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CallReplay Call Recorder v10

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Introduction

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Overview

CallRecorder™ is an easy to use VoIP call recording solution that implements the corporate call recording keeping policy and provides secure and easy access to call records.

Call recording is now an essential business function for all organizations for which phone calls and direct vocal communication mean a voice-assumed contract and request liability and money protection, as well as damage control, better trained and staff retention. This is why RAI Software offers a complete solution, providing with:

- Safety (business liability) - record and backup discussions, contacts and verbal contracts, orders and business processes of the institution, without any risk of losing specific details in verbal communication;
- Customer satisfaction - monitor and improve interaction between customer and staff; register and solve possible complaints before they become "larger issues";
- Improve staff quality - train, monitor and coordinate staff by training sales, communication and interaction skills;
- CallReplay allows managers to review and score phone calls according to their work group, listen the conversation, discuss, analyze, train, take decisions; Users are empowered by providing them with accurate records of their calls.
- Better quality operations and cost effective services - all details are centralized and recorded on an electronic file, no more lost details or info, wrong address deliveries, etc.

CallRecorder™ integrates also Screen Recording tool, Memolith, allowing the recording of computer desktops, either linked to a phone call or non-stop.

CallReplay is a self-contained software recorder which includes everything necessary to record VoIP calls (besides the Operating System and server hardware): database, web server, Java VM, etc.

It supports active recording for most major PBXs, having an XML phone service which allows replaying calls directly on the phone, and can be deployed in virtual machines (VMs).

It works perfectly with Cisco & NEC & Mitel & IPTrade VoIP PBXs (no proprietary hardware required) and can scale up from 1 to 1,200 marked devices in a single box configuration.

CallReplay™ is now at its 9th generation and we are proudly present on the international market (the United States, Asia, Europe) through a network of partners, distributors, Telecom integrators and direct customers.

Main Features and Benefits

- **Automatically Record Phone Calls** - Damage control and increased accountability in your personnel, suppliers and customers.
- **Manual (On-Demand) Control:** Recording can also be initiated by the user using the browser or IP Phone Service. Both Full Call and Partial Call recording modes are supported.
- **Multiple Recording Methods:** CallRecorder supports both port mirroring (SPAN) and forked recording (SPANless). Hardware recording coming soon!
- **Monitor Live Calls:** Listen to a call in progress, through the browser or IP phone service. You can also *whisper* to the agent without being heard by the external party (IP phone service).
- **Browse Recordings by Agent:** Superb browsing interface tracks agents across multiple phone numbers.
- **Search** by caller ids, phone numbers, annotations, time, description, tags, etc.
- **Replay, Annotate and e-Mail** phone call recordings. Easy, secure access to call recordings, using a web audio player, desktop audio player or IP Phone Service.
- **Tagging & Searching** calls with customized hierarchical tags has never been easier.
- **Call Scoring & Custom Forms:** Integrated agent scoring and reporting module.
- **Agent Call Statistics Reports:** The number of calls made, received, etc by each agent.
- **Email Notifications:** Automatically send email when a predefined number appears in a call.
- **Backup & Restore:** Archive calls on DVDs, HD-DVDs, BluRays or SANs. A single DVD can store up to 15,000 calls of 5 minutes each, due to the state-of-the-art voice compression technology incorporated in CallRecorder.
- **Reverse Caller Lookup:** Displays the caller name and business unit using the company Phone Directory.
- **Multi Site Replication:** Using queued replication, you can record many network partitions and centralize recordings at the HQ. Recording and replication survive a downed WAN link.
- **Screen Recording:** Integration with Memolith Screen Recorder. See what was done on the screen while the phone call occurred.
- **Specialized Speech Compression** lowers the storage requirements 8 times over MP3 and allows 18,000 hours of phone calls storage on one 120 GB hard drive.
- **Call History:** Follow a call as it is transferred, put on hold or parked.
- **Audit Replays:** Prevent recordings abuse by browsing the list of accesses to a call.
- **XML Phone Service:** Handily review your past calls from your XML enabled phone (Cisco IP Phones 7940, 7960 & 7970). Authenticate, Browse, Play, Rewind, e-mail, mark important. You can also assign calls to folders.
- **Access Control Lists:** Fine grained permission system to allow listening and acting on calls.
- **Automatic Software U**
- **Try Before You Buy:** Download a fully-featured evaluation version with a friendly configuration wizard from www.call-replay.com.

Please refer to [Specifications](#) and [Requirements](#) sections for more details.

What's New

- HTML5 interface

- Opus Codec Support

Please refer to the Licensing > [Licensing Pools](#) chapter for more details.

Requirements

Hardware Requirements

Server

- **Virtual Machines:** VMs are supported in all recording modes for up to 50 simultaneous calls. Forked Recording mode works directly, while SPAN recording requires additional configuration to enable network cards to work in promiscuous mode.
- **CPU:** any modern quad core CPU will support 500 simultaneous calls, the limits are in the RAM and disk IO subsystems.
- **RAM:** 1 GB of RAM for the system + 1GB for each million call records stored in the database. For example, if you intend to store 2 million calls in the database, provision at least 3GB of RAM for the server.
- **Storage:** audio compression rate of 1.7 KB/s means that each GB on the drive can keep about 160 hours of recordings (voice compression is 8 times better than MP3). That is, you can keep 96,000 calls of 10 minutes on one 100 GB HDD. One month of typical call center recordings (160,000 calls) takes about 55 GB.

It is highly recommended to use redundant disks (RAID1 and above) only, for storing call recordings.

Network

SPAN recording requires:

- Managed network switch with port-mirroring capability (SPAN)
- At least two network interface cards are required on the recording server, one for each monitored switch, and another for the site (a monitoring port can only receive packets). Using one interface card is possible, but the administration site will only be accessible from the physical console.

Forked recording requires:

- One network interface card on the recording server, for administration site and recording
- Cisco CallManager platforms newer than 5.0. For Cisco CallManager Express please use SPAN recording.
- Selected Cisco phone models.

Software Requirements

Server Side

- **Operating System:** Any Windows Server. Desktop Windows OSes (Professional, XP, Vista, 7, 10) can also be used, but TCP connection on these platforms are limited to 10 simultaneous sessions, limiting the number of users which can replay calls using the web site or a phone service.

IMPORTANT: It is recommended not to run any other server software on a production recording server! Call recording is essentially real-time. Failing to keep up with the traffic can result in lost calls. Other software can unpredictably use critical processor and memory resources which are necessary for packet capture. The application allocates computing resources according to priorities so an uncontrolled processing spike of another program may disrupt recording.

Client Side

- Any operating system, with a browser for example Internet Explorer 6, Firefox 3.0 and Opera 11.x.Chrome

Specifications

Editions

There are two CallReplay™ editions available: *Evaluation* and *Production*.

The *Production* edition is commercial and provides all the outstanding features packaged into an easy to install kit. The *Evaluation* edition is a 30 calendar days time limited version (or based on license granted), that contains all the benefits available for *Production* edition.

If you want an evaluation license, you can request it via email from info@call-replay.com or <http://call-replay.com/go/contact>.

You can find the latest versions of CallReplay™ including the Evaluation edition on our website at [CallReplay Download](#) page.

Technical Specification

VoIP PBX	<ul style="list-style-type: none">• Cisco CallManager (all versions)• CallManager Express• Avaya CM S8000 series and IP Office 500• NEC Univerge - SV8000 series, IP only• generic SIP• IPTrade turrets• Mitel
IP Phones	<ul style="list-style-type: none">• All Cisco IP Phones• All SIP phones
Operating System	<ul style="list-style-type: none">• Any Windows OS 64 bit
Hardware Requirements	<ul style="list-style-type: none">• Software only recording system, no proprietary cards• Industry-standard Intel compatible server supplied by customer• Network connection to voice traffic, using a hub or a mirrored port for promiscuous mode network sniffing
Recording Capacity	<ul style="list-style-type: none">• Up to 400 simultaneous calls on a single dual core CPU
Retention Capacity	<ul style="list-style-type: none">• Speech compression, VBR, Stereo, 170 hours per GB• ~ 18,000 compressed talk hours on one 120GB HDD
Supported codecs	<ul style="list-style-type: none">• G.711 A-law and -law• G.722• G.729 (extra options: G.729A, G.729B, G.729AB)• Opus
Recording Architecture	<ul style="list-style-type: none">• Passive network sniffer, Skinny Protocol• SIP trunk recorder compatible with newer Cisco phones• Stereo, each party is heard in a different channel
Embedded Database	PostgreSQL 12
Security	<ul style="list-style-type: none">• Secure access to recordings• Managers have access to calls based on logical departments filters
Call records access	<ul style="list-style-type: none">• Web interface + desktop player• Phone Service interface (on Cisco IP Phones 7940, 7960, 7970)
Support	

- Technical Support includes Software Upgrades
- TeamViewer software included

Install And Setup On Windows

- [Installing on Windows](#)
- [Upgrading CUCM](#)
- [Migrate To A New Server](#)
- [Upgrade CallReplay](#)

Installing on Windows

You can download the latest version of CallReplay™ from the [CallReplay Download](#) website. Earlier versions of CallReplay can be found at the same location.

To install CallReplay v.10 you need to download and run CallReplaySetup10.0.0.xx.exe

Please refer to [Specifications](#) and [Requirements](#) sections before launching the installation kit.

Install CallReplay™

The installation is straight forward and the package contains everything is required by the system to run without any further intervention. Just follow the screens.

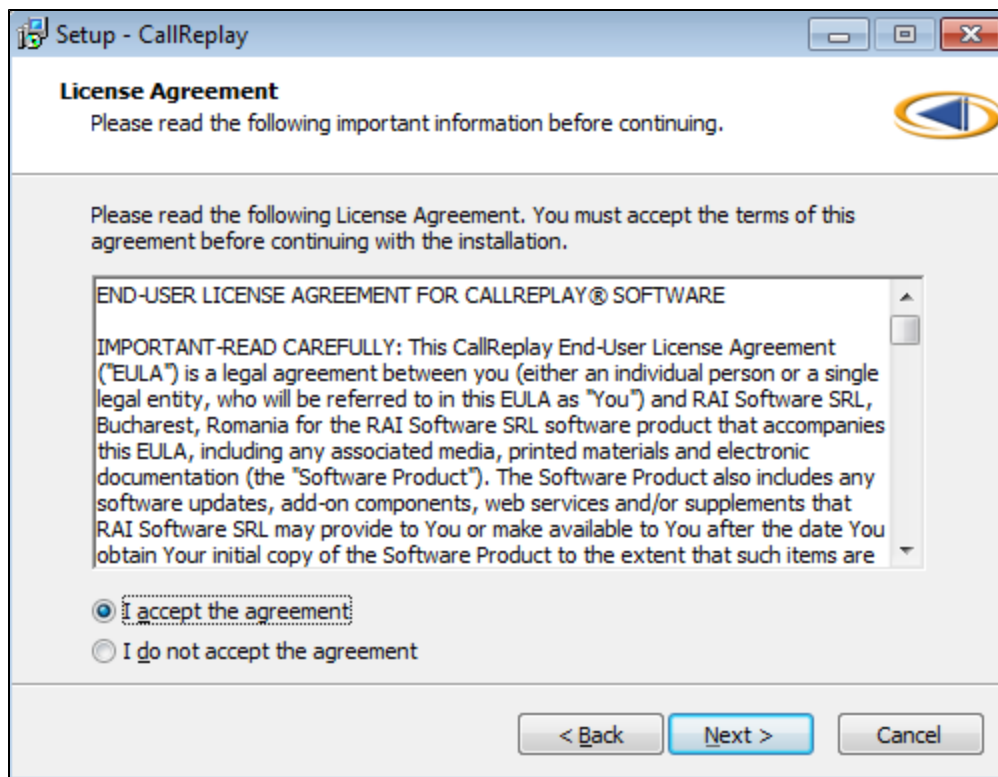
Welcome Screen

1. Check if the setup version you are running is the latest available from our web site.
2. Launch the setup executable
3. Select a language and OK

Make sure you have read the [Requirements](#) chapter before proceeding further.

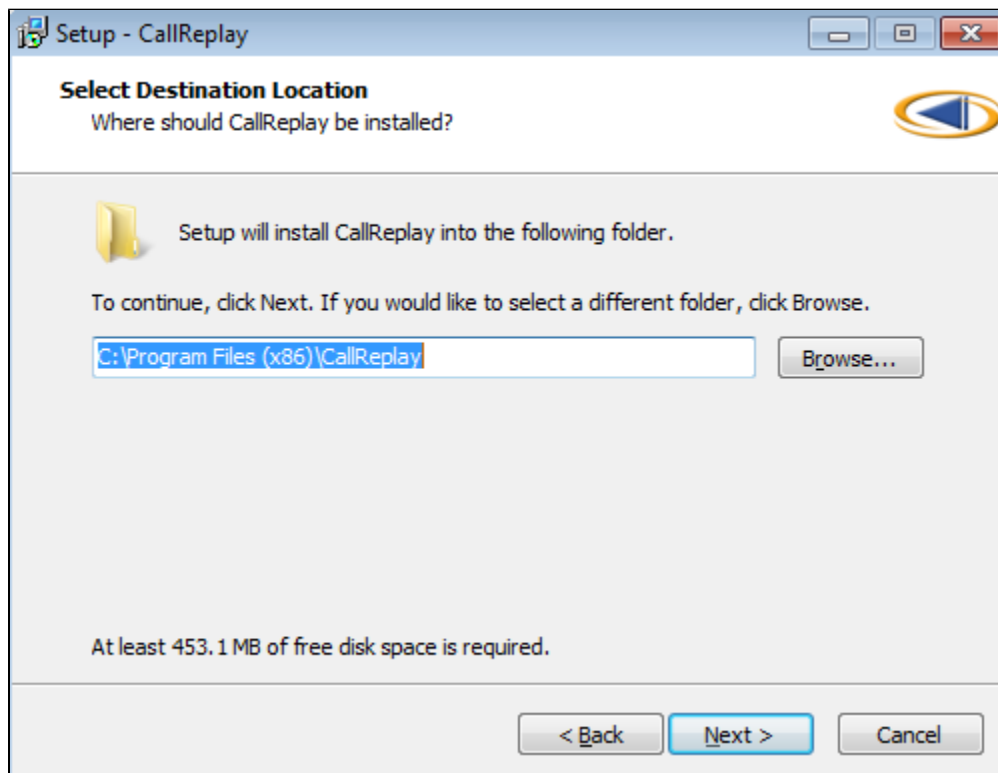
License Agreement

1. Click "I Accept" if you agree with our license. You may not use the software if you do not agree.
2. Click Next



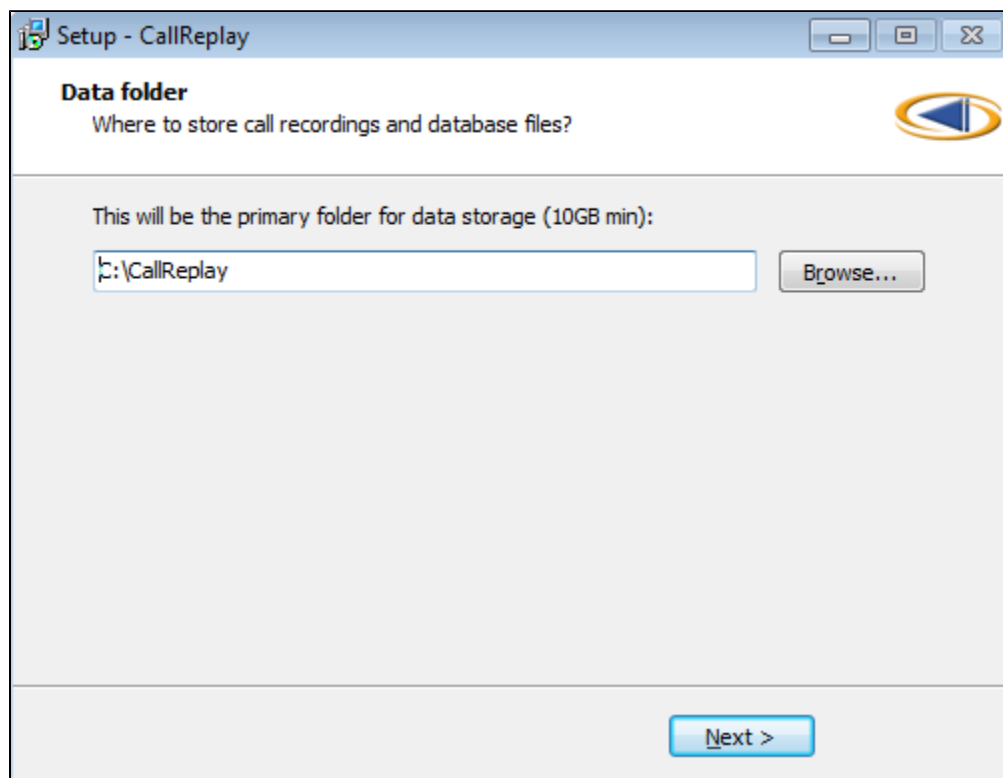
Destination Folder

1. Select the destination folder for the application binaries (calls are stored separately);
2. Click Next.



Data folder for storing call recordings and database files

This is the folder where all the user data, including audio files, the database, logs and licenses will be stored. Please select the disk with the maximum available free space. Use a RAID protected disk for this folder.



Site Configuration

At the end of the setup, the Site configuration application will launch the PreConfiguration web page to assist configuring of the name, IP and port of the administration web site. You may use port 80 if it is not used by another web server.

The IP of the website is also used for licensing purposes.

Press OK to start the administration web site.

PreConfiguration 10.0.99.28

HOST

DATABASE

MEMORY

WATCHDOG

EMAIL

Site host name Win2016BDC.raisoft.local

Site IP 10.1.0.150

Site port 80

Site HTTPS port 443

<http://10.1.0.150:80>

DONE

Database Setup

This page appears only if the database does not already exist in the data folder. You have two options:

1. If this is a fresh installation (not an upgrade), the left-side panel should be used. Enter the administration account and password for the new database, then click the Create Database button.

Upgrade

The system could not find the database in the default location.

Either a new database has to be created or an existing database has to be upgraded

Please input the data for the administrator and press the button 'Create database' below.

Admin account:

Password:

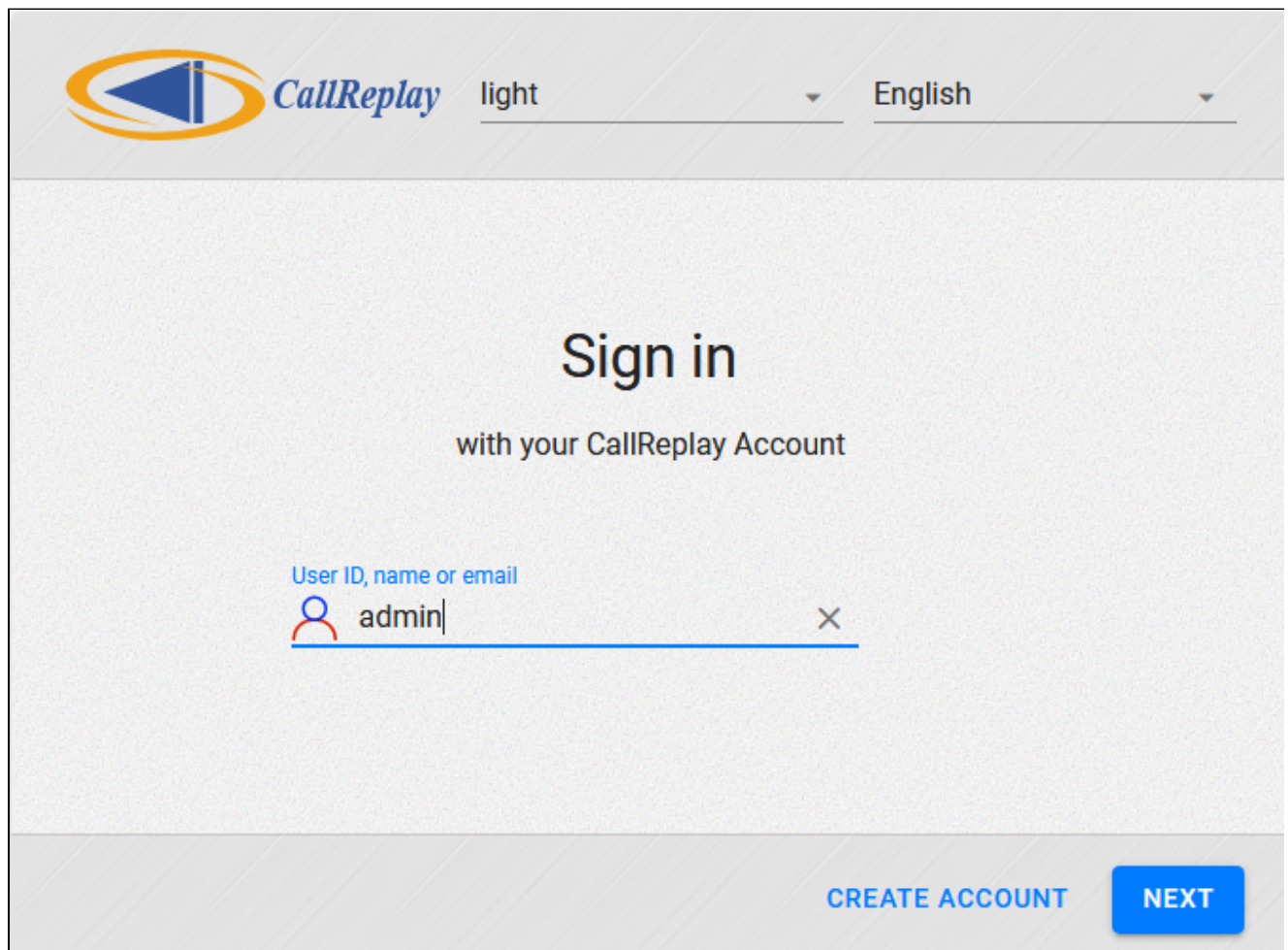
Confirm Password:

CREATE DATABASE

[Contact Technical Support:](#)

Login page

Enter the user name and password. When running with an evaluation license, this page always displays the name of an administrator and a public password "eval" which works for every user.



The image shows the CallReplay sign-in interface. At the top, there is a header bar with the CallReplay logo on the left, a 'light' theme selector in the center, and an 'English' language selector on the right. The main content area is light gray and features the text 'Sign in' in a large, bold font, followed by 'with your CallReplay Account' in a smaller font. Below this, there is a text input field with the placeholder 'User ID, name or email'. The field contains the text 'admin' and has a blue underline. To the right of the input field is a small 'X' icon. At the bottom right of the screen, there are two buttons: 'CREATE ACCOUNT' in blue text and a blue 'NEXT' button.

CallReplay light English

Sign in

with your CallReplay Account

User ID, name or email

admin

CREATE ACCOUNT NEXT

Draft

You can download the latest version of CallReplay™ from the [CallReplay Download](#) website. Earlier versions of CallReplay can be found at the same location.

To install CallReplay v.10 you need to download and run CallReplaySetup10.0.0.xx.exe

Please refer to *Specifications* and *Requirements* sections before launching the installation kit.

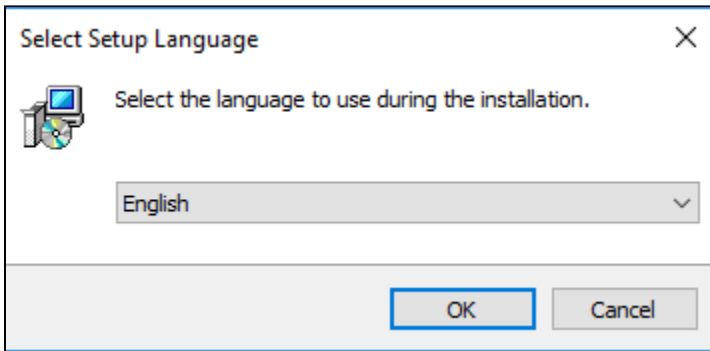
Install CallReplay™

The installation is straight forward and the package contains everything is required by the system to run without any further intervention. Just follow the screens.

Welcome Screen

1. Check if the setup version you are running is the latest available from our web site.
2. Launch the setup executable

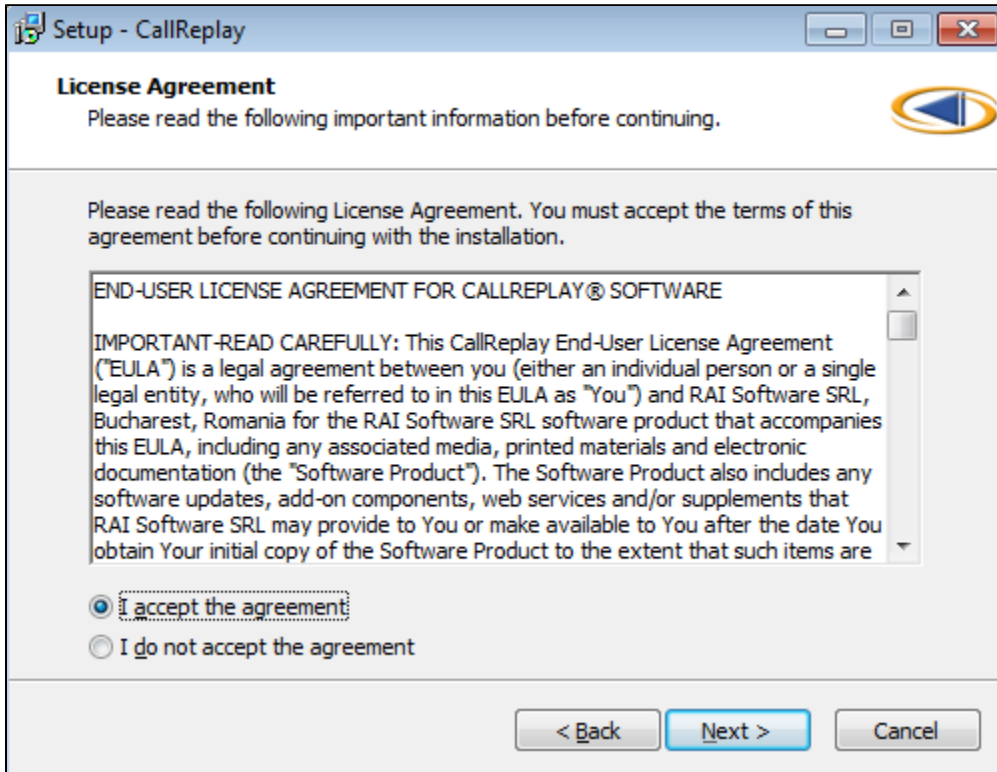
3. Select a language and OK



Make sure you have read the [Requirements](#) chapter before proceeding further.

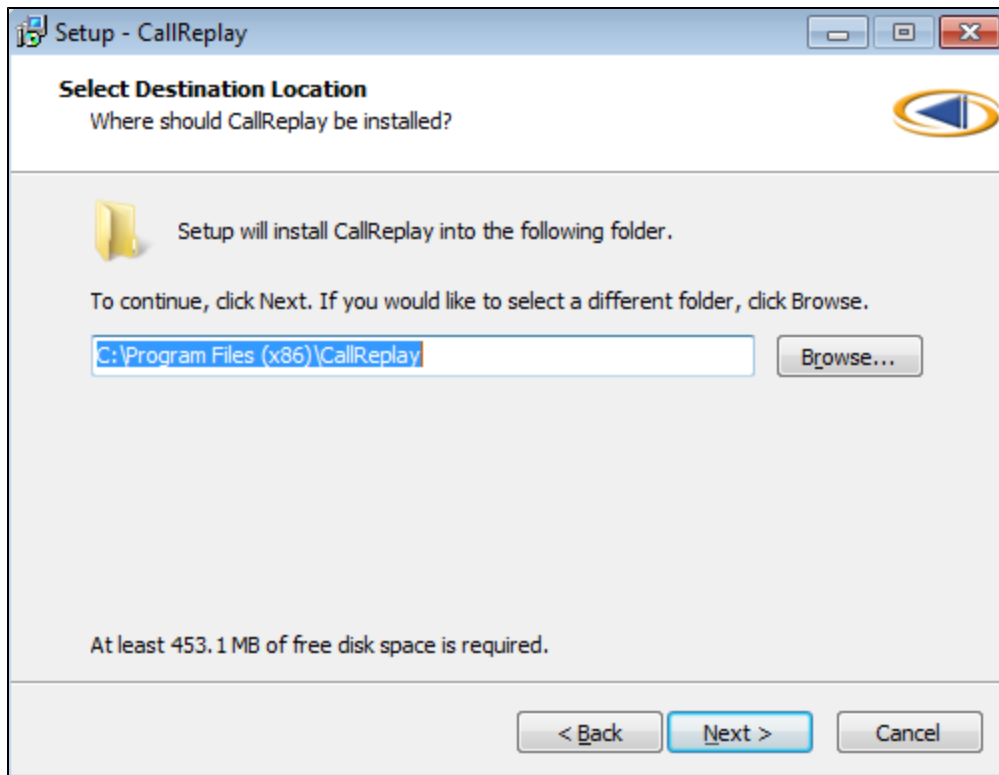
License Agreement

1. Click "I Accept" if you agree with our license. You may not use the software if you do not agree.
2. Click Next



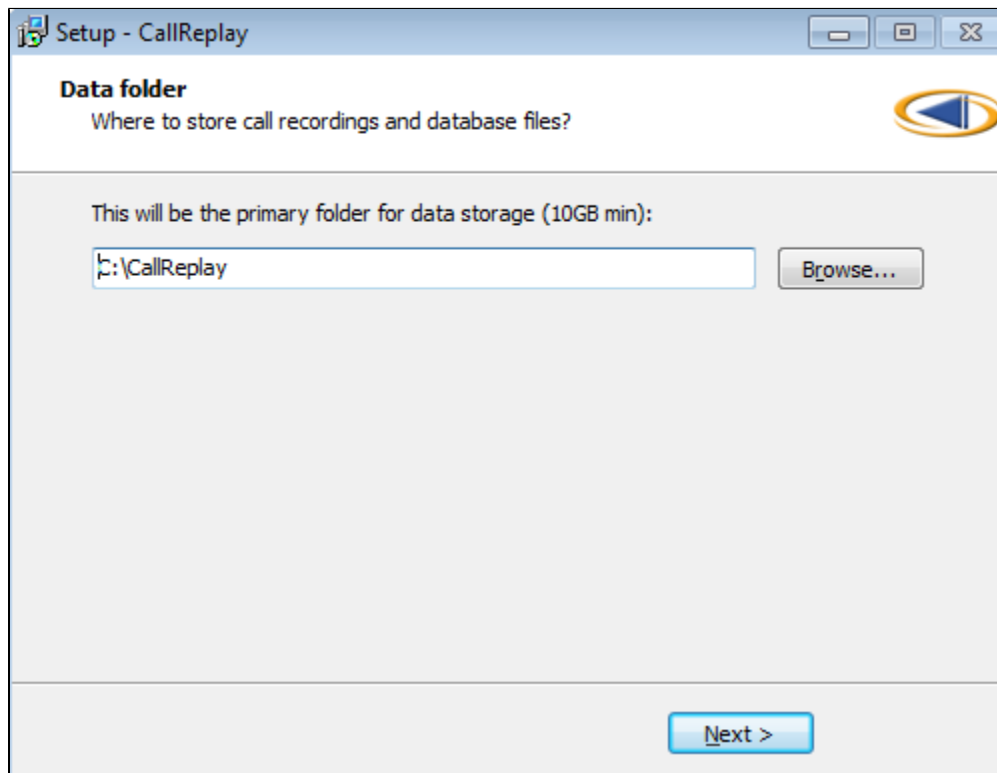
Destination Folder

1. Select the destination folder for the application binaries (calls are stored separately);
2. Click Next.



Data folder for storing call recordings and database files


This is the folder where all the user data, including audio files, the database, logs and licenses will be stored. Please select the disk with the maximum available free space. Use a RAID protected disk for this folder.



Site Configuration

At the end of the setup, the Site configuration application will launch the PreConfiguration web page to assist configuring of the name, IP and port of the administration web site. You may use port 80 if it is not used by another web server.

The IP of the website is also used for licensing purposes.
Press OK to start the administration web site.

 PreConfiguration 10.0.99.28

HOST

DATABASE

MEMORY

WATCHDOG

EMAIL

Site host name

W2016Dev

Site IP

10.1.0.167

Site port

8080

Site HTTPS port

443


http://10.1.0.167:8080

DONE

Database Setup

This page appears only if the database does not already exist in the data folder. You have two options:

1. If this is a fresh installation (not an upgrade), the left-side panel should be used. Enter the administration account and password for the new database, then click the Create Database button.

 Upgrade

The system could not find the database in the default location.

Either a new database has to be created or an existing database has to be upgraded

Please input the data for the administrator and press the button 'Create database' below.

Admin account:

admin

Password:


Confirm Password:

CREATE DATABASE

Contact Technical Support:

Login page


Enter the user name and password. When running with an evaluation license, this page always displays the name of an administrator and a public password "eval" which works for every user.

 CallReplay light English

Sign in

with your CallReplay Account

User ID, name or email

 admin

×


CREATE ACCOUNT NEXT

Upgrading CUCM

After upgrading CUCM to a newer version, follow these steps:

1. Update CUCM version (**PBXs** page -> press **Edit** button on the upgraded PBX -> update **PBX Version** field)

[< BACK](#)

 Edit PBX : Cisco CallManager(10.1.0.65)

*GENERAL

PROTOCOLS

AUTHENTICATION

Enabled: ☒

Name: Cisco CallManager

PBX Type: Cisco CallManager

IP Addresses: 10.1.0.65

External Trunks:

PBX Version*: 12

* The version format is 4.1.2

Park Numbers:

Voice Mail Numbers:

Comment:

2. If forked recording is active on the upgraded CUCM, re-run the forked wizard by pressing the button on the required PBX, from **PBXs** page grid view.

Migrate To A New Server

When you want to move your existing installation to a new server but preserve all data, please follow the steps:

I. Easiest Procedure

1. On the old server, shut down the CallReplay and CallReplayDb services and set their Startup Mode to Disabled.
2. Copy or move the CallReplay Data Folder (by default, C:\CallReplay) to the new server. The CallReplay Data Folder is configured once at installation time and contains the sub-folders Database, Calls, Licenses, Logs, etc.
3. Then run CallReplay Setup on the new server. When asked about the Data Folder to use, point it to the copied folder containing old data.
4. After setup completes, you should be able to see the old calls and play them.
5. Clean up the old server. Do not start the old server again after the license was re-activated on new server.


Note: The Data Folder in Linux is the `/var/lib/callreplay/` directory.

Things to take into consideration after the migration:

Forked PBX Reconfiguration

After the migration you may need to run the Forked PBX configuration again, and make sure that:

* Under the **Auth & Service** tab, make sure you modify the **Phone service Address (this)** field, and fill it with the IP of the new machine:

[< BACK](#)  Edit PBX : Cisco CallManager(10.1.0.65)

GENERAL

PROTOCOLS

AUTHENTICATION

RECORDER APPLICATION USER

PHONE SERVICE

RECORDING PROFILE

SIP TRUNK

ROUTE PATTERN

DEVICE POOLS

PHONES


STATUS

User Name:

CallReplay


Password:

...

[< BACK](#)
 Edit PBX : Cisco CallManager(10.1.0.65)

GENERAL	
PROTOCOLS	Service Name: <input type="text" value="CallReplay Call Recorder"/>
AUTHENTICATION	Description: <input type="text" value="CallReplay Call Recorder"/>
RECORDER APPLICATION USER	Phone service Address (this): <input type="text" value="10.1.0.167"/>
PHONE SERVICE	URL: <input type="text" value="http://10.1.0.167:80/CallRecorder/phoneService?name=#DEVICENAME#"/>
RECORDING PROFILE	
SIP TRUNK	
ROUTE PATTERN	
DEVICE POOLS	
PHONES	
STATUS	

* Under the **Recording Trunk** tab, make sure you fill in again the **Device Pool** and the **Security Profile** fields (if they were reset):

[< BACK](#)
 Edit PBX : Cisco CallManager(10.1.0.65)

GENERAL	
PROTOCOLS	SIP Trunk Name: <input type="text" value="CallReplay_SIP_trunk_10.1.0.167"/>
AUTHENTICATION	SIP recorder host (this): <input type="text" value="10.1.0.167"/>
RECORDER APPLICATION USER	Device Pool: <input type="text" value="Default"/>
PHONE SERVICE	Security Profile: <input type="text" value="Non Secure SIP Trunk Profile"/>
RECORDING PROFILE	SIP port: <input type="text" value="5,060"/>
SIP TRUNK	Global RTP port range: <input type="text" value="25,000"/> to: <input type="text" value="30,000"/> (channels: 2,500)
ROUTE PATTERN	Recording Notification Tone: <input type="checkbox"/> To Agent <input type="checkbox"/> To Other Party
DEVICE POOLS	
PHONES	
STATUS	

Different IPs for the Old Server and New Server

In case you migrated between machines with two different IPs, you may need to run the **CallReplay Site Configuration** again (from the Start menu), and make sure you update the **Site Host Name** and **Site IP** entries with the new values of the server.

PreConfiguration 10.0.99.25

HOST DATABASE MEMORY WATCHDOG EMAIL

Site host name

Site IP

Site port

Site HTTPS port

<http://10.1.0.167:80>

II. Minimum Downtime Procedure

1. Install and configure CallReplay on the new server. Verify that recording works.
2. Copy or move the CallReplay Calls folder to the new server, into a new folder. Exclude from copying/moving the sub-folder of current day.
3. On the old server, shut down the CallReplay and CallReplayDb services and set their Startup Mode to Disabled.
4. Copy/Move the Database folder to the new server, then copy/move the folder left un-copied at step 2.
5. On the new server, shut down the CallReplay and CallReplayDb services.
6. In the CallReplay Data Folder, move the Database and Calls folders to a backup folder.
7. Move in their place the Database and Calls folders copied at steps 2 and 4.
8. Start the CallReplay and CallReplayDb services.
9. Review recording configuration (it has the config from the old server) and verify functionality.
10. If necessary, Restore the Calls folder backed-up at step 6.
11. Cleanup the old server. Do not start the old server again after the license was re-activated on new server.

NOTE

For every migration procedure, both CallReplay server versions must be exactly the same.

Upgrade CallReplay

1. Upgrade CallReplay in Windows

This is a short guide which explains how to upgrade CallReplay to the most recent version. Please notice that you do not need to uninstall your current version of CallReplay, nor do you need to delete the calls history or logs which reside by default inside **C:\CallReplay**. You can perform a full upgrade and keep all your current settings and logs at the same time.

Compatible Windows Versions

CallReplay is known to run on Windows versions starting with, and including, Windows XP. However, for the server, the recommended Windows Server version is 2012.

Method #1: Upgrade CallReplay in Windows Manually

You can use this method to upgrade CallReplay or to install CallReplay freshly, on a system on which it wasn't installed before. In the second case, just skip the first step below. Follow the next few steps:

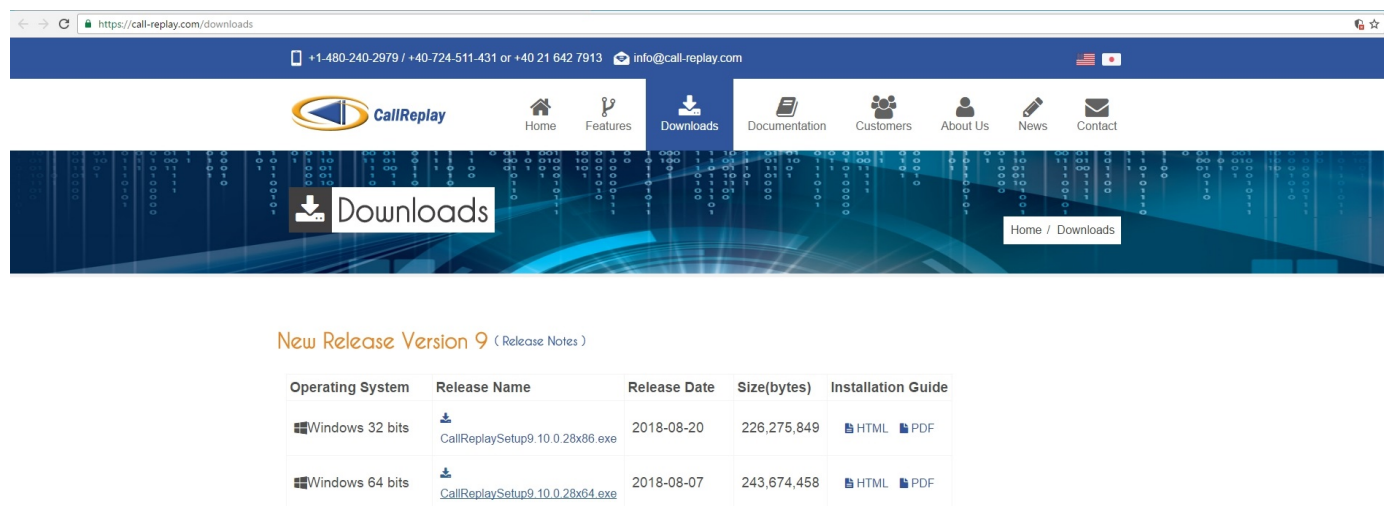
Step 1. Stop the associated Windows services

First, stop the following Windows services, which belong to the CallReplay platform: **CallReplay Call Recorder** and **CallReplayDB**. An example is shown in the image below:

In the case that the CallReplay Call Recorder service doesn't stop, you may need to hit Alt+Ctrl+Del, start the Task Manager and end the task CallRecorder.exe before you stop the services.

2. Download the CallReplay installer

The CallReplay setup program is an executable file. You can download the latest version from [here](#). Save it somewhere on the hard-disk.

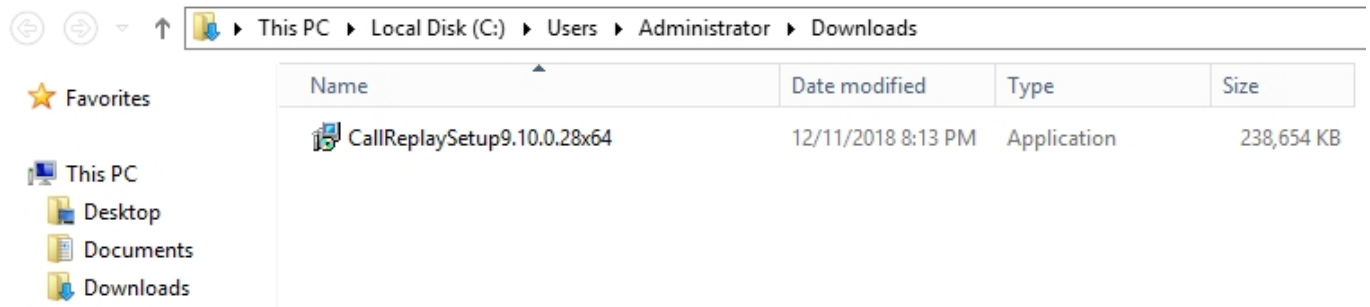


Operating System	Release Name	Release Date	Size(bytes)	Installation Guide
Windows 32 bits	CallReplaySetup9.10.0.28x86.exe	2018-08-20	226,275,849	HTML PDF
Windows 64 bits	CallReplaySetup9.10.0.28x64.exe	2018-08-07	243,674,458	HTML PDF

3. Run the CallReplay setup program

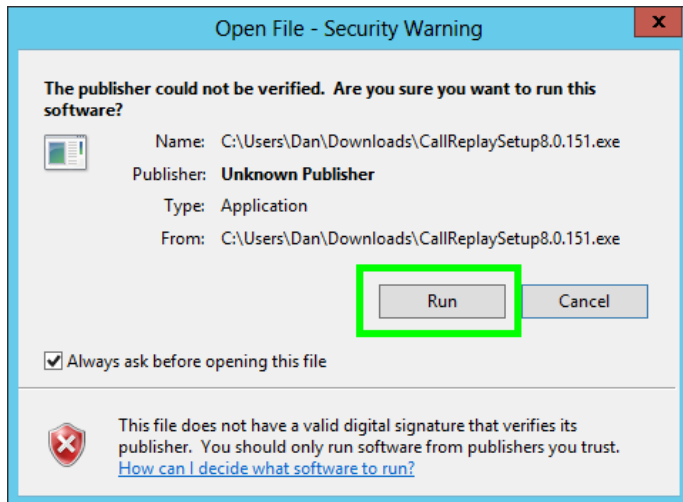
Note: Before performing this step, make sure you are logged in as a Local Account Administrator and any antivirus software is disabled.

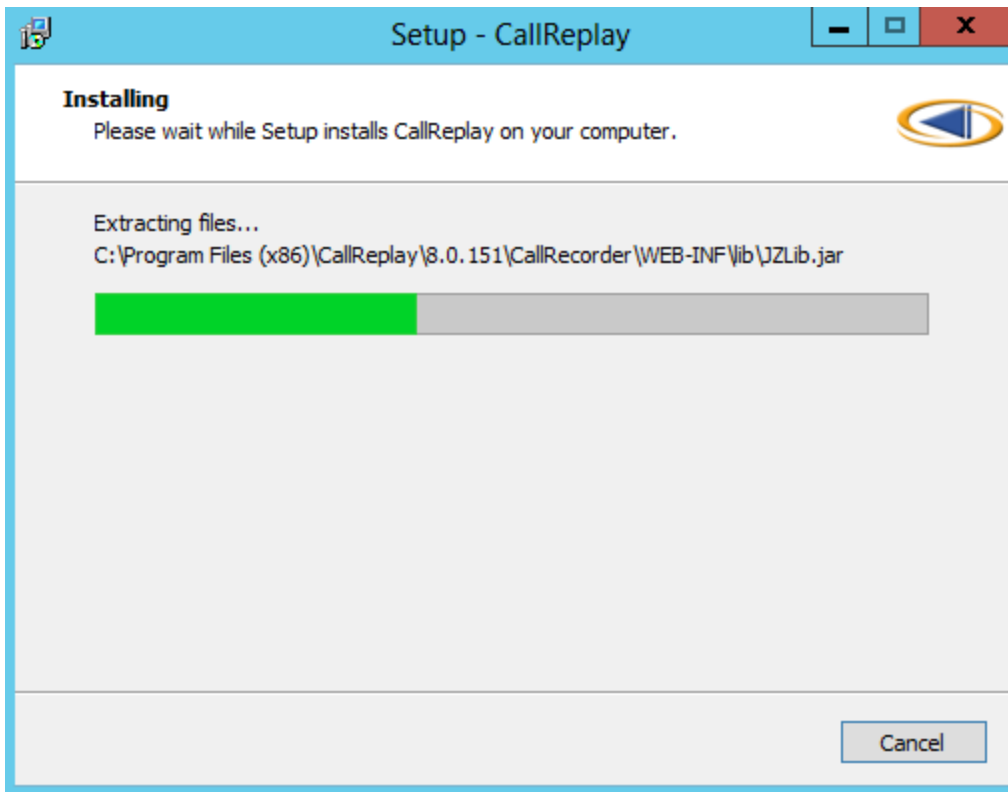
Now you need to run the installer, which may be called something like CallReplaySetup9.10.0.28x64.exe. You can do so clicking on it in the web browser downloads window or by opening the file manager, going to where the setup installer was saved (usually Downloads) and after that double-clicking the executable setup program.



4. Let the setup wizard follow its course

The installer is automated, and you will need only to press **Next** throughout the wizard until the installation is complete.





You should leave the values from the **Site Configuration** window untouched, and then press **OK**:

PreConfiguration 10.0.99.28

HOST

DATABASE

MEMORY

WATCHDOG

EMAIL

Site host name Win2016BDC.raisoft.local

Site IP 10.1.0.150

Site port 80

Site HTTPS port 443

<http://10.1.0.150:80>

DONE

5. Finishing the installation

Once CallReplay finishes the configuration, it will open a web browser to allow you to login. If you are installing for the first time, you will need to pick an administrator username and a password. If you are upgrading, you can proceed and login with the existing account credentials.

6. Run the Forked wizard again

If CallReplay is using Forked recording, after the upgrade it may be needed to run the Forked wizard (Active recording button on the PBX) again, manually going through each tab starting with the second one (**Auth & Service**), using instructions from [here](#).

Method #2: Installing CallReplay in Windows Using the CallReplay Software Update Utility

Important: Please notice that this method can only be used for upgrading between minor versions (e.g. 8.0.140 to 8.0.151). For upgrading between major versions (e.g. 7.x to 8.x) you will need to use the manual method explained above.

For this you will use the CallReplay Software Update utility, which allows you to select a recent version and then installs it automatically.

1. Start the CallReplay Software Update utility

This tool is available in the Start menu, by typing **callreplay software update** and clicking on the application that appears.

2. Select the desired version

In the Software Update tool, you can choose between the hotfix (the latest version) or the latest stable version. Make sure the **Upgrade to:** field is not empty and then click the **Update** button.

Getting Started

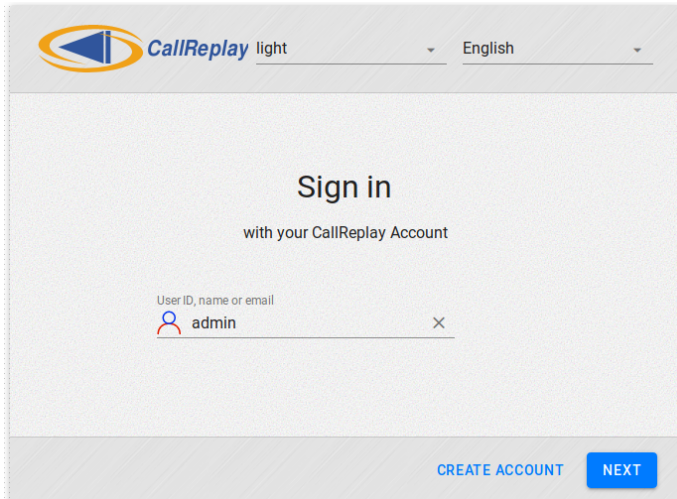
- [Your User](#)
- [User Interface](#)
- [Dashboard](#)

Your User

Login

To connect to the *CallReplay* web interface you need to open the URL in a *Adobe Flash Player* (Shockwave Flash) enabled browser. If you do not know the *CallReplay*'s URL, please ask your administrator.

To open the application just introduce your user name and password associated with it, then click `Login`.



The image shows the CallReplay 'Sign in' interface. At the top, there is a header with the CallReplay logo, the text 'light', and a language dropdown menu set to 'English'. The main heading is 'Sign in' with the subtext 'with your CallReplay Account'. Below this is a form with a label 'User ID, name or email' and a text input field containing 'admin'. To the right of the input field is a small 'X' icon. At the bottom of the form, there are two buttons: 'CREATE ACCOUNT' and 'NEXT'.

1. Enter your user name
2. Introduce the password associated
3. Select language in which you like to see the application

| *If you forgot your user name or password, contact the system administrator*

How-to and Troubleshoot

1. Check [Install and Activate Adobe Flash Player](#) page to see how you install Adobe Flash Player.

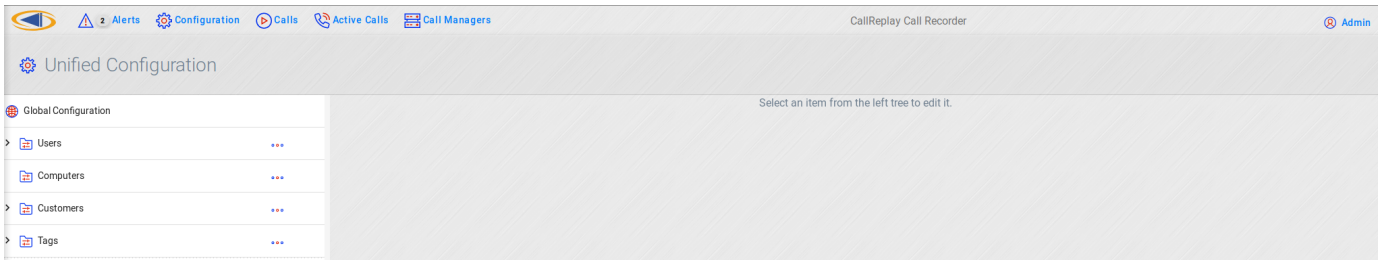
User Interface

The user interface is divided between the menu area and the working area.

The menu are consists of a menu with drop-down lists, linking to all the pages in CallReplay and immediately below, a ribbon with shortcuts to the most important and commonly-used pages.

Immediately below is the working area, which displays the pages. Some pages will divide this area further into 2 zones, with a left tab showing the categories tree and the right one showing the different configuration options for the selected item.

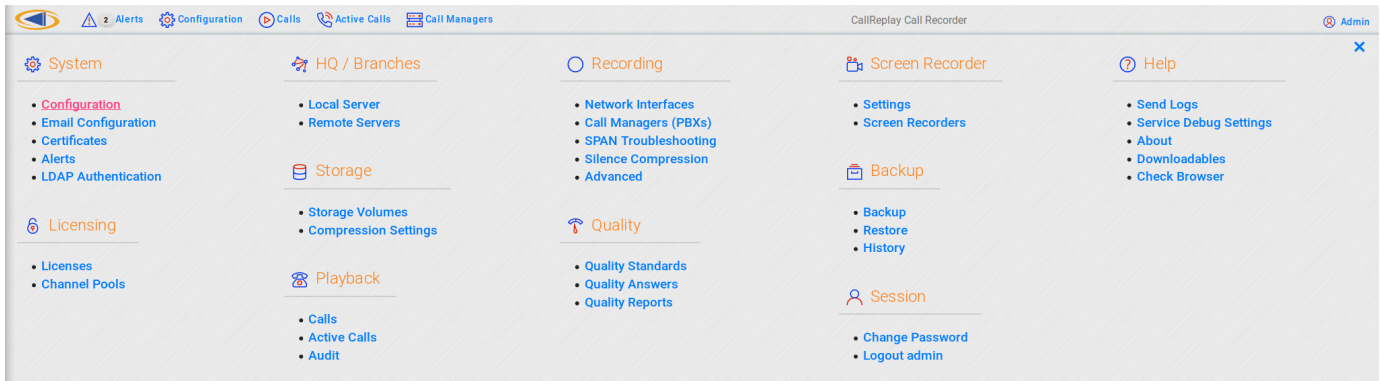
You can resize the interface and font size by holding the Ctrl key and using your scroll wheel.



Dashboard

Starting with v.9 CallReplay™ provides a customizable Dashboard not only that displays various useful and real time statistics or configuration settings, but provides the flexibility to remove or add predefined widgets that fits with your needs.

In order to access CallReplay™ Dashboard you need to click on [CallReplay™](#) available on the toolbar.



Unified Configuration

- Configuration Overview
- Global Settings
- Style
- User
- Filters
- E-mail Notifications
- Permissions
- Retention Policy
- Cryptography
- Recording Policy
- Category Tree
- Tags and Customers
- General Tab
- Classifier
- Roles
- Phone Directory
- Email Configuration
- Configure Port Usage

Configuration Overview

CallReplay v9 uses a new, hierarchical system of adding new users and roles, with the possibility to configure all the settings related to these users in a new, *Unified Configuration* panel.

This system allows inheritance for permissions and recording policies, with the ability to edit settings on a per-user basis, grouping of users by folders and management of tags and customers.

This chapter covers the available settings in the *Unified Configuration* module, available from the [System | Configuration](#) menu.

Global Settings

Tags represent an additional method to classify calls and to give special attributes to selected calls. By using the filters, you determine which calls are assigned to a tag, irrespective of any other category they may be assigned to (another tag, or user).

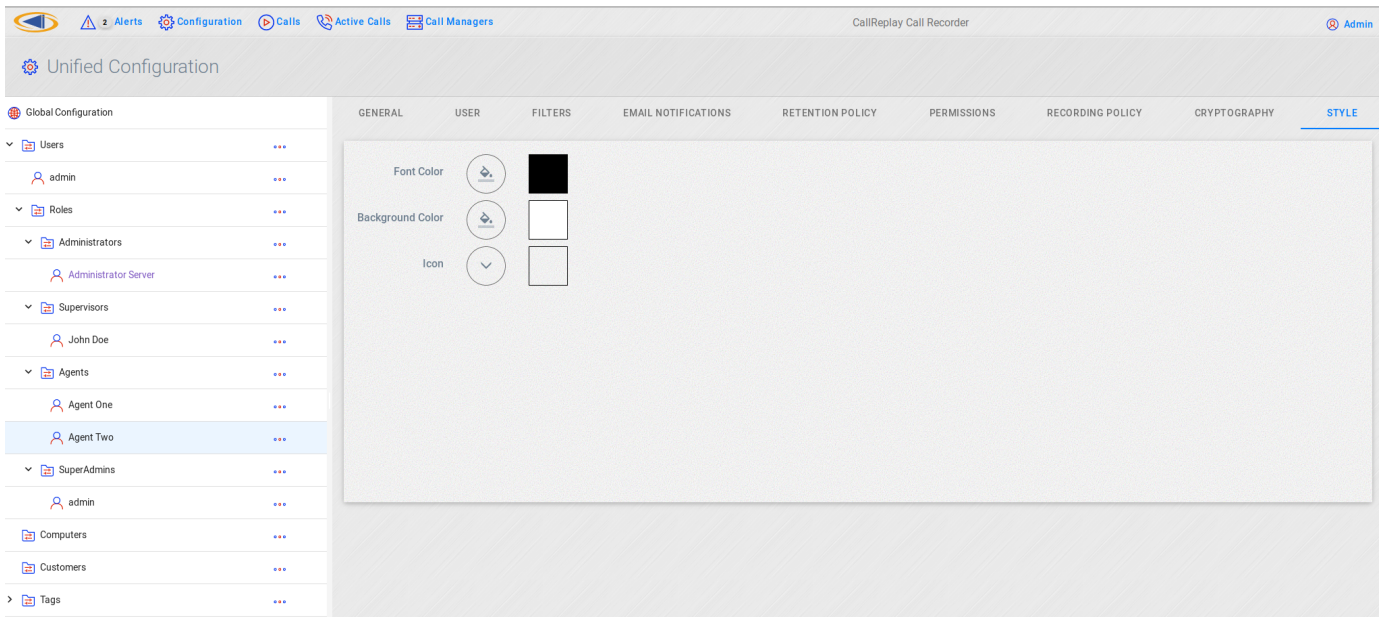
By setting the recording policy you may alter the recording behaviour of a certain call to a user (for example recording all calls from specific external numbers, irrespective of the policy that may otherwise apply).

Setting up the Email Notifications enables you to send emails when such a call starts and ends, so you can, for example make sure e-mails are sent to the appropriate persons when important calls are being made, irrespective of the usual settings.

Calls assigned to such a tag can also have different retention policy settings.

Style

Withing the 'categories' tree can have different appearance depending on needs, but also to distinguish more easily between different nodes.

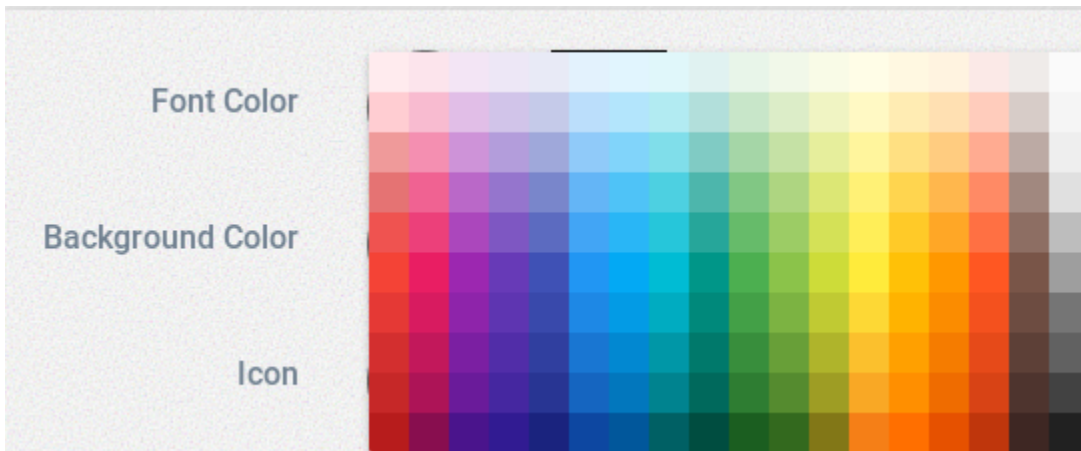


To configure style:

1. Go to **System** | **Configuration**.
2. Select the node to which you want to customize.
3. Click .
4. Select *Style* tab.

Inside Style tab you can:

1. Change the foreground and background using color selector.



2. Change icon associated with that node by selecting an icon from the available icon list. You get access to the icon list by clicking on .

| *At any time you can revert to the default values by clicking on .*

Changing a style will change the appearance of the respective item in the Category Tree as illustrated below.

Global Configuration		
▼	Users	...
	admin	...
▼	Roles	...
▼	Administrators	...
	Administrator Server	...
▼	Supervisors	...
	John Doe	...
▼	Agents	...
	Agent One	...
	Agent Two	...
▼	SuperAdmins	...
	admin	...
	Computers	...
	Customers	...
▼	Tags	...
	Critical Customer	...

User

This particular tab is available only in the context of user categories and allows you to define or change the information for a particular user that is granted with access to CallReplay.

The user defined here will be granted with DB Authentication. For other type of authentication please refer to the [Authentication section](#).

To create a new user:

1. Go to System | Configuration.
2. Select a node below user category, depending on the type of user you want to create. For example if you want to create a new agent, select Agent node, click and select Add User menu.
3. Go to User tab and enter the information required
4. Click Save

CallReplay Call Recorder

Unified Configuration

Global Configuration

- Users
 - admin
- Roles
 - Administrators
 - Supervisors
- Agents
 - * Agent One
 - Agent Two
- SuperAdmins
 - admin
- Computers
- Customers
- Tags

GENERAL USER FILTERS EMAIL NOTIFICATIONS RETENTION POLICY PERMISSIONS

User ID: Agent1

Name: Agent One

Email: one@rai.ro

Password: ...

Confirm Password: ...

PIN: ..

Confirm PIN: ..

You have 1 unsaved changes DISCARD SAVE

- **User ID:** user identifier that is used during login
- **Name:** A name associated with the user.
- **Email:** valid e-mail address for the user.
- **Password:** password that will be associated with the user and used during login
- **Confirm Password:** password confirmation
- **PIN:** personal identification number used to authenticate user during calls
- **Confirm PIN:** PIN confirmation

To edit and existing user:

1. Go to System | Configuration.
2. Select the user you want to edit
3. Select User tab
4. Start editing the information you want to change
5. Click once you've done, click Save.

At any time you can send account information to the user who will receive and email as the one illustrated below.

Welcome to the CallReplay Call Recorder

Your new account information:

URL: http://10.1.0.246:80/CallRecorder

User: ioan

Password: 9325a9960ce1706b49874e875ecfcd4f

PIN: 9996535e07258a7bbfd8b132435c5962

Filters

CallReplay can associate call or video records with a specific item category (e.g. a user, customer, tag or computer) by matching these elements using filters that you can create.

To create a filter:

1. Go to **System | Configuration**.
2. Select the item category on which the filter applies.
3. Click **Edit**.
4. Select **Filters** tab.
5. Click **Add**.

Who	Field	Not	Comparison	Value
Either	Number	<input type="checkbox"/>	Equals	4001
	Date	<input type="checkbox"/>	Equals	10/10/2019
	Duration	<input type="checkbox"/>	Greater	30

To delete a filter:

1. Mark the filter line you want to delete using the check box.
2. Click **Delete**.
3. Click **Yes**, in the Confirmation dialog.

You can define multiple filters in order to reach complex matching criteria

1. The "**Who**" field will compare the either the source, destination or both against the filter
2. The "**Field**" contains the elements that can be filtered:
 - Number - the extension/telephone number of a party
 - Name - the name of a party, as defined in CUCM
 - MAC - the MAC address of a party
 - IPAddress - the ip address of a party
 - Description - the call description, which is filled in the call details menu
 - Duration - the duration of a call, in milliseconds
 - Date - the date of a call
 - Suid - the user ID of a party, in an IP Trade call
3. The "**Not**" checkbox will negate the result of the filter
4. The "**Comparison**" field enables you to make different types of matchings to the declared value:
 - Equals - values have to match
 - Starts with - the declared value must be found in the beginning of the compared value
 - Ends with - the declared value must be found in the end of the compared value
 - Less - the declared value must be lower than the compared value
 - Greater - the declared value must be greater than the compared value
 - Between - the compared value must be between the two declared values
 - In - the declared value must be found in the body of the compared value
 - Contains - the declared value must be found in the body of the compared value
 - Is Empty - the compared value must be empty
 - Wildcard(*) - enable use of wildcards (use _ (underline) to match one character, and % (percent) to match multiple characters)
 - RegEx - enable use of regular expressions
5. The "**Value**" field is the value that will be compared to the selected type of element

E-mail Notifications

In the Email Notifications tab you can add addresses to which emails will be dispatched as soon as calls matching the respective user are recorded by the system.

GENERAL
USER
FILTERS
★ EMAIL NOTIFICATIONS

Email addresses
notyfyme@rai.ro

* Email addresses must be separated by comma or new line

You can add multiple e-mail addresses here, where the E-mail Notifications for this user will be sent

In order for this to work the SMTP need to be configured. Please refer to E-mail Configuration sections for more details on how to configure SMTP.

Two e-mails will be sent, one at the start of a call and one at the end of the call. They include the call details, as well as a link to the respective call, in the CallRecorder interface. Note: the recipient will have to login with a user that has replay permissions for that call, in order to access the URL.

Party Information		Caller	Called
Phone Number		1011	1006
Call Party Name			
Call Information			
Start Time	Tue Sep 27 18:32:12 EEST 2016		
Duration	The call is still being recorded.		
File Size	The call is still being recorded.		
Description			
URL	https://10.1.0.176:443/CallRecorder?callDetails=16557543-4f3a-5f7e-8523-ff96dbf3aaaa		

Party Information		Caller	Called
Phone Number		1011	1006
Call Party Name			
Call Information			
Start Time	Tue Sep 27 18:32:12 EEST 2016		
Duration	22s		
File Size	384 kB		
Description			
URL	https://10.1.0.176:443/CallRecorder?callDetails=dcaa0fab-32cc-c63a-b0ce-0cb2f30972a8		

Permissions

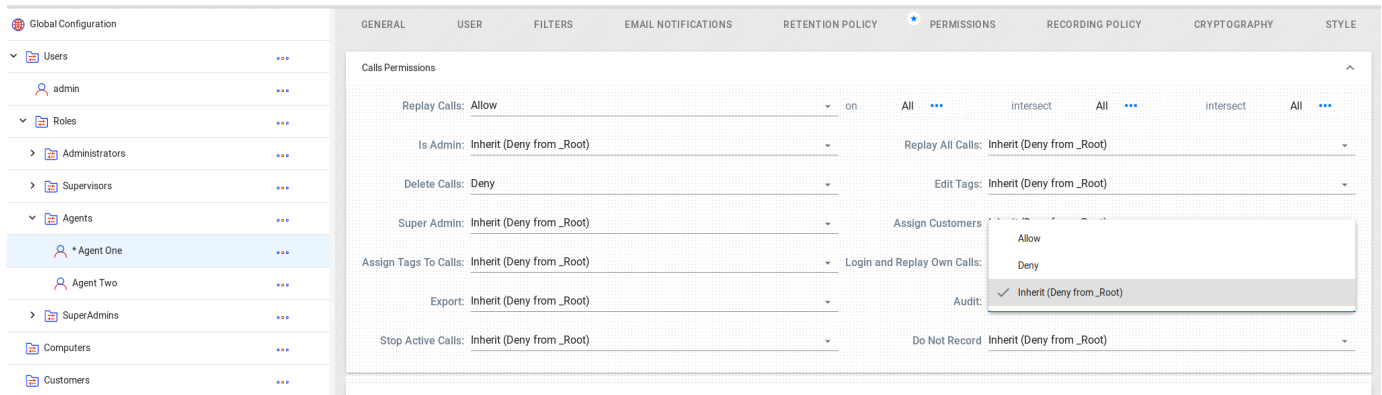
Newly created users and folders will inherit permissions from their parents. Permissions can be modified however on a per-user basis. Changing a folder's permissions will change the permissions of all children that inherit those permissions.

When a permission is inherited, the inherited value and the node it is inherited from will be shown between brackets. It is possible to change any permission, as long as you have the right for that permission yourself. Permission changes will also inherit down the inheritance line, so changing any permission will change it for all it's inheritants.

| *This feature is available only for items of user type*

To configure permissions:

1. Go to **System | Configuration**.
2. Select the user for which you want to change permissions.
3. Click on **Permissions** tab.



- **Replay Calls** - allow or deny access to replaying calls (allow setting will show name tags on the right, clicking on them will edit the users or folders for which the recorded calls can be played)
- **Is Admin** - grants an administrator the rights to change settings within the tenant he is a member of
- **Replay All Calls** - gives permissions to replay all calls, irrespective of the selection made at "Replay calls"
- **Delete Calls** - gives permission to delete call recordings from CallReplay
- **Edit Tags** - grants the permission to edit tags
- **Super Admin** - grants super administrator rights to a user, allowing to create tenants and change global settings, tenant-independent
- **Assign Customers To Calls** - grants permission to assign existing customers to calls and to create new customers as well
- **Login and Replay Own Calls** - grants the permissions to log in the web interface and replay calls
- **Export** - grants the permission to export any call that can be replayed
- **Audit** - grants access to the audit page
- **Assign Tags to Calls** - grants the permission to add tags to calls
- **Stop Active Calls** - grants the permission to stop the recording of an ongoing call
- **Do Not Record** - obsolete
- **Edit Quality Standards** - gives access to quality standards management (add and edit questionnaires)
- **Fill Questionnaires** - grants permission to fill questionnaires on the recordings that are available
- **View Quality Reports** - grants access to the Quality Reports menu
- **Create user** - grants the permission to create new users, with the ability to edit the same permissions that are available for this user

Retention Policy

CallReplay can respond to various data retention requirements and can be configured in various ways in order to meet such requirements. By default, CallReplay keeps call records until there is no more storage available.

To set retention policy:

1. Go to **System | Configuration**.
2. Select item category for which you want to customize the retention policy.
3. Click on **Retention Policy** tab.

- **Keep For Period** - it will keep the user's recordings for the specified amount of time, then delete them
- **Keep Until Backup** - it will keep the user's recordings until they are backed up, then delete them
- **Keep until Space Required** - will keep user recordings until the set amount of disk space is reached.

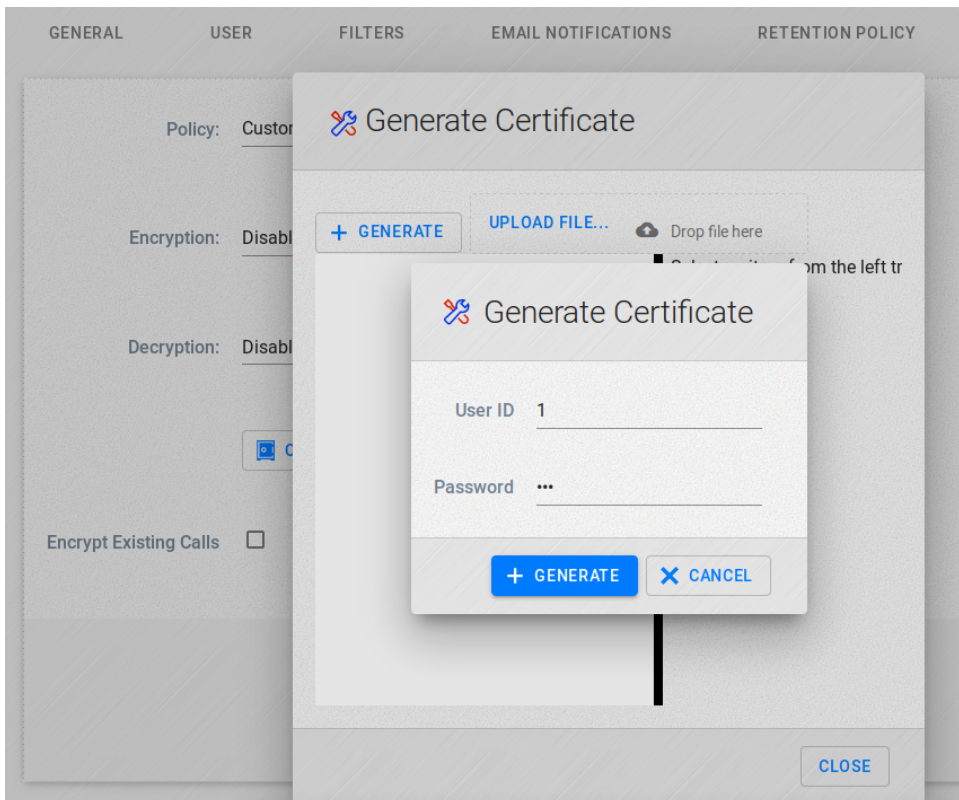
Cryptography

Cryptography allows the encryption of the recorded calls with the use of imported or self-generated certificates.

Before using this feature you need to have valid license that support encryption. Otherwise you will get

In order to enable records encryption, you must first add a certificate. Please open the Certificate Manager link. In the upper left of the Cryptographic Key Manager window you can choose whether to upload a certificate or generate a new one.

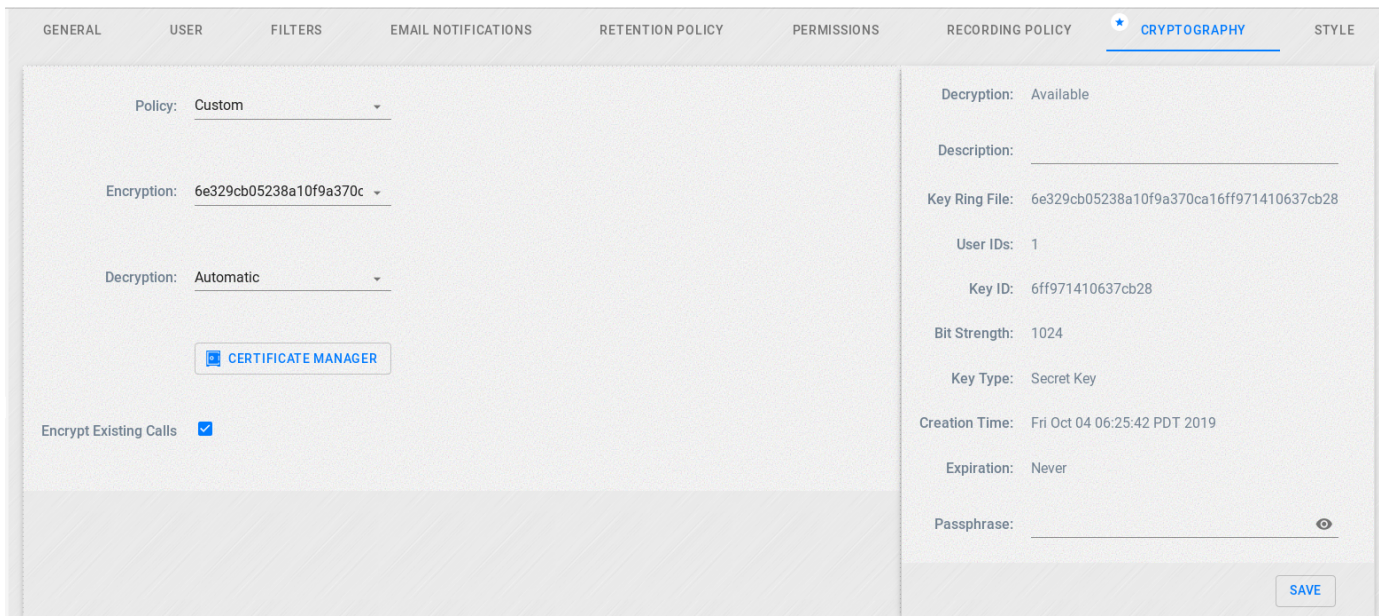
For a new certificate you will need to provide a User ID and a private key passphrase - your certificate password.



After generating or uploading a certificate, close the window and select it for encryption. Next, select how you want the recordings decryption to be handled:

- Automatic mode will decrypt the calls automatically when playing them from the CallReplay interface
- Passphrase will ask for the certificate's passphrase when playing a call from the web interface
- Disabled will not allow the recordings to be played from the web interface

Encrypt Existing Calls - you can choose if you want to encrypt existing calls with the new certificate, or just encrypt new calls



When playing a call, if Decryption mode is Passphrase, you will be asked for the passphrase of the certificate used to encrypt the call.

Search (Ctrl-G) System Recording Storage Playback Quality Backup Screen Recorder Help Session

Dashboard 1 Alert Configuration Replay Calls Active Calls PBXs Logout **callreplay administration**

Search Calls Videos 09/30/2016 Refresh

Calling Party	Called Party	Start Time	Duration	Actions
1006	agent1 1011	30 September 2016 15:04:41	4s	
1006			8s	
1006			4s	
1006			6s	
1006			6s	
1006			5s	
1006			11s	
1006			7s	
1006			12s	
1006	agent1 1011	30 September 2016 13:41:41	12s	
1006	agent1 1011	30 September 2016 11:15:31	2m 21s	

Encrypted Call

Please insert secret key passphrase:

Call Encryption Key Info:

Description: 1

User ID: 1

Key ID: 8595f8e1e2ad7416

Fingerprint: E63C5F5919B5918E4AEE0D1F8595F8E1E2AD7416

Bit Strength: 1024

Creation Time: 30 September 2016

Expiration: never

Decrypt & Play Save Encrypted Cancel

If the Decryption mode is Automatic, the call will be decrypted automatically and played.

If the Decryption mode is Disabled, You will be informed that you need to save the call as it is on your PC, then decrypt it locally using PGP.

Search (Ctrl-G) System Recording Storage Playback Quality Backup Screen Recorder Help Session

Dashboard 1 Alert Configuration Replay Calls Active Calls PBXs Logout **callreplay administration**

Search Calls Videos 09/30/2016 Refresh Menu

Calling Party	Called Party	Start Time	Duration	Actions
1006	agent1 1011	30 September 2016 16:21:25	7s	
1006			9s	
1006			4s	
1006			8s	
1006			4s	
1006			6s	
1006			6s	
1006			5s	
1006			11s	
1006	agent1 1011	30 September 2016 14:02:05	7s	
1006	agent1 1011	30 September 2016 13:45:56	12s	

Call Player

Error

Call is encrypted using certificate 1.
You may save it as is on your computer and decrypt it locally.

OK

Start Time: 30 September 2016 15:04:40

Duration: 4s

Replay to Phone Close

Recording Policy

Recording policy has been integrated into the new unified configuration menu, so it is now possible to customize it for departments or even users. Inheritance works for recording policies as well. You may change the settings for a particular user, folder, or just go with the default policy:

GENERALUSERFILTERSEMAIL NOTIFICATIONSRETENTION POLICYPERMISSIONSRECORDING POLICY

Call Recording TriggerAutomatic

▼

License PoolInherit(Dynamic Automatic)

▼

LICENSE POOLS

Record inbound calls*: Inherit(Allow)

▼

Always record parked calls: Inherit(Normal)

▼

Always record transferred calls: Inherit(Normal)

▼

Lookup Party Name Inherit(Allow)

▼

Screen Recording TriggerInherit(OnCall)

Call demand retention: Inherit(SinceDemand)

Record unlicensed calls: Inherit(Deny)

Record outbound calls*: Inherit(Allow)

Record internal calls*: Allow

Remove empty calls: Inherit(Deny)

Lookup Party Extension Inherit(Deny)

* you must configure the PSTN Gateways in

PBX CONFIGURATION

 to get Inbound / Outbound / Internal identification

- The Call Recording Trigger determines if calls are recorded autoatically, on-demand or not at all
- The Screen Recording Trigger determines if the associated Memolith client records all the time, duringg calls or not at all
- Channel Pool subscribes the user to a Pool, please make sure enough channels are provisioned to the selected pool
- On Demand Approval determines if the full call is recorded, or if the recording is done after the request
- Enabling Record Unlicensed will register calls that do not match the recording policy, but they will have no audio recording available
- Incoming, Outgoing or Internal recording determines if a call is recorded, based on the direction of the call

















For proper call direction determination, you need to set the External PBX Trunks in the PBX configuration interface. For details, please consult the CallManagers (PBXs) Configuration page

- Recording Parked and Transferred calls will keep recording such a call regardless of the next leg's policy
- Remove Empty will delete all recordings with no associated audio data
- Lookup Party Name will get the CallerID value from the PSTN and associate it









Category Tree

Users and departments are managed in a category tree which allows inheritance for permissions and recording policies. On a clean installation, the Category Tree will be similar to the structure shown in the screenshot below:

System > Configuration

 Global Configuration	
▼  Users	...
 admin	...
▼  Roles	...
▼  Administrators	...
 Administrator Server	...
▼  Supervisors	...
 John Doe	...
▼  Agents	...
 Agent One	...
 Agent Two	...
>  SuperAdmins	...
 Computers	...
 Customers	...
▼  Tags	...
 Critical Customer	...

The top search field allows you to quickly search and display only the objects matched by the search criteria.

admin	
 Global Settings	
 Users	
 Roles	
 Administrators	
 SuperAdmins	
 admin	
 admin	

By default, a pre-defined, logical structure is available, defining several folders and the admin username. Each child entry will inherit by default from its parent, however, any option can be overridden by specifically changing its value from Inherit to something else in the respective Recording Policy or Permissions tab.

The categories may contain three types of objects: folders, users and tags.

The **Global Settings** is the root object of the tree, and has all its inheritable permissions set to a default. Any child who has an inherit permission (as opposed to an explicit permission set manually) will inherit that permission from its parent. Inheritance calculation goes up the tree until the first explicitly set permission is encountered. This permission will also be the one that eventual children will inherit.

The Global Settings folder acts as a logical fallback for added users or folders that will not have set their permissions explicitly.

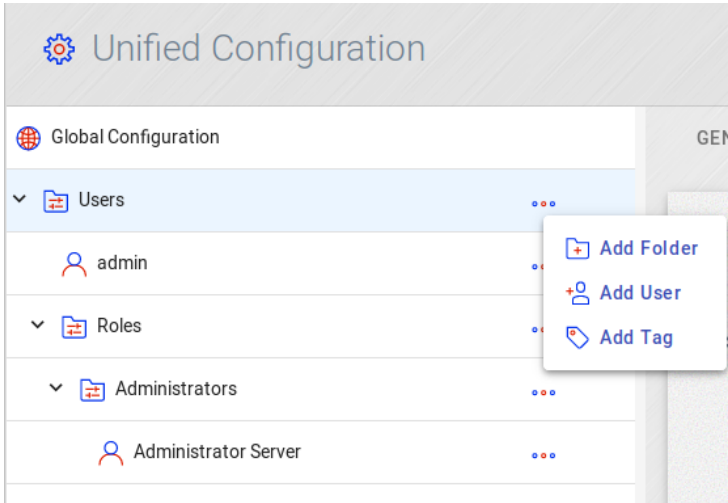
The **Computers** special folder will get populated with computer hostnames that are added to Screen Recorder.

The **Customers** folder contains all the customers that users create. Customers can be used to identify and classify calls, store basic customer info, as well as setting different policies for them.

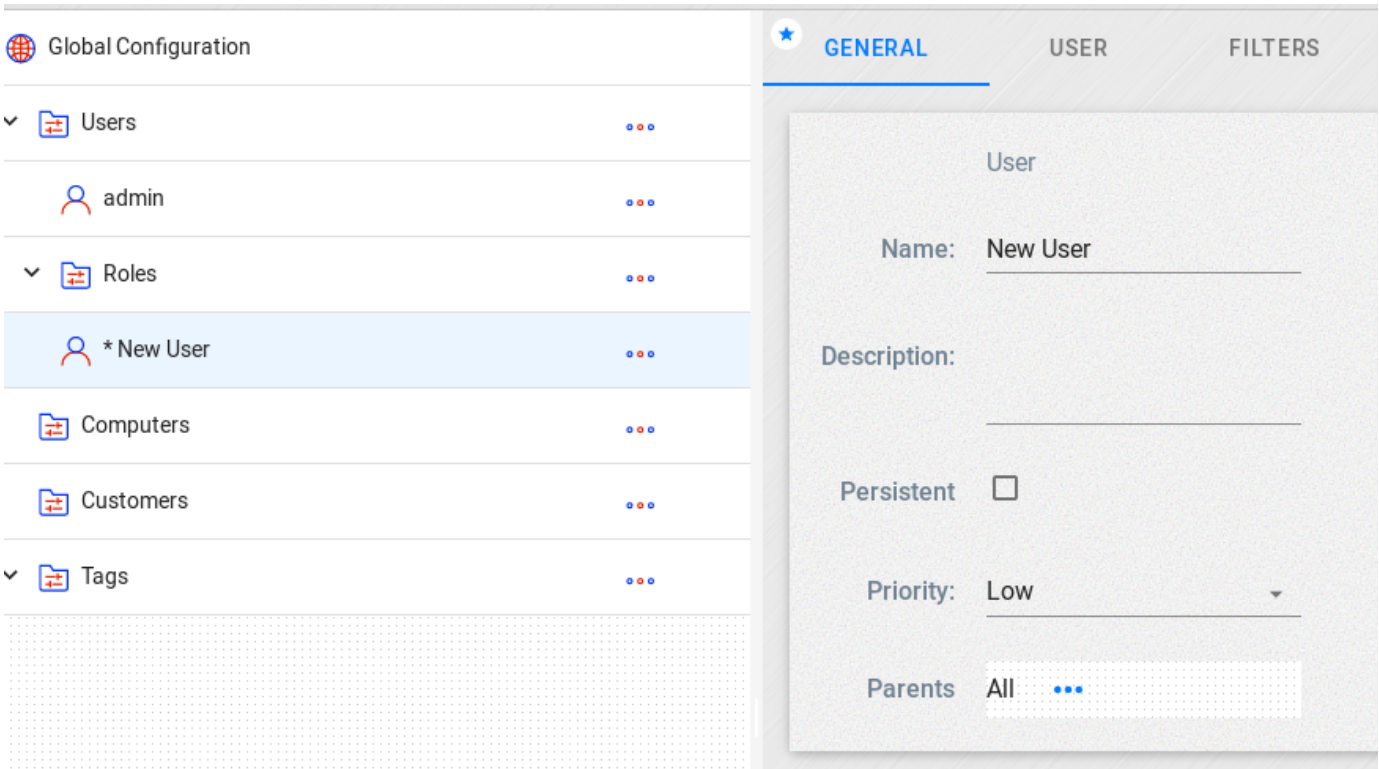
The **Tags** folder, groups the various created tags. Tags are used to classify certain calls and can impart different policies to them, behaving similar to Customer type categories.

Adding new entries

To add a new entry to the system, mouse-over the category under which you want to add the user and click on the icon that pops up, as shown in the below screenshot:



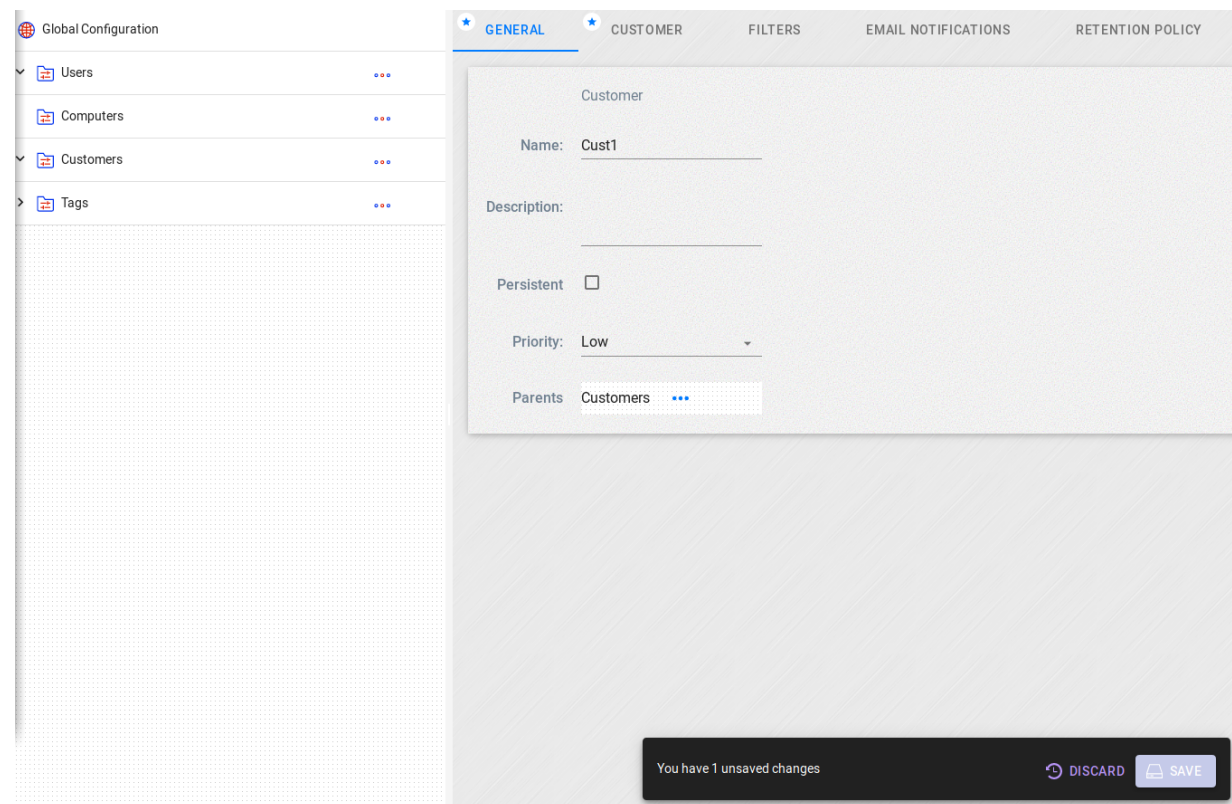
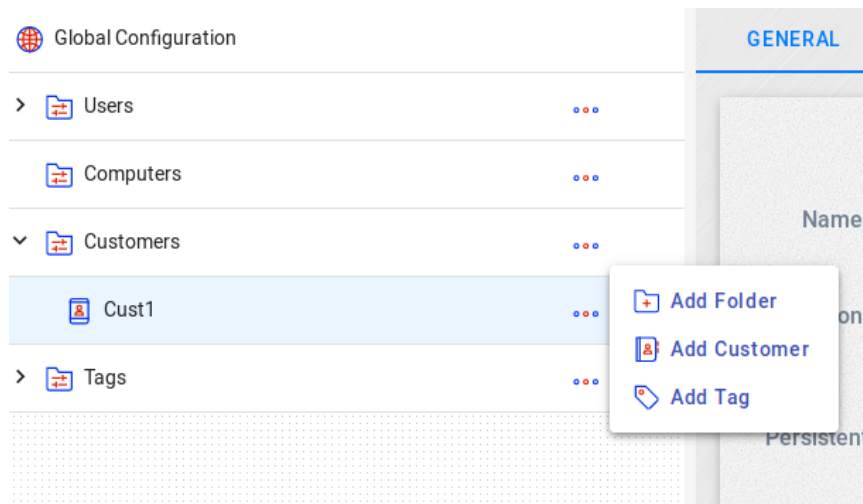
A menu allowing you to add a user, folder or tag will appear. Once you click the desired entry (User, Folder or Tag), the **Edit Mode** will be enabled, allowing you to fill in the details of the newly created entry:



Tags and Customers

The Tag and Customer category types can be used to classify calls for a better organization of recordings, to set different policies to calls or to send notifications when certain calls are being made.

These 2 categories do not have the User and Permissions tab, which is what separates them from the user category. In addition, the Customers category has a Customer tab which contains the customer data.



- Customer ID
- Name - the name of the customer
- Email - the email address of the customer
- Address - the physical address of the customer
- Website - the website address of the customer

All other tabs serve the same functions as in the User category.

General Tab

The General tab allows you to set the name and description of a node, as well as select which nodes are its parents.

Menu > Configuration > Edit

The screenshot displays the 'Global Configuration' interface. On the left is a sidebar with a tree view containing 'Users', 'Roles', 'Computers', 'Customers', and 'Tags'. The 'Users' section is expanded, showing 'admin' and '* New User'. The main panel has tabs for 'GENERAL', 'USER', 'FILTERS', 'EMAIL NOTIFICATIONS', and 'RETENTION POLICY'. The 'GENERAL' tab is active, showing a form for a 'User' node. The form includes fields for 'Name' (set to 'New User'), 'Description', 'Persistent' (checkbox), 'Priority' (set to 'Normal'), and 'Parents' (set to 'Customers'). At the bottom, a dark bar indicates 'You have 1 unsaved changes' with 'DISCARD' and 'SAVE' buttons.

Category	Item	Actions
Users	admin	...
Roles		...
Computers		...
Customers		...
Tags		...

GENERAL USER FILTERS EMAIL NOTIFICATIONS RETENTION POLICY

User

Name: New User

Description:

Persistent ☐

Priority: Normal

Parents: Customers ...

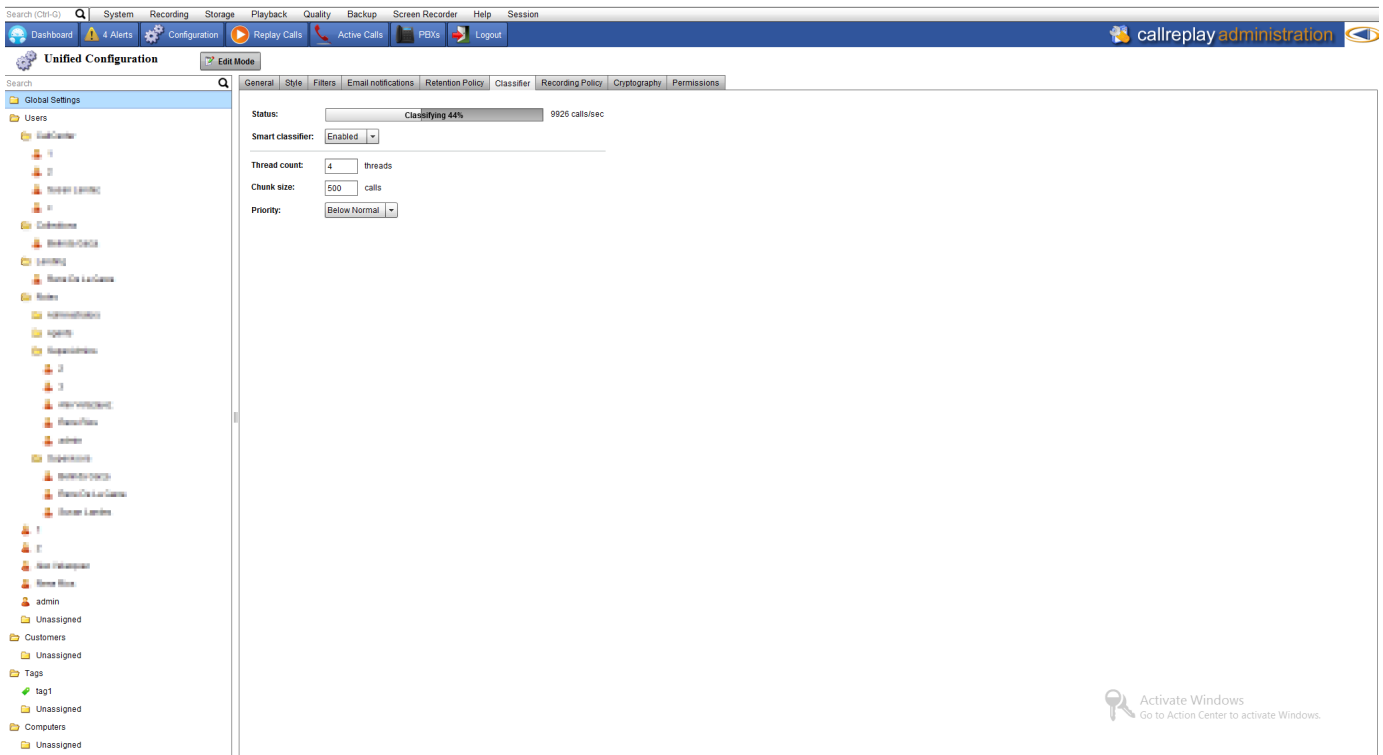
You have 1 unsaved changes DISCARD SAVE

Classifier

The classifier is a back-end mechanism that looks at a call's properties and then compares them against each category's filters.

When a call starts and when it ends, the classifier compares the call against all the filters and assigns that call to one or more categories. This means that at the call's start, the classification will determine whether the call is recorded or not and other properties, depending on the category that receives ownership of the call. At the call's end the duration might get compared against existing filters which might assign the call to even more categories.

The classifier is also invoked whenever a new filter is added, or an existing one is modified, checking all existing calls against the new filter.



- Status shows the status and speed of the classifier
- Smart classifier is the default option, disabling it turns the classifier into a "safe mode" classifier - do not change unless explicitly instructed by CallReplay support staff
- Thread count: sets the number of threads the classifier will use. Lowering the value will make the classifier work slower, but will decrease CPU load. This should be set accordingly to your CPU resources and third-party CPU load.
- Chunk size: the number of calls it processes at a time - do not change unless explicitly instructed by CallReplay support staff
- Priority: sets the priority of the classifier against other CallReplay functions - do not change unless explicitly instructed by CallReplay support staff

Roles

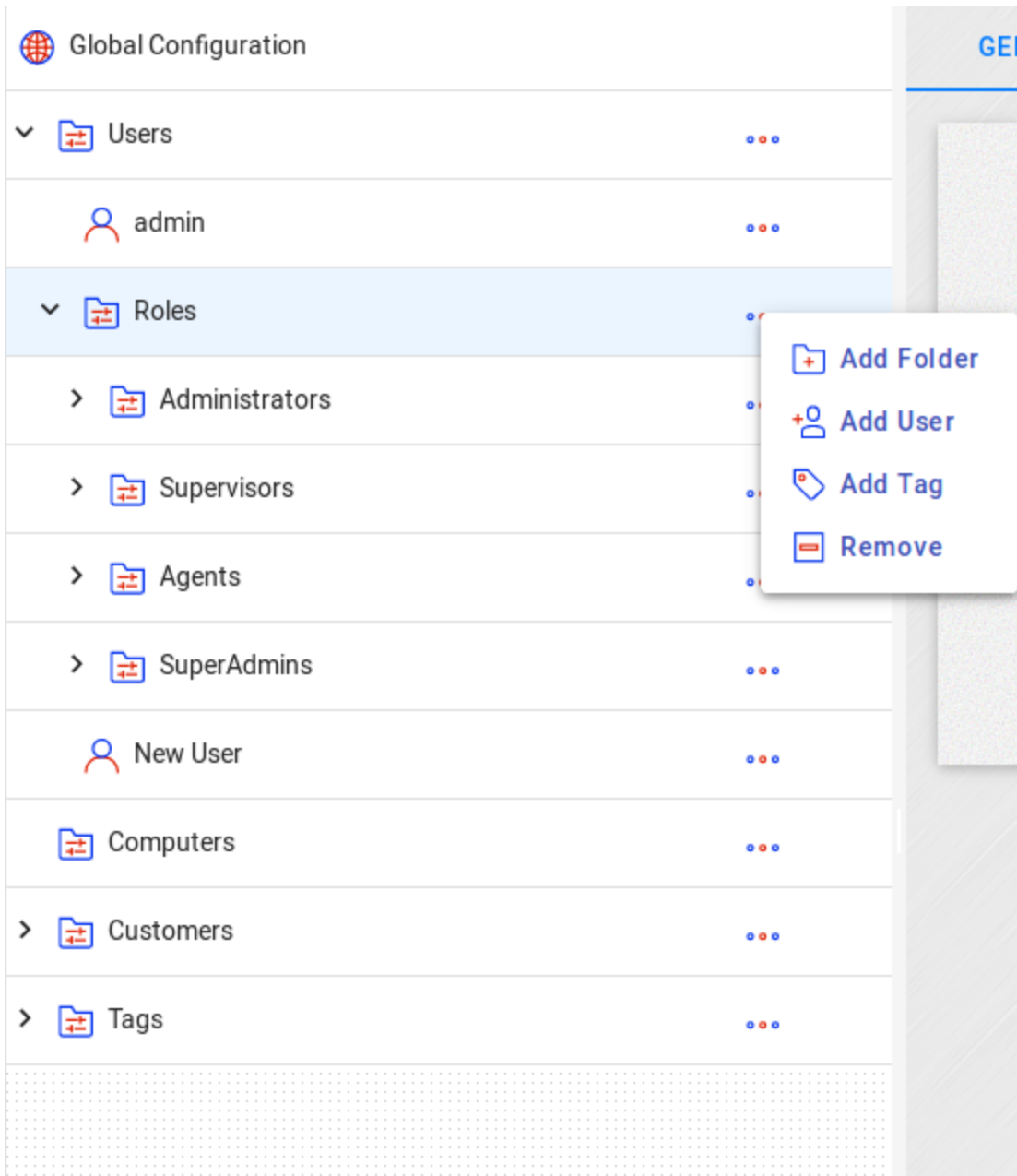
Roles are collections of permissions similar to Windows user groups.

The application has 3 built-in roles: Administrators Group, Supervisors Group and Agents Group.

Administrators	can configure the application which includes adding other users, upgrading it or configure system-wide settings may take any action on any call
Supervisors	can replay his own calls and the calls in all the departments and their sub-departments.
Agents	can only access his own calls

An administrator can also configure the application so that a manager can only replay calls, with the exception that a manager can view all calls within the filter set.

The administrator account settings are made in application web site.



Phone Directory

Phone Directory

This feature allows to identify the caller and destination phone numbers of a call when caller ID is not available. You can organize your contacts hierarchically on organizations and sub-departments by clicking on **System / Phone Directory**.



Phone Directory



Email is not configured.

Users Roles Active Directory / LDAP

Quick Search:

Name	Phone Numbers	E-mail
<div>External</div> <div> john </div>	015987365	john@email.com

Adding External Organization / Department

Press Add button and choose Add Directory for adding new directory.

Adding a new external contact

Press Add button and choose Add User for adding new contact. Each contact can have one or more phones
After adding an external contact, each call with that contact will have it colored in blue, with a tool-tip when hovering the cursor over the contact name.

Edit User

Name:

Email:

Department:

External

Phone List:

Ext/Mac/IP	Match Type	Number Label	Mobile	
<input type="text" value="015987365"/>	<div>Number Exact</div>	<div>Internal</div>	<input type="checkbox"/>	<div>+</div> <div>-</div>

OK

Cancel

Email Configuration

1. Enter your SMTP server credentials (SMTP server, Authentication User, password).
2. The Admin Email Password is also used for critical alerts.
3. Click Save.

Email Configuration


SMTP Server:

SMTP Port:

TLS: ☒

POP3 Server:

Authentication User:

Authentication Password: 

From E-mail Address:

Admin E-mail Address:

 TEST

 SAVE

Below is an explanation for each field:

SMTP Server: The IP or FQDN of your SMTP Server.

SMTP Port: 25 is standard.

TLS: Most people do not use TLS security. This should be left unchecked.

POP3 Server: If the Mail server leverages POP3, input the IP or FQDN. Most people do not use this, so it may be left unchecked.

Authentication User/Password: If the Mail server requires credentials, input the User/Pass.

From E-Mail Address: When low level emails, like exporting a call, the From Address will be used as the From address in the email.

Admin E-mail Address: When System Level emails need to be transmitted to the Call Replay admin, the Admin email address will be who receives those emails.

System level emails may include:

* Running low on storage.

* Calls have not been recorded for X days.

Configure Port Usage

In the **System > TCP / UDP Ports** page you can configure which ports the application will use. Please modify the ports only for specific purposes and note the original settings before changing them. A reference list can be found in the screenshot below.

System > TCP / UDP Ports

Incoming	
Monitoring Port	8081 (TCP)
Flash Policy Port	843 (TCP)
Jdbc Port	5432 (TCP)
Web Server Port	80 (TCP)
Web Server HTTPS Port	443 (TCP)
RTP Port Range:	25000 To 30000 (UDP)
Transcoder Port	9852 (TCP)
Tracing Port	8057 (TCP)
Outgoing	
Licensing Branch Port	80 (TCP)
Ldap Port	389 (TCP)
Email Smtip Port	25 (TCP)
External Signalling Listener Port	2158 (TCP)
Phone Rtp Rx Port	20500 (TCP)
Phone Whispering Port	20502 (TCP)
Mitel Tunnel Server Port	0 (TCP)
Mitel Def Remote Port	6810 (TCP)

Save

Incoming Ports

- **Monitoring Port:** The port used to monitor (listen) to active calls. *(Editable)*
- **Flash Policy Port:** *(Editable)*
- **Jdbc Port:** The port by Jdbc to communicate with the PostgreSQL server. This is actual port on which the CallReplay DB service is listening for incoming connections. *(Read-Only)*
- **Web Server Port:** The port used to access the CallReplay web interface (via a web browser). *(Read-Only)*
- **Web Server HTTPS Port:** The port used to access the CallReplay web interface over SSL (used only if SSL is enabled from System > HTTPS). *(Read-Only)*
- **RTP Port Range:** The range of ports used to record calls (the ports used by the phones to send audio RTP packets to CallReplay). *(Editable)*
- **Transcoder Port:** The port used by the Transcoder. *(Editable)*
- **Tracing Port:** *(Editable)*

Outgoing Ports

- **Licensing Branch Port:** The port used to replicate calls from the branch to the headquarters. *(Editable)*
- **Ldap Port:** The port used for LDAP communication. *(Editable)*
- **Email SmtP Port:** The port used by the SMTP port. *(Editable)*
- **External Signalling Listener Port:** *(Editable)*
- **Phone Rtp Rx Port:** *(Editable)*
- **Phone Whispering Port:** The port used to whisper to a phone. *(Editable)*
- **Mitel Tunnel Server Port:** *(Editable)*
- **Mitel Def Remote Port:** *(Editable)*

Licensing

- [License Management](#)
- [Licensing Pools](#)
- [Branch Licensing](#)

License Management

Overview

Before using CallRecorder you need a valid license. Depending on your specific needs, RAI Software can provide the following licenses:

- Ultimate
- Evaluation
- Replication
- Codecs

Please contact us by sending an e-mail at info@call-replay.com or check our contact page at <http://call-replay.com/go/contact>.

There are two kinds of license files:

- **.lix** is a generic license, not-activated or bound to any computer.
- **.bind** is an activated license file which only works on the computer where it was activated. Only production licenses need to be activated.

User Agreement Violations

- *Loading the same license file (that is, with the same license ID) on two servers at the same time.*
- *Using the license file after it has been revoked or superseded by a newer license file.*

Add License

To add a new software license file, select `System | Licenses` from the menu then click the `Upload` button. The license file will be automatically activated if necessary and stored in the `DataFolder/Licenses` directory.

Licensing

ACTIVATION

CALL RECORDER LICENSE

EXTRA CODECS(G.729) LICENSE

Status: Valid

License ID: T499

Company: RAI Software SRL

End User Name: RAI Software SRL

Issue Date: Sep 30, 2019, 12:00:00 AM

File Name: CallReplay(3)

License Type: Evaluation

Expiration Date: Mar 30, 2020, 12:00:00 AM

Maintenance End Date: Oct 30, 2019, 12:00:00 AM

Max Company Phones: 0

Channels: 99

Replication Slaves: 0

Tenants: 0

Mobile Phones: 0

Screen Recorders: 10

Calls Encryption: 0

DELETE

UPLOAD & ACTIVATE

Drag & Drop a .lix file

If you have troubles with licencing CallReplay, please contact our web site for license verification, please open the Manual Activation link (<http://lix.call-replay.com/Lix/ManualActivation/>) on a computer with Internet access and fill in the requested information.

Company Wide Recording (CWR) License

If you have a Company Wide license type, ensure that application can contact CallManager to establish the number of registered phones.

This licensing model is obsolete, do not configure it unless instructed by technical support.

You must supply a user name and a password in the “*Company Wide Recording*” tab, which is used for authentication with the CallManagers. This user must be the same on all the specified CallManagers. The password must be the same on all the specified CallManagers. You don't need to specify the password each time that you make an update in the configuration page, but only when you need to change the existing password.

System | Licensing | License

Local Server Settings

HQ Address (Host Name: Port): W2016Dev:80

Connection Password:

Replication

Replication Server ☐

Deduplication ☐ (all Branches should have clocks in sync with HQ)

Replication Branches 9

Mobile Recorders 99

Licensing

Licensing Server ☐

Recorder Channels 0

Remaining Channels 0

SAVE

Branch Licensing

You may use the same license to run multiple CallReplay sites, by splitting the available channels between them.

You will need to configure the server that has the license activated as the HQ licensing server:

- enable "Act as HQ Licensing Server"
- make sure the "HQ Address" is correct and reachable by the branches
- set a password for the branch connection
- make sure that the branch is enabled once it is connected and appears in the list
- edit a branch to set the number of channels allocated to it

In order to configure branch licensing, please go to System > Licensing > HQ/Branch Licensing.

Editing a pool allows you to change its properties and allocate recording channels.

Channel Pool

Name Never

Description Block all recordings.

Screen Recorders 0

Channels 0

Quality of Service



Reserved

Recording channels are guaranteed, they are statically provisioned and resource oversubscription is not allowed



Best Effort

Recording channels are available on a first come first served basis, resource oversubscription is allowed

Order 0

OK

 CANCEL

- The name will allow you to identify the pool both in the Licensing Pools page and in Recording Policy, when assigning a user to a pool.
- You can use the description to add more info about a pool
- The Screen Recorders and Channels boxes are set with the number of resources provisioned for the pool
- Reserved Quality of Service enforces provisioning of resources, so that there must always be at least as many channels provisioned as there are subscribers. This means that all calls that are assigned to this channel pool will always have an available channel for recording.
- Best Effort Quality of Service, or dynamic mode allows more subscriptions than provisioned channels. When the provisioned resources are used, subsequent calls will not be recorded until a channel is freed.
- The Order is used in the case of a call that may be assigned to different categories, having different Licensing pools settings. The values of the different "Order" will be compared, and the pool with the highest order will be assigned for the call.

Please note that for setting Automatic or on-demand recording, you must set the Recording trigger in the Recording Policy tab, in the Configuration window. The difference between Automatic and OnDemand pools is only for backward compatibility.

Branch Licensing

You may use the same license to run multiple CallReplay sites, by splitting the available channels between them.

In order to configure branch licensing, please go to **System -> Licensing -> HQ/Branch Licensing**.

You will need to configure the server that has the license activated as the HQ licensing server:

- Enable "Act as HQ Licensing Server"
- Make sure the "HQ Address" is correct and reachable by the branches
- Set a password for the branch connection
- Make sure that the branch is enabled once it is connected and appears in the list
- Edit a branch to set the number of channels allocated to it

System > Licensing > license HQ / Branch Licensing

Local Server Settings

HQ Address (Host Name: Port): W2016Dev:80

Connection Password:

Replication

Licensing

Licensing Server ☒

Recorder Channels 0

Remaining Channels 0

SAVE

The other servers must be set up as Licensed Branches:

- Go to the Branch tab and check the "Act as Licensed Branch"
- Enter the HQ address and port
- Enter the connection password
- Click Save

System

- [Watchdog Configuration](#)
- [E-mail Configuration](#)
- [IP Phone Service](#)
- [HQ/Branch Replication](#)
- [Software Update](#)
- [Tenants](#)
- [Secure Communication](#)
- [Certificates](#)
- [Authentication](#)
- [TCP/UDP Ports](#)
- [CDR Verifier](#)

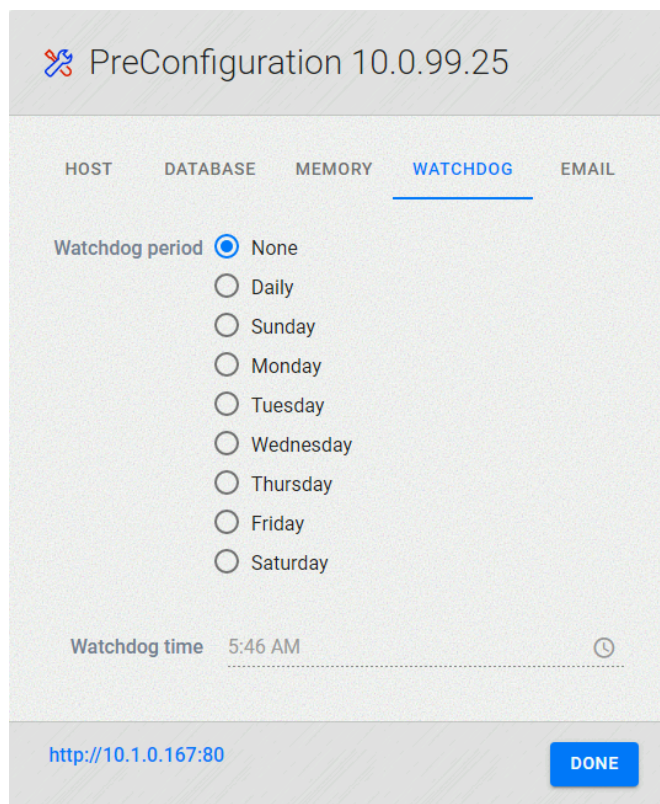
Watchdog Configuration

Watchdog is a monitoring component that tracks - at each 60 seconds - the CallRecorder service performance and triggers recovery actions, including service restart, and automatic notification in case of impeding errors. In addition, watchdog can be scheduled to perform automatic service restarts, or to send email notification when no recording are made within a specified period of time.

| *Out Of Memory threshold should not be changed without express instructions from CallReplay support staff.*

Configure

Watchdog configuration page can be accessed through System > Watchdog menu.



Total Memory:	Total memory allocated for CallRecorder service.
Current Memory Usage:	Currently memory used by the CallRecorder service.
Out of Memory Threshold:	If threshold is reached a restart is initiated regardless scheduling settings.

Restart Scheduling

Watchdog can be scheduled to initiate a service restart at a specific hour and at a specific day of week, or daily.

Watchdog is a monitoring component that tracks - at each 60 seconds - the CallRecorder service performance and triggers recovery actions, including service restart, and automatic notification in case of impeding errors. In addition, watchdog can be scheduled to perform automatic service restarts, or to send email notification when no recording are made within a specified period of time.

| *Out Of Memory threshold should not be changed without express instructions from CallReplay support staff.*

E-mail Notifications

Watchdog can be configured to send e-mail notification in case when no recording are made within a specified number of calendar or business days.


| *Please check E-mail Configuration page for details about how to configure it.*

E-mail Configuration

CallReplay can be configured to send e-mail notification whenever alerts are available, including

- Running low on storage
- Call have not being recorded for several days

In order to configure the e-mail notification go to the menu and select `System | E-mail`.



Email Configuration

SMTP Server:

smtp.example.com

SMTP Port:

25

TLS:

☒


POP3 Server:

smtp.example.com

Authentication User:

mailuser

Authentication Password:


... 


From E-mail Address:

mailuser@example.com

Admin E-mail Address:

admin@example.com

 TEST

 SAVE

Where:

- **SMTP Server:** The IP or FQDN of your SMTP Server.
- **SMTP Port:** 25 is standard.
- **TLS:** Most people do not use TLS security. This should be left unchecked.
- **POP3 Server:** If the Mail server leverages POP3, input the IP or FQDN. Most people do not use this, so it may be left unchecked.

- **Authentication User/Password:** If the Mail server requires credentials, input the User/Pass.
- **From E-Mail Address:** When low level emails, like exporting a call, the From Address will be used as the From address in the email.
- **Admin E-mail Address:** When System Level emails need to be transmitted to the Call Replay admin, the Admin email address will be who receives those emails.

System level emails may include:

- Running low on storage.
- Calls have not been recorded for X days.

IP Phone Service

Manual Phone Service Configuration

(This chapter has been obsoleted by the Configure Cisco CM wizard in version 6). Please use the [Forked Recording Wizard](#) in the Capture / PBXs page.

Observation: Instructions for setting up a Cisco CallManager Express phone service can be found on Cisco's site:

http://www.cisco.com/en/US/docs/voice_ip_comm/cucme/srnd/design/guide/external.html#wp1074400

The IP phone service is a component of our application that allows users with a primary extension to listen to their calls from their Cisco Phone or to demand recording of calls.

By accessing the **System/Watchdog** menu, you can specify the authentication parameters used with the Cisco Phone XML, and other values that affect the way that the service works:

- **Cisco User** - The user name used for authentication with the Cisco Phone XML.
- **Cisco Password** - The password used for authentication with the Cisco Phone XML. You don't need to specify the password each time that you make an update in the configuration page, but only when you need to change the existing password.

System > IP Phone Service

Application Phone XML User

This user is required for the application phone services to function properly. There is only one application Phone XML User, and it is different from the site users. You may choose any user you want, but we recommend creating a new special user that nobody else uses.

Create a new Cisco User or select an existing one

1. Go to the CallManager Administration Site
2. Go to User/Global Directory
3. Click "Add a New User". For more details about adding a new user, please consult the CallManager Help.

Associate all devices with the desired user

Make sure that this user has all the devices associated to him.

Go to the CallManager Administration Site

1. Go to User/Global Directory, then click "Search"
2. Select or create the user you want to use with Cisco Phone XML. For example "CallRecorder"
3. In the User Configuration page, please click "Device Association"
4. Now you have to associate all the phones through which you want to access the application and/or Call Monitoring phone services with this user. If you want to associate all devices, do the following:
5. Press "Select Devices" (leaving the search field empty)
6. Select "Check All in Search"
7. Click "Update Selected".

Setting up the authentication

- Go to System/IP Phone Service
- In the "IP Phone Service" page enter the following values:
- In the "Cisco User" field, enter the name of the user that you associated all your phones with (see the previous step)
- In the "Cisco Password" field enter the password of that user
- Press "Save"

To make the application service accessible on your Cisco IP phones, you have to go through the following steps:

Add a new service

1. Go to CallManager Administrtation / Device / Device Settings / Phones Services

2. Press "Add New" button
 3. Set "Service Name" to **Call Recorder**
 4. Service Category must be *XML Service* and Service Type *Standard IP Phone Service*
 5. Set "Service URL" to [http://CallRecorderServer\(:port\)/CallRecorder/phoneService](http://CallRecorderServer(:port)/CallRecorder/phoneService)
 6. Click Save
- For Demand recording the URL is [http://CallRecorderServer\(:port\)/CallRecorder/phoneService/onDemandPhoneDemandThisCall](http://CallRecorderServer(:port)/CallRecorder/phoneService/onDemandPhoneDemandThisCall)*

Assign the service to the phones you want

For large number of phones this is best done using Device Profiles.

Using the Call Manager Administration site:

1. Go to the CallManager Admin/Device/Phone
2. For each phone having access to CallRecorder, do the following:
3. Go to that phone's configuration page
4. Click "Subscribe/Unsubscribe Services"
5. In the available services list select CallRecorder, then click "Continue"
6. Click "Subscribe"
7. Click "Update"
8. Restart the phones so that they can read the new configuration (only if you had to change the URL to the value we specified)
 1. Go to CallManager Admin/Device/Phone

For each page "Select all", click "Reset", then "Restart".

HQ/Branch Replication


This feature allows copying or moving calls to another computer for various purposes: safety, centralized management, high availability recording etc.

First, you need to configure the Headquarter (HQ) to accept incoming connections. For this, check 'Act as HQ Controller', then enter a password for connection and hit 'Save' button. Please note down the 'HQ Address' value, you will need it to configure branches.

In case you have multiple branches recording the same calls for high availability recording, please check 'High Availability' if you want to have distinct calls. However, you will have both audio files if recordings were replicated with audio.

To use this feature you need to have all branches and HQ clocks in sync. You may need to use the OS's time synchronization feature to a time server.

To open replication panel go to System | HQ/Branch Replication menu.


Headquarters / Branch Replication

Headquarters

Branch

Acts as HQ Controller:

☒

High Availability:

☐ (all Branches should have clocks in sync with HQ)

Connection Password:

(empty = unchanged)

HQ Address (Host Name: Port):

10.1.0.243:80

Save

Refresh

Delete

Replication Branches: 1 / 9

Mobile Recorders: 0 / 9

<input type="checkbox"/>	Edit	Connect	Branch	Description	Max Bandwidth	Last Sync	Last Known IP	Call Count	Calls Size	SW Version
<input type="checkbox"/>	Edit		10.1.0.243		Unlimited		10.1.0.243	0	0 B	9.0.0.54

To configure one other computer as Branch, you need to go to the 'Branch' tab:



Headquarters / Branch Replication

Headquarters Branch

Refresh Add HQ Delete

<input type="checkbox"/>	Edit	Connect	Host Name	Description	Speed	Queue Len	Errors	Oldest Call	SW Ve...	Retry
<input type="checkbox"/>	Edit	Connect	10.1.0.243		0 B/s, 0 calls/s	6	9	23m 44s ago	9.0.0.54	<input type="button" value="Retry"/>

You can replicate calls to multiple Headquarters. First click 'Add HQ' then enter the Headquarter address and port (the one you previously noted down). Also, enter the password you've set on headquarter computer.

New Headquarter Settings

Enabled: ☒

Only for Replication API: ☐

HQ Address: :

Destination Tenant:

Connection Password:

Description:

After this, you will be asked if you want to replicate all existing calls or only the calls made from now on.

If the connection is working, you should see on headquarter that a new entry has been added (after clicking 'Refresh') for the newly configured branch.

You may now configure the incoming replication type. Call information only can be used for centralized management. These calls can be played back only when the branch is running. If replication is done with audio files, you can playback them directly from the headquarter. In this case, you can also choose to delete the successfully replicated call from branch.

10.1.0.243 Settings

Enabled:

☒

Description:

HQ

Replication:

Call Information And Audio Files

Delete Call After Upload:

☐

Bandwidth Limitation:

Unlimited

00:00

and

00:00

at

0

{0} KB/s

Software Update

Software update page, available from [System](#) | [Software Update](#), displays information about your current installed version, application update availability and subscribers status (see for details).

In addition, here you can configure how *CallReplay Software Update* should check for software updates availability and apply those updates.

[System](#) [Recording](#) [Storage](#) [Playback](#) [Quality](#) [Backup](#) [Screen Recorder](#) [Help](#) [Session](#)

[Dashboard](#) [2 Alerts](#) [Configuration](#) [Replay Calls](#) [Active Calls](#) [PBXs](#) [Logout](#)

Software Update

Installed Version: [9.0.0.55, 23 September 2016 13:42:12](#)

Latest Version: [Update Server is not accessible](#)

Subscribed branches: [Stable](#)

To update please run CallReplay Software Update from [Start > Programs > CallReplay](#)

Check Version Interval:

Weekly

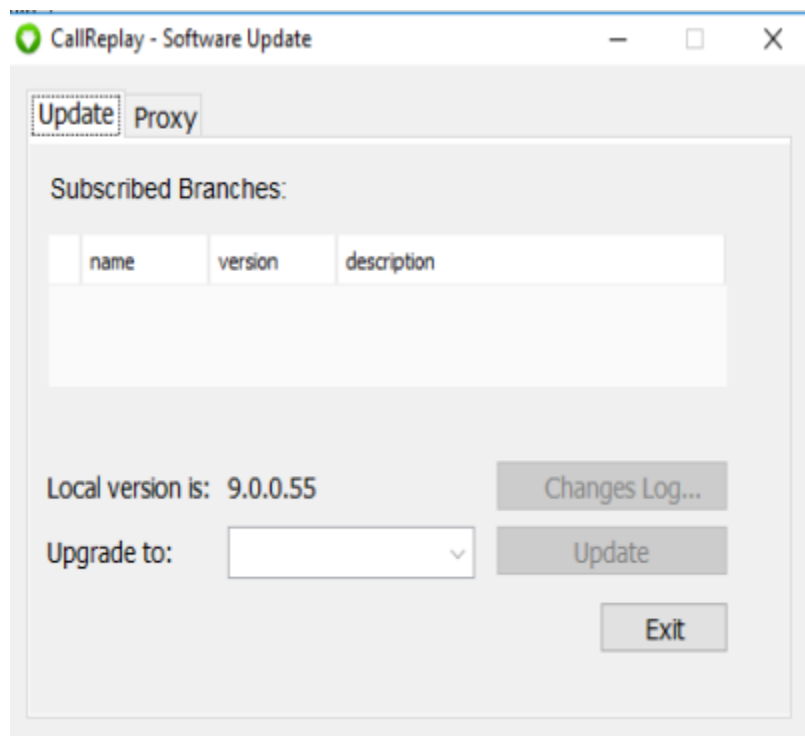
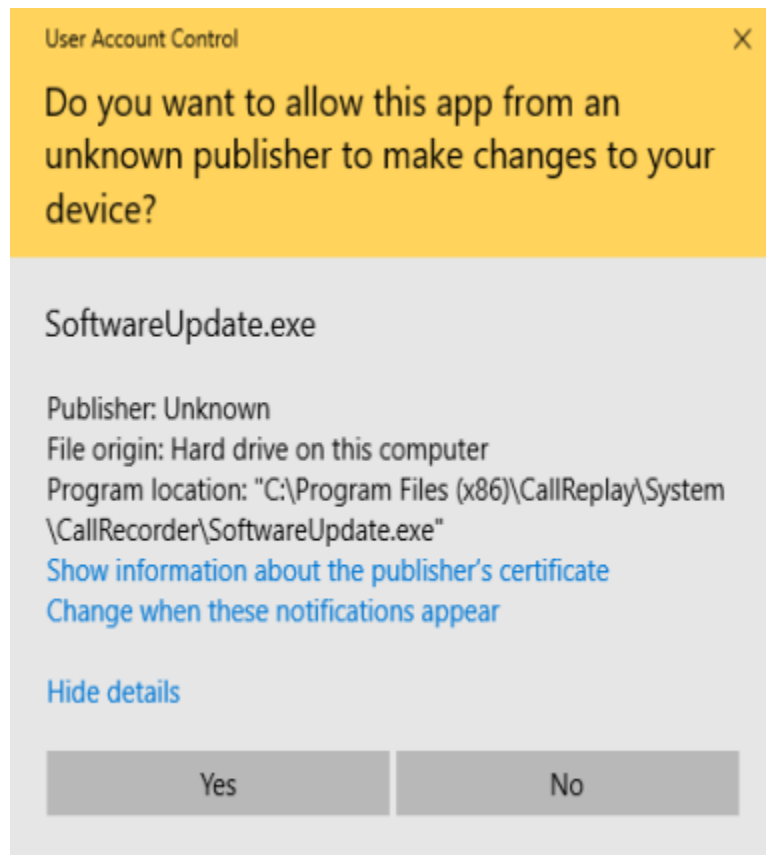
Based on your specific needs you can specify if (i.e. 'Never') or how often CallReplay Software Update component should check for updates.

CallReplay Software Update

CallReplay Software Update is a separate component that give you the possibility to check for software updates availability and apply thos updates for your server or subscribed branches.

You can access CallReply Software Update from [Start](#) | [Programs](#) | [CallReplay](#) | [CallReplay Software Update](#).

Depending on you Microsoft Windows version, the system might ask you to provide elevated permissions for SoftwareUpdate.exe program. Click Yes, or change teh *User Account Control*/settings in order to run the program.



Tenants

CallReplay supports the concept of multitenancy by which an instance of CallReplay can serve different groups of users providing access with specific privileges, or structured in different ways. For example there might be a business branch and its users that can use CallReplay in an isolated way.

Additional tenants may be added hereby clicking the Add Tenant button. You will need to provision the desired number of channels and screen recorders, as well as the company's name TLD and number of branches.

Please note that when you upgrade your license with additional channels/recorders, you will need to assign them here, to the desired tenant.

System > Tenants.

The screenshot shows the 'callreplay administration' interface. At the top, there's a navigation bar with icons for Dashboard, Alerts (2), Configuration, Replay Calls, Active Calls, PBXs, and Logout. Below this, the 'Tenants' section is active. It includes buttons for 'Add Tenant' and 'Add Admin', and summary statistics: Tenants: 1 / 9+1, Recorded channels: 9 / 9, Slaves: 9 / 9, Mobile phones: 9 / 9, Screen Recorders: 5 / 5.

Edit	Company	TLD	Active	Channels	Slaves	Mobiles	Screen Rec	Quota	Tenant ID	Expiration Date	Schema	Delete
Edit	default	call-replay.com	Yes	9	9	9	5	0 B	000000000	1 January 2100	callreplay	Delete

The 'New Tenant' modal form contains the following fields:

- Company:
- TLD:
- Active: ☐
- Branches:
- Channels:
- Mobile Phones:
- Screen Recorders:
- Storage Quota: MB
- Validity: (calendar icon)
- Stored Calls:

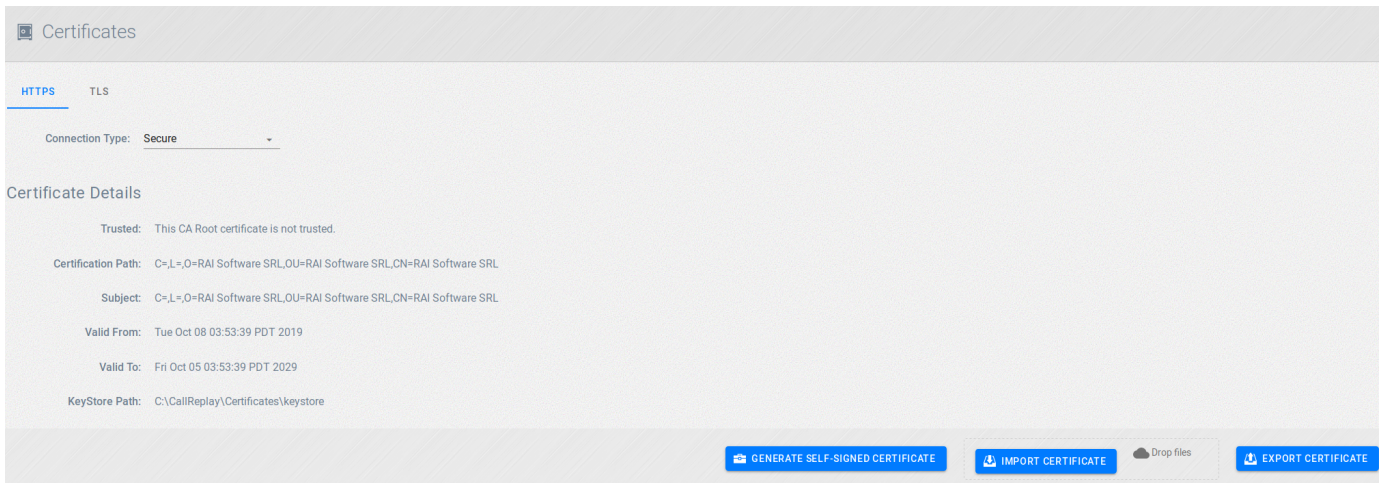
Buttons: OK, Cancel

- Company - please enter the company name here, it will be used to identify the tenant
- Please enter the company's top level domain, such as [guest-company.com](#) in the TLD field
- Active checkbox enables or disables the tenant
- Branches field represents the number of branch replication channels assigned to this tenant
- You must set the desired number of channels you are granting the tenant in the channels field. Please note that those channels must not be assigned to any other tenant, including the default one. If all channels are assigned, you will have to revoke some and then check the respective Licensing Pools allocations.
- Mobile phones -
- Screen Recorders - add the number of desired Screen Recorder channels for the tenant. As with the recording channels, they will need to be unassigned.
- Storage Quota - you can set a storage quota for this tenant.
- Validity - an expiration date can be set for the tenant.
- Stored Calls will show the number of stored calls for the tenant.

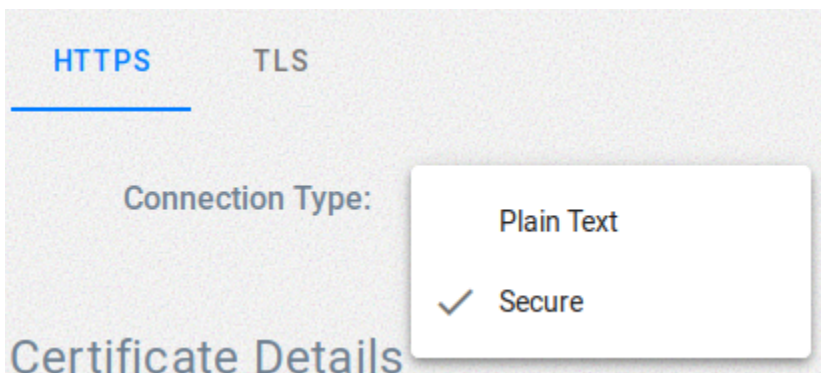
Secure Communication

By default, the CallReplay web interface can be accessed via plain HTTP, however SSL can be enabled from the System | HTTPS menu. This will allow users to log in to CallReplay securely over a HTTPS connection.

The administrator can generate a new certificate or use an existing one.



As mentioned, CallReply can work with plain or secured HTTP protocol and this behaviour is established by selecting "*Plain text*" for HTTP or "*Secure*" for HTTPS.



| *See also System / Certificates.*

Generate a Self-Signed Certificate

This can be accomplished by following the steps shown in the screenshots below:

1. Choose "Secure" as the Connection Type:

System > HTTPS

2. Press Finish once the "Generate Self-Signed Certificate" radio button is checked:

3. Restart the service:

Import a PFX/P12 Certificate

1. Select "Import Certificate":

2. Click on "Browse" and select the pfx/p12 certificate from the popup browser. You may need to enter a password for the certificate as well:

3. Click Next and then Finish. Once done restart the service:

Certificates

Authentication


CallReplay supports two authentication modes: DB and AD/LDAP.

- **DB Authentication** is the default authentication mode and is integrated at the application level. This means that the user name and password pairs are maintained at database level
- **AD/LDAP Authentication** can be configured and is the authentication mode that is integrated at operating system level via AD (Active Directory) or LDAP (Lightweigh Directory Access Protocol)

| *For AD/LDAP Authentication to work, you need an Active Directory or other LDAP compatible service available.*

To configure AD/LDAP authentication mode:

1. Go to menu System | LDAP Authentication.
2. Select *AD/LDAP Authentication Mode*.
3. Provide the name of the AD/LDAP server
4. Enter the port where AD/LDAP is listening (389 is the default port for LDAP service)
5. Select the authentication method.
6. Enter the domain's name
7. Provide the user name as is defined within AD/LDAP
8. Provide the password associated as recorded by AD/LDAP



LDAP Authentication

☒ Use DB Authentication ☒ Use Active Directory / LDAP Authentication

Server Name:

User Name:

Server Port:

Password:

TLS

Method

* Obs: LDAP authentication is not yet compatible with the IP Phone Service login

Test before saving!

TEST

✓ SAVE

"Save" button becomes active only if a connection test was performed successfully

To configure DB Authentication mode:

1. Go to menu System | LDAP Authentication.
2. Select *DB Authentication Mode*.

TCP/UDP Ports

In the **System > TCP / UDP Ports** page you can configure which ports the application will use. Please modify the ports only for specific purposes and note the original settings before changing them. A reference list can be found in the screenshot below.

System > TCP / UDP Ports

Incoming Ports

- **Monitoring Port:** The port used to monitor (listen) to active calls. *(Editable)*
- **Flash Policy Port:** *(Editable)*
- **Jdbc Port:** The port by Jdbc to communicate with the PostgreSQL server. This is actual port on which the CallReplay DB service is listening for incoming connections. *(Read-Only)*
- **Web Server Port:** The port used to access the CallReplay web interface (via a web browser). *(Read-Only)*
- **Web Server HTTPS Port:** The port used to access the CallReplay web interface over SSL (used only if SSL is enabled from System > HTTPS). *(Read-Only)*
- **RTP Port Range:** The range of ports used to record calls (the ports used by the phones to send audio RTP packets to CallReplay). *(Editable)*
- **Transcoder Port:** The port used by the Transcoder. *(Editable)*
- **Tracing Port:** *(Editable)*

Outgoing Ports

- **Licensing Branch Port:** The port used to replicate calls from the branch to the headquarters. *(Editable)*
- **Ldap Port:** The port used for LDAP communication. *(Editable)*
- **Email Smtip Port:** The port used by the SMTP port. *(Editable)*
- **External Signalling Listener Port:** *(Editable)*
- **Phone Rtp Rx Port:** *(Editable)*
- **Phone Whispering Port:** The port used to whisper to a phone. *(Editable)*
- **Mitel Tunnel Server Port:** *(Editable)*
- **Mitel Def Remote Port:** *(Editable)*

CDR Verifier

The CDR Verifier module is designed to fetch information from the CDR Analysis and Reporting information. The CDR Verifier is available from the **System > CDR Verifier** menu, but it first must be enabled in CallManager and on a per-PBX basis from **Recording > CallManagers (PBXs)** in CallReplay.

Enable CDR in PBX

To enable the CDR Verifier in CallReplay, go to **PBXs** and click **Edit** on a PBX line. Once the **Edit PBX** window appears, switch to the **CDR Setup** tab:

CallReplay uses a built-in FTP server to which CallManager will upload its CDR information. Make sure to fill in all the fields:

- **Ftp Server Enabled:** This must be checked so the built-in FTP server is active and listening.
- **FTP Server:** This is automatically filled in by CallReplay with its IP address.
- **FTP Username:** This will be the username used by CallManager to login to the FTP server. You can change this to a desired username, or leave it to default.
- **FTP Password:** This will be the password used by CallManager to login to the FTP server. You can change this to a desired password, or leave it to default.
- **Directory Path:** This is the path used by CallReplay to store the information received from CallManager (e.g. C:\CallReplay\Cdr\10.1.0.30\).
- **Import Enabled:** Check this to enable CDR imports.

Once the fields are filled in, click **OK**. One more step is required, and that is to enable CDR uploading in CallManager. Proceed to the next step to do this.

Enable CDR in CallManager

In CallManager, go to **System > Service Parameters**, and make sure that under the **System** section, the **CDR Enabled Flag** is set to **True**:

Next, open the **Cisco Unified Serviceability** from the top-right drop-down **Navigation** entry. Now go to the **Tools > CDR Management** menu entry. Under the **Billing Application Server Parameters** section, click the **Add New** button:

A new window where you can configure the FTP settings should appear:

- **Host Name / IP Address***: Enter the IP of CallRecorder.
- **User Name***: Enter a username to use when authenticating to the FTP server of CallRecorder (this will be configured later as well in CallReplay).
- **Password***: Choose a password to authenticate to the CallRecorder FTP server.
- **Protocol***: Choose FTP instead of SFTP.
- **Directory Path***: Enter a path in the form **/CCM_IP/**. This path will be used by CallReplay to place CDR data. By default, it will be stored in DATA_FOLDER/Cdr/CCM_IP (e.g. C:\CallReplay\Cdr\10.1.0.30\).

Click the **Add** button.

It will take a while until CallManager starts uploading information to CallReplay, and once it does, you should be able to see statistics from the **System > CDR Verifier** menu.

Recording

- [Recording Overview](#)
- [Network Interface](#)
- [Call Managers \(PBX\)](#)
- [Silence Compression](#)
- [SPAN Troubleshooting](#)
- [SPAN Recording](#)
- [Forked Recording](#)
- [IPTrade Turret Recording](#)
- [Mitel SRC Recording](#)
- [Silent Monitoring/Recording Supported Devices](#)
- [JTAPI Encrypted Call Support](#)

Recording Overview

CallReplay Call Recorder offers two methods for recording calls: Forked (SPANless) and SPAN recording. The modern, recommended, recording method is Forked Recording, because of its ease of installation.

For Cisco CallManager Express please use SPAN recording, and manually set the PBX type to Express, as auto-detection will not work.

Network Interface

Because monitoring ports cannot usually transmit traffic, for production setups the server you are using must have a minimum of two network cards for the application to function properly. One of them will be used for general network traffic and accessing Application Web Administration Interface and the other for listening VOIP related traffic. The NIC selected for website access should have a static IP address.

Important

The monitoring NIC should not have a routable IP address, because network switches inhibit the transmission of packets from ports used as port mirroring destinations. If the OS routes packets through this port, all sent packets will be discarded. Remove the IP address of the monitoring NIC, or set it a non-routable address, such as 1.1.1.1.

We assume that you have already configured your network switches in order to mirror all VOIP traffic from VOIP LAN to the monitoring NIC of CallReplay otherwise no calls will be recorded.

Open the **Recording / Network Interfaces** page, and choose which NIC is used for VOIP traffic and which one is used for web administration and general traffic.

To set NIC used for VoIP:

1. Go to Recording > Network Interfaces
2. Click in the column Record? the NIC that would be reserved for recording

Network Interfaces						
<input type="checkbox"/> Hide Alert <input checked="" type="checkbox"/> Filter out network cards traffic						
Record?	Interface name	IP Address	MAC Address	Interface description	Packets	Packets/s
<input type="checkbox"/>	\Device\NPF_{7915488C-D8AD-4AAE-5}	10.1.0.148, fe80:0:0:8192:e54d:9cbf:f	00:0c:29:19:3a:6c	Intel(R) 82574L Gigabit Network Conne	519 B	4 B
<div>SAVE</div>						

If you have configured port mirroring correctly, calls will start being recorded immediately. For CallManager Express please see the PBX Configuration chapter.

Call Managers (PBX)

Call Managers page allows the management of Cisco CallManagers, Mitel, IPTrade, NEC and other supported telephony controllers.

To add a controller:

1. Go to **Recording > Call Managers (PBX)**.
2. Click **Add PBX** button.
3. Provide all data required by *Edit PBX* window (see how to edit a controller)
4. Click **ok**.

PBX Selection						
Host Name	Name	Type	Mode	Comment	Actions	
10.1.0.65	Cisco Cal...	CiscoCall...	Forked		EDIT	DELETE PBX
10.1.0.68	Cisco Cal...	CiscoCall...	Forked		EDIT	DELETE PBX
<div>ADD PBX</div>						


To delete a controller:

1. Go to **Recording > Call Managers (PBX)**.
2. Check the row(s) containing the controller(s) to delete
3. Click **Delete PBX** button.
4. Click **Yes** to confirm deletion

To edit a controller:

1. Go to **Recording > Call Managers (PBX)**.
2. Click **Add PBX** if you create a new cotroller, or **Edit** to modify and existing one.

3. Click **save**.



Silence Compression Settings

VAD Sensitivity:

Normal (40 dB)

▼

Silence Compression:

Keep silence within recordings

▼

VAD separation interval:

0.5

seconds

Recording prolog duration:

1.0

seconds

Recording prolog threshold:

75

%

Silence before stopping VAD calls:

300.0

seconds

Maximum VAD call duration:

900.0

seconds

SAVE

- **VAD Sensitivity:** the level of voice activation detection from which the signal is not considered silence. The default value is Normal (40dB). Other values are Low (30 dB, noisy environment) and High (50 dB, Catch every breath).
- **Silence Compression:** keep or not to-keep the silence within recordings
- **VAD separation interval:** it is enabled when silence is removed within recordings. This is the length of the silence inserted between active signals.
- **Recording prolog duration:** it means the length of the interval recorded before the moment of active signal.
- **Recording prolog threshold:**
- **Silence before stopping VAD calls:** after specified value of silence the recorded call will be stopped.
- **Maximum VAD call duration:**

SPAN Troubleshooting

Analyze Captured Packets

By clicking **Recording / SPAN Troubleshooting**, you can see the amount of TCP or UDP Packets captured from and to an IP Address.

Analyze the Network Configuration

Install Wireshark

Wireshark is a free, open source packet analyzer.

1. Download the latest version from <http://wireshark.org/download>
2. At installation, be sure to **not** select the "Install WinPcap" option (as it is already installed by CallRecorder) or the "Start WinPcap service "NPF" at startup" option.

Capture a Call

1. Go to the **Capture** menu and select **Interfaces**
2. In the interfaces window select the **same** network card you configured for monitoring in CallRecorder.

1. Press the **Capture** button
2. Start a call
3. Talk a few seconds. In the capture window you should see the number of udp and tcp packets growing. If not, you either configured SPAN incorrectly or captured on the wrong NIC.
4. Stop the call.
5. Stop the network capture.

Usually there should be about 100 udp packets per second, so if this number is much smaller, then your server may not be capturing the voice stream.

Verify Call Control

In the main **Wireshark** window, set the filter to:

```
ip.addr == {TEST_PHONE_IP} &&skinny.messageid == 0x8a
```

and press **Apply**.

The StartMediaTransmission and OpenReceiveChannelAck messages are critical for recording to work.

If you don't see any skinny packets after applying this filter, then your call control stream was not captured. To fix it, you should configure SPAN to your computer, in order to forward traffic from **CallManager**.

Verify the Voice Streams

In the main window, set the filter to:

```
ip.addr == {TEST_PHONE_IP} && udp
```

and press **Apply**.

If you don't see any RTP packets after applying this filter, then your voice stream was not captured. To fix it, you should configure span to forward traffic from your phones to your computer.

If you are only interested in external calls, you should only forward traffic from your voice gateway to your computer.

SPAN Recording

Overview

SPAN Recording is a passive technology. It is working with all Cisco CallManagers and all kind of phones as long as they are SIP or SKINNY compatible.

The application service uses a network interface card functioning in promiscuous mode, in order to capture packets for the conversation recording. The host computer or the server need a network connection to voice traffic, through a non-switched hub or through a SPAN port on a switch. For more information about configuring a mirrored port on your switch, read the user manual of the switch. You can also visit the following links:

- Configuring the Catalyst Switched Port Analyzer (SPAN) Feature: http://www.cisco.com/en/US/products/hw/switches/ps708/products_tech_note09186a008015c612.shtml

The application works by monitoring phone traffic. There are two types of phone traffic essential to recording:

- signaling (call control), from phones or voice gateway to CallManager
- audio streams (RTP), from phone to phone, or from phone to voice gateway

To be able to record calls, the application needs to intercept both types of traffic, call control and audio streams. For more information about network sniffing please read the Wireshark FAQ: <http://www.wireshark.org/faq.html>

Virtual Environment

The difficulty in getting SPAN based/passive recording functional in a virtual environment is the SPAN itself. With the SPAN configured on a physical switch port, all communication will be directed to a physical NIC. This physical NIC MUST be bound on the VM. The reason behind this statement is because most virtual NIC software cannot forward the SPAN information to the VM, so the physical NIC will be required to be bound to the VM. Because of this requirement installing the application into a virtual environment may not be advisable. Allocating a physical device to a VM only requires VT-D support in the host CPU.

Implementation Options

There are two main options in configuring network monitoring:

1. **Record only external calls.** This is the easiest. All you need to do is to have the CallManager and the voice gateway in the same switch and SPAN them to the application recording port. If you have them in different switches you need two monitoring NICs in the recording application server, one for each switch. **Make sure you are mirroring all the CallManagers and voice gateways, including backup ones.**
2. **Record all calls, external and internal.** For that you will need to have all the phones' traffic monitored to the application recording port. That is, monitor all switches with phones. Usually this is done by placing all the phones in a separate VLAN, and monitoring that VLAN. Using a VLAN also has the advantage of discarding the general (PC) network traffic, which can overload the monitoring interface in both the switch and in the recording application.

Because RTP traffic (green and red in the figure) travels directly between end points, without going through CallManager, in a large enterprise with multiple switches only external calls (PSTN) can be recorded in a cost effective way (one recorder for each voice gateway). To record internal calls also, one recorder per switch with IP phones is required.

Server Side Network configuration

Because monitoring ports cannot usually transmit traffic, for production setups the server you are using must have a minimum of two network cards for the application to function properly. One of them will be used for general network traffic and accessing Application Web Administration Interface and the other for listening VOIP related traffic. The NIC selected for website access should have a static IP address.

Important: *The monitoring NIC should not have a routable IP address, because network switches inhibit the transmission of packets from ports used as port mirroring destinations. If the OS routes packets through this port, all sent packets will be discarded. Remove the IP address of the monitoring NIC, or set it a non-routable address, such as 1.1.1.1.*

We assume that you have already configured your network switches in order to mirror all VOIP traffic from VOIP LAN to the monitoring NIC of CallReplay otherwise no calls will be recorded.

Open the **Recording / Network Interfaces** page, and choose which NIC is used for VOIP traffic and which one is used for web administration and general traffic.

Recording > Network Interfaces

Network Interfaces

☐ Hide Alert ☒ Filter out network cards traffic

Record?	Interface name	IP Address	MAC Address	Interface description	Packets	Packets/s
<input type="checkbox"/>	\Device\NPF_{9DBF5A71-8358-41	10.1.0.150, fe80:0:0:3196:479d:	00:0c:29:c0:13:1e	Intel(R) 82574L Gigabit Network C	3 B	1 B

SAVE

If you have configured port mirroring correctly, calls will start being recorded immediately. For CallManager Express please see the PBX Configuration chapter.

Forked Recording

Overview of Forked Recording

Forked Recording (SPANless Recording) is an active recording technology, available only on Cisco CallManager platforms newer than 5.0 and selected Cisco phone models.

Benefits of Forked Recording

Ease of use and management

- Establish complex network architectures not depending on SPAN ports
- Move or reconfigure complete departments with ease
- Improve control over branch locations

Economical

- Reduce OPEX with easier administration as no configuration of SPAN ports is necessary
- Reduced CAPEX – need for fewer elements at the branches

Reliable and secure

- Free-up resources for network monitoring
- Increase reliability utilizing system resources better and more manageable
- Security: Both authenticated and encrypted mode can never be recorded.
- Geo redundancy available with high bandwidth utilization

Additionally

- Internal calls recording = RSPAN, VLAN split to meet SPAN capacity
- Cisco plans support for CUCM 8.x
- Built-in support of **recording notification tones**

How does it work?

The Cisco Unified Communications Manager (CUCM) interface provides two recording modes:

- Automatic recording of all calls on line appearance. This method is invoked by CUCM.
- Selective recording allowing users to record ad-hoc or also allows recording server to record based on business rules and events.

After calling-in and routing the call to an agent CUCM automatically sends two call setup messages to the Agent device. The 1st call is the agent stream and the 2nd call is customer stream. The Communications Manager invites the recorder to both calls via SIP Trunk and the recorder accepts both calls and receives RTP streams from Agent device.

Forked recording requires:

- usage of the silent monitoring and recording interface of CUCM
- CUCM version 6.0 and higher
- the usage of 3rd generation phones, as detailed here:
- <https://developer.cisco.com/site/uc-manager-sip/faq/supported/>

Usage notes

Usage of a SPANless configuration will bring major benefits as long as the following requirements and notes are taken into account:

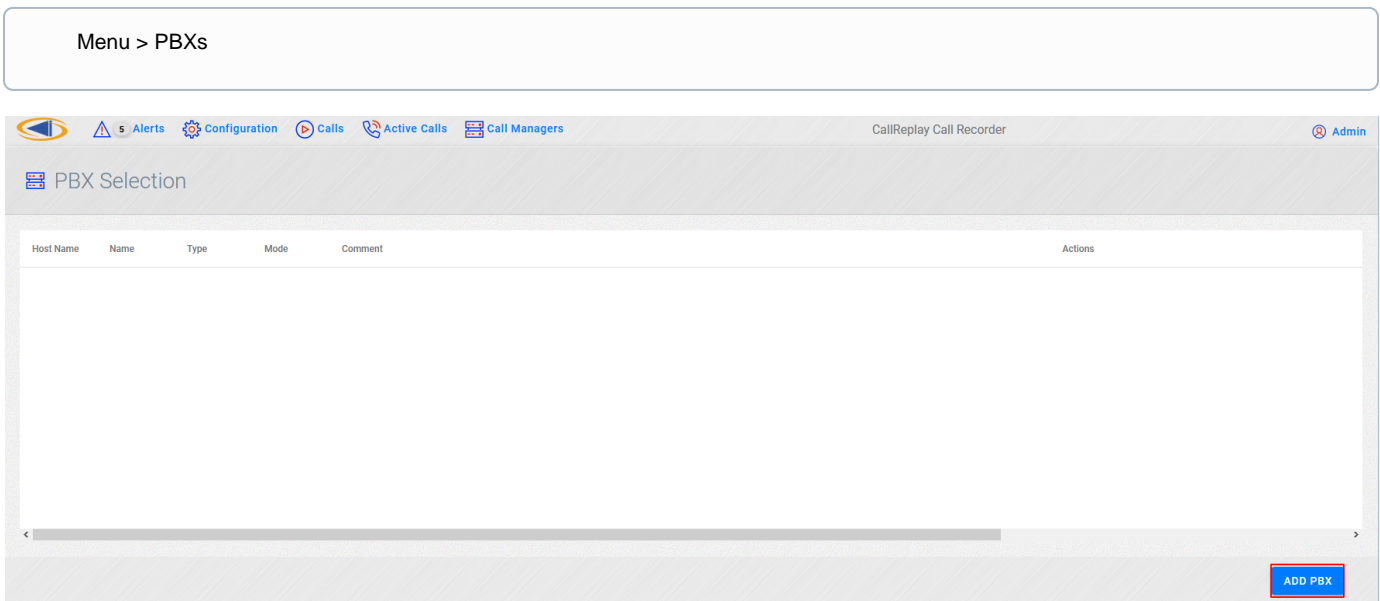
- The expected increase of network traffic
- For PSTN recording only GW span works as simple trunk recording
- TAP switches are able to handle high traffic in large architectures with centralized GW
- Only 3rd generation phones are supported
- There is no support for active-active redundancy
- Interruptions in recording may occur if a failure occurs during the call
- If the WAN capacity is limited, redundant recording may be refused (due to automated network intelligence)

Further reading: http://www.cisco.com/en/US/docs/voice_ip_comm/uc_system/UC6.0.1/features_apps/CMmonrec.html


Configuration Steps

In the Recording / PBXs page, the Forked Recording wizard button appears only when the PBX type is Cisco CallManager, version is greater or equal than 5.0 and the Forked Recording Protocol is selected in the PBX options. In this case other recording protocols should be disabled.

Step 1. Add a new PBX by clicking the Add PBX button.



Step 2. The PBX window appears allowing to edit the PBX settings.


5 Alerts
Configuration
Calls
Active Calls
Call Managers
CallReplay
Call Recorder
Admin

[< BACK](#)

New PBX

*GENERAL

*PROTOCOLS

Enabled: ☒

Name:

PBX Type:

IP Addresses:

External Trunks:

PBX Version*:

* The version format is 4.1.2

Park Numbers:

Voice Mail Numbers:


Comment:

[NEXT >](#)
[CLOSE](#)

You may need to change the following fields according to the type of PBX:

- **PBX Type:** This drop-down list allows the selection of the PBX type, for example CallManager or CallManager Express.
- **IP Addresses:** The IP address of the PBX. If there are more IPs (for example if you have a cluster) separate the IP addresses by the semi-colon character, or write each address separately on one line.
- **External SIP Trunks:** The names (not the IP) of your external SIP Trunks. You can enter them one per line.
- **PBX Version:** The version of the PBX. It is important to insert the correct version using at least the MINOR:MAJOR notation (e.g. 10.5 or 10.5.2 for CallManager 10.5.2). CallReplay takes this version into account when it communicates with CallManager (make sure to change this to the appropriate value when upgrading your CallManager).
- **Park Numbers:** A list of park numbers. Use the X wildcard to stand for zero or any one digit.

Step 3. Select Next to continue to the Protocols configuration



5 Alerts

Configuration

Calls

Active Calls

Call Managers

CallReplay Call Recorder

Admin

BACK

New PBX

GENERAL

*PROTOCOLS

AUTHENTICATION

ADD PROTOCOL

RESET TO PBX DEFAULT

Enabled	Edit	Protocol	Parameters	Delete
<input type="checkbox"/>	EDIT	Cisco Skinny	protocol=skinny; port=2000; version=8.0	DELETE
<input type="checkbox"/>	EDIT	SIP	protocol=sip; port=5060	DELETE
<input checked="" type="checkbox"/>	EDIT	Cisco Forked Recording	playRecordingTone=true; protocol=ciscoJtapi; password=b6be...	DELETE

NEXT >

CLOSE

- **Protocols:** This list should already have Forked Recording enabled. Make sure it is checked.

Step 4 Edit Cisco Forked Recording

[Edit Protocol](#)

Protocol: Cisco Forked Recording ▼

Port 5060

☐ Record Encrypted Calls

User name CallReplay

Password ●●●●●●●●●●●●●●●●●●●●

Recorder Address 10.1.0.150

☒ Play Recording Tone

Disable This Protocol ☐

Deny ☐


OK


CANCEL


Ensure the password for CallReplay user is set correctly


One the settings are in place click OK and then click the Next button.


Step 5 Confirm CUCM Username and password and confirm Certificate Security




 5 Alerts


 Configuration

 Calls

 Active Calls

 Call Managers

CallReplay Call Recorder

 Admin

< BACK

New PBX

GENERAL

PROTOCOLS

AUTHENTICATION

CUCM Address:10.1.0.65

CUCM Username:CCMAdministrator

CUCM Password:


☐ Remember Password:


Certificate SecurityEnabled


NEXT >


CLOSE


Click Next button to continue




 4 Alerts


 Configuration

 Calls

 Active Calls

 Call Managers

CallReplay Call Recorder

 Admin

< BACK

New PBX

GENERAL

PROTOCOLS

AUTHENTICATION

RECORDER APPLICATION USER

PHONE SERVICE

RECORDING PROFILE

SIP TRUNK

ROUTE PATTERN

DEVICE POOLS

PHONES

STATUS

Service Name:CallReplay Call Recorder

Description:CallReplay Call Recorder

Phone service Address (this):10.1.0.150

URL:http://10.1.0.150:80/CallRecorder/phoneService?name=#DEVICENAME#

NEXT >

CLOSE

In the next page leave all the fields unchanged unless instructed by technical support. The Phone Service IP address must be routable from the phones' VLAN. Press **Next** button.


Step 5. Here you must select the correct CallManager Group, Recorder Extension for CallReplay, the IP address of the CallReply recorder (also needs to be routable from a phone's IP address), CSS and Device Pool for recorded phones, Security Profile, SIP port of Callreplay (Syn-Apps' SA-Announce also uses a SIP trunk so make sure in that case to select another port, such as 5061) and the RTP port range used by CallReplay for receiving audio streams. The recorder extension must have the same number of digits as recorded extensions.


The screenshot shows the 'New PBX' configuration page in the CallReplay Call Recorder interface. The top navigation bar includes icons for Alerts, Configuration, Calls, Active Calls, Call Managers, and an Admin user profile. The sidebar on the left lists various configuration categories: GENERAL, PROTOCOLS, AUTHENTICATION, RECORDER APPLICATION USER, PHONE SERVICE, RECORDING PROFILE (highlighted in blue), SIP TRUNK, ROUTE PATTERN, DEVICE POOLS, PHONES, and STATUS. The main form area contains the following fields:


- Profile Name:** CallReplay recording profile
- Calling Search Space:** <None> (dropdown menu)
- Call Manager Group:** Default (dropdown menu)
- Recorder Extension:** 6999


At the bottom right of the form, there are two buttons: 'NEXT >' and 'CLOSE'.


- **Recording Profile > Calling Search Space:** This is the CSS that will be selected for the Recording Profile. Please use a CSS setting so that the recording trunk phone number is reachable from all the phones which are to be recorded. A quick test would be to call the recording trunk extension from one of the phones to be recorded. The trunk should answer instantaneously and just silence should be heard. A fast busy tone would indicate a connection problem.
- **Recording Profile > Recorder Extension:** The number that will be used to send SIP invites to CallReplay in order to record. The number of digits for this extension must be the same as the number of digits of the recorded phones.




 Alerts


 Configuration

 Calls

 Active Calls

 Call Managers

CallReplay Call Recorder

 Admin

< BACK

New PBX

GENERAL

PROTOCOLS

AUTHENTICATION

RECORDER APPLICATION USER

PHONE SERVICE

*RECORDING PROFILE

SIP TRUNK

ROUTE PATTERN

DEVICE POOLS

PHONES

STATUS

SIP Trunk Name: CallReplay_SIP_trunk_10.1.0.150

SIP recorder host (this): 10.1.0.150

Device Pool: Default

Security Profile: Non Secure SIP Trunk Profile

SIP port: 5,060


Global RTP port range: 25,000 to: 30,000 (channels: 2,500)

Recording Notification Tone: ☐ To Agent ☐ To Other Party

NEXT >

CLOSE

- **SIP Trunk > SIP recorder host (this):** Enter the IP of the CallReplay machine
- **SIP Trunk > Device Pool:** Choose the Device Pool that the SIP trunk will be created with. The recorder should be in a DP which matches the physical location of the recording server. It is recommended that a dedicated DP is used for the recorder so that no media transcoding is necessary.
- **SIP Trunk > Security Profile:** Make sure to select a Non Secure SIP Trunk Profile or a New Non Secure SIP Trunk Profile, this profile will be configured to use TCP for incoming connections.


4 Alerts
Configuration
Calls
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CallReplay Call Recorder
Admin

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New PBX

GENERAL
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RECORDER APPLICATION USER
PHONE SERVICE
*RECORDING PROFILE
SIP TRUNK
ROUTE PATTERN
DEVICE POOLS
PHONES
STATUS

Description: CallReplay route pattern
Partition: Directory URI
Pattern: 6999
Gateway: CallReplay_SIP_trunk_10.1.0.150

NEXT >
CLOSE

Once the above settings are complete, press the **Next** button. CallReplay will tell CallManager to create all the profiles (if they already exist, they will be overwritten).

Step 6. In the Device Pools section you can select which device pool to configure. Once you selected a Device Pool, in the next tab (Phones), only the phones in the respective pool will be shown.

Step 7. Here you have a list of a phones to manage. Check all phones to record under *Record* column. Similarly for *Service* check box. When that check-box is selected, the phone will be subscribed to *CallReplay Phone Service* (see step 2), which will become available on the *Service* button (on the phone). Thus we can control recording and monitoring independently for each phone. You can **filter** phones by *Selected / Unselected* (record or service) or by typing some text to search in all columns. Checking *Reconfigure all controlled phones* will update all phones with current shown configuration, otherwise only changed ones will be updated.

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New PBX

GENERAL

PROTOCOLS

AUTHENTICATION

RECORDER APPLICATION USER

PHONE SERVICE

*RECORDING PROFILE

SIP TRUNK

ROUTE PATTERN

DEVICE POOLS

PHONES

STATUS

☐

Name

Region

☐

Default

Default

☐

[None]

NEXT >

CLOSE

Press the **Close** button to close the wizard configuration utility.

Cisco CallManager - Alternative/Manual Configuration for Forked Recording

We recommend the usage of CallReplay Forked wizard for configuring your Cisco CallManager. But if you do not want to use this feature follow these steps to prepare your Cisco CallManager for recording.

1. Recording phones using forked

You need to create by hand an application user - *CallReplay*, a new SIP profile - *CallReplay SIP profile*, a recording profile - *CallReplay recording profile* and a new trunk - *CallReplay_SIP_trunk*.

CallReplay Application User

In CallManager site administration go to User Management > Application User. Press the *Add New* button and fill in the text fields as follows:

Application User Information

User ID*: *CallReplay*

Password: *password*

Confirm Password: *password*

Presence Group*: select *Standard Presence group*

Device Information

Add from the list of Available Devices to the list of Controlled Devices the phones who will be recorded.

If you use EM profiles then add from "Available Profiles" list to the "CTI Controlled Device Profiles" list the EM profiles who will be recorded.

Permissions Information

Groups: press *Add to User Group* button and in list shown subscribe to the following groups: *Standard CTI Enabled*, *Standard CTI Allow CallRecording*, *Standard CTI Allow Control of Phones supporting Connected Xfer and conf* and *Standard CTI Allow Control of Phones supporting Rollover Mode*

Press Save button to create the application user.

CallReplay SIP profile

In CallManager site administration go to Device > Device Settings > SIP Profile. Press *Add New* button and fill in the **Name*** with value *CallReplay SIP profile*. Save the changes

CallReplay recording profile

In CallManager site administration go to Device > Device Settings > Recording Profile. Press *Add New* button and fill in the text fields as follow:

Name*: *CallReplay recording profile*

Recording Calling Search Space: select a CSS

Recording Destination Address*: xxx - the extension used by CallRecorder. The value must be an unassigned EXT and having the same number of digits as recorded extensions. If extensions in your network have 3 digits then this value must have 3 digits too.

Save the changes.

CallReplay SIP trunk

In CallManager site administration go to Device > Trunk and press *Add New* button to define a new trunk. Fill in the text fields:

Device Information

Device Name*: *CallReplay_SIP_trunk_xx.xx.xx.xx* where *xx.xx.xx.xx* is the IP of CallRecorder server.

Device Pool*: select the device pool where the recorded phones are registered

SIP information

Destination Address: the IP of the CallRecorder server

Destination Port: the port where CallRecorder is listening (default value 5061)

SIP Trunk Security Profile*: select security profile accordingly

SIP Profile*: select CallReplay SIP profile (created before)

Save the changes.

2. Subscribe phones to the CallReplay Call Recorder Phone Service

Create CallReplay Call Recorder phone service

In CallManager site administration go to Device > Device Settings > Phone Services and press *Add New* button to define a new phone service. Fill in the text fields as follow:

Service Name*: *CallReplay Call Recorder*

ASCII Service Name*: *CallReplay Call Recorder*

Service Description: *CallReplay Call Recorder*

Service URL: <http://IP:PORT/CallRecorder/phoneService> (you can get these values from CallReplay Site Configuration);

Service Category*: select *XML Service*

Service Type*: select *Standard IP Phone Service*

Enable: *True*

Save the changes.

Subscribe devices

In CallManager site administration go to Device > Phone and perform the following operations:

- select a device;
- select from *Related Links* dropdown list option *Subscribe/Unsubscribe Service* and press *Go* button;
- in the new windows select *CallReplay Call Recorder* service
- press *Next* and after that *Subscribe* button;
- close the window;

After the phone reset the *CallReplay Phone Service* becomes available for use.

IPTrade Turret Recording

CallReplay offers an fully integrated solution for IPTrade Turret VoIP recording, based on active recording. This means that the two platforms are directly connected, without requiring any additional hardware and a duplicate media stream of every conversation to be recorded is sent from the turret to the recorder.

Active Recording Settings

This section represents the system configuration for active recording on IPTrade turrets. Administrators must set the CallReplay as the recording server and indicate that server to the IPTrade system. The following settings have been confirmed to work on CallReplay v7.5 and IPTrade Turret Support Server (TSS) v7.4.24448.

Call Replay settings

On Recording > PBX page choose *New PBX* and from the *PBX Type*, select *IPTrade Active*.

Fill in the the *IP Addresses* field with any address (ex. 0.0.0.0).

From *Protocols* list choose IPTrade Active and edit the protocol settings:

- Port indicates the TCP port to listen for incoming connections. Default value is 4456. You must enable this port into the system firewall.
- VAD indicates whether or not the recording server will use Voice Activity Detection settings for silence detection.

Turret Support Server settings

Following settings are required on TSS for integration with the active recoding system.

1. Set turret recording engine

Go to System\Settings\FTP settings (turrets) and on Recorder - Basic Mode choose "iptrade" for *Recorder compatibility*.

2. Configure the voice recorder address

Use the same location as the one used to set the recording engine or inside user profile (Account Management\User) or shared profile (Account Management\Shared Profile) go to Settings tab and on Recorder - Basic Mode configure the voice recorder location in form <protocol>://<address>:<port> where:

- Protocol indicates the voice recording system to be considered. Valid values are: vrc.
- Address indicates the IP address or the name of the voice recording service host.
- Port indicates the TCP port to connect to the voice recording service (same as the value used to configure the IPTrade Active Recording protocol in CallReplay).

Example: vrc://192.168.0.1:4456

Mitel SRC Recording

Overview:

The Secure Recording Connector (SRC) service is a software solution that facilitates the recording of Mitel encrypted voice streams by third-party call recording equipment (CRE). The Mitel Border Gateway (MBG) server with SRC service is positioned on the LAN between the ICP and the sets to be recorded. It accepts requests from an authorized CRE to establish taps in the voice stream. These taps are separate (mirrored) streams from the SRC to the CRE.

CallReplay offers a native solution for recording calls on Mitel PBXs for both direct and indirect call recording setups.

There are several abbreviations that will be used throughout this manual:

SRC - Secure Recording Connector

MBG - Mitel Border Gateway

MCD - Mitel Communications Director

ICP - Integrated Communications Platform

2. Requirements:

1. Mitel SRC Licenses

SRC Licenses are a Mitel requirement and need to be acquired from your Mitel Partner. You need as many licenses as CallReplay Licenses.

When the licenses are installed, you should be able to see the number of Tap Licenses in **MBG -> Status -> Dashboard**.

3. SRC configuration and phones setup

1. For CallReplay to be able to receive audio streams, each phone that needs recording, has to be routed through the MBG (Mitel Border Gateway). This can be achieved in two ways:
 1. Register the phone to the MBG
 2. Set phone's Gateway to be the address of the MBG
2. In each MCD or ICP 3300 you need to allow *HCI Call Control* and *Monitor*.

This can be achieved in the section **System Properties -> System Feature Settings -> Class of Service Options**.

Program this setting for the COSs (Class of Services) of the phone sets that need recording.

4. CallReplay Setup

1. CallReplay Wizard

For CallReplay to be able to communicate with your PBX, it needs to know some information about your network set-up.

- In PBXs menu, there are the following options that you need to set:
- IP Addresses: The IP addresses of your **SRC** (usually the same IP as the **MBG**).
- PBX Type: This should be set as Mitel MCD 3300

- PBX Version: The version of your MCD or ICP (eg. 6.0)

2. Accept CallReplay Certificate in *MBG Certificate Management*.

CallReplay certificate should be in the Queued CSRs.

Note: It might be required that you restart the CallReplay Service

3. Set the phone sets that you want to record.

Switch back to CallReplay Wizard interface. In the PBXs menu, on the entry created in Step 1, click **Active Recording**, and choose the phones that you want to be recorded as shown in the following image:

Silent Monitoring/Recording Supported Devices

Silent Monitoring/Recording supported device reference chart for Cisco Unified Call Manager

Device/Phone Model	SCCP	SIP	Gateway-based RTP- Unencrypted Media	Automatic Recording	Silent Selective Recording	User Selective Recording (available in UCM 9.0 or later)	Device-based (built-in-bridge) RTP- Unencrypted Media	Device-based (built-in-bridge) sRTP - Encrypted Media	Remarks
Analog Phone	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not a supported device
Cisco 12 S	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not a supported device
Cisco 12 SP	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not a supported device
Cisco 30 SP+	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not a supported device
Cisco 3905	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not a supported device
Cisco 3911	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not a supported device
Cisco 6901	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not a supported device
Cisco 6911	XX	XX	Requires UCM 10.0(1) or later	Yes	Yes	Yes	Requires UCM 7.1(3) or later	Requires UCM 8.0(1) or later	CUCM 7.1(3) requires Dec 2009 firmware update 8.5(4)
Cisco 6921	XX	XX	Requires UCM 10.0(1) or later	Yes	Yes	Yes	Requires UCM 7.1(3) or later	Requires UCM 8.0(1) or later	CUCM 7.1(3) requires Dec 2009 firmware update 8.5(4)
Cisco 6941	XX	XX	Requires UCM 10.0(1) or later	Yes	Yes	Yes	Requires UCM 7.1(3) or later	Requires UCM 8.0(1) or later	CUCM 7.1(3) requires Dec

[illegible]

Cisco 7937	XX		Requires UCM 10.0(1) or later	Yes	Yes	SCCP, Yes SIP, Device-based only	Requires UCM 6.0(1) or later	No	Requires March 2010 firmware update 1.4(1)
Cisco 7940	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not a supported device
Cisco 7941	XX	XX	Requires UCM 10.0(1) or later	Yes	Yes	SCCP, Yes SIP, Device-based only	Requires UCM 6.0(1) or later	Requires UCM 8.0(1) or later	
Cisco 7941G-GE	XX	XX	Requires UCM 10.0(1) or later	Yes	Yes	SCCP, Yes SIP, Device-based only	Requires UCM 6.0(1) or later	Requires UCM 8.0(1) or later	
Cisco 7942	XX	XX	Requires UCM 10.0(1) or later	Yes	Yes	SCCP, Yes SIP, Device-based only	Requires UCM 6.0(1) or later	Requires UCM 8.0(1) or later	
Cisco 7945	XX	XX	Requires UCM 10.0(1) or later	Yes	Yes	SCCP, Yes SIP, Device-based only	6.0(1) or later	Requires UCM 8.0(1) or later	
Cisco 7960	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not a supported device
Cisco 7961	XX	XX	Requires UCM 10.0(1) or later	Yes	Yes	SCCP, Yes SIP, Device-based only	Requires UCM 6.0(1) or later	Requires UCM 8.0(1) or later	
Cisco 7961G-GE	XX	XX	Requires UCM 10.0(1) or later	Yes	Yes	SCCP, Yes SIP, Device-based only	Requires UCM 6.0(1) or later	Requires UCM 8.0(1) or later	End of Software Maintenance Release 2009
Cisco 7962	XX	XX	Requires UCM 10.0(1) or later	Yes	Yes	SCCP, Yes SIP, Device-based only	Requires UCM 6.0(1) or later	Requires UCM 8.0(1) or later	
Cisco 7965	XX	XX	Requires UCM 10.0(1) or later	Yes	Yes	SCCP, Yes SIP, Device-based only	Requires UCM 6.0(1) or later	Requires UCM 8.0(1) or later	
Cisco 7970	XX	XX	Requires UCM 10.0(1) or later	Yes	Yes	SCCP, Yes SIP, Device-based only	Requires UCM 6.0(1) or later	Requires UCM 8.0(1) or later	End of Software Maintenance Release 2009
Cisco 7971	XX	XX	Requires UCM 10.0(1) or later	Yes	Yes	SCCP, Yes SIP, Device-based only	Requires UCM 6.0(1) or later	Requires UCM 8.0(1) or later	End of Software Maintenance Release 2009
Cisco 7975	XX	XX	Requires UCM 10.0(1) or later	Yes	Yes	SCCP, Yes SIP, Device-based only	Requires UCM 6.0(1) or later	Requires UCM 8.0(1) or later	
Cisco 7985	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not a supported device
Cisco 8811		XX	Requires UCM 10.0(1) or later	Yes	Yes	Yes	Requires UCM 8.5(1) or later	Requires UCM 8.6(2) or later	
Cisco 8831		XX	Requires UCM 10.0(1) or later	Yes	Yes	SIP, Device-based only	Requires SIP firmware 9.3(2)	Requires SIP firmware 9.3(2)	
Cisco 8841		XX	Requires UCM 10.0(1) or later	Yes	Yes	Yes	Requires UCM 8.5(1) or later	Requires UCM 8.6(2) or later	
Cisco 8845		XX	Requires UCM 10.0(1) or later	Yes	Yes	Yes	Requires UCM 8.5(1) or later	Requires UCM 8.6(2) or later	
Cisco 8851		XX	Requires UCM 10.0(1) or later	Yes	Yes	Yes	Requires UCM 8.5(1) or later	Requires UCM 8.6(2) or later	
Cisco 8861		XX	Requires UCM 10.0(1) or later	Yes	Yes	Yes	Requires UCM 8.5(1) or later	Requires UCM 8.6(2) or later	
Cisco 8865		XX	Requires UCM 10.0(1) or later	Yes	Yes	Yes	Requires UCM 8.5(1) or later	Requires UCM 8.6(2) or later	
Cisco 8941	XX	XX	Requires UCM 10.0(1) or later	Yes	Yes	Yes	Requires UCM 7.1(5) or later	Requires UCM 8.0(1) or later	Requires firmware 9.1(2) or later. SIP support in 9.2(1) in July 2011.
Cisco 8945	XX	XX	Requires UCM 10.0(1) or later	Yes	Yes	Yes	Requires UCM 7.1(5) or later	Requires UCM 8.0(1) or later	Requires firmware 9.1(2) or later. SIP

[illegible]

[illegible]

Connect - Softphone Mode									
Cisco Unified Communications Integration for WebEx Connect - Remote Desktop Control Mode	N/A	N/A	Refer to the device model under remote control to determine support.	Refer to the device model under remote control to determine support.	Refer to the device model under remote control to determine support.	Refer to the device model under remote control to determine support.	Refer to the device model under remote control to determine support.	Refer to the device model under remote control to determine support.	Refer to the device model under remote control to determine support.
VGC Phone	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not a supported device
VG224	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not a supported device
VG248	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not a supported device
CTI Port	N/A	N/A	Requires UCM 10.0(1) or later	Yes	Yes	Yes	N/A	N/A	
CTI Remote Device (Extend & Connect)	N/A	N/A	Requires UCM 10.0(1) or later	Yes	Yes	Yes	N/A	N/A	
CTI Route Point	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not a supported device
CTI Route Point (Pilot Point)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not a supported device
ISDN BRI Phone	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not a supported device
Carrier Integrated Mobile	N/A	N/A	Requires UCM 10.0(1) or later	Yes	Yes	No	N/A	N/A	
IMS Client	N/A	N/A	Requires UCM 10.0(1) or later	Yes	Yes	No	N/A	N/A	
Mobile Communicator	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not a supported device
Nokia S60	N/A	N/A	Requires UCM 10.0(1) or later	Yes	Yes	Yes via DTMF	N/A	N/A	
Remote Destination Profile (Single Number Reach)	N/A	N/A	Requires UCM 10.0(1) or later	Yes	Yes	Yes via DTMF	N/A	N/A	

JTAPI Encrypted Call Support

To enable support of encrypted calls the following actions will need to be performed

From within the Call Replay administration GUI

1. Navigate to Call Managers and Add a PBX



PBX Selection

Host Name	Name	Type	Mode	Comment	Actions
-----------	------	------	------	---------	---------

ADD PBX

1. Add the appropriate details for the highlight boxes in the image

< BACK

New PBX

*GENERAL

*PROTOCOLS

Enabled:

☒

Name:

New secure PBX entry

PBX Type:

Cisco CallManager

IP Addresses:

10.1.0.63

External Trunks:

PBX Version*:

12.5

* The version format is 4.1.2

Park Numbers:

Voice Mail Numbers:


Comment:


NEXT >


CLOSE

NOTE: Ensure IP addresses include Publisher and all subscribers, FQDN can be used but are not recommended.

Select Next, You will then be presented with the following protocols screen


 **CISCO Keystore Editor (Cisco.jks)**

 **IMPORT CERTIFICATE**

 Drop files

+ NEW


Alias	Expiry	Issuer	Subject	Actions	Property	Value
ciscoraisoftware	2030-03-09	RAI Software SRL	C=, L=, O=RAI Soft...	<div><div>Delete</div><div>Export</div></div>	OID:	1.2.840.113549.1.1.11
					Signature:	[103, 22, 49, -106, 100, -119, -104, 6, -43, 17, -48, -111, -114...
					Subject DN:	C=, L=, O=RAI Software SRL, OU=RAI Software SRL, CN=R...
					Subject UID:	null
					Subject Alterna...	TODO
					Public Key:	Sun RSA public key, 1024 bits params: null modulus: 990...
					DER:	[48, -126, 1, -82, -96, 3, 2, 1, 2, 2, 4, 63, 94, 9, -57, 48, 13, 6, ...

 **SAVE**

CANCEL

On the FORKED OPTIONS page ensure you have the required Call Security (Secure RTP) and that JTAPI security is set to Secure (TLS). Also make a note of the Instance ID and the Authentication Code by clicking the eye icon.

< BACK

 **New PBX**

GENERAL

PROTOCOLS

AUTHENTICATION

***FORKED OPTIONS**

PHONE SERVICE

RECORDING PROFILE

SIP TRUNK

ROUTE PATTERN

DEVICE POOLS

PHONES

STATUS

User Name:

Password:

Instance ID

Authentication Code

CLEAR CERTIFICATES

Call Security

JTAPI Security

NEXT >

CLOSE

Select NEXT

If required Modify the Service Name and Description and verify the Phone service Address (this) is correct – this should be the IP address of the Call Replay server, then Select NEXT

The screenshot shows the 'Edit PBX : New secure PBX entry(10.1.0.63)' form with the 'PHONE SERVICE' tab selected. The left sidebar lists various configuration categories: GENERAL, PROTOCOLS, AUTHENTICATION, FORKED OPTIONS, PHONE SERVICE (highlighted), RECORDING PROFILE, SIP TRUNK, ROUTE PATTERN, DEVICE POOLS, PHONES, and STATUS. The main form area contains the following fields: 'Service Name' with the value 'CallReplay Call Recorder', 'Description' with the value 'CallReplay Call Recorder', 'Phone service Address (this):' with the value '10.1.0.157' (highlighted with a red box), and a 'URL' field with the value 'http://10.1.0.157:8080/CallRecorder/phoneService?name=#DEVICENAME#'. At the bottom right, there are 'NEXT >' and 'CLOSE' buttons.

If required modify the Profile name or leave as default, modify Call Search Space and Call Manager Group as required or leave as default,

The screenshot shows the 'Edit PBX : New secure PBX entry(10.1.0.63)' form with the 'RECORDING PROFILE' tab selected. The left sidebar is the same as the previous screenshot, with 'RECORDING PROFILE' highlighted. The main form area contains the following fields: 'Profile Name' with the value 'CallReplay recording profile', 'Calling Search Space:' with the value '<None>' (highlighted with a blue box), 'Call Manager Group:' with the value 'Default', and 'Recorder Extension:' with the value '7999' (highlighted with a red box). At the bottom right, there are 'NEXT >' and 'CLOSE' buttons.

Leave Recording profile as default or modify if required, select Next

The screenshot shows the 'Edit PBX : Cisco CallManager(cucm125s.lab.raisoftware.ro)' configuration page. The left sidebar contains a menu with the following items: GENERAL, PROTOCOLS, AUTHENTICATION, FORKED OPTIONS, PHONE SERVICE, RECORDING PROFILE, SIP TRUNK (highlighted), ROUTE PATTERN, DEVICE POOLS, PHONES, and STATUS. The main content area is for the 'SIP TRUNK' configuration. It includes the following fields: SIP Trunk Name: CallReplay_SIP_trunk_10.1.0.166, SIP recorder host (this): 10.1.0.166, Device Pool: Default, Security Profile: CallReplay Secure Trunk Profile, SIP port: 5,062, SIP Connection Security: Secure (TLS) (highlighted with a red box), Global RTP port range: 25,000 to 30,000 (channels: 2,500), and Recording Notification Tone: To Agent and To Other Party (both unchecked). A blue 'CERTIFICATES EDITOR' button is located next to the 'SIP Connection Security' dropdown. At the bottom right, there are 'NEXT >' and 'CLOSE' buttons.

On the SIP trunk tab ensure that you have selected Secure (TLS) - you do not need to be concerned with Certificate editor if you followed the earlier instructions.

Make any other required modifications here or leave as default

Select Next

The screenshot shows the 'Edit PBX : Cisco CallManager(cucm125s.lab.raisoftware.ro)' configuration page. The left sidebar contains a menu with the following items: GENERAL, PROTOCOLS, AUTHENTICATION, FORKED OPTIONS, PHONE SERVICE, RECORDING PROFILE, SIP TRUNK, ROUTE PATTERN (highlighted), DEVICE POOLS, PHONES, and STATUS. The main content area is for the 'ROUTE PATTERN' configuration. It includes the following fields: Description: CallReplay route pattern, Partition: Directory URI, Pattern: 7999, and Gateway: CallReplay_SIP_trunk_10.1.0.166. At the bottom right, there are 'NEXT >' and 'CLOSE' buttons.

On the Route Pattern tab leave as default or make modifications if required

Select Next

[< BACK](#)

Edit PBX : Cisco CallManager(cucm125s.lab.raisoftware.ro)

GENERAL
PROTOCOLS
AUTHENTICATION
FORKED OPTIONS
PHONE SERVICE
RECORDING PROFILE
SIP TRUNK
ROUTE PATTERN
DEVICE POOLS
PHONES
STATUS

<input type="checkbox"/>	Name	Region
<input checked="" type="checkbox"/>	Default	Default
<input type="checkbox"/>	[None]	

[NEXT >](#)
[CLOSE](#)

Select your device Pool

Select Next

[< BACK](#)

Edit PBX : Cisco CallManager(cucm125s.lab.raisoftware.ro)

GENERAL
PROTOCOLS
AUTHENTICATION
FORKED OPTIONS
PHONE SERVICE
RECORDING PROFILE
SIP TRUNK
ROUTE PATTERN
DEVICE POOLS
***PHONES**
STATUS

Filter:
All
Show All
15 item(s) visible out of 15

<input type="checkbox"/> Record	<input type="checkbox"/> Service	Name	Description	Number	CSS
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	SEP000C2996B099	Auto 6012	6012	
<input type="checkbox"/>	<input type="checkbox"/>	SEP0015F9B27711	Auto 6007	6007	
<input type="checkbox"/>	<input type="checkbox"/>	SEP000C29022AB7	Auto 6008	6008	
<input type="checkbox"/>	<input type="checkbox"/>	CSFW2016dev	6050	6050	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	SEP000C29CCCD59	Auto 6002	6002	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CSFW2012Prod	6051	6051	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	SEParse2	Auto 6052	6052	


Configure updated phones

[NEXT >](#)
[CLOSE](#)

Select the desired phones / extensions for inclusion for recording








Select Next

[< BACK](#)


Edit PBX : Cisco CallManager(cucm125s.lab.raisoftware.ro)

GENERAL
PROTOCOLS
AUTHENTICATION
FORKED OPTIONS
PHONE SERVICE
RECORDING PROFILE
SIP TRUNK
ROUTE PATTERN
DEVICE POOLS
PHONES
STATUS

Completed. 3/3 (3 Ok / 0 Error)

Message	Duration	Result
Connecting...	19s	 Ok
Retrieving device pools...	0s	 Ok
Retrieving information...	1s	 Ok
Retrieving device pool names.	0s	 Ok
Retrieving route partitions.	0s	 Ok
Retrieving calling search spaces.	0s	 Ok
Retrieving security profiles.	0s	 Ok

NEXT >


CLOSE

Close the wizard

Then launch the web interface for CUCM (Cisco Unified Communications Manager)

And select Operating System Administration

Login into the interface as an administrator


Cisco Unified Operating System Administration
For Cisco Unified Communications Solutions

Navigation Cisco Unified OS Administration Go

Cisco Unified Operating System Administration

Username

Password

Login Reset

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For information about Cisco Unified Communications Manager please visit our [Unified Communications System Documentation](#) web site.

For Cisco Technical Support please visit our [Technical Support](#) web site.

Then select Security / Certificate Management

Cisco Unified Operating System Administration
For Cisco Unified Communications Solutions

Show ▾ Settings ▾ **Security ▾** Software Upgrades ▾ Services ▾ Help ▾

- Certificate Management
- Certificate Monitor
- Certificate Revocation
- IPSEC Configuration
- Bulk Certificate Management
- Session Management
- Cipher Management

WARNI

Cisco Uni

System version:

VMware Installation: -1 vCPU, disk 1: 80Gbytes, 8192Mbytes RAM, Partitions aligned
WARNING: NTP server unreachable

figured. This is required to recover your system in case of failure.

System Administration

User admin last logged in to this cluster on Wednesday, March 25, 2020 4:12:35 PM EET, to node 10.1.0.63, from 10.1.0.166 using HTTPS

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This product contains cryptographic features and is subject to United States and local country laws governing import, export, transfer and use. Delivery of Cisco crypt distribute or use encryption. Importers, exporters, distributors and users are responsible for compliance with U.S. and local country laws. By using this product you agree to comply with U.S. and local laws, return this product immediately.

A summary of U.S. laws governing Cisco cryptographic products may be found at our [Export Compliance Product Report](#) web site.

For information about Cisco Unified Communications Manager please visit our [Unified Communications System Documentation](#) web site.

For Cisco Technical Support please visit our [Technical Support](#) web site.

Select Upload Certificate/Certificate chain

Cisco Unified Operating System Administration
For Cisco Unified Communications Solutions

Show ▾ Settings ▾ Security ▾ Software Upgrades ▾ Services ▾ Help ▾

Navigation | Cisco Unified OS Administration | Go

admin | About | Logout

Certificate List

Generate Self-signed | Upload Certificate/Certificate chain | Download CTL | Generate CSR

Certificate List

Find Certificate List where Certificate ▾ begin with ▾ Find Clear Filter

No active query. Please enter your search criteria using the options above.

Generate Self-signed | Upload Certificate/Certificate chain | Download CTL | Generate CSR

Select Upload Certificate/Certificate chain

Mobile Recorder

Android Recorder

Overview

CallReplay Recorder for Android allows you to record calls you make on your Android phones. Since the space available to store these recordings can be very limited, you can upload them on CallReplay Cloud Server.

For this, you need to have an account on a CallReplay Cloud Server. If you intend to use the public CallReplay Cloud Server located at [Cloud CallReplay Administration](#) please follow the next step.

If you want to use a custom installation of CallReplay Cloud Server, please skip to the 'Configuring phone to upload calls' section.

The minimum supported version is Android 2.3.3.

For the best experience with Cloud Server, you need a Flash enabled desktop/laptop/tablet browser. The cloud application is not optimized for mobile phone screens.

In this manual, the terms 'tenant', 'tenant account', 'cloud account', 'organization' all refers to the cloud space created in CallReplay for your organization. 'Organization ID' is the generated ID of this cloud space. The terms 'administrator', 'administrative user' and 'administrative account' refers to the person who has the login credentials needed to manage your tenant account (received in the e-mail specified at tenant creation). The administrator could create more administrative users for the same tenant, and also more non-administrative users.

Cloud Server Account

Using a Flash enabled browser, go to [CallReplay Cloud Register](#) page.

You need to enter at least a valid e-mail, your name, your company name and a valid web site. The trial account created this way is valid for *1 month* and have *200 MB* of disk space at your disposal.

You can use the same account for multiple phones, however, the trial account is valid for maximum 5 phones.

If you want to extend the validity of the account or change the available disk space or phone numbers, please contact sales or support (see [CallReplay Contact](#)).

You will receive an e-mail with subject "*CallReplay Tenant*" to the address provided, containing login credentials for administrative account (administrator) of this tenant

Once the account is activate you can access it through <http://cloud.call-replay.com/> and providing your credentials.

If you've wondered what is the 'Request Cloud Account' item from 'Upload Server' section of settings page, it has been added for people who do not read the manual. If we've shown the link in the Android Call Recorder, most people will tend to click it and expect to work on their mobile phone. Since it doesn't, and we do not want them to type the whole address, we send them an e-mail which they can read on another computer and click the link.

Configuring Phone

Upon registering a new tenant (cloud account), you will receive an e-mail containing credentials required to access the cloud server.

Please go to 'Settings' section and click on 'Upload Server'. You will see a page like this:

'Upload Server' - cloud.call-replay.com for public CallReplay Cloud Server, your server name / IP for custom installation of CallReplay.

'Organization ID' - this is your tenant account ID; it is named 'Organization ID' to avoid confusion with administrator ID. A since you can upload calls from multiple phones on the same account.

'Password' - this is the upload password, not your administrator password. To can change this password, login to your tenant administrator account, and go to 'Headquarters / Branch Replication'. Here you can find the 'connection password' on 'Headquarters tab'.

'Use Wi-Fi' - to automatically upload calls whenever a Wi-Fi connection is available.

'Use mobile connections' - useful when a Wi-Fi connection is not available. The upload on the mobile connection can be slower and might be subject to additional fees from your mobile carrier.

'On roaming' - check this if you want to upload calls when you travel to other countries and want to upload calls. Warning: this can be costly.

'Test Upload' - click this to see if all is configured correctly.

'Delete after Upload' - check this if you want to automatically delete uploaded records from your phone - this way you make space to record other calls.

Call Encryption

Overview

We value your privacy, so we introduced an OpenPGP public key encryption of recorded calls. If you do not have an OpenPGP public / private key pair, you can generate them using a 3rd party software which you can find freely on Internet (see notes on the bottom of the page).

Setting Up Call Encryption

Login as administrator on CallReplay Cloud Server and go to 'Storage' / 'Recording Encryption'.

Click the 'Upload' button and select your OpenPGP public key file. If successful, you will see some of the details of the public key certificate. For the purpose of call encryption, the certificate does not need to be signed.

Upon the next connection of your mobile phones to your tenant, the certificate will be sent to all of them and all subsequent calls will be encrypted using this certificate.

You can change the certificate any time you want, and only subsequent calls will be encrypted with the new certificate, the older ones will remain as they were (unencrypted or encrypted with older certificates).

Notes:

1. Uploading only the public key gives you a great deal of privacy: in case of mobile phone theft, the calls could not be listened. The drawback is that neither you can listen to your calls on the mobile phone.
2. In case you've wondered if someone could listen to your calls uploaded to CallReplay Cloud Server, this way you can be sure nobody could. The drawback is the same: neither you can listen to your calls online.

The only way to listen to your encrypted calls is to download them to a computer, decrypt them with your PGP capable software of your choice. The software will ask you for the private key, will decrypt your files and you can listen to them using your favorite WAV/3GPP player.

Quick setup for call encryption

You can also generate an OpenPGP private/public key pair using 'Generate' button from the same page. After entering a name and a password, you will be prompted to save the private key to your computer.

The generated public key will be sent to your mobile phones and calls will be encrypted using it. However, the private key will not be kept on our server for security reasons, so you should take proper care of the saved key. If you lose it, your calls cannot be decrypted.

Mobile phone encryption configuration

For the encryption to work, after you generated or uploaded a public key on CallReplay Cloud Server, you need to connect your mobile to the server. Make sure you have Internet connection then either go to 'Status' page and click 'Upload Now'.

Then go to the 'Settings' page, 'Upload Server' section and you should see the new info on 'Encryption Certificate' item.

Note: in case you have used multiple certificates over time, for each encrypted call you will see the certificate details on the call details page; this way you can identify the private key required to decrypt the recorded call.

Notes

The encrypted file conforms with OpenPGP standard (RFC 4880). The encryption is done using AES 256.

The generated certificate is a 1024-bit RSA key OpenPGP.

If you do not have an OpenPGP certificate and prefer creating one yourself, you can use GPG4Win, which is a 3rd party OpenPGP compliant free software for Windows: <http://www.gpg4win.org>.

Storage

- [Storage Volumes](#)
- [Storage Settings](#)
- [Statistics](#)
- [File Renaming](#)

Storage Volumes

The *Storage Volume* page allows to set the folder where the calls are stored. You can add new folders, you can join folder, or you can remove folders. In addition, CallReplay can manage multiple volumes that store calls on separate drives, which will be used in a round-robin order.

To add new volumes:

1. Go to **Storage > Storage Volumes**.
2. Click **Add Volume**.
3. Provide all the information requested.
4. Click **OK**.

Edit Storage Volume

Path: [INFO](#)

35.22 GB Free / 59.45 GB Total

Quota GB

Reserved GB

OK **CANCEL**

- **Path** - destination path on the local HD, where calls will be stored
- **Quota** - the maximum space that can be used to store calls. (0 means unlimited).
- **Reserved** - the reserved storage space for CallReplay

*When **(Used Space + Remaining Drive Free Space)** becomes lower than **Reserved Space**, a warning e-mail will be sent to the administrator.*

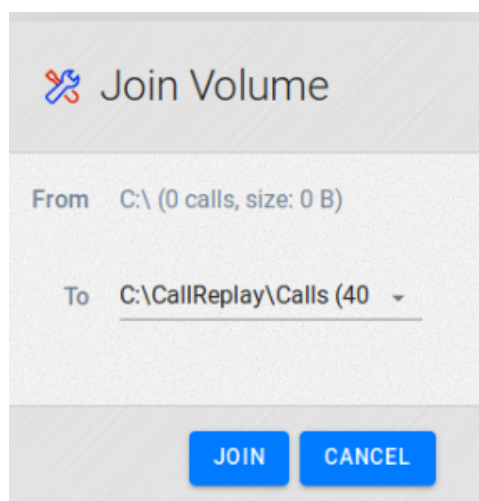
The storage volume list will be updated, including the information about free space on available drivers.

Storage Volumes												
+ ADD VOLUME		Reserved free space: <input type="text" value="1"/> GB Reserved for tenants: 0 B										
ID	Edit	Join	Folder	Call Count	Used Space	Storage Qu...	Reserved S...	Deleted	Delete	Drive	Free Space	Total Space
1	EDIT	JOIN	C:\CallReplay\Calls	29	10.57 MB	0 B	0 B	No	DELETE	C:\	35.22 GB	59.45 GB

To join volumes:

1. Go to **Storage > Storage Volumes**.
2. Click **Join** on the volume that will be the source
3. Select the **To** as the destination folder.

4. Click **Join**.



To delete a volume:

1. Go to **Storage > Storage Volumes**.
2. Select the row with volume to delete.
3. Click on the red circle button in *Delete* column.
4. Click **Yes** to confirm.

NOTES

A deleted volume is not removed when it contains calls, will be just marked as deleted and no other calls will be stored on it.

Storage Settings

The Advanced Storage Configuration holds further options for the storage of recordings:

Force G729 Recompression will encode all the stored files with the G.729

Capture Device Buffer - sets the buffer used to store capture packets in SPAN recording. It should not be changed unless instructed by CallReplay support team.

Recording Database Connections should correspond to the number of cores your processor has. Overprovisioning or high processor load from other applications can lead to a decrease in performance or, in the case of SPAN, recording quality

Recording Disk Threads should be tailored to the write speed and IOPS of your current storage. For regular HDD storage, 2 threads should be enough, and SSD based storage can use more threads, up to the number of processing cores.

Temporary Files Expiration - time to keep the temporary files, such as .PNG files

Recording Storage Format allows you to set the file type of the recorded calls. The recording is made in RTP format, and the default setting is to convert it to SPX, which is the most efficient compression format, designed specifically for voice audio. When changing the format, you have the option of converting existing recordings to the new format, as well.

Conversion Threads should be provisioned like Recording Disk Threads, as they have the same impact on the storage hardware. For regular HDD storage, 2 threads should be enough, and SSD based storage can use more threads, up to the number of processing cores.

Player Access Password - auto generated password, used for interfacing with APIs

Advanced Storage Configuration

Statistics

Compressed Calls: 0

Compressed Bytes: 0 B

Compression Errors: 0

Compression speed (calls/s): 0

Force G729 Recompression: ☐

Recording Storage Format: ☒ RTP (CallReplay proprietary file format using original call codec, allows verbatim reconstruction of the audio traffic)

☐ .SPX (open source file format, using Speex codec, highly compressed, 5.4 MB / hour)

☐ .WAV (standard file format, using G.711 codec, uncompressed, 57.6 MB / hour)

☐ .OPUS (open source file format, using Opus codec, highly compressed, 5 MB / hour)

Conversion threads: 2

(Recommended value: 2 for HDD storage, number of processor cores for SSD storage)

Retry Last Not Converted Calls:

RETRY

Reconvert All Calls:

RECONVERT

SAVE

Statistics

File Renaming

File Name Templates *Page* allows the administrator to change the template used to generate the file names for storing recorded calls.

The file names template is a string containing macros that expand to values related to the call like the call ID or caller number. The list of macro names that can be used is displayed in the "*Fields list*" table as can be seen in the image. Click on a macro name from the table to have the macro included at the end of the current file names template. You can also type any macro name from the table in the *File Name Template* field, surrounded by barces *{* and *}*, to include the macro in the file name template string.

The *Example* field (below the *File Name Template* field) shows how a file name would look like using the currently displayed template string. Also watch the *Example* field for errors like a wrong macro name being typed in the template string.

A new file name template takes effect after the *Save* button is pressed, and the new template will be used for all calls recorded thereafter. To also apply the new template to all the old files, that is to rename all previous files using the new template, use the "*Rename existing files ?*" radio group and select the option "*Or*". For this case, you can use the "*Call count*" field as an estimate of the number of calls that would have to be renamed with this option.

After saving a new template with the option to rename existing files, you can see the rename progress in the *Call count* field, in the format "remaning / total", like for example "120 / 550".

The "*Cancel*" button restores the current template string into the *File Name Template* field, and discards any changes you might have typed in the input box.

Storage > File Renaming

Playback

- Replay Calls
- Audit
- Active Calls
- SPX Player
- RTP Transcoder

Replay Calls

Replay Calls is the main user page. From here you can play and search recordings and access the call details page for each recording. Video recordings can also be accessed from here

Introduction

From the top menu choose Replay Calls:

Menu > Replay Calls

Replay Calls is the main user page. From here you can play and search recordings and access the call details page for each recording. Video recordings can also be accessed from here

In the Replay Calls menu you can see by default all calls recorded today. They can be found in the All folder on the left and distributed among the users.

Note: You can only play the calls that your user account has permission to playback.

Quick Play

Next we will show you how to listen to your calls. Click on speaker icon and a new window will appear, as shown below:

Replay Calls >Audio Player

43 Calls

Active: 0

Today: 0

Period Wednesday x

< >

📅 🗓 ⚙️

▼ 2019

▼ October

> This Week 8

▼ Last Week 11

Saturday 9

Friday 9

Thursday 4

Wednesday 7

Tuesday 9

Monday, 07 9

Sunday, 06 9

▼ Week 40 (Sep 29 - Oct 05) 9

Saturday, 05 9

Friday, 04 9

Thursday, 03 9

Agents

Contacts

Tags

Phones

Numbers

? Caller IDs

? IP Addresses

⌚ Duration

📄 Description

✖ Clear all

↻ Refresh

⏮ Hide

7 Calls Search 🔍

EXPORT ... DELETE @ EMAIL CATEGORIES ⚙️

ID	Date	★	Calling Party	Called Party	Duration	Actions
104	Wed 04:11:07	☆	6001 BOB	6002 SIMON	1m 20s	🔍 ⬇️ ⋮
94	Wed 03:49:37	☆	6001 BOB	6002 SIMON	1m 36s	🔍 ⬇️ ⋮
111	Wed 03:35:50	☆	6002 SIMON	6001 BOB	1m 24s	🔍 ⬇️ ⋮
98	Wed 03:32:44	☆	6002 SIMON	6001 BOB	1m 7s	🔍 ⬇️ ⋮
84	Wed 03:26:53	☆	6002 SIMON	6001 BOB	1m 49s	🔍 ⬇️ ⋮
110	Wed 03:22:18	☆	6001 BOB	6002 SIMON	0m 51s	🔍 ⬇️ ⋮
93	Wed 03:18:37	☆	6002 SIMON	6001 BOB	1m 15s	🔍 ⬇️ ⋮

Call Details x

GENERAL CALL INFO DESCRIPTION ADVANCED QUESTIONNAIRES

Call Party Information

Phone Number

User Name

Legal Zone

Legal Direction

Caller Party

6001

Internal

Internal

Called Party

6002

Internal

Internal

Player: 2019-10-09_03-49-37_6001_6002.opus

SAVE

Email

CATEGORIES

x

▶ ◀ ▶▶ 🔊

0:07 / 1:38

From here you can Play your selected call by pressing the highlighted button.
Notice the caller ID's, first the caller then the called, the start date&time and the duration.

In addition to listening to recorded calls, if a call has an associated video recording, shown by a blue-film icon, you can click on it to view the video recording with the call's audio.

Replay Calls > Video Player

This will open the Video Player window, which displays the time, date and the parties involved with the associated call.

Live Monitoring

If a call is in progress it can be monitored. For this, press the speaker button and the following window is shown:

Replay Calls >Audio Player

Properties of the call

Click on the details icon and choose Properties, or double-click a call. A window will appear, as shown below:

Replay Calls >Call Properties

Here you can view the call/video details, view/change the call's category, set description of call or export the call to email or to disk using wav or speex format.

Categories

You can assign more users/categories to a call

Editing Descriptions

In the text box enter the description you want. Then click the Save button.

Quick Save - Mailing

The options presented are Save Call or sending it by E-mail using the Wav or the Speex format.

Wav	(Waveform Audio) A common audio uncompressed file format for Windows computers (.wav). It has the advantage of being played by any Microsoft Windows sound application, the disadvantage being that it is uncompressed, thus, very large.
Speex	A free software speech codec designed for VoIP which provides very good quality speech and low bit rate, thus, occupying less disk space.

External Numbers - Customers

Phone number can be added/assigned to a customer. For this, click on exclamation mark and choose Add to Customer

Replay Calls > Add to Customer

You can select an existing customer or add a new one.

Advanced Search

In the Replay Calls page you can search recordings

You can add filters to the selection tool by clicking the ... button so you may customize your search.. After you finish the filter, press Refresh.

In the Replay Calls menu you can see by default all calls recorded today. They can be found in the All folder on the left and distributed among the users.

Note: You can only play the calls that your user account has permission to playback.

Quick Play

Next we will show you how to listen to your calls. Click on speaker icon and a new window will appear, as shown below:

Replay Calls >Audio Player

From here you can Play your selected call by pressing the highlighted button.

Notice the caller ID's, first the caller then the called, the start date&time and the duration.

In addition to listening to recorded calls, if a call has an associated video recording, shown by a blue-lit film icon, you can click on it to view the video recording with the call's audio.

Replay Calls > Video Player

This will open the Video Player window, which displays the time, date and the parties involved with the associated call.

Live Monitoring

If a call is in progress it can be monitored by selecting the play icon within Active Calls

Calling Party	Called Party	Start Time	Duration	Recording Policy	Actions
4000	6001	2019 October 24 05:47:27	22s	Trigger: Automatic. Pool: Dynamic Automatic	▶ ■ ● ▮ ✕ Auto

Properties of the call

Click on the details icon and choose Properties, or double-click a call. A window will appear, as shown below:

Replay Calls >Call Properties

Id	Date	Calling Party	Called Party	Duration	Actions
9	Today 02:28:52	4000 (TESTING)	6001	1m 37s	🔍 ⬇️ ⬆️
8	Today 02:27:14	4000 (TESTING)	6001	1m 57s	🔍 ⬇️ ⬆️

Call Details		
GENERAL	CALL INFO	DESCRIPTION
Call Party information	Caller Party	Called Party
Phone Number	4000	6001
User Name	TESTING	
Legal Zone		
Legal Direction		

Here you can view the call/video details, view/change the call's category, set description of call or export the call to email or to disk using wav or speex format.

Categories

You can assign more users/categories to a call

Editing Descriptions

In the text box enter the description you want. Then click the Save button.

Alerts
Configuration
Calls
Active Calls
Call Managers
CallReplay Call Recorder
Admin

7 Calls

Active: 0 Today: 0

Agents [ANY]

Agent

[Any]

Period today

2019

October

This Week

Today

Yesterday

Tuesday

Monday

Sunday

Last Week

Contacts

Tags

Phones

Numbers

Caller IDs

IP Addresses

Duration

Description

Clear all

Refresh

Hide

3 Calls

Search

EXPORT ...

DELETE

EMAIL

CATEGORIES

Id	Date	☆	Calling Party	Called Party	Duration	Actions
10	Today 05:47:27	☆	4000 (TESTING)	6001	21m 33s	
9	Today 02:28:52	☆	4000 (TESTING)	6001	1m 37s	
8	Today 02:27:14	☆	4000 (TESTING)	6001	1m 57s	

Call Details

GENERAL

CALL INFO

DESCRIPTION

ADVANCED

QUESTIONNAIRES

SAVE

CANCEL

This call was made to test description adding/editing

Quick Save - Mailing

The options presented are Save Call or sending it by E-mail using the Wav or the Speex format.

Wav	(Waveform Audio) A common audio uncompressed file format for Windows computers (.wav). It has the advantage of being played by any Microsoft Windows sound application, the disadvantage being that it is uncompressed, thus, very large.
Speex	A free software speech codec designed for VoIP which provides very good quality speech and low bit rate, thus, occupying less disk space.

External Numbers - Customers

Phone number can be added/assigned to a customer. For this, click on exclamation mark and choose Add to Customer

Replay Calls > Add to Customer

You can select an existing customer or add a new one.

Advanced Search

In the Replay Calls page you can search recordings

You can add filters to the selection tool by clicking the ... button so you may customize your search.. After you finish the filter, press Refresh.

Audit

Audit Page allows to see who listened a call or who emailed a call. You can filter by auditor or / and by phone number. This option is accessible through Playback / Audit

Playback > Audit

Time	Duration	User / IP	Source	Time	Operation	Target
2019-October-15 00:05:16		10.1.0.168	Site	00:05:16	Login	Db
2019-October-15 00:51:13		10.1.0.167	Site			
2019-October-16 00:07:57		10.1.0.167	Site			
2019-October-16 00:22:38		10.1.0.141	Site			
2019-October-16 00:25:09		10.1.0.141	Site			

Active Calls

The **Active Calls** window allows the administrators to view calls which are in progress, monitor them, stop or resume recording. This window is available from the **Playback > Active Calls** menu or from the **Active Calls** ribbon button below the menu.

Playback > Active Calls

Calling Party	Called Party	Start Time	Duration	Recording Policy	Actions
6001	6002	2019 October 16 12:27:56	1m 42s	Trigger: Automatic. Pool: Dynamic Automatic	▶ ■ ● ✕ Au
6001	6002	2019 October 16 12:27:56	1m 42s	Trigger: Automatic. Pool: Dynamic Automatic	▶ ■ ● ✕ Au

The top area of the window, above the current calls table shows the following information:

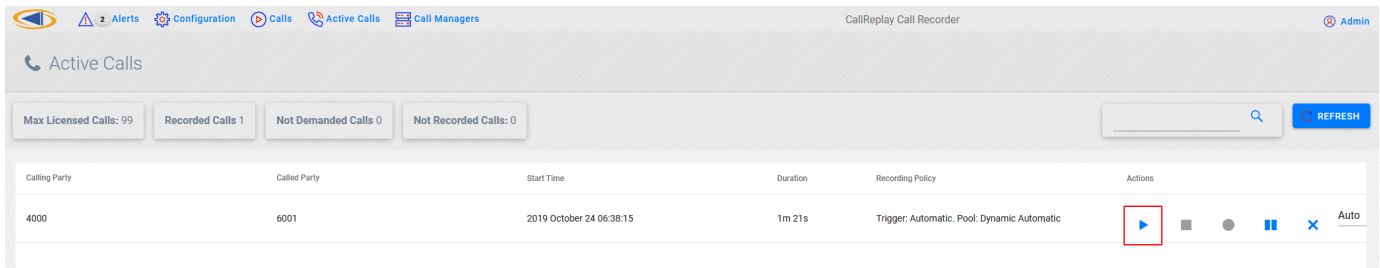
- **Max Licensed Calls:** Shows the total number of active, in-progress calls that can be recorded.
- **Recorded Calls:** Shows the total number of active, in-progress calls.
- **Waiting for demand:** Shows the total number of calls which can be recorded on-demand when the user selects Record This Call on the phone services button. Call recording can also be triggered from the CallReplay interface by clicking the Start Recording icon on a call in the list. If the user doesn't request recording, the call will not be recorded.
- **Not Recorded Calls:** Shows the total number of active, in-progress calls which will not be recorded. This can happen due to not enough channels or because of the currently set Recording Policies in Unified Configuration.

When calls are in progress, they will appear in this window. The columns include the following information:

- **Calling Party:** The number of the calling party.
- **Called Party:** The number of the called party.
- **Start Time:** The date and time the call started.
- **Recording Policy:** The rules/policies which influence the call and the allocated pool.
- **Actions:** The 4 icons allow to monitor an active conversation, start recording a call in progress, pause/resume recording a call in progress, or stop recording. When a recording is stopped, the call is discarded and there will be no possibility to record it again.

Monitoring a Call

To listen to a call in progress, click the Speaker icon in the rightmost column. A popup window playing the current conversation should appear:



CallReplay Call Recorder

Active Calls

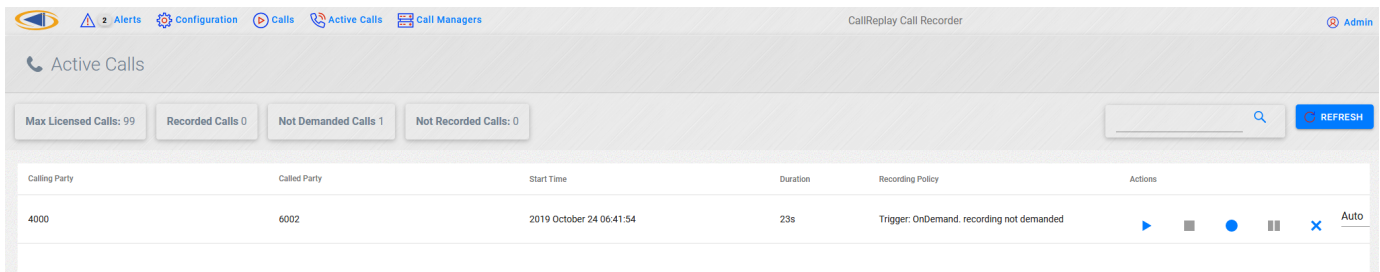
Max Licensed Calls: 99 | Recorded Calls 1 | Not Demanded Calls 0 | Not Recorded Calls: 0

Calling Party	Called Party	Start Time	Duration	Recording Policy	Actions
4000	6001	2019 October 24 06:38:15	1m 21s	Trigger: Automatic, Pool: Dynamic Automatic	<div>▶</div> <div>■</div> <div>●</div> <div>⏸</div> <div>✕</div> <div>Auto</div>

Recording Policy Column

The **Recording Policy** column displays information about the recording policies which are matched for an active call. For example, in the screenshot below the active call is recorded only **On-Demand**, meaning the user would have to press the Record This Call phone service button for the call to get recorded, or the administrator would have to click the Demand Recording button from the CallReplay interface.

On-Demand Policy



CallReplay Call Recorder

Active Calls

Max Licensed Calls: 99 | Recorded Calls 0 | Not Demanded Calls 1 | Not Recorded Calls: 0

Calling Party	Called Party	Start Time	Duration	Recording Policy	Actions
4000	6002	2019 October 24 06:41:54	23s	Trigger: OnDemand, recording not demanded	<div>▶</div> <div>■</div> <div>●</div> <div>⏸</div> <div>✕</div> <div>Auto</div>

Once the user presses the Record This Call button on the phone, a Pool name will appear showing where the call was categorized:

Automatic / Reserved Policy

A call which will be automatically recorded is listed using either Dynamic Automatic or Reserved Automatic recording policies:

Direction Not Recorded

The calls which have a direction for which there are policies in place which explicitly forbid recording (from Unified Configuration > Recording Policy) will not be recorded. These include calls of types: internal, outbound, inbound, parked, transferred. They should not appear in the Active Calls window.

SPX Player

RTP Transcoder

Quality

- [Quality Overview](#)
- [Quality Standards](#)
- [Reports](#)
- [Answers](#)
- [Records Evaluation](#)

Quality Overview

With CallReplay you have the ability to evaluate any call whether it happens in real-time (active call), whether it is a record of a call/conference or screen record. This can be achieved through customized templated questionnaires ('quality standards') which can be linked with a particular call.

Templated questionnaires ('quality standards') represents a set of questions that have predefined answers and which can be grouped into various categories depending on your particular needs.


Quality Standards

Before being able to evaluate real-time calls, or their recorded version, you must define quality standards.

Quality Standards				
+ ADD NEW STANDARD				
Quality Standard	Status			
Quality Review	Active	+ CLONE	DELETE	>
Call Review Tele	Active	+ CLONE	DELETE	>

To create a standard:

1. Go to **Quality > Quality Standard**.
2. Click **Add**.
3. Enter the name for the standard.
4. Leave **Disabled** unchecked.
5. Click **Save**.

 Edit question #6

Parent:

Quality review

Logical Id: 0001

Question:

How happy was the custom

Details:

Rate their experience

Answers:

Score 1-10

Button Type:

Slider

Importance:

50

 % (Relative)

OK

CANCEL

*At any time you can disable a standard by checking **Disabled**. This will make the standard and questions within unavailable to be linked with call records.*

To create a category:

- Go to **Quality > Quality Standards**.
- Click **Edit** button beside the standard where you want the category to be created.

The image shows a progress bar at the top with a value of 100.00% and an 'EDIT' button. Below it is a table header with a progress bar and a table with 10 columns numbered 1 to 10. The table has a value of 100.00% in the first column and an 'EDIT' button in the last column.

- Click Add button.
- Select Category for the drop-down menu.

The image shows a table header with a '+' button and a 'DELETE' button. A context menu is open over the '+' button, showing two options: 'ADD CATEGORY' and 'ADD QUESTION'.

- Introduce the category name as you like to be referred.

The image shows a dialog box titled 'Add category'. It has a 'Parent' dropdown menu set to 'Quality review'. Below it is a 'Category' text input field. At the bottom, there are 'Importance' and 'Weight' fields. The 'Importance' field is set to 'Element' and '100'. The 'Weight' field is set to '47.37' and '% (Absolute)'. At the bottom right, there are 'OK' and 'CANCEL' buttons.

- Chose parent for the new category. It can be a standard category or a subcategory.
- Click Ok.

| You can change the parent for a category by clicking on *Edit* button.


To create a question:

Go to Quality > Quality Standards.

Select the category where you want the question to be

Click Add button.

Select Question for the drop-down menu.

 Edit question #5

Parent: Sub folder

Logical Id: 1001

Question: Q1




Details: Det1

Answers: Score A-F

Button Type: Slider

Importance: 170 % (Relative)

Click Ok.

<input type="checkbox"/>	 Q1	Det1	170.00%	100.00%	<div> <div>A B C D E F</div> <div></div> </div>	 EDIT
--------------------------	--	------	---------	---------	---	--

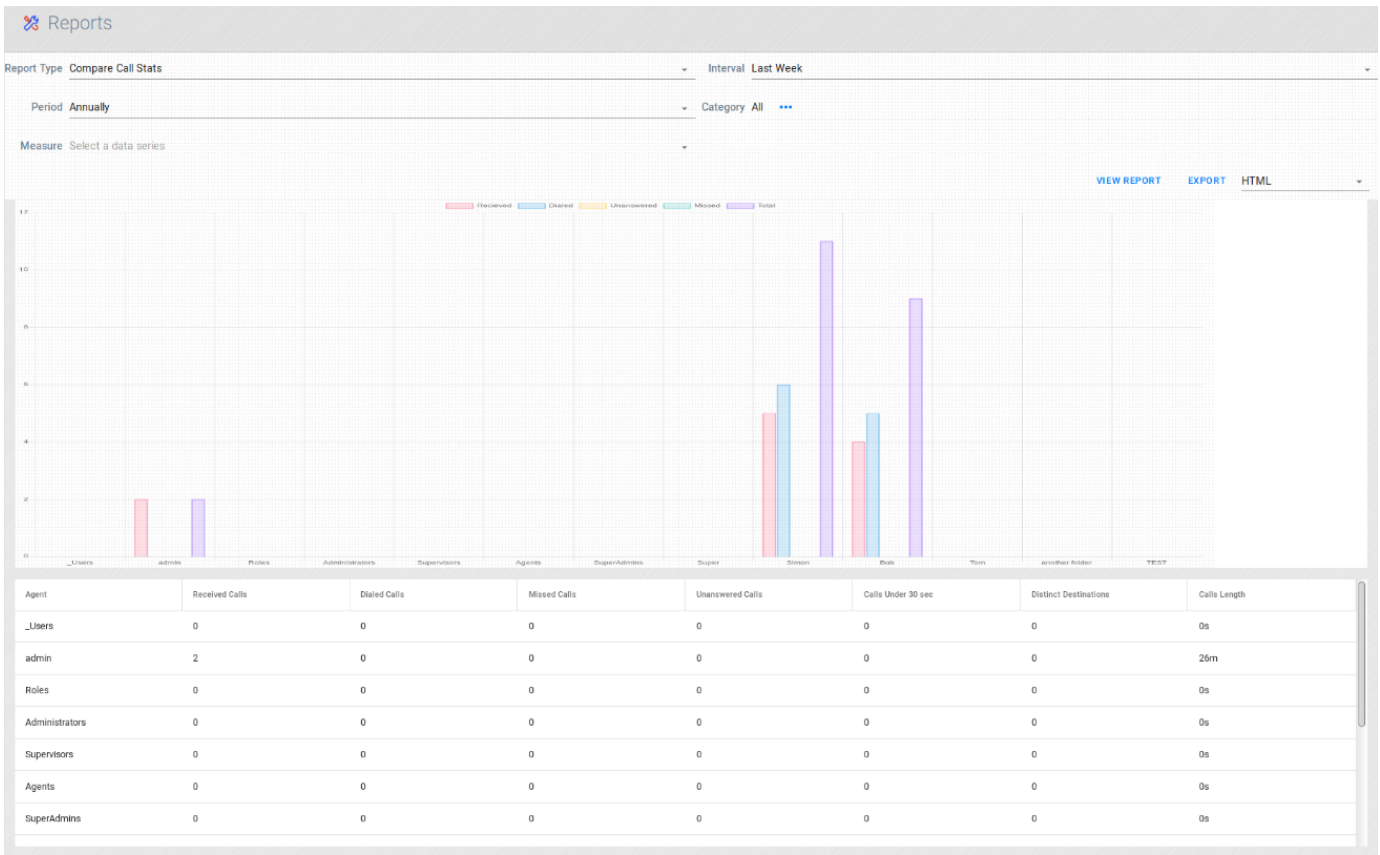
Reports

To view reports containing questionnaire scores, go to **Quality>Reports**.

Choose report type **Compare Scores**, period of the report, department, and quality standard.

To view the report press **View report** button.

To export the report to an excel file, press **Export** button.



Answers

CallReplay allows the creation of custom 'answers' templates that can be bounded with a particular question depending on specific evaluation needs and based on the context of that question.

To create a new answer template:

- Go to **Quality > Quality Standards**.
- Click **Add** button.

Answers

Label	Enabled	Score	Comment	Actions
▼ Yes / Part / No / NA	<input checked="" type="checkbox"/>			ADD DELETE
N/A				DELETE
Yes		100.0%		DELETE
Yes/No		50.0%		DELETE
No		0.0%		DELETE
> Yes / No / NA	<input checked="" type="checkbox"/>			ADD DELETE

[ADD](#) [SAVE](#) [CANCEL](#)

- **Enabled:** Make the answer available to be bound with a question
- **Label:** Meaningful label.

With the installation, CallReplay provides seven predefined answer templates that can be used and which cover most of the needs.

To edit an answer template:

1. Go to **Quality > Answers**.
2. Select the template you want to edit.
3. Click **Edit** button.

4. To edit a specific label, double click over it.

Records Evaluation

The questionnaires are accessible in recordings list through extended actions menu

Replay Calls > Call Menu

45 Calls Active: 0 Today: 0

Agents [ANY] x Period Today x

Agents [ANY] x

Users

2 Calls Search

Id	Date	Calling Party	Called Party	Duration	Actions
123	Today 00:27:56	6001 BOB	6002 SIMON	18m 54s	...
122	Today 00:27:56	6001 BOB	6002 SIMON	18m 54s	...

Call Details

GENERAL CALL INFO DESCRIPTION ADVANCED QUESTIONNAIRES

Quality Review

Please select an agent

Quality review

0001 How happy was the customer for their experience very happy

Time: 16 October 2019, 00:27:56 Calling Party: 6001 Called Party: 6002 Completed: 0 / 1

The *Questionnaire menu* shows the questionnaires labels with the following information:

- Evaluated questionnaires have their score displayed to the right of the label (ex: QS 1).
- If a questionnaire has a 'N/A' answer, then it will be marked and shown as incomplete (ex: sta).
- If a questionnaire has all 'N/A' answers, the score will not be shown and only incomplete will be displayed (ex: QS 2).
- For not evaluated questionnaires, only their label is shown (ex: sta (2)).

Evaluating Records

4 Calls Search

Id	Date	Calling Party	Called Party	Duration	Actions
11	Today 06:38:15	4000 (TESTING)	6001	4m 2s	...
10	Today 05:47:27	4000 (TESTING)	6001	21m 33s	...
9	Today 02:28:52	4000 (TESTING)	6001	1m 37s	...
8	Today 02:27:14	4000 (TESTING)	6001	1m 57s	...

Call Details

GENERAL CALL INFO DESCRIPTION ADVANCED QUESTIONNAIRES

Quality check

First Pass

1 How do you rate the call provide an answer

2 Did you get the right answer provide an answer

Time: 24 October 2019, 06:38:15 Calling Party: 4000 Testing Called Party: 6001 Completed: 0 / 2

Once a standard is 'attached' to a record, you will not be able to alter the standard anymore. Exception to this is that you can activate or deactivate it.

Calculating scores

Each question can have a real **score** between 0 and 1 (ex: 0.5 = 50%). Unanswered questions have score 0.

The question's **importance** is a coefficient applied to the question's score. It has one the following values:

- Ignored = 0
- Low = 0.5
- Medium = 1
- Important = 2

Questions of type text have importance 0 (Ignored) by default.

When calculating the **total score** of an evaluated questionnaire, the following algorithm is applied:

1. Sum each answered question's score multiplied by its importance
2. Scale the result to a value between 0 and 100% based on the maximum achievable score of the questionnaire (sum of answered questions importance).

Note that if a question has 'N/A' answer, it is ignored from evaluation's total score. It is considered as if not answered, and the total score will scale accordingly (for example, you can have an evaluation score of 100% if the first question is answered '1 0' and the second is answered 'N/A').

See Reports section for details about how to generate reports.

Backup

Backup Overview

CallReplay provides backup and recovery capabilities that allows you to create 'images' (i.e. files and metadata), and copy those to a secondary site for archive in case of failure. At any time, in case data must return to original condition, CallReplay can use the backups for recovery.

Configuring Backup

To Backup call recordings to a local folder or a windows network share, use the Backup page.

To perform a backup:

1. Go to Backup > Backup menu.
2. Click Start.

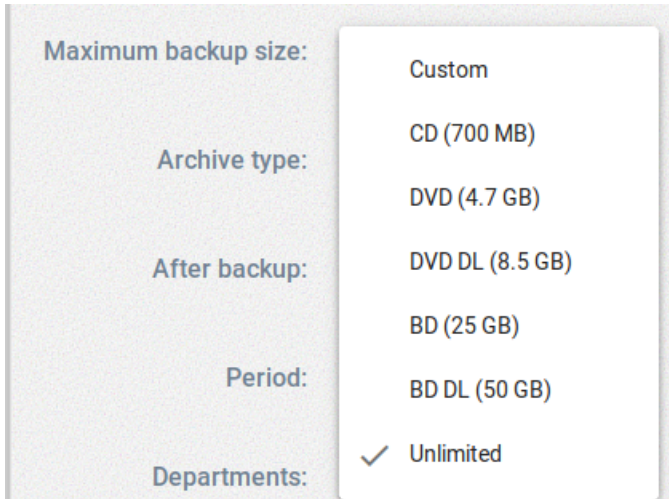
Before doing a backup, ensure everything is in place in terms of configuration.

General Tab

The screenshot shows the 'Backup' configuration page. At the top, there's a 'Full Path' field with the value 'C:\CallReplay\Backup' and a blue button to the right. Below it is a 'Description' field with the value 'Full Backup'. Further down, there's a 'Maximum backup size' section with a dropdown set to 'Unlimited', a unit dropdown set to 'MB', and a 'Free space: 45.89 GB' indicator. Below that is an 'Archive type' dropdown set to 'Full'. Then, an 'After backup' dropdown set to 'Don't Remove'. Next is a 'Period' section with a dropdown set to 'Older than', a value of '3', and a unit dropdown set to 'Months'. Below that is a 'Departments' field with a dropdown set to 'All'. At the bottom, there's an 'Extra' section with a checkbox labeled 'Database backup' which is checked. A blue 'OK' button is located at the bottom right of the form.

In the above image, you can see the General tab, which contains usual backup options.

- The **backup label** is always appended to the backup root directory, and represents the backup folder name
- The **full path** is the location where the backup will be done. Pressing the "..." button, will focus the backup root directory to be changed.
- The **maximum backup size** is a value that limits total call recordings backup size (example: to fit some external disk)



Maximum backup size:	Custom
Archive type:	CD (700 MB)
After backup:	DVD (4.7 GB)
Period:	DVD DL (8.5 GB)
Departments:	BD (25 GB)
	BD DL (50 GB)
	✓ Unlimited

- The **archive type** can have one of the following values:
 - **Incremental** - only calls that haven't been backed up will be included
 - **Full** - all calls will be included (other filters applied)
- **After backup**, you can choose three options:
 - **Don't Remove** - calls will remain in the database and on disk as they are
 - **Remove File, Keep Call Info** - will remove the recording files, but will keep the calls in the database, and will not allow you to listen them
 - **Remove File and Call Info** - will remove the recording files from disk, and remove all calls information from database
- The **free space** from the backup root directory is shown on the right

Advanced Tab

This tab includes additional options for backup.

The **backups directory** is the backup root directory, where a new folder will be created with the same name as the **backup label**.

You can enter a **local** folder location here, or a **windows network share** with the following format: \\<server>\<path>

When a **windows network share** is inputted, additional fields will be shown for entering **domain**, **username** and **password**.

The **backup period** has three choices:

- **Any** calls will be included
- **Between** - only calls that have the starting date between the two values will be included.
If one date is empty, then only one date will be used as the interval margin. (example: start date is empty, end date is non-empty, then only calls with a start date below entered end date will be considered for backup).
- **Older than** - only calls that have the starting date older than input value will be included

You can choose which calls to be backed up by **departments**, clicking the departments combo, and a pop-up will appear:

Status Tab

The status tab is visible only when the backup process starts.

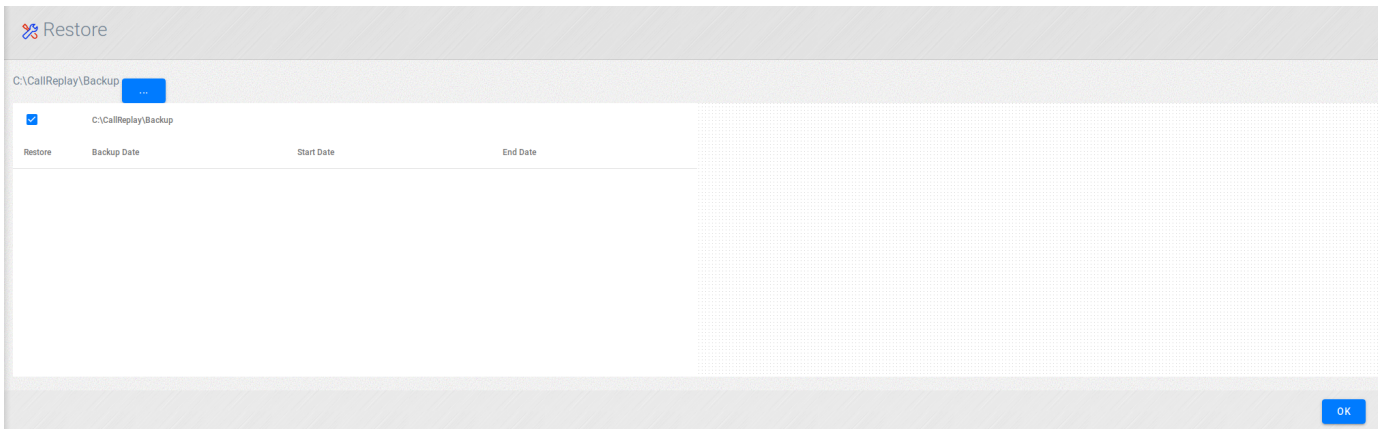
In the progress bar, processed calls and remaining calls count are shown.

The text area below shows errors occurred during backup.

Restore

To Restore a backup made in a windows network share or local folder, use the Restore page.

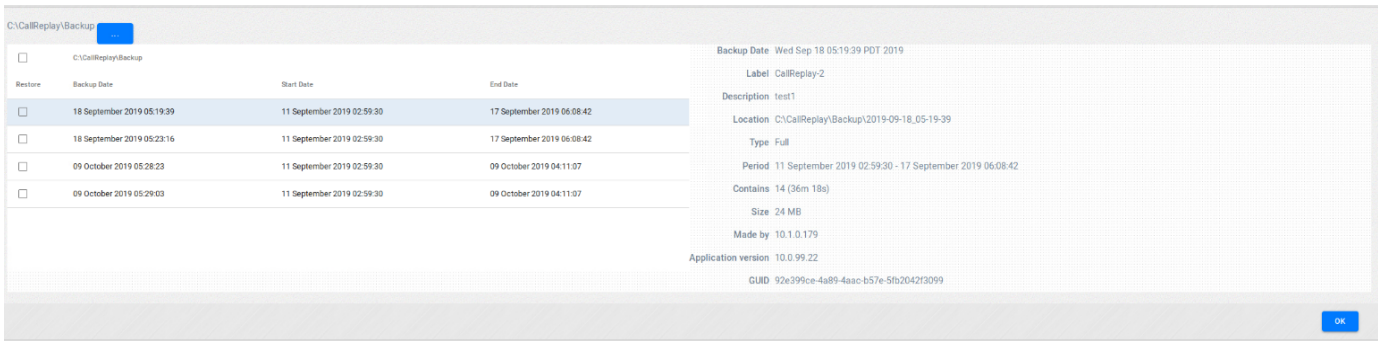
Backup > Restore



Options

To view backups, select a **backup root folder** or a **backup folder** from which to restore calls.

You can also select a location from a **windows network share** (following the pattern `ll<server>l<path>`) and login information will be shown:



If no login information is inputted, then the default user GUEST will be used.

You can sort backup entries in the left grid by clicking on a column header.

In the right panel, **backup details** of the selected backup are shown (same as **backup history**).

The refresh button located right of the input directory helps rescan for backups.

You can select either to **move** files from the backup or to **copy** them.

- If **move** files is selected, the backup files are removed during restore process.
- If **copy** files is selected, the backup files remain intact.

To start a **restore** operation you can:

- click **restore** button in the last column of the **grid**, which restores the backup form that row
- click **restore** button from the **details panel** to restore selected backup

Status

Once the restore operation has started, the status tab becomes visible:

History

To view a history of backups made and their details, use the Backup History page:

Restore	Backup Date	Start Date	End Date
<input type="checkbox"/>	18 September 2019 05:19:39	11 September 2019 02:59:30	17 September 2019 06:08:42
<input type="checkbox"/>	18 September 2019 05:23:16	11 September 2019 02:59:30	17 September 2019 06:08:42
<input type="checkbox"/>	09 October 2019 05:28:23	11 September 2019 02:59:30	09 October 2019 04:11:07
<input type="checkbox"/>	09 October 2019 05:29:03	11 September 2019 02:59:30	09 October 2019 04:11:07

Backup Date: Wed Sep 18 05:19:39 PDT 2019

Label: CallReplay-2

Description: test1

Location: C:\CallReplay\Backup\2019-09-18,05-19-39

Type: Full

Period: 11 September 2019 02:59:30 - 17 September 2019 06:08:42

Contains: 14 (36m 18s)

Size: 24 MB

Made by: 10.1.0.179

Application version: 10.0.99.22

GUID: 92e399ce-4a89-4aac-b57e-5fb2042f9099

The left grid shows all backups made. You can sort entries by clicking any column header.

The right panel shows selected **backup details**.

Screen Recorder

Screen Recorder Overview

CallReplay offers full integration with Memolith, that is a component that let you record the desktop. By this you can see what happened on the screen while the agent was talking on the phone.

You can deploy Memolith on any number of user desktops and then choose from within CallReplay to record the respective desktop when a call is placed (or to always record). Memolith will record the desktop and then upload the resulting videos to CallReplay, from which you can see a list of calls and their associated videos.

Memolith runs as a background service.

Screen Recorder Settings

Settings

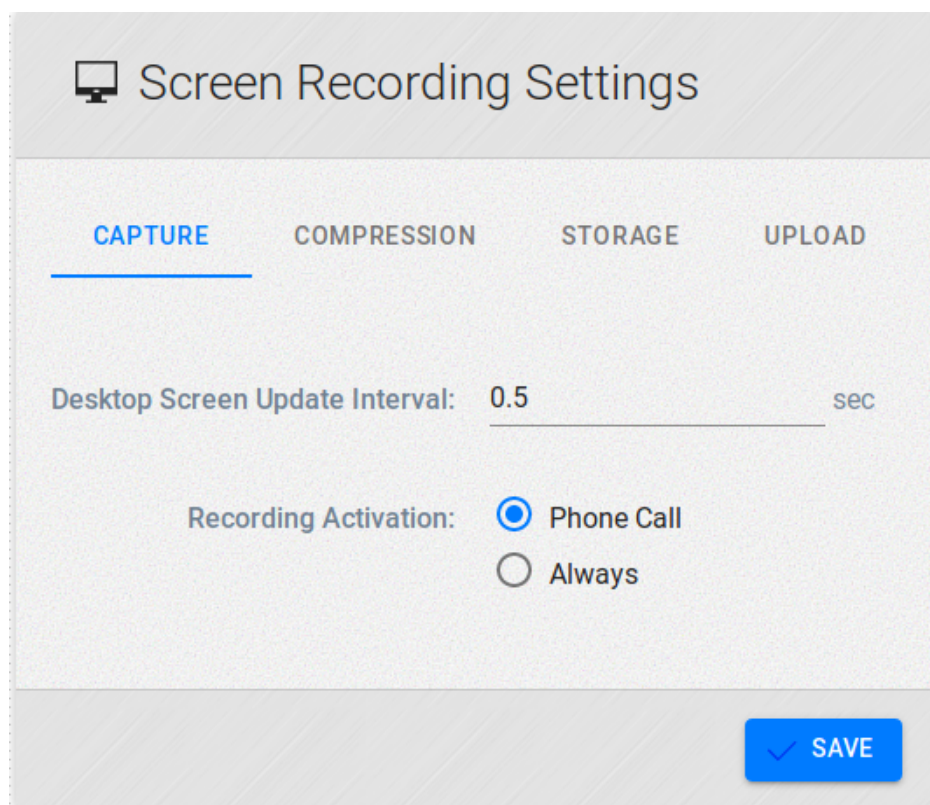
There are several options through which you can configure how recording is performed.

Capture

Establish the FPS (Frame Per Second) and the mode in which recording is activated

To configure capture mode:

1. Go to Screen Recorder > Settings.
2. Introduce the desired frame rate. Default is 0.5sec (that is 2 fps)
3. Recording can be always on, or triggered by a phone call
4. Click Save.



The screenshot shows a 'Screen Recording Settings' window with a title bar containing a monitor icon and the text 'Screen Recording Settings'. Below the title bar are four tabs: 'CAPTURE' (selected with a blue underline), 'COMPRESSION', 'STORAGE', and 'UPLOAD'. The 'CAPTURE' tab contains two settings: 'Desktop Screen Update Interval: 0.5 sec' with a text input field containing '0.5', and 'Recording Activation:' with two radio button options: 'Phone Call' (selected) and 'Always'. At the bottom right of the window is a blue button with a checkmark icon and the text 'SAVE'.

Compression

Here you may choose when to compress the video files, whether to resize the resulting videos, as well as CPU usage. The recorder may compress the video files on Desktop (on the client where Memolith is installed), on Server (in CallReplay when the video is uploaded), or at Playback (when playing the video):

Screen Recording Settings

CAPTURE

COMPRESSION

STORAGE

UPLOAD

Compress Location: ☒ On Desktop
☐ On Server
☐ At Playback

Resolution Resize: ☒ None
☐ During Recording
☐ During Compression

Resize Percent From The Original: %

Compression Rate Interval: sec

Desktop CPU Max Usage: %


Server CPU Cores Usage: %

Encoder:

 SAVE

Configuring Storage Management

You may also choose how you want to manage the space to be used by the video recordings:



Screen Recording Settings

CAPTURE

COMPRESSION

STORAGE

UPLOAD

Desktop Recording File Size:

MB

Desktop Recording File Interval:

min (0 = unlimited)

Desktop Recording File Chunk Size:

MB

Desktop Maximum Used Space:


GB

Desktop Reserved Space:

GB

Desktop Minimum Free Space:

GB



Configuring Upload Settings

Change the delay between attempts to upload the videos from Memolith to CallReplay:



Screen Recording Settings

CAPTURE

COMPRESSION

STORAGE

UPLOAD

Desktop Retry Connect Interval: sec

Desktop Upload Interval: sec

✓ SAVE

Screen Recorders

CallReplay can be used as a centralized storage for any Memolith recorder installed in your network. From Screen Recorders page you can control how CallReplay shall behave but also all Memolith recorders that are registered as 'uploaders'

To accept uploads:

1. Go to Screen Recorder > Screen Recorders.
2. Check Accept Uploads.
3. Provide a Connection Password.
4. Click Save button.

Screen Recorders

Accept uploads: ☒

Connection password:

Upload address: W2016Dev:8080

Edit	Branch	Status	Last Sync
EDIT	W2016D...	OK	

SAVE REFRESH

- **Accept Uploads:** Instructs CallReplay to accept upload video records coming from Memolith recorders
- **Connection Password:** Connection password that Memolith recorders must use in order to upload video records
- **Upload Address:** CallReplay's IP address used by Memolith recorder to upload video records

In order for upload operation to work both CallReplay and Memolith recorder must be configured for uploads. This means that CallReplay must have Accept Uploads checked and Memolith recorder must have Upload = Enabled.

To disabled a Memolith recorder (stop a recorder to upload):

1. Go to Screen Recorder > Screen Recorders.
2. Select the Memolith recorder you want to 'disable'.
3. Click Edit.
4. Uncheck Enabled.

To delete a Memolith recorder:

1. Go to Screen Recorder > Screen Recorders.
2. Check the row containing the recorder you want to delete
3. Click Delete button.

Download and Install

With Memolith it is possible to optimize common business processes by observing how critical tasks get done. Memolith is the software used to record the desktop. CallReplay offers full integration with Memolith.

You can deploy Memolith on any number of user desktops - it runs as a background process - and then choose from within CallReplay to record the respective desktop when a call is placed (or to always record). Memolith will record the desktop and then upload the resulting videos to CallReplay, from which you can see a list of calls and their associated videos.

System Requirements

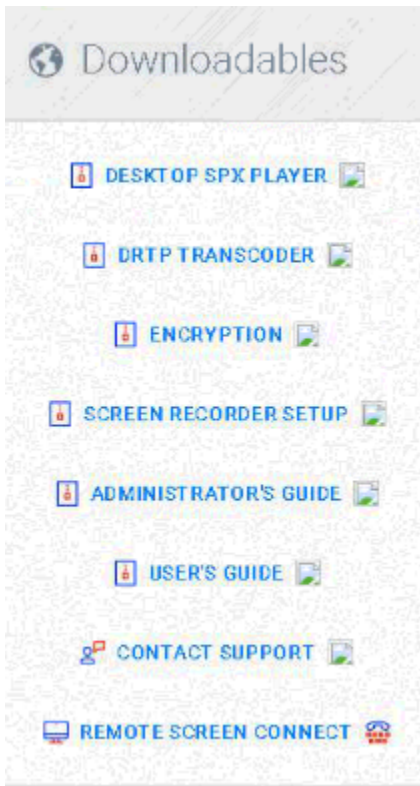
The system requirements for the Memolith screen recorder client software are:

1. CPU:
 - Minimum - modern dual core cpu (2.5Ghz Pentium or equivalent)
 - Recommended - quad core CPU (first generation i5 or equivalent)
2. RAM:
 - Minimum - 2GB
 - Recommended - 4GB
3. Disk:
 - 2GB free space minimum

Download and Install Memolith

To download Memolith:

1. Go to Screen Recorder > Download Setup.



1. Run MemolithDesktopSetup.exe and follow installation wizard instructions
2. Click Install.

Configure Memolith

Once installation performed, the setup wizzard provides access to configuration screens. These configuration screens can be accessed later through Windows System Tray.

To configure Memolith (Sys Tray):

1. Go to Windows System Tray.
2. Double click on Memolith icon, or right click on it for the pop-up menu.
3. Select Configuration.

Recording Status

This tab will show general Memolith information, as well as the recording and connection status:

Recording Tab

In this tab you may change the local storage folder and choose which monitors to record:

Connection Tab

This tab will allow you to enter your CallReplay username and password. This will be the account with which Memolith will authenticate to CallReplay. For Phone Call - activated recording, the respective user in CallReplay must have a phone or DN associated.

In addition, you will need to configure the server's address and the connection password that was set in the screen recorders tab in CallReplay.

Upload Tab

You can enable or disable uploading of videos to CallReplay from here, as well as upload manually:

Advanced Tab

This tab is used to troubleshoot and debug problems and monitor the recorder's activity:

Play Video Records

From the top of the Replay Calls window you can switch between Calls and Videos.

The Videos page shows a list of all video calls made during the selected date, unlinked to any phone calls. Their file name will reflect the host PC that was recorded. Click on the film icon to play.

Replay Calls > Videos

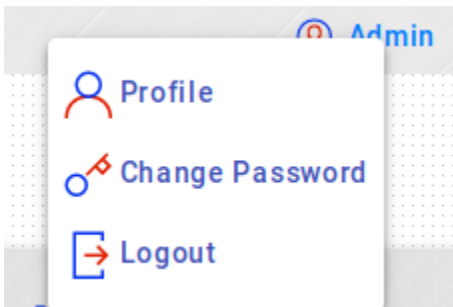
Session

Log Out

It is recommended that when you no longer need access to CallReplay to log out the application.

To log out from CallReplay:

Go to Session > Logout <user name> and click



You can access Logout als from the toolbar.

To check signed on user:

1. Go to `Session`.
2. The current user is showed beside Logout menu item.

Change Password

CallReplay allows you to change your password or PIN at any time.

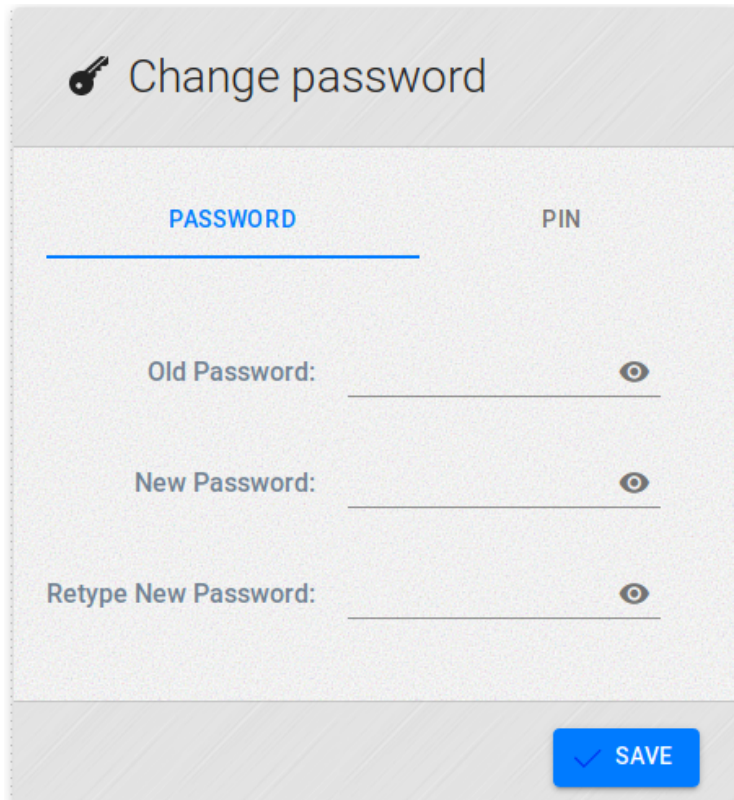
Change Login Password

If someone else has your password, then they can use the system impersonating your account. We recommend to change your password. Change your password immediately if you have any reason to believe that someone else had access to it or has broken into your account.

| *You should change your password periodically, ideally at least every six months.*

To change your login password:

1. Go to `Session | Change Password`.
2. Type your current password
3. Type the new password
4. Retype the new password for confirmation
5. Click Save.



Change Personal Identification Number (PIN)

If you are using CUC (Cisco Unicity Communication) you can change your associated user PIN at any time.

To change your login password:

1. Go to `Session | Change Password`.
2. Type your PIN.
3. Type the new PIN.
4. Retype the new PIN for confirmation
5. Click Save.

| *When you change your PIN make sure you follow security guidelines provided by system administrator.*

Here are few good practices:

- The PIN should not contain your primary extension or its reverse
- The PIN should contain at least three different digits.
- The digits should not all be consecutive, in ascending or descending order (for example, 12345 or 54321).
- The PIN should not be a numeric representation of your first or last name, or the combination of your first and last names. (For example, if your name is John Doe, you could not use a numeric representation of johnd, johndoe, jdoe, doe.)

Companion Applications

CallReplay Administration

When you install CallReplay you can configure it to meet your specific needs. After you completed the setup you will have on the server: installed binaries, configured security permissions, configured registry settings, configured database, and the web site.

| *Please refer to Install and Setup on Windows section for more details on installing CallReplay.*

You can access CallReplay in two ways: locally from the server, or remotely.

To access CallReplay locally:

Go to Start > CallReplay > CallReplay Administration.

To access CallReplay remotely:


1. Open your browser
2. In the address bar introduce the address where the server is installed

| *If you don't know the exact address, please your system administrator*

Guides

Change/Reset Password

Reset Password

 ResetPassword 10.0.99.26

PASSWORD

AUTHENTICATION

Tenant

000000000, default

User name

admin

Password

Permissions

☒ Admin ☐ SuperAdmin ☐ Login

DONE


Change Password

Each user that has permission to log in to application site can change his password and pin by clicking Session / Change Password. He can change only password, only pin or both by leaving blank the undesired field.

[Like](#)Be the first to like this

Site Configuration

| You need to run Site Configuration with administrator privileges

 PreConfiguration 10.0.99.26

HOST

DATABASE

MEMORY

WATCHDOG

EMAIL

Site host name

W2016Dev

Site IP

10.1.0.167

✓ 10.1.0.167

127.0.0.1

Site port

Site HTTPS port

443

http://10.1.0.167:8080

DONE

Software Updates

Get Support

CallReplay Get Support is a symbolic link provided for convenience giving quick access to the support web site that can be accessed at [CallReplay Contact](#).

Sales

For any products and sales related questions including quotes, terms and conditions, or discounts available please contact us via:

E-mail:	info@call-replay.com
Phone (USA):	+1-480-240-2979
Phone (EU):	+40-724-511-431

Technical

For any technical related questions and support, please contact us via:

E-mail:	support@call-replay.com
Phone (EU):	+40-724-511-431

Others

For more details about CallReplay please visit [CallReplay website](#).

pgAdmin

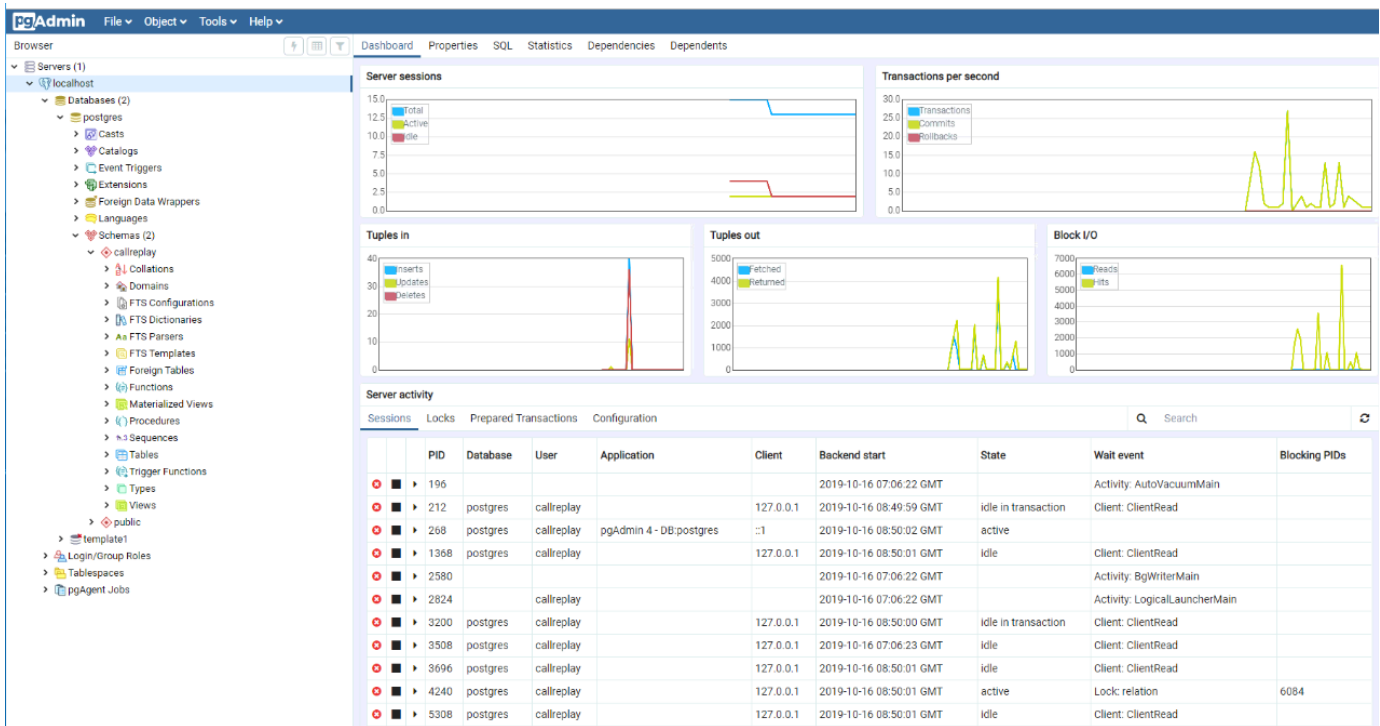
CallReplay uses an embedded PostgreSQL and pgAdmin is a popular administration and development platform for PostgreSQL. Both PostgreSQL and pgAdmin comes together with CallReplay.

Database server configuration (e.g. port, user, password) are set during setup process

- Default Port: 5432
- Default User Name: callreplay
- Default Password: CallReplay_2005

To open pgAdmin:

1. Go to Start > CallReplay > pgAdmin.



| For more details and extensive documentation please go to <https://www.pgadmin.org/docs/>.

TeamViewer

TeamViewer is a proprietary package for remote desktop control and sharing, online meetings, web conferencing and file transfer between computers or mobile devices.

It comes with CallReplay and is installed together with it.

It is provided as a mean for a better support and you can use it to connect with our support specialists.

To open TeamViewer:

1. Go to Start > CallReplay > TeamViewer.
2. Transmit Your ID and Password to our support specialists

| For more details about TeamViewer features and other settings please check [TeamViewer Website](#).

Localization+

Requirements

For creating a custom localization of CallRecorder you need at least version 7.1.10 of application installed using a full setup.

Creating/editing CallReplay localization

CallReplay CallRecorder has two major components who need to be translated separately. One component is recorder service and other is site administration.

First thing which must be done is to create a copy of entire **Translations** folder into CallReplay data folder. **Translations** folder can be found in installation path, usually c:\Program Files\CallReplay\System\Translations. Data folder is the folder where the database is kept, default value is C:\CallReplay.

Once we have new **Translations** folder we can start to create/edit translations. All customizations must be done in this new **Translations** folder otherwise will be lost after first running of CallReplay Software Update or after a full setup.

The tools used for translation are "*translate_site.cmd*" and "*translate_server.cmd*".

Create a new translation for CallRecorder site

Go to the new **Translations** folder created using indications from previous paragraph.

Double-click on "*translate_site.cmd*" file. If this is the first time when the translation tool is used you must select a language for translation tool interface:

After language selection the main window of translation tools is shown:

Press the add language button:

Select desired language from the list:

The result is a new Language node:

Now select the new language and translate every key from the master file to the new language. Next picture show how to do translate "All rights are reserved" to Korean.

The untranslated keys are shown with blue color. So it is easy to know which keys are translated and which not.

For saving the new language press "CTRL+S" which is a shortcut for File>Save option and a new file having name "*site_xx.properties*" will be created where *xx* is the language code.

Create a new localization for CallRecorder service

Go to new **Translations** folder and double-click on "*translate_server.cmd*". The same tool as for translating site will be shown excepting that the keys are for CallRecorder service.

Create a new localization for CallRecorder service following the same steps as for CallRecorder site. The name of the new translation will be "*serv_er_xx.properties*" where *xx* is the language code.

Activate a new localization

A new localization becomes active after including in file "*locale.properties*" the line: *xx=Language* and restarting of CallRecorder service.

e.g.: *ko=*

Editing an existing localization for CallRecorder site and service

Run the translation tool ("*translate_site.cmd*" for site and "*translate_server.cmd*" for service), select the language and edit the keys accordingly. Save the changes (CTRL+S or File > Save).

Help

Manual

CallReplay comes with two manuals available in HTML format, both providing detailed information about installing process, configuration, system requirements, step-by-step operations

To access manuals:

1. Go to Help > Manual
2. Choose the manual you want to consult

Administrator's Guide: A complete documentation for CallReplay.


User's Guide: A subset of the Administrator's Guide containing the information required by a regular end-user for day-to-day operation and usage of the CallReplay system.

| You can download the PDF version of both manuals from [CallReplay website](#).

Service Debug Settings

To configure debug:

1. Go to Help > Service Debug Settings.
2. Change configuration according with your needs (or as per advised by support people)
3. Click Save.



Debug Configuration

TRACING

JTAPI

Debug Capture:

All - Control and Data Streams

▼

Debug Capture Duration:

1 Hour

▼

Tracing Priority:

All

▼

Max Trace Files:

200


of 5MB each

✓

SAVE

- **Debug Capture:**
 - None:
 - Basic - Control Stream:
 - All - Control and Data Stream:
- **Debug Capture Duration:** Duration
- **Tracing Priority:**

- Max Trace Files:



Debug Configuration

TRACING

JTAPI

Trace Levels:

☒ Warning

☒ Informational

☒ Debug

Debug Levels:

☒ JTAPI

☒ JTAPI_IMPL

☒ CTI

☒ CTI_IMPL

☒ PROTOCOL

☒ MISC

☒ SAVE

- **JTAPI Tracing:** Debug various kind of tracing at various level of detail for JTAPI via JTPREFS.
 - **Trace Levels:**
 - WARNING: Trace only warning type events
 - INFORMATIONAL: Trace only status events
 - DEBUG: Trace only debugging events. By enabling **DEBUG** you can enable or disable various debugging leveles.
 - **Debug Levels:**
 - JTAPI_DEBUGGING: Trace methods and events.
 - JTAPI_IMPL_DEBUGGING: Trace internal JTAPI implementation.
 - CTI_DEBUGGING: Trace CUCM events that are sent to the JTAPI implementation.
 - CTI_IMPL_DEBUGGING: Trace internal CTIClient implementation.
 - PROTOCOL_DEBUGGING: Full CTI protocol decoding
 - MISC_DEBUGGING: Trace miscellaneous low-level debug.

Browser Logs

About

The About page provides detailed information about CallReplay version installed, along with all depended components and modules required.

The detailed information could include: description, version installed, release date, copyright, license terms, etc.

To access information:

- Go to **Help > About...**
- Click the 'element' for which you want detailed information

About

CallReplay Version: 10.0.99.28 (released on Thu Oct 17 19:14:37 EEST 2019)

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Licenses

Name	Path	Legal	Vendor	Tag
7zip	.\System\Legal\input\Kits\7-Zip	<ul style="list-style-type: none">• copying.txt• License.txt	https://www.7-zip.org/download.html	
7zip	.\System\Legal\input\Maven\SevenZip	<ul style="list-style-type: none">• copying.txt• License.txt	https://www.7-zip.org/download.html	
accepts	node_modules/accepts/	<ul style="list-style-type: none">• MIT	git+https://github.com/jshttp/accepts.git	
accl	.\System\Legal\input\Kits\Accl	<ul style="list-style-type: none">• License GPL.txt	http://setacl.sourceforge.net	
acorn	node_modules/acorn/	<ul style="list-style-type: none">• MIT	git+https://github.com/acornjs/acorn.git	
acorn-dynamic-import	node_modules/acorn-dynamic-import/	<ul style="list-style-type: none">• MIT	git+https://github.com/kesne/acorn-dynamic-import...	
ajv	node_modules/ajv/	<ul style="list-style-type: none">• MIT	git+https://github.com/epoberezkin/ajv.git	
ajv-errors	node_modules/ajv-errors/	<ul style="list-style-type: none">• MIT	git+https://github.com/epoberezkin/ajv-errors.git	
ajv-keywords	node_modules/ajv-keywords/	<ul style="list-style-type: none">• MIT	git+https://github.com/epoberezkin/ajv-keywords.git	
ansi-colors	node_modules/ansi-colors/	<ul style="list-style-type: none">• MIT	git+https://github.com/doowb/ansi-colors.git	
ansi-html	node_modules/ansi-html/	<ul style="list-style-type: none">• Apache-2.0	git://github.com/Tjatse/ansi-html.git	

- node_modules/ansi-regex/license

How-to and Troubleshooting

Install and Activate Adobe Flash Player

The most appropriate approach is to go to [Adobe Flash Player Download](#) and follow the instructions there.

Optimizations

Software Optimizations

The Windows system cache is by default too large. Go to Control Panel / System / Advanced / Performance Settings / Advanced:

- set memory usage for best performance of Programs
- set processor scheduling for best performance of background services

Configuring Speed Dial Buttons

Steps to follow to configure a speed dial button for using a phone service

1. Define a phone service (Call Manager: Device> Device Settings> Phone Services), as described in Chapter 19, for this URL:

[http://CallRecorderServer\(:port\)/CallRecorder/phoneService/onDemandPhoneDemandThisCall](http://CallRecorderServer(:port)/CallRecorder/phoneService/onDemandPhoneDemandThisCall)

2. Create a new phone button template for your phones (Call Manager: Device> Device Settings> Phone Button Template) and select "Service URL" for button which will be used as a speed dial for our phone service.

3. Go to Device> Phone and select new defined template on phones

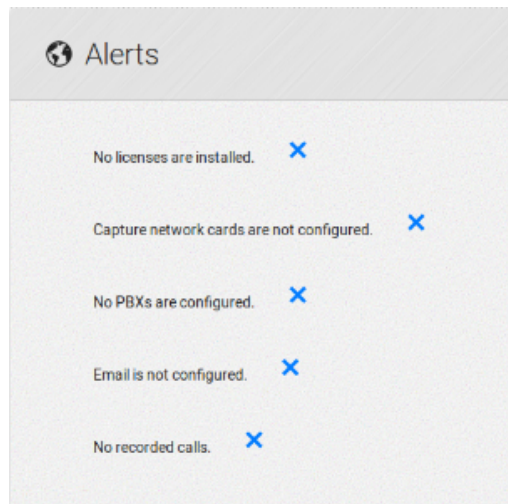
4. Subscribe the phone to the phone service

5. The last step is to assign the new subscribed phone service to the phone button (configured on step 2).

After phone reset, the speed dial is ready for use.

Testing The Setup

Make sure there are no pending alerts below the menu bar, by clicking on each alert and solving them.



Make a test call

Place a call to an external number. Recording internal calls with SPAN requires the traffic between the two devices must be spanned as well.

Playing a call

1. From the menu, choose Recordings / Replay Calls as shown below:

45 Calls Active: 0 Today: 0

Agents (AN...) Period Last We...

Agent [Any] 0

> Users 0

2019

October

This Week

Today

Yesterday

Monday

Sunday

Last Week 11

Saturday 0

Friday 0

Thursday 4

Wednesday, 09 7

Tuesday, 08 0

Monday, 07 0

Sunday, 06 0

Contacts

Tags

Phones

Numbers

Caller IDs

IP Addresses

Duration

Description

Clear all

Refresh

Hide

11 Calls Search

EXPORT ... DELETE EMAIL CATEGORIES

Id	Date	Calling Party	Called Party	Duration	Actions
121	Thu 04:07:24	6002 SIMON	6005 ADMIN	13m 0s	Play Download More
120	Thu 04:07:24	6002 SIMON	6005 ADMIN	13m 0s	Play Download More
119	Thu 00:45:25	6001 BOB	6002 SIMON	0m 40s	Play Download More
117	Thu 00:43:14	6001 BOB	6002 SIMON	0m 36s	Play Download More
104	Wed, 09 04:11:07	6001 BOB	6002 SIMON	1m 20s	Play Download More
94	Wed, 09 03:49:37	6001 BOB	6002 SIMON	1m 36s	Play Download More
111	Wed, 09 03:35:50	6002 SIMON	6001 BOB	1m 24s	Play Download More
98	Wed, 09 03:32:44	6002 SIMON	6001 BOB	1m 7s	Play Download More
84	Wed, 09 03:26:53	6002 SIMON	6001 BOB	1m 49s	Play Download More

2. If there are no calls displayed please skip to the "Troubleshooting" chapter.

3. Click the More button (three lines sign on the right side of every call), choose Properties and a new window, named "Call Details" will appear, as shown below.

This page contains all information about a call like caller party, called party, duration of call, file size, file format. In the Advanced tab, you will get information about RTP traffic (ip address and port used in recording call).

In the Description tab, you can provide a description for that call. In the Export tab by pressing "Save Call" you can save the call under Wav format or speex format. You can email that call by pressing "Send Email" button.

Replay Calls > More button > Properties

Call Details

GENERAL CALL INFO DESCRIPTION ADVANCED QUESTIONNAIRES

Call Party Information	Caller Party	Called Party
Phone Number	6002	6005
User Name		
Legal Zone	Internal	Internal
Legal Direction	Internal	Internal

1. Click on Play Button.

2. A pop-up will be open and the recording will start playing.

Player: 2019-10-16_00-27-56_6001_6002-1.wav

5:22 / 17:05

Attention: You must have a valid G.729 license to play a G.729 recording, otherwise an error will be displayed.

Forked Recording Compatible Devices

Device/Phone Model	Forked Recording	Requirements
Analog Phone	No	N/A
Cisco 12 S	No	N/A
Cisco 12 SP	No	N/A
Cisco 30 SP+	No	N/A
Cisco 3905	No	N/A
Cisco 3911	No	N/A
Cisco 6901	No	N/A
Cisco 6911	Yes	Requires UCM 7.1(3) or later
Cisco 6921	Yes	Requires UCM 7.1(3) or later
Cisco 6941	Yes	Requires UCM 7.1(3) or later
Cisco 6945	Yes	Requires UCM 7.1(3) or later
Cisco 6961	Yes	Requires UCM 7.1(3) or later
Cisco 7811	Yes	Requires UCM 6.0(1) or later
Cisco 7821	Yes	Requires SIP firmware 10.1(1)
Cisco 7841	Yes	Requires SIP firmware 10.1(1)
Cisco 7861	Yes	Requires SIP firmware 10.1(1)
Cisco 7902	No	N/A
Cisco 7905	No	N/A
Cisco 7906	Yes	Requires UCM 6.0(1) or later
Cisco 7910	No	N/A
Cisco 7911	Yes	Requires UCM 6.0(1) or later
Cisco 7912	No	N/A
Cisco 7914 Sidecar	Yes	Requires UCM 6.0(1) or later
Cisco 7915 Sidecar	Yes	Requires UCM 6.0(1) or later
Cisco 7916 Sidecar	Yes	Requires UCM 6.0(1) or later
Cisco CKEM Sidecar	Yes	Requires UCM 7.1(3) or later
Cisco 7920	No	N/A
Cisco 7921	Yes	Requires UCM 6.0(1) or later
Cisco 7925 & 7925-EX	Yes	Requires UCM 6.0(1) or later
Cisco 7926	Yes	Requires UCM 7.0(1) or later
Cisco 7931	Yes	Requires UCM 6.0(1) or later
Cisco 7935	No	N/A
Cisco 7936	No	N/A
Cisco 7937	Yes	Requires UCM 6.0(1) or later

Cisco 7940	No	N/A
Cisco 7941	Yes	Requires UCM 6.0(1) or later
Cisco 7941G-GE	Yes	Requires UCM 6.0(1) or later
Cisco 7942	Yes	Requires UCM 6.0(1) or later
Cisco 7945	Yes	6.0(1) or later
Cisco 7960	No	N/A
Cisco 7961	Yes	Requires UCM 6.0(1) or later
Cisco 7961G-GE	Yes	Requires UCM 6.0(1) or later
Cisco 7962	Yes	Requires UCM 6.0(1) or later
Cisco 7965	Yes	Requires UCM 6.0(1) or later
Cisco 7970	Yes	Requires UCM 6.0(1) or later
Cisco 7971	Yes	Requires UCM 6.0(1) or later
Cisco 7975	Yes	Requires UCM 6.0(1) or later
Cisco 7985	No	N/A
Cisco 8811	Yes	Requires UCM 8.5(1) or later
Cisco 8831	Yes	Requires SIP firmware 9.3(2)
Cisco 8841	Yes	Requires UCM 8.5(1) or later
Cisco 8845	Yes	Requires UCM 8.5(1) or later
Cisco 8851	Yes	Requires UCM 8.5(1) or later
Cisco 8861	Yes	Requires UCM 8.5(1) or later
Cisco 8865	Yes	Requires UCM 8.5(1) or later
Cisco 8941	Yes	Requires UCM 7.1(5) or later
Cisco 8945	Yes	Requires UCM 7.1(5) or later
Cisco 8961	Yes	Requires UCM 7.1(3) or later
Cisco 9951	Yes	Requires UCM 7.1(3) or later
Cisco 9965	Yes	Requires UCM 7.1(3) or later
Cisco 9971	Yes	Requires UCM 7.1(3) or later
Cisco DX650	Yes	Requires UCM 7.1(3) or later
Cisco DX70	Yes	Requires UCM 8.5(1) or later
Cisco DX80	Yes	Requires UCM 8.5(1) or later
Cisco E20	No	N/A
Cisco EX60	No	N/A
Cisco EX90	No	N/A
Cisco CTS 500	No	N/A
Cisco CTS 500-32	No	N/A
Cisco CTS (all other device models)	No	N/A
Cisco ATA 186	No	N/A
Cisco ATA 187	No	N/A

Cisco ATA 188	No	N/A
Cisco IP Communicator	Yes	Requires CIPC v7.0(1) or later
Cisco Jabber for Windows -Softphone Mode	Yes	Requires Jabber for Windows 9.2 or later
Cisco Jabber for Windows -Extend /Connect Mode	No	N/A
Cisco Jabber for Windows -Remote Desktop Control Mode	Refer to the device model under remote control to determine support.	Refer to the device model under remote control to determine support.
Cisco Jabber for Mac -Softphone Mode	Yes	Requires Jabber for Mac 9.2 or later
Cisco Jabber for Mac - Remote Desktop Control Mode	Refer to the device model under remote control to determine support.	Refer to the device model under remote control to determine support.
Cisco Jabber for iPad (Wifi-only)	No	N/A
Cisco Jabber for iPhone	No	N/A
Cisco Jabber for Android	No	N/A
Cisco Unified Personal Communicator - Softphone Mode	No	N/A
Cisco Unified Personal Communicator - Remote Desktop Control Mode	Refer to the device model under remote control to determine support.	Refer to the device model under remote control to determine support.
Cisco Unified Communications Integration for Microsoft Office Communicator/Lync -Softphone Modes	No	N/A
Cisco Unified Communications Integration for Microsoft Office Communicator/Lync -Remote Desktop Control Mode	Refer to the device model under remote control to determine support.	Refer to the device model under remote control to determine support.
Cisco Unified Communications for RTX (CUCRTX) -Softphone Mode	No	N/A
Cisco Unified Communications for RTX (CUCRTX) - Remote Desktop Control Mode	Refer to the device model under remote control to determine support.	Refer to the device model under remote control to determine support.
Cisco Web Communicator forWx Social - Softphone Mode	No	N/A
Cisco Web Communicator forWx Social - Remote Desktop Control Mode	Refer to the device model under remote control to determine support.	Refer to the device model under remote control to determine support.
Cisco Unified Communications Integration for WebEx Connect - Softphone Mode	No	N/A
Cisco Unified Communications Integration for WebEx Connect - Remote Desktop Control Mode	Refer to the device model under remote control to determine support.	Refer to the device model under remote control to determine support.
VGC Phone	No	N/A
VG224	No	N/A
VG248	No	N/A
CTI Port	No	N/A
CTI Remote Device (Extend & Connect)	No	N/A
CTI Route Point	No	N/A
CTI Route Point (Pilot Point)	No	N/A
ISDN BRI Phone	No	N/A

Carrier Integrated Mobile	No	N/A
IMS Client	No	N/A
Mobile Communicator	No	N/A
Nokia S60	No	N/A
Remote Destination Profile (Single Number Reach)	No	N/A

Phone Service

Using the IP Phone Service

The IP Phone Service allows users and managers alike to benefit from a couple of useful functions. These are: Recordings, Monitoring, and Record on demand. They are all described below in the application Main Menu section.

Note: The Monitoring function in the IP Phone Service is only accessible to Managers.

Login

Here you will enter your username and PIN.

Services Menu

After the login, you will be presented with this screen.

1. Select the **Services** menu.
2. From the **Services** menu, select **application name**

Phone Service Menu

There are three options in the application IP Phone Service Main Menu:

Recordings	It allows call playback, moving a call to a folder and email to the address set in the application Configuration.
Monitoring	It allows monitoring of a selected phone number.
Record this call	It allows Record on Demand.

Open **Recordings** then select the extension you want

In this case, the only selection you can monitor is 2002. To select another, press the **Other** tab then enter the PIN accordingly.

Now you are presented with the list of calls from that extension. From here you can play move calls to application folders and E-mail them to the address set in application Configuration.

Monitoring

From the main **application** menu, open **Monitoring** and select the extension you want

In this case, the only selection you can monitor is 2002. To select another, press the **Other** tab then enter the PIN accordingly.

Next you must enter the **Phone Number** you want to monitor
After you have finished your selections, you should see the window below as a confirmation

On Demand Recording

Allows an agent the recording of a call in progress. Regardless of the moment you gave the command to record, that conversation will be recorded entirely.

Storage Volumes Best Practices

The following guide outlines some considerations to take into account when setting up your recording storage volume. In practice the application administrator should take into account the specific needs, available hardware and any other limitations.

The best and recommended way to set the CallReplay storage volume is on a dedicated partition, on RAID (1 and above) protected drives.

Provisioning the total available space should be done considering the number of calls you want to store. You can estimate that each 1GB will hold approximately 160 hours of recordings using the speex format. That is, you can keep 96,000 calls of 10 minutes on one 100 GB HDD.

For setting the volumes in CallReplay we will consider 2 examples:

Example 1: A dedicated 500GB partition

In this case, you might want to have both the recordings and the data folder on the same partition. The quota setting, which sets the maximum ammount of space that the recordings may take should leave enough room on the partition for upgrade backups, logs, the database, and various misc files. Therefore, a 450GB quota will leave a 50GB available space for the rest of the data folder, and various operations. If the data folder is actually on another partition, you can set a quota even higher, leaving only 2-3 GB of free space. The free space we consider even on a purely recording storage partition might be necessary at some moment if large file operations are necessary (archiving of a few days of recordings).

The reserved setting will keep you informed when the available space for recordings (that is free space available + the size of current recordings) drops below the specified amount. Use this to make sure that the database and other operations (database backup on the same partition, logs archiving on the same partition, etc) doesn't take up the space needed for recording. In this case, setting the reserved space just 2 GB smaller than the quota should achieve this purpose.

Example 2: A shared 100GB partition (OS partition)

For a partition that is shared between CallReplay and other applications and most notably the OS, it is necessary to leave enough space available for other uses. In this particular case, setting a quota of 40GB will leave 60GB available for the OS and other applications, which should suffice. The reserved space, in this case should be set lower, as it's quite possible that the OS and the other applications will take more space over time than initilaly envisioned. A 30 GB reserved space will allow the other disk users to take up to 10GB of the planned CallReplay storage space before sending notifications to the administrator.

The default 1GB Reserved freee space should also be increased for such a partition, 4GB should suffice.

CallRecorder Firewall Ports

Ports opened on the CallRecorder server

Protocol	Port	Purpose	Configurable
UDP	1026	Database	No
TCP/UDP	5060	SIP default port	Yes
TCP	5432	Database	Yes
TCP	8080	Jetty web server	Yes
TCP	8081	Monitoring calls	No
TCP	8079	Software update	No
TCP	9000	Licensing	No
TCP	9853	Replication	No
UDP	25000-30000	RTP port range (even values)	Yes

CallManager Ports Required by Forked Recording

These ports must be opened on the CM server, or Forked will not work.

Protocol	Port	Purpose
TCP	2748	CTI
TCP	2749	JTAPI
TCP	2789	SIP default port
TCP	8443	AXL
TCP	443	HTTPS
UDP/TCP	5060	SIP

Reference: http://www.cisco.com/en/US/docs/voice_ip_comm/cucm/port/7_0/CCM_7.0PortList.pdf

Interfacing with CallReplay

CallReplay uses an embedded Postgres 9.0 database. To connect to it you can use PgAdmin III (Start / Programs / CallReplay / Support / PgAdmin III). It is also accesible from Java, C# and all programming languages which can access Postgres.

Port: Set during setup process, default 5432

User name: callreplay

Password: set during setup process, default CallReplay_2005

2. Automatic Login URL

| <http://SERVER:PORT/CallRecorder/?user=USER&password=PASSWORD&tenant=TENANT&lang=LANGUAGE>

where SERVER is the call recorder ip/address, PORT is the configured server port (see CallReplay Site Configuration), TENANT is the registered name of the tenant (if not provided, the "default" tenant will be considered), USER is the login name and PASSWORD is the password in clear text.

If you do not want to provide clear password, you may discard &password=, in that case CallReplay will ask you for password and use provided TENANT and USER.

Also, you can use the base URL with POST method, using the same keys and values as in normal URL:

| <http://SERVER:PORT/CallRecorder/Login>

3. Call Details

| http://SERVER:PORT/CallRecorder/?callDetails=CALL_UUID&user=USER&password=PASSWORD&tenant=TENANT

where call_uuid is the uuid of the call, found in Advanced tab of Call Details.

Example:

Call Details ×		
GENERAL	CALL INFO	DESCRIPTION
ADVANCED	QUESTIONNAIRES	
Call Party Information	Caller Party	Called Party
Phone Number	6002	6005
User Name		
Legal Zone	Internal	Internal
Legal Direction	Internal	Internal

Sometimes you may want to show only the Call Details dialog, in this case use the following url (note 'nomenu'):

```
http://< server : port >/CallRecorder/?callDetails=< call uuid > &user=< user_name >&password=< clear_password >&tenant=< tenant_name >&nomenu
```

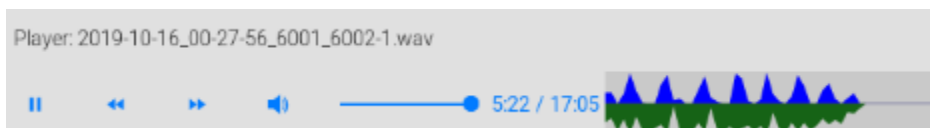
Observation: this is best used inside of an IFRAME

Example:

4. Call Playback

```
http://SERVER:PORT/CallRecorder/?player=CALL_UUID&user=USER&password=PASSWORD&tenant=TENANT
```

Observation: this is best used inside of an IFRAME



5. File Storage URL

```
http://HOST:PORT/CallRecorder/Storage/STORAGE_VOLUME_ID/CALL_PATH
```

where STORAGE_VOLUME_ID is the volume index number in the table **storage_volumes** and CALL_PATH is the path to the required file relative to storage volume, which can be found in the **Call** detail dialog.

Example: http://localhost:8080/CallRecorder/Storage/1/2012/06/20/22/2012-06-20_22-07-47_81267_8666685394-1.rtp

The storage web URL is protected by a password which is random by default but can be configured from the Storage > Advanced > Player Access Password. The user name is "player".

If you need to, you may construct and send HTTP Basic Authorization Header yourself. To do this you need to perform the following steps:

- Build a string of the form `username:password`, e.g. "player:123"
- Base64 encode the string, e.g. "cGxheWVvOjEyMw=="
- Supply an "Authorization" header with content "Basic " followed by the encoded string, e.g. "Basic cGxheWVvOjEyMw==" so the header will look like "Authorization: Basic cGxheWVvOjEyMw==".

Note: HTTP error code 401 is sent when the password is missing or incorrect, letting the browser prompt you for user/password. User name is 'player'.

6. Transcoding URL

Searches the call in the database, then transcode it to the desired output format, and send a redirect response to the temporary URL. If there is more than one call matching the query, the first one is used.

Parameters below are optional, that is searches can be made using any subset of parameters, so there is no longer any need to connect directly to the CallReplay database:

```
http://host:port/CallRecorder/Transcoder?callId=GUID&wireCallId=x
&beginTime=yyyy.mm.dd-hh.mm.ss&endTime=yyyy.mm.dd-hh.mm.ss
&callerIP=x&callerPort=x&callerMAC=x&callerNumber=x&callerName=x
&calledIP=x&calledPort=x&calledMAC=x&calledNumber=x&calledName=x
&format=x&password=x&lang=x
```

Parameters:

- Format:
 - spx or wav - redirects to audio files; when multiple callIds were requested, their audio files are concatenated and the response redirects to the resulted file
 - png - redirects to a .png image of audio file
 - json - returns a list of details for all calls matching the query, in json format
- beginTime and endTime - calls will be searched for start time between these values (if provided).
- pbxCallId is the SKINNY call ID or SIP call ID
- callId is the database call GUID; multiple callIds may be requested
- numbers and names are searched for text containing provided values
- IPs, ports and MACs are searched for exact match
- password is the password set in Storage > Advanced > Player Access Password. Instead of using this parameter, you can send a HTTP Basic Authorization Header instead.
- lang - one of the 2 char language identifier supported by CallReplay (see login dialog in administration site); used to display error messages; can be omitted for english

Notes:

- if the requested format is the same as storage format (see Storage > Advanced), you will receive a redirect to a File Storage URL for the file to be delivered straight from the storage. You need to supply a HTTP Basic Authorization Header in order to successfully download the file, as described in paragraph 5 File Storage URL.
- since the same user/password is used for Transcoding URL and File Storage URL, you may prefer sending HTTP Basic Authorization Header to the Transcoding URL instead of 'password' parameter.
- HTTP error code 401 is sent when the password is missing or incorrect, letting the browser prompt you for user/password. User name is 'player'.
- HTTP error code 412 is sent when other errors occur, along with an error message.

7. External Replication API

Downloads call details using HTTP requests.

Prerequisites:

To use this feature, you must add a replication branch and configure it for Replication API. This means go to the HQ/Branch Replication page, then to the Branch tab, where you add a new HQ. That is, add here the IP address of the computer from which you want to download calls. This is necessary for two reasons:

1. CallReplay has to maintain a replication queue for this HQ like it does for all HQ-s. This is, in fact, a real HQ, more precisely, a 3rd party HQ (a computer where the calls will finally arrive).
2. This allows you to have multiple 3rd party HQ-s as well as CallReplay HQ-s.

URL Format:

<http://HOST:PORT/CallRecorder/Replicator?lang=x&tenant=x&replicationQueueName=x&password=x&lastReplicationId=x&deletePrevious=<true/false>&chunkSize=x>

Parameters:

- tenant - the tenant id from which to download call details; can be omitted for default tenant
- replicationQueueName - must contain the exact HQ name (case sensitive) or the IP address entered for this HQ; it may be anything, even a fake IP - it is used just to find the queue with the not-replicated calls for this HQ.
- lastReplicationId - the last confirmed replication id - first time should be 0, the subsequent invocations should contain the last received replication id in order to be deleted from the database and advance to next operations; these IDs are in ascending order, but not necessarily contiguous;
- chunkSize - how many operations to return; can be omitted for default which currently is 50
- deletePrevious - whether to delete the row with lastReplicationId or not; when false, it will be retrieved again and again until deleted
- password - connection password set in the HQ dialog. Please configure CallReplay server to use HTTPS in order to hide the clear text password from a network analyzer. Instead of using this parameter, you can send a HTTP Basic Authorization Header, similar to the one in paragraph 5 File Storage URL. The user name is "replicator".
- lang - one of the 2 char language identifier supported by CallReplay (see login dialog in administration site); used to display error messages; can be omitted for english

Response for new call:

<http://HOST:PORT/CallRecorder/Replicator?...&lastReplicationId=5>

<CallRecordings>

<!-- sample response for a Cisco SIP call -->

```
<CallRecording>
<ReplicationId>3711</ReplicationId>
<Action>Create</Action>
<origLegcallIdentifier>17083749</origLegcallIdentifier>
<destLegIdentifier>17083750</destLegIdentifier>
<origLegSipCallId>0017e014-1e45000b-9d89d8c8-883d5c8c@10.1.0.61</origLegSipCallId>
<destLegSipCallId>38fe6b00-44510457-27e-6900010a@10.1.0.105</destLegSipCallId>
<globalCallID_callId>8062</globalCallID_callId>
<globalCallID_callManagerId>1</globalCallID_callManagerId>
<CallRecordingId>95a21ee8-adb5-2d5e-c208-6727e663e65f</CallRecordingId>
<StartTime>2014-10-22 16:35:36.746 +0300</StartTime>
<DurationMS>7300</DurationMS>
</CallRecording>
```

<!-- sample response is for a Cisco SCCP call -->

```
<CallRecording>
<ReplicationId>3721</ReplicationId>
<Action>Create</Action>
<origLegcallIdentifier>17083687</origLegcallIdentifier>
<destLegIdentifier>17083688</destLegIdentifier>
<origLegSipCallId/>
<destLegSipCallId/>
<globalCallID_callId/>
<globalCallID_callManagerId/>
<CallRecordingId>3a07f1fb-9dd5-c60f-c2fc-5b14a3597a50</CallRecordingId>
<StartTime>2014-10-22 16:41:30.146 +0300</StartTime>
<DurationMS>6000</DurationMS>
</CallRecording>
```

<!-- sample response for a deleted call -->

```
<CallRecording>
<ReplicationId>24</ReplicationId>
<Action>Delete</Action>
```

```
<CallRecordingId>ed29894d-4a34-2944-b827-a76e00bd6b6a</CallRecordingId>
</CallRecording>
```

</CallRecordings>

Response when there are no more operations at this moment:

```
http://HOST:PORT/CallRecorder/Replicator?...&lastReplicationId=654

<CallRecordings>

</CallRecordings>
```

Response in case of error:

```
<Error>

<Code>errorCode</Code>

<Message>error message</Message>

</Error>
```

Possible error codes:

- 1 - unknown error
- 2 - 'replicationQueueName' parameter was not set
- 3 - password parameter is missing or the password is wrong
- 4 - specified replication queue name was not found
- 5 - specified replication queue name was not configured for replication API - please go to HQ/Branch Replication page, edit HQ and check 'Only for Replication API'.

Notes:

- HTTP error code 401 is sent when the password is missing or incorrect, letting the browser prompt you for user/password. User name is 'replicator'.
- HTTP error code 412 is sent when other errors occur, along with an error message.
- Error messages will be returned in the chosen supported language (default is English).

Deleting Calls

The Replicator API can also be used to delete calls. You will need to follow the steps from the *Prerequisites* section of the *External Replication API*.

URL Format:

<http://HOST:PORT/CallRecorder/Replicator?command=delete&callGuid=x&replicationQueueName=y&recursive=true>

Parameters:

- command - use the value 'delete' to delete calls

- replicationQueueName - must contain the exact HQ name (case sensitive) or the IP address entered for this HQ; it may be anything, even a fake IP - it is used just to find the queue with the not-replicated calls for this HQ.
- callGuid - the GUID(Globally Unique Identifier) of the call to delete
- recursive - if true, the call will be deleted from any replication branches it is found on. The default value is false.
- password - connection password set in the HQ dialog. Please configure CallReplay server to use HTTPS in order to hide the clear text password from a network analyzer. Instead of using this parameter, you can send a HTTP Basic Authorization Header, similar to the one in paragraph 5 File Storage URL. The user name is "replicator".

Response in case of successfully deleting a call (non-recursively):

<http://HOST:PORT/CallRecorder/Replicator?command=delete&replicationQueueName=Replication&password=PWD&callGuid=7d0b6426-ceaa-9012-4106-2d25f25dccfa>

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<CallRecording>
  <LocalServerStatus>Call not found.</LocalServerStatus>
  <LocalServerMessage>Call not found.</LocalServerMessage>
  <Status>Call not found.</Status>
  <Action>Delete</Action>
  <CallRecordingId>7d0b6426-ceaa-9012-4106-2d25f25dccfa</CallRecordingId>
  <Servers/>
</CallRecording>
```

Response in case the call doesn't exist or has already been deleted (non-recursively):

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<CallRecording>
  <LocalServerStatus>Call not found.</LocalServerStatus>
  <LocalServerMessage>Call not found.</LocalServerMessage>
  <Status>Call not found.</Status>
  <Action>Delete</Action>
  <CallRecordingId>7d0b6426-ceaa-9012-4106-2d25f25dccfa</CallRecordingId>
  <Servers/>
</CallRecording>
```

Response in case the call exists on the main server (10.1.0.131) and on two other replication branches (10.1.0.117 and 10.1.0.113) (recursively):

<http://10.1.0.131:80/CallRecorder/Replicator?command=delete&replicationQueueName=Replication&password=PWD&callGuid=835f6c9a-bca9-8b82-05e6-76b1d9b2a7d9&recursive=true>

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<CallRecording>
  <LocalServerStatus>Success</LocalServerStatus>
  <LocalServerMessage>Success</LocalServerMessage>
  <Status>Success</Status>
  <Action>Delete</Action>
  <CallRecordingId>835f6c9a-bca9-8b82-05e6-76b1d9b2a7d9</CallRecordingId>
  <Servers>
    <ServerStatus>
      <Status>Success</Status>
      <IpPort>10.1.0.117:80</IpPort>
      <Msg>Success</Msg>
    </ServerStatus>
    <ServerStatus>
      <Status>Success</Status>
      <IpPort>10.1.0.113:80</IpPort>
      <Msg>Success</Msg>
    </ServerStatus>
  </Servers>
</CallRecording>
```

CallReplay Cloud Server

Introduction

The Cloud Server is a feature of CallReplay which allows you to record calls and upload them on a properly configured CallReplay Cloud Server.

The Cloud Server can be used as a Replication HQ for other CallReplay servers or mobile recorders.

You can make use of this feature in two ways:

1. Uploading to the public CallReplay Cloud Server located at <http://cloud.call-replay.com>;

2. Configure your own CallReplay Cloud Server - this way you have all features of CallReplay Call Recorder.

Supported mobile phones: Android 2.3.3 or higher; other operating systems may be supported in the future.

Configuring your own CallReplay Cloud Server

First of all, you should acquire a license for this. The license should contain how many tenants you need (i.e. cloud accounts) and how many phones and mobiles you want to record **and** upload calls.

Upload this license in your CallReplay installation using System -> Licensing.

Add Tenants

then go to System -> Tenants page. You can add your tenants here.

| *System > Tenants*

First enter the company name and fill the TLD field with your domain name / website if any.

You can assign a number of Replication Branches, if you want to make this tenant a Replication HQ. In this case, you should allocate a number of channels to those branches and assign them individually from HQ/Branch Licensing page. That is, if you want branches A, B and C to upload calls to this tenant, write 3 in 'Branch' edit box. Then, if you want A to have 5 channels, B and C have 10, write 25 in 'Channels' edit box, then later go to HQ/Branch Licensing and assign each of them the corresponding channel number. Here you will introduce the total number of channels allocated to the group of branches associated with this tenant.

In 'Mobile Phones' you will write the total number of mobile phones that can upload calls to this tenant (cloud account).

'Storage Quota' - how much of storage space will be allocated to this tenant from the total storage pool. Older records will be deleted when the quota is reached. Enter 0 if you want to use global cleaning.

'Active' - use this checkbox to activate / deactivate the tenant.

'Validity' - if you want to automatically deactivate the tenant after a period of time.

After pressing 'OK' button, a new tenant will be generated and you can see it in the main list. There you can find the generated Tenant ID used for tenant identification.

Add Tenant Admin

You may create multiple user accounts for each tenant, at least one of them should have administrative rights. You can quickly create such an administrative account using 'Add Admin' button from 'Tenants' page.

A password will be randomly generated for the tenant administrator and it will be sent to the specified e-mail address.

Public Tenant Creation

This feature is available only on public CallReplay Cloud Server located at <http://cloud.call-replay.com>. Anybody can create a trial tenant for itself. This trial tenant will expire after 1 month and its storage quota is limited to 200MB.

To convert a trial tenant to a permanent tenant, please contact sales or support.

Tenant Login

Upon creation of the its account, the administrator will receive an e-mail containing the login credentials. In order to access the Cloud Server, the administrator (and users created subsequently) must enter the Tenant ID along with the login name and password.

After login, you have access to all recorded and uploaded calls. You can playback them (if not encrypted), e-mail them and so on.

Localization

Requirements

For creating a custom localization of CallRecorder you need at least version 7.1.10 of application installed using a full setup.

Creating/editing CallReplay localization

CallReplay CallRecorder has two major components who need to be translated separately. One component is recorder service and other is site administration.

First thing which must be done is to create a copy of entire **Translations** folder into CallReplay data folder. **Translations** folder can be found in installation path, usually c:\Program Files\CallReplay\System\Translations. Data folder is the folder where the database is kept, default value is C:\CallReplay.

Once we have new **Translations** folder we can start to create/edit translations. All customizations must be done in this new **Translations** folder otherwise will be lost after first running of CallReplay Software Update or after a full setup.

The tools used for translation are "*translate_site.cmd*" and "*translate_server.cmd*".

Create a new translation for CallRecorder site

Go to the new **Translations** folder created using indications from previous paragraph.

Duble-click on "*translate_site.cmd*" file. If this is the first time when the translation tool is used you must select a language for translation tool interface:

After language selection the main window of translation tools is shown:

Press the add language button:

Select desired language from the list:

The result is a new Language node:

Now select the new language and translate every key from the master file to the new language. Next picture show how to do translate "All rights are reserved" to Korean.

The untranslated keys are shown with blue color. So it is easy to know which keys are translated and which not.

For saving the new language press "CTRL+S" which is a shortcut for File>Save option and a new file having name "*site_xx.properties*" will be created where *xx* is the language code.

Create a new localization for CallRecorder service

Go to new **Translations** folder and double-click on "*translate_server.cmd*". The same tool as for translating site will be shown excepting that the keys are for CallRecorder service.

Create a new localization for CallRecorder service following the same steps as for CallRecorder site. The name of the new translation will be "*serv_xx.properties*" where *xx* is the language code.

Activate a new localization

A new localization becomes active after including in file "*locale.properties*" the line: *xx=Language* and restarting of CallRecorder service.

e.g.: *ko=*

Editing an existing localization for CallRecorder site and service

Run the translation tool ("*translate_site.cmd*" for site and "*translate_server.cmd*" for service), select the language and edit the keys accordingly. Save the changes (CTRL+S or File > Save).

Download Files from Our FTP Server

You can download releases from our FTP server, which is located at [this address](#), using the following credentials:

User: anonymous

Pass: anonymous

Our FTP server can use the passive mode for data transfer on ports in the range of 50000-51000, or active mode on port 20, so make sure to allow connections on those ports in your firewall.

In order to download installation setup kits from our FTP server, you can use a web browser such as Firefox or Google Chrome (but not Internet Explorer), or a FTP client such as [WinSCP](#) or [FileZilla](#).

Use no encryption when connecting to the server.

Below is a screenshot showing how to configure WinSCP. In this case, the Passive mode is used, so ports in the range of 50000-51000 will be used. If you uncheck the passive mode, then port 20 will be used in Active mode.

Once logged in, you may proceed downloading the file of your choice:

Note that if you are using a web browser and point it to <ftp://ftp.call-replay.com/>, then passive mode will be used by default.

Upload Files Manually to Our FTP Server

To upload logs manually to our FTP server, first you need to locate the log files which correspond to the time when the issue occurred, archive them using a program such as 7-Zip, and then upload them to the FTP server using the credentials shown below. Please notice that it helps us if you set the **Tracing Priority** to **All** inside the **CallReplay -> Help -> Service Debug Settings** menu before the issue occurs, so that additional information gets included in the log. Also, the most important logs are the ones ending in the **.trx** extension, so make sure to include them as well.

By default, the log files can be found in the following location:

On Windows: **C:\CallReplay\Logs**

On Linux: **/var/lib/callreplay**

The FTP credentials are:

Server: [ftp.call-replay.com](ftp://ftp.call-replay.com)

User: support@call-replay.com

Pass: **support123**

Please make sure that the FTP client settings are set on **FTP** (not SFTP), using **no encryption**.

To upload the archive, you can use a FTP client such as **FileZilla**, available on both Windows and Linux, which can be downloaded from [here](#), or **WinSCP**, available on Windows only, which can be downloaded from [here](#).

Keep in mind that for the Passive Mode, ports 50000 through 51000 have to be open in the firewall. For the Active Mode, port 20 is used for data transfer.

Please tell us in an email message the name of the file that you uploaded.

Below is a screenshot showing how to connect using WinSCP:

If connecting using Filezilla doesn't work, try going to **Edit->Settings->FTP** and set the **Transfer Mode** to **Active**.

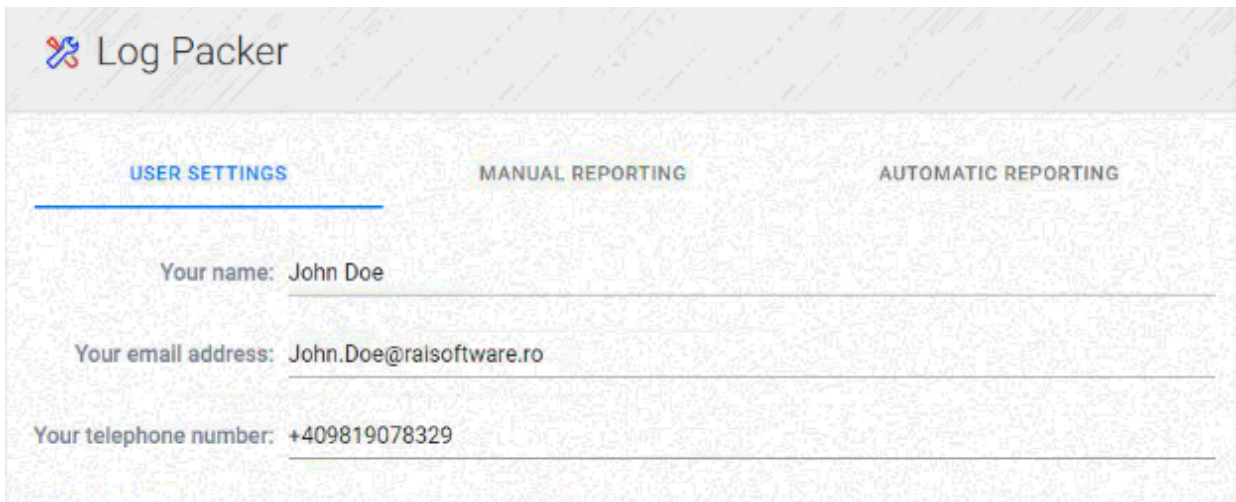
Send Logs

RAI Software is dedicated to its customer and willing to deliver best user and business experience through the products and services. Therefore, *CallReplay* comes with a convenient and easy to use problem reporting component that you can use to report, manually or automatically, when something is not working.

Before using this feature it is important to provide contact information that will help *RAI Software* support people to connect with you.

To configure contact information:

- Go to **Help > Send Logs**.
- Provide a name for the contact and that will be used for communication
- Introduce the preferred e-mail address to be used in connection with *CallReplay* problem
- Introduce the preferred telephone number
- Click **Save**.



Log Packer

USER SETTINGS **MANUAL REPORTING** **AUTOMATIC REPORTING**

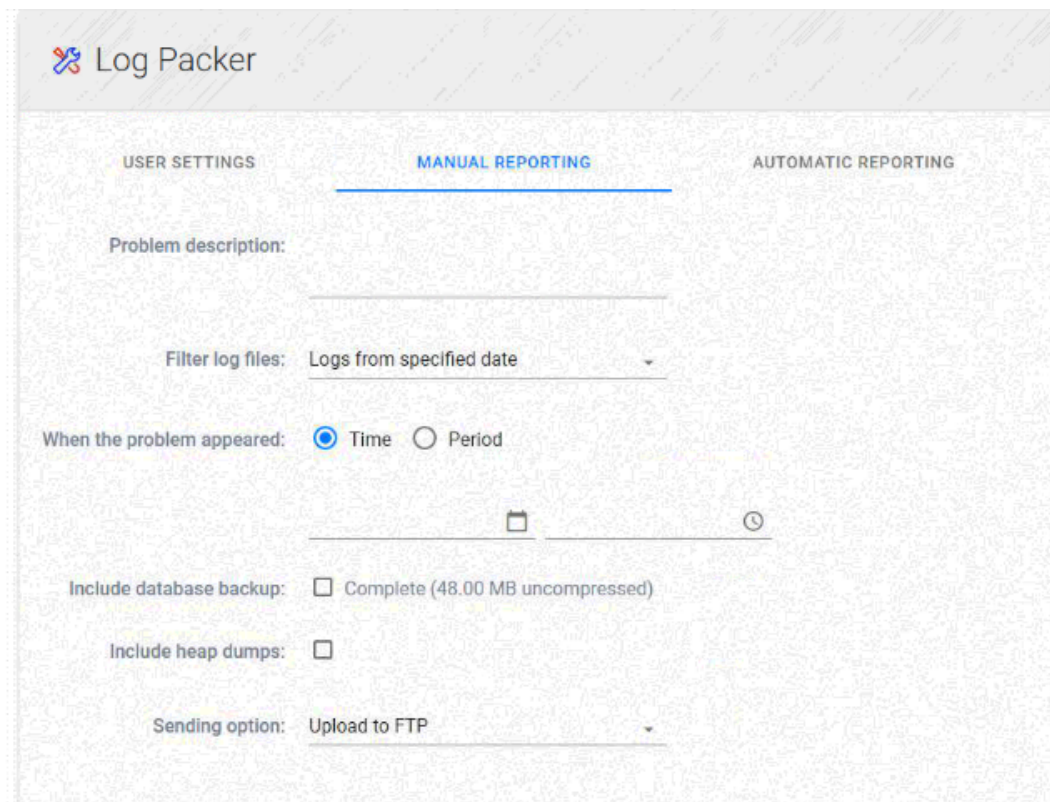
Your name: John Doe

Your email address: John.Doe@raisoftware.ro

Your telephone number: +409819078329

To report a problem manually:

1. Go to Help > Send Logs.
2. Select Manual Reporting tab
3. Introduce requested information
4. Click Submit Report.




Log Packer


USER SETTINGS **MANUAL REPORTING** **AUTOMATIC REPORTING**

Problem description:

Filter log files: Logs from specified date

When the problem appeared: ☒ Time ☐ Period





Include database backup: ☐ Complete (48.00 MB uncompressed)

Include heap dumps: ☐

Sending option: Upload to FTP

- Problem description:
- When the problem appeared:
- Filter log files:
- Include database backup:
- Sending option:

Giving more detail in the description helps us to determine cause of a problem much faster. Reporting issues when they happen helps make CallReplay better, and we appreciate the time it takes to give us this information

To report problem automatically:

1. Go to Help > Send Logs.

2. Select Automatic Reporting tab
3. Check Automatic Upload Enabled.
4. Introduce requested information.

Log Packer

USER SETTINGS MANUAL REPORTING **AUTOMATIC REPORTING**

Automatic upload enabled: ☐

Folders: C:\CallReplay\Logs

Begin date: 10/16/2019 12:00 AM

End date: 10/17/2019 12:00 AM

Refresh period: 1:00 AM

FTP servers:

ADD

Edit	Enabled	Host Name	Remaining Files	Queued Bytes	Total Uploade...	Last Error Mes...
EDIT	no	ftp.call-repla...	0	0	0	

By default CallReplay provides a preconfigured FTP connection, but you can configure custom ones according with your needs or as per support people recommendation.

To add FTP connection:

1. Go to Help > Send Logs.
2. Select Automatic Reporting tab
3. Click Add.
4. Introduce requested information.

To delete FTP connection:

1. Go to Help > Send Logs.
2. Select Automatic Reporting tab
3. Check the row(s) containing the FTP connection(s) you want to remove.
4. Click Delete.

Adding new Phone Services

Adding new Phone Services

1. Customizing the Phone Services

The default CallReplay Phone Service will display a menu where different functions can be selected. However, you can customize the Phone Service URL so that you can access a specific function with a push of a button. The different functions and their URL's are displayed in Table 1.

Table 1

Service	Description	URL
Main Service	Provides users with a menu with extensions	http://x.x.x.x:80/CallRecorder/phoneService?name=#DEVICENAME#

Recordings	Listen to audio recordings, according to user's access rights	http://x.x.x.x:80/CallRecorder/phoneService/replayPhoneListOfExtensions?name=#DEVICENAME#
Monitoring	Listen to live calls, according to user's access rights	http://x.x.x.x:80/CallRecorder/phoneService/monitoringPhoneListOfExtensions?name=#DEVICENAME#
Record this call	Demands recording of current call	http://x.x.x.x:80/CallRecorder/phoneService/onDemandPhoneDemandThisCall?name=#DEVICENAME#
Pause this call	Pauses the recording of current call	http://x.x.x.x:80/CallRecorder/phoneService/recordPause?name=#DEVICENAME#

2. Adding a new Phone Service

Log in Cisco Unified CM Administration, then go to Device -> Device Settings -> Phone Services and add a new service

Enter the new name of the service and the URL (which can be found in Table 1) and then check Enable

3. Subscribe your phone to the new service

In the Phone Configuration window, select Subscribe/Unsubscribe Services and click go, then select the new service in the pop-up window, click next and subscribe.

4. Add the Service to a softkey button

On the right-hand side, look for add new SURL, click it and add the new service. Attention: if the Add new SURL is in the Unassigned Associated Items list, you will need to create a custom Phone Button Template, to add the service URL to one of your available softkeys (see section 5).

5. Creating a new Phone Button Template

If you need to assign Service URL to softkeys, you will need to create a new Phone Button Template. Go to Device -> Device Settings -> Phone Button templates, find the one you are using for your phone, select it, press copy and set a new name for it.

Search for the new template, select it, and configure the softkeys you wish with the Service URL option.

Finally, go back to the phone's configuration, select the new button template and apply the new configuration.

Enable SSL for Web Interface

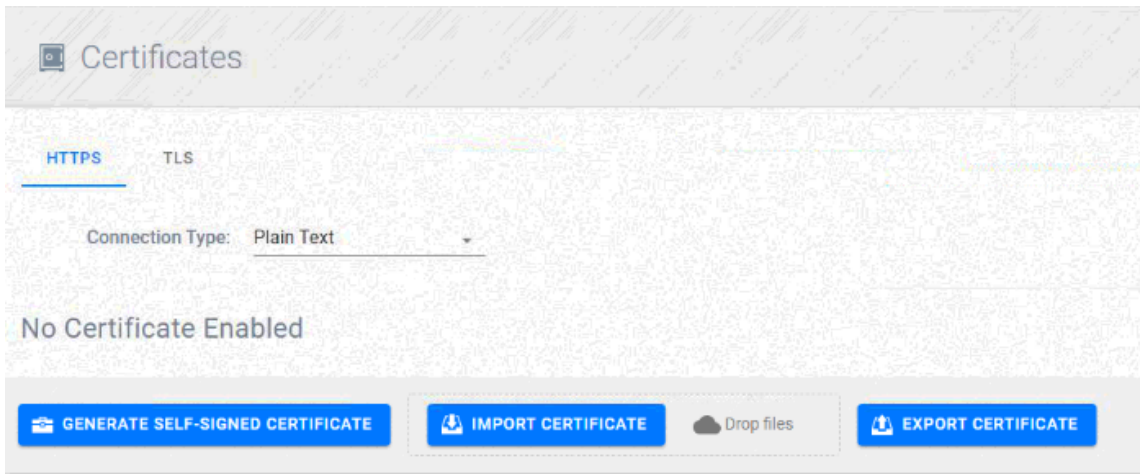
To enable logging in via HTTPS instead of plain HTTP, use the System->HTTPS menu entry.

I. Generate a Self-Signed Certificate

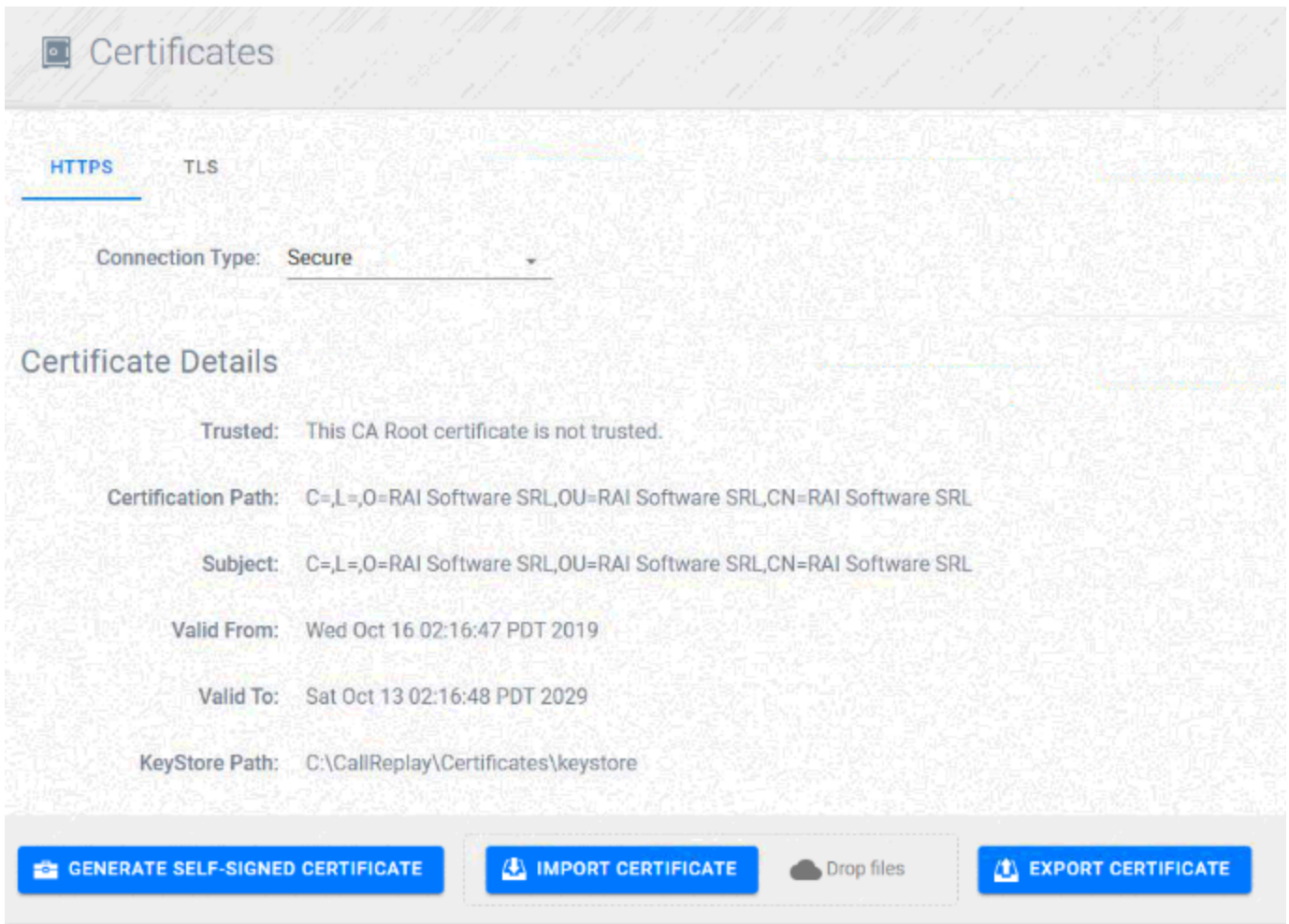
This can be accomplished by following the steps shown in the screenshots below:

1. Choose "Secure" as the Connection Type:

System > HTTPS



2. Press Finish once the "Generate Self-Signed Certificate" radio button is checked:



3. Restart the service:

II. Import a PFX/P12 Certificate

1. Select "Import Certificate":


2. Click on "Browse" and select the pfx/p12 certificate from the popup browser. You may need to enter a password for the certificate as well:

3. Click Next and then Finish. Once done restart the service:

Editing Protocol Settings in PBXs

By default, the three protocols listed in a Cisco CallManager PBX are Skinny, SIP and Forked Recording, which come with default settings to record enabled. However, each of these protocols can be configured further by clicking the Edit button on the respective protocol.

Recording > CallManager (PBXs) > Edit PBX

[< BACK](#)  Edit PBX : Cisco CallManager(10.1.0.65)

GENERAL

PROTOCOLS

AUTHENTICATION


[ADD PROTOCOL](#) [RESET TO PBX DEFAULT](#)

Enabled	Edit	Protocol	Parameters	Delete
<input type="checkbox"/>	EDIT	Cisco Skinny	protocol=skinny; port=2000; version=8.0	DELETE
<input type="checkbox"/>	EDIT	SIP	protocol=sip; port=5060	DELETE
<input checked="" type="checkbox"/>	EDIT	Cisco Forked Recording	playRecordingTone=true; protocol=ciscoJtapi; password=5916074bebd03d83a5...	DELETE

[NEXT >](#) [CLOSE](#)

Edit Cisco Skinny

Recording > CallManager (PBXs) > Edit PBX > Edit Protocol

 Edit Protocol

Protocol: Cisco Skinny

Port: 2000

Version: 8.0

Disable This Protocol: ☒

Deny: ☐

[OK](#) [CANCEL](#)

Version: Protocol version, depends on the Skinny versions supported by the firmware of the phones, the default (8.0) should work for most phones.

Port: The Skinny port used by the phones to communicate with CallManager.

Disable This Protocol: Check this if you want to disable this protocol for this PBX.

Deny: Ignore calls and do not record calls using this protocol for this PBX.

Edit SIP

Recording > CallManager (PBXs) > Edit PBX > Edit Protocol

Edit Protocol

Protocol: SIP

Port: 5060

Disable This Protocol: ☒

Deny: ☐

OK CANCEL

Port: The SIP port used by the phones to communicate with CallManager.

Disable This Protocol: Check this if you want to disable this protocol for this PBX.

Deny: Ignore calls and do not record calls using this protocol for this PBX.

Edit Cisco Forked Recording

Recording > CallManager (PBXs) > Edit PBX > Edit Protocol

Edit Protocol

Protocol: Cisco Forked Recording

Port: 5060

☐ Record Encrypted Calls

User name: CallReplay

Password: *****

Recorder Address: 10.1.0.167

☒ Play Recording Tone

Disable This Protocol: ☐

Deny: ☐

OK CANCEL

Play Recording Tone: Enable this option so that users will hear a recording tone in their phones whenever the call is getting recorded.

Recorder Address: The IP of CallRecorder.

Password: The password of the CallReplay username.

Username: The username which is used for the Recording Profile.

Record Encrypted Calls: Check this to be able to record encrypted calls.

Port: The port used for SIP communication.

Disable This Protocol: Check this if you want to disable this protocol for this PBX.

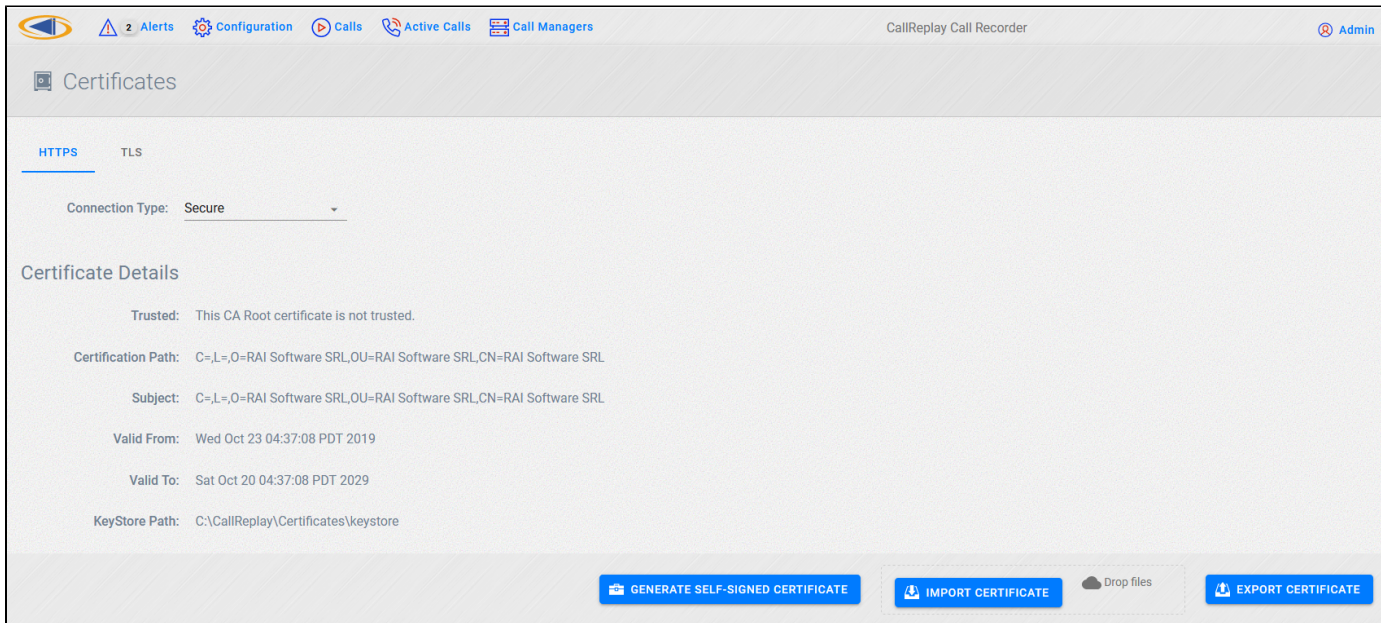
Deny: Ignore calls and do not record calls using this protocol for this PBX.

Setting Up HTTPS

By default, the CallReplay web interface can be accessed via plain HTTP, however SSL can be enabled from the **System > HTTPS** menu. This will allow users to log in to CallReplay securely over a HTTPS connection. The administrator can generate a new certificate or use an existing one.

In **System > HTTPS**, under the **Connection Type** dropdown list, switch to **Secure**:

System > HTTPS



The Certificate Configurator window should appear. Here you can generate a self-signed certificate, or import an already existing certificate. You can also change the existing certificate and start using a different one.

Generate Self-Signed Certificate

To generate a new certificate, make sure the **Generate Self-Signed Certificate** radio box is checked and click **Finish**. A confirmation to restart the CallReplay service will appear.

Click Yes to restart the CallReplay service and enable the new settings.

To check the new connection type, open a web browser and go to https://IP_OF_RECORDER/. If the certificate is not signed by a CA authority, you will most likely need to explicitly tell the browser to accept the public certificate:

Confirm the security exception. Next, the CallReplay login interface should appear. The **System > HTTPS** window should show information about the currently used certificate:

Import Certificate

You may want to use an already existing certificate, in which case in the Certificate Configurator window make sure the **Import Certificate** radio box is checked:

Click **Next**. In the window that appears, browse to the location of the certificate file (pfx/p12) that you want to import.

Click Next. A window showing available certificates will appear. Select the desired one and click Next.

Restart the CallReplay service to enable the new settings.

LDAP Authentication! High Prio (Draft)

Release Notes

- [v10.0 Features](#)

v10.0 Features

Bugs are not included as this is a major release

#	Subject	Category
2833	Upgrade to Azul JDK11	
2070	memolith logs upgrade	Memolith
2659	Classifier speedup	
3145	KeyStore Editor component	Security > Certificates
2901	Modern SVG icons	
2891	Search by call id	
3064	Computers panel missing	Replay
3103	Update AXL and jtapi.jar to v12.5	
2779	System > Alerts	
3078	Use DB Pooled Provider	
3031	Unified Configuration needs Quick Search of categories	
2700	Storage > Storage Volumes	Web Interface
2681	Opus codec support in Qodec and CallRecorder	
2740	Playback > Active Calls	
2720	System > E-mail	
2942	Upgrade DB to Postgres 12	
2752	Help > About	
2887	Change retention default from "keep until space required"	
2744	Quality > Answers	
2781	Quality Module	

2788	Call Description in exported list	
2857	Replay Calls	Replay
2839	redo PreConfiguration in HTML using a temporarily started, localhost, web server	Preconfiguration
2736	Storage > Storage Settings	
2701	System > Ldap Authentication	Web Interface
2865	Licenses descriptors	
2743	Quality > Reports	
2718	System > Licenseing > Licensing Pools	
2711	System > Configuration > Retention Policy	
2774	Merge replication and licenses together.	
2710	System > Configuration > Recording Policy	
2830	Global Menu	Web Interface
2689	Login page	
2841	Root page	
2840	Maintenance Progress page	Web Interface
2729	CallReplay - ScreenRecorder > ScreenRecorders	ScreenRecorder
2836	Upgrade Innosetup to v6	
2709	System > Configuration > Email Notification	
2730	Help > Service Debug Settings	Web Interface
2733	Recording > Silence Compression	
2734	Recording > SPAN Troubleshooting	
2735	Recording > Advanced	
2745	Backup > Backup	
2754	Session > Logout Admin	
2831	Upgrade to Vaadin 14	
2722	System > HQ / Branch Replication > Branch	
2721	System > HQ / Branch Replication > Headquarters	
2717	System > Licenseing > HQ / Branch Licensing > Branch	
2716	System > Licenseing > HQ / Branch Licensing > Headquarters	
2708	System > Configuration > Filters	
2731	Recording > Network Interfaces	
2748	Screen Recorder > Settings	
2753	Session > Change Password	
2751	Help > Browser Logs	
3057	Forked Recording without JTapi (Mobile Jabber Recording)	Recorder > Forked > JTapi
2977	Category-Period Summary Cache	Replay

2863	SSL Security	Recorder > Forked > Axl
2739	Playback > Replay Calls	
303	Star calls	Web Interface
502	external (turret) config params	Recorder > IPTrade
716	thrift client should connect using https to a https configured server	Replication
907	HA deduplicate calls by cisco leg identifiers	High Availability
1174	Blocarea asocierii call-urilor pe noduri de configurare	Classifier
2161	ArrowLib	Recorder
2226	UX: Research for suitable framework -> Score Card to make a decision	Web Interface
3033	Search bar in unified configuration	Configuration
2963	URL for accessing call details specifically	
2714	System > Licenseing > License > Licenses	Administration > Licensing
2732	Recording > Call Managers	
3164	Improve password security	Security > Login
2597	Record Encrypted Calls on CUCM	Recorder > Forked
3129	Verify SRTP Calls on CUCM 12.5	Recorder > Calls
2819	Error when trying to export calls	
2867	VAD not working with IPTrade	Recorder > IPTrade
2861	Secure LDAP method deprecated needs updating	Security > Ldap
2621	Update IP Trade recording	Recorder > IPTrade

CallReplay v10 User Guide

- [Introduction-](#)
- [Recordings](#)
- [Questionnaires](#)
- [Phone Services](#)
- [Get Help](#)

Introduction-

- [Product Overview](#)
- [Features and Benefits](#)
- [Dashboard- DEPRECATED](#)
- [User login](#)

Product Overview

CallRecorder is an easy to use VOIP call recording solution that implements the corporate call recording keeping policy and provides secure and easy access to call records.

It allows managers to review and score phone calls according to their work group.

Users are empowered by providing them with accurate records of their calls.

CallRecorder is a self-contained software recorder which includes everything necessary to record VoIP calls (besides the Operating System and server hardware): database, web server, Java, etc.

Memolith Screen Recorder integrations allows the recording of computer desktops, either linked to a phone call or non-stop.

Features and Benefits

- Automatically Record Phone Calls - Damage control and increased accountability in your personnel, suppliers and customers.
- Manual (On-Demand) Control: recording can also be initiated by the user using the browser or IP Phone Service. Both
- Full Call and Partial Call recording modes are supported.
- Multiple Recording Methods: CallRecorder supports both port mirroring (SPAN) and forked recording (SPANless).
- Hardware recording coming soon!
- Monitor live calls: Listen to a call in progress, through the browser or IP phone service. You can also whisper to the agent without being heard by the external party (IP phone service).
- Browse Recordings by Agent - Superb browsing interface tracks agents across multiple phone numbers.
- Search by caller ids, phone numbers, annotations, time, description, tags, etc.
- Replay, Annotate and e-Mail phone call recordings. Easy, secure access to call recordings, using a web audio player, desktop audio player or IP Phone Service.
- Tagging & Searching calls with customized hierarchical tags has never been easier.
- Call Scoring & Custom Forms - Integrated agent scoring and reporting module
- Agent Call Statistics Reports: the number of calls made, received, etc by each agent
- Email Notifications: automatically send email when a predefined number appears in a call.
- Backup & Restore: Archive calls on DVDs, HD-DVDs, BluRays or SANs. A single DVD can store up to 15,000 calls of 5 minutes each, due to the state-of-the-art voice compression technology incorporated in CallRecorder.
- Reverse Caller Lookup - Displays the caller name and business unit using the company Phone Directory.
- Multi Site Replication: using queued replication, you can record many network partitions and centralize recordings at the HQ. Recording and replication survive a downed WAN link.
- Screen Recording – Integration with Memolith Screen Recorder. See what was done on the screen while the phone call occurred.
- Specialized Speech Compression lowers the storage requirements 8 times over MP3 and allows 18,000 hours of phone calls storage on one 120 GB hard drive.
- Call History - follow a call as it is transferred, put on hold or parked
- Audit Replays – prevent recordings abuse by browsing the list of accesses to a call.
- XML Phone Service – handily review your past calls from your XML enabled phone (Cisco IP Phones 7940, 7960 & 7970). Authenticate, Browse, Play, Rewind, e-mail, mark important. You can also assign calls to folders.
- Access Control Lists – fine grained permission system to allow listening and acting on calls.
- Automatic Software Update - the easiest, fastest way to apply patches
- Thin Client Deployment – The administration and user tools run in all web browsers supporting Flash.
- Integrated Support Tools – Request & receive technical support with a few clicks, by using the integrated log packer and TeamViewer support tool.
- Passive network sniffing assures zero impact of recording on PBX performance and improves system reliability.
- Try Before You Buy – Download a fully-featured evaluation version with a friendly configuration wizard from: <http://www.call-replay.com>

Dashboard- DEPRECATED

The Dashboard, new in CallReplay 10, will allow displaying of various stats and settings about CallReplay in a single window. Here one can add various widgets such as System or Database information, monitoring of storage space or the database.

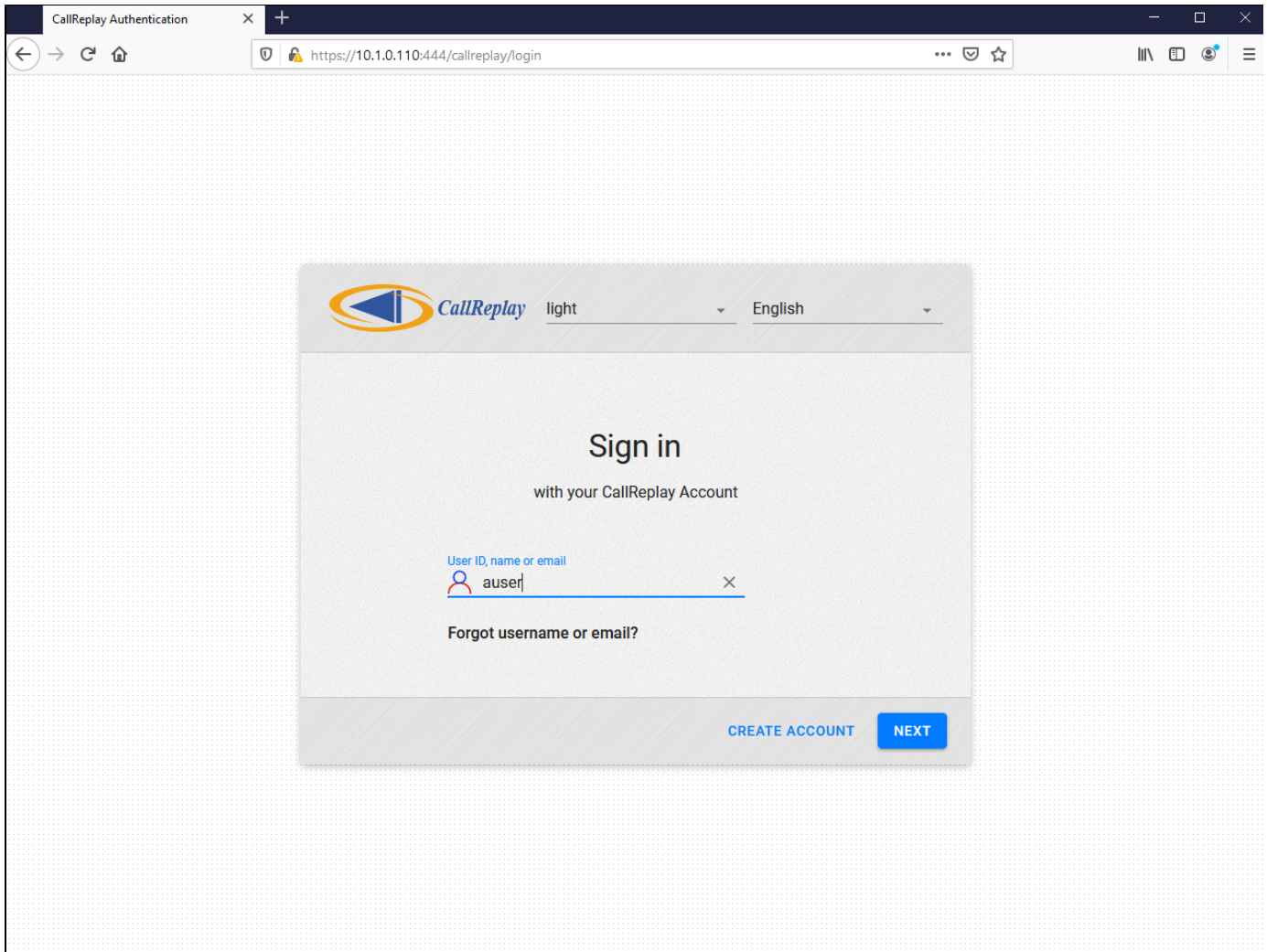
The new Dashboard:

The Dashboard also supports adding graphs for recorded calls:

User login

Login

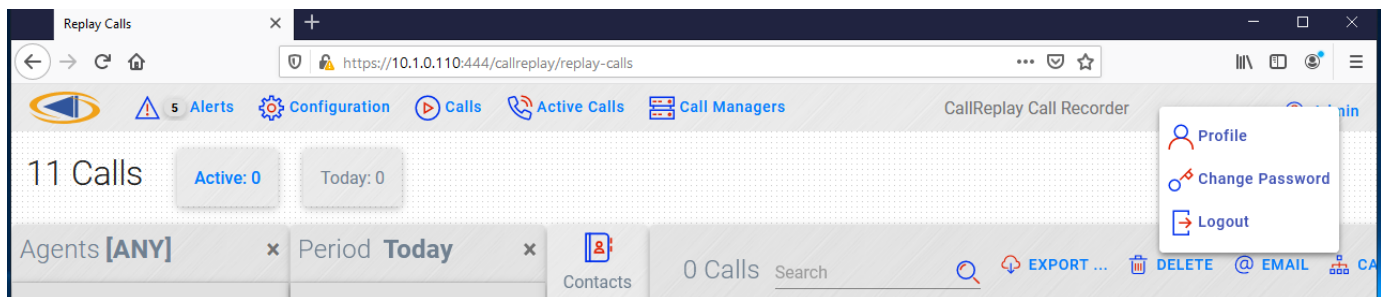
You connect to the CallReplay web interface by opening the address supplied by your system administrator. Next, login with your user account.



To change your password, go to the top right of the call replay web console and select your login name, which will then display a drop down menu as below

From here you may review your profile

Change your password and logout



When selecting Change Password the following screen is displayed where you can change your password and also your PIN

Change Password

https://10.1.0.110:444/callreplay/change-password

Alerts 5ConfigurationCallsActive CallsCall ManagersCallReplay Call RecorderAdmin

Change password

PASSWORD

PIN

Old Password:

New Password:

Retype New Password:

SAVE

Recordings

- [Replay Calls-](#)
- [Video Recordings](#)

Replay Calls-

Replay Calls is the main user page. From here you can play and search recordings and access the call details page for each recording. Video recordings can also be accessed from here

Introduction

From the top menu choose Replay Calls:

Search (Ctrl-G)

Playback

Quality

Help

Session

Dashboard

Replay Calls

Logout

callreplay administration

Search (Ctrl-G)

Playback

Quality

Help

Session

Dashboard

Replay Calls

Logout

callreplay administration

Search

08/24/2016

Search

Refresh

Menu

All 200

Users

Roles

Agents

a1 103

a1 103

<input type="checkbox"/>	Calling Party	Called Party	Start Time	Duration	Actions
<input type="checkbox"/>	2002	a1	24 August 2016 15:31:10	10m 57s	
<input type="checkbox"/>	2002	a1	24 August 2016 15:30:25	18s	
<input type="checkbox"/>	2002	a1	24 August 2016 15:29:54	0s	
<input type="checkbox"/>	2002	a1	24 August 2016 15:29:54	0s	
<input type="checkbox"/>	2002	a1	24 August 2016 15:28:37	0s	
<input type="checkbox"/>	2002	a1	24 August 2016 15:28:37	46s	
<input type="checkbox"/>					
<input type="checkbox"/>					
<input type="checkbox"/>					
<input type="checkbox"/>					

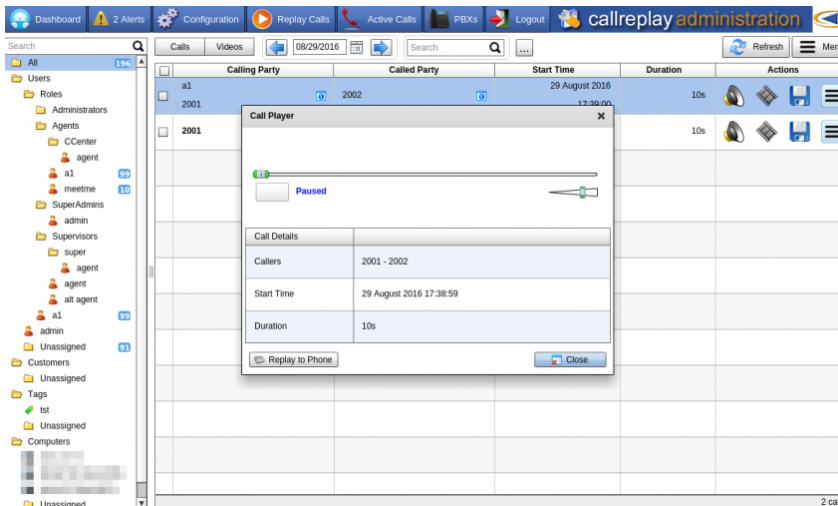
5 calls

In the Replay Calls menu you can see by default all calls recorded today. They can be found in the All folder on the left and distributed among the users.

Note: You can only play the calls that your user account has permission to playback.

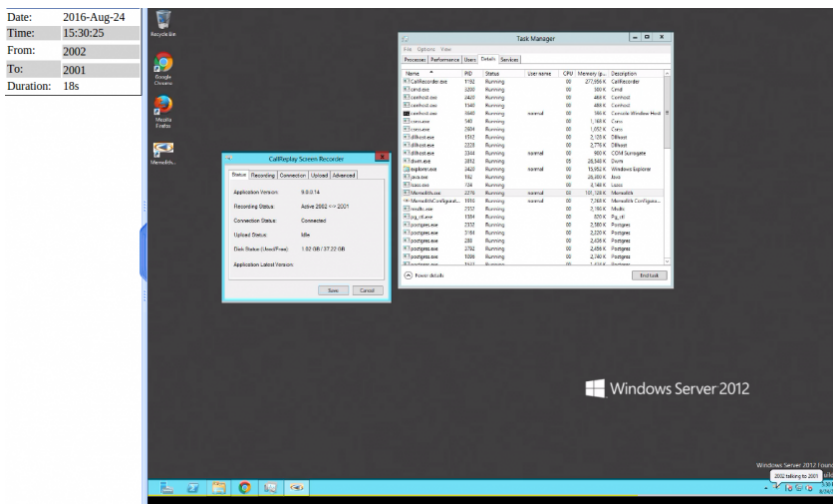
Quick Play

Next we will show you how to listen to your calls. Click on speaker icon and a new window will appear, as shown below:



From here you can Play your selected call by pressing the highlighted button. Notice the caller ID's, first the caller then the called, the start date&time and the duration.

In addition to listening to recorded calls, if a call has an associated video recording, shown by a blue-lit film icon, you can click on it to view the video recording with the call's audio.



This will open the Video Player window, which displays the time, date and the parties involved with the associated call.

Live Monitoring

If a call is in progress it can be monitored. For this, press the speaker button and the following window is shown:

Call Monitoring

Status: Monitoring...

	Caller Party	Called Party
Phone Number	1002	1001
User Name		
Start Time	Thu Sep 8 18:07:22 GMT+0300 2011	

Close

Properties of the call

Click on the details icon and choose Properties, or double-click a call. A window will appear, as shown below:

Dashboard2 AlertsConfigurationReplay CallsActive CallsPBXsLogoutcallreplay administration

SearchAll196

Users

Roles

Administrators

Agents

C Center

agent

a1

meetme

SuperAdmins

admin

Supervisors

super

agent

agent

alt agent

a1

admin

Unassigned

Customers

Unassigned

Tags

tst

Unassigned

Computers

Unassigned

Call Details

GeneralCall InfoVideo InfoCategoriesDescriptionExportAdvanced

Play

Call Party Information	Caller Party	Called Party
Phone Number	2002	2001
User Name		

Copyhttp://10.1.0.176/CallRecorder/?callDetails=cf200027c-7112-2b9f-e620-4a26458f70a

SaveCancel

RefreshMenu

Actions

7s

8s

9s

10s

11s

12s

13s

14s

15s

16s

17s

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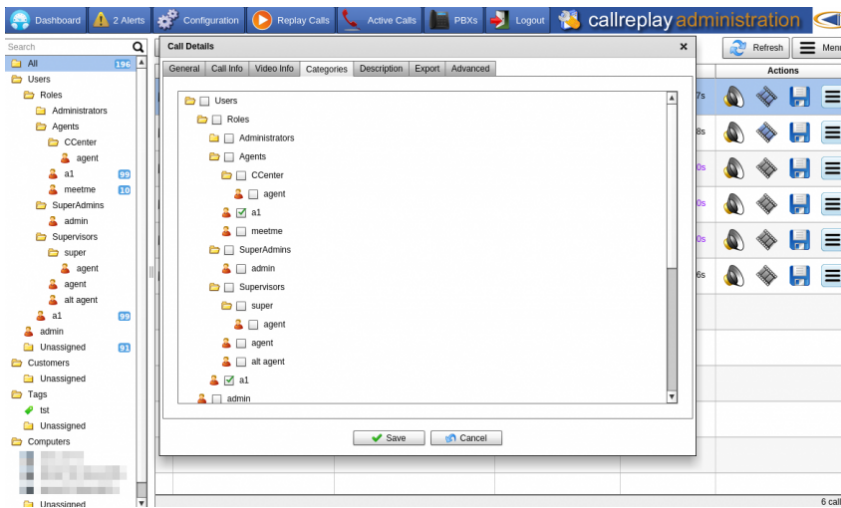
1000s

6 call

Here you can view the call/video details, view/change the call's category, set description of call or export the call to email or to disk using wav or speex format.

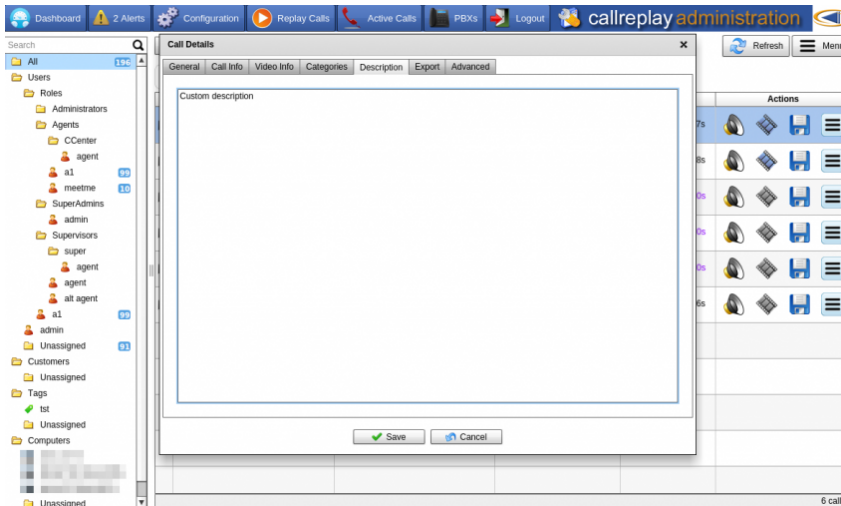
Categories

You can assign more users/categories to a call



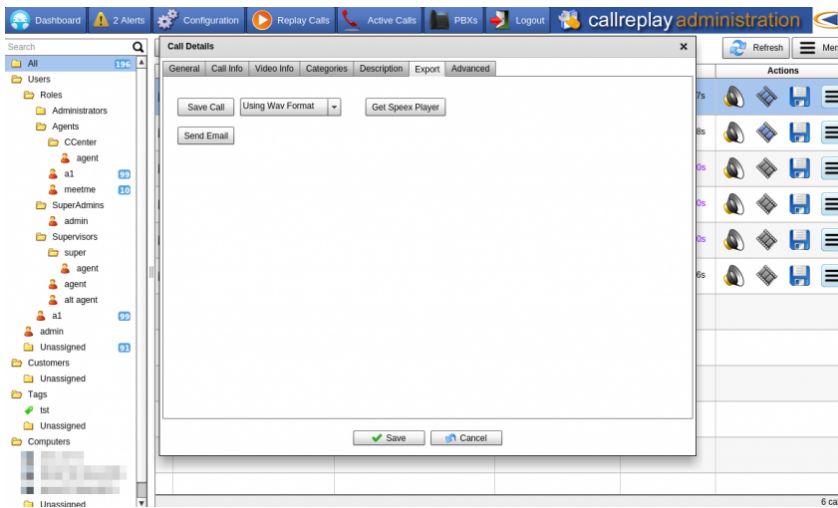
Editing Descriptions

In the text box enter the description you want. Then click the Save button.



Quick Save - Mailing

The options presented are Save Call or sending it by E-mail using the Wav or the Speex format.



Wav

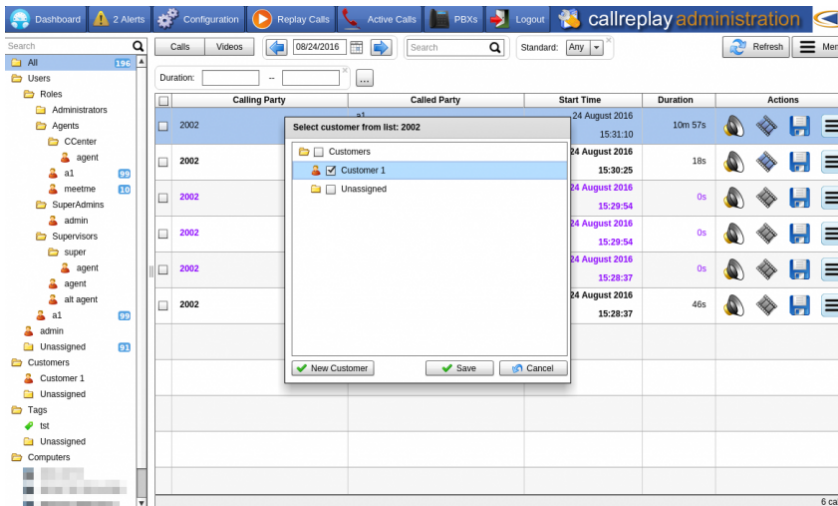
(Waveform Audio) A common audio uncompressed file format for Windows computers (.wav). It has the advantage of being played by any Microsoft Windows sound application, the disadvantage being that it is uncompressed, thus, very large.

Speex

A free software speech codec designed for VoIP which provides very good quality speech and low bit rate, thus, occupying less disk space.

External Numbers - Customers

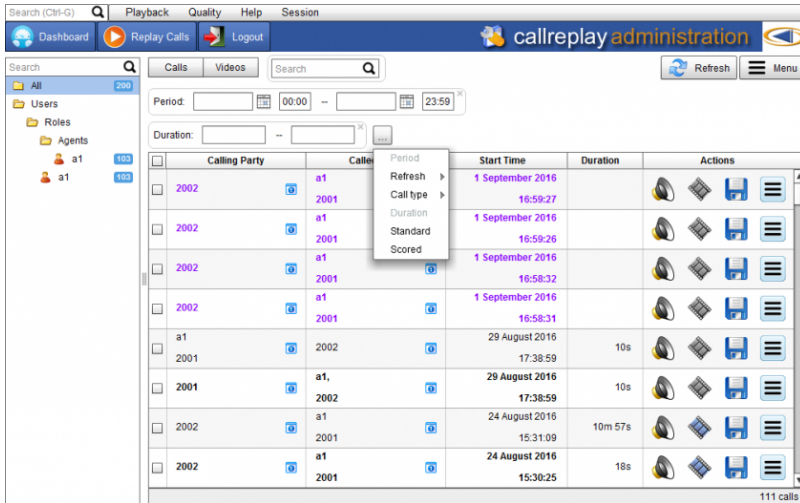
Phone number can be added/assigned to a customer. For this, click on exclamation mark and choose Add to Customer



You can select an existing customer or add a new one.

Advanced Search

In the Replay Calls page you can search recordings

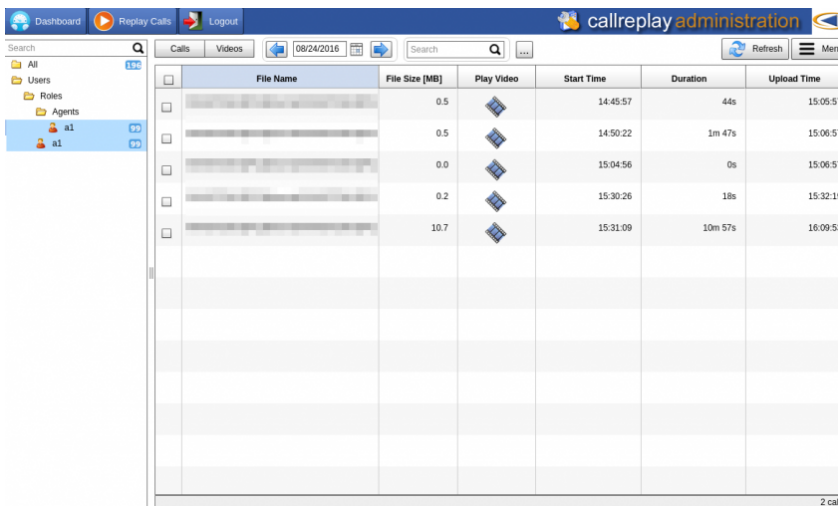


You can add filters to the selection tool by clicking the ... button so you may customize your search.. After you finish the filter, press Refresh.

Video Recordings

From the top of the Replay Calls window you can switch between Calls and Videos.

The Videos page shows a list of all video calls made during the selected date, unlinked to any phone calls. Their file name will reflect the host PC that was recorded. Click on the film icon to play.



Questionnaires

Managing Questionnaires

General

A questionnaire contains questions, grouped into categories. For each question can be defined a set of predefined answers. The status of a questionnaire can be Active or Disabled.

The list of questionnaires is found in Quality > Quality Standards.

Search (Ctrl-G)

Dashboard
Replay Ca

Quality Standards
Reports
Answers

callreplay administration

?
Quality Standards

Add

	Quality Standard	Status		
Edit	a	Active	Clone	Delete

The following operations are available: adding, editing, deleting and cloning.

To add a questionnaire, press Add button.

?
Quality Standards

Add

	Quality Standard	Status		
Edit	QS 1	Active	Clone	Delete
Edit	test	Disabled	Clone	Delete

To edit an existing one press Edit button.

?
Quality Standards

Add

	Quality Standard	Status		
Edit	QS 1	Active	Clone	Delete
Edit	test	Disabled	Clone	Delete

For creating a questionnaire based on an existingone, press Clone button.

Quality Standards






	Quality Standard	Status		
 Edit	QS 1	Active	 Clone	 Delete
 Edit	test	Disabled	 Clone	 Delete

Unused questionnaires can be deleted. Press Delete button.


Quality Standards




	Quality Standard	Status		
 Edit	QS 1	Active	 Clone	 Delete
 Edit	test	Disabled	 Clone	 Delete







Quality Standard Editor

Press Add or Edit button for editing questionnaire.

 Quality Standard Editor

Standard Name: ☐ Disabled



Question		Details	Importance	Answer	
 Language category					
 Did he speak nice?		detail for question	Normal	<input type="button" value="No"/> <input type="button" value="Yes/No"/> <input type="button" value="Yes"/> <input type="button" value="NA"/>	

This editor allows to add / edit or delete categories and questions. Press Add button to add a category or a question.

Quality Standard Editor

Standard Name: ☐ Disabled

Question	Details	Importance
Language category		
Did he speak nice?		Normal

Edit
Category:
Parent:

Quality Standard Editor

Standard Name: ☐ Disabled

Question	Details	Importance
Language category		
Did he speak nice?		Normal

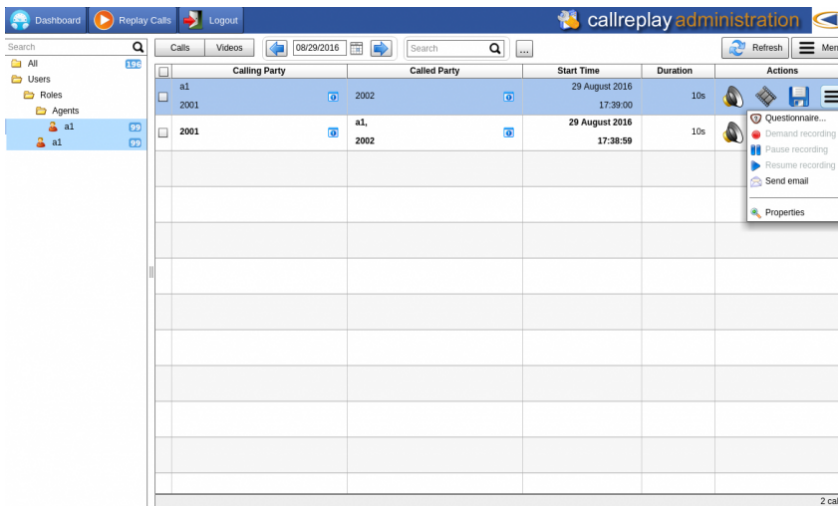
Edit
Question:
Details:
Answers:
Importance:
Parent:

Call Evaluation

Evaluation

The questionnaires are accessible in recordings list through extended actions menu.

Replay Calls > Call Menu



The *Questionnaire menu* shows the questionnaires labels with the following information:

- Evaluated questionnaires have their score displayed to the right of the label (ex: QS 1).
- If a questionnaire has a 'N/A' answer, then it will be marked and shown as incomplete (ex: sta).
- If a questionnaire has all 'N/A' answers, the score will not be shown and only incomplete will be displayed (ex: QS 2).
- For not evaluated questionnaires, only their label is shown (ex: sta (2)).

sta - 30% - Incomplete
QS 1 - 50%
QS 2 - Incomplete
sta (2)
Quality Standards

Calculating scores

Each question can have a real **score** between 0 and 1 (ex: 0.5 = 50%). Unanswered questions have score 0.

The question's **importance** is a coefficient applied to the question's score. It has one the following values:

- Ignored = 0
- Low = 0.5
- Medium = 1
- Important = 2

Questions of type text have importance 0 (Ignored) by default.

When calculating the **total score** of an evaluated questionnaire, the following algorithm is applied:

1. Sum each answered question's score multiplied by its importance
2. Scale the result to a value between 0 and 100% based on the maximum achievable score of the questionnaire (sum of answered questions importance).

Note that if a question has 'N/A' answer, it is ignored from evaluation's total score. It is considered as if not answered, and the total score will scale accordingly (for example, you can have an evaluation score of 100% if the first question is answered '1 0' and the second is answered 'N/A').

Reports

To view reports containing questionnaire scores, go to **Quality>Reports**.

Choose report type **Compare Scores**, period of the report, department, and quality standard.

To view the report press **View report** button.

To export the report to an excel file, press **Export** button.

Phone Services

Using the IP Phone Service

The IP Phone Service allows users and managers alike to benefit from a couple of useful functions.

These are: Recordings, Monitoring, and Record on demand. They are all described below in the application Main Menu section.

Note: The Monitoring function in the IP Phone Service is only accessible to Managers.



Login

Here you will enter your username and PIN.

Services menu

After the login, you will be presented with this screen.

1. Select the **Services** menu.
2. From the **Services** menu, select **application name**



Phone Service Menu

There are three options in the application IP Phone Service Main Menu:

Recordings	It allows call playback, moving a call to a folder and email to the address set in the application Configuration.
Monitoring	It allows monitoring of a selected phone number.
Record this call	It allows Record on Demand.

Open **Recordings** then select the extension you want



In this case, the only selection you can monitor is 2002. To select another, press the **Other** tab then enter the PIN accordingly.





Now you are presented with the list of calls from that extension. From here you can play move calls to application folders and E-mail them to the address set in application Configuration.

Monitoring

From the main **application** menu, open **Monitoring** and select the extension you want



In this case, the only selection you can monitor is 2002. To select another, press the **Other** tab then enter the PIN accordingly.



Next you must enter the **Phone Number** you want to monitor
After you have finished your selections, you should see the window below as a confirmation



On Demand Recording



Allows an agent the recording of a call in progress. Regardless of the moment you gave the command to record, that conversation will be recorded entirely.

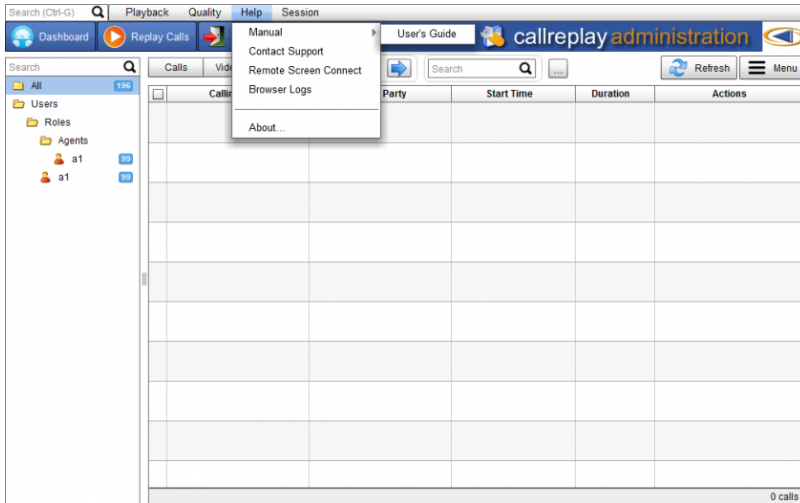


Get Help

User Manual

The user's manual can be found in the help menu.

Help > Manual > User's Guide



TeamViewer Support

(TBD)

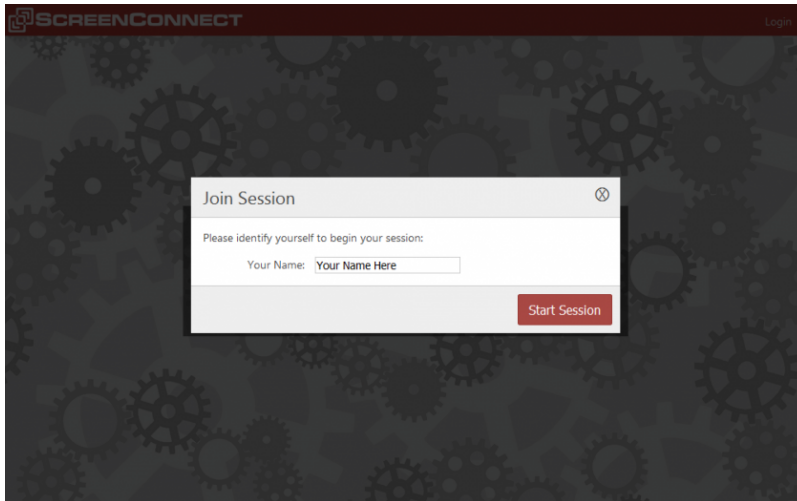
Remote Support

Some issues might require the CallReplay support personnel to connect to your PC for a remote support session, in which case, they will request a remote session. You can start a remote support session by going to Help > Remote Screen Connect

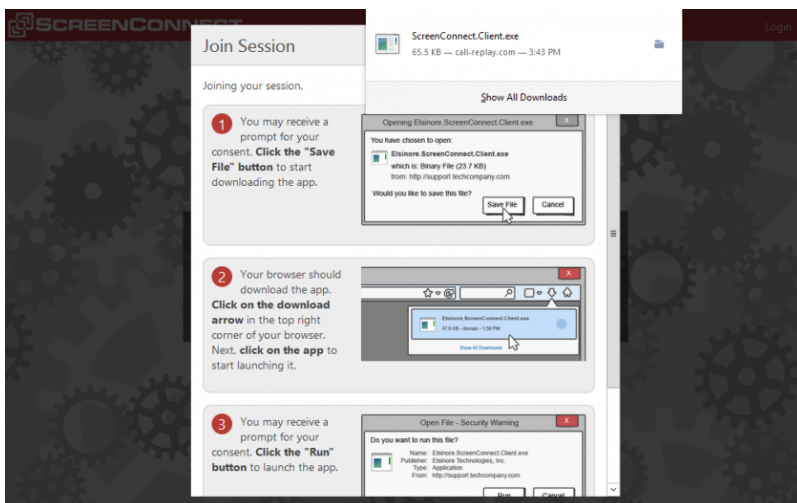
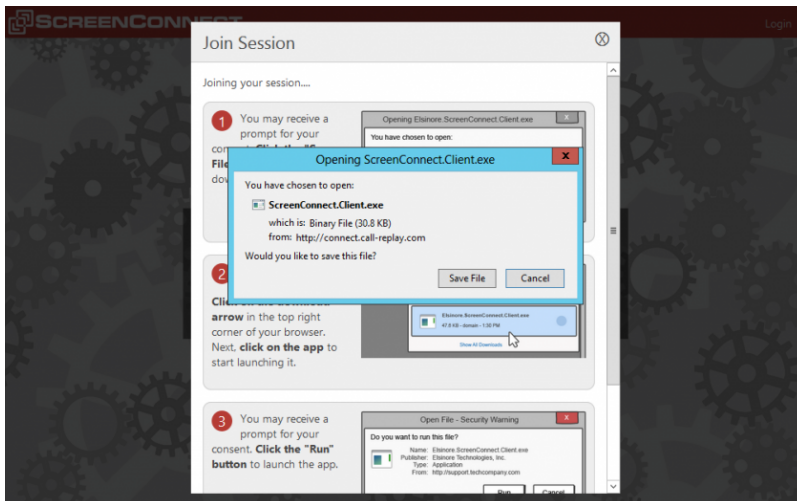
A new tab will open, please start a session.



Enter your name here



Save and run the file that is prompted for download.



Allow the File to run, and allow the necessary permissions.

