



**AUDIO MINING
SOLUTION FOR
CONTACT CENTERS**

Achieved
90 to 96%
accuracy levels

Batch & Real
time scenarios
covered

Flexible OpEx
based **Managed**
Services

Achieved
ROI in 1/3rd
of typical time
frame

How did a leading American Multinational Financial Services Company implement Uniphore's audio mining solution to reduce operational costs in regulatory compliance for monitoring contact center interactions?

The Client – Overview

The client is a large American Multinational Financial Services company. They provide innovative payment, travel and expense management solutions for consumers and businesses of all sizes. The company is headquartered in New York, United States and serves its customers worldwide with over 50,000 employees.

Business Context

Being a worldwide brand dedicated to servicing customers 24/7, our client offers innovative financial services to millions of people and process millions of transactions every day. To serve the business as well as individual customers without service interruptions, our client has to operate customer support contact centers at different locations to provide extensive support irrespective of time bounds.

As part of the regulatory procedure in the USA for contact centers, our client was required to produce data of all customer interactions that contain certain phrases. At an average of more than 15,000 to 100,000 hours of audio data generated on a daily basis, it was impossible to identify such phrases in contact center interactions manually. To overcome the limitations of manual process, our client used off-the-shelf automation solutions which failed to provide expected accuracy and desired results.

Vendor Evaluation Parameters

Existing voice logger solution vendor was providing keyword spotting and full text transcription with an accuracy level in the range of 70 to 75%. Are there vendors who can do better? It is in this context, the customer set out to identify a new vendor with these evaluation parameters:

- Strong competency in **key word spotting, full transcription, sentiment analysis and custom MIS** (analytics)
- **Higher multilingual accuracy levels** than the existing Voice Logger solutions
- Flexible engagement model which involves **lesser Cap-Ex to enable faster ROI**

Challenges

The key tactical challenges encountered by our client were:

Low accuracy rate: By using off-the-shelf speech mining solutions our client was obtaining accuracy levels as low as 50%. This was practically of no help for any kind of analysis.

Accent dependency: The speech mining solution was language dependant, i.e. they were able to detect only US English. By having business presence worldwide, our client had diversified band of customers who made calls to contact centers every day. So it was important to find a solution that can be customized to recognize any dialect.

Custom reports: Metrics and custom reports are the most essential part of this initiative. The existing off-the-shelf solution our client had, provided only canned reports on pre-defined metrics. The post-processing of these default data reports for gaining the desired feedback was a labor intensive process.

Batch and real time mode: The client wanted to analyze the audio recordings of customer service interactions and mine it to identify certain keywords both in batch mode and real time mode. The audio mining solution had to recognize the keywords in real-time at the location where the contact center representative is conversing with the customer on a call. Plus, batches of audio files were fed into a remote machine in the network, where the solution had to mine the audio data for the required keywords.

The Solution Approach

The key objective of the project was to provide more than 90% accuracy in identifying keywords across a range of acoustic conditions and regional accents.

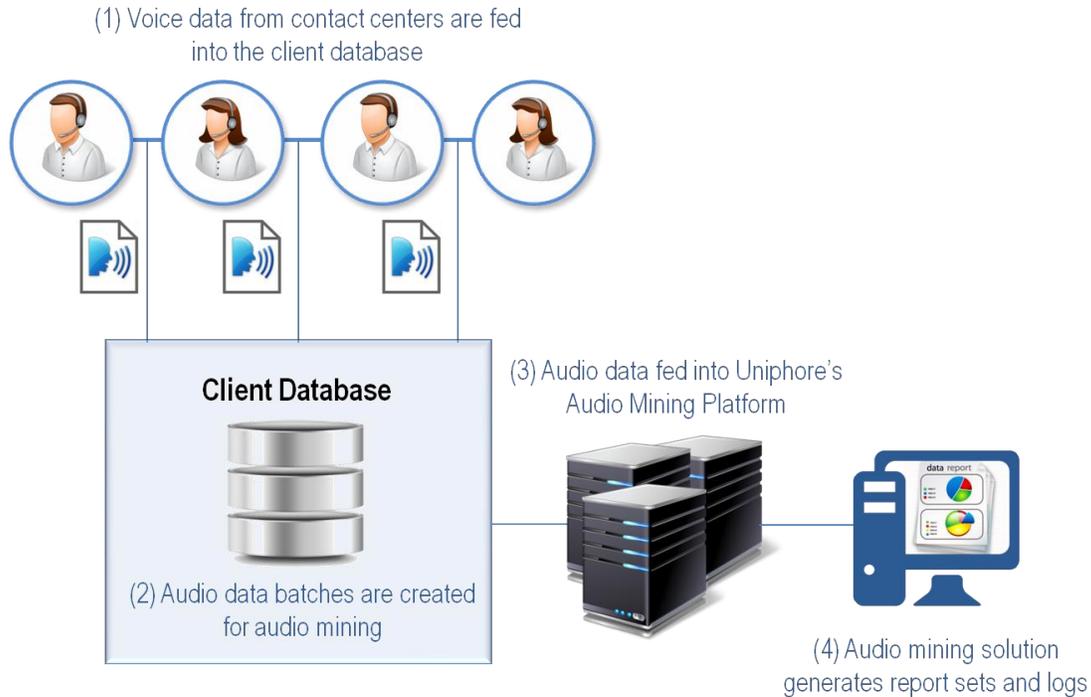


Figure 1:High-level operations flow

By considering the client's challenges and requirements, Uniphore's professional services team along with business analysts derived a simple 3 steps approach - Segmentation, Preprocessing and Recognition.

Multiple rounds of tuning were carried out in the recognition phase for the input keywords. Through three rounds of tuning, the silence and noise bursts related issues were addressed and the segments were also tuned to capture larger phrases leading to accuracy levels over 95% for selected keywords. The results are generated and accessible via web graphic user interface and they are also delivered in XML formats as well. The results included parameters such as: keyword match, mismatch, no match, error counts and timing information of the keywords spotted at the segment level as well as the audio file level.

Our solution also provides 3 configurable options on removal of stored audio data to makes it easier for the customer to handle the audio file batches: Deletion at the end of (1) segment processing (2) file processing and (3) job processing (removing all the audio files at the end of the mining run).

Highlights

Uniphore's technical expertise and business understanding combined with the experience in speech recognition has ensured that the project is delivered on time within the stipulated budget:

- About **80% cost reductions** in regulatory compliance monitoring of the contact center
- Achieved **95.16% of accuracy** in true hits on the keywords
- Recognized & **transcribed entire audio files**
- Supported **global accents and various languages**
- **Deployment on the cloud** saved 30% of CapEx
- **Agnostic towards voice loggers** (unlike incumbent vendor) used by the client for real time mode
- Provided **customizable array of reports** for analysis and data capture

Ongoing Engagement

After the successful pilot engagement, our customer has moved away from pay-per-seat model with the incumbent provider and started leveraging Uniphore's Audio Mining solution. **Instead of paying \$700 per seat for 4000 seats upfront, the customer is only paying for the 10,000 hours of audio mined per day.** As you can see, the customer is able to get results with better accuracy levels from Uniphore and at the same time **avoid spending millions in CapEx** through Uniphore's smart OpEx based Managed Services and obtain results.

About Uniphore

The ability to use speech to communicate is a primary reason for the evolutionary success of the human race. Uniphore's solutions extend this insight to the evolution of human-machine interaction. Uniphore's solutions allow any machine to understand and respond to natural human speech, thus enabling humans to use the most natural of communication modes, speech, to engage and instruct machines. Enterprises across industry, size and geographies deploy Uniphore's solution to dramatically improve employee productivity and deliver superior customer service.

As a leader of voice-based solutions in India, Uniphore has pioneered the development of mobile applications with the combined capabilities of Speech Recognition, Voice Biometrics, and Data. Uniphore boasts a roster of high-profile, satisfied customers across multiple verticals – Financial Service Providers (mobile commerce & banking), FMCGs & NBFCs (sales force automation), and Agriculture, Healthcare, & Education (content delivery services).

Since its inception in 2008, the company has grown at an exponential rate, and today it supports nearly 4.5 million registered end users on its platforms every month. For more information on Uniphore visit www.uniphore.com.

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