CALL RECORDING SOFTWARE

Contents

1   Introduction

According to a study by the Gartner group, on an average more than 68% of customers' first contact with a company is via a telephone conversation. Call recording software helps to record these interactions which can then be analyzed to unearth a wealth of information about its customers. With remote working becoming the norm rather than the exception, call recording has become increasingly important from a quality monitoring perspective as well. In highly regulated industries such as financial services, call recording is often a regulatory requirement. Yet another advantage of call recording is in the area of business continuity planning – recorded calls help in the event of a disaster by providing a repository of previous transactions with customers.

Call recording software helps to record the conversations over a PSTN or a VoIP line. The recorded telephonic conversations are stored in a digital audio file. Call recording software is different from call logging and tracking software – the former records the entire conversation whereas the latter would only record the details of the call such as the origin of the call, the duration etc. However, most call recording software also includes logging and tracking features in them.   `

2   History

Although call recorders today are mostly digital, in the early days, hardware was used to record calls. One of the earliest patents associated with voice recording, was dated 1903 filed by Theodore and Carl Freese of Elyria, Ohio and was to "provide automatic mechanism for answering calls in the absence of the operative in charge of the station and for automatically recording messages received from the line." However, this patent did not take off commercially, and call recording became popular only after the invention of magnetic tapes.

Today, call recording is primarily associated with the call center industry for training and quality monitoring purposes. However the historic origin of call recording was in the Air Traffic Control services. In the initial days, magnetic tape recorders were used in sectors such as air traffic controllers, and air ambulances. Soon, call recording was adopted by financial institutions such as brokerage firms and banks.

In the early eighties, when storage was expensive, call recording was not popular and was used only in critical scenarios as a data backup tool. The storage medium of choice was one-inch wide magnetic tapes and on an average the storage space for a year's worth of calls would easily occupy about half a room. However, over the years call recording has evolved, both in the technology being used as well as the storage medium. Thus, thousands of calls can be recorded on DVDs or even cloud based storage options. The recordings can be accessible online from anywhere, thus making it a valuable tool for conducting business. Most call recording software comes with value additions such as call management, and screen

capture, not to mention the MIS reports and statistics that can be generated for agent evaluation and improvement.

Magnetic tape recorders were soon replaced by digital call recorders and the first commercial digital call recorder was brought out by Philips in 1992. Racal Recorders came out with Rapidax about 6-9 months later followed by other entrants such as Eyretel, and soon anyone with a PC and sound card could carry out call recording.

3   Technology

In a call recording software system, the actual recording of the call happens on a recording system (comprising of a call recording adapter or a telephony board that can convert digital signals to analog signals) and the software is used for managing the call records and to ensure the security of the recordings.

Modern call recording systems have the ability to capture and decode digital signals, however legacy call recording systems cannot record digital signals. In such cases, the proprietary signals are converted using a conversion box (which is supplied along with the digital PBX) and then fed to a computer for recording. The other option is to use a hardware adapter that can be used on a telephone handset to convert the digital signal to an analog signal at the handset level. Today, most call recording software comes bundled with the hardware needed for converting the digital signal to an analog voice signal for use by the computer equipment.

VoIP recording is usually performed by software that comes bundled with the Softphone or IP PBX. In some cases packet capture technology is used to passively record VoIP calls at the LAN level. Packet sniffing technology enables calls to be recorded and monitored without interfering with the IP telephony system. VoIP packets are monitored via port mirroring on the data switch connected to the IP PBX. Both incoming as well as outgoing VoIP packets are copied to the call recording server which would reassemble the packet into a recorded call, compresses it and stores it for future retrieval.

Most call recording software will have two components – the server component and the client component. The server coordinates the call recording and monitoring activities. For multi-server implementations, call recordings are usually stored on the local server and then transferred to a central server. Other options of storage include a NAS (network attached storage) or a SAN(storage area network).

The client component is usually used by the contact center managers, administrators, quality monitoring teams and the agents themselves. The configuration of the call recording (what to record and when to record) and the call monitoring activities typically happen at the client side. The client side also allows administrators of the call recording software to add new agents, retrieve recorded calls and in some cases even monitor calls on a real time basis.

Most call recording software also offers an interface through which other call center applications such as workforce management tools can directly integrate with it and work as a seamless whole.

For recording calls from mobile phones, the easiest and most cost effective way is to use a hardware adapter connected to the handset. The disadvantage is that this method of recording does not provide time stamping thus making it legally invalid. Other options such as routing the calls through a new PBX system linked to the recorder or linking the calls directly to a recording system, are expensive as the telephone infrastructure needs to be revamped leading to high initial investments as well as running costs. However, in these cases the recordings can be time stamped, which is often necessary for legal reasons.

3.1 Options Available

The technology options available for call recording vary according to your organization size and available budgets. Thus, for a small office user, there are entry-level desktop recorders that provide basic call recording functionality by connecting directly to a telephone line and recording conversations to a PC or a DVD. For larger organizations, the options available range from enterprise-level multi-line recorders with the ability to record several calls simultaneously and store them on a central server to hosted solutions that can drastically bring down the technology cost without having to compromise on the available functionality. Most enterprise-level solutions offer additional capabilities such as the ability to search for specific calls based on parameters such as date, time, call duration or caller details by integrating the recording system to the CRM system. Thus calls can be scored more objectively and can be used for agent evaluation purposes. Hosted call recording has the advantage of providing recording services without the need to incur capital expenses for equipment installation and maintenance. These services are billed based on usage and thus organizations can pay on a per use basis or on a subscription basis.

3.2 ROI of Call Recording

On an average, call centers achieve break even on their call recording investments within 9 months to a year. Typically, the elements that contribute towards the ROI are derived from the learnings obtained from the recorded calls and what-can-go wrong analysis of failed calls. Some of the areas that can improve by diligent call recording and analysis include the following:

- Growth in sales over the telephone by using improved sales techniques, better cross selling and up selling
- Improved customer satisfaction by improving first call resolution (FCR) rates as agents learn from their mistakes as well as from those of others.
- Improved call center metrics such as call handling time due to better preparation to handle frequently asked questions
- Increased agent efficiency by addressing specific training requirements and skill gaps for each agent.
- Reduced regulatory compliance and litigation costs and minimized liability exposure by using call recordings for dispute resolution.

3.3 How to Select a call recording system

There are several factors that should be considered while selecting the call recording system for your contact center. Some of these factors include:

1. **Number of agents to be recorded**: Are you going to record all agents in our contact center or only those handling critical client accounts?

2. **Free-seating or not**: If your contact center has a free-seating policy attributing each recorded call to a specific agent can become a complex task. Recordings would need to be tagged with identification flags such as an agent PIN number or extension number. You would also need to invest in a PABX CTI link for indexing the calls and to retrieve them from storage.

3. **Trunk-side recording or extension-side recording?**: If you choose to record at the extension side then your focus is on agent performance and it will be easier to monitor an agent's performance across multiple callers. On the other hand, if you want to keep a record of all calls from a particular caller, then trunk side recording is a better option. For extension-side recording, important considerations include the PABX and ACD system that you currently employ.

4. **Storage Options:** The storage options and amount of storage requirements would depend on the call volume in your call center, how long you would need to archive your call recordings, and any regulatory requirements around this. You may also want to consider opting for online storage options. One important parameter while selecting a storage solution is the ease of retrieval and how quickly you would want to retrieve a recording.

5. **Fault tolerance:** Depending on the purpose for which call recordings shall be used (regulatory requirement, agent training or dispute resolution), the amount of redundancy that needs to be built in will also vary. If agent training is the only purpose for which calls are being recorded, then you can afford to have a less robust system than if you were recording calls as part of a regulatory requirement.

6. **Geographical spread**: if your call centre has a multi-site operation, then you need to decide on whether your call recordings need to be made available at a central location (with access for all sites) or whether call recording, storage and retrieval can be made localized.

7. **Channel Selection**: Today's digital voice recorders allow the admin user to select a specific set of agents or teams that need to be recorded thus reducing the number of channels to be recorded. This option should be evaluated, if there are budget constraints around implementing call recording.

8. **Ongoing Maintenance**: Maintenance costs for the call recording system have to be accounted for while selecting the solution. This would vary depending on your growth plans which can result either in a geographical expansion or a telephone infrastructure upgrade, both of which will impact the call recording system requirements.

9. **Compatibility with Legacy Systems**: While selecting call recording software and associated infrastructure, it is important to choose one that can be integrated with the existing hardware as well as call center software and CRM systems, so that there is seamless flow of information between all systems.

3.4 Investing in a Call Recording System

Depending on your budget and cash flow constraints, there are several ways in which you can structure the purchase of a call recording system. For organizations that do not want hosted solutions, but would still be interested in avoiding the upfront costs associated with an on site solution, there are innovative payment modes that vendors have come up with including rentals, managed services and leasing. However, care should be taken to compare the long term costs of each model, before committing to it. For example, while rentals may be a great solution for the short term while evaluating the software as a proof of concept, in the long term often a direct purchase would work out to be less costly than rentals.

3.5   Change Management

Change management is an integral part of a successful technology transformation. Thus even the best call recording software would not benefit the organization unless the agents embrace it, the processes are designed around it and the existing technology is integrated with it. There should be a dedicated champion, preferably from the senior management, who drives the project. The expected business benefits from the call recording software and how the organization plans to achieve it, along with clear measurable parameters should be identified and documented. Training should be provided to all key stakeholders so that the expected end results can be easily achieved.

4   Current State

The contact center is an abundant store house of data from several sources – from agents, customers, and even from the voice and data networks. Call recording software, combined with quality management tools helps to learn from customer interactions and improve the call center performance metrics.

Good call recording software should have the following attributes:

4.1   Scalable

It should be scalable to meet the needs of the contact center even as business and subsequently call volumes grow. It should also be able to record calls on different telephone systems which may be used by the contact center (this is especially necessary for virtual contact centers). It should also offer the capability of blending different methods of call recording (TDM, VoIP, mobile etc) in a single-server. Call recording software should be easily scalable across multiple sites and thousands of users.

4.2   Ease of Use

The software should be easy to use – whether it is configuring the call recording or retrieving the recorded calls, contact center staff would embrace the solution only if it is easy to deploy and use. Typically, advanced query options and metadata tagging is used to enable users to retrieve recordings quickly and easily among large volumes of logged interactions.

4.3   Flexibility

Good call recording software should offer the flexibility for contact centers to choose between recording all calls within the organization and recording only select departments or teams.

4.4   Custom Reports

Most call recording software comes bundled with in-built reports as well as the ability to create custom reports to meet the unique needs of the contact center. Some call recording software also offer quality management modules which allow the administrator to create evaluation forms for the agents as well.

5   Practical Applications - Why Do You Need Call Recording

Enterprises and contact centers rely on call recording and screen recording to achieve several key objectives. These range from observing business process with a view to improve them to improving customer experience. Some of the [key reasons why organizations, specifically call centers, opt for call recording](#) software include the following:

5.1   Staff Training

The contact centre industry is highly competitive and providing excellent customer service is crucial for commercial success and client retention. Even for captive contact centers, customer service is a key parameter for the business success of the parent organization. One of the best ways to improve customer service during a call is to record and monitor calls, identify the pain areas specific to individual agents and then coach them on how to handle different call types (complaints, queries, service requests etc) effectively. Call recording also helps to augment the training curriculum for agents. On-the-job training and live monitoring – which can be stressful for agents – can be replaced with recorded calls, that are pre-screened for quality and adherence to scripts. This will also ensure that agent consistency is improved as all agents are trained in the same way. It can also be used as a means for objective agent evaluation and to monitor performance improvements at an agent level.

5.2   Quality Control

Quality control is an essential requirement of every contact center – as quality is directly correlated to customer satisfaction which in turn is key to customer retention and repeat sales. Call recording helps to identify the unique nature of the specific quality challenges of the contact center thus enabling senior management effort to be focused on the right areas to improve quality. Call recording also helps to set benchmarks for improvement by providing an accurate picture of the current state of quality in the call center.

5.3   Evidence for Dispute Resolution

Call recording plays a crucial role in dispute avoidance and resolution. As litigation costs rise, it is important to protect business interests by maintaining a record of 'who said what and when' in the case of a complaint. This will help to reduce the time, effort and money spent on dispute resolution, as well as

help to protect the reputation of the company. Call recording also helps to avoid problems associated with inaccurate pricing, and errors in transaction requests.

5.4 Regulatory Compliance

In many sectors such as healthcare and financial services, call recording is mandatory from a regulatory compliance perspective. Call recording also helps to ensure that customers are providing correct information over calls, thus reducing the chances of fraudulent calls. Call recording also provides contact centers with a lasting record of the conversation which can act as crucial evidence in the event of litigation.

5.5 Improve customer satisfaction

Several studies have shown that the cost and effort required to retain an existing customer is far less than that of acquiring a new one. Contact centers can use call recording to coach agents with recorded samples of high quality customer interactions. Analysing recorded calls and taking proactive steps to improve customer satisfaction – such as a change in customer policies or empowering agents to take decisions – helps to not only improve customer satisfaction, but also to drive operational efficiencies, reduce costs and bring down employee churn.

5.6 Manage the Legal Liability

Call recording offers a certain degree of legal protection to both the contact center as well as the customers. It serves as a documentation of verbal requests and transaction authorizations and also helps to record contractual compliance. Call recording enables contact centers to comply with key security provisions in regulations such as the Sarbanes-Oxley Act, Gramm-Leach-Bliley Act, and the Health Information Portability and Accountability Act (HIPAA). Most call recording software comes bundled with screen recording, thus enabling contact centers to maintain a comprehensive record of all customer interactions and financial transactions.

5.7 Improve Data Security

The majority of security threats in a contact center are caused by employees who knowingly or unknowingly distribute confidential information to unintended recipients. Agent monitoring through call recording helps to make them more careful about their workplace actions, thus curbing unauthorized dissemination of confidential information even verbally. Over and above this increased level of vigilance, call recording software also provides an undisputable record in the event of an actual security violation thus helping to quickly identify the source of the problem and prevent a repeat occurrence.

6 Future State

In this section, we will look at some of the hot topics around call recording today.

6.1 Speech Analytics

Today, advances in call recording technology have helped in integrating speech analytics into call recording. The call flow is analyzed to identify key phrases at the beginning or end of the call and writes the results to a database. This can find applications in the following areas:

1. Verifying whether mandatory compliance statements have been stated in every call
2. Verifying whether the agent has adhered to predefined scripts and process flows
3. Analyzing the customer satisfaction levels by checking for specific phrases or words that indicate a particular customer experience.
4. Analyzing outcomes of specific activities and their impact on customer satisfaction levels and call outcomes.
5. Identifying best practices so as to reverse engineer them and make them a part of the standard call handling process.

6.2   Hosted Call Recording

Hosted call recording allows organizations to record calls without having to incur the additional costs of owning and maintaining the associated technical infrastructure. The billing is done by the service provider, who owns and maintains the hardware and software, either on a contract basis or on a per usage basis.

The method used for hosted call recording depends on the telephony infrastructure – TDM (time division multiplexing) or IP (Internet Protocol). Recording in a TDM environment requires unique physical connections for each trunk. However, it is increasingly possible to convert the network traffic to IP using an overlay service as most carrier networks are now moving to IP-based systems, thus enabling the use of IP-compatible recorders. Call recording for IP based systems is simpler as the need for additional physical network elements for recording is eliminated.

For IP systems, there are two primary technologies used for call recording – packet recording and switch based recording. In the packet recording model, mirrored ports in the carrier network are used to capture the packet data. However, it can be only used for networks where the calls are guaranteed to pass through specific network elements. The disadvantage is that internal calls cannot be captured and the solution is not very scalable.

The second method link's the carrier's soft-switch with a recording interface. This is easy to establish if the interface is already bundled with the switch, but otherwise, the call recording vendor will have to develop the interface as well and that could increase the cost of call recording.

In hosted environments call recording can be introduced into the network as a back-to-back user agent (B2BUA). This model needs to be chosen after careful deliberation as the call recorder will be the primary media server in the network and not a backup alone. As a result the resilience requirements would be more stringent than traditional call recording solutions. In hosted

environments , usually a combination of these techniques are used – typically a TDM overlay with IP recording from a dedicated soft-switch interface.

Calls are routed to the hosted call recording platform either using a pre-dial access number (for outbound calls) or by pushing the calls through a non-geographic number. Calls are then routed to the hosted call recording platform before being connected to the terminating number. (whether inbound or outbound).

Hosted call recording is mostly used by virtual contact centers where agents are widely dispersed geographically and there is a need to centrally record all calls. It is also used by very small contact centers which cannot afford the capital expenditure associated with an in-house solution.

Hosted call recording is typically billed on a 'pay-per-use' model or a 'pay-per-month' model. In the former, the contact center is charged based on the duration of recordings while the latter is a subscription model where a fixed amount is paid each month, regardless of the volume of recording. Most vendors, also charge an initial set-up charge and a storage charge (which depends on the call volume and archiving requirements of the contact center).

Often vendors providing hosted call recording services, provide a basket of functionalities which include an automatic call distributor, IVR, CTI and DNIS systems.

The key concern with hosted call recording is the ease of access to the recordings and the security of the call data. Call recordings are usually indexed at multiple levels – by date, time, dialed number and agent so as to enable ease of retrieval.

Vendors usually have stringent norms around data security, to allay the fears around unauthorized access and sharing.

6.2.1 Advantages of Hosted Call Recording

The biggest advantage of using hosted call recording is the low entry price – making it beneficial to even small businesses where the volume of calls (and subsequently business revenue) can vary drastically every month. Opting for hosted call recording also enables contact centers to take advantage of the latest technology in the call recording space as the pricing model typically includes the latest software upgrades. Change management is also easy with hosted call recording solutions with some vendors offering 'go-live' within as less as 24 hours. It can also be used as an interim solution, if the contact center is planning on a major technology overhaul and is looking for a solution during the transition period from the legacy system to the new system.

6.2.2 Disadvantages of Hosted Call Recording

Apart from concerns around data security, hosted call recording also has the disadvantage that the recorded data is with the service provider. Thus, any loss of data due to a system crash at the vendor site would mean that the contact center is left without the call recording data (unless it is periodically backed up). Accessing of call recording over internet links can be time consuming and difficult. In addition, as the call volumes increase, it may be financially better to look for an in-house tool, as the storage charges could be very steep for a hosted call recording solution.

6.3   Recording Mobile Phones

As virtual contact centers and remote agents slowly become the norm, it becomes necessary to be able to have the capability to record calls made from mobile phones rather than having a centralized call recording solution. Most regulated industries require that all relevant conversations are recorded and retained – this means that calls originating from a mobile phone as well as from a fixed line would need to be recorded and archived for defined durations. Call recording solutions for mobile phones can be broadly classified into two groups:

1. Use a special prefix before dialing a call – This is not a very elegant solution and is rarely used commercially.
2. Install an app for call recording – there are applications that are compatible with most mobile OS such as Symbian, Windows Mobile and Blackberry. Whenever a call is made, (outbound or inbound), the application which is installed in the mobile device triggers a conference call with the recording solution which would record the call and its associated data in a central server, which can be retrieved on demand.

7   Legal Implications of Call Recording

The legal implications of call recording vary from geography to geography. There are acts such as the Data Protection Act in the UK and Federal and State statutes in the US that govern call recording.

Before embarking on call recording, it is advisable to consult a legal expert to ensure that the process is fully compliant with all applicable rules and regulations. This is essential to avoid any civil or criminal litigation and consequent penalties that may result from a failure to comply with all relevant statutes However, on a broad level, these are some of the aspects that should be kept in mind while recording calls in a contact center.

7.1   Prepare the contact center

Before taking the plunge into call recording, it is important that contact centers prepare well and document the answers to questions such as the intended purpose of call recordings, the duration of archiving necessary to meet the intended purpose, and the access permissions to be granted to retrieve and use the call recordings. Legal safeguards should be put in place including but not limited to

registration with legal bodies, if necessary. Processes for purging of call records beyond the archiving needs of the contact center should also be established.

It is also necessary to provide agents with an unrecorded telephone line so as to protect their right to privacy. Employees should be made aware of the scope and purpose of call recording and how it can help them in the workplace.

Once call recording is in place, organizations should also monitor their conformance to applicable regulations on an on-going basis. As a starting point, the following checklist can be used by contact centers to verify their conformance:

- Is this information required and for what purpose is it required?
- Do the people whose information is being recorded know that I've got it, and are they aware of what it will be used for?
- Are there robust security and access controls around recording, monitoring, retrieval and usage? Is there sufficient protection against unauthorized access?
- Is access to personal information limited to those with a strict need to know?
- Is the personal information on record accurate and up to date?
- Is the purging mechanism designed to delete or destroy personal information as soon as it is no longer needed?
- Are there adequate training mechanisms in place to train staff about their duties and responsibilities under the applicable statutes and are they putting them into practice?
- Do I have a compliance calendar in place to ensure that any notifications to regulatory authorities are done on a timely and comprehensive manner?

7.2   Notify and Obtain Consent

While some geographies require the consent of only one party to record the call (which means that if you are initiating the call, then you need not obtain the consent of the other party to record the call), many geographies mandate that all parties are notified and consent is obtained prior to initiating call recording. As a best practice, it is also advisable to inform why the call is being recorded. A notification inserted into the IVR system such as "This call may be recorded for quality monitoring and training purposes. If you do not wish your call to be recorded, you may please hang up" would be a good script to use at the start of an inbound call. Outgoing calls should also begin with a similar script – either automated or manually read out by the agent. Additionally, the contact center can also accompany every call recording with a distinct beep signal that is repeated at regular intervals, while the recording is in progress.

While some contact centers choose to inform customers about call recording through written communication, it is not advisable as the caller may deny having seen the communication prior to the call.

The principle of notification and obtaining consent is important even in the case of on-demand recording and should not be compromised even if the customer is irate and non-co-operative.

7.3 Ensure Data Protection

Most statutes require that organizations have the appropriate technology and processes in place to ensure data protection. These include security features such as network firewalls, access controls for retrieval of call records and even training of agents and IT staff.

7.4 Avoid Misuse of Call Data

Even if a contact center opts for call recording, it has to make sure that the call data is used only for the explicit purpose for which it was gathered and only shared on a strict 'need-to-know' basis. Call data should not be released to any third party without the explicit consent of all parties involved (unless it for regulatory purposes). It is also necessary that call data recordings are not maintained for longer than required and personal data collected, if any should be kept up to date. For example, if calls are recorded only to support weekly agent training sessions, then they need not be retained for a year.

7.5 Do not Record Sensitive Information

While recording calls, it is best to avoid recording sensitive information such as identification data, and account details. These can be directly collected using keystrokes, thus making it impossible for agents to misuse this data.

7.6 Be aware of the latest regulations

It is important for all organizations to be aware of the latest regulations around call recording and also to have in-house mechanisms to monitor their adherence to the applicable regulations.

8 Conclusion

Organizations of all sizes benefit from call recording technology. Call recording helps contact centers garner key insights into caller and agent behavior and this can be a valuable source of knowledge for the entire contact center. It offers several benefits such as enabling agent training, resolving customer disputes, and reducing the liabilities. However, it is important to choose the right solution for your needs and also to ensure that the regulatory requirements are addressed, so as to generate the maximum benefits from the investments in call recording software.

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