
Selection and application of computer assisted audit tools

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Faced with growing workloads and heightened accountability, an increasing number of internal audit groups are discovering that computer assisted auditing tools and techniques (CAATs) can offer some much needed help.

In today's environment, internal auditors are advising organizations on internal control attributes and ways to gain assurance from information. Sarbanes-Oxley compliance efforts have led companies to delve more deeply into their financial statement reporting elements and into the data that feeds and supports the financial statements. Audit technology tools facilitate more granular analysis of this data and help to determine the accuracy of the information.

"The use of computer assisted tools is growing rapidly," said Ed Hill, managing director, IT Internal Audit Practices, Protiviti. "There's a growing range of tools available to help internal auditors. The challenge is to make sure you are looking at the right tools to deliver the benefits the enterprise needs."

"Graphical user interfaces (GUIs) are getting better and information downloads are being made easier and faster," he says. "But before implementing any software tool, it's the user's responsibility to become familiar with the tools available in order to 'pick the right gun.' That means having a solid knowledge of your business, your data and the accounting practices in your industry so that you know what target you're aiming at.

"Audit software tools are very exacting weapons," Hill says. "If you're aiming at the right target, they can be extremely effective. But if you don't fully understand your business, your data or your audit objectives, bringing a software tool into the picture isn't going to deliver results and may result some wrong conclusions."

Reviewing 100 percent of the data

When auditors properly select and install audit software tools the benefits can be huge. "Using these kinds of tools, the auditor is free to look at the totality of the data," says San Francisco-based Chu-An Lee, senior consultant, Protiviti. "The auditor can now look at the entire pool of data and filter it in any way necessary to produce the reports or results the organization needs."

This comprehensive approach to testing contrasts with traditional audit sampling methods, which involve extracting small data sets and extrapolating conclusions about the population of transactions. Sampling techniques require audit judgment and confidence levels; whereas CAATs deliver more definitive results because the entire population of data can be tested.

Automated tools make filtering large volumes of data much more practical and effective, giving auditors the ability to work with greater quantities of data, and with data that is more complex.

Further uses and advantages of comprehensive data testing include the ability to identify financial leakage, policy noncompliance, and mistakes or errors in data processing. For example, CAATs can help identify:

- Duplicate vendor payments
- Fraudulent transactions
- Circumvention of invoice approval limits

Tool selection

Choosing the right tools within a widening array of computer auditing products was the theme of the [Institute of Internal Auditors'](#) ninth annual computer auditing tool survey, published in the August 2003 issue of *Internal Auditor Magazine*.

The report confirms that many internal audit departments view computerized audit tools as a dependable way to meet increasing internal audit workloads and risk management demands. But the IIA report also stresses that the selection of auditing software must be driven by a clear understanding of the needs and objectives of the enterprise.

The IIA's audit software analysis makes several key recommendations for internal auditors to consider in the selection of computer assisted auditing tools:

- **Determine the enterprise's audit mission, objectives and priorities** - Auditors must consult with management regarding what audit functions are of the highest priority and where computer audit tools may be applied to help meet those priorities.
- **Determine the types and scope of audits** - What is the stated objective of the audits? What kinds of questions will auditors be asking and what will be the boundaries? Arriving at answers to these questions will be critical in making an appropriate software decision.
- **Consider the enterprise's technology environment** - Any audit tools selected will have to mesh with the other software, hardware and network systems already in place. In some cases, the existing IT infrastructure may incorporate tools that auditors can use in concert with automated software tools for improved effect.
- **Be aware of the risks** - Applying software to any mission-critical function carries some risks, and auditing software is no different. As the IIA piece suggests, automated software tools can prompt auditors to jump to faulty conclusions or make assumptions that run counter to enterprise operations. As Steve Figner, practice leader, [ACL Services Ltd.](#) points out: "You have to understand your data field and whether any of your data is suspect. You also have to avoid the temptation to jump to conclusions and make sure you're looking at your data in the right context."

"Choosing these tools effectively depends heavily on how many data sources you have and the volume of transactions," says Figner. "You're going to be investing time and energy in this effort and in getting these tools up and running. Some of your processes may not even require an automated tool. So, once again, you need to make sure you fully understand the characteristics of your data before investing those resources."

A few basic, yet important, characteristics to look for in the latest CAATs tools include:

- Ease of use
- Ease of data extraction
- The ability to access a wide variety of data files from different platforms
- The ability to integrate data with different format
- The ability to define fields and select from standard formats
- Menu-driven functionality for processing analysis commands
- Simplified query building and adjustments
- Logging features

Audit data analysis techniques

Using data analysis tools, auditors can execute tests for virtually all industries and almost all types of data. For example, CAAT test of inventory controls may include: reconciling physical counts to computed amounts, testing clerical accuracy of extensions and balances, testing for duplicate parts, item numbers, descriptions, etc.

Other account analysis can be performed on data concerning: Accounts Receivable, Payroll, Cash Disbursements, Purchasing, Sales, General Ledger, Work in Process, Loss Prevention, and Asset Management. The limiting factors are access to the data, understanding of the fields, and the creativity of the auditor.

Tools such as ACL have anti-money laundering functionality that allows testers the ability to access and analyze 100 percent of the transactional data from virtually any data source. ACL, for example, claims to enable financial organizations to reduce risk, minimize loss, and increase the efficiency and accuracy of compliance reporting.

CAATs are especially valuable in environments that have:

- High volumes of transactions
- Complex processes
- Distributed operations, and
- Disparate applications and systems.

These factors tend to compromise overall data integrity. However, with CAATs organizations gain assurance about the accuracy of transactional data, and the extent to which business transactions adhere to controls and comply with policies.

Through the consistent use of automated transaction analysis and continuous monitoring, CAATs enable real-time independent testing and validation of critical enterprise data. Management could use such information to proactively identify exceptions to controls and compliance policies and take immediate action. Implementing these programs can lead to increased confidence in the corporate data underlying financial reporting.

CAAT skills and the role of IT auditors

The IT auditor generally works with the organization's database administrator to understand how the data is structured and to advise the audit team in developing tests. They determine which fields should be used in data analysis to support the overall audit plan; and then make data requests, define data requirements, and assist in the reconciliation of the data received to control totals prior to beginning the data analysis. They may also assist with or perform the entire data analysis. However, you do not need to specialize in IT auditing to use or understand CAATs.

The Institute of Internal Auditors will soon ratify Proficiency Standard 1210.A3 requiring all internal auditors to have "general knowledge of key information technology risks and controls and available technology-based audit techniques."

The key skills involved in using CAATs are understanding the data file structures, formats and fields and knowing what questions to ask the IT department to ensure that the correct data is received for the analysis. It is also important to understand what questions to ask to identify obvious errors, and what reasonableness checks to perform.

On ACL

The IIA computer auditing tool survey study points out that ACL tools are used by more auditors for a wider range of functions than any others. It's no surprise to Tyler Allen, senior business process consultant, Protiviti, Seattle.

"I have used ACL on a number of jobs," Allen says. "The best thing about ACL software is its ability to easily work with very large populations of data. On one recent client project, we were able to download three years of accounts payable data, reviewing the data and identifying questions in a matter of seconds. There are other tools out there, but in my experience most internal auditors are using either ACL or Microsoft Access. You can work with smaller data sets using Microsoft Excel, but ACL is clearly the most effective software solution for most applications.

"I've used ACL to review accounts payable data, payroll audits, even royalty audits," he says. "I recently used the software to conduct a royalty audit reviewing several years of data looking for abnormalities. The tool is also particularly well suited to the needs of the healthcare industry, for tracking medical bills, billing codes, DRGs, reimbursements and other transactions."

Sarbanes-Oxley... how big a factor?

Organizations today are under increasing scrutiny—from regulators, market analysts, and shareholders—to ensure the integrity of their financial management. Strong corporate governance and risk management ultimately depend on the accuracy, reliability, and integrity of an organization's transactional data -- the fundamental record and measure of its activity.

"Weaknesses in control systems can expose organizations to wide-ranging risks, including fraud, overpayments, system security breaches, and violations in regulatory reporting," says Scott Gracyalny, managing director, Protiviti. "Implementing effective controls around business transactions and the underlying data is a key component of business assurance. CAATs and continuous monitoring applications enable an organization to ensure the integrity of its data and transactions and their compliance with both external and regulatory controls."

While Sarbanes-Oxley clearly accounts for some of the increased interest in computer assisted auditing tools, those interviewed for this article did not necessarily view the legislation as the primary driver.

"I think with the advent of Sarbanes-Oxley, companies realized that they were going to have to do a lot more testing to meet the requirements of the legislation," said Allen. "In some cases, it did dramatically increase the workloads of internal auditors. Using software tools like ACL, auditors can do a much more thorough job in less time."

"I don't believe the biggest push for these tools has been Sarbanes-Oxley," Lee agrees. "The real motivator has been the ability to look at large pools of data easily and cost effectively."

"ACL has been in the business for 15 years, much longer than Sarbanes-Oxley has been around," says Figner. "There is heightened awareness of these tools in the wake of the legislation, but you can't tie all of it to Sarbanes-Oxley. It has a lot more to do with heightened awareness of the need for more effective enterprise risk management generally."

"Also, a lot of people think that software alone is going to be the be-all and end-all of Sarbanes-Oxley compliance," he adds. "The right automated tools can certainly help. But auditors ought to be careful about choosing any software tool that promises to be the answer to Sarbanes-Oxley compliance."

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