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THE PATH TO MODERN AML COMPLIANCE

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May 2019

This report was commissioned by Guardian Analytics, which asked Celent to design and execute a Celent study on its behalf. The analysis and conclusions are Celent's alone, and Guardian Analytics had no editorial control over report contents.

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EXECUTIVE SUMMARY

KEY RESEARCH QUESTIONS

1 *What limitations do banks have in sourcing AML technology?*

2 *What are the use cases for next-generation technologies in AML compliance?*

3 *What factors are supporting the adoption of next-generation technologies in AML compliance?*

Anti-money laundering (AML) compliance is a significant burden to financial institutions. AML systems generate a high proportion of false positives, often surpassing 80% or 90% of alerts, resulting in soaring compliance costs at large banks and operational bottlenecks at most institutions.

Next-generation technologies including intelligent automation and machine learning are being used to increase efficiency and improve efficacy in AML operations. Implementing next-gen technology in-house, however, is out of reach for many banks and credit unions. For these firms, cloud-based delivery of advanced solutions may provide the way forward to modern AML compliance.

Key points from this study include:

- AML challenges faced by banks include inflexible rule sets, resulting in inadequate capture of bank-specific risks; limited ability to analyze unstructured data such as negative news; heavily manual and inefficient onboarding processes; and high false positive volumes relative to analyst resources.
- While banks of all sizes struggle with legacy AML technology, the largest global banks can throw bodies at the problem. Large banks have hundreds or even thousands of employees dedicated to AML compliance, whereas AML teams at many banks are in the 20 to 30 employee range.
- Next-generation technologies including big data analytics, machine learning, and natural language generation (NLG) can support many AML use cases, including real-time customer risk scoring, beneficial ownership requirements, dynamic risk scoring and perpetual KYC, false positives reduction, and regulatory reporting.
- New technology can improve efficiencies in false positives reduction and investigation efficiency by 25% to 40%, freeing up AML teams to work on investigation and analysis that provide more value.
- Cloud provides a powerful platform for next-generation technology by supporting the three V's: *volume* to enable data lake-based big data analysis; *velocity* for real-time monitoring and screening; and *variability* to support unstructured data analysis. Cloud platforms also enable efficient delivery of the machine learning capabilities that are transforming AML compliance operations at financial institutions.
- A cloud-based software-as-a service (SaaS) model can provide manageable access to next-generation AML capabilities. Many banks are open to cloud solutions: More than half of 3,000 AML systems in production in the US are deployed off-premise, and two-thirds of these are on the cloud (the other third are ASP-hosted systems).

INTRODUCTION

Over the past decade, anti-money laundering (AML) compliance has become a significant burden to financial institutions. Firms are required to maintain formal, comprehensive AML programs, to have in place appropriate procedures for monitoring clients and transactions for risks, and to submit reports on suspicious activity as well as certain specified transactions to regulators.

While all of these organizational and operational requirements pose challenges, uncovering illicit behavior is arguably the most daunting. Despite a considerable evolution in the software systems used in anti-money laundering operations, firms have difficulty in achieving the twin goals of efficacy in finding suspicious activity and efficiency in investigating it.

In particular, transaction monitoring and watchlist screening systems traditionally generate a high proportion of false positive alerts, which compliance operations teams must nevertheless investigate and close. The high rate of false positives — often surpassing 80% or 90% of alerts — has resulted in soaring financial crime compliance costs, creating operational bottlenecks and leaving fewer resources available for value-added investigation and analysis.

New regulations requiring banks to determine and perform due diligence on beneficial owners of accounts present further operational challenges.

Help is on the way. New technologies including intelligent automation and machine learning are being used to increase efficiency and improve efficacy in AML operations. Indeed, next-generation technologies hold the promise of eventually automating a great deal of AML compliance.

Cloud provides a powerful platform for next-generation technology by supporting the three V's: *volume* to enable data lake-based big data analysis; *velocity* for real-time monitoring and screening; and *variability* to support unstructured data analysis.

Cloud platforms also enable efficient delivery of the machine learning capabilities that are transforming AML compliance operations at financial institutions.

Implementing next gen technology in-house, however, requires resources and budgets on a scale that only the largest institutions can support. Proprietary development or on-premise deployment of AI-based compliance solutions is out of reach for many banks and credit unions.

Fortunately, for those firms that are not in a position to support on-premise technology, cloud-based delivery of advanced solutions may provide an answer and a way forward in the migration path to next-generation technology in AML compliance.

RESOURCE CHALLENGES

Key
Research
Question

1

What limitations do banks have in sourcing AML technology?

Due to internal resource constraints and lack of internal data science capabilities, most banks have been unable to leverage modern AML technologies such as big data analysis and machine learning.

While many of the headlines around AML compliance focus on the very large fines incurred by top tier banks, other banks are not immune to regulatory scrutiny. Regulators including the Office of the Comptroller of the Currency (OCC), the Federal Reserve, the Department of Justice, the Financial Crimes Enforcement Network (FinCEN), and the Office of Foreign Assets Control (OFAC), as well as state regulators, have issued consent orders and imposed fines on a steady succession of banks for inadequate AML programs and procedures. For some banks, this can be life threatening: A number of these actions have resulted in banks losing their charter or being acquired by other banks.

Table 1: Selected AML Fines at Banks in the US

YEAR	BANK	FINES	ASSETS
2017	Merchants Bank of California	\$7 million	\$100 million
2017	Lone Star National Bank	\$2 million	\$2.2 billion
2016	Gibraltar Private Bank and Trust	\$4 million	\$1.6 billion
2015	First National Community Bank	\$2 million	\$1.2 billion
2013	TCF Bank	\$10 million	\$23.7 billion
2011	Ocean Bank	\$10.9 million	\$3.9 billion

Source: BankersOnline.com, news sources

At the same time, many banks have limited resources to support AML compliance. While banks of all sizes struggle with legacy AML technology, the largest global banks can throw bodies at the problem. Large banks have hundreds or even thousands of employees dedicated to AML compliance, whereas AML teams at many banks are in the 20 to 30 employee range. Moreover, these limited teams are likely to be responsible for both AML compliance and anti-fraud operations.

The largest banks are investing heavily in data management and data science capabilities which are applied across a variety of business and risk functions, including AML compliance. Most banks do not have the teams to support data science initiatives and, if they do, the effort is directed to marketing, sales, and other business-focused initiatives. Without the resources to implement next-generation capabilities in-house, most banks lack a powerful tool to reduce risk and increase efficiencies in AML compliance. Cloud provides a path to achieving next-generation compliance capabilities.

AML CHALLENGES

AML programs at many banks and credit unions are subject to resource limitations that restrict their access to the most advanced compliance technology. This also constrains their ability to respond to the specific risks and challenges they face. Some of these constraints include:

- Inflexible rule sets, resulting in inadequate capture of risks specific to a bank's client base, products, geography, and other bank-specific factors.
 - The lack of next-generation behavior detection capability is a particular risk for smaller banks and credit unions, because sophisticated AML technology at the largest global banks may be driving malefactors to other banks.
- Limited ability to access and analyze external data such as politically exposed persons (PEPs) lists, and adverse news on individuals and entities.
 - External, unstructured data is increasingly important in assessing the risk of new customers at onboarding as well as detecting any changes in the risk profiles of existing customers.
- Reliance on heavily manual customer onboarding processes, creating inefficiencies, delaying account opening, and having a negative impact on the customer experience.
 - Onboarding of corporate clients is particularly challenging due to the need to access and analyze documentation for small and medium-size enterprises (SMEs).
 - The Customer Due Diligence (CDD) Rule of 2018, requiring banks in the US to identify the beneficial owners of corporate accounts and to understand the purpose of their relationships, exponentially increases the complexity of onboarding and monitoring corporate customers, including SMEs.
- Operational burden of high false positive volumes. For example, a hypothetical bank that generates alerts on 0.1% of 1 million daily transactions needs to investigate 1,000 alerts. If the false positive rate is 95%, the bank will close 950 false positive alerts daily.
 - The bank will also file suspicious activity reports (or take other action) on 50 alerts. And all this with a limited team of perhaps 15 to 20 analysts.

These and other challenges translate into increased exposure to AML and compliance risk. A short list of AML risk management and program gaps that have led to fines at many banks includes:

- Failure to establish and maintain an adequate Bank Secrecy Act (BSA) program.
- Inadequate controls and weak BSA staffing.
- Inadequate CDD and EDD processes.
- Failure to identify high-risk customers.
- Failure to identify suspicious activity, such as structuring.
- Failure to file SARs or filing of inadequate SARs.

While some of these deficiencies can be attributed to poor management and controls, others stem from a reliance on inadequate or aging AML systems. Moreover, many program gaps can be addressed with the comprehensive feature sets of next-generation technology.

NEXT-GENERATION AML SOLUTIONS

Key
Research
Question

2

What are the use cases for next-generation technologies in AML compliance?

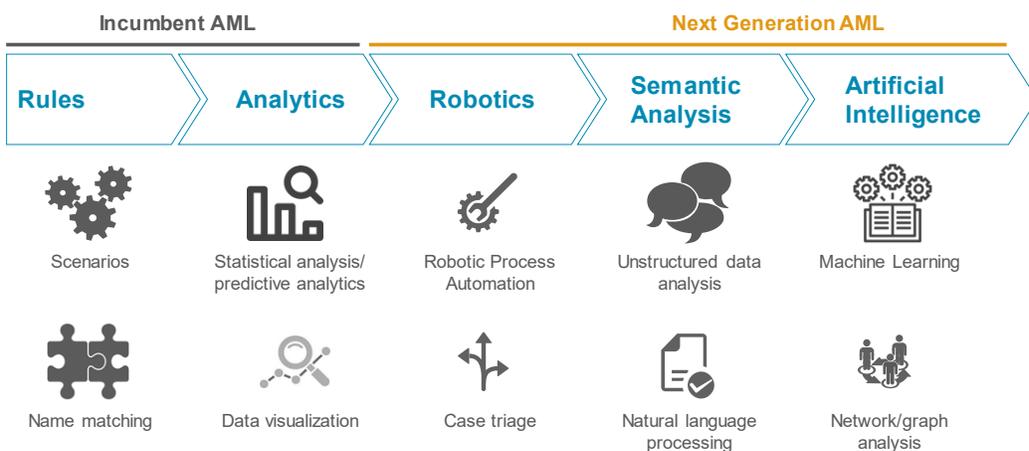
Machine learning and other next-generation technologies are used to support areas including real-time customer risk scoring, beneficial ownership requirements, dynamic risk scoring and perpetual KYC, false positives reduction, and regulatory reporting.

Over the past 15 years, AML technology has evolved from logical, rules-based scenarios to more complex, statistical and predictive analytics aimed at identifying patterns, correlations, and clusters of activity.

While banks and credit unions that rely on compact solutions or aging technology are still in the era of fixed, rules-based monitoring, AML technology is currently in the next stage of evolution. Behavior detection systems are moving from the static analysis of largely structured data to dynamic analysis of both structured and unstructured data that leverages multiple, sophisticated algorithms and machine learning.

Data lakes can be critical enablers for modern AML operations, powering big data analysis and allowing banks to derive new insights from internal and external data as well as both structured and unstructured data.

Figure 1: Evolution of AML Technology



Source: Celent

At the same time, next-generation AML tools are being used to dramatically improve efficiency in alert investigation. Use cases for these new technologies in the AML compliance context include:

- **Real-time customer risk profiling for onboarding.** Unstructured data analysis and machine learning can be used to automate data gathering, compilation of profiles, and customer risk scoring.

- **Beneficial ownership.** Beneficial owner information can be automatically gathered and assembled from internal and external sources. Network analysis techniques can provide context on relationships and transactions among beneficial owners, or any uncovered links, and deliver these insights in visual form to assist case investigation.
- **Dynamic risk scoring and perpetual KYC.** Integrating know your customer (KYC) information with ongoing monitoring is a key to more effective assessment of customer risk. Automated analysis of unstructured, external data such as negative news can be used to trigger changes in a customer's risk profile which, when fed into the transaction monitoring process, can support more accurate results. TM alerts can then in turn be used to adjust customer risk scores in an ongoing, dynamic process.
- **False positives reduction.** Transaction monitoring that leverages next-generation analysis can be more effective in uncovering suspicious patterns. Machine learning can identify likely false positives with increasing accuracy over time based on feedback from previous decisions. These low-touch false positives can in turn be closed automatically, if desired by the bank.
- **Regulatory reporting.** Intelligent automation leveraging natural language generation (NLG) can be used to assemble the customer information, transaction data, and analyst actions needed to create a SAR or currency transaction report (CTR). The relevant data can also be used to support the assisted creation of a SAR narrative. This can significantly reduce the time and resources needed for these arduous reporting processes.

At many banks, the majority of AML resources are focused on clearing the high volumes of false positives generated by legacy AML systems. Based on various initiatives using next-generation technologies, Celent estimates that banks can potentially:

- Reduce false positives by 30%.
- Increase low-touch closing of alerts by 40%.
- Improve investigation efficiency by 25%.

These efficiencies are impressive. Just as importantly, by reducing the time spent on processing false positives, AML teams can be freed up to spend more time on investigation and analysis activities that provide more value.

Next-generation AML capabilities can provide value to both compliance and the business. The ability to support real-time customer risk scoring and transaction monitoring are increasingly important in supporting digital financial services strategies such as lifestyle banking, open banking, and faster payments.

CLOUD TECHNOLOGY SUPPORTS THE THREE V'S OF BIG DATA

The cloud is revolutionizing technology delivery by offering scalable access to secure, high-performance computing platforms, unlimited data storage, and tools to support big data analytics and machine learning. Cloud is powering the explosion of fintech and digital lifestyle services. In the same way, cloud technology is also enabling a new generation of intelligent risk and compliance solutions.

Cloud provides a powerful platform for next-generation technology by supporting the three V's of big data analytics:

- *Volume* to enable data lake-based big data analysis.
 - In the AML context, effective behavior detection requires analysis of large amounts of internal transaction and customer data, including recent as well as historical data. Risk assessment of individuals and entities increasingly depends on access to and analysis of external data sources, such as adverse media, increasing the data volume requirements.
- *Velocity* for real-time monitoring and screening.
 - Speed in analysis and response is assuming greater importance across the AML value chain. Rapid detection of suspicious behavior not only increases the overall efficiency of AML processes, it can also help stop money laundering schemes such as fraudulent “mule” transfers in their tracks. Seamless KYC processes result in less friction in onboarding and an improved customer experience. Digital financial services are leading to increased requirements for real-time AML and KYC processes overall.
- *Variability* to support unstructured data analysis.
 - Modern AML processes increasingly rely on unstructured data. Risk assessment for KYC and customer due diligence draws upon a broad range of sources including adverse media, public databases, corporate directories, and commercially available datasets such as PEP profiles. Unstructured data analysis and NLG enable the automated compiling of entity profiles based on these data, replacing arduous manual processes.

Cloud platforms enable efficient delivery of the advanced technologies underpinning modern AML, including:

- Data lake-based big data analysis.
- Consumption of large and varied structured and unstructured data sets from multiple sources.
- Real-time advanced analytics and machine learning.
- Open integration of internal systems with modern, cloud-based AML technologies.

For banks lacking in-house data science capabilities, putting advanced analytics and machine learning toolkits out of reach, a cloud-based software-as-a service (SaaS) model can provide manageable access to next-generation AML capabilities. The advantages of cloud-based solutions include:

- Provision of next-generation technology on a mutualized (SaaS), cost-effective basis.
- Dramatic reduction in implementation cost and moving from a fixed cost to a variable costing model, lowering the total cost of ownership (TCO).

- Version releases on a seamless, continuous basis, providing access to ongoing technology advances and removing the need for big bang software upgrades.

As important as these TCO benefits, cloud-based solutions can provide banks with access to a next-generation AML environment that leverages scalable, high-performance computing, virtually unlimited data storage, and data lake and big data analytics technology. Moreover, cloud solutions offer these tools without the need to build advanced technology capabilities in-house.

A comprehensive SaaS solution can help banks remove many of the operational burdens, such as software enhancements to comply with new AML regulatory requirements — the CDD rule, for example — or the need to manage and maintain external data like watchlists and negative news feeds. Cloud solutions can also provide flexibility and agility in supporting AML activities across an expanding operational footprint, multiple lines of business, or multiple regions.

In sum, for banks relying on traditional AML software, cloud-based solutions offer a path forward to the next generation of AML technology, providing significant gains in operational efficiency and potential improvements in compliance efficacy.

PROGRESS TOWARD NEXT-GENERATION AML

Key
Research
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3

What factors are supporting the adoption of next-generation technologies in AML compliance?

The focus of regtech startups on AML compliance, encouragement by regulators of innovative approaches, and acceptance of cloud-based solutions are key drivers in the development of a next-generation AML ecosystem.

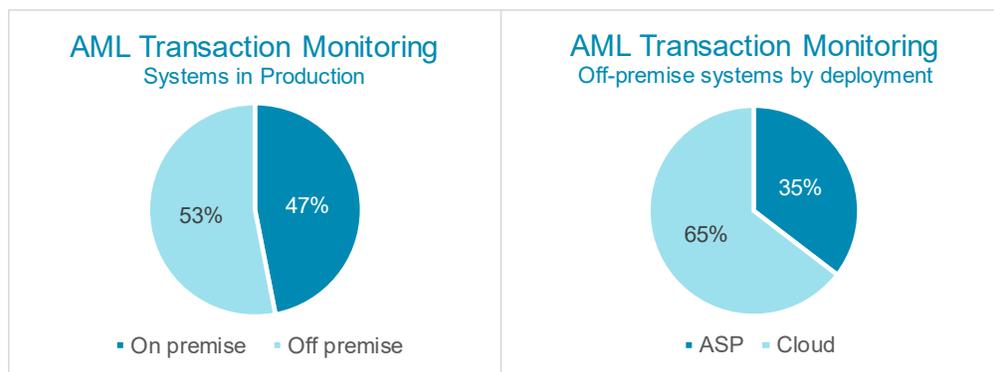
AML technology is at a critical inflexion point, driven by the unsustainable operational costs and inefficiencies created by incumbent systems on the one hand; and the recent emergence of machine learning and other next-generation technologies on the other.

The intense focus of regtech on compliance is a prime mover behind the rapid development of a next generation AML ecosystem. By Celent's estimation, some 25% of regtech startups provide AML compliance solutions, including transaction monitoring and KYC offerings. Regtech firms often leverage modern approaches including microservices, cloud-based analytics, and DevOps to deliver capable systems more quickly, with fewer resources, and at lower cost than traditional software development.

Regulators are another important driver. Perhaps mindful of the AML albatross they have imposed on banks through ever more onerous operational, technology, and model governance requirements, regulators have been signaling interest in the potential of next-generation technologies to reduce the burden. In December 2018, FinCEN, the OCC, the FRB, and other regulators issued a statement encouraging banks to consider innovative approaches to "replace or augment existing BSA/AML processes." Behind the scenes, regulators have been active in working with banks as they implement new technologies.

Notably, traditional banking (and regulatory) resistance to off-premise AML solutions is largely a relic of the past for many banks. Data recently compiled by Celent on more than 3,000 AML transaction monitoring systems in production in the US show that more than half are deployed off-premise. Some two-thirds of the off-premise systems are on the cloud (the other third are traditional ASP-hosted systems).

Figure 2: Cloud Deployment of AML Systems



Source: Celent

Questions, of course, remain. Regulators will require next-generation solutions to be auditable and explainable; black box analytics are a no-go. Some banks will be wary of potential security issues with moving sensitive AML compliance systems and data to the cloud. The application of next-generation technology to AML compliance is still maturing, and some banks will question its readiness for prime time.

Despite such barriers, the potential benefits are too great to be ignored. For many banks and credit unions, cloud-based solutions will be the path forward to achieving next-generation AML compliance.

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Typical projects we support related to anti-money laundering compliance include:

Vendor short listing and selection. We perform discovery specific to you and your business to better understand your unique needs. We then create and administer a custom RFI to selected vendors to assist you in making rapid and accurate vendor choices.

Business practice evaluations. We spend time evaluating your business processes. Based on our knowledge of the market, we identify potential process or technology constraints and provide clear insights that will help you implement industry best practices.

IT and business strategy creation. We collect perspectives from your executive team, your front line business and IT staff, and your customers. We then analyze your current position, institutional capabilities, and technology against your goals. If necessary, we help you reformulate your technology and business plans to address short-term and long-term needs.

SUPPORT FOR VENDORS

We provide services that help you refine your product and service offerings. Examples include:

Product and service strategy evaluation. We help you assess your market position in terms of functionality, technology, and services. Our strategy workshops will help you target the right customers and map your offerings to their needs.

Market messaging and collateral review. Based on our extensive experience with your potential clients, we assess your marketing and sales materials — including your website and any collateral.

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