Verint Speech Analytics for Financial Trading

Use Cases for Analytics on the Trading Floor

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Introduction and Background

Approximately 15 years ago, advanced technologies, such as speech analytics, text analytics and voice biometrics, were introduced and leveraged extensively in contact center environments. The investment in analyzing the interaction channels helps organizations gain incredible insights about the customer experience and turn these insights into actions – insights that were previously inaccessible

Using analytics engines, call center leadership can identify opportunities for process improvements, understand and potentially predict customer churn, and increase first call resolution rate and upsell opportunities. As the analytics engines improved, organizations have started to leverage these technologies to enforce regulatory and compliance processes, such as script, process, and policy adherence.

About three years ago, an increase in regulations and internal demand from the risk and compliance teams supporting the trading floor resulted in significant interest in leveraging the advanced analytics platforms in the financial trading environment.

Verint's advanced analytics solutions help our customers comply with regulations and adapt to changes in market demand. For example, trade surveillance is used by regulated banks and financial institutions to track a trader's text-based communications, such as emails, market data feeds, instant messaging and SMS traffic. Now, these organizations are looking to extend the surveillance to voice interactions.

Verint' solutions and strategic consulting services can help our customers create a program to perform ongoing surveillance and optimize existing processes around external and internal investigations with a more proactive enforcement of policies.

This document provides an overview of the typical use cases for analytics in the global trading floor environment. The main focus is the application of speech analytics. However, other analytics technologies, such as voice biometrics, are also discussed.

Making Voice Searchable

In a financial trading environment, the common and most basic requirement is to understand what was said in the conversation related to the execution of the trade.

Verint Speech Analytics provides this capability and more:

- Searching the contents of the conversation with key words or phrases that are under suspicion will help filter calls for more detailed review, focusing the compliance group's efforts on higher-risk transactions.
- It can transcribe and analyze 100 percent of calls, across numerous languages, to identify contextually similar conversations and automatically identify key words and phrases that are trending up or down across the trading floor. This powerful capability aids in understanding changes in behavioral patterns over time or can be used for peer-to-peer comparisons.
- Automatic speaker separation allows traders and counterparty conversations to be analyzed separately, even when they are recorded as a single call.
- Speed to insights, key words and phrases allow rapid access to results across 100 percent of calls without the overhead of additional staffing resources. Full transcription can then be available for every call without the need to transcribe calls for selected investigations. This is due to the advanced Large Vocabulary Continuous Search Recognition (LVCSR) technology of the engine. LVCSR technology has many advantages, such as higher transcription accuracy, less false positives, no pre-filtering and post transcription necessary, and all calls can be continuously transcribed and indexed.
- Near-real-time access to results
- Automated discovery, automatically identifying trends and abnormalities inside the data

Supporting Regulator/Audit Requests

External regulators and internal auditors in many organizations are requesting that calls relating to specific trades, subjects or keywords are obtained for defined individuals or groups. This is often related to a communication reconstruction request or part of an on-going investigation.

Speech analytics can be used to analyze current and historical audio data to find calls that contain keywords or phrases (or those with a similar context) that match the search requirement, ensuring only relevant calls are submitted to the regulator.

Verint Speech Analytics provides a secure, auditable platform to help ensure access to defined individuals within the organization.

To achieve this, calls can be transcribed, creating a textual database that can be searched multiple times with near instantaneous results using a number of keywords or phrases or auto-suggested alternative words. Verint's Speech Analytics supports 100 percent transcription of all calls within a trading floor, providing the capability of rapid searching without having to pre-select what you want to analyze.

This capability helps ensure that searches are "context relevant" and the appropriate calls are made available for regulator requests. Relevant searches can also identify conversational content in the same calls that may be outside of the current investigation.

The speed and accuracy of the transcription process helps ensure that all recordings passed to the investigators can be rapidly assessed prior to delivery to the requestor.

The key return on investment is the timely delivery of the data – without the need to manually search through a high volume of calls, normally involving large numbers of headcount and associated costs, and enabling a good understanding of the content of the calls before being handed over.

Historical Communication Reconstruction

Verint's Speech Analytics' outputs and controls are easily integrated into electronic trading solutions that have post-trade analytics, trade investigation capability or eDiscovery tools.

The Verint Speech Analytics solution can be used to generate communication activity related to the trade or trades. This information, using external tools, can be displayed as a sequence of events related to a specific trade activity, typically in a timeline view.

One example would be having automated access to all communications related to potential spoofing or other market manipulation activity, thereby also aiding near-real-time checks to determine if the activity was valid or requires further investigation.

Alerts, such as abnormal words or phrases, can be automatically generated and can be used to trigger surveillance in the electronic domain.

Changes in communication behavior can be linked and aligned with other behavior change algorithms running in the electronic trade or eDiscovery domains. Hence, the Verint Speech Analytics engine output can complement existing investments used to provide reporting and surveillance in the markets.

Near-Real-Time Communication Surveillance

There is increasing demand to monitor internal policy and compliance regulation, thereby identifying trends and behavior patterns with a goal to reduce risk to the organization. Examples of where speech analytics can assist with these requirements include:

- Automated alerts based on near-real-time monitoring of trading interactions to highlight potential risks.
- Identification of anomalies and changes in trading terminology, helping identify suspicious activities, such as the use of code words and phrases.
- Associated spoken communications to textual communications for searches and analysis.
- Instant searches on historical transcription data, enabling investigators to immediately change searches on the fly based on the results of previous searches.
- The Verint Speech Analytics user interface provides the ability to jump to relevant sections in the call based on triggers or category hits.

Integration Into eDiscovery and Compliance Dashboards

Leveraging existing investments and enhancing the returns on these solutions drives incremental ROI. Verint's Speech Analytics integrates with financial trading applications, such as eDiscovery and business intelligence tools, whether these tools are based on premises or hosted.

The Verint Speech Analytics solution can be configured to push alerts and reports into third-party platforms, helping enrich the data that is available for analysis. Third-party user interfaces can access the Verint platform, which helps provide a seamless user experience.

Verint's Speech Analytics can export results to case management and forensics investigation tools, and can help enable focused and auditable investigations that can be managed through a formal escalation process. This process helps ensure that relevant legal authorities have the correct data delivered via the correct procedure to ensure successful outcomes to investigations.

In addition to the speech analytics results, Verint can also provide a detailed event feed of recorded data when using the Verint voice recording platform. For example, the metadata can provide information about every call recorded for a specific trader, such as UTC time, duration, trader ID, trader name and dialed or received number. The secured URL to the recording can be embedded into a third-party dashboard or eDiscovery platform.

The web services interface enables third-party compliance dashboard/UI to mark the recorded calls and control the retention for the purpose of putting them into a legal hold (call deletion is disabled for those identified). A case ID is attached to the original recording metadata.

These capabilities highlight Verint's open approach to working with third-party compliance and eDiscovery providers, providing open interfaces into the Verint call recording and speech analytics data.

Voice Biometrics

Organizations can use voice biometrics to help:

- Identify breaches of the "Chinese wall"
- Search for calls based on a trader or counterparty voice
- Identify if a trader uses another traders' turrets, i.e. voiceprint does not match the turret logon
- Support real-time and historic calls

Languages and Transcriptions

The system can support multiple languages (currently more than 45) using common search and surveillance themes. Conversations that involve more than one language can be passed through multiple language models with each language transcription being reassembled to represent the original call.

Full transcription outputs are analyzed within the solution and can be passed to other analytics tools as needed – relevant when comparing spoken conversations with textual conversations.

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