



Using ACL to Identify Data Integrity and Fraud Issues

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■ ■ ■ Today's Agenda

- Magnitude of Fraud
- Fraud Detection, Internal Controls & the Internal Auditor
- The Role of Technology
- Continuous Monitoring for Fraud

■ ■ ■ Magnitude of Fraud

- U.S. organizations lose about \$4,500 per employee annually as a result of occupational fraud and abuse*
- How many employees do you have?

5,000 Employees
X \$ 4,500

\$ 2,250,000 Annual Cost of Fraud

* *Association of Certified Fraud Examiners, 2002 Report to the Nation on Occupational Fraud and Abuse*

■ ■ ■ Magnitude of Fraud

- U.S. organizations, on average, lose 6% of revenues to fraud
- Represents potential loss of \$600 billion to fraud annually within the U.S.
- What is your annual gross revenue ?

$$\begin{array}{r} \$ 50,000,000 \text{ Annual Revenue} \\ \underline{\quad \quad \quad \times .06} \\ \$ 3,000,000 \text{ Annual Cost of Fraud} \end{array}$$

** Association of Certified Fraud Examiners, 2002 Report to the Nation on Occupational Fraud and Abuse*

■■■ Magnitude of Fraud: Indirect Costs

- Loss of consumer confidence a reduced revenues
- Negative PR image a lower stock values
- Low employee morale a lower productivity
- All the above lead to decreased ability to retain and attract qualified staff

■■■ Conclusion: Fraud Is Expensive

- Fraud can be expensive but there are ways to mitigate occurrences through sound internal controls....

Fraud Detection, Internal Controls and the Internal Auditor

- “These (improper) payments occur for many reasons including insufficient oversight or monitoring, inadequate eligibility controls, and automated system deficiencies. However, one point is clear – the basic or root cause of improper payments can typically be traced to a lack of or breakdown in internal controls.”
- *However, one point is clear – the basic or root cause of improper payments can typically be traced to a lack of or breakdown in internal controls.”*

GAO report, "Coordinated Approach Needed to Address the Government's Improper Payments Problems", August 2002

■ ■ ■ Sarbanes-Oxley Requirements

- Section 302 – Management Certification to Integrity
- of Internal Controls – must address 4 key points:
 1. Statement of management’s responsibility for establishing and maintaining adequate internal controls
 2. Management’s assessment of effectiveness of internal controls to include all fraud involving management and employees with significant roles in internal control
 3. Statement identifying framework used by management as criteria for evaluating control effectiveness
 4. Statement that independent accountant has also issued & attested to management’s assessment of internal control.

Commonly Detected Frauds

- Accounts Payable
 - Phantom vendors, unauthorized payments
- Purchasing/Receiving
 - Purchase splitting, unmatched purchase orders
- Purchase Cards
 - Inappropriate, unauthorized purchases
- Travel & Entertainment
 - Employee abuse and misuse
- Payroll
 - Phantom employees, check fraud

■ ■ ■ Traditional Role of the Auditor

- Typically a reactive role that relies on tips
- Any proactive analysis usually based on transaction sampling
- Limited testing of existing controls, yet ACFE survey says 90% of managers place their confidence in internal controls
- Limited use of technology

■ ■ ■ Traditional Role of the Auditor

~~■ Typically a reactive role~~

- The longer frauds go undetected, the greater the potential for loss and the smaller the chances of recovery
- Average fraud schemes last 18 months before detection
- More stats: www.cfenet.com/media/statistics.asp

■ ■ ■ Traditional Role of the Auditor

- ~~Based on examining samples of transactions~~

10,000 Employees

X 26 Pay Periods

260,000 paychecks/transactions

**Data Analysis =
100% of
Transactions!**

1 check .0004 %

10 checks .004 %

100 checks .04 %

1,000 checks .4 %

■ ■ ■ Traditional Role of the Auditor

~~■ Testing of existing controls~~

- 46% of frauds occurred because of insufficient controls
- An additional 40% of frauds exploited situations where controls were ignored

■ ■ ■ Traditional Role of the Auditor

~~■ Limited use of technology~~

■ Both the AICPA and the ACFE specifically refer to the use of data analysis to assist in fraud detection

■ New audit standards



Conclusion: Detect, Prevent and Monitor Internal Controls

- Fraud can be detected through sound internal controls.
- Internal auditors are key cornerstone but need technology tools to help them

■■■ The Role of Technology

- Look for indicators of fraud and perform risk analysis
- Some examples from past practice
- There are challenges – but also opportunities
 - Quality of underlying data
 - Compare data within different databases and computer systems
 - Proactive tests through continuous monitoring

■ ■ ■ Discovering Fraud Electronically

■ Drill-down Analysis

- Review large population and determine true areas of risk
- Isolate “red flags” and drill down

■ Attribute Sampling

- Begin with entire population and filter for transactions matching specific criteria

■ File Matching

- Compare separate data files and look for disparities or matches (e.g. phantom vendors)



Role of Data Analysis in Assessing Risk

- Data analysis will provide:
 - Indication of where to look
 - Indication of the depth and scope of the problem
 - Direct pointers to critical evidence
 - Proof?

■ ■ ■ Examples of Fraud Tests

■ Questionable Purchases

- P.O. with blank / zero amount
- P.O. / invoices with amount paid greater than amount received
- Purchases of consumer items

■ ■ ■ Examples of Fraud Tests

■ Questionable Invoices

- Invoices without a valid P.O.
- Invoices from vendors not in master vendor file
- Invoices for more than P.O. authorization
- Multiple invoices for same item description
- Vendors with duplicate invoice numbers
- High/inconsistent prices

■ ■ ■ Examples of Fraud Tests

- More Questionable Invoices
 - Invoices for same amount on the same date
 - Multiple invoices for same P.O. and date
 - Sequential invoices
 - Invoices with no matching receiving report
 - New or non-approved vendors

■ ■ ■ Examples of Fraud Tests

■ “Phantom” and Other Vendor Tests

- Vendor/employee name match
- Employee and vendor with same address or phone number
- Vendor address is a mail drop
- High number of returns by vendor
- Payment without invoice
- Duplicate documents

■ ■ ■ Challenges to Effective Detection

- Quality of the underlying data
- Disparate data sources; complex IT systems
- Continuous monitoring

■■■ Challenge: Data Quality

- Data quality is fundamentally linked to business performance
- Poor data quality impacts the quality of business intelligence
- Poor data exposes organization to risk of bad decision making

■ ■ ■ Recommendations

- Make management accountable for data within their operational units
- Measure quality and accuracy of the data
- Commit to continuous improvement of the data

■■■ Case Study: Enhanced Data Quality

■ Organization

- BankBoston Argentina
- Country's 4th largest private sector bank
- \$8 billion in assets

■ Challenge

- Manage expanding accounting data files from multiple platforms
- Generate financial reports with greater speed and accuracy

■ ■ ■ Data Quality Case Study, cont.

■ Method

→ Automatically generate comprehensive control reports, continuous monitoring of transactions

■ Result

→ Reduced processing time

→ Saved over 1500 staff hours each year

→ Able to conduct more thorough file analyses through streamlined data

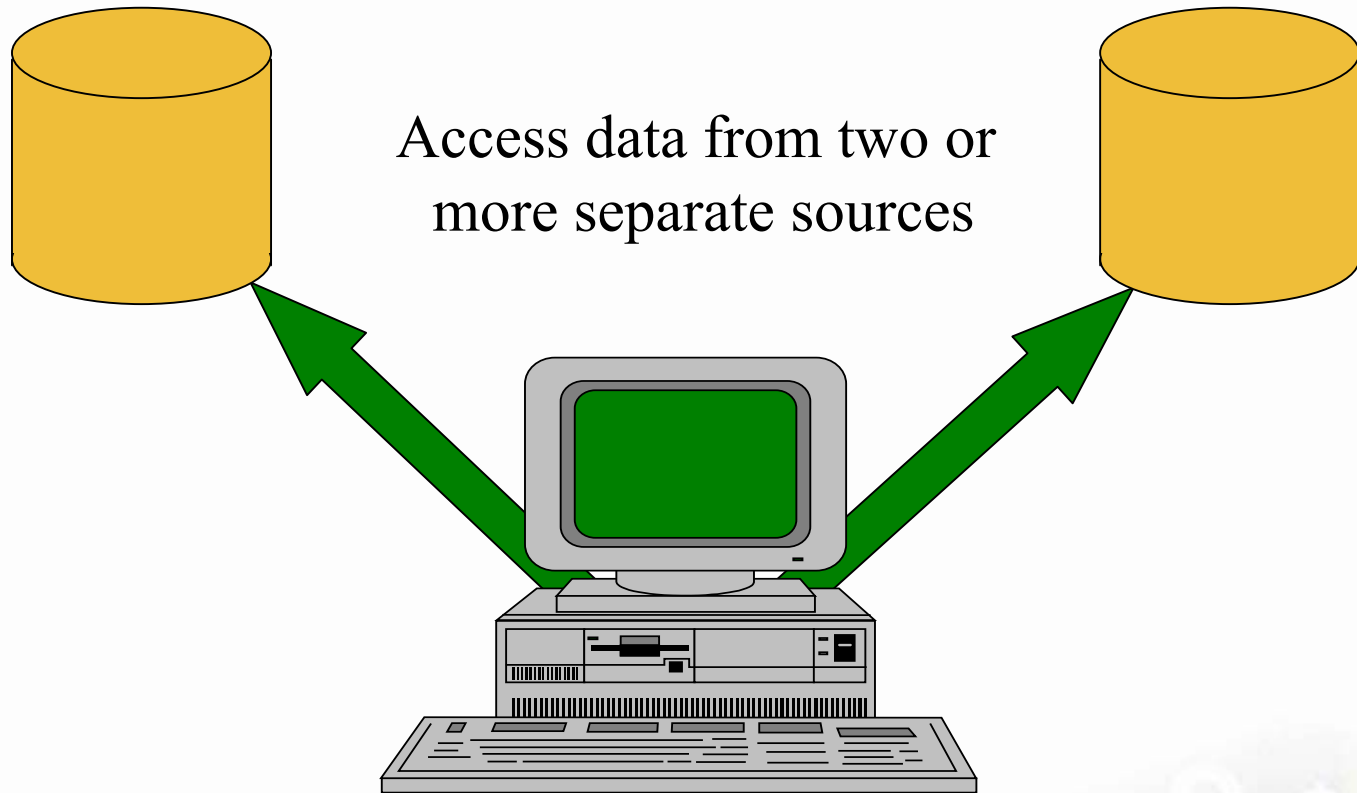
→ Reduced errors through standardized file conversion processes

■■■ Challenge: Disparate Data Sources

- Different file structures
- Different data types
- Inconsistent field formats

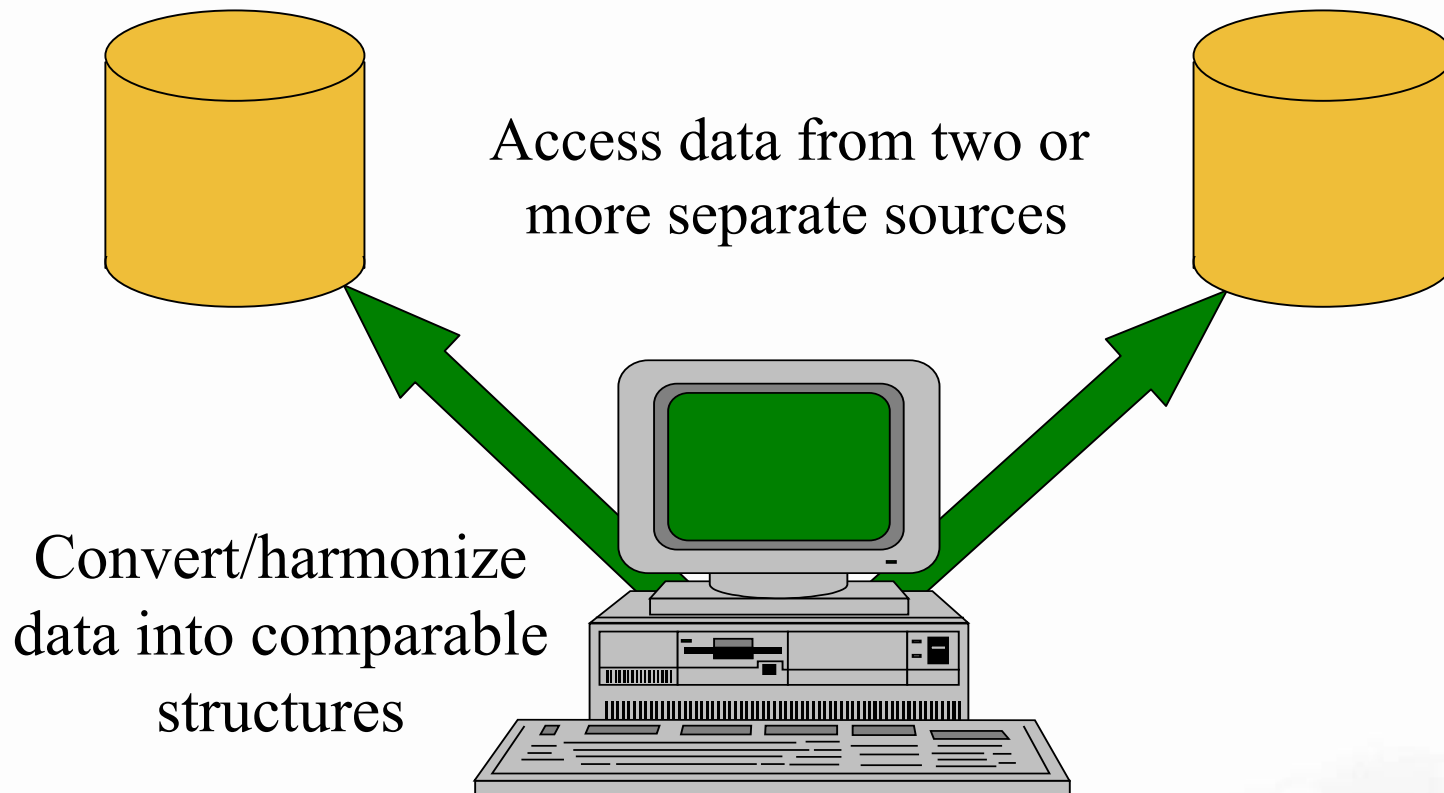


Data Access Issues

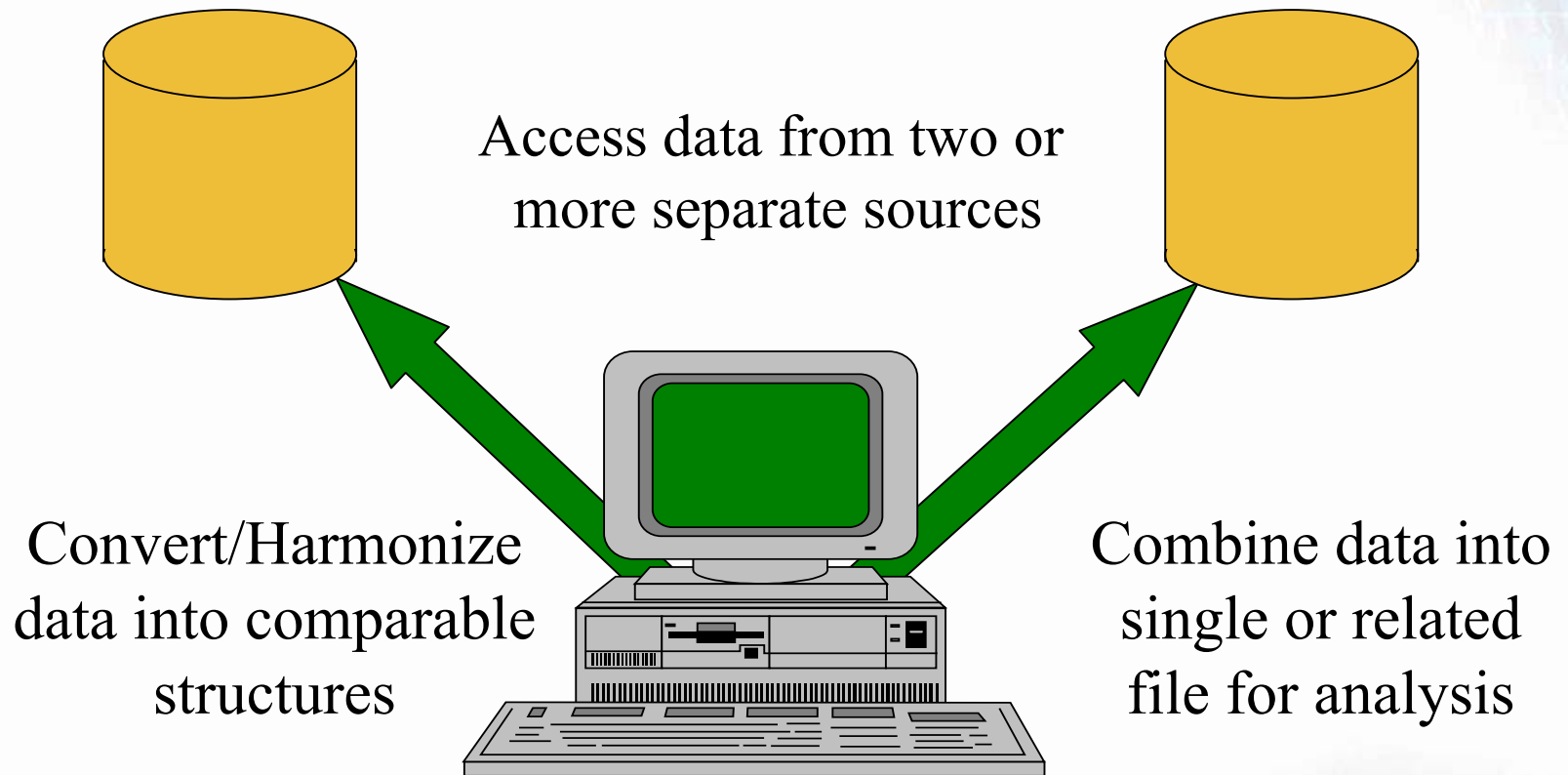




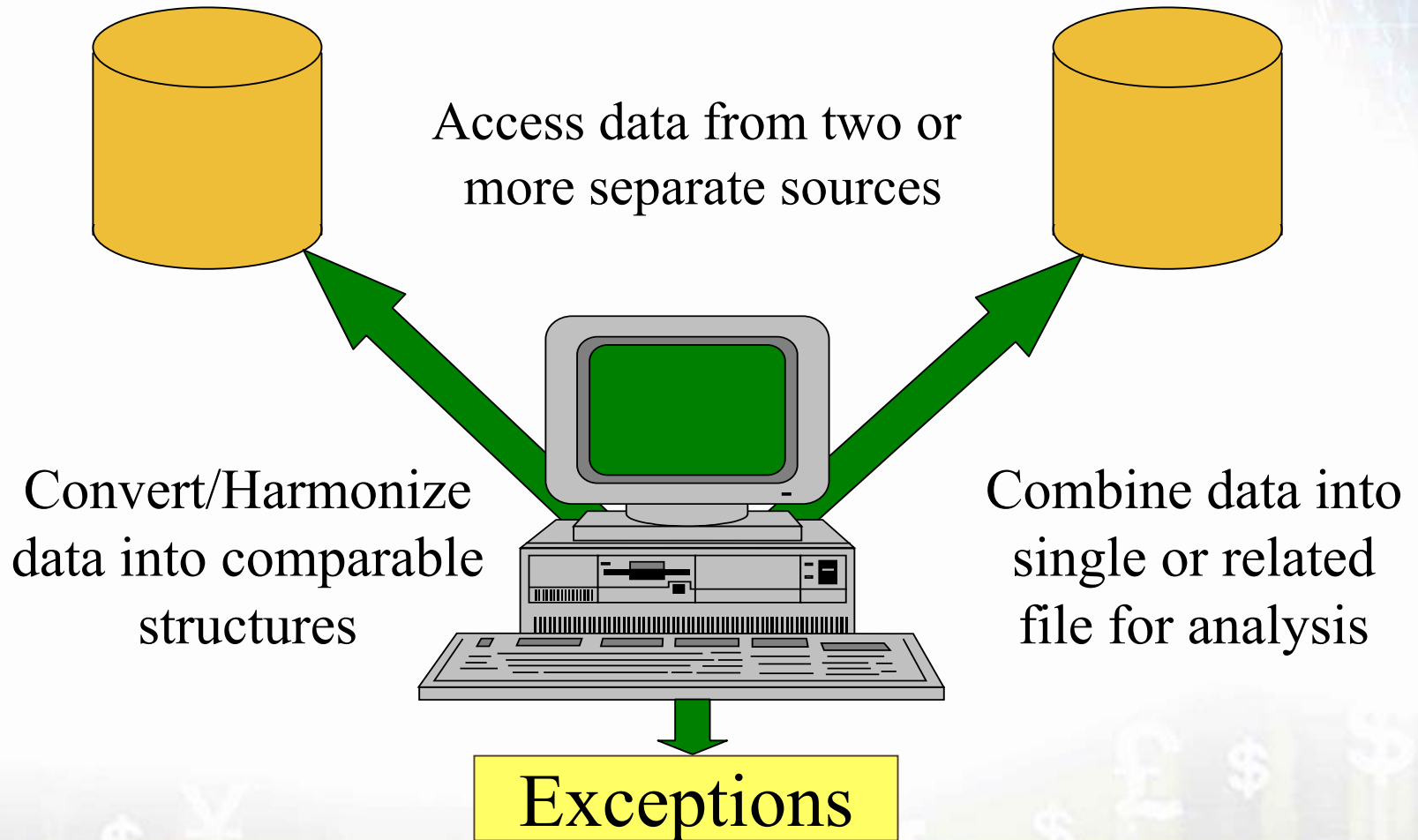
Harmonize/Cleanse Data



■ ■ ■ Perform Analysis



■ ■ ■ Follow Up Exceptions



■ ■ ■ Recommendations

- Determine key data and the underlying systems
- Find ways of accessing data seamlessly and quickly
- Automate wherever possible

■■■ Case Study: Duplicate Payments Analysis

■ Organization

→ Large \$2.3 billion not-for-profit healthcare system (Bon Secours Health System Inc.)

■ Challenge

→ Faced significant data analysis challenges due to size and complexity of vendor and human resource files

■ ■ ■ Case Study: Duplicate Payments Analysis

■ Method

→ Implemented audit monitoring application adaptable to changing healthcare regulations

■ Result

→ Audit of A/P identified \$500,000 in duplicate payments over 3-month period

→ Identified \$1 million in lost gross patient charges during 18-month billing period

→ Gained 100% coverage of company data allowing auditors to move beyond sampling

■■■ Conclusion: Use Technology Effectively

- Data analysis can help when faced with complex and voluminous data
- More effective when automated, run on pre-determined frequencies, producing timely reports of exceptions

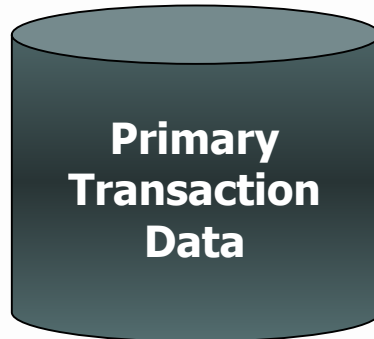
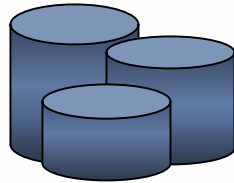
■■■ Advocacy: Continuous Monitoring

- Data analysis is used in fraud detection and investigation to identify and document fraudulent activities
 - Part of overall fraud detection plan
 - Investigate and document issues identified
- Continuous monitoring analyzes three key areas
 - Identifies anomalies within data files/transactions
 - Examines 100% of the data (not sampling)
 - Timely identification (not suspicious transactions)

Continuous Monitoring Process

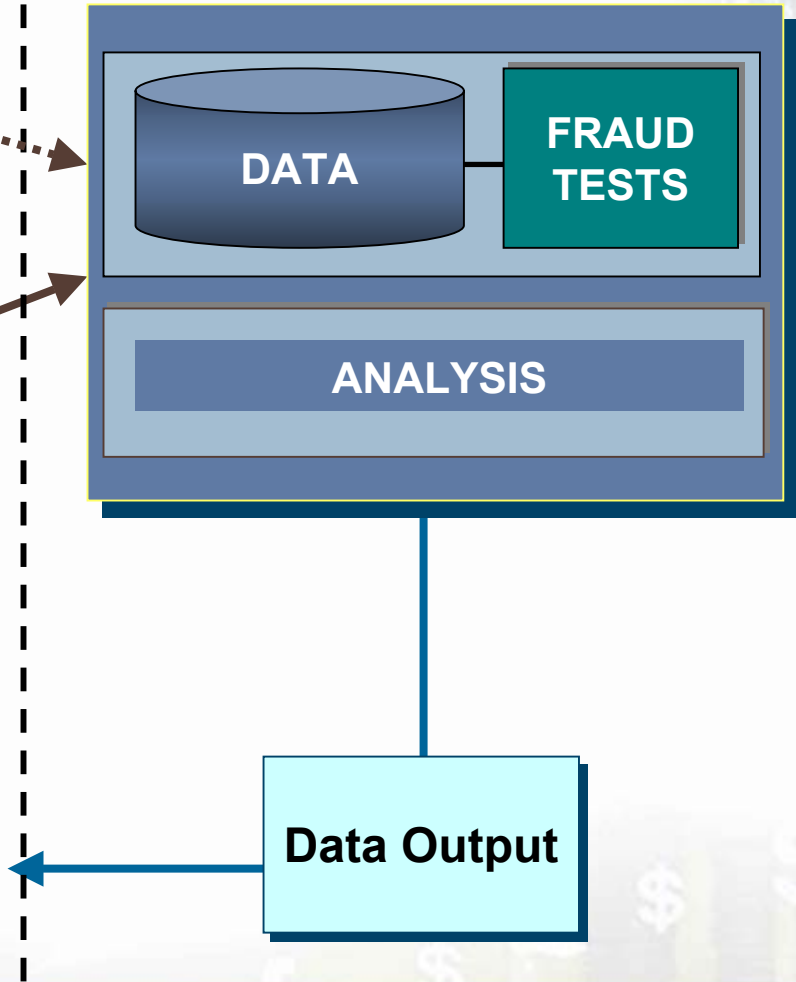
Other Sources:

- Master Files
- Related Data
- Other References



Reporting Medium

SERIAL_NUM	CACCOUNT	DEBIT	EFFDATE	WORK_DATE	GL_TXNOB_D	KEYNAME	SOURCE_ID	TXN_AMT
0524321263	100225	D	1/14/2003	1/14/2003	SN 91 052	CHECK TRA	P00	100.00
0524321263	100225	C	1/15/2003	1/15/2003	SN 91 052	CHECK TRA	P00	100.00
0524321263	100225	D	1/29/2003	1/29/2003	SN 91 052	CHECK TRA	P00	100.00



■ ■ ■ Recommendation

- Fastest growing area within audit and control community
- Increasingly more common in organizations
- Organizational challenges for widespread implementation
 - Technological barriers; data access issues
 - Assumption that effective application controls are in place
 - Perception that sampling is effective control assessment methodology
 - Lack of detailed understanding of exactly what to test and how
- Recommendation: seek expert advice

■ ■ ■ Case Study: Procurement Card Analysis

■ Organization

- US government agency
- \$6.5 billion in annual procurement card purchases

■ Challenge

- Millions of transactions occur each year
- Management oversight limited due to large number of direct reports
- Organization encouraged to spend more using P-cards due to rebate program
- Bad publicity resulted in more oversight from Congress.

■■■ Case Study: Procurement Card Analysis

■ Method

- Used data analysis to monitor 12 million transactions
- 38 indicators of inappropriate transactions established and compared to actual data
- Data from disparate sources integrated including employee listings, authorizations, merchant restrictions, credit limits

■■■ Case Study: Procurement Card Analysis

■ Result

- Identified \$38 Million in suspect transactions (13,500 transactions or 0.001%)
- 2000 cardholders flagged for further investigation
- Created timely and cost-effective reporting system to follow-up with vendors and banks in subsequent recovery process

Conclusion: Benefits of Continuous Monitoring

- Confirms/validates effectiveness of controls
- Mitigates deficient control structures
- Monitors data from disparate systems to provide holistic view of transactions
- Provides independent assurance
- Identifies further process improvement opportunities
- Identifies suspicious transactions in a timely manner
- Reduces waste, enhances recoveries



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