible evidence that actions being taken will correct the pervasive management and technical weaknesses that place TSM, and the huge investment it represents, at risk." — GAO report

MAY 1996

After spending \$270 million on the DPS, the IRS "is uncertain whether the benefits outweigh the costs." The IRS postpones the DPS pilot scheduled for January 1997.

SUMMER 1996

The Senate and House say they will cut the TSM budget and the DPS by 50% for 1997.

OCTOBER 1996

The IRS pulls the plug on troubled CyberFile and the DPS projects. Cost to date: \$300 million.



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