



SAS® Fraud Management

Real-time scoring of all transactions for fast, accurate fraud detection

Overview

Organizations around the globe lose approximately 5 percent of annual revenues to fraud, which translates into potential losses worldwide in excess of \$2.9 trillion.¹ And while direct losses due to fraud are staggering in dollar amounts, the actual cost is much higher in terms of loss of productivity and loss of customer confidence (and possible attrition), not to mention losses due to fraud that goes undetected.

Although most banks have fraud detection systems in place, such systems typically provide reactive, after-the-fact analysis of questionable transactions – an approach that comes too late to give any real protection from loss. Real-time transaction scoring is your best option for preventing, for example, card fraud at the point of sale or ACH/wire fraud prior to the release of funds.

SAS Fraud Management is a full-service, enterprise solution, with the capabilities to monitor multiple lines of business on a single platform, and is the only fraud solution available that offers 100 percent real-time scoring and decision capabilities by looking at *all* transactions – including purchases, payments, fund transfers and nonmonetary transactions. No other system on the market provides this breadth of coverage.



Challenges

- **Emerging fraud trends.** Changing criminal tactics and the anonymity of e-commerce make fraud prevention a constantly moving target.
- **Growing complexity.** Acquisitions, growth and increased globalization make it harder to monitor multiple portfolios and business lines effectively.
- **Technology limitations.** Current systems do not support robust analytical modeling and may slow transaction authentication.
- **Diverse data sources.** Geographically dispersed customers and businesses make it difficult to access the right information in the right format.
- **Evolving compliance demands.** Keeping up with changing regulatory requirements is a constant struggle.

¹ Based on a study conducted by the Association of Certified Fraud Examiners (ACFE).



Fight fraud and minimize customer impact with industry-leading analytics

■ The SAS® Solution

SAS Fraud Management is a next-generation, enterprisewide fraud detection solution. Built on SAS' proven, advanced platform, the solution provides:

- **On-demand, real-time scoring of all transactions** – purchase, payment and nonmonetary.
- **Subsecond response time** with sustained high throughput.
- Powerful **advanced analytics**, modeling platform and decision engine, including:
 - **A unique “signatures” approach** designed to support multiple entities.
 - **Advanced neural network modeling** for faster, better fraud detection.
 - **Hybrid modeling**, which integrates pooled consortium data into bank-specific models.
 - **Champion/challenger** functionality.
 - Ability to **deploy and monitor multiple fraud models**.
- **Seamless, real-time hot-listing and integration with authorization systems** across the globe.
- **Extensive rule-writing** capabilities and the **dynamic creation of “public” signatures**.
- **Powerful reporting** capabilities, including client-configurable API.
- **Robust, flexible alert and case management** for expanding customer information and decision making into multiple business lines, including the monitoring of multiple accounts belonging to the same account holder.

Why SAS®?

As a holistic enterprise fraud management system, SAS Fraud Management provides real-time integration to authorization systems, on-demand scoring, advanced analytics, rule writing, simulation capabilities, alert management and reporting. Our advanced analytic technologies significantly reduce the number of false positives and increase fraud detection rates. This, in turn, enables you to improve customer service by reducing the number of delayed transactions, as well as gain greater operational efficiencies through the better use of staff for things like alert management.

The solution's models are built on a combination of consortium and individual bank data, which includes all transaction data values to be utilized for scoring and decision. The solution also includes a highly functional fraud alert management and investigation system, extensive reporting capabilities and a new, flexible connector to plug into authorization systems. And because SAS Fraud Management allows both operational and performance reporting, you can rely on it as your primary solution for fraud detection and investigation.

Benefits

Find Fraud Fast by Scoring 100 Percent of Transactions in Real Time

Effective fraud detection is about stopping the maximum amount of fraud in real time while maintaining a low false-positive rate. To accomplish this, SAS profiles 100 percent of all transactions (monetary and nonmonetary transactions) in real time, which enables better, faster fraud detection with an approach that is far superior to traditional fraud solutions.

Such solutions have less robust architectures that pass through the majority of transactions believed to be non-fraudulent, which leaves financial institutions vulnerable to serious attacks. In today's world, fraudulent schemes change frequently, and you can't afford to let any transactions skip the detailed scoring and profiling process.

SAS Fraud Management offers performance and real-time transaction scoring enhancements that translate into faster, more accurate decisions on possible fraudulent transactions. These enhancements, combined with SAS advanced analytics, make SAS Fraud Management the solution of choice for reducing the number of false positives.

With SAS Fraud Management, you can:

- More accurately determine whether or not transactions should be stopped or flagged as an alert by using SAS' unique signature approach.
- Make customer service more efficient by reducing the number of delayed transactions and false positives.
- Realize greater operational efficiencies by using alert management capabilities to make more effective use of staff resources and to reduce the amount of time and money wasted investigating false positives.

Gain a Holistic, Customer-Centric View of Fraud

SAS Fraud Management provides a holistic, customer-centric view of fraud that is unrestricted by transaction type or business channel. The solution lets you:

- **Monitor the behavior of multiple entities** across the enterprise, including customer, account (DDA, wire, ACH, card), and Internet and phone banking.
- **Profile entities simultaneously** at different levels (e.g., relationship, account, customer).

As a result, you can fully understand the behavior of an individual throughout the multiple products and channels they may interact with.

Make Faster, Better-Informed, Risk-Based Decisions

SAS Fraud Management can extend the ability to detect, dispose of and combat fraud using various tools across your entire business.

SAS offers more sophisticated analytic intelligence and complete integration with the industry's latest anti-fraud measures. As an enterprisewide fraud detection system, the solution incorporates analytics based on multiple data sources and with multiple detection requirements, enabling you to realize the much sought after – but rarely achieved – goal of preventing and detecting crime across the entire spectrum of fraudulent techniques that today's criminals employ.

In addition to significantly reducing potential losses from fraud and improving the customer experience, the SAS solution can also lower the operational costs of fighting fraud by creating a more flexible, enterprisewide fraud platform that enables you to respond faster to new threats as they arise – in real time – with minimal IT infrastructure changes required to deploy new fraud prevention strategies.

■ The SAS® Difference

No other system available provides the depth and breadth of coverage you get with SAS Fraud Management:

- **Reduce your average fraud loss** by scoring 100 percent of all transactions in real time at the POS.
- **Use all available data** – account, payment and nonmonetary – in your fraud decisioning process.
- **Establish an enterprisewide framework** for transaction decisioning.
- **Take advantage of the latest anti-fraud measures**, including chip and PIN technology.
- **Test and implement the most expansive and predictive set** of fraud models possible on a single platform.
- **Link and simultaneously monitor multiple accounts**, regardless of type, belonging to the same cardholder.
- **Run multiple organizations or hierarchies within a single instance**, enabling them to share elements while remaining logically segregated.
- **Deploy the solution across multiple sites easily and at low cost**, thanks to its zero-footprint technology.
- **Accommodate different fraud strategies and operational requirements** for multiple portfolios and product lines with the solution's flexible system architecture.



No other system on the market provides this breadth of coverage.

Tailor the Solution to Local Requirements

By listening to the collective wisdom of fraud managers from across the globe, SAS was able to design a solution that captures the practical principles of fraud management and can be specifically tailored to each local implementation. The underlying systems and software of SAS Fraud Management are truly configurable and adaptable, enabling any implementation to be optimized to meet local market requirements.

The inherent flexibility of SAS Fraud Management enables country fraud managers to manage their fraud and operational environments in the manner that is most effective and appropriate for their bank, their customers and their products.

Take Advantage of All Available Data

The inclusion of all available data is essential for effective fraud management, particularly as fraudulent schemes evolve. SAS Fraud Management incorporates all available data types – customer, household, merchant, cycle-cut, third-party and issuer-specific data; authorizations; deposits; and nonmonetary transactions – into the modeling process. The result is enhanced predictability and reduced false-positive rates in both models and rules.

Capabilities

Real-Time Decisioning from Authorization Systems

SAS Fraud Management includes a universal SAS connector (USC) interface kit that connects the SAS solution with your institution's authorization and processing systems. Transactions flow from the authorization system to the USC, where they are prepared by appending the appropriate data based on the transaction type. Data may contain information such as user and system variables and will vary depending on transaction type.

100 Percent, Real-Time Scoring of All Transactions

The SAS scoring engine, coupled with the USC, controls the firing of models and the execution of both user-written and system rules. The USC submits the transaction to the scoring engine, which then executes the appropriate fraud models to produce a score, as well as executing the associated decision logic or rules as specified by the user.

Profiling 100 percent of all transactions enables you to capture key customer behavior data. The solution also lets you develop and create your own profiles using public signature entities (e.g., account, customer, beneficiary, IP, etc.) that are under the complete control of your organization. In addition, a set of SAS-built profiling and scoring models are included to assess and monitor the payment risk associated with accounts and customers.

Advanced Analytics for Achieving the Highest Levels of Fraud Detection

SAS Fraud Management uses the industry's most advanced analytics to give your bank a significant advantage in the quest to manage and control fraud losses. Improved, proprietary fraud modeling techniques provide greater fraud detection and model stability, plus reduced false positives. The solution allows for multiple predictive models supported by a champion/challenger facility to ensure the best approach every time.

Hybrid Models

SAS' innovative hybrid modeling approach preserves the benefits of both custom and consortium approaches. The solution incorporates your bank's data as the core model, and then integrates pooled consortium data to create a new, more predictive single model that has the power of a consortium model, while retaining the value and flavor of your own customer data.

Signatures

While most solutions use an algorithmic method to express customer behavior, SAS uses the power of raw data to monitor every single transaction. Our unique "signatures" approach captures customer behavior patterns from every source and evaluates that information every time a transaction is scored, helping you understand how customers transact and even how they conduct their overall relationships with your bank.

With every subsequent transaction, the system looks for patterns and inconsistencies in cardholder behavior, as well as complex, subtle patterns and other indicators of fraud. As a result, you can easily detect changes in behavior, which dramatically improves the predictive ability of your models. You can also build and deploy your own models in the online environment, which enables you to take advantage of your in-house expertise.

Neural Network Models

SAS' proprietary modeling technique – Self-Organizing Neural Network Arboretum (SONNA) – greatly enhances model performance by more effectively capturing information on data irregularities. Because account behavior is sometimes too intricate to be captured by an individual neural network, SONNA enables the use of an ensemble of optimized neural networks.

The SONNA neural networks work with an adaptive segmentation scheme that evolves during the model building process based on the ability of the neural networks to detect changing customer behavior. This leads to not only significantly increased fraud detection performance, but the models become more robust over a long period of time.

Superior Rules Management

The solution's superior rule management configuration capabilities enable you to monitor and track historical behavior patterns at different entities, solely based on business needs. This multiorganization configuration lets you break down organizational silos as necessary to deploy and manage the solution in whatever manner is best suited to your organization.

SAS Fraud Management lets you develop and create your own profiling rules for defined entities (e.g., beneficiary, IP address, etc.). These profiling entities can then be used in business rules to make payment decisions in real time or simply trigger alerts for investigation. In addition, a set of SAS-built profiling and scoring models enable you to assess and monitor the payment risk associated with accounts and customers that may incorporate entities consisting of beneficiary and/or credit reference bureau data values or other external data.

Flexible Alert Management

SAS Fraud Management provides flexible alert management capabilities that automatically assemble alerts from multiple monitoring systems, associates them with common accounts or customers, and provides investigators with a more complete perspective on the risk of a particular account or individual. Each alert is assigned a risk score based on the specific characteristics of the activity, which enables the

prioritization of higher-risk activities, leading to greater efficiency, increased detection rates and reduced losses. In addition, you can appoint automated alert assignments to various investigators or analysts based on rules and requirements set by the user.

Powerful Reporting and Analysis

SAS Fraud Management includes a full reporting system that allows users to easily generate reports using any data in the system and publish them in a variety of formats, including HTML.

A historic database can be used for reporting, MI and as a "lab" to test new rules before they are deployed into production.

About SAS

SAS is the leader in business analytics software and services, and the largest independent vendor in the business intelligence market. Through innovative solutions delivered within an integrated framework, SAS helps customers at more than 75,000 sites improve performance and deliver value by making better decisions faster. Since 1976, SAS has been giving customers around the world THE POWER TO KNOW®.

www.sas.com



SAS Institute Inc. World Headquarters +1 919 677 8000

To contact your local SAS office, please visit: **www.sas.com/offices**

SAS and all other SAS Institute Inc. product or service names are registered trademarks or trademarks of SAS Institute Inc. in the USA and other countries. ® indicates USA registration. Other brand and product names are trademarks of their respective companies. Copyright © 2015, SAS Institute Inc. All rights reserved. 102302_147292.1015