

Innovation Series

Running Off the Leash:

Cloud-based recording and voice analytics will clearly reveal the Voice of the Customer.

By Jeff Gallino Chief Technology Officer CallMiner



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Executive Summary

An axiom in information technology is that the velocity of change enables breakthrough advances every three years. This is shown to be true again with the onset of recording and voice analytics in the Telco Cloud. Using the pristine voice-quality that occurs directly within the Telco network, the enterprise now has an alternative to the inferior and expensive recordings available from traditional premise based solutions—and to the high cost and high risk of their integration. Using this new capability, the enterprise can now conduct **voice of the customer analytics** inexpensively from a signal that is uncompressed, real-time and speaker-separated. This enables unprecedented accuracy and immediate insights to front-line performance and bottom-line results.

Challenges Addressed

There are more than 50,000 contact centers operating in North America alone. Each operates with a common infrastructure of Automatic Call Distributor (ACD), Interactive Voice Response (IVR) and Recorders. Companies that have applied state-of-the-art analytics recognize its' value and performance impacts, but they have also uncovered limitations imposed by the underlying contact center infrastructure. These challenges can be categorized into three areas: audio quality and availability, integration of multiple- and heterogeneous sites and vendor business practices.

Three obstacles to optimal Analytics: audio quality and availability, integration of multiple and heterogeneous sites, and vendor business practices.

Audio Quality and Availability

Audio signals are at a very high level of quality as they move through the Telco network, but are degraded on the journey into the contact center infrastructure. In the Telco network, calls are carried as un-compressed audio signals transmitted as small packets over a large fiber backbone. They are of pristine quality—as good as is scientifically possible.

Degradation

Compression and degradation occur as audio signals traverse the enterprise boundary and leave the Telco network. Inside the enterprise’s internal infrastructure, the audio is transcoded into a format that the enterprise’s switch understands and it begins to travel over “telephone quality” lines which are subject to noise signal clipping and other effects which can disrupt best-of-class analytics. Finally, the call is further compressed within the enterprise recorder to a quality standard that is only acceptable to the human ear.

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This series of transformations from high-fidelity signal, to voice-grade transport and finally to human-ear quality is referred to as lossy compression. The cover composite photo illustrates the effect across the series of compressions. The initial photo in the series is consistent with the 35:1 compression currently applied by most traditional on premise recorders. It is coarsely pixelated and its quality, sharpness, and some of the meaning (including color) are lost. The availability of Cloud recording provides the opportunity to operate with the full clarity of the original call, illustrated by the final photo.

When considering audio degradation, more noise and less acoustic quality has a significant negative impact on speech transcription accuracy and analytics. In contrast to traditional approaches, as much as a 25 percent accuracy improvement is gained when analytics are performed against the cloud infrastructure’s uncompressed high-fidelity signals.

These degradations made sense in the past when physical infrastructure cost was a primary consideration, but looking forward, these obstacles are now easy and inexpensive to surmount.

Speaker Separation

In the Telco network, the audio has maintained the uniqueness of each caller, but as it enters the typical enterprise infrastructure the separate channels are mixed into a single sequential signal. When combined in this way, the enterprise loses some of the ability to programmatically differentiate between the callers. This differentiation is so valuable that some organizations invest in redundant and

expensive recorders and internal storage to maintain the separation – a cost that is no longer necessary with Cloud recording and voice analytics.

The advantages of speaker separated audio are well proven, and the fact that this value is now effectively free to the enterprise is good news. The value of the separation can be easily illustrated. If a quality analyst cannot unequivocally determine when and who makes an offer or a promise to pay, then factors impacting revenue, collection, and compliance are potentially missed. Likewise, using voice analytics to automatically analyze an overly lengthy call, the caller who is repeatedly stating ‘hold on’ implies a very different performance picture from an agent who is repeating the same phrase. Without speaker separation more complex configuration and potential manual assessment of the call can be required, but with speaker separation a *fully automatic assessment* allows analytics to identify even the most nuanced performance areas.

Real-time Delay

When recorders are dispersed at locations around the world, enterprises can experience significant delays in access to real-time intelligence about customer interactions. Some traditional recording solutions “consolidate” their recordings into a central archive using a batch processes to move the audio at night or on weekends, sometimes delaying availability up to 24 hours. With that approach, meeting the best practice requirement for speed-to-intelligence is challenging if not impossible.

In summary, up to today the best available voice analytics solution has had an external limitation – it is constrained with degraded signal-quality that is driving sub-optimal accuracy, loss of speaker-separation and significant delays in speed-to-intelligence. Using the Cloud recording in the Telco network, recording is pristine, provides the highest possible accuracy, and is pushed to the voice analytics engine without delay – delivering immediate intelligence.

When recording in the Telco Cloud, integration costs and accessibility fees go away.

Multiple and Heterogeneous Site Integration

Most enterprises have several contact centers spread out geographically, and it is likely that some of those contact centers were acquired or established at different times and with different infrastructures. Heterogeneous replacement and upgrade schedules are often asynchronous and come with significant capital costs. Finally, it is also common for enterprises to outsource their contact center infrastructure to many different service providers. The resulting complexity bears enormous cost and inflexibility that frequently impair the enterprise from effectively driving agent performance, measuring service-level consistency and achieving excellence in customer experience.

Integration

These multi-site centers have greater integration costs and integration risks for every technology that sits on top of the recording infrastructure. Integrating Quality Assurance, Quality Management, Workforce Optimization and Performance Management all have this additional cost and risk. In

contrast, when using Cloud recording there is no integration risk because the integration is already done.

Security

One further challenge of traditional multi-site and multi-ownership topographies is establishing and assuring consistent security across all of the points of control and failure. An advantage to Cloud recording in the Telco network is that security concerns are minimized and assurance costs are eliminated. Security and risk-management is actually enhanced in the IP telecommunications infrastructure where security policy standards and enforcement are managed by the highest level security programs in the world. In these environments there are robust physical access controls (guards in the buildings and patrols at installations), security policy is defined and consistently applied (Independent third party PCI compliant) and disaster back-up facilities and service interruption are all in place. Finally, software/hardware threat management is continually upgraded and vigilantly monitored (the firewalls are best in class).

Business Practices

The introduction of these innovative technologies is raising new policy questions among business consumers – and is suddenly disrupting the status-quo among traditional equipment providers. Incumbent enterprise vendors may be forced to scramble, as they have held tight reins over traditional contact centers.

There are two primary business challenges – ownership and access:

Ownership

It is often a disappointing surprise to senior management when they discover that they have invested significant resources to secure customer experience and to control operational risk but may have given away one of their most valuable assets supporting those objectives. Many organizations using traditional approaches do not realize that they do not have control, and may not even have clear ownership, of the calls that are recorded between their customers and their contact centers. Even though these calls may be subject to regulatory and legal compliance and they are rich sources of reputation and service quality insights, they may have been unwittingly handed to vendors who are not critical business partners and are providing a non-core utilitarian function.

Recording companies have no ability to lock the enterprise out of their own data.

Access

Most recording companies don't want their customers to mine customer interactions with any voice analytics tool other than theirs – locking out the value of vendor competition with all the implied disadvantages. For instance, premise recording companies have changed standard agreements to stipulate that the audio recorded by their software cannot be used with any third party product without their consent. Traditional recording companies are claiming that their rights, as an arms-length vendor

of technologies, outweigh the enterprise's right to use the recordings of contacts between their customers and their agents. The honest arbiter of these terms will find them hard to legitimize; and may reasonably conclude that the terms have been introduced primarily to create competitive restraints over innovating technologies from which they face challenges.

An additional tactic has been to assess a charge for an "integration package" to allow third party integration; basically paying for the right to access audio that the enterprise should already own. This practice is often employed under the guise of "risk mitigation". Taken to a challenge, these obstacles would not likely hold up legally or technically as integration can be achieved with the same platform architecture the vendors are already providing – without additional integration software being introduced. Nevertheless, the effect is chilling and forces technology departments to avoid perceived complications of integration and maintenance service risks as well as the effort and cost of challenging the vendor claims.

Thankfully, these obstacles to leveraging valuable customer contact insights disappear with Cloud recording and voice analytics.

*The **business case** boils down to a quintessential make or buy decision – with an obvious buy conclusion for the well informed executive.*

Additional Benefits

There are very attractive business policy advantages that are also being brought to light by these shifts in the marketplace. A bonus of Cloud recording and voice analytics is **single billing**. Most Telcos will just add a per-minute charge to an existing contract and bill without a lot of extra paperwork and no extra handling by the finance department.

Cloud recording is not only the best quality solution but it is also a solution that requires **no capital expense**.

There may be unexpected **savings in infrastructure and services costs** which may be material. While the specific costs eliminated with Cloud recording will vary, some organizations have expressed stunning insights into the hidden cost burden of their current approaches.

Business executives understand the importance of **time-to-value**. Unfortunately, organizations pursuing traditional on-premise integrations can experience long lead times, time delays and disruptions to achieving their voice of the customer analytics objectives. Internal resources are often in unfamiliar territory as they cross technologies and channels. Other efforts and urgencies disrupt and defer progress. Vendor solutions are frequently less magical in reality than they seemed in the sales cycle.

With Cloud recording and voice analytics **implementation could not be simpler**, and the results could not be more immediate. The technologies are already integrated and already in place within the Telco

networks. The only change required is to add the service to a billing portfolio and to associate the phone numbers for contact centers to the Interceptor program.

The **business case** boils down to a quintessential make or buy decision – with an obvious buy conclusion for the well informed executive. The past requirement to “make a solution” – use proprietary call management and recording vendors, customize integration in complex organization models, and invest in duplicative equipment and technologies – is no longer justifiable to an informed business leader. These traditional services should now be seen for what they are: higher cost, lower quality and distracting from the primary mission of the organization. These are capabilities that should now be bought and managed from the marketplace.

Conclusion

Cloud recording and voice analytics offer high-impact, high-efficiency and low-cost features not previously available. Considering the superior quality of the infrastructure solution (improved audio quality, speaker separation, near real-time availability, security and easy integration), much better total cost of ownership and the flexibility to purchase (rather than as a capital expenditure) and a very simple subscription and implementation model, **Cloud recording and voice analytics** are the lasting choice for analyzing customer interactions to improve performance.

CallMiner’s Interceptor captures customer interactions directly from the Telco Cloud.

Audio Quality, Accuracy, and Speed-to-intelligence

Interceptor captures calls before they are compressed, so the audio quality is exceptional and customer and agent interactions are distinct. Calls recorded in the Telco Cloud have high fidelity and significantly improved speech recognition accuracy.

With **Interceptor** interactions are gathered before they leave the Telco Cloud session, and the signal is pushed immediately to the analytics engine providing access to rich sources of customer interaction as it is occurring.

“No Problem” Multi-site and Heterogenetic Integration

Using **Interceptor** there is only one point of integration to the Telco infrastructure instead of multiple integration points to a “dog’s breakfast” of different recorders. There is no integration cost or risk because the integration is already done. The ongoing work of maintaining and upgrading is no longer the worry of in-house technical teams or a point of contention with service vendors.

Improved Security and Reduced Risk

With **Interceptor**, sensitive data is programmatically redacted. There is only one security policy and it is fully managed for you – with certified back-up, high availability, in-place threat management and recovery services – and it is tested for compliance with the highest standards.

You Now Have Full Control

Most importantly, with **Interceptor** the enterprise owns the record of their customer interactions and may do whatever they please with them. Traditional recording companies have no ability to lock the enterprise out of their own data and there should never be additional charges to access it.

CallMiner's Cloud delivery option for Eureka provides the full capability of the enterprise Eureka Analytics Suite – “hands free”.

CallMiner Eureka is pre-configured and integrated *into the Cloud* to create a unified Voice of the Customer analytics resource to understand customer interactions across channels – audio/calls, chat, email etc. **Eureka** automatically provides insights out-of-the-box and is easy to configure for any metric that is specific to a business' objectives.

Standard implementation training and support, and optional managed services from CallMiner, can bring these capabilities to you in weeks; not the months or years reported by some organizations who continue to struggle with the realities of premised-based heterogeneous approaches.

For more information visit www.callminer.com or call (239) 689-6463 ext. 2.