

Enghouse Quality Management Suite

Product Overview Guide

Integrated with Microsoft Teams 



Enghouse
CALL RECORDING
& QUALITY MANAGEMENT



Enghouse
Interactive

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1 Compliance Recording and Quality Management for Contact Centers and Beyond

Enghouse Quality Management Suite (QMS) is a compliance recording and quality management solution designed originally for the mid-market (small to medium enterprises and contact centers) but is now able to scale to meet the needs of larger organizations. It complements the Enghouse portfolio of contact center solutions, integrating with them to provide the essential management tools for recording and analyzing customer interactions, and managing staff coaching and training needs.

But QMS works beyond the contact center, whether leveraging Microsoft Teams or other communications infrastructures, it also provides back-office and regulatory compliant recording solutions that work across multiple business functions. Work on integration with Vidyo for compliance recording is in progress, and details will be added to this document when released.

At its core, QMS provides multi-channel recording, covering voice, desktop, and text-based communications methods such as IM, web chat, email, and social media.

It does this using a secure and regulatory compliant architecture to provide businesses with a solution that can form part of a company's compliance framework, while offering liability protection as recordings meet legal requirements for court submission.

The value of compliance recording benefits multiple roles within an organization:

- **C-level.** Provides liability protection for the business by recording customer interactions and provides evidence of instructions given and received that can be used as evidence in legal disputes. Also provides regulatory compliance features to enable the recording system to form part of a company's compliance framework.
- **Sales and marketing.** Call recording systems are used extensively for analyzing customer interactions. This could be to assess the effectiveness of a campaign (how often does the campaign message come up in conversations, measured over time?), monitor churn risk, and measure customer sentiment.
- **Customer services.** Running call desks requires achieving a consistent and high level of customer experience. Quality management is key to achieving a quantifiable and measurable view of customer experience. In addition to this, QMS tools are widely used to provide staff training, coaching and on-going evaluation, allowing areas of weakness to be identified quickly and for new staff to be rapidly on-boarded.
- **Compliance officers.** Where there are cases of compliance breaches, recording systems are regularly searched for evidence and form an important component of a company's compliance strategy.

- **All employees.** On-demand recording is used extensively by staff to capture recordings of meetings to ensure all decisions have been accurately documented.

1.1 Newest Enhancements



QMS 8.2 supports the import of recordings from RingCentral, allowing customers migrating to RingCentral to continue using QMS. The import process encrypts and watermarks the recordings for security and compliance purposes.

Content Analyzer: This feature allows for predefined phrases, and combinations of phrases, to be used to search digital interaction recordings and transcriptions, and to trigger an action if they are detected. The action could be to add a flag to the recording, or trigger an alert.

1.2 About This Document

The intention of this document is to provide a comprehensive summary of the Quality Management Suite product. The following sections are available.

- **Core Features.** This section details the audio recording feature plus the main product functionality.
- **Optional Features.** This section describes the option components available with the QMS suite such as screen recording, text recording, speech-to-text transcription, analytics and quality management.
- **Contact Center Integration.** QMS integrates with the majority of Enghouse contact centers and this section provides a basic description of the integration advantages.
- **Security and Compliance.** This section details the security features of the QMS system plus how these apply to various industry regulations.
- **Delivery Options.** While many QMS systems are deployed on-premise, there is an increasing move to private cloud delivery. This section provides an overview, including details of the multi-tenancy features that allow multiple customers to be securely hosted on QMS.
- **Supported Systems.** This section provides details of the PBX/UC/UCaaS solutions that QMS integrates with, including Microsoft Teams. Work on integration with Vidyo for compliance recording is in progress.
- **Hardware and Software Requirements.** This section provides high level details of the hardware and software requires, plus sizing information, for various sized systems, based on number of users.

2 Key Business Benefits

Companies that deploy call recording systems generally do so to meet one or more of the following requirements:

- **Liability protection.** Call recording provides evidence of instructions and orders given and received between a company and its customers. When a dispute arises, the recording system will be used to provide evidence of the conversation. Call recording systems with liability protection functions such as digital watermarks, recording encryption and strong access control, permit recordings to be used in court cases.
- **Staff training and monitoring.** Call centers often experience high staff turnover. It is therefore important to on-board new staff members quickly and efficiently. This includes a training and monitoring program that is operated from the call recording system using agent evaluation functionality to track progress, identify specific training needs and periodically perform appraisals to ensure consistent call quality.
- **Regulatory compliance.** Certain industries, such as financial services, insurance, and healthcare, are required by industry regulators to record customer interactions. Regulations govern what should be recorded and in what circumstances and provide guidance on other factors such as length of time to retain recordings and the security levels required to manage them. Call recording systems are generally designed to meet these requirements but only form part of a compliance plan. Companies should assess their own circumstances to determine other factors that may be required to make them fully compliant with relevant regulations.
- **Customer interaction analysis.** The content of call recordings, whether audio or text-based, contain highly valuable insights into the “voice of the customer.” Subject to any prevailing privacy considerations, businesses frequently use analytics solutions to interrogate recordings to extract useful business intelligence. The data may help improve customer service by identifying specific issues, uncover competitive threats or opportunities and provide general market intelligence, including what your customers think of your business.
- **Convenience recording.** Call recording systems are generally installed to enforce the recording of customer interactions, with the recording controls outside of user intervention. In some circumstances, convenience recording is also used. Examples include situations in which senior management is excluded from general recording policy but may want to choose to record specific calls, or when a multi-party conference call is being held that participants wish to record for future reference.

2.1 QMS Advantages

With over 20 years of experience providing compliant call recording to businesses, QMS offers a reliable and cost-effective platform suitable for contact centers, back office and regulatory recording needs.

The solution is well positioned to assist businesses with their recording needs as they transition from on-premise communications to cloud communications, with support for several Cloud platforms and voice gateways. Maintaining QMS as a recording solution after the transition to Cloud PBX or UCaaS type communications and collaboration solutions, ensures continuity in record keeping and consistency in compliance functionality.

QMS offers many further advantages, including:

- It is designed for simplicity of use with a feature set tailored for small to medium enterprises but scaling up as required.
- With many years of experience in PBX/UC/UCaaS solution integration, the platform allows for quick deployment and low cost of ownership.
- QMS has long standing experience in the Cisco, Microsoft, Avaya, Mitel, and NEC markets, with multiple platforms supported.
- It is designed to meet the requirements of businesses needing liability and regulatory compliance.
- Recordings can be used as legal evidence in disputes and court cases.
- QMS integrates with the majority of Enghouse contact centers, offering a one-vendor solution.
- Contact centers also widely use Quality Management functionality to measure agent performance and customer experience.
- Multi-channel environments are fully supported, with recording options for audio, screen, and text-based communication.
- There are flexible deployment options, either on-premise or private Cloud.
- QMS offers an expanding optional feature set through integrated features such as speech-to-text transcription and analytics, to integration with other complementary Enghouse products including Vocal Coach, the live coaching application.

3 Core Capabilities

At the heart of QMS is a multi-channel recording capability that has been developed and refined for over 20 years to meet industry standards for compliance recording.

QMS can be deployed as a standalone recording solution for a number of IP PBX, UC platforms or UCaaS solutions (see section 8) or integrated with one of the Enghouse Contact Center solutions, or both. Enghouse's Vidyo solution is expected to be integrated in late Q3 2021.

QMS can be deployed in both redundant and non-redundant configuration. Refer to the QMS High Availability Guide for further details. Where systems are deployed in high availability configuration it is important for customers to assess total end-to-end redundancy. Is there a single point of failure within the system? If so, then a redundant configuration of QMS may provide a false sense of security.

3.1 Audio Recording

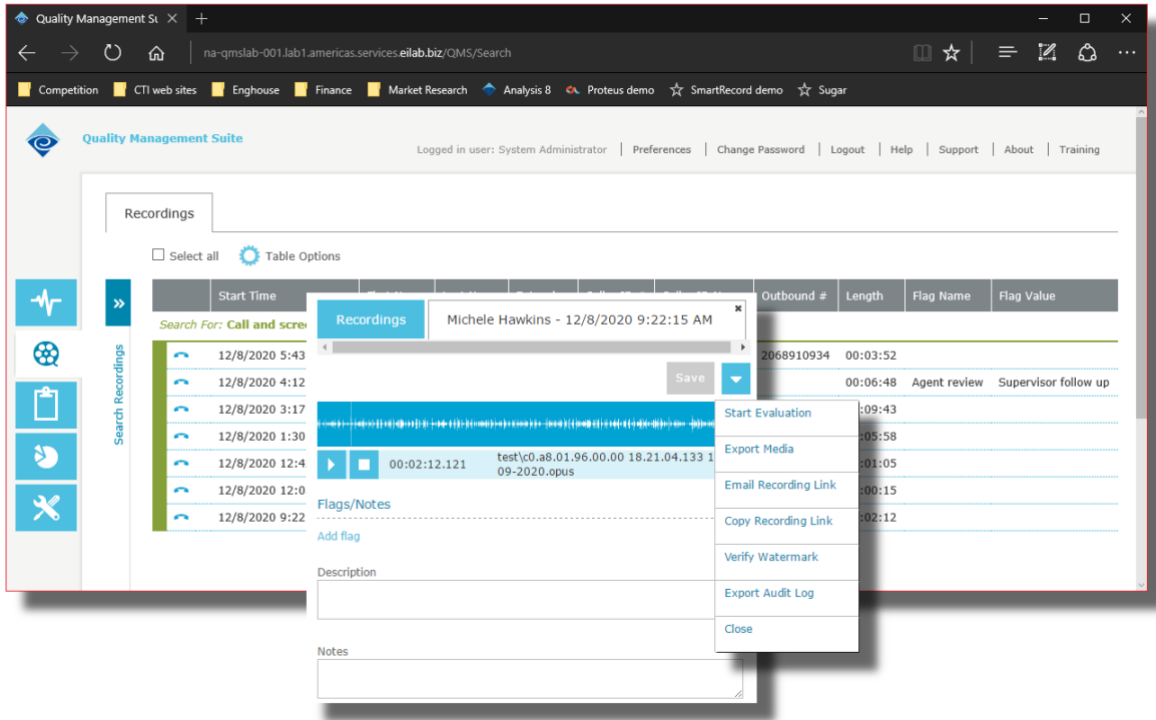
By far the most common recording method, audio recording utilizes an IP-based recording engine to capture phone conversations from a company's PBX, UC or UCaaS solution or voice gateway, ensuring that conversations between staff and customers, suppliers, partners, and prospects is captured according to business needs.

Recording policies can be defined to ensure only those calls that should be recorded are captured.

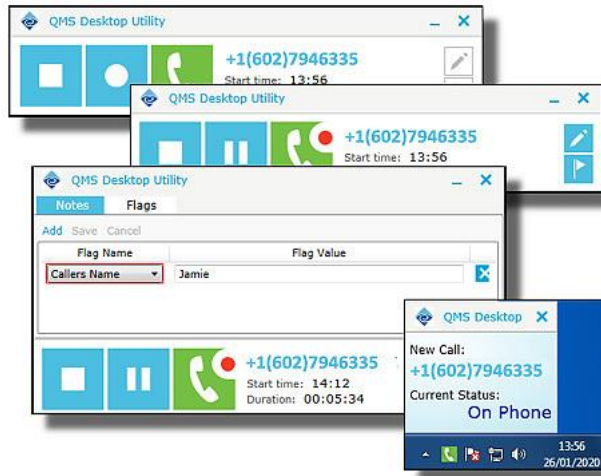
The recording method includes functionality to meet regulatory compliance standards.

Features include:

- Rules-based policy management to determine what gets recorded and when
- Options to set users up for compliance recording (always-on) or convenience recording (on-demand)
- Recording playback through a web interface using industry standard Opus or MP3 file formats, avoiding the need for desktop apps
- The ability to add searchable categories and notes to recordings for easy grouping, reporting and future retrieval
- Export the recording (subject to permission)
- Verify the recording's authenticity using the digital watermark when compared to its database value
- View real-time call status and passively monitor active calls
- Extensive reporting for management insight
- An optional desktop utility that embeds recording controls on the user's desktop, to enable easy access to functions such as start, pause, and stop recording, add notes to a recording, and view recording status



QMS Web Interface - Recorded Calls View



QMS Desktop Utility

3.2 Standard Functions

The following section provides a high-level summary of the key features of QMS. For more detailed information, refer to the User Guide.

- **User Interface.** The user interface is an HTML5 website supported by common browsers such as Chrome, Edge, and Firefox.
- **Dashboard.** The initial login page provides a dashboard view of key data and can be partially customised by the user. Many of the dashboard widgets support drill-down for quick and easy access to key data and recordings.
- **Live Call Monitoring.** Within contact center environments, supervisors often use the live monitor feature to assist new starters or agents dealing with difficult customers. The feature allows the supervisor to listen to the call without being heard by either agent or customer.
- **Search and Playback.** Fundamental to the function of the recorder is the ability to quickly and easily find recordings, while a comprehensive search filter makes this intuitive for users to do quickly. Playback itself is done via a media player embedded into the web interface and provides basic playback controls as well as a waveform of the recording.
- **Recording.** The recordings themselves are by default stored as Opus media files, with the option to store as MP3 also. Options are available for encrypting all recordings using 256-bit AES and applying a digital watermark to validate the recording's authenticity. Recordings are also stored in stereo format to allow each participant to be isolated on an audio channel. This is subject to QMS receiving a stereo media stream from the PBX/UC/UCaaS solution. Compliance and convenience recording are both supported, with the standard policy to be to record all calls all the time. An on-demand license is available only when you want to record calls at your discretion. Other policies to record based on pre-defined triggers are available.
- **Call Tagging.** QMS provides the ability to add tags (called flags in QMS) and text notes against each recording to allow calls to be categorized for easier searching. Other system actions can be performed when a flag is set.
- **Reporting.** QMS contains a number of reports showing system, user and usage statistics. The reports can be exported in a number of formats.
- **User Management.** As expected, QMS has granular user management, allowing access policies and recording policies to be defined for individual users and groups of users. These can restrict what an individual user is able to access functionally and in terms of playback, for example.
- **Password Management.** Password strength can be defined, including length and use of special characters.
- **License Management.** License management allows different licensed components to be assigned to individual users.

- **Storage Management.** An important part of the management of QMS is defining the storage location, encryption key and retention period for recordings. Recordings archives can also be scheduled that enable period backup to be made for long term offline storage.
- **File Security.** By default, recordings are stored unencrypted, but most organizations will want to apply encryption. QMS allows for 256-AES encryption to be applied to all recordings. Key management is provided, enabling organizations to periodically update the private key, if required. Each recording also has a digital watermark applied to enable its authenticity to be validated, making recordings suitable for use as evidence in court.
- **Software Development Kit.** Licensed QMS organisations can use the SDK at no extra cost. The SDK provides access to a comprehensive set of APIs that allow for the integration of QMS's features and functions with third party systems. One example is the use of call recording controls, start, pause, restart, and stop, which allow for the implementation of PCI DSS controls.
- **Content Analyzer.** This feature allows for predefined phrases, and combinations of phrases, to be used to search digital interaction recordings and transcriptions, and to trigger an action if they are detected. The action could be to add a flag to the recording, or trigger an alert.

4 Optional Components

To complement the core recording features, QMS offers several optional modules, the most common of which is the quality management feature set.

4.1 Quality Management

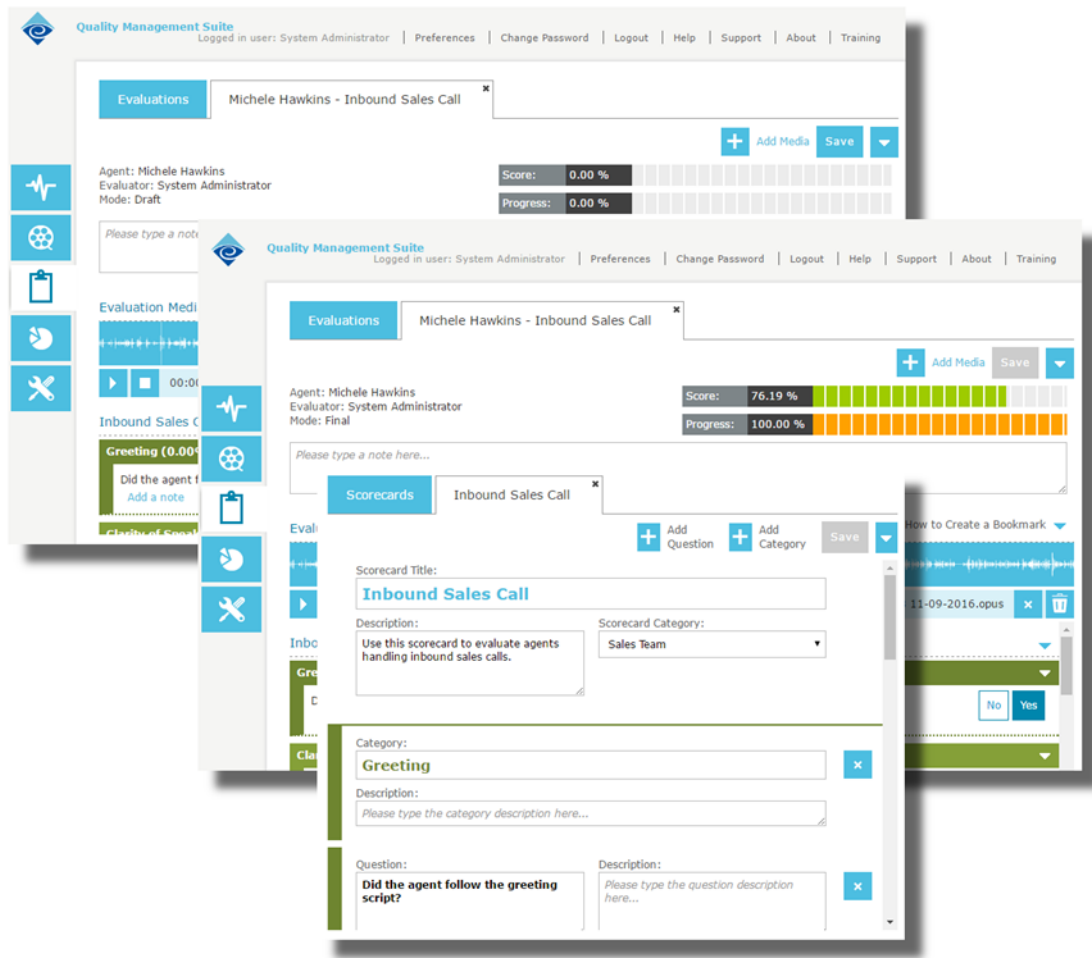
Quality management is used extensively within contact centers to provide a method of tracking the performance of agents over time, identifying agent training needs and measuring customer experience. This helps businesses to quantify and continuously improve the critical customer contact points, enhancing customer experience.

QMS provides a framework for creating evaluation scorecards and using recordings (of any media type) to rate agent performance and identify customer issues. It backs this up with a comprehensive set of reports and dashboards that allow for the analysis of evaluation results, including ensuring evaluation consistency when using the evaluation system to calibrate manager scoring.

The Quality Management functionality is offered as an optional add-on feature set to QMS. If purchased, the functionality is enabled within the QMS interface and the use of it is fully integrated with the recording functions.

Key features include:

- The ability to create fully tailored scorecards for different purposes
- Built-in reports for calibration, variance, and performance management
- Ability to use and attach any recorded media type to an evaluation
- Adding bookmarks and external links to evaluations, for example to online training resources
- Setting pass and fail thresholds for individual questions, whole sections, or the entire evaluation
- Creating different weightings per question and section
- Using different score types, such as Yes/No, scores (e.g., 1-to-5), points-based, etc.
- Evaluations and scores that can be reviewed by agents in the TouchPoint contact center client (CC and CCE contact centers agent desktop client)



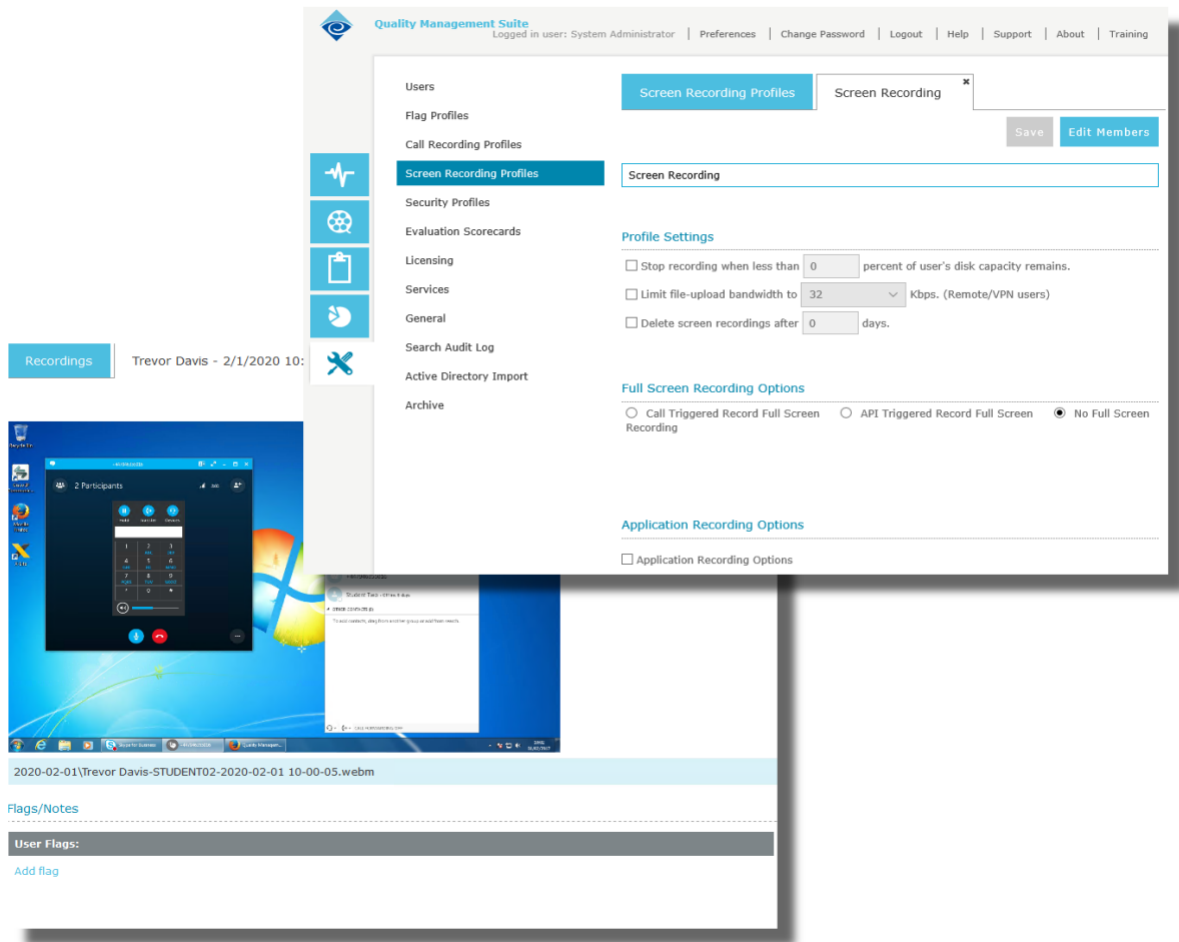
QMS - Agent Evaluation Scorecard and Options Tabs

4.2 Screen Recording

Screen recording is used extensively within contact centers to enable the complete customer interaction to be captured, including the phone conversation and any agent desktop activity.

Features include:

- Support for one or multiple monitors
- Capturing the whole screen or just active application
- Full-motion video, synchronized with the associated voice recordings
- Ability to live monitor screen activity
- Using audio and screen recording as part of a holistic agent assessment program



QMS - Screen Recording and Options

4.3 Text-Based Recording

Multi-channel (or omni-channel) contact centers are very common and allow businesses to offer their customers a range of methods for communicating, including web chat, email, and social media. It is, however, important to ensure that there is a consistent level of service across these channels and interaction recording of all channels provides a method for monitoring this.

QMS has a text-based media recording system that has a flexible interface allowing integration with a wide range of systems. There are a number of “out-of-the-box” systems that can be supported including Microsoft Teams, Skype for Business IM and Enghouse Communications Center, Communications Center Enterprise and Voxtron (sold in Europe only) chat.

Most system integrations, however, will require either professional services or use of the QMS software development kit (SDK) by a skilled developer.

Other text recording features include:

- Different text-based media types are individually classified for grouping, reporting and search purposes, for example, there are media types for email, IM and web chat
- Search results can be filtered by media type
- Evaluations can be carried out across all media types
- Text recordings have their own storage policy, separate from audio and screen recordings

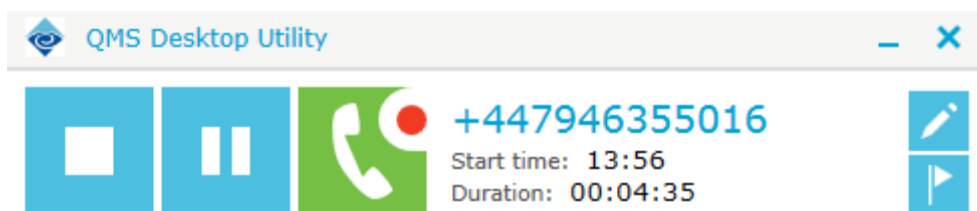
4.4 Desktop Utility

The Desktop Utility is a useful tool for agents to manage recordings from their desktop. It is a desktop. The utility includes essential call recorder controls, such as start, pause/resume and stop, plus the ability to add notes and flags to recordings.

The utility is an alternative to using the QMS web client and is particularly suited to users who record calls regularly.

The main features of the Desktop Utility are:

- Start/pause/resume/stop recording controls
- View current call status (active, on-hold, not recorded, recorded, etc.)
- View call information such as third-party number, start time and duration
- Add a flag value
- Add a note
- Login/logout



QMS Desktop Utility

4.5 Speech-to-Text Transcription and Text Analytics

The basic function of this optional feature is to convert audio recordings into searchable text documents. The benefits of carrying out this transcription are numerous.

- Discover what customers truly think about your organization, products, and services.
- Increase revenue, loyalty, and retention by identifying and acting on issues, opportunities, and advantages.
- Make quick decisions by uniting multiple sources of feedback—chat, email, social media, survey responses into a single dashboard.
- Provide insight into the preferences, satisfaction levels, and needs of critical customer segments.
- Send a transcript of a conversation to a customer or when calls are under investigation.
- Search conversations for topics of interest, keywords, competitor names, etc.
- If operating in a multi-channel environment, store all communications in text format to enable a uniform searching and analysis capability across all media types.
- Utilize text analytics to gain insight into customer interactions to help identify opportunities, risks, non-compliance issues, customer viewpoints, and many other examples.

The transcription engine supports over 40 languages and dialects.

Linked to the transcription feature is the option to install the Solr text indexing engine, a powerful search engine for large document libraries. Solr is an open-source enterprise search platform, written in Java, built on top of the Apache Lucene project. Its major features include full-text search, hit highlighting, faceted search, real-time indexing, dynamic clustering, database integration, NoSQL features and rich document handling. Solr is licensed under the Apache License, Version 2.0 license requirements.

Additionally, QMS offers several dashboard tools that automatically analyze text recordings and transcriptions. These include a keyword heat-map that shows the most frequently occurring words in conversations, a word count chart and an analysis of agent talk time versus customer talk time.

5 Integration with Contact Center

A strong feature of the QMS system is its tight integration with Enhouse contact centers as a high-value recording solution.

Our globally available contact center solutions – Communications Center and Communications Center Enterprise – both integrate seamlessly with QMS, which captures additional metadata from these systems to enhance record keeping.

The main integration features include:

5.1 Metadata

QMS captures Queue Name, Agent ID, Agent Name, Wrap-up Code and has a free-floating field for additional, optional data.

5.2 Agent Client

The TouchPoint client is common to the global contact center products and is used on the agent's desktop. The client includes a number of recorder controls to enable seamless access to recordings and common features. This includes search and playback (subject to user permissions), start and stop recording controls, pause/resume (for example, when credit card data is about to be taken), and an option view of the agent's evaluation scores.

5.3 User Accounts

User accounts can be synchronized between the contact center and QMS systems.

6 Security and Compliance Considerations

QMS is designed to be part of a corporate strategy for companies that require call recording systems to help meet regulatory compliance.

6.1 Common Regulatory Standards

QMS is designed to meet key regulations governing the use of call recording systems including those described below.

- **Payment Card Initiative Data Security Standard (PCI DSS).** All firms who handle, transmit, store, or process information concerning credit or debit payment cards, or their related card data, are required to be compliant with PCI DSS regulations. This is a global standard.
- **General Data Protection Regulation (GDPR).** This EU regulation replaces the Data Protection Directive 95/46/EC and was designed to harmonize data privacy laws across Europe, to protect and empower all EU citizen's data privacy and to reshape the way organisations across the region approach data privacy.
- **National and Multi-National Financial Services Regulations.** Some of the most common financial services regulations include:
 - **Markets in Financial Instruments Directive (MiFID II).** A European standard designed to offer greater protection for investors and inject more transparency into all asset classes ranging from equities to fixed income, exchange traded funds and foreign exchange.
 - **Dodd-Frank Wall Street Reform and Consumer Protection Act.** A USA law that regulates the financial markets and protects consumers. Its eight components are designed to help prevent a repeat of the 2008 financial crisis.
 - **Financial Conduct Authority.** A financial regulatory body in the United Kingdom that operates independently of the UK Government.
- **Health Insurance Portability and Accountability Act (HIPAA).** This regulation offers protection to Americans with health insurance coverage, along with the security and privacy of their health data.
- **Medicare Improvements for Patients and Providers Act (MIPPA).** Requires American health care marketers to record their conversations to prove that they are not participating in deceptive or high-pressure tactics. In addition, the September 18, 2008 update to the Medicare Marketing Guidelines state that all appointments made via telephone with current or potential Medicare subscribers must be recorded in order to document the interaction.
- **Statement on Auditing Standards No. 70 (SAS-70).** Developed by the American Institute of Certified Public Accountants, this is a standard that covers a firm's control objectives and activities, which often include controls over information technology and related processes.

6.2 QMS Compliance Features

To meet compliance standards QMS uses the following features and functionality.

6.2.1 Recording Encryption and Watermarking

Each active call creates a temporary audio file that is converted to an Opus or MP3 file at call termination, encrypted using 256-bit AES encryption and an administrator-defined key phrase, and identified with a unique MD5 digital watermark. The encrypted file is then moved to permanent file storage and any temporary files are destroyed immediately after processing is complete.

6.2.2 Secure System Access

QMS's interfaces support SSL sessions. When enabled, user access to the interface is always encrypted, ensuring that data transmitted from the recorder to the user is secured when transmitted across networks.

User access is both audited and controlled through a multi-tier account structure. System administrator accounts provide a means to create and manage access policy for user accounts by allowing security profiles to be defined and user accounts to inherit a pre-defined security policy.

Other system tasks are also audited at a user level, for example playback, export of recordings, failed login, and deletion requests.

The password controls include options for defining minimum password length, the use of alphanumeric characters including upper and lower case, the use of special characters, a periodic password reset policy, the ability to lock accounts, and the ability to force a password reset on next login.

6.2.3 Secure Storage Management

Storage policy can be defined at a system or more granular level. For example, a department that is required to meet a regulation stipulating five-year minimum retention can utilize a separate policy to the general system setting, which may be for one-year storage, for example.

System administrators are advised to ensure that their storage environment is secured to industry best-practice.

6.2.4 Recording Notification

The notification to call participants that a call is being recorded must be implemented externally to QMS, for example, by an IVR, principally because the recorders are passive and have no call control ability.

7 Delivery, Support and Cloud Services

Enghouse offers a range of professional service options for QMS customers, covering the lifecycle of the product.

7.1 Deployment Options

The majority of QMS systems are hosted at the customer's premises, but increasingly customers are utilizing the private cloud services offered by Enghouse, which can be as simple as system hosting, or extend to full system management.

For on-premise systems, customers are required to provide the hardware, operating system, and database licenses.

For private cloud systems, Enghouse provides the environment and links to the customer's communications platform for recording purposes. This option is generally provided on a monthly subscription basis.

Enghouse also offers QMS for Cloud for those looking for a cost-effective public cloud solution.

QMS for Cloud

QMS for Cloud is a regulatory-compliant call recording solution that leverages the reliability, scalability, and security of the Enghouse Cloud. QMS for Cloud is easy to use, quickly deployed in a wide array of platforms – including Microsoft Teams, and offers several regulatory-compliant recording features, such as support for PCI DSS. This offering is ideally suited for any size enterprise looking for a cost-effective compliance (always-on) or convenient (on-demand) call recording solution. For more information visit the [QMS for Cloud web page](#).

7.2 Multi-tenancy

QMS can optionally be deployed as a multi-tenant system, whereby multiple customers can be securely hosted on the same platform. This feature is license controlled and includes an additional system administration level, enabling a system administrator to create tenant groups, allocate licenses to tenants, apply basic branding, and define features for individual tenant groups.

Multi-tenancy is beneficial to organizations who offer Cloud-based communications solutions, whether public or private cloud. It provides a cost-effective way of including recording services within a broader cloud-voice portfolio.

7.3 Licensing

QMS can be licensed using either perpetual or subscription licensing. Generally, perpetual licensing is applied for on-premise systems and subscription pricing applied for hosted and/or managed systems.

7.4 Professional Services

Enghouse operates a skilled professional services team with extensive experience of QMS. Services include:

- **System deployment and maintenance.** Initial system installation, including PBX/UC/UCaaS integration, and periodic software upgrades are core services offered by the Enghouse Professional Services team as is integration between QMS and one of the Enghouse contact center solutions.
- **Advanced services** are available for the delivery of non-standard functionality, generally using QMS APIs, and includes third party integrations.
- **Health checks** for peace-of-mind, including advice on system monitoring and backups.
- **Product training.** Enghouse offers standard and advanced training courses on its products for both customers and partners, delivering them either on the customers' premises using their live system, via video conference, or at Enghouse Interactive's in-house training centers. Investment in training ensures that customers gain maximum benefit from QMS's features and functions.

7.5 Support Services

Enghouse Interactive's product support services include:

- Choice of support contracts
- Dedicated helpdesk engineers
- Remote diagnostics, for seamless telephone and email support
- A global team of support specialists
- A specialized team of project managers
- Comprehensive range of value-added services

8 Supported Systems

QMS was initially developed for the Cisco PBX market, starting in 2000, and was one of the first recording systems to integrate with Microsoft OCS (later Lync, then Skype for Business). Today it continues to support all Cisco and Microsoft voice platforms, including Microsoft Teams, plus a number from other vendors.

This section details the current list of supported platforms.

Vendor	Supported Systems	Integration Method
AudioCodes	<ul style="list-style-type: none"> • Mediant VE SBC • Mediant 500 • Mediant 800 • Mediant 1000 • Mediant 2000 • Mediant 3000 • Mediant 4000 • Mediant 9000 	<ul style="list-style-type: none"> • SIPREC
Avaya	<ul style="list-style-type: none"> • IP Office • Aura Communication Manager • SBCe • CS1000 	<ul style="list-style-type: none"> • Packet capture + TAPI or CTI Web Services • AES (DMCC API) + TSAPI • SIPREC • Packet capture + CTI
Cisco	<ul style="list-style-type: none"> • Unified Communications Manager • UC5xx • UCM Express • BroadWorks (UC-One) 	<ul style="list-style-type: none"> • Built-in-bridge of gateway media forking • Packet capture • Packet capture • SIPREC
innovaphone	<ul style="list-style-type: none"> • innovaphone PBX/UC/UCAAS SOLUTION 	<ul style="list-style-type: none"> • Packet capture + TAPI

Vendor	Supported Systems	Integration Method
Microsoft	<ul style="list-style-type: none"> • Skype for Business • Teams 	<ul style="list-style-type: none"> • Packet capture or RTPDataCollector (proprietary) • Via contact center SIP integration, e.g. Enghouse Communications Center • Via SIPREC certified SBCs in Direct Routing configuration • Via Teams Recording API and Azure QMS BOT (from QMS version 8.1)
Mitel	<ul style="list-style-type: none"> • 3300 • MiVoice Connect (Formerly ShoreTel) 	<ul style="list-style-type: none"> • Packet capture + MiTAI or SRC + MiTAI • Packet capture + TAPI or TAPI/WAV
NEC	<ul style="list-style-type: none"> • SV8100 / SV9100 • SV8300 / SV8500 / SV9300 • SV9500 	<ul style="list-style-type: none"> • Packet capture + N-SIP • Packet capture + N-SIP & Protims • Duplicate media stream + OAI
Ribbon	<ul style="list-style-type: none"> • 1000 SBC • 2000 SBC • 5000 SBC • 9000 SBC 	<ul style="list-style-type: none"> • SIPREC
RingCentral	<ul style="list-style-type: none"> • Cloud Platform 	<ul style="list-style-type: none"> • Recording import
Generic SIP	<ul style="list-style-type: none"> • SIP-based PBX/UC/UCAAS SOLUTIONS (unencrypted SIP & RTP) 	<ul style="list-style-type: none"> • Packet capture

8.1 Microsoft Teams

Enghouse offers three distinct solutions for the compliance recording of Microsoft Teams.

1. For customers with an Enghouse contact center system that is integrated with QMS, such as Communications Center, QMS can record directly from the contact center. In the case of Communications Center this is achieved by packet capture from the SIP server used within Communications Center to link with Teams.

This method records only calls to and from the contact center queue and is therefore not suitable for back-office recording.

The method allows customers to host QMS alongside the contact center, either on-premise or in a Cloud environment.
2. Customers connecting to Teams via Direct Routing do so via a Teams' compatible session border controller (SBC), all of which have SIPREC recording interfaces.

QMS is compatible with all Teams certified SBCs.

This method provides companies with regulatory compliant recording for all inbound and outbound PSTN calls. It provides both standalone recording and recording for contact centers, therefore also covering back-office users.

Customers can host QMS on-premise, or in a Cloud environment, provided direct IP access to the SBC's SIPREC interface is enabled.
3. QMS supports the Microsoft Teams Graph API recording method. This method provides a native integration with Teams and enables inbound and outbound calls, plus Teams-to-Teams calls to be recorded.

The caveat to this method is that it requires QMS to be hosted in Microsoft Azure, which should be arranged by the customer.

Integration with the Enghouse contact center products is possible provided the contact center is also hosted in Azure.

Teams Recording Integration Methods Supported by QMS			
Microsoft Teams Recording Options	Via contact center Contact center has SIP integration to Teams	Via SBC Teams Direct Routing	Via Teams Graph API
Hosting Options			
QMS hosted on-premise	✓	✓	✗
QMS hosted in Azure by customer or partner	Only if contact center is also in Azure	✗	✓
QMS hosted in other Cloud environment by customer or partner	Only if contact center is also in the cloud environment	✗	✗
High Availability			
High availability	✓	✓	✓
Call types and features			
Call Chaining	✓	✗	✓
User Mobility	✓	✓	✓
Concurrent Call Recording	✓	✓	✓
Additional Licensing Required	✗	✓	✗
Vendor Certified	N/A	✗	Pending
VocalCoach Supported	✓	✓	✗
Transcription Supported - can only be supported if QMS is recording, e.g the VCC and Presence integrations are not supported	✓	✓	✓

8.2 Codecs

The following audio codec payloads can be captured:

- G.711 PCMA/A-Law
- G.711 PCMU/ μ -law
- G.729 Simple / G.729A
- G.722
- Siren7 (Skype for Business deployments only)
- Red (Skype for Business deployments only)
- RTAudio (Skype for Business deployments only)
- SILK (Skype for Business deployments only)
- iLBC (Cisco deployments only)
- iSAC (Cisco deployments only)
- Opus (Cisco deployments only)

9 Hardware and Software Requirements

For on-premise customer systems, QMS is delivered as a software-only solution. It is the customer's responsibility to provide the appropriate hardware, operating environment, and Windows Server and SQL Server licenses. This section provides a guide to the minimum server specifications needed for standard systems supporting up to 500 concurrent calls. Requirements should always be confirmed with a qualified QMS engineer.

9.1 Supported Windows Operating System Versions

QMS requires a 64-bit Windows operating system. Specific configuration details and PBX manufacturer limitations may apply and are explained in the QMS System Design Guide and relevant PBX Integration Guides.

- Windows Server 2019
- Windows Server 2016
- Windows Server 2012 R2
- Windows Server 2012

9.2 Supported Microsoft SQL Database Versions

QMS 8.0 ships with SQL Server 2019 Express Edition, which is the default database. Other versions of SQL are supported, as described in this section. SQL Standard Edition is the minimum required edition for high availability systems.

- SQL Server 2019
- SQL Server 2017
- SQL Server 2016
- SQL Server 2014
- SQL Server 2012

Database storage requirements are easy to calculate. Each call record uses 1200 bytes of data.

For example, if the customer has 100 users who each take 50 calls per day and the calls need to be stored for one year (260 business days) then the calculation is as follows:

$100 \times 50 \times 260 \times 1200 = 1,560,000,000$ bytes or about 1.45 GB

9.3 Hardware Requirements – Audio Only

The following hardware requirements are the minimum required for the given specification of concurrent recordings. The specifications are for standard, non-high availability systems.

Component	Less than 100 concurrent calls	101 – 250* concurrent calls	251 – 500* concurrent calls
CPU	2.2 GHz or better 4 cores minimum	2.3 GHz or better 8 cores minimum	2.3 GHz or better 16 cores minimum
RAM	4 GB minimum	8 GB minimum	16 GB minimum
Disk	SSD recommended	15k rpm SCSI SSD (recommended)	15k rpm SCSI SSD (recommended)

*** Requires a separate Data Service Server with 6 cores and 8GB of RAM**

9.4 Hardware Requirements – Audio and Screen Recording

The following hardware requirements are the minimum required for the given specification of concurrent recordings. The specifications are for standard, non-high availability systems.

Component	Less than 25 concurrent calls	26 to 50 concurrent calls	51 – 100* concurrent calls	101 – 150* concurrent calls
CPU	2.3 GHz or better 8 cores minimum	2.3 GHz or better 16 cores minimum	2.3 GHz or better 32 cores minimum	2.7 GHz or better 32 cores minimum
RAM	8 GB minimum	16 GB minimum	32 GB minimum	32 GB RAM
Disk	15k rpm SCSI SSD (recommended)	15k rpm SCSI SSD (recommended)	15k rpm SCSI SSD (recommended)	15k rpm SCSI SSD (recommended)

*** Requires a separate Data Service Server with 6 cores and 8GB of RAM**

9.5 Storage Requirements

It is recommended that call recordings are kept on a separate partition to the operating system files. The storage required will be based on the following:

- 210 hours per GB of voice recording (OPUS single channel)
- 105 hours per GB of voice recording (OPUS dual channel)

- 72 hours per GB of voice recording (MP3 single channel)
- 36 hours per GB of voice recording (MP3 dual channel)
- Screen recording storage requirements vary based on usage
- 30 GB of additional space is required for application binaries and log files

9.6 Virtual Machines

The Call Recording Service can be run in both VMware and Microsoft Hyper-V server virtualization environments. Live server migration systems, such as VMware vSphere vMotion, should not be used. Virtual machines must have a dedicated MAC address on all virtual network adapters that must not change.

9.7 Anti-virus Support

Any antivirus package can be used with QMS, however, when installed it is recommended that the output folders for recordings and logs are excluded because this can lead to disk performance problems when high volumes of disk writes are being executed.

9.8 High Availability

QMS can be deployed as a fully redundant system. A number of considerations should be made when using redundancy.

- Ensure that there is no single point of failure. All QMS components can be deployed in redundant configuration, however it is also important to ensure that network elements, PBX/UC and UCaaS deployments, trunk lines, etc. are also redundant.
- Geographic redundancy is preferred to mitigate against local environmental issues such as power outages, flooding, fire, etc.
- QMS uses a primary/secondary control method with automatic failover.
- Ensure that a disaster recovery plan is in place and is regularly tested.
- Refer to the QMS High Availability Guide for further details, including system requirements

9.9 Further Reading

For more detailed information about QMS, the following documents are available.

- QMS Installation Guide – provides detailed installation and environmental setup instructions.
- QMS Upgrade Guide – gives guidance on the upgrade process for existing systems.
- Supported PBX Guide – provides details of the integration methods and any prerequisites or caveats.
- User guide – this is available via the web interface and provides a comprehensive overview of each QMS feature.
- QMS System Design Guide – details the technical requires for all QMS components and provides sizing information based on a number of parameters.
- QMS High Availability Guide – explains the deployment of high availability QMS systems.
- PBX Integration Guides – each guide provides detailed information on the integration method between QMS and the listed PBX.

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Contact Center CX Solutions Portfolio



About Us

Enghouse Interactive (EI), a subsidiary of **Enghouse Systems Limited** (TSX: ENGH), is a leading global provider of contact center software, services, and video solutions, serving thousands of customers for over 35 years. EI solutions enable customers to deliver winning customer experiences by transforming the contact center from a cost center into a powerful growth engine.

Enghouse Interactive's core values – Reliability and Choice – are key differentiators in the global marketplace. Reliability speaks to EI's reputation for consistently honoring its commitments to its customers, staff, partners, and investors. Choice is reflected in the unparalleled breadth of its CX portfolio, which enables customers to choose from a wide array of solutions, whether deployed on-premise, in the cloud or on a hybrid platform. By leveraging a broad range of technologies and capabilities based on open standards, **Enghouse Interactive** simplifies the advanced integrations customers require.

Respecting local regulatory requirements, and supporting any telephony technology, **Enghouse Interactive** ensures that its customers can be reached by their customers – anytime, anywhere, and via any channel.

Contact us To Learn More

With over 35 years of extensive contact center expertise, our team of experts are ready to optimize a solution that's right for your contact center, today and tomorrow.

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