Financial services institutions are required to invest heavily in Anti-Money Laundering (AML) compliance today. Monetary settlements for noncompliance with AML regulations surpassed $13.4 billion in 2014. In addition, no institution wants the bad publicity for supporting money laundering or financing to terrorist or criminal organizations. AML solutions powered by big data analytics offer banks a clear path to fast, effective, and cost-efficient compliance that can scale and adapt as requirements change.
Business Challenges

Anti-money laundering regulations have evolved and become more complex, costly, and difficult to comply with. Financial institutions are experiencing the burden of AML compliance requirements and reporting. For example:

- AML processes and systems must support Know Your Customer (KYC) activities, including deeper Customer Due Diligence (CDD) and transaction monitoring at a minimum.
- In many cases, the detection of bribery, corruption and tax evasion is also required as part of AML actions.
- Suspicious activity reports (SARs) must now be filed within 60 days rather than 90 days – a big shift for already overtaxed staff.

No longer content with check-the-box compliance, regulators now expect banks to proactively seek out and catch perpetrators. Heavy fines are imposed when banks fail to meet expected outcomes.

The move to outcomes-based compliance has been driven in part by the fact that bad actors are avoiding detection by strategically “following the rules.” For example, with currency transaction reporting required for all transactions above $10,000, perpetrators try to stay under the radar by limiting their transactions to just below this threshold. This tactic, known as smurfing, illustrates why banks need to go beyond traditional rules-based detection to proactively identify patterns indicating when customers circumvent the rules.

Effectively meeting all of these new compliance requirements is just part of the challenge facing financial institutions. It’s also difficult to manage the conflicting pressures of managing compliance breaches while controlling regulatory compliance costs. The tendency within banks is to “throw more bodies at the problem.” But this just drives up costs and leaves too much room for error.

Given the ever-growing scope of AML compliance and the massive volumes of data that must be analyzed to detect bad actors, it’s simply not feasible to use brute force solutions. For example, it would take an army of analysts to manually cross-reference large customer lists against sanctioned party lists, or cull through large volumes of data to identify suspicious activity and report it.
The Analytic Challenges

To meet new AML requirements and expectations, most banks face a series of analytic challenges. AML teams typically have outdated analytic infrastructure, as financial institutions have been unwilling to invest in this area. But with the increasing risk of large fines, this is changing. According to Ovum’s annual ICT Enterprise Insights survey, 55 percent of retail banking respondents expected AML-related IT budgets to grow in 2016.

Investment in big data analytic platforms dramatically increases the efficiency and effectiveness of existing AML staff. And as a result, they eliminate the need to throw more people at the problem, even as staff work with larger and more complex data sets. New AML requirements demand analysis of a wide variety of sources and types of data that encompass both public and private data sets in a variety of formats – structured, semi-structured, or unstructured. Examples include:

- **Publicly available sanctions lists** – Data sets include the OFAC (Office of Foreign Assets Control) sanctions lists of Specially Designated Nationals (SDNs), Politically Exposed Persons (PEPs), sanctions programs and countries, and others.
- **Client and legal entity data** – Banks have historically managed their own client databases within the walls of their institutions or relied on other commercially available data on individuals and entities. Recently, they have started to consolidate efforts with the creation of client and legal entity data utilities to be leveraged across multiple institutions. These greatly improve a bank’s customer identification and due diligence capabilities and provide a common identification method. These utilities were designed by – and are supported and utilized by – the world’s largest institutions, including the Clarient Entity Hub and KYC.com.
- **Financial transaction data** – Transactional structured and semi-structured data is typically held within the exchanges or institutions in which transactions have taken place.
- **Personal communications** – Communications with counterparties can take many forms and manifest themselves in many systems.
- **Web and application logs** – Including semi-structured log files in analyses helps financial institutions understand the activity of customers on websites and banking applications.

Conventional data warehouse and business intelligence tools simply can’t deliver the flexibility, speed, and processing of big data and unstructured data needed to prepare and analyze big data or meet new regulatory demands. AML analysts are already spending more than 80% of their time preparing and analyzing data, leaving no time for higher-order investigative work.
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For example, in order to track transactions and determine if they were completed by known, high-risk individuals or non-cooperative jurisdictions, banks need to enrich transaction data by joining it with client/legal entity data (including names, addresses, and other identifiers) and publicly available OFAC lists in order. To cast a wider net, they need to enrich this data even further with verbal and written communications information and additional systems information. Joining these large, complex data sets manually would be both error-prone and extremely laborious.

The good news is banks can actively apply big data analytic platforms based on Hadoop to solve their AML problems. These platforms enable the efficient ingestion, enrichment, analysis, and visualization of diverse, large, and constantly changing data sets so they can be harnessed strategically in the fight against AML.

The Solution

By investing in the right big data platforms and analytical tools, banks can drastically lower AML compliance costs and satisfy the escalating levels of due diligence required by regulatory agencies. Modern, big data analytic platforms can manage and analyze extreme data volumes far more effectively and at a fraction of the cost of traditional approaches. They can easily integrate multiple, diverse data sources and analyze large volumes of data in minutes rather than months, dramatically reducing compliance analytic cycle times. Equally important, big data analytics can also perform types of analysis that were previously impossible due to the sheer volume and diversity of the data and the complexity of the analysis involved.

Armed with a big data analytic platform, banks can:

- Reduce analytic cycles with an end-to-end self-service platform that allows AML compliance and business analysts to iteratively run the complete analytic process
- Lower the cost of AML compliance with a platform that fully leverages the power of Hadoop to speed processing time
- Find new ways to manage suspicious activity with new insights that are discovered in the data
- Have a flexible platform and analytic approach that can rapidly adjust to meet ever-changing requirements
Datameer: Built to Handle the Complexities of Big Data

Datameer delivers a state-of-the-art big data analytic platform that can handle the analytic and architecture challenges of AML, KYC and CTF requirements. It leverages the full power of Hadoop to analyze the large-scale data sets required, cutting processing times from days down to minutes.

The end-to-end, self-service platform allows compliance or auditing analysts to perform the entire analytic process – from integration to visualization – thereby reducing analytic cycles from months to days. It does all this while providing the enterprise-level governance needed to maintain the security, privacy and access control that banks require.

Integration

As described previously, the data required to effectively combat money laundering and terrorist financing is complex and stored in many different systems. Datameer provides AML professionals with more than 70 native data connectors that make it easy for them to access all of their data for analytics; these connectors work with a multitude of data sources and formats for structured and unstructured data. At the same time, Datameer’s data management services enable banks to apply specific date/time partitioning, scheduling, and retention policies. For example, if the analysis only requires a review of sanctions list changes over the last 6 months and needs to be run weekly, Datameer’s policies can set up to support that scenario.

Preparation and Analysis

The analysis of data across these varied data sources requires analysts to prepare the data to ensure data quality, consistency, accuracy and completeness. For example, source transaction or sanctions list data will vary by data schema, file format, geography, currency and other characteristics. With Datameer’s instant visual profiling, it’s easy to identify and correct these issues to enable clean and accurate analytics.
Datameer's data transformation architecture uses a familiar, Excel-like spreadsheet interface with over 270 prebuilt formulas and support for multi-source, multi-view and multi-step data pipelines. Analyses can easily be completed by one group and then passed on to other groups that rely on the data as a component of downstream analysis – all while maintaining a single, trusted source of data.

With Datameer, AML analysts can prepare and analyze various sanctions lists to create a single, definitive list to be used by downstream transaction monitoring teams. Once defined, this entire data analysis pipeline can be automated via job scheduling and workload management that can be tailored to each specific data set. Complete data lineage can also be viewed within the tool or extracted via the REST API for easy reporting and auditing of the full pipeline of data ingestions, transformations and calculations.

Visualization

Once data is analyzed, compliance officers, business analysts, and technology analysts can visualize the results using infographics. Datameer offers 30 visualization widgets for creating multi-page infographics that can be viewed within Datameer or embedded in any application or web page. For example, it’s easy to visualize analytics showing the graphical and tabular results of transaction monitoring and share them with regulators around the world.
Datameer in Action

AML investigators, including government agencies, are using Datameer’s end-to-end self-service big data analytics platform to efficiently identify and mitigate money laundering activity.

For example, one group used Datameer to provide a cost effective, efficient way to achieve compliance and minimize the risk of fines. They easily merged customer and transaction data with watch lists, denied party lists and commercially available data in seconds and made it easy for AML staff to identify suspicious activity. In the past, AML staff would have needed to work with their IT department to ETL all of this data and do a series of ad hoc, custom SQL joins related to identified activities – a six-month process that in the end, resulted in canned, outdated report.

“By far, the best solution to fulfill rapidly growing compliance requirements is provided by big data analytical tools which drastically lower compliance costs and satisfy the due diligence required by regulatory agencies.”

– A NU Borders consultant
Datameer’s big data analytic platform provides the right combination of power, speed and flexibility required to successfully navigate the unpredictable waves of financial services compliance requirements. Learn more about our work in financial services or sign up to attend a live demo today.