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Financial Services

A RESPONSE TO CELENT'S "DAWN OF A NEW ERA IN AML TECHNOLOGY" REPORT

Addressing Financial Crime and Compliance Challenges with Advanced Analytics

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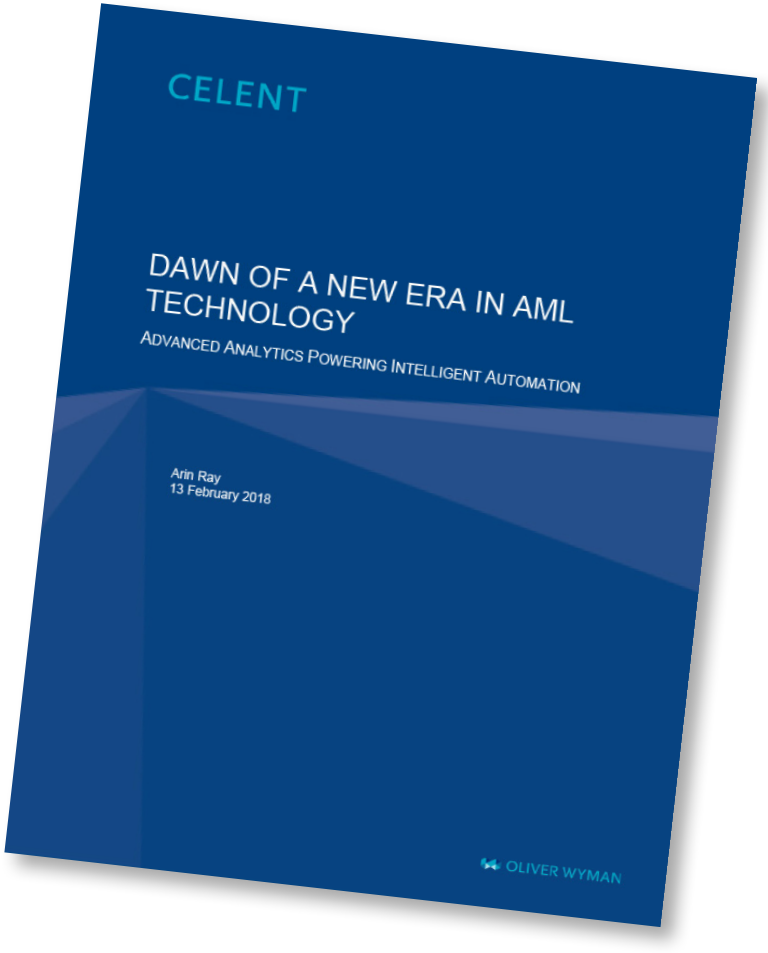
Celent's seven areas of insight:



Addressing Financial Crime and Compliance Challenges with Advanced Analytics

A Response to Celent's 'Dawn of a New Era in AML Technology' report

Arin Ray, Senior Analyst at Celent, recently published a report entitled Dawn of a New Era in AML Technology, which aimed to answer three questions:

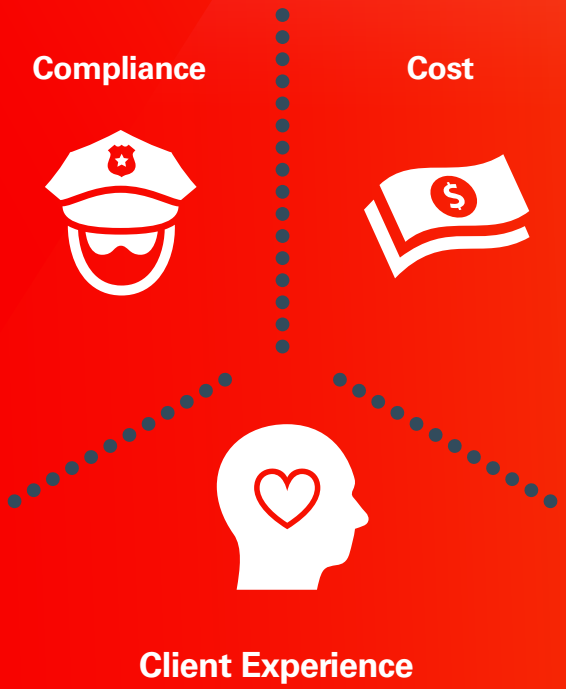
1. What are the main challenges in anti–money laundering (AML) operations today?
2. How can these challenges be solved?
3. What is the outlook for adoption of advanced analytics in AML?

The report itself makes for an insightful and interesting read, and we recommend that you take half an hour to do so. In this response, we want to build on Celent's findings and explain some of the specific approaches and technologies that can help solve financial crime, compliance, and AML challenges.

Oracle has identified seven key statements from the report and provided further insight from our financial crime and compliance experts. This insight has come from working closely with the world's biggest financial institutions in helping them not only mitigate the risks of financial crime, but turn compliance into a competitive advantage.

We hope that our responses prompt you to consider how your organization manages financial crime and compliance.

1. The Compliance Trilemma



Celent says:

"Financial institutions are struggling with a trilemma: ensuring compliance, managing cost, without adversely impacting client experience."

We say:

"Don't treat compliance as a cost; embrace it as a competitive advantage."

The Customer Experience

Stuart Davis, Chief Anti-Money Laundering Officer AML Enterprise, Bank of Montreal, believes banks still have a competitive advantage over newer entrants to the market. They're highly regulated and trusted, and have solid systems and years of experience. But they need to use technology to innovate their efforts around AML and compliance.

"Banks need strong data models to understand where the risk is and how to get on top of it," says Davis. The Bank of Montreal has embraced this approach in order to boost its competitiveness.
With Oracle tools, it is taking advantage of AI to automate the AML process, deliver value, and cut operational costs. It has already reduced AML alerts by 30%.

BMO Bank of Montreal

> "Banks need strong data models to understand where the risk is and how to get on top of it."
>
> Stuart Davis, Chief Anti-Money Laundering Officer AML Enterprise, Bank of Montreal

Instead of seeing this trilemma as a costly and complex set of problems, the most forward-thinking institutions can turn compliance into a competitive advantage.

Firms that can rapidly comply with changing regulations can reverse the trend of "de-risking" and enter more profitable segments. If one bank is using more advanced compliance technology than another, that bank can take on more risk.

A modern, adaptable, and extensible AML platform—built to take advantage of artificial intelligence (AI), open source software, and big data technologies—represents an investment that generates return. And the more transactions it handles, the more effective and cost-efficient it becomes.

The Oracle Advantage

Use Oracle Financial Services Financial Crime and Compliance Studio in conjunction with Oracle Financial Services Anti Money Laundering to:

- Accelerate the discovery, development, and deployment of new AML detection patterns using graph analytics, machine learning, and rules
- Reduce costs by using open-source big-data platforms and running AML scenarios directly in the enterprise data lake
- Provide a comprehensive graphical view of financial activity and customer risk
- Correlate events across all detection logic and streamline investigations within a single case management system

2. Data Management Headaches

"Banks report that 50–65% of analysts' time is spent doing 50–65% low-level data management."

[Source: Ray, Arin. 2018. Dawn of a New Era in AML Technology. Celent]

Celent says:

"Current practices are dominated by suboptimal use of data and technology that is resulting in numerous and growing challenges in AML operations."

We say:

"Good data hygiene should be priority number one."

The Customer Experience

Alabama-based Regions Bank, one of the largest banks in the US, understands the importance of data management and governance in financial services today. "Data is the foundation of everything we do," says Regions Bank Vice President David Cole. "You need to know where your data is coming from. It needs to be trustworthy."

The bank uses Oracle Financial Service Data Foundation strategy and data model, and sees Oracle as a key strategic partner. Cole estimates it would have taken three to five years for the bank to create its own data-driven model, but now the team can focus its efforts on making sure they capture the right data to deliver business insight for competitive advantage.

"Data is the foundation of everything we do."

David Cole. Regions Bank Vice President, Regions Bank

Even the best analytical processes will prove inefficient if they are built on poor foundations, and the bedrock of an effective compliance strategy is data management.

It constitutes over 80 percent of the effort in any analytics program. Oracle was founded as an information company, and data management continues to be our greatest strength.

Any analytical decision-making platform is only as good as its data management and governance layer. Bringing all of an institution's financial-crime data into a common data lake and being able to process that data in its entirety and variety is essential to an effective strategy against financial crime. Sophisticated data quality, data standardization, entity resolution, and a common financial crimes data model should be inherent parts of any compliance application.

The Oracle Advantage

The Oracle Financial Crime and Compliance Studio platform includes:

- The Oracle Enterprise Data Quality engine with built-in transliteration and name and address standardization services
- A comprehensive and proven financial services data model implemented at over 500 banks
- An entity resolution approach using open-source graph analytics
- A robust data preparation process that includes identification and management of external entities and context-specific data quality checks

3. Handling Regulatory Changes

"Banks must implement a regulatory change every 12 minutes on average."

[Source: Skinner, Chris – The Finanser Blog]

Celent says:

"Keeping pace with rapid changes in regulations is a major pain point."

We say:

"Use intelligent compliance tools to identify hidden and new risks and protect against them."

The Customer Experience

Having the most up-to-date systems and technology in place is key to adapting quickly to the pace of regulatory change today. So when a new regulation came into effect recently in the US—namely, New York State Department of Financial Services (NYS DFS) AML regulation enacted on January 1, 2017—Oracle clients found it easy to ensure their compliance using our Financial Services AML tools.

The NYS DFS example is just one among many of recent regulations enacted by bodies across the world that aim to improve the compliance efforts of financial institutions. In this case, around transaction monitoring.

According to Megan Butler, Executive Director of Supervision - Investment, Wholesale and Specialists at the Financial Conduct Authority, it's time for the whole industry to think differently. Speaking at TechSprint, London, in May 2018, she said the next big step for regulators and financial services firms alike is applying intelligent technologies such as AI and robotics to ensure regulation works to keep one step ahead of the criminals.

"Having the most up-to-date systems and technology in place is key to adapting quickly to the pace of regulatory change today."

Regulatory change in the financial services sector isn't a new thing. But the pace of change has undoubtedly increased in the last few years.

Therefore, when we deliver compliance platform architectures, one of the core tenets is the adaptability and extensibility to accommodate regulatory changes.

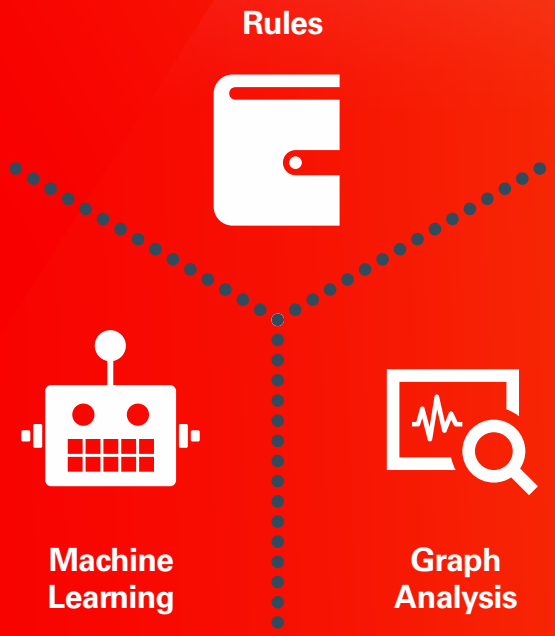
Modern financial crimes platforms must enable compliance departments to rapidly and efficiently deploy detection logic for newly discovered patterns and regulated behaviors. Crucial to this agile approach are behavioral models that are "rules-independent" and can be trained and retrained online.

The Oracle Advantage

Use Oracle Financial Services Financial Crime and Compliance Studio in combination with Oracle Financial Services Anti Money Laundering to:

- Detect suspicious activity with behavioral models with transparent explainability that enables compliance professionals to explain the model's decisions and outcomes
- Write detection logic and machine learning models in multiple languages
- Rapidly discover patterns and quickly deploy them into production to complement existing detection solutions

4. Graph-Based Analytics



Celent says:

"Rules-based technology and siloed operations are proving to be inadequate in detecting evolving criminal behavior."

We say:

"Combine rules, machine learning, and graph analysis for the best outcomes."

Uncovering patterns of suspicious behavior requires a judicious combination of rules, machine learning, and graph (also known as network) analysis.

A modern anti–financial crime platform should combine all three approaches.

Rules have limitations but they have an advantage over machine learning in that they are easily explainable to regulators and their effects are easy to demonstrate. Machine learning can detect hidden patterns that have not been explicitly coded for, but the best algorithms are often a black box. Although the output of ML processes might be beneficial, many financial institutions struggle to demonstrate how and why patterns are detected.

Graph analytics examines relationships between entities. In financial crime detection, it allows the modeling of complex financial networks based on transaction data and can uncover hidden relationships and patterns of suspicious financial activity. Like with rules, analysts can look for explicit patterns, and like machine learning, graph analytics can unearth new patterns.

The Oracle Advantage

Use Oracle Financial Services Financial Crime and Compliance Studio in combination with Oracle Financial Services Anti Money Laundering to:

- Explore and visualize financial crimes data in the enterprise data lake using graph analytics and machine learning
- Write detection rules and ML models in R, Python, Scala, or SQL
- Quickly deploy detection logic based on discovered patterns to production environment

Graph analytics is a cutting-edge approach that gives you the tools to advance your AML efforts.

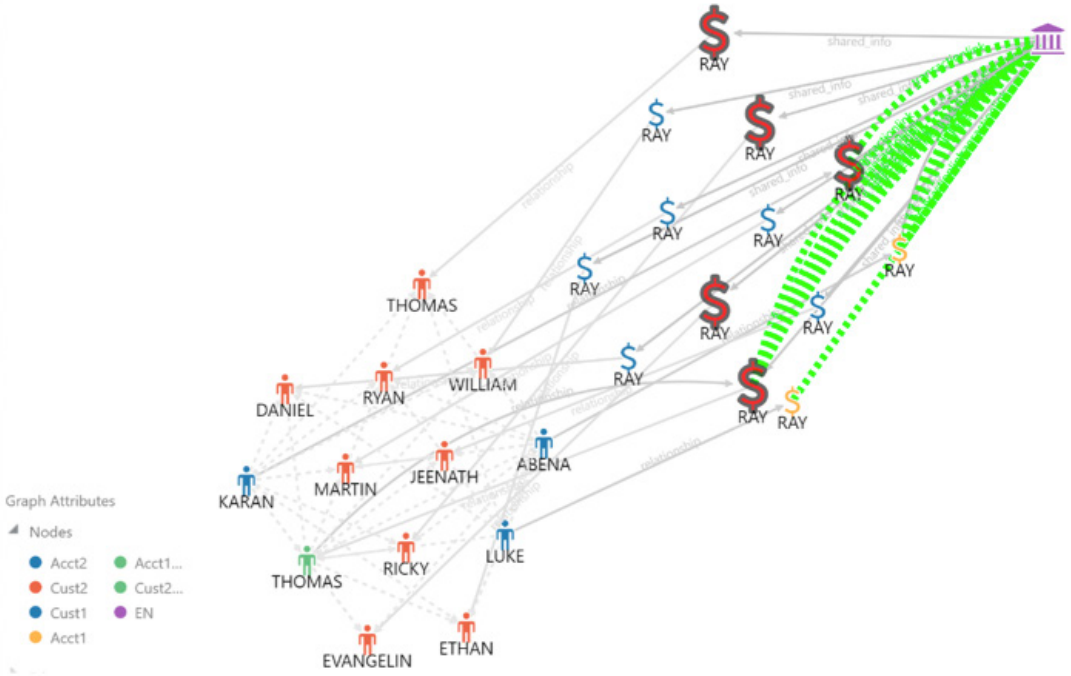
It helps your organization discover relationships between complex, interconnected data, which means you can identify patterns in transfer activities.

By automating AML detection, graph analytics can also save you both time and money—not just by eliminating time-consuming manual detection, but also through uncovering a greater number of fraudulent transactions.

See how vertices in a specific hotspot (e.g. 123) are connected

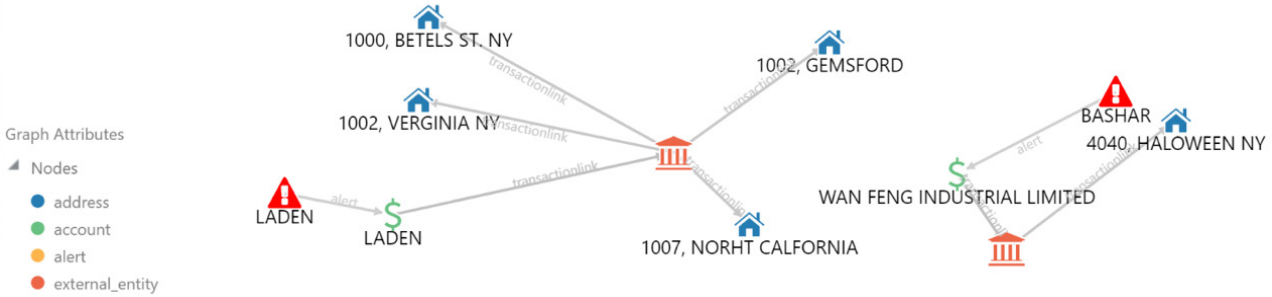
Discover connections between entities

On a simple level, it can help you discover the transfer of funds between accounts owned by the same entity through a third party. Through a complex network, you can see patterns in fund transfers between accounts owned by related entities through the third-party.



A complex network

Moreover, it allows you to focus on high-risk accounts transacting with counterparties in high-risk geographies.



Transactions related to a high-risk account

5. Smarter Alert Prioritization

"Banks typically report that 90-99% of all alerts are false positives."

[Source: Ray, Arin. 2018. Dawn of a New Era in AML Technology. Celent]

Celent says:

"Alerts should be assigned to investigators based on alert risk and investigator seniority to drive efficient investigation and feedback."

We say:

"Institutions that adopt automated alert prioritization can avoid the cost of manually dispositioning false positives."

A combination of overly cautious threshold settings and parameters during implementation, technical inefficiency, and regulatory compliance means that 90–99 percent of all financial crime alerts are false positives.

And they all require manual decision/investigation to resolve.

Because the cost of reducing the number of false positives can be prohibitively high, many banks are choosing to process the events instead. Machine-learning models can learn to prioritize new events based on how previous ones have been handled. And the resulting event score can be used for routing, event prioritization, or hibernation—all of which significantly reduce the cost of compliance. This level of automation means that high-priority events can be handled by the most senior investigators, while less experienced, offshore investigators handle lower priority events.

The Oracle Advantage

Use Oracle Financial Services Anti Money Laundering Event Scoring in combination with Oracle Financial Services Enterprise Case Management to:

- Utilize sophisticated Machine Learning models to score events
- Route events to specific investigators or groups
- Automate scoring and routing within AML workflow

6. Investigating Cases, Not Just Alerts

"We have seen 30-50% efficiency improvements in several use cases and PoCs."

[Source: Ray, Arin. 2018. Dawn of a New Era in AML Technology. Celent]

Celent says:

"Advanced analytical tools will bring down costs and improve productivity levels. We have seen 30–50% efficiency improvements in several use cases and PoCs."

We say:

"Intelligently combine events from multiple systems into cases."

Financial crime investigators at many institutions pick up events on an ad-hoc basis with no tiering or prioritization.

We agree with Celent that investigators should work on activity that's appropriate to their seniority and training, but that's only the beginning.

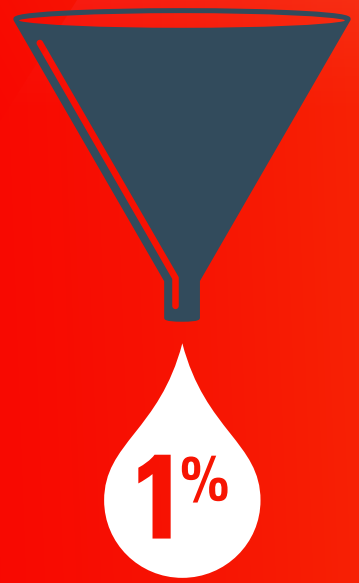
Organizations can make investigations even more efficient by intelligently combining events from different detection systems using graph analysis and correlation techniques. By turning multiple events into cases—more cohesive and contextually complete units of investigation—investigators will be looking at a broader picture of activity. Event scoring and prioritization are good, and when they are combined with correlation and automated case creation and sophisticated case routing, the savings are significant.

The Oracle Advantage

Use Oracle Financial Services Enterprise Case Management to:

- Use graph (network) analytics to correlate investigations for AML, Know Your Customer, fraud, and sanctions filtering
- Achieve visibility across channels, products and jurisdictions for more comprehensive investigations
- Combine network analysis and business rules to more efficiently manage and process cases

7. Statistically Sound Thresholds



"Only about 1% of investigated activity ends up reported to regulators."

[Source: Sunil Mathew, Head of Data Science and Financial Crime & Compliance Analytics, Oracle]

Celent says:

"Few financial institutions undertake a quantitative approach to tuning."

We say:

"Let your detection engine set your thresholds optimally—and automatically."

When it comes to fighting financial crime, it's better to be safe than sorry. Celent reports that many banks err on the side of caution by carefully choosing input attributes and scenarios and setting conservative alert thresholds.

Some institutions apply thresholds to generate a volume of alerts that their compliance teams can sensibly handle. A statistically sound threshold setting and optimization process can not only decrease the number of false positive alerts, but also avoid regulatory scrutiny.

Traditionally, threshold tuning is a time-consuming and complicated process that requires banks to have specific resources and skill sets. Therefore, detection engines must be able to automate the threshold tuning process to bring efficiencies within reach of smaller institutions and enable them to set and adjust thresholds according to their changing needs.

The Oracle Advantage

Use Oracle Financial Series Automated Threshold Tuning Module to:

- Automate statistically sound threshold tuning based on historical data and graph analytics
- Support above-the-line and below-the-line methods for initial threshold setting and ongoing retesting and tuning

Conclusion & Closing Thoughts

Celent's report says that although 2017 mainly saw proofs of concept for advanced analytics in AML, firms are already starting to use these technologies more widely. We expect this trend to continue to grow throughout 2018, following initial trials and successes.

As a leading provider of advanced analytical financial crime solutions, we welcome this. But it's equally good news for financial institutions and regulators. It will mean more agile, transparent, intelligent, automated systems to combat financial crime. This, in turn, will make processes more efficient, reduce risk, and allow firms to gain a competitive advantage while remaining compliant.

Finding a partner to help achieve a greater integration of advanced analytics in financial crime compliance processes is essential. The right partner can bring an exciting and innovative approach to financial crime compliance as well as the latest technologies.

Oracle Financial Services is that partner. We can give firms the confidence of a partnership that will help them grow and be with them in the long-term.

There are common inefficiencies across our industry, as the Celent report makes clear. Our portfolio of financial crime and compliance products enables institutions—of any size and with any technology strategy—integrate advanced analytics into their operations to drive out inefficiencies and move ahead of the competition.

You can read more from Oracle's financial services experts on our dedicated industry blog.

Get in touch to discuss your needs—whether that's a proof of concept or a value proposition, or to discover how advanced analytics can bring new capabilities to your financial crime and compliance programs.

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Learn more about the Oracle Financial Services Crime and Compliance Studio

Learn more about Oracle Financial Services AML Event Scoring

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