



Financial Crimes Analytics

The Next 10 Years

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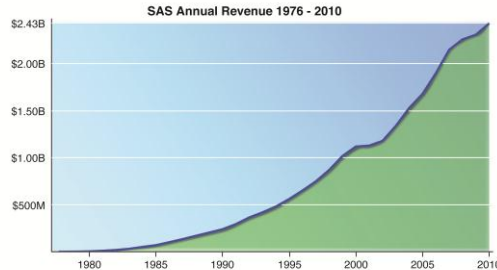


THE
POWER
TO KNOW®

About SAS

FINANCIALS

- 34 Years of Profitability
- 42% Revenue Financial Svc's
- 24% Reinvest R&D



ANALYST VIEW

#1 Ranking

Global Anti-Money Laundering Vendor Evaluation: A Reinvigorated Market-

AITE Group

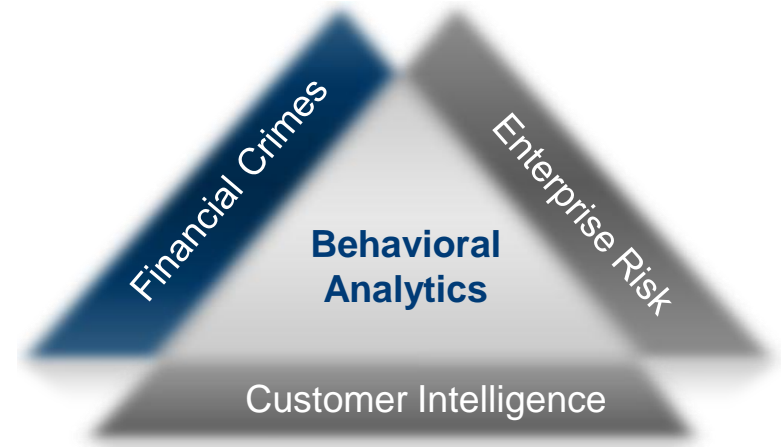
May 31, 2011

CUSTOMERS

SAS Anti-Money Laundering™ Customers

- Bank of America
- Bank of Tokyo Mitsubishi- Japan
- BB&T
- Commonwealth Bank of Australia
- Northwest FCU
- Sovereign / Santander
- TD Bank

ENTERPRISE EXECUTION

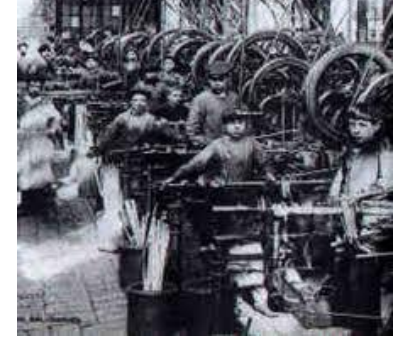


Maturity of Best Practices- AML



- Automate - transaction monitoring
- Consolidate - financial crimes approach
- Integrate - KYC / monitoring / intelligence
- Optimize - rules tuning and model estimation
- Innovate - enterprise risk approach

AML Compliance Environment



- “Over 50% of survey responders reported that less than one in ten of the alerts generated by their transaction monitoring systems resulted in meaningful investigations.”¹
- Costs of AML compliance are rising 40% annually due largely due to costs of transaction monitoring²
- Staffing costs to review false positive alerts biggest cost impact
- Existing monitoring systems use heuristic rules that require parameter tuning, monitoring, justification

1- Ernst & Young *Global AML Insights Survey* June, 2010

2- KPMG *Global Anti-Money Laundering Survey 2011*

Conventional Tuning



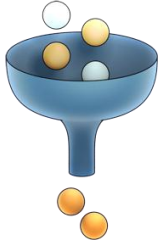
- **Simple** analysis of transaction values and counts for a target account type or customer segment
 - e.g. setting parameters @ +/- 2 Std. Dev. for commercial wires
- **Risk** of over tuning to “optimize” alert volume
- **Fails** to include qualitative data on investigations
- Tuning individual scenario parameters is **cumbersome**
- **Cost** of justifying and documenting changes in monitoring policy

SAS Approach- Alert Analytics



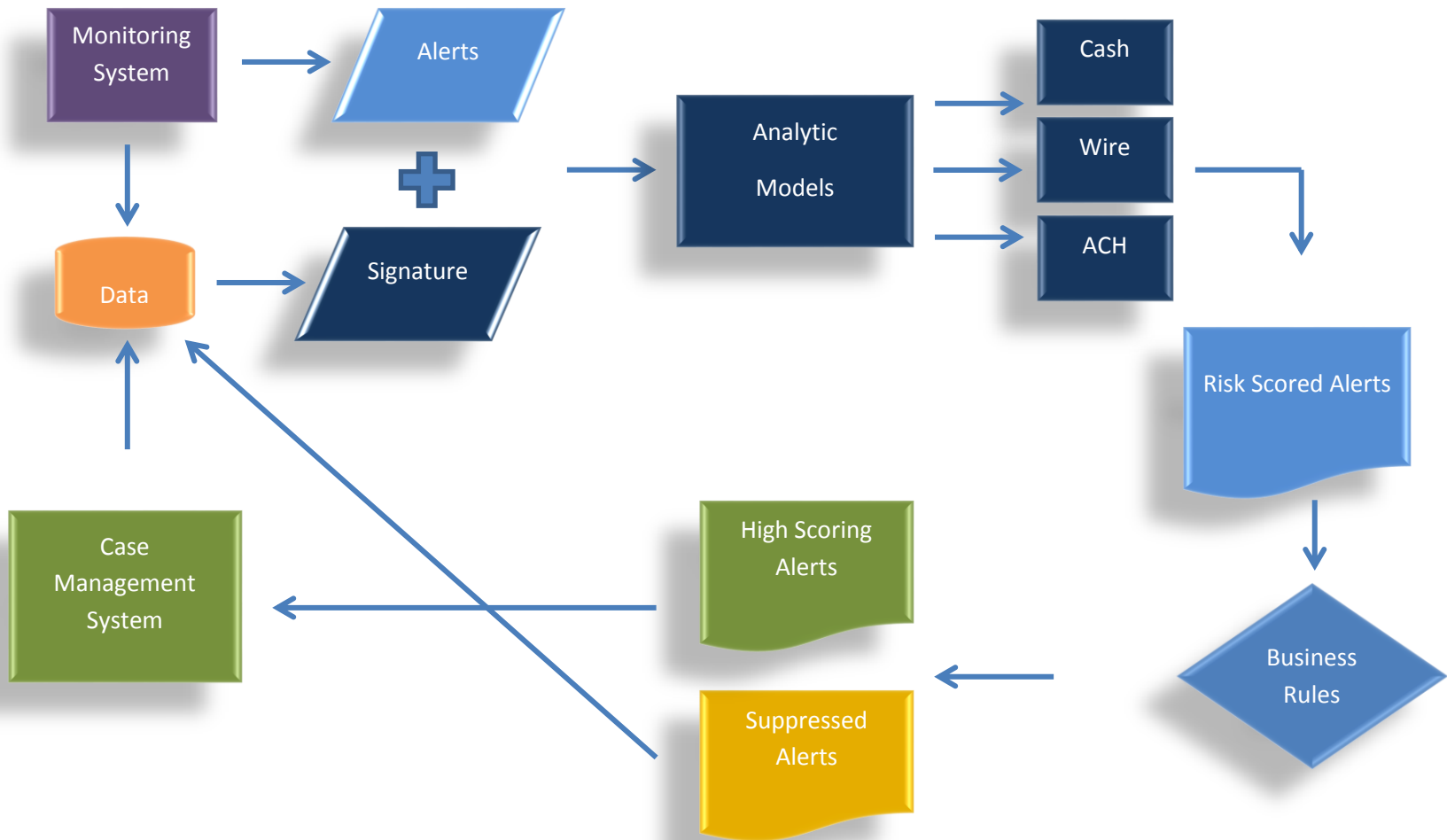
- Focus on accuracy rather than alert reduction
 - ‘Good’ alerts include SARs & investigation worthy
 - Minimizing false positives is a natural outcome
- Apply proven predictive analytic techniques
 - Segment at scenario category and entity Level
 - Combine multiple analytic techniques
 - Ensemble methods > neural nets, regression, decision trees
- Minimize impact
 - Avoid having to modify scenario parameters
 - Automate reporting & feedback process
 - Reduce IT & business analysis resources

Methodology- Alert Analytics



- Define goal: *“Maximize % good investigations with 100% SAR capture”*
- Baseline analysis of alert quality
- Extract data
 - Transaction monitoring system > alerts
 - Case management system > outcomes
 - Demographic data > CIP/KYC, industry codes, etc.
- Analyze
 - Model
 - Score
- Triage
 - Case
 - Suppress
- Evaluate

Sample Process Flow



About Signatures



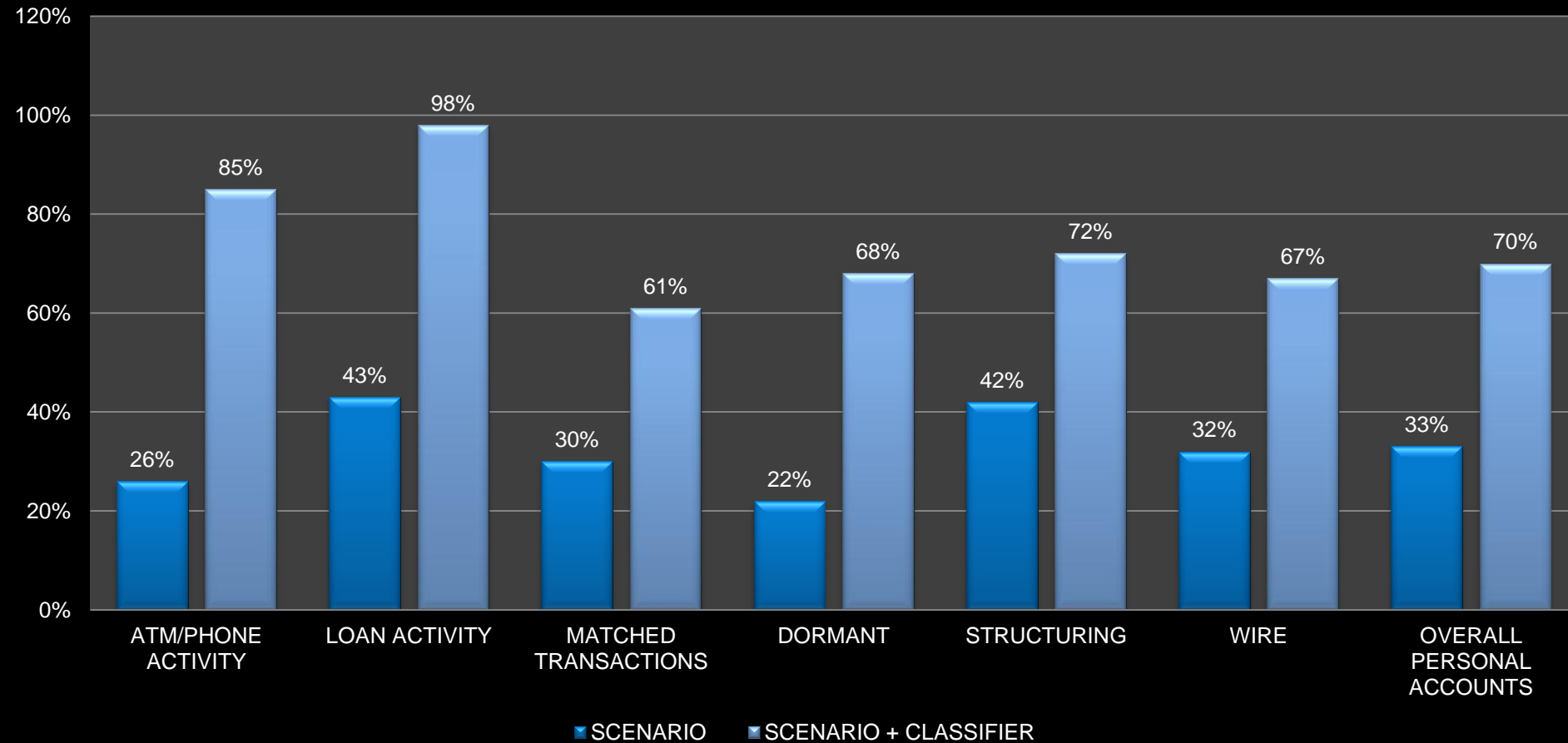
Signatures are...

- Aggregate profiles of behavior at an account and customer dimension
- Combines....transactions, events, and profiles of normal activity
- Much broader summarization of data than data used by most monitoring systems
 - Over 100 different transaction types and derived variables
- Each signature is unique to the account and customer
- Provides more accurate information to model for scoring purposes

Account Info	Sum/Avg by Txn Type	Counts by Txn Type	Event Counts	Many other Variables
Account_type_desc	amount_10030	trancnt_10030	event_count_30	...
Account_open_date	amount_10040	trancnt_10040	event_count_60	
Account_close_date	amount_10010	trancnt_10010	event_count_90	
Account_status_date	amount_11030	trancnt_11030	credits_count_30	
Account_status_desc	amount_3183	trancnt_3183	credits_count_60	
Account_tax_id_type_code	amount_11010	trancnt_11010	credits_count_90	
Dormant_ind			debits_count_30	
Industry_code			debits_count_60	
Last_activity_date			debits_count_90	
Product_category_name			credits_amt_30	
Product_line_name				
Product_name				

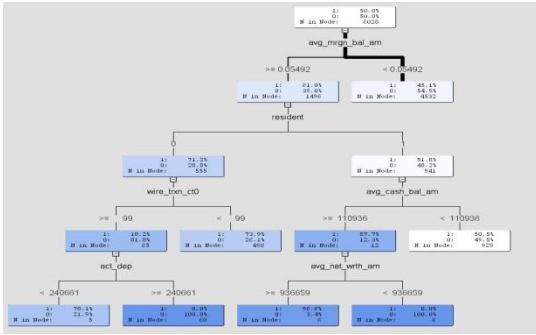
Proof of Value Results

Potential Accuracy Improvement-Personal Accounts



Scenario Accuracy = Good Alerts / All Alerts 10

Case Study > Top 20 US Bank



Business Problem

The client wanted to apply advanced analytic techniques to learn from past investigations and SAR filings in order to improve the quality of SARs, improve the relevancy of work items to analysts, reduce false positives, and reduce staffing costs.

SAS Approach

SAS applied a hybrid approach to analyze past investigations during the prior 6 months. Business rules were applied to normalize the database between relevant work items and irrelevant work items. A number of models were deployed with varying business objectives ranging from workload reduction to SAR retention.

Results

- Estimate savings of \$1 million in first year based upon 25 investigators.
- Deployed an operational process that is transparent, auditable, and explainable to regulators.
- Adopted a methodology that will scale as the institution acquires other banks.
- Significant reduction of workload.
- Improvement in SAR quality.
- Reallocation of resources to high risk events.

Highlights

- \$1M savings in 1st year
- Reduced work items by 46% with 100% SAR Capture
- Reduced work items by 75% with 97% SAR Capture
- Ability to auto-triage work items in objective and repeatable manner

Summary- Proven Approach!



- Substantially improves the quality of investigations
- Re-allocate resources to most egregious events
- Objective methodology
 - Repeatable, transparent, defensible
- Reduce need to tune individual scenario parameters
- Provide a consortium model in 2012
- “Compliance Analytics” included in SAS Anti-Money Laundering™ Rel. 5.1 (January 2012)
- Available to FI’s using other transaction monitoring systems

What

ANTICIPATE OPPORTUNITY
EMPOWER ACTION
DRIVE IMPACT

Why

COMMITMENT TO CUSTOMERS
PEOPLE & SKILLS
TECHNOLOGY

How

BUSINESS SOLUTIONS
INFORMATION MANAGEMENT
ANALYTICS
REPORTING



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