Revcord MMS Logger
Installation and Administrator's Guide

MMS Version 12.1
Revision 9.2023

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INTRODUCTION

This manual is intended for technically competent professionals (usually voice logging installers, telephone system installers, telephone system technicians, and network professionals for VoIP installations) equipped with specialized tools, but who may have limited experience with voice logging systems. The Revcord Voice logging system is based on a Personal Computer and assumes an intermediate to advanced knowledge of them.

The instructions in this guide assume that you have some experience operating a personal computer and working with Microsoft Windows. If you have any questions about the Windows operation, refer to your Microsoft manual or Microsoft online help.

Please note that the following characters CANNOT be used in the Login ID, Windows filenames/user names, and Groups - <> : " / \ | ? *or space.

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GENERAL INSTALLATION

Overview

The Revcord's Voice Logging system is connected as a high-impedance tap or "T" on the monitored line. The information is retrieved by a web interface over an Ethernet connection. The MCT is in a Mid Tower case and will require a shelf or desktop support. The MCS is in a rack mount case and will require 4 U of rack space, and at least 23 inches deep. The MCS+ will only require 1U of rack space. The audio recording board uses a standard 25-pair Amphenol cable. Below are the materials supplied with the Revcord recorder:

Materials Supplied

Item	Quantity
• Revcord Voice Logging System	1
• Keyboard and mouse	1
• Power cord	1

Materials Required, But Not Supplied

Item	Quantity
• RJ21X (Siemens 157 or equivalent)	As needed
• 25 Pair Amphenol Cable 1 (per 8/16/24 channels)	As needed
• Cross connect wire	As needed
• Bridge clips	As needed
• Capacity expansion clips (P/N SA2, SA3)	As needed
• Speakers or headphones	1
• Monitor (at least temporary for setup purposes)	1

Tools Required

- Punch down tool w/66 blade and 110 blades (cut and uncut)
- Lineman's test set (buttset)*
- Toner
- Sniffer or Tone Tester
- 1/8-inch flat blade screwdriver
- Other hand tools associated with cable and security installation.

Note: May substitute a compatible phone and Siemens testar2 or testar4, this may be required to identify digital extensions.

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OPERATING SYSTEM (OS)

This Revcord system is based on Windows Server OS Windows Server 2022 Standard with a typical load with a few unique features enabled. The system has two partitions, both formatted as Primary Extensions, with C: and D: drives being set as the proper drive letters for each.

The C: Drive should be labeled as SYSTEM. The D: Drive should be labeled as DATA.

Systems with a DVD-RAM drive that is loaded in the system will be seen as 2 drive letters, V: (for the DVD-Ram portion) and Z: for the CD portion. It is highly important that the DVD-RAM Drive portion stays as V: because the backup program will NOT perform without this being set.

We recommend the USB HD or NAS as a backup if archiving is needed. The backup section will be covered later in this guide. The Operating System is loaded onto the C: Drive, which is formatted as NTFS. The D: Drive contains the SQL Database information and the actual data in .DSF format (proprietary), which is formatted as NTFS and is sized as whatever is left of the remaining drive.

Windows Password

Windows is set up for Auto Administrator Login when the system boots up or has an improper shutdown. The Revcord services will restart and call recording will continue. Username and password are then required to access the system.

The Local account must be allowed to auto-login even in a Domain environment.

The Default Values

Username: Revcord
Password: poi098
Account Type: Local Administrator

Windows Updates

The system is loaded with all of the latest critical updates, and it is suggested that if it is kept on the LAN, you should update it from time to time. The system comes defaulted as being disabled from having Automatic Windows Updates, but that option can be changed from the Control Panel. If you enable Windows Updates, please be sure to manually update, as you will need to stop the recording services on reboot.

Local Security Policies

The system does not come set with any special Security Policies.

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Microsoft Internet Information Service (IIS)

The IIS Web Server program allows the client portion of the recorder to be web-based.

Initial Setup

The Revcord Voice Logger comes with the following installed or setup:
- Windows Server 2022 and all necessary Windows Updates
- Microsoft IIS 10
- Microsoft SQL Server 2019 Express with the Revcord Instance Name
- The Revcord Voice Logging Software
- Full HTML5 supported player. Google Chrome is the default, Microsoft Edge or similar
- Windows Media Player 11
- Windows Updates set to "Download updates but let me choose whether to install them."
- Firewall enabled with required rules created.
- Mirrored RAID and RAID utility MCS Only

Run As a Service

The Revcord software runs on a single service: Run As a Service (NewVSRMSAgent). Stopping this service will stop the Revcord software.

The Run as Service (NewVSRMSAgent) can launch the following executables:
- Autoemail.exe
- RevFTServer.exe
- VSCTIMgr.exe
- VSLoginSvr.exe
- VsRealTimeServer.exe
- VsRecorderEx2.exe
- VsVODSvr.exe
- ANIALI.exe
- DBSplitter.exe
- VMBackupServer.exe
- PolicyServer.exe
- RevWSserver.exe

If you have policies that require monitoring, security, or anti-virus software, make sure that all of the listed applications are in the exclusions list.

All Files are located in C:\Disstech or in D:\Disstech

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PREPARATION

Material Inspections

Before starting the installation process, verify that ALL required Revcord Voice Logging System and third-party components and accessories are present.

Telephony Considerations

Verify that the following conditions related to the customer's telephone system exist before continuing with the installation:

- Check to make sure all terminations are properly done (i.e., analog trunks, analog stations, digital trunks, digital stations, and radio devices).
- The Voice Logger should be as close to the tapped source as possible. (< 75 feet for digital and 100 feet for analog)
- For four-wire PBX systems, two channels of recording will most likely be needed for each handset.

Networking Considerations

- The Revcord Voice Logger requires a Static IP Address.
- Ensure that if client workstations are accessing the Logger, all workstations will meet the necessary hardware and software requirements.

Environmental Considerations

It is important that the location of the Revcord Logger is determined before the system is installed. Look at the following guidelines to ensure an appropriate, safe, and clean environment for your system.

Space Requirements

Each Logger can be different because there are two different models. Please inquire about appropriate personnel for any specifications. This will allow for consideration of where and how to mount the system.

- When considering a location, allow for enough space in the front and back of each system for ventilation, cable mounting, and changing media.
- Verify that the space housing the system can hold the weight of the system. For accurate weight information, please send an inquiry.
- If the recorder(s) is/are going to be rack-mounted, verify that there is a fixed shelf or proper rails for the system to rest on. (4U 19' Rack with a depth of 23 inches, 26 for additional cabling.
- Account for other peripherals to accompany the system (i.e., Speakers, monitor, keyboard, and mouse).

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Power Considerations

A standard 110VAC 60Hz 15A circuit is required. It should be surge protected at a minimum. Electrical damage from surges, spikes, and brownouts are not covered under warranty. Each Logger can have one of two different power supplies. Please inquire for specific information.

MCT will require one power source and the MCS & MCS+ will require two.

Uninterrupted Power Supply (UPS)

A UPS is required but not supplied, because, without an uninterrupted power, vital audio will NOT be recorded in the event of a power failure. However, the system is set up to go back into a record mode once the system boots up, but if the system does not boot up, then it will NOT record. In sites using a UPS system, the UPS system should be installed according to the instructions provided with the UPS manufacturer. UPS systems should be installed only by qualified personnel contracted by the customer. Even if a room is on "backup" power, a UPS is still recommended.

Location Considerations

The following considerations deal with the physical location of the Revcord Logger:
- Recorders should be installed as near as possible to the PBX.
- Do not mount the recorder in excessively hot or humid locations, such as near heaters, heating system outputs, or in direct sunlight. Avoid positioning the recorder in excessively damp or dry environments, as extremes of humidity can damage the recorder's internal components. The following conditions should be measured in the room where the Logger will operate:
  - Operating Temperature = 5° to 40° C (40° to 110° F).
  - Operating Humidity = 20 to 80% (non-condensing).
- The recorder should be installed in a clean, well-ventilated, and preferably air-conditioned room. If adequate ventilation is not provided, the recorder can overheat.
- Do NOT position the recorder near strong magnetic fields, such as near transformers, or other electronic equipment.
- Due to the sensitivity of the data that is handled by the Revcord Logger, if possible, position the recorder in a secure location to which only authorized personnel to have access. Some of the systems come with a locking panel to limit access.
- Do NOT position the recorder where people are likely to eat or drink, as liquids can damage the recorder's internal components.
- Do NOT position the recorder in an area where people smoke.
- Limit dirt (i.e., Dust particles, smoke) near the recorder. Do NOT position the recorder near doors or walkways that are used regularly, on or close to the floor, or near any surfaces that tend to collect dust. Do NOT position the recorder near printers or paper products that create dust.

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- The room where the recorder is located should be cleaned regularly. If the general environment is dirty, consider installing an air-cleaning system.
- Avoid carpets and furnishings with synthetic materials, if possible, in the area where the recorder will be positioned. If static is likely to be a problem, place anti-static mats around the working area. Be careful when bringing objects near the recorder, which can hold a large static charge; avoid unnecessary plastic or paper products in the area.

Wiring Considerations

WARNING: Only experienced personnel should handle all wiring discussed below for liability reasons. Keep in mind that this guide is for reference and not to teach anyone how to wire or program ANY phone or radio system. If unsure of how to approach this section, please contact the customer's internal wiring person or the company that handles their telephone or radio system.

- Make sure you have a demarcation point (preferably an RJ-21X) mounted in a convenient location close to where the recorder will be placed.
- Make sure the block has room to work on either side of it, for putting on cables and for punching down any wiring.

Making Taps

1. Positively identify the line to be tapped with a butt set (lineman's handset) or telephone.
2. Punch the cross-connect wire on the spare terminals of the line.
3. If no spare terminals are available, use capacity expansion clips.
4. Route the cross-connected wire to the recorder's block and punch it down on the designated pair.
5. Replace or install bridge clips as needed to maintain function.

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Wiring Diagram Examples

Example A – Station Side Recording Diagram (This is true for both analog and digital sets)

Below is an example of Station Side Recording in an Analog environment. The tap is a parallel tap off the block, which distributes audio to the instrument and should be as short as possible.

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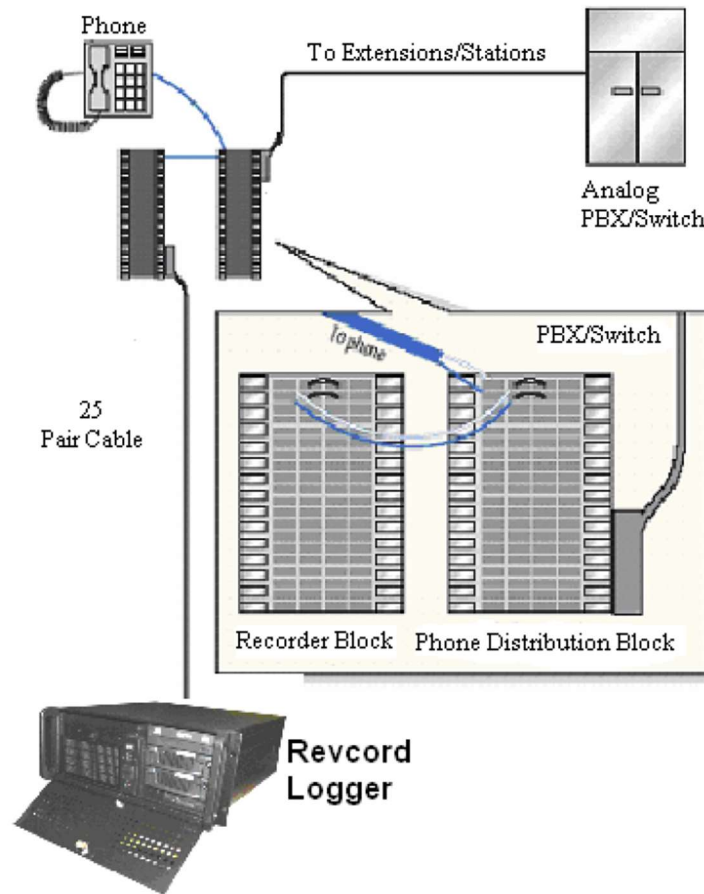
Example B – Trunk Side Recording in Analog Environment Diagram 1

Below is an example of one of two ways to wire Trunk-Side Recording in an Analog environment. Everything that comes in on the line will be recorded and some audio may pass through to the recording that you were not aware of (tone generation). The tap is a parallel tap off the block, which distributes audio, and should be as short as possible.

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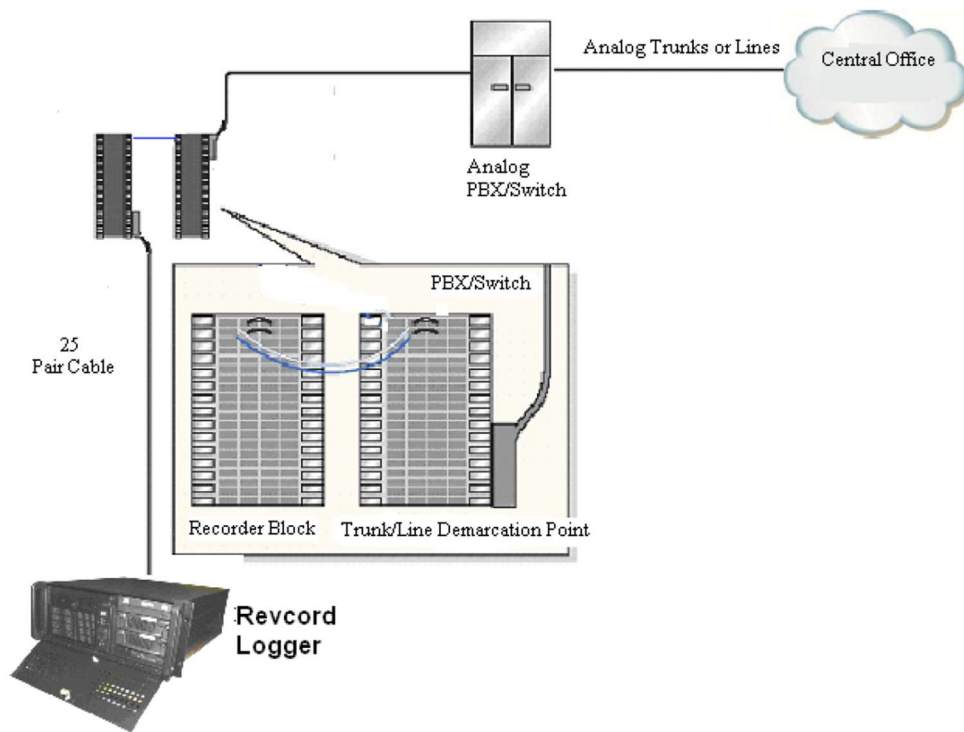
Example C – Trunk Side Recording in Analog Environment Diagram 2

Below is the second example to a wire Trunk-Side Recording in an Analog environment. The tap is a parallel tap and is located before the PBX but beware that in environments where a front-end message (such as "This call will be recorded…") is required, it will not be evident in the recordings. Everything that comes in on the line will be recorded and some audio may pass through to the recording that you were not aware of (tone generation). The tap is a parallel tap off the block, which distributes audio, and should be as short as possible.

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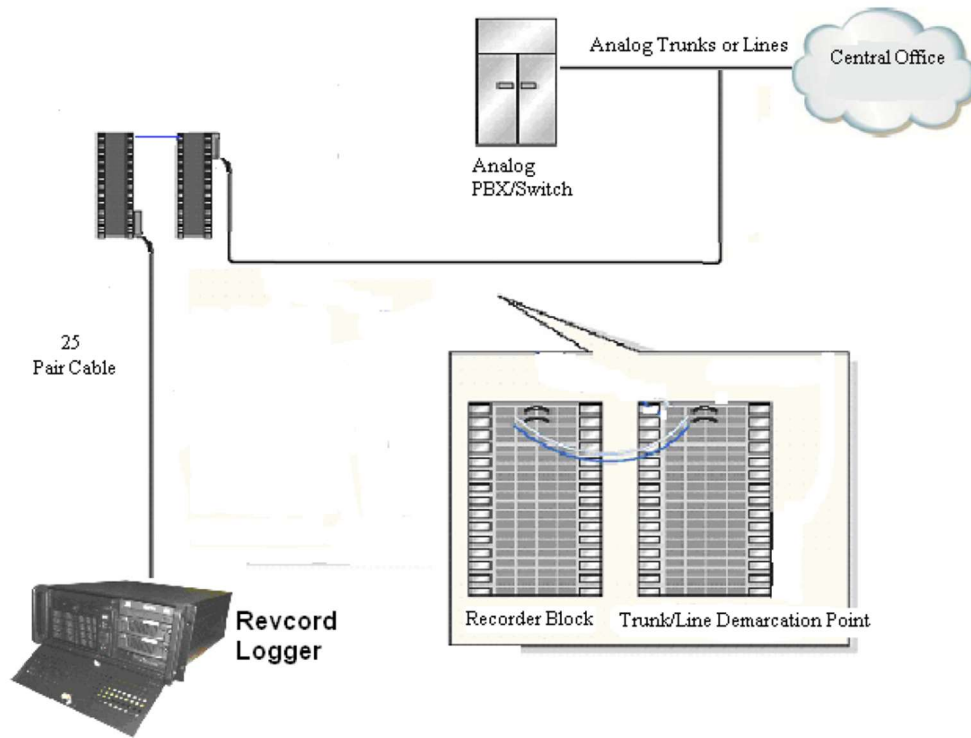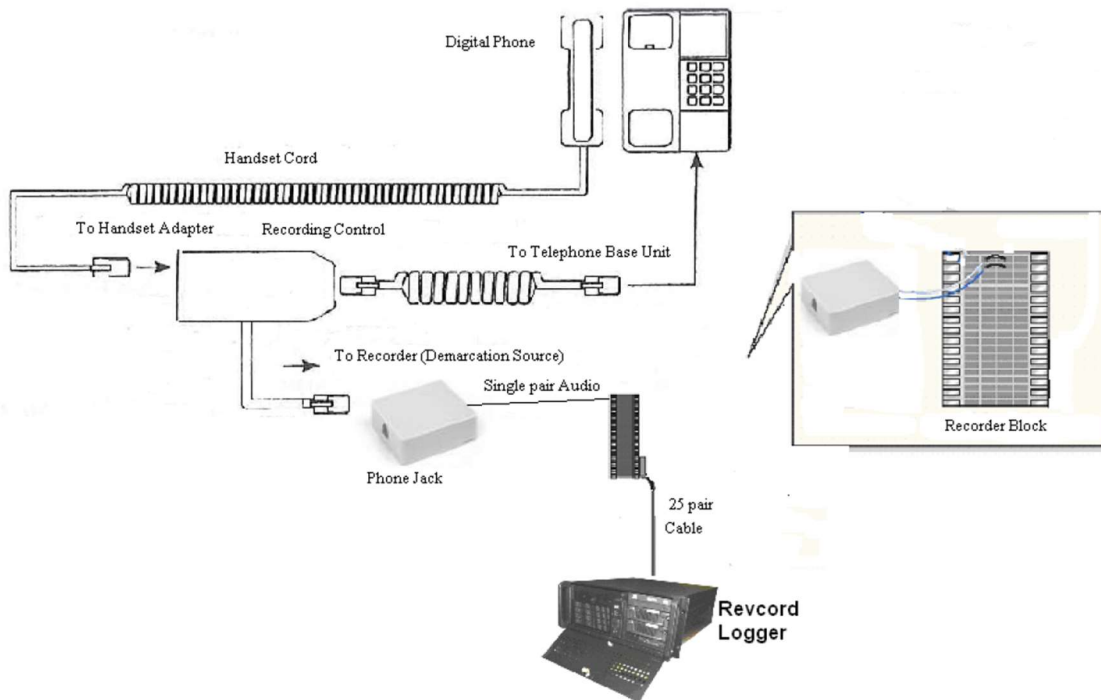
Example D – Handset Converter Tap Diagram

Below is an example of how to tap off from a Digital or VoIP phone using a basic handset converter (See also Example E). Since most Digital and VoIP phones are analog at the handset, they can have these devices connected. This WILL NOT work if the agent uses an internal speakerphone. This handset converter is active all the time and should be limited to 125 feet of wiring from the device and the logger audio source. If you notice a loss of quality in the service, you may try to use an externally powered handset converter to boost performance. From the handset converter, a cable comes out to go to the logger audio source. If using another source such as a phone jack to connect from the converter to the logger source, make sure to wire the center wires (Tip and Ring). This should not be polarity sensitive but may not work due to too high or too low of voltage coming from the base unit. If this is the case, an externally powered unit is available to help rectify this.

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Example E – Digital or VoIP Recording Diagram Using Handset Converters (Examples D and E are identical in information and graphics, only difference is supervisor handset vs basic handset)

Below is an example of how to tap off from a Digital or VoIP phone using a Supervisor Handset converter. Since most Digital and VoIP phones are analog at the handset, they can have these devices connected. This WILL NOT work if the agent uses an internal speakerphone. This handset converter is active all the time and should be limited to 125 feet from the device and the logger audio source. If you notice a loss of quality in the service, you may try to use an externally powered handset converter to boost performance. From the handset converter, a cable comes out to go to the logger audio source. If using another source, such as a phone jack, to connect from the converter to the logger source make sure to wire the center wires (Tip and Ring). This should not be polarity sensitive but may not work due to too high or too low of voltage coming from the base unit. If this is the case, an externally powered unit is available to help rectify this.
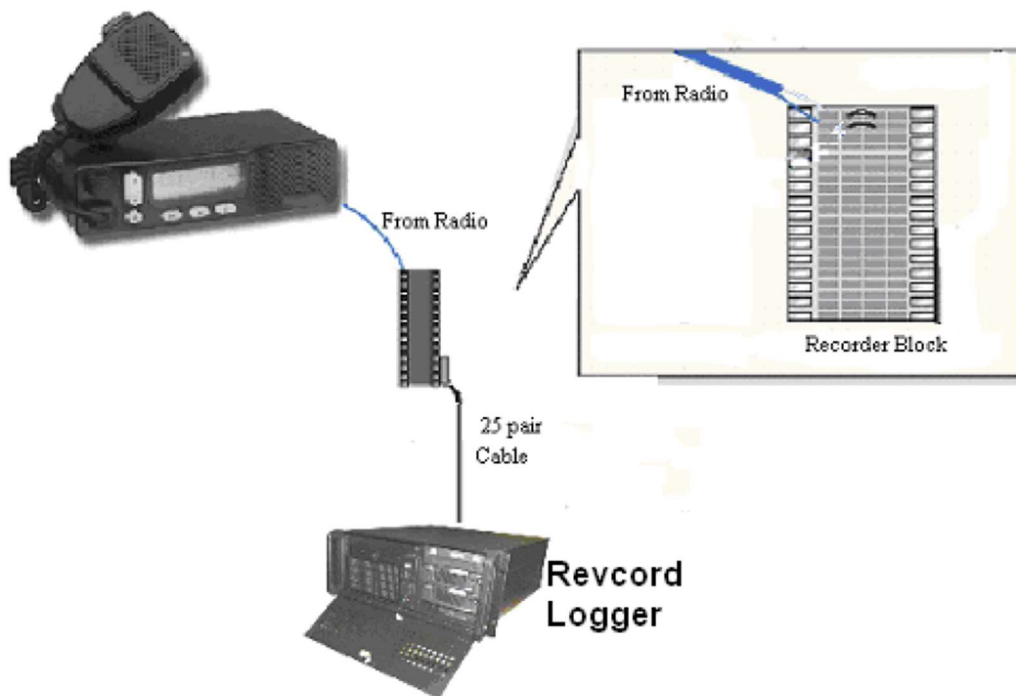
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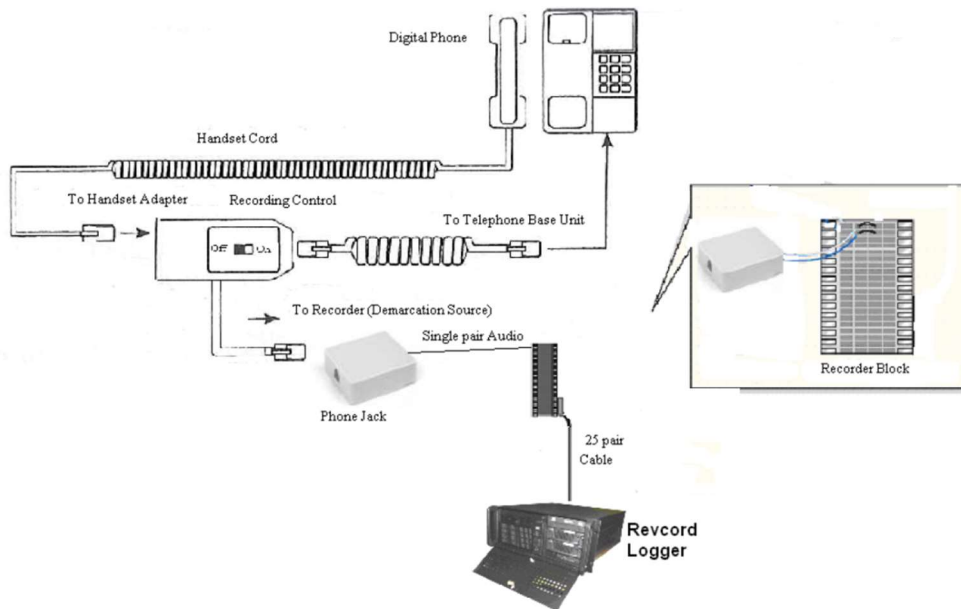
Example F – Recording Radios Diagram

Radio devices can be recorded in a variety of ways. Most radio devices have an external recording, or an auxiliary plug, to which you can send audio. Keep in mind that in some cases the volume control does affect the volume coming into the recorder. So, if your volume is turned down on the radio device then the audio may be too low for the recorder to pick up on, causing the audio to be missed.

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Example G – 25 Pair Amphenol Cable Punch Down Reference

If you choose not to use the recommended RJ-21X block to bring all the incoming audio into, you may have to punch down the provided 25-pair Amphenol cable. If so, here is the corresponding color code to the channels. For example, channel one is pair 1, white and blue.

Pair #	First Wire	Second Wire
1	White	Blue
2	White	Orange
3	White	Green
4	White	Brown
5	White	Slate
6	Red	Blue
7	Red	Orange
8	Red	Green
9	Red	Brown
10	Red	Slate
11	Black	Blue
12	Black	Orange
13	Black	Green
14	Black	Brown
15	Black	Slate
16	Yellow	Blue
17	Yellow	Orange
18	Yellow	Green
19	Yellow	Brown
20	Yellow	Slate
21	Violet	Blue
22	Violet	Orange
23	Violet	Green
24	Violet	Brown
25	Violet	Slate

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Example H - VoIP Network Diagram

In a VoIP telephony network, voice and signaling are sent over the network in packets. For the Revcord machine to be able to see and read these packets, the packets need to be sent or copied to a single destination, Port-mirroring: Port-mirroring refers to configuring a network switch so that it will copy traffic from one or more of its ports to a mirror port. In a Cisco environment, this is called SPAN (Switched Port Analyzer).

In the below diagram, there is only a single port that is being monitored, and that is the port for the IP PBX. This will allow all incoming and outgoing calls to be mirrored to the Analysis port for the voice logger to sniff the traffic. This will not record extension to extension calls.
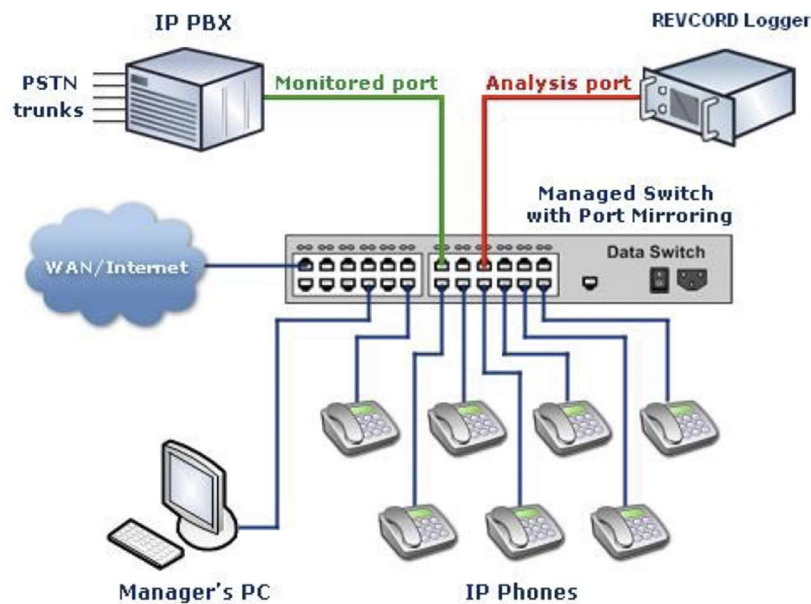
To capture ALL calls and ALL signaling, the SPAN would be for all of the telephones instead of the PBX. This will pick up all incoming, outgoing, and extension to extension calls.

Please note that it is necessary to exclude the PBX from the port-mirroring in this scenario. Otherwise, you will get duplicate traffic.

Also, please note that not all switches support port-mirroring. Please look to your switch manufacturer for support and configuration information.

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Site And Data Preparation

Please see the Installation Planning Guide. It is located on the Revcord Support website
https://revcord.com/wp-content/uploads/2022/06/BOSS-Installation-Planning-Guide-V12-June-2022-Editable.pdf

Getting Started
1. Place the recorder as determined above.
2. Connect the monitor, mouse, keyboard, LAN cable, and speakers or headphones to the recorder (speakers or headphones are required for audio playback and controls).
3. Connect the Amphenol cable from the recorder to the block, either punched down or to the connector. If your system has more than one input card, the first set of 24 is the bottommost card or the one farthest to the right when looking directly at the back of the system.
4. Apply the power cable and turn on the recorder.
5. Verify that the system is fully up (the Backup Server comes up for a few moments or shows in the notification area (SYSTRAY).
6. Shut down the software in a proper manner by going to the Services icon and then stop the NewVSRMSAgent service by right-clicking on it.
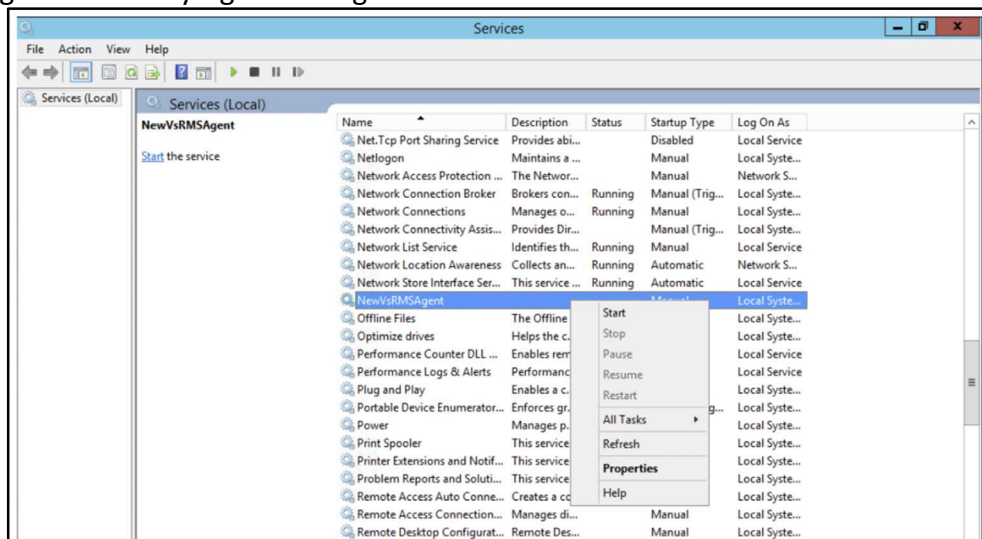

7. You can verify that all the recorder's software has been shut down by checking them in Task Manager.

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Using The Revcord Configuration Wizard

Configuring The SQL Database

On this page, it is best to leave it in the factory settings, but the configuration is possible. All call-related information and other settings information will be stored in this database. All the Revcord applications will use this database for viewing and storing data.
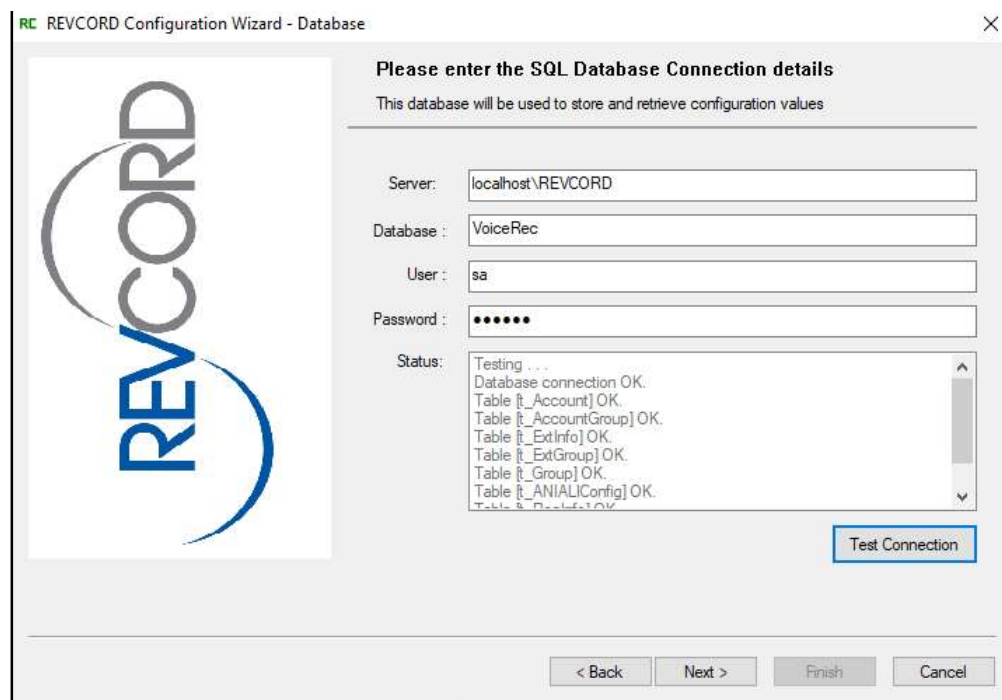
The following details need to be configured for SQL Database:
1. Server: This is the main SQL database server name.
2. Database: Specify the name of the database. Default: VoiceRec.
3. User: Specify the username. By default, it is 'SA'.
4. Password: Specify the password for the database. Default: poi098
5. Status: Provides the status information, after checking the connection.
6. Test Connection: After specifying all the configurations, the connection to the database can be tested by clicking on the Test Connection button. If the connection is successful, then the details about the connection will be shown in the Status field.

Card/Channel Type Configuration and Encryption/Licensing

This page is used to configure Card and Channel types. We can specify which type of card is installed or what type of input is selected for recording calls.

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This typically comes pre-configured; however, use the checkboxes to pick the type of channels.

1. Analog/Digital. (Use this type for Synway cards)
2. VoIP

Number of Channels: Specify the number of Analog/Digital Channels
Number of Channels: Specify the number of VoIP channels.

If the appropriate card type is selected, then the number of channels for that card will be displayed.

Sip Invite

See the separate Sip Invite Document located in the Revcord Knowledge Base. This configuration is for Cisco call manager 6.0 and above.

Enable QoS

Normally QoS is done by network switches themselves. In some of the cases, we might receive unordered packets, late arrival of packets, errors, and Out of Order Delivery, etc. For this, we do application-level QoS. If this checkbox is checked, then our recorder will rearrange the packets in an ordered manner internally before processing the packet for a write operation.

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Enable Domain Users

To enable domain users to log into the Web interface select this checkbox.

Concurrent Mode

Checking it will enable the recorder to work in concurrent mode. The concurrent mode will record multiple lines to a limited number of licensed channels. If this mode is enabled and all the lines are recorded, then the new call will be discarded, and its information will be written to a date wise log file.

Selecting The Network Interface

This screen will only show up when there are VoIP channels involved. There will be two network adaptors typically and you choose the one the VoIP data will be received. You can click the check box for multiple ports to be monitored. Only three ports may be monitored at any time.

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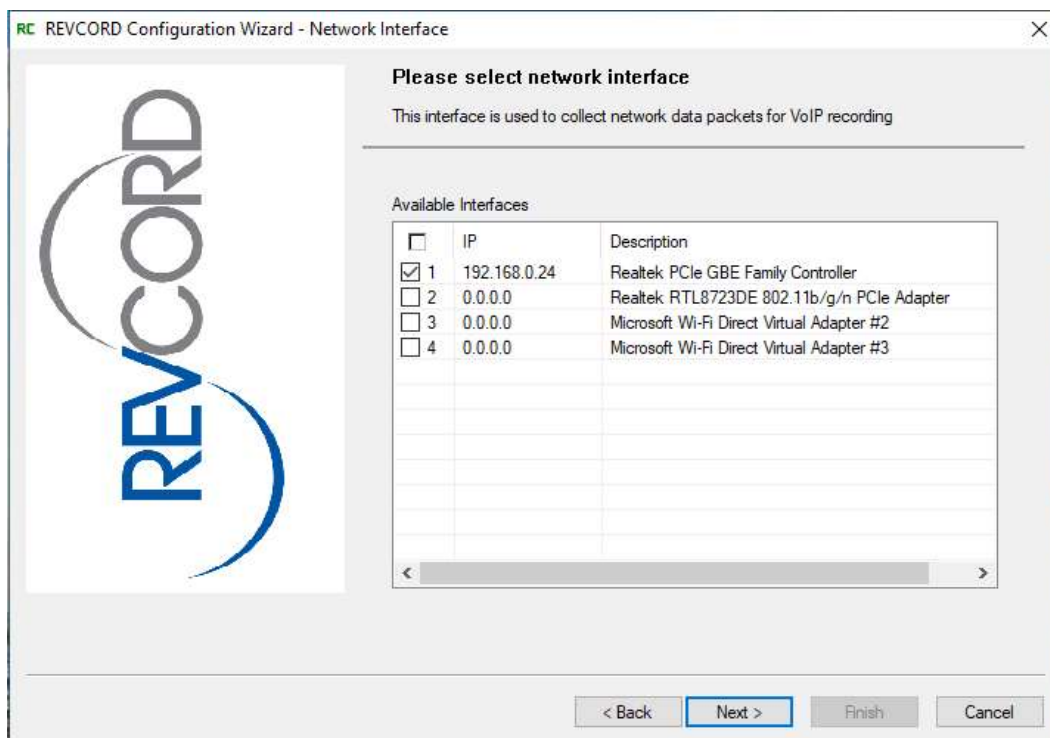
Recorder Details and Setting the IP Address

You must set all IP address information throughout the system (Windows, GSRMS Viewer, and the Revcord Configuration Wizard). Below is how you set the IP address for the Revcord Configuration Wizard. Setting the other IP addresses is done after you have gone through the Revcord Configuration Wizard.

ID	Name	IP	Port	Is Primary	Server	Descripti
1	LOCALREC	127.0.0.1	4530	True	.\Revcord	
2	LOCALREC	127.0.0.1	4530	False	.\REVCORD	

Add   Delete

< Back   Next >   Finish   Cancel

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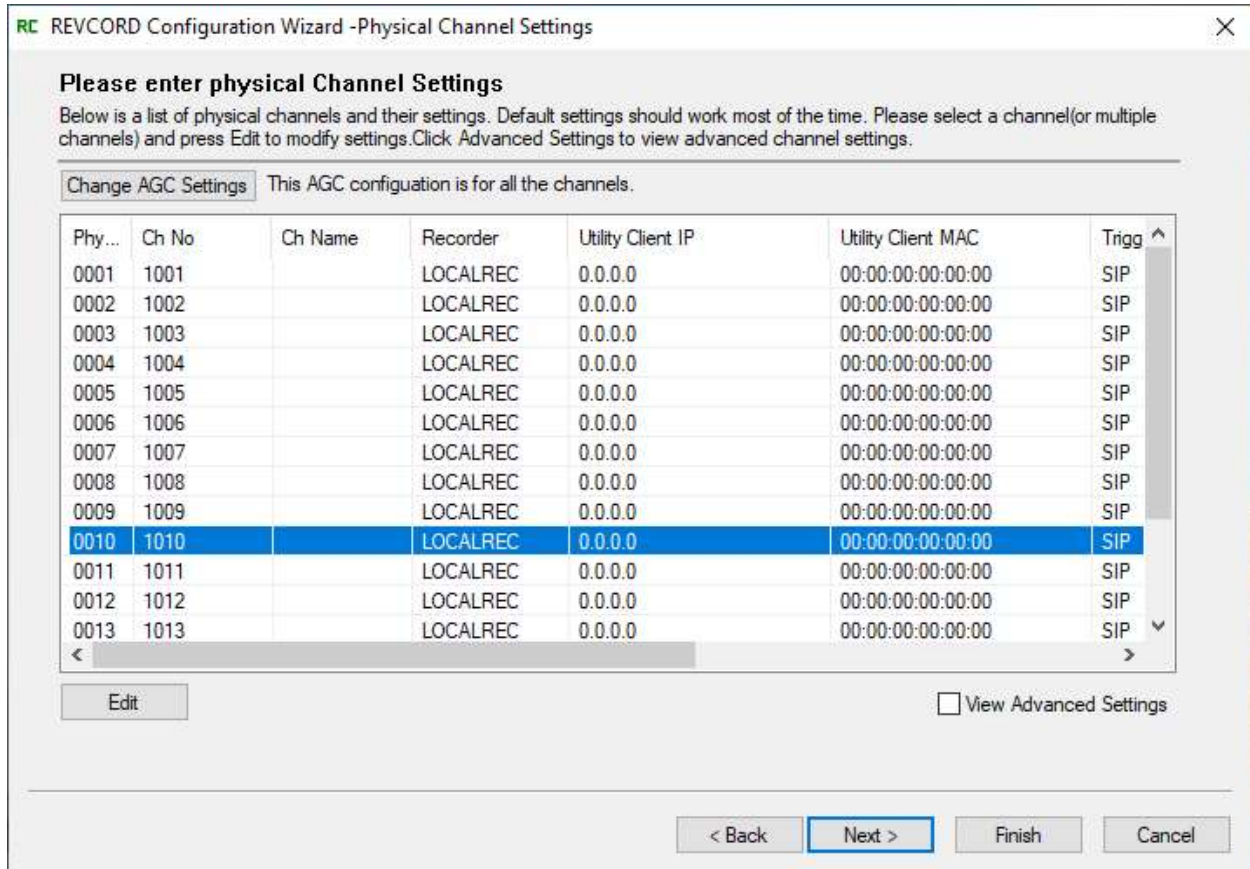
By default, there will be a recorder added with the name LOCALREC. This recorder is a primary recorder.
Double click on it and edit the IP address to match the system's current IP address.

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Entering Channel Settings

This is where you enter all your channel settings. It will display the physical channel's information. It starts with default settings that can be adjusted.

To see all the columns, check the View Advanced Settings. If the settings must be changed for any of the physical channels, then select the channel and click on the Edit button. It will open a new window, Physical Channel Settings. In this box, you can change the settings of each individual channel.

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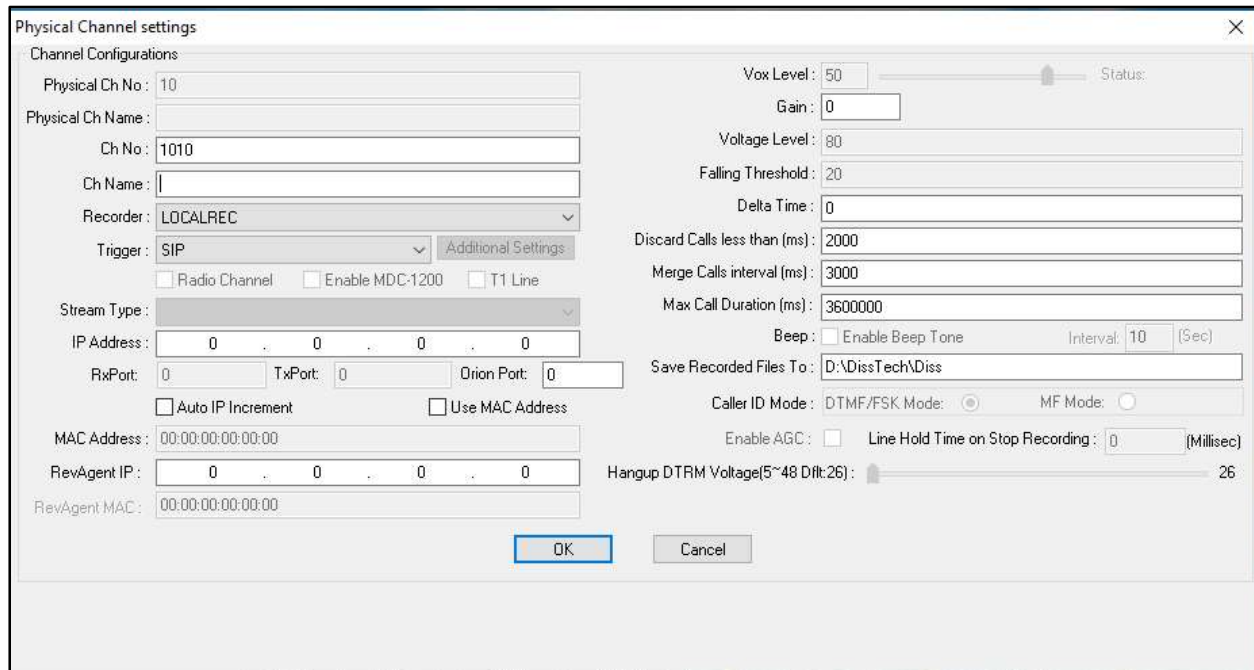
By default, the physical channel number and channel name will be grayed out. It cannot be changed by the user.

1. **Physical Channel Number:** Recording channel number. The physical channel number cannot be changed.

2. **Channel Number:** Logical channel associated with each physical channel. The physical channel name cannot be changed.

3. **Channel Name:** Each channel can be assigned a channel name.

4. **Recorder:** Displays the name of the recorder to which the channel is associated. For Enterprise installations, choose the recorder name to which channel is associated.

5. **Trigger:** This is where you choose the type of trigger that will be used to start and stop recording. It will default to the triggers that are associated with the channel type. Analog phone lines should be set for "loop start" to record when the handset is lifted. Other audio sources (including handset tapping) should be set for "VOX" to record when audio is present. If analog lines are used with headsets and a filter, it may be better to use VOX and set the call length to a lesser value than the 1-hour default for easier searching.

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a. Additional Settings: There are custom triggers that require additional information such as CTI and SMDR integrations. When this box is not grayed out, it should have the proper settings entered.
b. Radio Channel: When a VOX trigger is enabled, the Radio Channel box can be checked. Check this box for Radio type devices. This is also required for some phone lines, as they may not carry a line voltage.
c. Enable MDC – 1200: It will decode better data for MDC – 1200 signals.
d. T1 Line: Enabling T1 allows for ISDN Trunk recording.

6. Stream Type: Depending on the trigger type chosen, Revcord offers various compression codecs. Stream type should not be changed unless a higher quality is required, and the loss of recording time is acceptable.

7. IP Address: This is where you put the IP address of the device you are recording if it is a VoIP-based product.
a. Auto Increment: When implementing multiple VoIP devices, this provides for Auto Increments of the IP addresses.
b. Use MAC Address: Check this box when using the MAC Address.

8. MAC Address: For systems that are not on static IP addresses, it is recommended to use a MAC address for the VoIP appliance reference. Note: the MAC address cannot be capitalized.

9. RevAgent IP: IP address of the client machine that is associated with the channel.

10. RevAgent MAC: MAC address of the client machine that is associated with the channel. Note: the MAC address cannot be capitalized.

11. VOX Level: The VOX level should be adjusted in very small steps until the recorder is on and the beginning and end of recordings are not clipped. The Synway card is anywhere from 6 to 31 with the default being 10. For analog phone lines and line-level audio sources, no tuning or adjusting should be required. The VOX level is the threshold setting for the channel. The higher number it goes, the more sensitive the channel is (IE: 20 is more sensitive than the factory default 10). Keep in mind that if you set this to sensitive the channel could run all the time, and if you set it to low, you may never record on that channel. Anytime you make a setting change you need to restart the services if the recorder is up.

12. Gain: Input volume controls the gain; it should be used to bring weak channels up to the level of the other channels.

13. Failing Threshold: The failing threshold is the voltage detection level for loop start. It is only for Audio Codes encoder boards.

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14. **Delta Time:** Delta is for VOIP. It is the milliseconds time wait for arranging packets properly. Separate Silence: If your audio source is a radio and the squelch is set very tight you may need to increase the separate silence over the [sec] setting to get quick retransmits in the same recording.

15. **Discard Calls:** Discard calls undervalue is the amount of time to be set to where the recorder will trigger and keep the call. For example, if you are on a call for less than 2 seconds (according to the example below) then your call will not be recorded. Lowering the discard calls under the [sec] setting will better capture very short transmissions.

16. **Max Call Duration:** This setting should be used to make continuous recording more searchable by breaking it into smaller blocks. The max duration is 1 hr.

17. **Merge Call:** The Merge Call Interval tells the system how to break up the calls. For example (according to the example below) if you are on a call and there is silence of 3 seconds or more then that call would be broken up into 2 segments when looking for it in Search.

18. **Beep:** This will enable a beep tone for analog channels. Please note that this requires a special analog card.

19. **Save Recorded Files To:** This is the default directory where the recorded data will be stored.

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Important Notes about Users, Channels, and Groups

- The Revcord software is designed to use Groups, Users, and Channels.
- Users are defaulted to the Root Group and will have access to all the channels of any User at their group level and any below their group level.
- Users can be put into Subgroups and will only have access to that level and the subgroups below that group.
- All Channels have a User associated with the channel. This User can be named the channel name or some other naming scheme. If it is not configured, it will be hidden throughout the software but is necessary when accessing channels for the RevAgent.
- If a User is assigned to a Group without Search rights and has an associated channel, that User can only listen to the calls associated with that channel.
- Users can only be assigned to one Group.
- If a User wants to listen to different channels in different groups, you must use the "Simple User Rights" configuration.
- Simple User Rights overrides all Group settings for that User. It does not affect other Users.

Configuring Standard User

There are two types of Users: Admin Users and Normal Users. Please note that once a User is used as a Normal or Admin User, that User cannot be used again. As an example, an Admin User cannot be used later as a Normal User.

1. Admin Users – have all administrator rights
2. Normal Users – have user-specific rights

Users can be configured as shown below. By default, a user will be created for each channel with a login ID and password. This login ID and password will be used in the Web client software to log in. On this page, a normal user will be created, or modified, or deleted.

In the picture below, the top list shows all the users associated with a unique channel number or all the default users if they have been configured. If you want to see unconfigured default users, you must check the Show Default User box. The list below shows all the new users that are added. They are termed as additional users. They can have channels associated with them or it can just be a user with no channel associated. All new users will be shown in this list.

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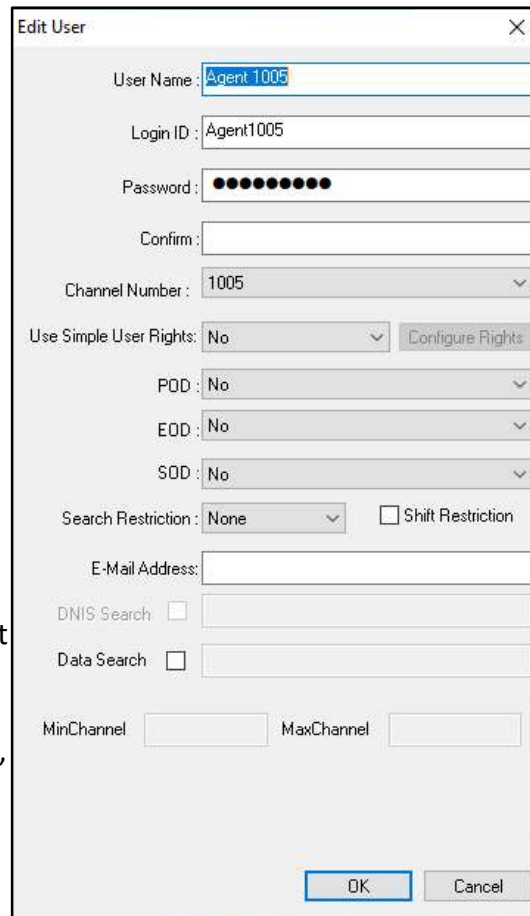www.Revcord.com

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If any user needs to be added, click on the **Add Use**r button.

Please note that the following characters CANNOT be used in the Login ID - <> : " / \ | ? *or space.

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Adding A New User

Click on the **Add User** button and the following will appear:

1. Enter the Username: This will be the screen name for the user.
2. Enter a unique login ID. Each user will have a unique login ID. This login ID will be used in the web client to log in.
3. Enter a password with the confirmation field being the same.
4. Enter a channel number. If you have a recorded channel, you can specify the channel number or you can simply enter 0. Note: A channel of 0 means there is no channel associated with the user.
5. You will have a choice of using Simple User Rights (please see the Simple User Rights section for more detail)
6. If YES is selected for Use Simple User Rights, then Configure Rights will be enabled.
7. Specify YES or NO for POD. By default, it is set to NO. You enable or disable the right to use this function here. Using POD - before a call, when a set of defined DTMF tones is entered, that call will not be recorded. In addition, in the Monitor tab, this function can be used. This function can also be used any time during the call and the call will be saved until the point when DTMF keys are pressed.
8. Specify YES or NO for EOD-Email On Demand. By default, it is set to NO. "Email on Demand" is like Privacy on Demand. When a set of defined DTMF tones is entered, that call will be emailed to the specified email address above. In addition, in the Monitor tab, this function can be used.
9. By default, it is set to NO. Using SOD - You enable or disable the right to use this function here. "Silence on Demand" is like Privacy on Demand. When a set of defined DTMF tones is entered, that channel will insert silence for a predefined (15 seconds) amount on the channel configuration. There is an additional set of defined DTMF tones, which will start recording before the defined time ends. In addition, in the Monitor tab, this function can be used.
10. Specify Search Restriction if required. By default, it is set to NONE. If we specify any particular hour, then the call search will be limited only for the specified hours.

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11. Specify Shift Restriction if required. By default, shift restriction is disabled. If we specify shift restriction to be enabled, then on Instant Recall Lite (and Full) no records will be available to the user. The user will get notified of upcoming calls until his shift time reaches. As soon as shift time reaches, the user's shift restriction will work as a search restriction.
12. Specify other user-related information like SSN, Email Address, Telephone Number, Date Employed, Date Retired, and further description of the User in the related fields.
13. Restrict Search By DNIS: This provides the user the ability to restrict certain users to specific DNIS calls.
14. Data Search: Admin can set extension-based search rights for users in T1 recording. Note: Applicable only for Synway Encoder board.
    a. MinChannel: Admin can set the Min Channel limit in T1 recording.
    b. MaxChannel: Admin can set the Max Channel limit in T1 recording.
15. Click **OK** to save the changes.

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Modify Users

User details can be modified by selecting the User from the list and clicking the Edit User button. A similar window like Add User will open, but with all the existing details of the user in all the fields as shown below. You can change any field by clicking OK to save the changes.

Delete Users

Users can be deleted by selecting a particular user from the list and clicking on the **Delete** button.

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Recover Users

If we want to recover the deleted user, click on the **Recover Users** button. It will open the window shown below.
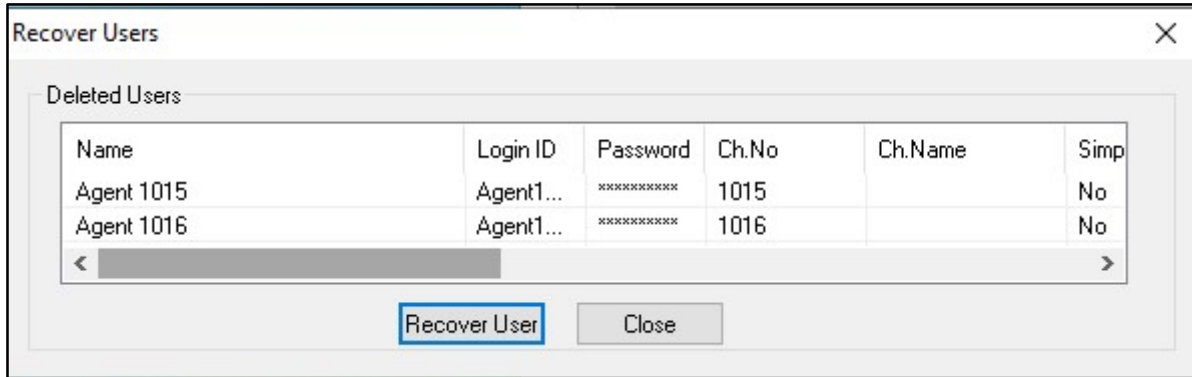
1. The picture above shows all the deleted users.
2. Select the user that needs to be recovered and click on **Recover User**.
3. This user will be retrieved and will be added to the active user's list.

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SIMPLE USER RIGHTS

1. You can specify Simple User Rights to any user by selecting the **YES** option for the Use Simple Rights option.
2. Click the **Configure Rights** button to assign rights to the user.
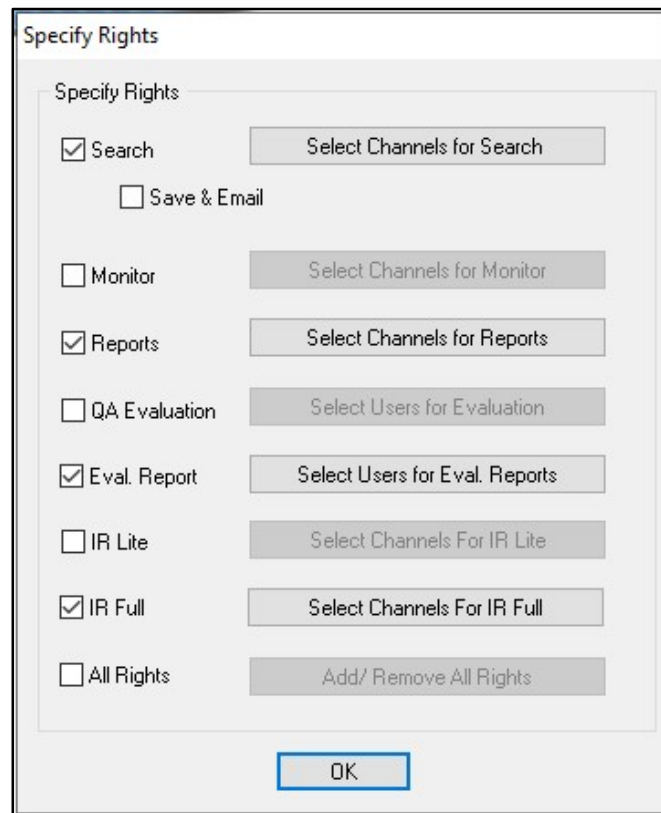3. By assigning Simple User Rights to any user i.e., selected user, you can attach other channels or users with specific rights to the selected User.
4. If you log in using the user which is set with Simple User Rights in the Web Client application, then it will show the tabs specific to the rights selected in Simple User Rights and also show the users or channels that are associated with this User.

Below is the picture of Simple User Rights.

1. Select specific rights that need to be assigned by checking the appropriate check box.
2. Once a specific right is checked, the button next to it will be enabled.
3. Click on the button to select channels for each specific right.
4. If all the rights need to be assigned, then check **All Rights** and click the button **Add/Remove** all rights.

Rights Defined

1. Search: To display the Search tab in the Web client, which allows to view all recorded calls and search the calls.

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2. Save & Email: The Save button in web play control will be enabled if this right is specified. Recorded calls can be saved in different locations only if the permission is assigned. Similarly, the call can be emailed when the right is granted.
3. Monitor: To display the Monitor tab in the Web client, where live calls can be monitored.
4. Reports: To display the Advanced Reports tab in the Web client, which displays the statistical representation of calls recorded by each channel or user.
5. QA Evaluation: To display the QA Evaluation tab in the Web Client, which displays the calls that need to be evaluated, or to score the calls individually.
6. Eval Reports: To display the Evaluation reports tab in the Web client, which displays the list of evaluated calls, and the evaluation report in excel or graphical format.
7. IR Lite: Access right to display the Instant Recall Lite link.
8. IR Full: Access right to display the Instant Recall Full link.
9. All Rights: To assign all the rights to the channels or users. All the tabs will be displayed in the web client.

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The Process

1. Once we click any specific right and click on the appropriate button then a window opens as shown below.
2. It gives a list of all available channels. We can add any channel and associate it with the user selected. The selected channels will have the specific right.
3. For example, if we check to Search and click on Select Channels for Search and then add a few channels then the channels added will have search right.
4. Note: For QA evaluation reports we can associate users and not channels.
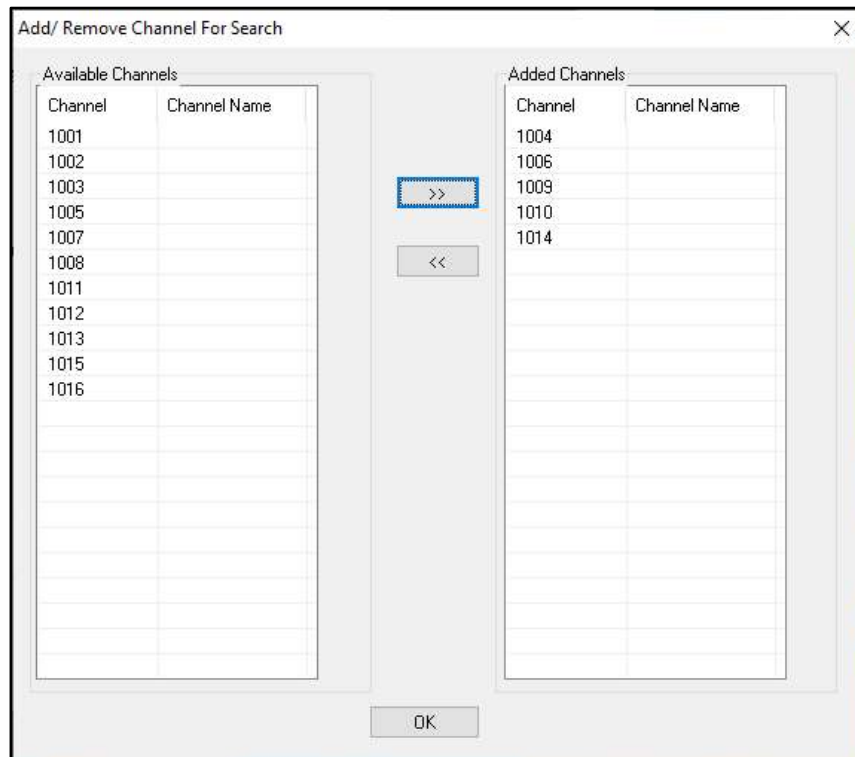
5. When we login into the web client using the login ID of the user which has Simple User Rights, then it will show the tabs for which rights are set to true. Also, the tree will show the list of channels that are associated with that specific right.

Note: If we specify Use Simple User Rights to YES and if we do not select any right and add channels/Users to it, then it will not allow you to click OK. To save other changes made to the user, either select NO to Simple User Rights or assign rights and then click OK.

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Configuring Radio Talkgroup

You can configure radio TalkGroups from RevConfig, these talk groups will be listed in the search page tree view and users can use these filters to search calls.

Adding Radio TalkGroup: Enter TalkGroup Name in the text box and press **ADD** button to add a Radio TalkGroup Name.

Removing Radio TalkGroup: Select an item from the list view and click the **Remove** button to remove a TalkGroup Name.

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Configuring Groups

Groups can be set up to help organize your recorder like your organization. To name the site, change the name from Root to whatever your organization's name is. (Note: A user cannot be a member of more than one group)

Adding New Groups

1. A new group can be created under ROOT by clicking Add Button.
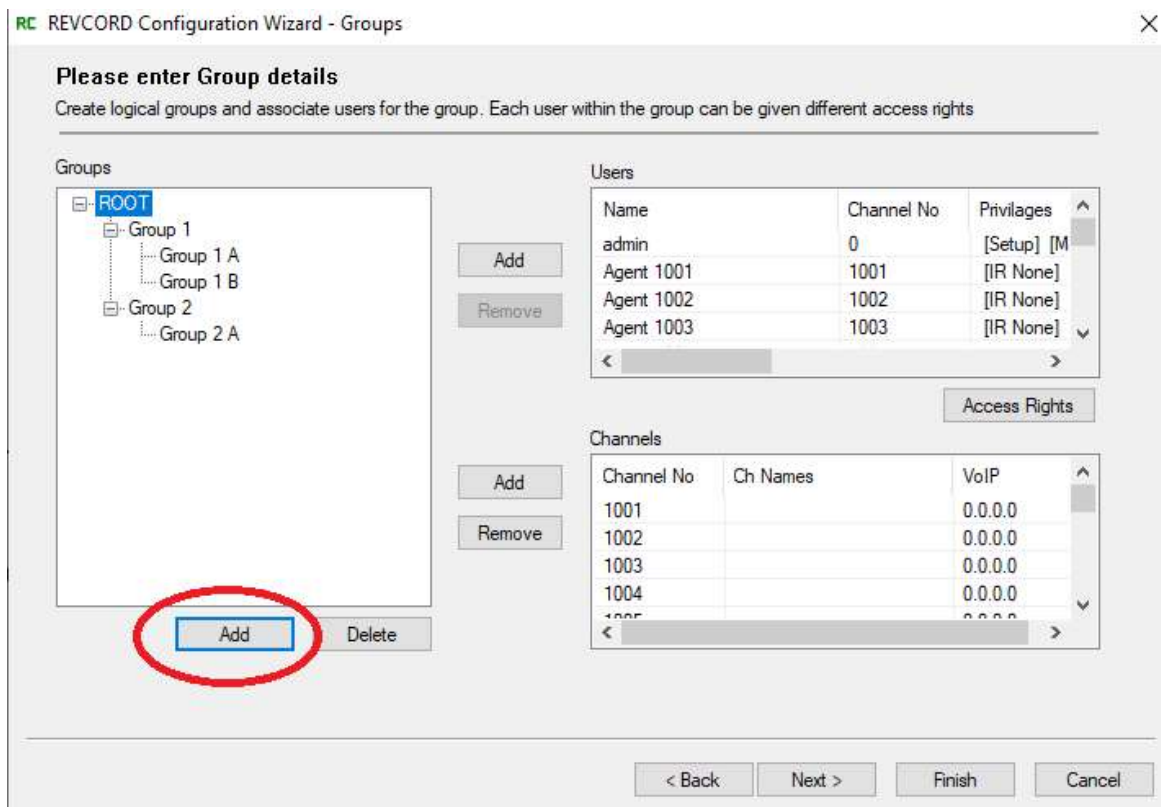
2. When Add is pressed, it opens a new window as shown below.
3. Please note that the following characters CAN NOT be used in the Group Name - <> : " / \ | ? *or space.
4. Specify the name of the group and description of the group, which is optional.
5. Users can be added to each group and the web client displays the users in the same hierarchy as they are created.

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6. If no group is created, then all the users are added under the default ROOT group.

7. Any group from the list can be removed using the **Delete** button.
8. Select the group which needs to be removed from the list and hit Delete.
9. Note: There should always be one parent group for all the features to work properly.

Adding Users to A Group

1. Users can be added to the group by clicking the **Add** button.
2. First select the group to which users need to be added, by clicking on the group name. Then hit Add.
3. Brings a new window as shown in the picture below.
4. The list displays all the users' names that are not present in the group selected.
5. Select the user that needs to be added to the group and hit OK to update.
6. Multiple users can be selected at a time by holding the shift key and selecting users.
7. Note: By default, all the users and channels will be in the ROOT group.

8. Click the **Access Rights** button.
9. It will open a window "User Access Rights" as shown below.
10. Select the user you need to assign Rights to.

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11. Select the type of Rights the user is permitted by clicking the check box next to each.
12. Click **Apply** to save the changes.
13. When you log in using the specific user with rights, then the Web Client application will show the features based on the rights assigned to the logged-in user.
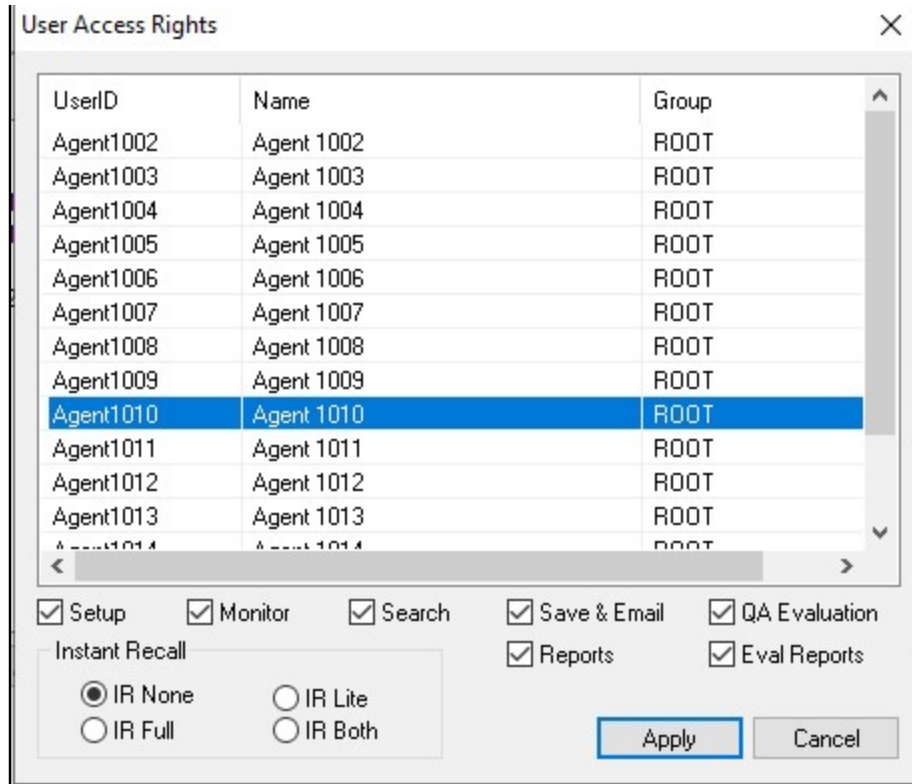
14. Set-Up: To display a setup tab where user-specific settings can be viewed and edited in web client software.
15. Monitor: To display the Monitor tab in the Web client, where live calls can be monitored.
16. Search: To display the Search tab in the Web client, which allows one to view all recorded calls and search the calls.

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17. Save & Email: The Save button in the web player will be enabled if this right is specified. Recorded calls can be saved in different locations only if the permission is assigned. Similarly, the call can be emailed and edited when the right is granted.
18. QA Evaluation: To display the QA Evaluation tab in Web Client, which displays the calls that need to be evaluated or to score the calls individually.
19. Reports: To display the Advanced Reports tab in the Web client, which displays the statistical representation of calls recorded by each channel or user.
20. Eval Reports: To display the Evaluation QA Evaluation Reports tab in the Web client, which displays the evaluation report in excel or graphical format.
21. Instant Recall: To display instant recall links on WebUI four different types of IR permissions have been introduced using radio buttons. These permissions are: -
    a. IR None: There will be no right to the Instant Recall feature.
    b. IR Lite: Use will have access rights to IR lite only. If the user has only access to IR Lite and no other access, then a blank page with an IR Lite link will be available after login. Users just need to click the "IR Lite" link.
    c. IR Full: Access will be granted to IR Full only.
    d. IR Both: Access rights will be given for both IR Lite and IR Full.
22. Click Apply and close the window.

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Adding Channels to Groups

1. Like Users, channels can also be added to the group by clicking Add button 3.
2. Brings up a new window as shown in the figure below.
3. The list shows all the channels that are not present in the group selected.
4. Select any channel and hit OK. The channel will be added to the group highlighted.

Note: The list below will show channels that are not present in the selected group. By default, all the default channels would be added to the ROOT group. So, the list shows empty.

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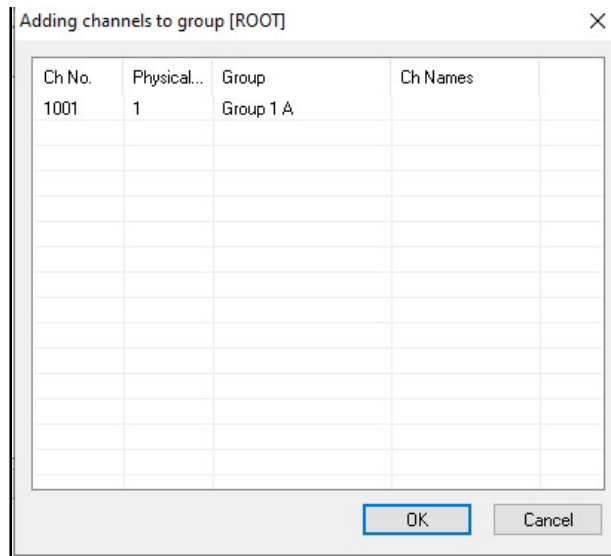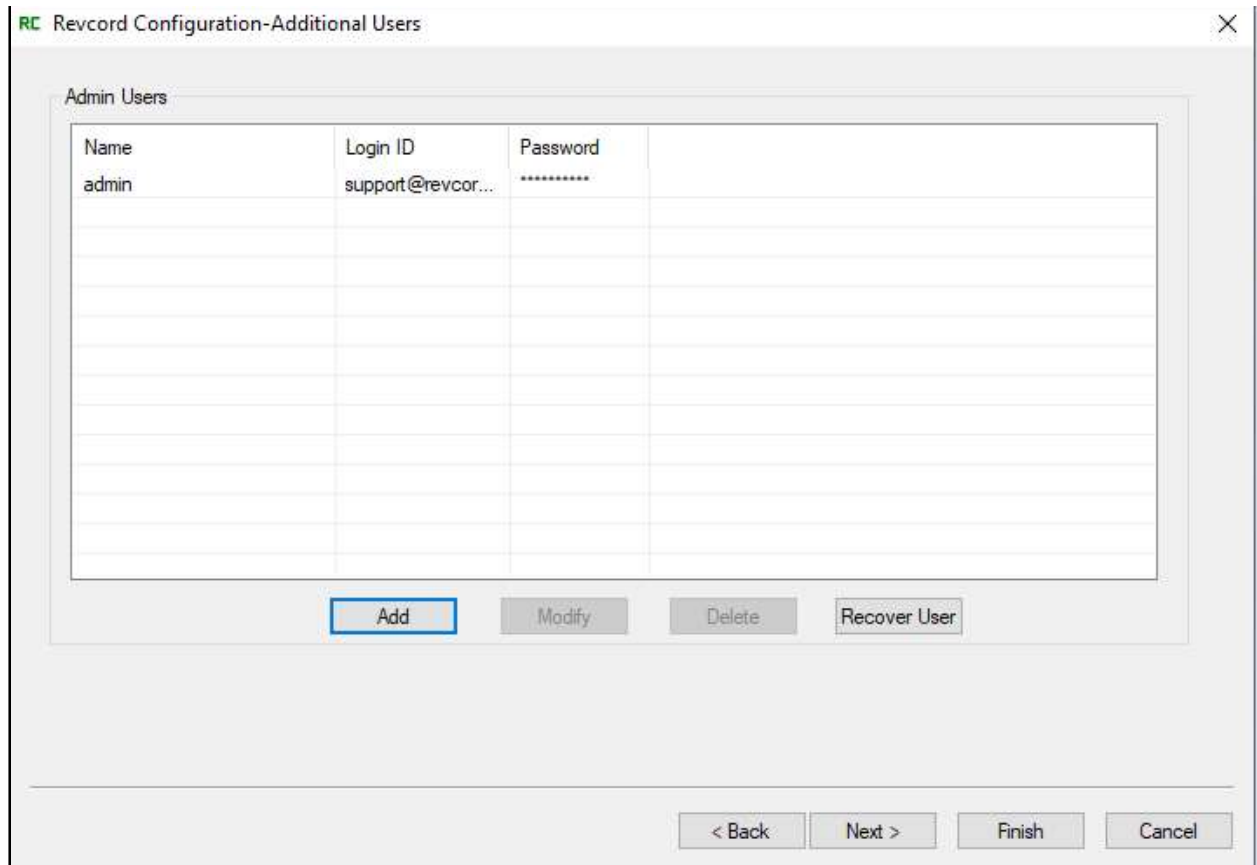
Remove Channels from Groups

1. Select the group from which channels need to be removed.
2. Click the **Remove** button at 3, it brings up the window as shown below.
3. Select channels that need to be removed and click **OK** to update changes.

Ch No.	Physical...	Group	Ch Names
1002	2	ROOT	
1003	3	ROOT	
1004	4	ROOT	
1005	5	ROOT	
1006	6	ROOT	
1007	7	ROOT	
1008	8	ROOT	
1009	9	ROOT	
1010	10	ROOT	
1011	11	ROOT	
1012	12	ROOT	
1013	13	ROOT	
1014	14	ROOT	
1015	15	ROOT	
1016	16	ROOT	

Remove channels from group [ROOT]

OK   Cancel
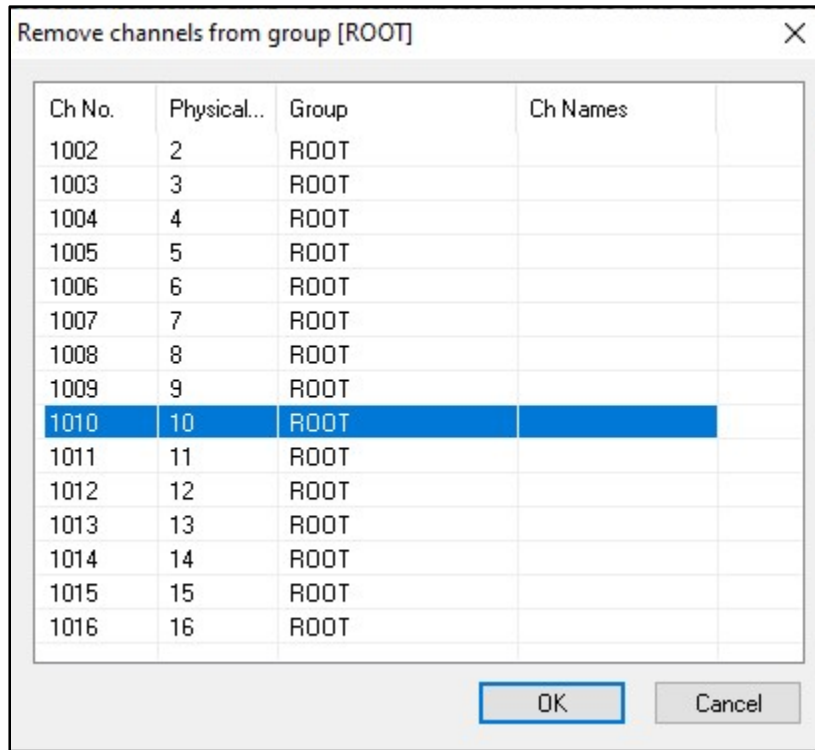
Channel No: Displays the logical channel Number
Physical Channel: The actual recording channel number
Group: Displays the group in which channel is added.
Channel Name: Displays the name of the channel if present.

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Configuring Admin Rights

This is the section that allows you to set up or remove other Administrators in the system.

Adding An Administrator
1. Click the **ADD** button.

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2. It will open a window like Add User shown below.

3. Add the Username, Login ID, and Password.
4. All the other fields will be disabled for Admin users.
5. Click **OK** to save changes.

Delete An Admin Account

Select the administrator user you want to delete and hit delete.
Click **OK** to delete the administrator account.

Changing Admin Properties

Select the admin user from the list of administrator users and click on the **Modify** button.

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Name: The name that shows up in the system.
Login ID: The login used for the admin user.
Password: The password for the admin user once finished, select the **OK** button.

Recover Admin Accounts

Deleted admin users can be recovered by selecting the **Recover User** button.

Configuring Associated Rights

This is the page where the admin can configure the agents.
Admin can configure the following from this page.

- Add Agents
- Modify Agents
- Delete Agents
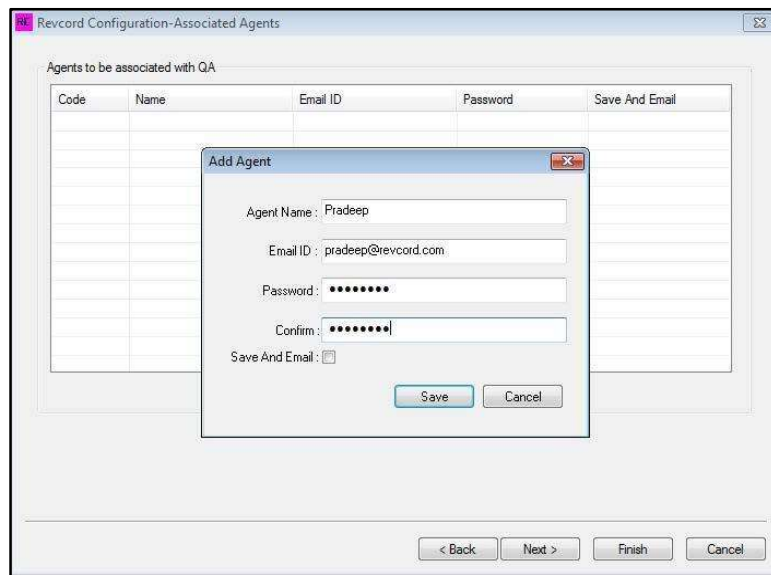
Add Agents

The admin can create/add a new agent by clicking the **Add** Button.
Agent Name – Input the Agent Name.
Email ID – Email ID of the agent.
Password – Password.
Confirm – Retype the password again.

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BACKUP CONFIGURATIONS

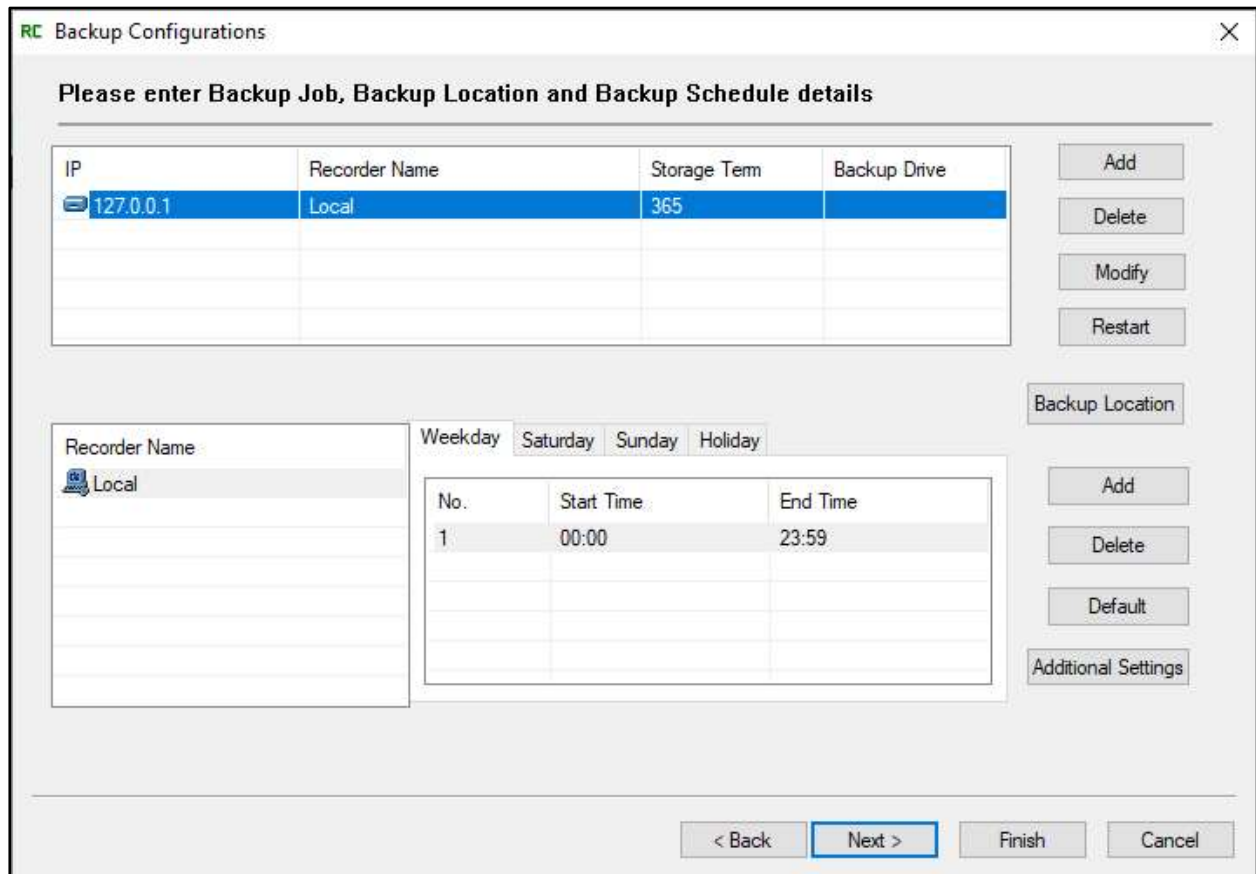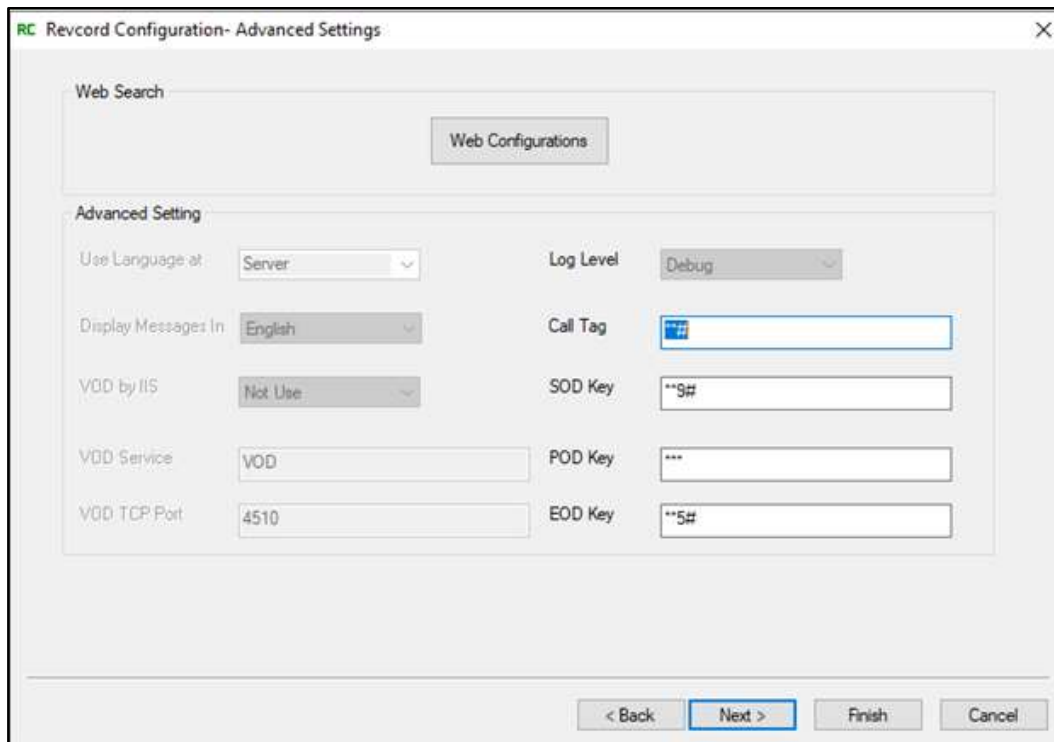This is the section that allows you to set up backup configurations. Instead of going to the backup manager application, now you can set up these configurations from the Revcord Configuration Wizard. Here you can add, delete, and modify recorders, and the backup schedule of the recorder. You can set backup locations as well using the backup location button. It is important that the proper IP address is in place in recorder configurations.

Here you can also set up the schedule of when your data will be backed up. Within the Backup Schedule set whatever time you want to set as a backup schedule and the backup will happen only during those hours for all media types.

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Advanced Settings

Advanced Settings allows the administrator to create or set values for the Voice Logging System. All these settings will be saved in config.inc file under the VRec folder. The information will be used by the web client application.

Advanced Settings

Use Language at:	Server or client
Display Messages in:	Choose display language here
VOD by IIS:	NOT IN USE
VOD service directory:	VOD
VOD TCP Port:	Port for VOD to use
Log Level:	Debug or Error
Call Tag Key:	**# is the default DTMF for Call Tagging
POD Key:	#8* is the default DTMF for Privacy On Demand
SOD Key:	*** is the default DTMF for Silence on Demand
EOD Key:	#5* is the default DTMF for Email on Demand

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Web Configuration

The button called **Web Configuration** will launch an application as shown below. You are required to enter the respective information and parameters. Web-UI Configurations have been embedded in RevConfig for the ease of users. Any settings done on Web-UI Configuration will be reflected to the entire site. By default, all the settings have been configured according to localhost. You can change them if needed.

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Website Settings

- Web URL: This is the URL to run the site on your localhost and "VRec" is the name of the virtual directory.
- Folder Path to Zip: Here you can set the path for Zip files. I.e., the files exported from List View and Search View will be saved to this directory inside a folder and that folder will be zipped here automatically.
- Enable Enterprise Configurations: To enable enterprise configuration, the first thing is to add a secondary recorder from RevConfig after that this check box becomes enabled. Select it if you want to run the software in enterprise mode.
- Google Map API Key: To use the Google Maps API, you must register your app project on the Google API Console and get a Google API key that you can add to your app.

Database Settings

- Here you are required to provide database settings. By default, these settings will be displayed. You are just to test the connection if you are using the default Revcord instance and VoiceRec database with the same username and password.
- On a successful connection, a message box will appear having the text "Connection Successful".

Conference Custom Settings

Conference and custom settings are required for Revcord audio and text conference. No input is required from the customer. It should be configured by Revcord if changes are needed,

Note: If the user changed any of the settings incorrectly then functions related to audio/text conference will not work.

Server Information

- This part of the setting is very important. Almost all the pages on the site connect to the server using VOD Server, Real-time Server IP address, along with port numbers.
- Keep in mind that the port Number for VOD is 4510 and the port number for the real-time server is 4520.

SMTP Settings

- SMTP settings are mandatory if you want to use the email feature on reports. To email, the generated reports SMTP settings should be configured. Provide proper SMTP Server, Port, Username, and Password.

Helper Service Address

- Web Player uses RevcordHelperService to save/export the calls in WAV or WMA format. By default, its address is 127.0.0.1. I.e., + you are using the same machine for helper service and VRec virtual directory.

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Column Configuration

Revcord provides a powerful feature to its users named **Column Customization**. Now column customization has been implemented on Search, Instant Recall Lite & Full. To access column configurations, click on **Column Configuration**. Site administration will open in your default browser. Here you can manage the Column configurations of the following modules of the application.

1. Search page column configuration.
2. IR Full Live portion column configuration.
3. IR Full Recorded portion column configuration.
4. IR Lite column configuration.

Using the column configuration, you can manage the following properties of column configuration on-site administration.

1. Resizable columns.
2. Rename column caption.
3. Sortable column headers.
4. Show/hide columns.
5. Resizable width.
6. Text alignment.
7. Column ordering.

Configure Service Account

- Clicking the **Configure Service Account** button will open a dialog asking for Username and Password. The service named "RevcordHelperService" uses the "RevcordHelperService" application pool. To set the application pool identity, enter the credentials of an admin user and click **OK**.

Instant Recall Settings

- Settings Startup Player: Here you can select the startup player for instant recall full page. You can select either "Live" or "File" as a startup player. The selected player will be automatically loaded on IR Full page load.
- IR View: From version 9.2, two different views of the IR Full page have been introduced. i.e., Stack View and Non-Stack View. Select your desired view from the drop-down. The selected view will be displayed on the IR Full page.

Revcord IQ3 API

- IQ3 MMS URL: Should be "port forwarding IP" or "Public IP" used by Revcord IQ3 App to communicate with Revcord server.
- RevRec Service Address: Revcord server IP or localhost.

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Setting the Other Necessary IP Addresses

1. Set the Windows IP Address, after setting the IP, and if the system prompts you to reboot choose NO. You will need to reboot after making all the changes to the system.
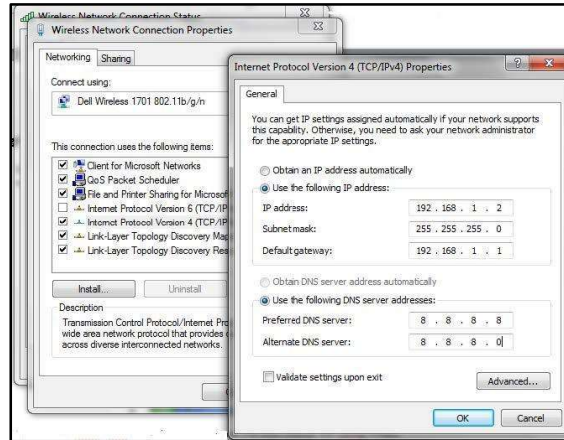
2. Open the GRMSViewer and click on File. From File then click on the Config button.
3. Click on the device located under the DVLS tree on the left and then select the Modify button.

4. Input the static IP Address and then click OK.
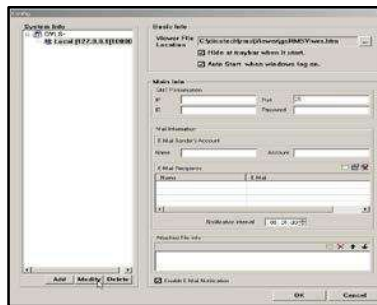5. Click on OK from the Main Configuration screen to close out of GRMS Setup.
6. Open the Revcord Configuration Wizard and use the Next button to go to the Recorders Page. On this page, you will open the recorder and type in the IP address.
7. Once you change the IP, a prompt will ask for the Windows Username and Password. Enter administrator for the username and the password then hit the **OK** button. If the login window comes back up just ignore it and cancel it out and go to the next step. Please contact support for the default password.

Testing Your Setup

1. Start the recorder by starting the NewVSRMSAgent (Run As Service).

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2. Verify and test all audio coming into the system (may use Monitor and Search).
3. Login into the User Section via your browser, the default home page is http://localhost/vrec/ or the IP address for the system /VRec like the example below. The system's default username and password is 'admin'.
4. When the main window comes up click on the Monitor Tab.
5. Check all channels that apply and click on the Monitor button above the users. The channels you checked will be displayed in the main window to the right. Double click on any channel to Live monitor the audio. You can tell if audio is active on a channel because the channel box shows as pink in color (IE User 1003 and User 1005 below). To monitor a channel just double-click on the active box. To stop monitoring, click on the stop button in the control panel at the bottom of the screen.
6. To playback audio within Search check which channel(s) you like to search for and then check the date/time info on the right that would apply to the search. When ready to search click on the search icon (magnifying glass) and the calls that fit within the search will be displayed. Double click on any or multiple calls to play them. The calls will be played in the order they are checked. Off-hook detection can also be made from the CTI manager screen, but audio cannot be heard.

Testing Connectivity with the System

1. Determine the IP address of the system if it is DHCP. Static IP addresses are highly recommended.
2. Ping the IP address of the system.
3. If the IP responds but the page is not displayed ensure you have the correct URL. IE. http://192.168.1.12/vrec
4. If the IP and URL are correct, you may need to use a port scanner like blues port scan, or angry IP scanner to make sure that port 80 is open.
5. If the port is open and it still is not responding, restart the WWW service on the recorder.
6. Other services have configurable port numbers, verify that you are trying on the ports to which they are configured.
7. Reboot the system or restart the service if any parameters relating to the card are changed.

TROUBLESHOOTING YOUR INSTALL

Phone

1. Monitor the phone at the 66 block of the recorder, if it can be heard, and the line can be taken off the hook there, test the cable to the recorder, otherwise check the punch downs on the extension and PBX.
2. Pull the Amphenol cable at the back of the recorder and plug it into another 66 block, put a tone on the suspect pair and short it at the other 66 block in succession while monitoring the tone. If you short it, and the tone does not silence, the last span has poor continuity.
3. Measure the voltage at the 66 block, both on and off-hook, with the phone on the hook it should be -24 or great off-the-hook it should be less than 8 volts. (Analog only)

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Network

1. Ensure that the target PC and the client PC have an active network connection, indicated by sent and received packets in the local area connection status window.
2. If the sent packets value is growing at a very high rate make sure there are no worms, Trojans, or viruses operating on the system.
3. Verify that the target and client systems are in the same IP subnet (ipconfig /all on both systems).
4. Verify that the target and client systems are connected by a switch or router that is configured to allow communication. The easiest way is to use the PING and TRACERT commands.
5. If the ping fails, start pinging other objects in the path to identify and resolve the issue.
6. Ping the TCP stack at 127.0.0.1 delete and reinstall all network components under network connection properties if this fails.
7. Ping the adapter IP, if it fails try a new cable, or try the cable and port with another system. If the cable and port work in another system, try another adapter.
8. Ping the gateway router, from both systems.
9. Ping a known good IP on the internet (IE. 4.2.2.2), from both systems.
10. Ping a known-good host on the internet – www.cisco.com, www.yahoo.com from both systems; if either one fails verify the DNS server IP and flush the DNS resolve cache (ipconfig /flushdns).
11. Ping the target and client PC from another PC in the local network.
12. Port scans the host and client looking for blocked ports, if needed move the affected services to another port.
13. Call your IT department or network administrator and ask for their assistance getting the systems to function through the corporate security solution.

Computer

1. Ensure that power is applied, and that the system is turned on. A lamp or other simple device can be used to verify that an outlet works.
2. Ensure the monitor is working properly by plugging it into another system.
3. Ensure that there are no floppies or CDs in the drives to give boot errors.
4. Check bios to verify the hard drive is recognized and selected as a boot device.

Recorder

1. Check that all required cables are in place and tight, especially the amphenol cable on the rear of the unit and at the 66 block.
2. Make sure the recorder process is running in the Task Manager.
3. Ensure that the CTIMGR application shows the line picked up and the recorder starts when the hook switch is lifted.
4. Ensure that the disk has free space and is defragmented.
5. Verify that the extension and channel are correctly associated with the system administration page.
6. Restart the system to ensure that all services start or restart.

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Server

1. IIS and MSDE/SQL Express are required to be running and must be restarted after any major system changes, a system reboot will work for this.
2. If the system IP address, name, or domain is changed it may be necessary to reset the recorder's information as well.
3. The ports for the services are configurable, so all clients will need to have their configuration changed to match any changes to the server.
4. SQL server must be pointing to the correct machine and database on that machine.

REVCORD BACKUP MANAGER

Revcord supplies all its systems with a software program that acts as a backup manager. This software program runs in the background of the recording software. In conjunction with this service, Revcord has client software, which can be on any PC-based computer system on the network or internet. This software can manage one to multiple recorders and will manage all systems for scheduled backups and data retention. This module allows scheduled archiving either using DVD Ram, an External USB drive, or a Network Server.

Overview

To open the Backup Manager, click on the icon below located in the Notification Area (SYSTRAY):

The main screen will come up and display the program. The program has the following menu tab:

Recorder List – This is the index of the recorder(s) and the actual schedule of the recorder of how long it will backup. You will notice you can manage multiple recorders from this application. It is important that the proper IP address is in place and the settings here are set from different areas.

Backup Schedule – This is where you set up the schedule of when your data will be backed up. Within the Backup Schedule set whatever time you want to set as a backup schedule and the backup will happen only during those hours for all media types.

Options – This provides for the Backup Schedule Parameters. This is defined further below in the Setting Parameters section.

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Media Settings – This is where you format and set your label information for the DVD/USB media.

Exit – This is where you exit the software.

Setting Parameters in Option Settings

Backup

1. Request Data – Allows a time frame to be set for the archive to check if the data matches and will write what is not in case of a shutdown.
2. Backup Media – This allows what media the system will write to, and the default media is DVD. Please use the same DVD option when using a USB external drive instead of a DVD.
3. Storage Period – This is the setting that tells the DVD how many days to try to archive to the DVD.
4. Schedule and Holiday – This allows a schedule outside of the normal procedures to be set for the archive.
5. Network - Parameters set for archiving across the network.
6. Alarm - Allows audible alerts to be configured to let a user know the status of their media (only applicable for local system use).
7. Local HDD
   a. Keep Files older than – Allows files to be purged that reach this age file (auto-purge based on this date), this only deletes the files stored within data, and the database purge is done within the database.
   b. Delete backed up files – Allows data files to be purged once they have been archived.
   c. Check HDD every (B) – Checks the hard disk on a set interval for files to be deleted.
8. Database - This is where you set your data retention policy. Delete records from the database periodically – Works with the time frame set below this option.
9. General
   a. Option
      i. Number of retries if a backup fails – will retry to backup this number of times if it is unsuccessful the first time.
      ii. Number of Logs in History List – Number of results that will be displayed in the system logs within the backup.
      iii. Log backup file information – Keeps track of pertinent information for the log file.
      iv. Enable user login for this backup server – if this option is enabled, the user must enter their password to run or access the backup manager.
   b. Server Info
      i. Backup IP – Registers the backup system to where it will archive, should stay at 127.0.0.1 (local loopback). Update database when data is backed up – Keeps track of what data has been backed up.

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Backing Up and Configuring A DVD

1. Click on the **System Settings** button before formatting so the DVD will have the proper settings when being written to.
2. Make sure the Backup Media section has the DVD section bulleted, and it states, "Connect to V: Drive."
3. Click on the **Local HDD** tab to set the number of days to keep the data on the hard drive. There is also an option to delete files once they have been backed up. I would uncheck this in case you need to refer to something that may still be on the hard drive and you do not want to find the DVD it had archived to.
4. Open the drive bay and format the DVD.
5. Click on the Set DVD Backup Media button to enter the section to format the DVD.
6. Click on the **Eject** button to eject the drive and place it in the Panasonic DVD-Ram disk.
7. Once the DVD is in the drive you can close it manually by pushing it in or you can click on the Close button to inject the disk.
8. Click on the **Format** button to open the format screen.
9. Click on the **Yes** button to go into the Format screen.
10. Make sure the Drive is set to the V: Drive, the Format Type is UDF 2.0, and change the Volume Label to anything other than the shown default (MEI_UDF), such as 1 or 2. Click on Start to initialize the format process.
11. Click on the **Yes** button to initiate the format process.
12. Once the disk is formatted, click on the **Close** button to start the DVD write process.
13. Set the system into a record mode to the DVD.
14. Click on the **Setting** button to initiate the DVD writing process.
15. Click on the **Yes** button to set the media to write to this DVD.
16. Close the format screen to initiate the writing process. The DVD writes on a schedule, which is set to once an hour (unless changed). So, if it doesn't start writing immediately wait for up to an hour to see the data transfer.
17. The format process is completely automatic, only the media needs to be inserted into the drive.

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Backing Up and Configuring an External USB Hard Drive

1. After you have connected your USB External Hard Drive to one of the USB ports, make sure that Windows finds it and loads the drivers for it. You can verify this within Computer Management First make sure no external USB drives (pen drives) are connected to the system.
2. Next, you will need to go into the Backup Server and make some changes.
3. The first change that needs to be made is under Tools. (2nd button from the right with a hammer and a screwdriver) Under the Backup tab, in the Backup Media section of the window, click on the RAID / HDD dot. In the box below it will confirm "Use RAID/HDD as Backup Device Media." Make sure that the DVD/CD-RW is unchecked then click OK.
4. Next, you need to tell the system which drive you want to use for backup. To do this, go to the BACKUP SERVER, and in the top left of the window are six buttons. Click the first one on the right, which is the SET DVD/RAID/TAPE Backup Media button.
5. In this case we are using the F: drive so we are going to click on that drive and click on INSERT to pull it over into the APPLY HDD/RAID window. If the D: drive shows in the same window, click on it and pull it over into the AVAILABLE HDD/RAID window by clicking on DELETE. Click OK.
6. Next, you need to check to see whether the added hard drive shows up in TOOLS, under the Local HDD tab. The new drive should show up as the F: drive in the Available HDD window along with the C: drive. Highlight the F: drive then click on Insert. This will pull it over to the Selected HDD window. Click OK.
7. In the Backup Server screen, in the Lists of Drives window (top right-hand corner of the screen) it should show the F: drive and a bar graph showing the available free space.
8. The USB drive can also be backed up like a DVD RAM. In that case, instead of using RAID/HDD as the media type, use DVD as the media type and set the USB Drive letter to V:. Format the drive using Windows Disk Management and the system will treat the USB disk as a DVD media and the backup process remains the same as the DVD backup.

Backing Up and Configuring a Network Drive

1. You will need to get the customer's IT personnel involved with this process because it involves the sharing and mapping of drives and will require having administrative privileges on the network.
2. The first step in this process is to determine where the files are going to be archived. Once you have determined the drive to store the files on then, it will be necessary to allow the sharing of this drive on the network. This can be accomplished by going to MY COMPUTER and right-clicking on the drive you want to share and click on SHARING.
3. In this screenshot we are using Windows 2000, if you are using XP, it will be a different look. You can use the default settings and click on APPLY, and OK. Notice that there is now a hand holding the drive that you are sharing. (In this case the D: drive.)
4. The next step will be to go to the Voice Logger and map a drive. To map a network drive double click on MY COMPUTER, go to TOOLS, and MAP NETWORK DRIVE.

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5. You select the drive letter you want to use; G: and H: are commonly used, but it can be any letter as long as it is not used by another drive. You then click on BROWSE to find the drive that you set up to be shared on the network.
6. Again, none of this is possible without Admin rights, so in most cases, you will leave mapping and sharing of network drives to the local IT personnel.
7. Once you have established a connection to the backup drive the next step is to go into the BACKUP SERVER on the logger and set that drive up for archiving. You will first need to set archiving to the RAID mode, which is done under TOOLS.
8. Change the backup media from DVD/CD-RW to RAID/HDD and click OK.
9. Next, we will need to tell the system which drive you want to use for backup. To do this we go to the BACKUP SERVER and in the top left of the window are six buttons. Click the first one on the right, which is the SET DVD/RAID/TAPE Backup Media button.
10. This will bring up a window that shows the drives that are available for use.
11. In our example, we are using the G: drive for backup. You will notice that this drive has the network connection symbol attached to it, so we know that this is the drive to which we mapped. Click on the G: drive then click on INSERT, and this will pull it over into the APPLY HDD/RAID window.
12. Next, check the box next to NETWORK DRIVE and click OK.
13. The setup of your Network Backup Drive is complete.
14. To retrieve calls from this drive, follow the same procedures for retrieving from a DVD, which is documented in the manual.

Printing Labels

If you need to print labels, it is available on Revcord Voice Loggers.
1. To print a label, you will need to go into the Backup Server.
2. You can get there by double-clicking on the icon in the taskbar, in the lower right-hand corner, that looks like a computer monitor.
3. The Backup Server window will come up.
4. Next, you will click on the **Set DVD/RAID/TAPE Backup Media** button.
5. The DVD window will come up.
6. You will notice that this window has a **Label Print** button down in the right-hand corner.
7. When you click on this button, another window pops up asking you if you want to continue even though the disk is not full. Hit **Yes** to continue.
8. The next window that comes up is the standard **Choose the printer you want to use** window.
9. This is also where you can go into the properties to set up your print job.
10. In this example, we are using a networked printer, but you can use a local printer as well.
11. Revcord does not provide a printer, but any label printer will work as long as the drivers are loaded on the system. Once you have configured your printer click **OK** to print your label.
12. The volume label of the disk is what will print out along with the "From" and "To" date and time.
13. The printer can either use a standard DB9 connector or a USB.

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REVGUARD

Overview

RevGuard is an integrated hardware and software monitoring application that has been handcrafted to monitor your Revcord Logging System components as well as many other items. RevGuard works together with RevWatch. RevWatch is a cloud-based application that manages the alerts and notifications about the health and status of all systems running RevGuard. In addition, RevGuard's sister software RevWatch can operate on an internal network. At Revcord, we know security is a leading factor in many IT Departments' decision-making. RevGuard was designed and built with keeping Security a priority. RevGuard does not require any listener sockets or TCP/UDP ports to be created. That means RevGuard is "closed off" to the outside world. In the event of a trigger or alert, an outgoing encrypted signal will be sent via SSL to RevWatch via a User-defined outbound port only for base situations. For remote access and support, there are also security protocols in place.

RevGuard Default Monitoring of Applications

The software keeps a constant connection and monitors the following applications by default. The users can configure the other applications as well.

The default processes are categorized into two sections:
1. Critical
   a. The Main Recording Application: VSCtiMgr.exe, VsRecorderEx2.exe, and pjsua_vc6
   b. The Call Streaming Application: RevWSServer.exe
   c. Channel Inactivity
2. Non-Critical (Other default processes which will not affect recording)
   a. The Cascading Database Application: DBSplitter.exe
   b. The Live Monitoring Application: VsRealTimeServerEx.exe
   c. The Call Streaming Application: VsVodSvr.exe
   d. The Backup Manager Application: VMBackupServer.exe

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RevGuard Default Monitoring of Services

The software keeps a constant connection and monitors the following services by Default. Users can configure other services as well.

The default services are:
- NewVSRMS/ VSRMS Agent
- MSSQL$Revcord

The users set RevGuard to monitor the following options:
1. CPU Usage (Shows 4 CPUs for the Quad-Core System)
2. Memory Usage (Both the Physical Memory and the Page file)
3. Hard Drives (Total space, Available Space, and Usage)
4. Network Connections (Traffic)
5. All of the Revcord Software Applications:
6. The Cascading Database Application: DBSplitter.exe
7. The Email On-Demand Application: AutoEmail.exe
8. The Record On-Demand Application: VSLoginSvr.exe
9. The ANI/ALI Application: ANIALI.exe
10. The Backup Manager Application: VMBackupServer.exe
11. The Live Monitoring Application: VsRealTimeServerEx.exe
12. The Main Recording Application: VSCtiMgr.exe
13. The Call Streaming Application: VsVodSvr.exe
14. The Screen On-Demand Application: Revftserver.exe
15. The Proxy to serve audio and live information: RevWsServer.exe
16. Securing a file/folder   File Deletion wizard
17. Monitors the Channel Inactivity: Channel Inactivity

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Revautoupdate Program

RevAutoUpdate Program automatically checks, download, and install or Schedule updates for Revcord Software.

1. RevAutoUpdate program automatically checks for the latest update available every day.
2. If an update is available, it provides options to Update Now or Schedule it.
3. If running with NewVSRMSService, then it will automatically download and install the software on the coming Sunday.
4. RevAutoUpdate Binary Location - C:\DissTech\Support\RevAutoUpdate
5. Logs Location - D:\DissTech\Logs\RevAutoUpdateLogs

Steps To Configure Auto Upgrade

1. Install RevGuard.
2. Configure RevGuard with the following RevWatch URL.
   https://10.0.1.62/RevWatch
3. Stop the RevGuard Service.
4. Open Services. MSC.
5. Find RevGuard Service. Right-click on it, then stop.
6. Open the following file with Notepad. Location - C:\Windows\RevGuardUnInstall\ConfigXml.XML
7. Replace the TVDeviceConfiguration properties value with the following:
   <TVDeviceConfiguration>https://10.0.1.62/RevWatch/<.TVDeviceConfiguration>

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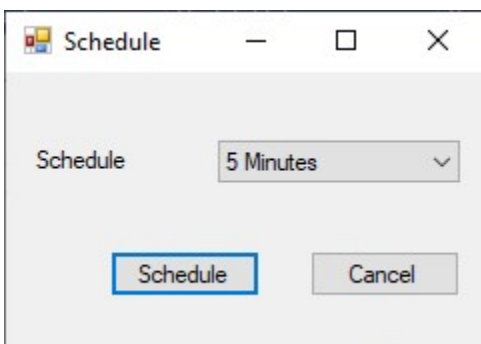Page **60** of **95**

8. Start RevAutoUpdate Program.

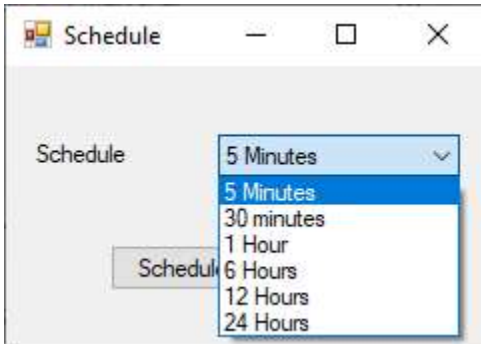If your Revcord Software is up to date, then it shows your Revcord version is the latest.
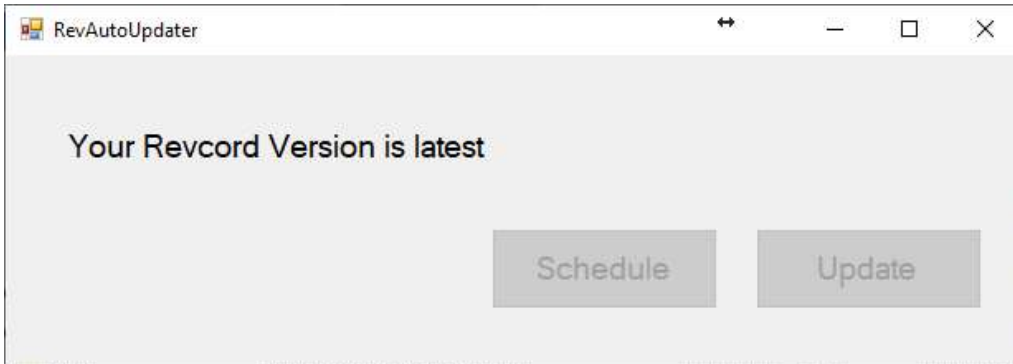
If Revcord Software has an update, then it shows A New version is available. Would you like to download it now?
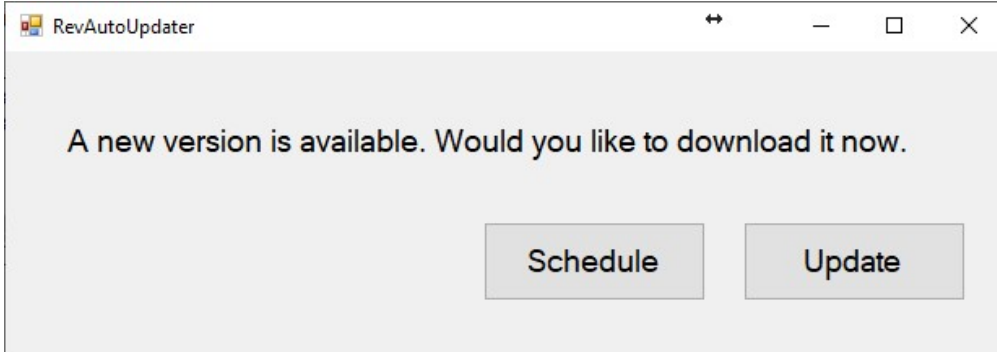
Click update to update will start downloading the update and start installing and the schedule will have options to schedule later.

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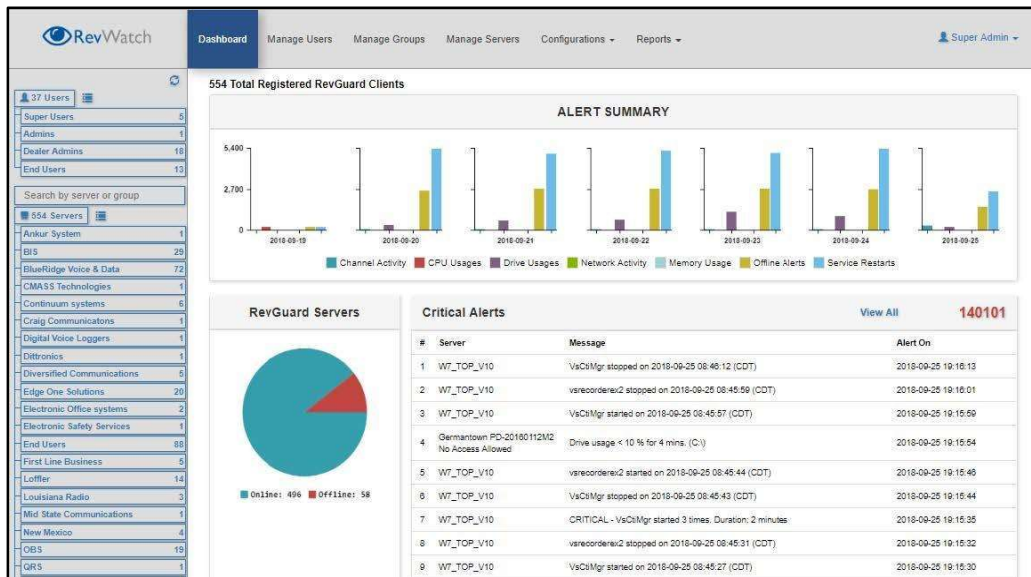MMS Version 12.1
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Addressing Firewalls

On both the logger and client computers, the Windows and third-party firewalls should be disabled or configured to allow ports: 80, 443, 943, 1935, 2002, 4510, 4520, 4530, 8087, 8086, 8181, 8431, 8970, 9876, 10000 and 10999 in both UDP and TCP.

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REVWATCH

RevWatch is a client web-based application; it works hand in hand with the RevShield RevGuard software. The RevGuard software is a Revcord server monitoring service; it will monitor the server and send alerts to client RevWatch.

1. RevWatch can manage one to multiple recorders and will monitor all systems.
2. RevWatch can receive alerts from multiple Revcord servers.
3. RevWatch has the following User Roles:

- Super Admin – The Super Admin is the prime User and can create other Users like a Super Admin, Admin, Dealer Admin, or End User. Each User will be assigned rights to one or more Revcord servers to view the alerts and status of the server. The Super Admin is the only User with the rights to access and change the Database and Team Viewer Settings.
- Admin User – The Admin User can create Dealer Admin and End User profiles. It can also allocate servers to the Users from the server list under the Admin profile. The Admin User has no rights to access the Database Configuration or Team Viewer settings.
- Dealer Admin – The Dealer Admin can create another Dealer Admin and End Users. The Dealer Admin can allocate servers to the Users from the server list under its account.
- End User – The End User can view and monitor the servers under its account.

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REVAGENT SCREEN RECORDING

RevAgent includes free seating, call tagging, bookmarking, screen recording, multi-monitor screen recording, recording based on region (entire screen region or custom selection), blocking region, auto-login, admin protected configurations, and much more.

Free Seating gives the client the ability to tie phone extensions to desktops and users. Now the customer with a client on the desktop login to a system and each call made at that system will associate that call to the User. Screen Recording can now be enabled and associated with calls and channels/extensions as well.

The new RevAgent client will provide the following functionality:
- ROD (Start/Stop Recording)
- Screen Recording via Multiple Recording Triggers
- Free Seating
- Auto Login on start
- Call tagging, bookmarking.
- Multi-monitor screen recording (up to 4)
- Recording based on region (entire screen region or custom selection)
- Blocking region to hide sensitive information
- Admin protected configurations
- License authentication

Server Preparation

The first step is proper preparation. The following information will be needed for proper configuration:
1. The IP address of the Revcord server that the RevAgent will be associating.
2. Each IP address of the client stations that will be utilizing the RevAgent.
3. The channel/extension that will be associated with the various client workstations.
4. The Login ID and password for each channel/extension that will be associated with the various client workstations.
5. SQL Server settings
6. File Transfer settings (see below)

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Enable TCP/IP Port For Database Access

The first step is to Enable the TCP/IP port on the server/recorder. Open C:/Disstech/Support directory. You will find the following two script files there.

- TCPIPPORT.bat
- TCPIPPORT.vbs

Execute both the scripts with administrator privileges; this will enable the 1433 port for remote database connections. Once these settings are done the VoiceRec database will be accessible to remote clients ("RevAgent").
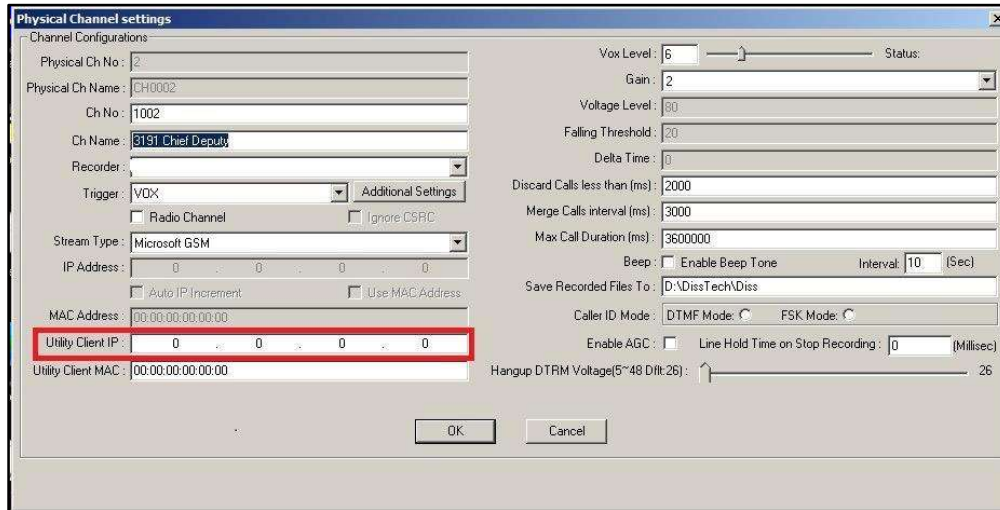
File Transfer Server

In addition, the File Transfer Server settings must be checked and written down for later use in the RevAgent. The File Transfer Server must be running on the server. It is used to accept screen recording video files from the client workstation to the server. The default port for the file transfer server is 10999.
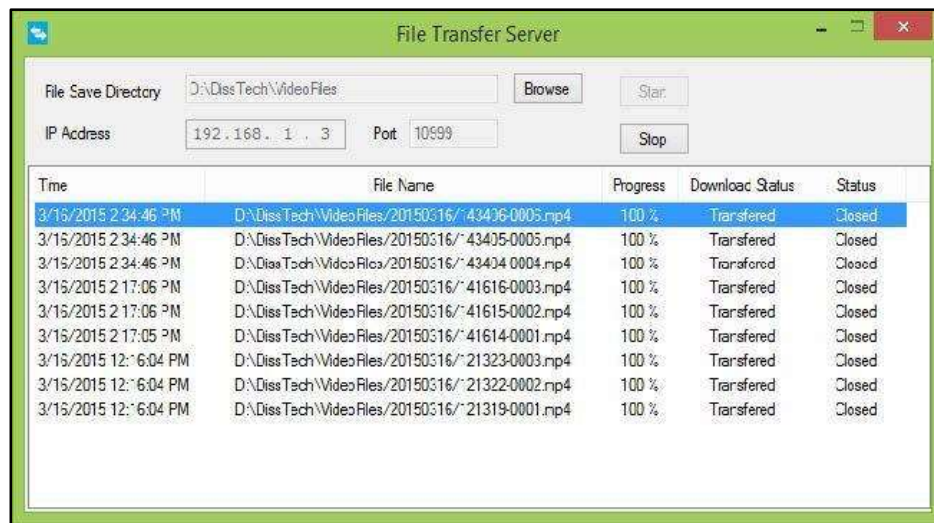
Associating Channels with Client PC

The next step is to associate the channels with the client PCs. You will need to start the Revcord Wizard program and go to the Physical Channels settings page. You will then open each channel and place the IP address of the client workstation you want to associate in the field as shown below under the Utility Client IP. Please note that a MAC address can be used.

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All alphanumeric letters must be capitalized:

Configuring A Channel for Record on Demand (ROD)

For Record on Demand, the trigger for recording must be changed to ROD in the Physical Channel Settings so that the RevAgent can start and stop recording for a particular channel. Launch the Revcord Configuration Wizard and select the channel that needs to be controlled by the client as a ROD channel and change the trigger to ROD. The starting and stopping of recording can be accomplished by RevAgent.

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Client Workstation Configuration

You will need to make sure that you have the proper IP address of the Server. This can be found by using the Revcord Configuration Wizard program and going to the Recorder(s) page. The IP address is listed as shown below. This is a critical piece of information for the RevAgent program on the client.
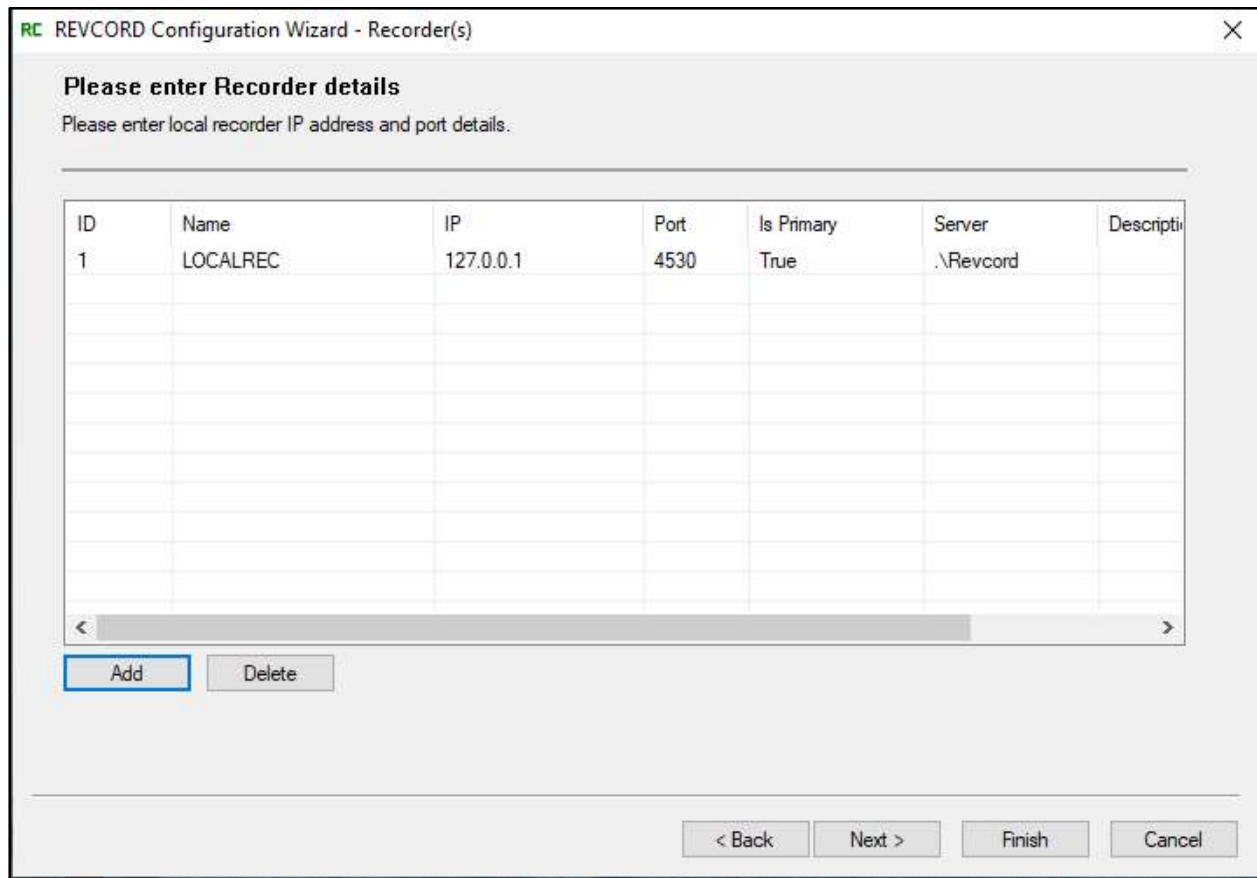
Be sure that the IP address in the Recorder Details is the same as the server's actual IP Address. The next step is to install the RevAgent on the client machine. This is a Windows-based program and will work on Windows 10 and Windows Server 2019.

RevAgent Client Configurations

Once RevAgent is installed and started, you will see the application in the system tray and the following menu will become visible upon right-clicking the screen icon.

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Agent Login

This is a login interface for Revcord regular users. If someone has successfully authenticated and logged in, then the free seating field will be populated with the logged-in User ID. Otherwise, the Windows login username will be populated.

RevAgent Setup

RevAgent setup is fully admin authenticated. Only admin users will have the access rights to open the settings and perform configurations. Clicking the "Setup" will open up the admin authentication dialog. After successful admin login, the following main settings of the RevAgent application will appear.

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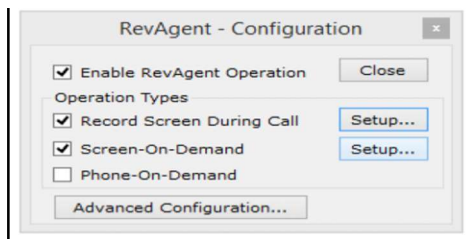
Enable RevAgent Operation

The check box **Enable RevAgent Operation** is the main entry point of the RevAgent screen recording application. If the checkbox is checked, then RevAgent will be functional and works per the configurations. Otherwise, RevAgent will not work and a grayed-out message "RevAgent is disabled" will appear on the RevAgent menu.
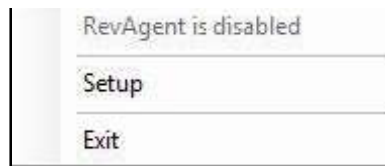
Record Screen During Call

The settings/configuration done under the "Record Screen During Call" will work for Non-ROD triggers. Enable the checkbox and then click the setup button to perform the configuration. Clicking the setup button will open a dialog for the screen configuration.

Based on the number of attached screens with the system, the respective number of screens will be enabled and can be selected on this dialog. If three screens are attached then Screen1, Screen2, and Screen3 can be configured, and the four screens will be grayed out. Here you can enable screen for recording, select custom recording region, view custom recording region, select blocking region, and view selected blocking region.

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Record Screen On Demand

The entire configuration performed under the "Record Screen on Demand" dialog will work for the "ROD" trigger only. In the same way, as elaborated above you can select screens, configure custom regions, and block regions for each screen.

Advanced Configurations

To configure the advanced options, click the "Advanced Configurations" button to open the dialog. The following dialog will appear.

Mask Area

Enabling the mask area will hide the blocking region from recording. If the **Use Mask Area** option is checked, then an image overlay will be added to the recording and the respective region will not be recorded. This option can be used when you are entering some secure information, such as credit card numbers.

Recorder Server

This is the area where you configure the database settings.

      a. Server: Here you need to enter the server information in the following format. IP\Instance Name. Revcord is the default instance name.

      b. Port: This is the TCP/IP port that has been configured for remote database connections on the server. The value for the default port is 1433.

      c. User Id: Here you enter the database user id. The Default user id is SA.

      d. Password: You need to enter the system administrator (SA) password here. The default password is poi098.

      e. Test: Once you have entered all the settings click the test button to test the connection with the database server.

File Transfer Server

It is necessary to configure a proper connection with the file transfer server. Since these settings are required for file transfer from the client (RevAgent) to the server.

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a. Server: Enter the server IP address where the file transfer server is running.
b. Port: Enter the port number on which the file transfer server is listening, Default value for the file transfer port is 10999.
c. Ping: Once you enter a proper server IP and port number, click the ping button to test if the connection with the file transfer server is successful or not.

Audio/Video Setup

Clicking the **Audio Video Setup** button will open a dialog. All the settings related to audio and video will be performed here. The following dialog appears upon clicking.
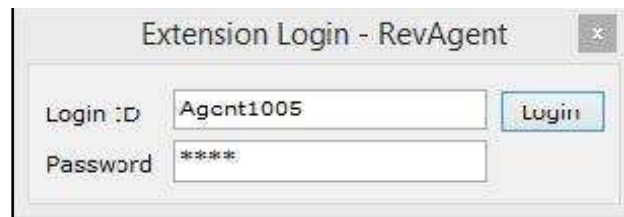
a. Microphone Audio Settings
1. Audio Device: Select your audio device from the drop-down list.
2. Record Audio: Select the appropriate option if you want to record the audio along with the screen.

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b. Video Settings
1. Video Format: RevAgent allows you to record in WMV, MP4, or AVI format. Whatever the recording format you will select here, that type of screen will be recorded. However, it is strongly recommended either to use MP4 or WMV format. Revcord WebUI client doesn't support the AVI screen playback.
2. WMV Profile: If you have selected the WMV format, then you will have to select the profile from the drop-down list. Use the third or fourth item for dropdown.
3. Frame Rate: Here you can select the frame rate at which screens will be recorded. It is recommended to use a frame rate of 2.
4. Video Filter: Use "MONOGRAM x264 Encoder"
5. Audio Filter: Use "MONOGRAM ACC Encoder"
6. Mux Filter: Use "MONOGRAM MP4 Mux"

Extension Login

Clicking the **Extension Login** button will open the following dialog.

Enter the agent's login IDE and password associated with the extension here for authentication purposes. Once the server validates the user information, it allows access to the server and channel control. Use Revcord default users here.

Extension Auto Login

Enable extension auto-login upon application start. If "RevAgent" stopped, either due to some issue or system restarts the "Extension Auto Login" settings will automatically login the extension and no user intervention is required for the extension login process.

Exit

To exit the application, administrator rights are required. Once the administrator has successfully authenticated, then the application will exit.

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Configuring Screen Recording

RevAgent screen recording enables the client computer desktop to be recorded in the form of a WMV, AVI, or MP4 file format, and then it transfers the video file on the server in the directory, which was configured, in file transfer. Since all the recorded screens are playback from a virtual directory named "VideoFiles". Its physical path is "D:\DiSSTech\VideoFiles". Therefore, the File Transfer Server must have the same path to transfer files to the server.
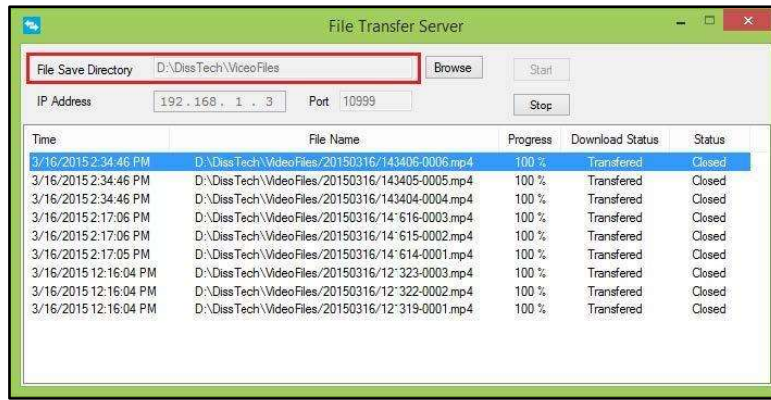

Playing Back Screen Recordings

Screen recording playback is implemented in Web Video Player. To enable screen recording playback you must search for recorder screens from the left tree under the Screens heading: Search results will be displayed on the Search Page. Select your desired screen and click on the play button. Here is the screenshot of the Screen playback.

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Troubleshooting RevAgent

1. The first items to check are that the IP addresses and the Ports match in the RevAgent and the Server. The database server, the file transfer server, and the recorder details should be verified that the same IP address is being used. In addition, verify the database server port and the file transfer server port.
2. Login ID and Passwords should be verified for the channel/extension.
3. Below is the CTI Manager, which can be found in the system tray of the server. This program can be used to troubleshoot RevAgent connection issues and verify the recording. Here Screen recording has been started for Channel 1001.
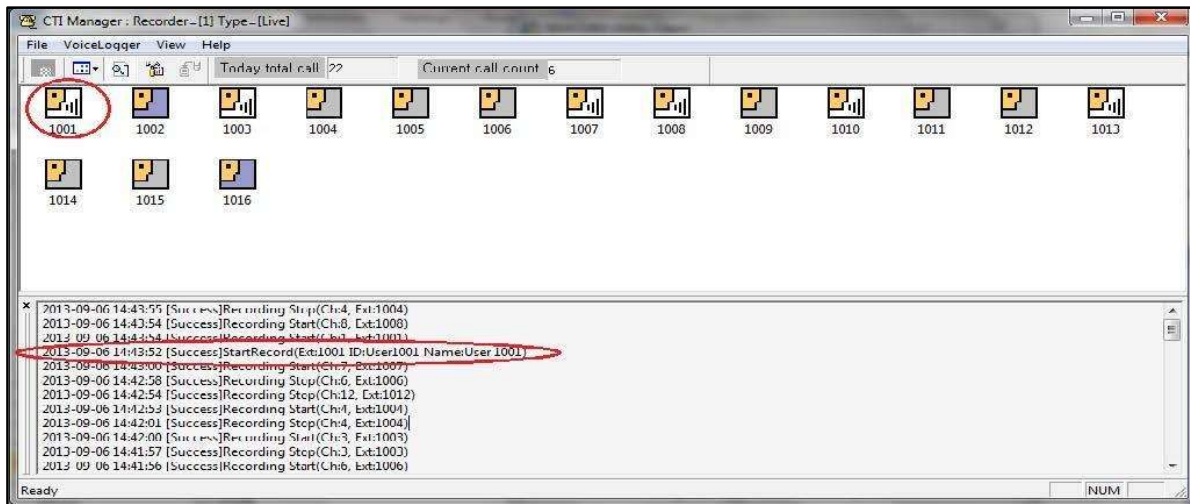
In addition, you can use the database server configurations for troubleshooting. If the database default port (1433) is not open / listening, then most likely it is a blocked port. Please verify the firewall settings of both the client and the server.

For additional troubleshooting, please refer to your internal support personnel, your dealer, or the installer for Technical Support. If there is an issue that they cannot solve, they will turn the issue over to the Revcord Technical Support Team.

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ADVANCED REVCORD CONFIGURATION

ANI/ALI

Set-Up

1. A serial feed is required from the 911 equipment to provide ANI/ALI to our Revcord Voice Logger. You will need to get with your local 911 personnel that provides the equipment to coordinate with you on the hook-up.
2. The black icon in the start menu is directly related to the box in the Toolbar. When you right-click on the ANI/ALI Capture bar and try to close it, you will receive this message.
3. The only time closing is recommended is when you are shutting down the logger software. This will speed up the shutting down of the logger.
4. To configure the COM port for the ANI/ALI you click on the ANI/ALI CAPTURE bar.
5. This will bring up the capture screen and over on the right-hand side of the screen you will see the settings for the COM port. Click on Enable to change settings. Normally on our system, you will be using COM 1, but this can vary depending on the peripherals that may be attached to the Logger.
6. At the bottom of the settings list is PROTOCOL. Use the drop-down box to select which system you are connecting to. You have the option of PLANT, POSITRON, or ZETRON. Down in the lower right corner of the screen is the "Trunk-Recorder Channel Association" window. Each channel that a 911 line is hooked to needs to be associated with the Trunk that it is coming in on. The 911 technician can provide this information for you.

Deletion

1. To remove ANI/ALI from the system go to "Explore" in Windows
2. Go to the Disstech folder
3. Go to the RMS folder
4. Go to the Process folder
5. Delete ANI/ALI
6. Then go to the C: Disstech\ANI\ALI & delete the ANI/ALI folder

Configuring Email

1. If you are going to send emails through the Web Client on the server or use Email on Demand, you are going to have to configure Email On Demand.
2. Right-click on the Email On-Demand icon.
3. Under Configurations, verify you have the correct SMTP server.

CTI Manager

The CTI Manager module handles the calls and checks them against the call parameters. It works with the VsRecorderEx2 module to insert the calls into the database and their proper directory.

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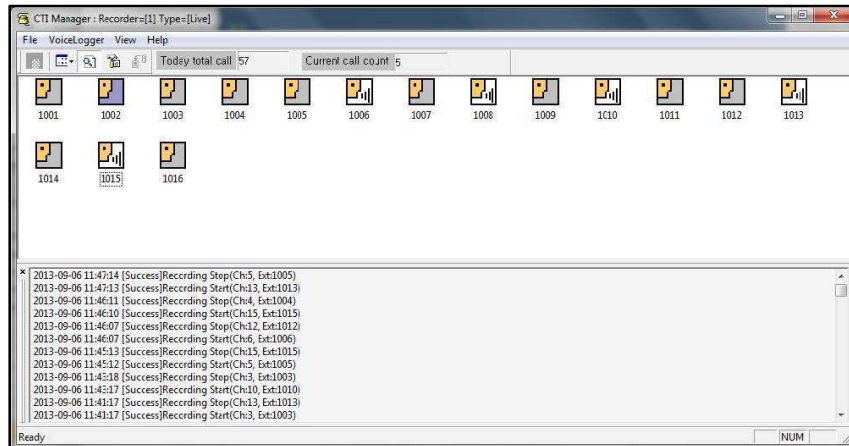
Basic Information

1. Recorder ID – should be set at 1, but is prepped for when the system can handle multiple recorders
2. Path for Log – The directory where the program's log file is saved.
3. ROD Port – The port the program communicates through.
4. User Tag Count – Not applicable, please leave it at default.

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Starting Options

1. Auto agent login enables the channel to be ready when this program is launched.
2. Writes Service Log – writes a line to the log for the startup of this module.
3. Use Remote Monitoring Service – Enable or Disable.
4. Time Synchronization – Not applicable at this point.
5. Write Request Packet – Not applicable at this point.
6. Monitoring Endpoint – Monitoring service port that the program communicates with.
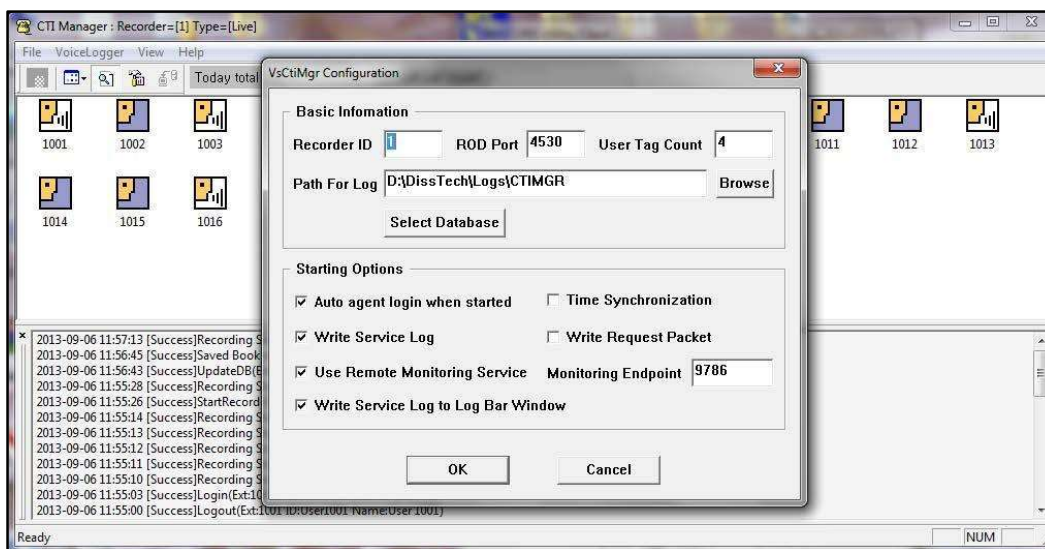
VSRECORDEREX2

This is the module that handles the calls and the event triggering.

Realtime Client

The module that handles the Monitoring of the channels, and other real-time features.

REVWSSERVER

HTML5 player works based on web sockets and RevWSServer is the web socket server that will act as a proxy to serve audio and live information. This is mandatory since MMS v10 for HTML5 players to work.

VOD SERVER

The VOD server is the communications module, which displays the transactions of the ports, and other communication information.

1. The VOD configuration screen allows you to change the VOD settings.
2. Port is where the port can be set for this program to use. The VOD Server port is 4510 and is a fixed port number.

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3. Log Path is the place to save the log file this program puts out.
4. Save to Log File is the option to enable or disable the ability to save the log file.
5. Directory for Streaming Service: This is the path to your DSF files directory. Set the streaming directory path according to your configurations.
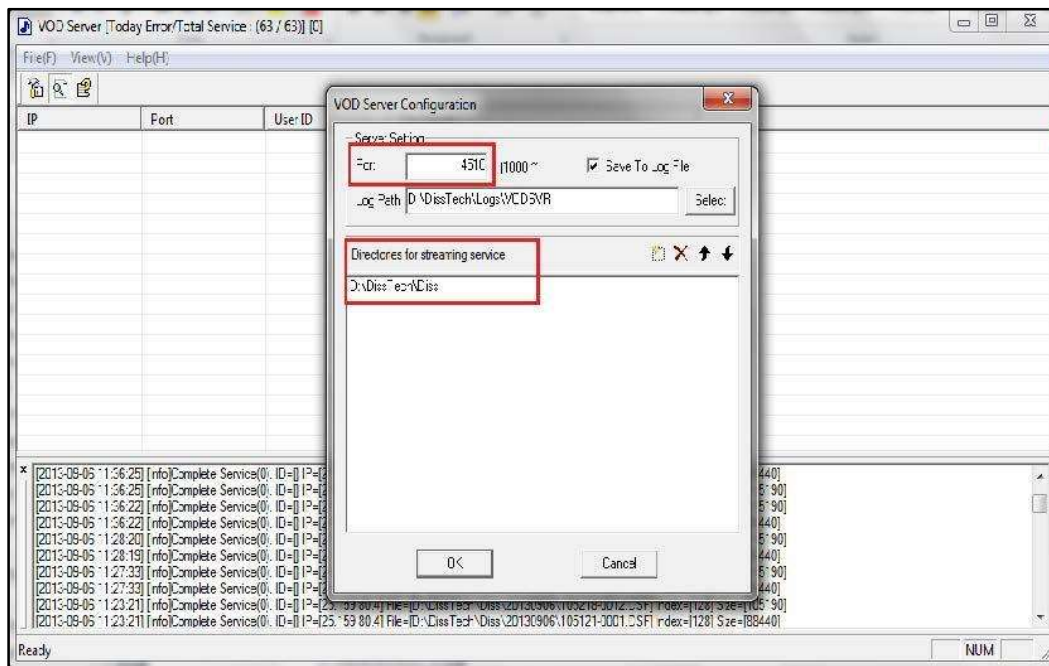
Install .NET Framework

Well, some versions of Windows Server 2019 Standard do not have the .NET Framework installed. So, follow the following steps to check and install it.

1. The first thing you need to do is to check if you have .NET Framework 4.8 installed.
2. Open the IIS 7.0 and select Application Pools, check if you have the named ASP.NET v4.8 and ASP.NET v4.7.2 Classic.
    a) If you have them, you already have the ASP.Net 4.0 installed.

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b) If not, check if you have it installed but without the application pools created, click on Add and check in the .NET Framework version combo, if you have the .NET Framework 4.8 If you have it, you can create an application pool for it.

c) If you can't see the ASPX pages, check if you have the .NET 4.8 enabled, click to your server (which is the root of the IIS), then select ISAPI and CGI Restrictions, you should be able to see the ASP.NET v4.8 extensions, just right-click to them and select Allow.

3. If you do not have the 4.8 version, download it from the Microsoft site https://dotnet.microsoft.com/download/dotnet-framework/net48

4. To install it, right-click on the file and open it as Administrator. Once you install it, open your IIS and go to step 2(b).

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Installing LibreOffice

LibreOffice is a required component for RevcordHelperService. All the file processing and image generation helper services use the LibreOffice.

Download LibreOffice

To download The LibreOffice Package, follow the following steps.

✓ Go to http://www.libreoffice.org/download/libreoffice-fresh/ website.

✓ Click on the **Download** button.

✓ Save the LibreOffice_xxx.msi

Install LibreOffice

To install the LibreOffice Package, follow the following steps.

✓ When the download is complete then run the LibreOffice_xxx.msi

✓ Libre Office Setup will start. Follow the instructions and complete the installation.

ENTERPRISE CONFIGURATIONS

By default, client applications will run as a single server. To run in enterprise mode keep note of the following items. Step 1 is required to perform on the secondary server whereas steps 2 and 3 are required to perform on the primary server.

1. Enable the TPCIP port for remote database access on a secondary server
2. Add a secondary recorder using Revconfig.
3. Enable Enterprise configurations

Enable TPCIP Port for Remote Database Access

The first step for enterprise configuration is to Enable the TCPIP port of the secondary server. For that connect to the secondary server. Open C:/Disstech/Support directory. You will find the following two script files there.

- TCPIPPORT.bat
- TCPIPPORT.vbs

Execute both the scripts; this will enable the 1433 port for remote database connections.

Add Secondary Recorder Using REVCONFIG

Once the software installation is complete and you have configured all the settings on the primary server, then follow the following procedure to add secondary recorders.

a. Open Revconfig and go to the recorders page.
b. Click on the Add button. Recorder dialog will open.

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c. Enter the following information
   i. Name: This is the name of a secondary recorder. You can use any name.
   ii. IP: This is the IP address of a secondary recorder.
   iii. Port: It's the recorder port of the secondary recorder. The default value for the recorder port is 4530.
   iv. Description: Here you can write any description about the secondary recorder.
   v. DB Server: Here you are to enter the database server in a particular format. i.e., IP address of secondary recorder\database server name. The default value of the database server is Revcord. E.g., 192.168.1.99\Revcord
   vi. DB Port: this is the default port for creating database connections to remote (secondary) databases. The default value for DB Port is 1433. (In 1st step you have enabled the 1433 port on the secondary server)
   vii. User Id: The default value for User Id is SA. i.e., System Administrator account
   viii. User Pwd: Enter the password if the secondary recorder database has an account.

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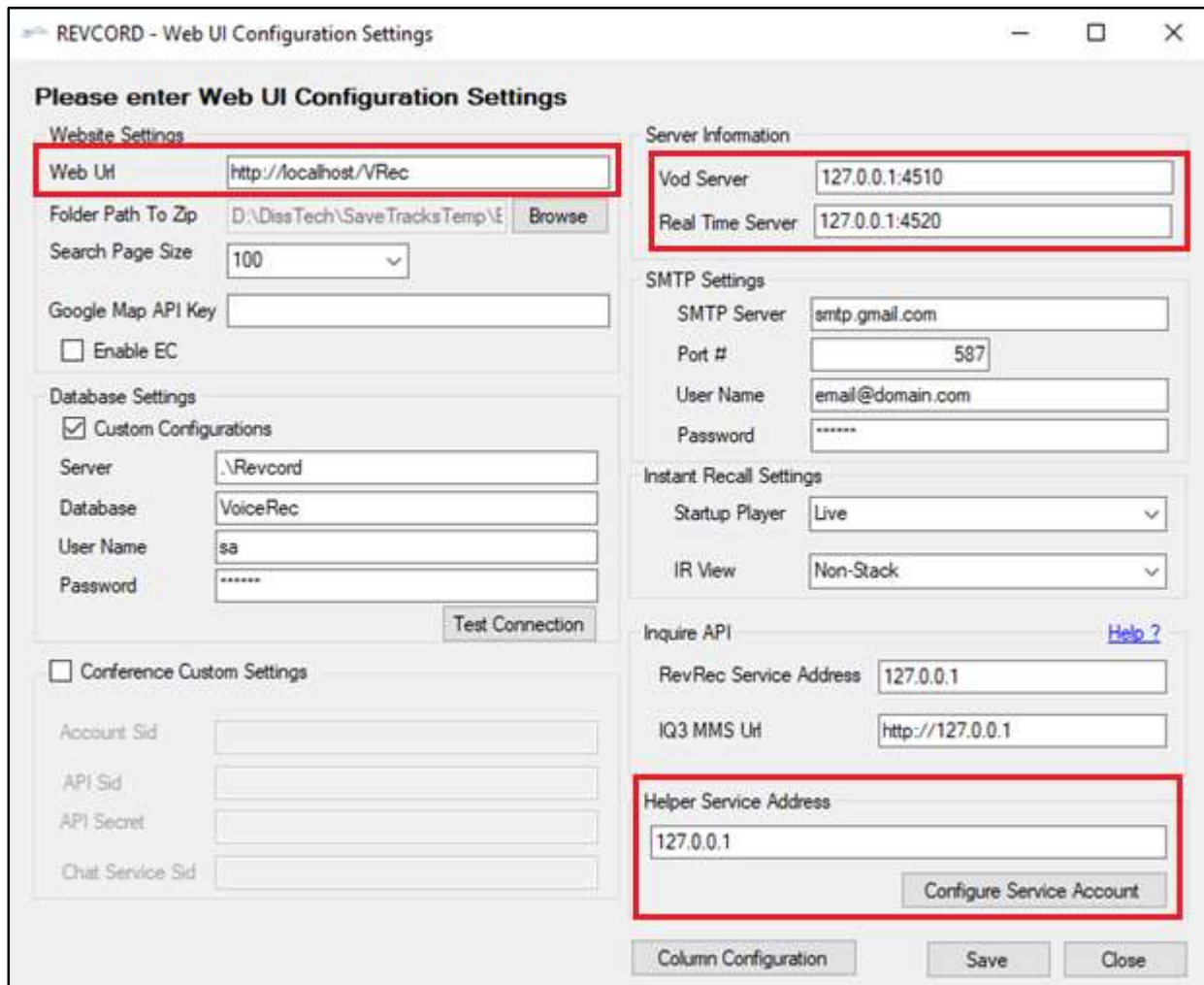
d. Click on the **Test** button, it will connect to the secondary recorder. If the connection is OK, a success message box will appear. Then click on the **OK** button to add the secondary recorder information into the primary database.
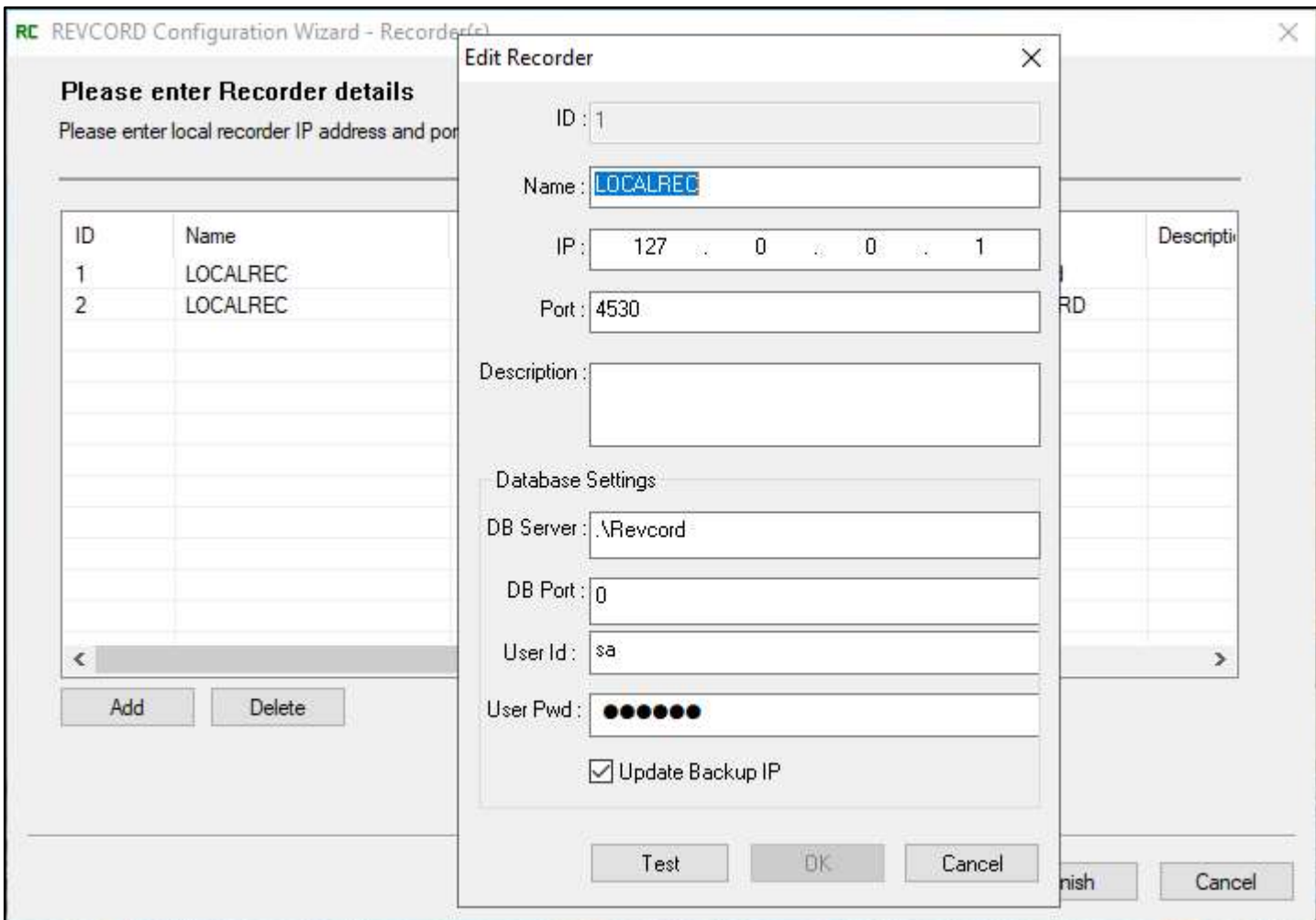
Enable Enterprise Configurations

Once you have configured the secondary recorder (2nd step) in RevConfig on the primary server, the next item is to enable enterprise configurations from WebUI config. Open the web configurations exe on the primary server and check the "enable enterprise configuration" checkbox, as shown in the following mockup. Click on

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the **Save** button to save the configurations. Re-Login to the web interface to access the software in enterprise mode.

Addressing Firewalls

On both the logger and client computers the Windows and third-party firewalls should be disabled or configured to allow ports: 80, 2002, 4520, 8970, 9876, 4510, 4530, 10000, and 10999 in both UDP and TCP.

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VIRTUAL DIRECTORY FOR WEB APPLICATION

Create "VREC" Application

When you install the application, all the required web applications ("VRec", "RevcordRelperService") are created automatically. You need not create it manually but in this case, if your "VRec" application is deleted then you can recreate it by adopting the following procedure.

1. Open IIS Manager.
2. In the Connections pane, expand the Sites node.
3. Right-click the Default Web Site to create an application and click Add Application.
4. In the Alias text box, type "VRec" for the application URL. This value is used to access the application in a URL.
5. Click **Select** if you want to select a different application pool than the one listed in the Application pool box. In the Select Application Pool dialog box, select "ASP.NET v4.0" application pool from the Application pool list and then click **OK**.
6. In the Physical path text box, type the physical path of the "VRec" application's folder, or click the browse button (...) to navigate the file system to find the "VRec" folder.
7. Optionally, click **Test Settings** to verify the settings that you specified for the application.
8. Click **OK**.

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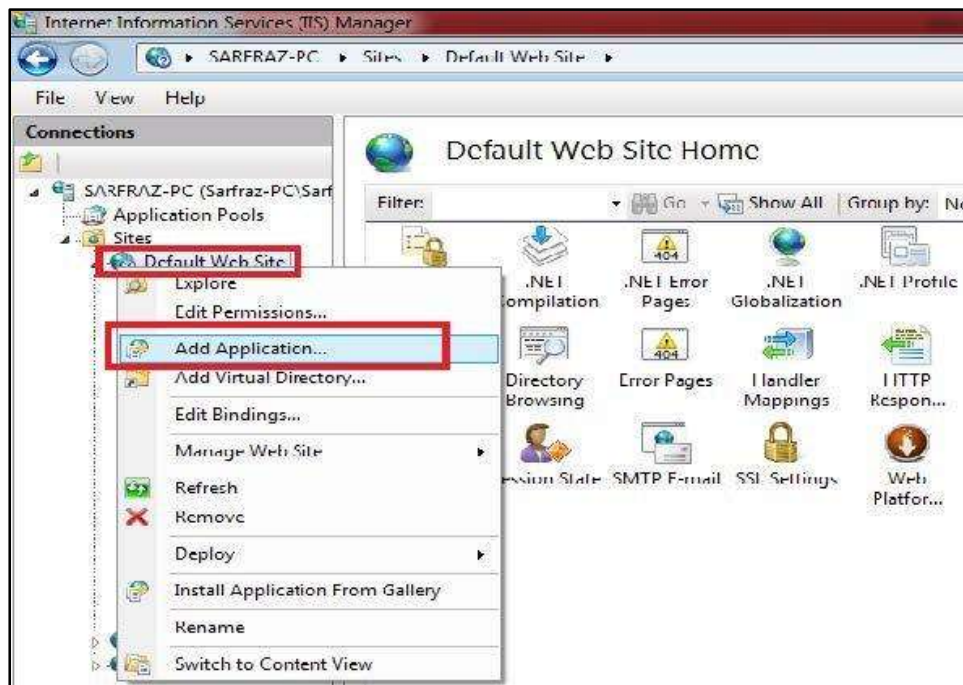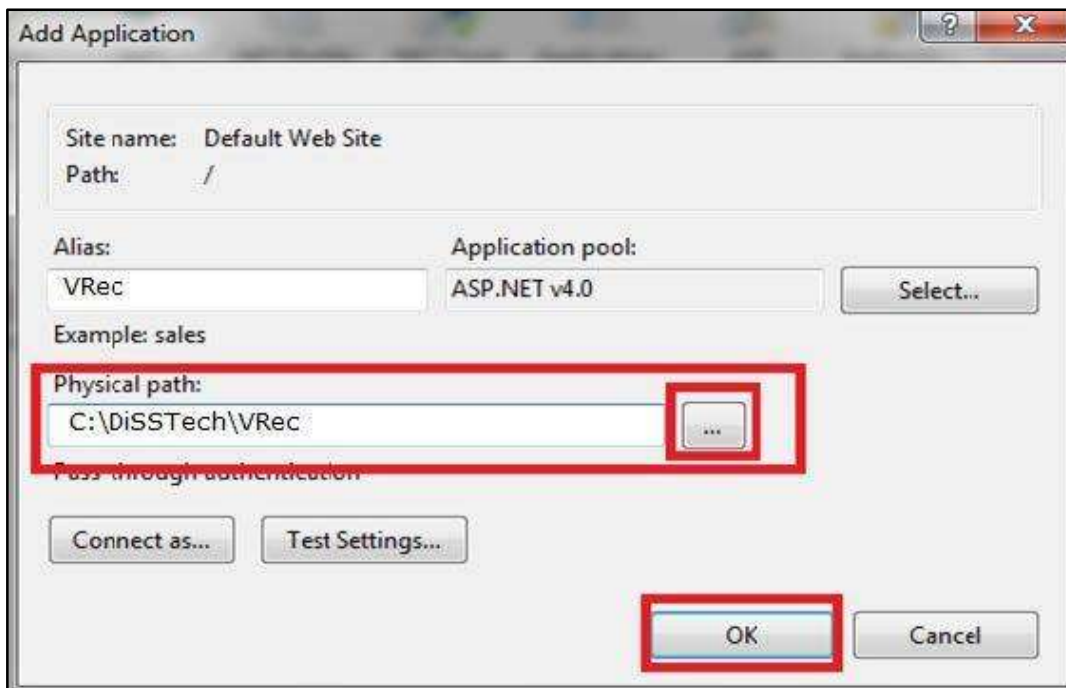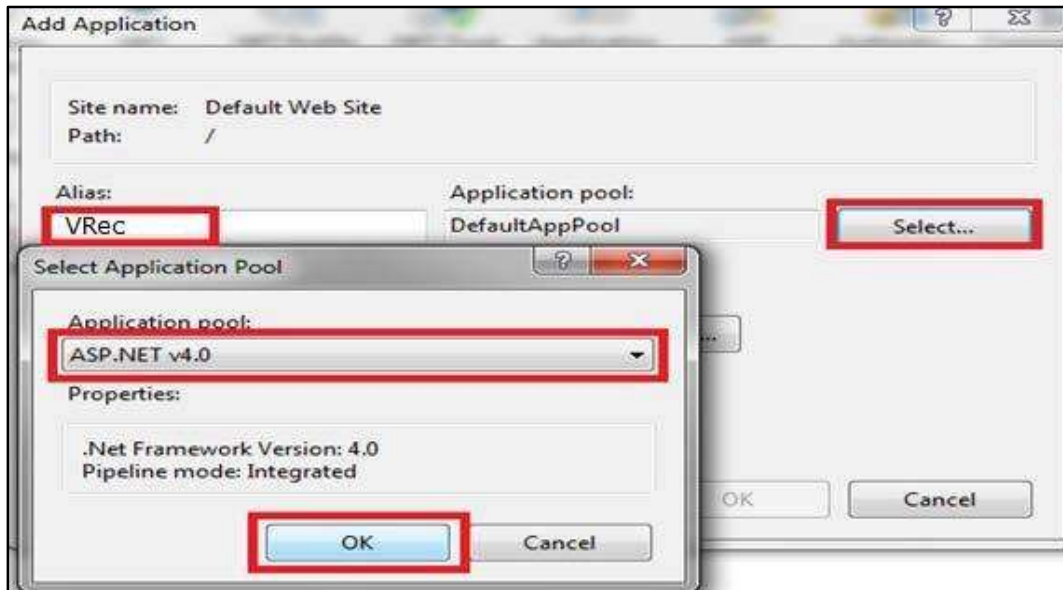
REVCORDHELPERSERVICE APPLICATION POOL

Create Application Pool
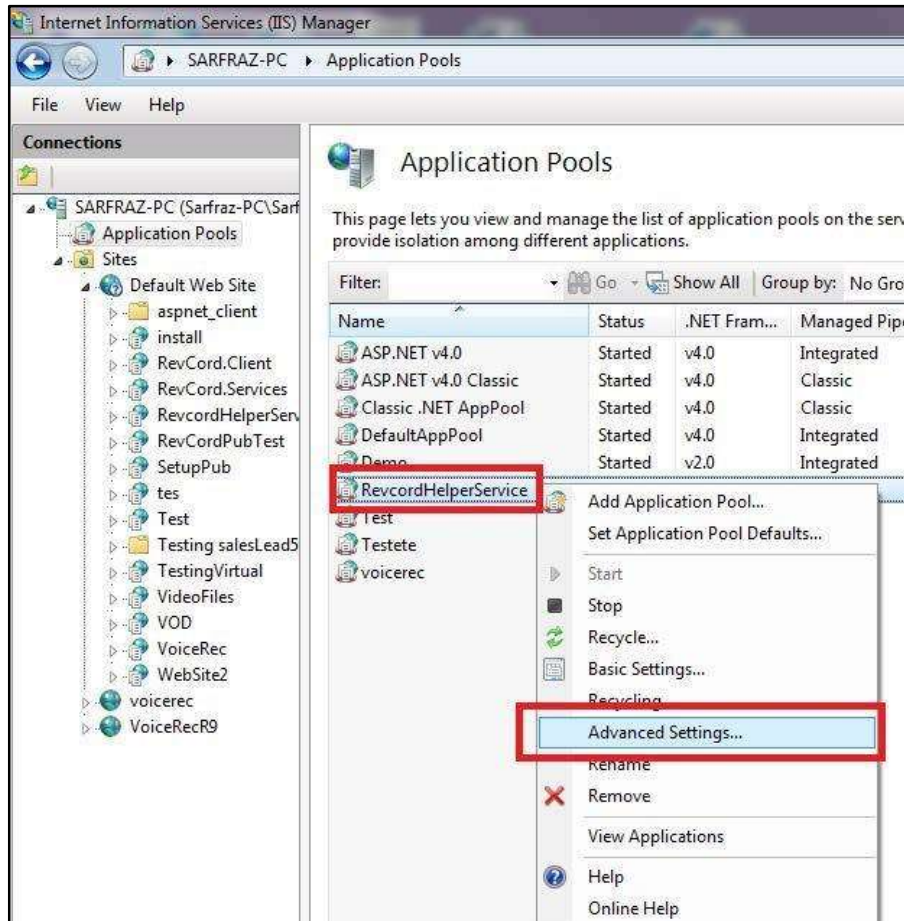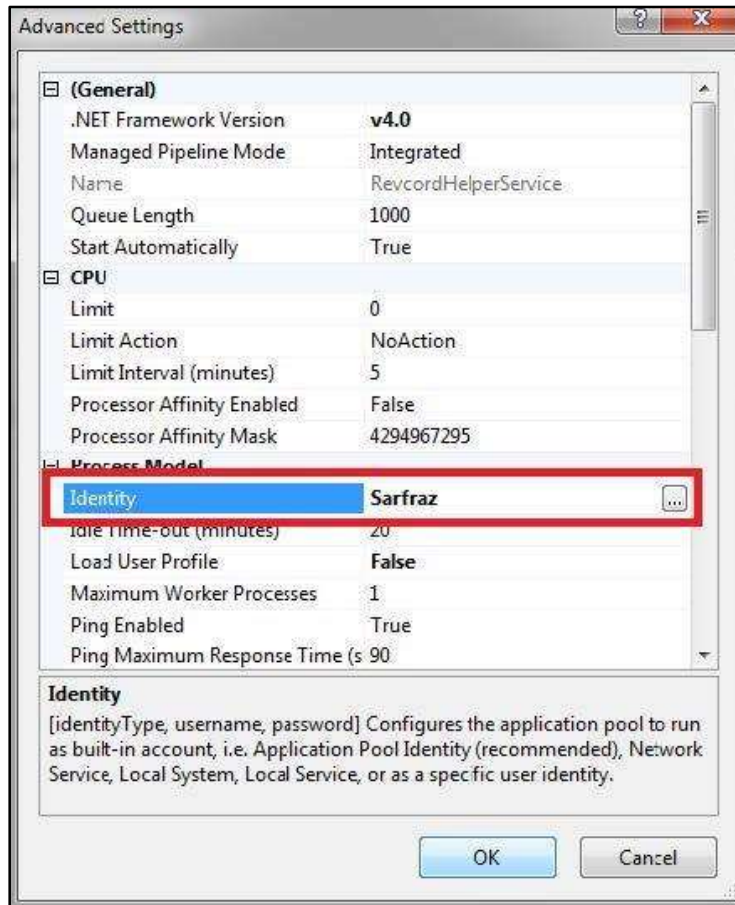
1. Open the IIS. Create a new application pool.
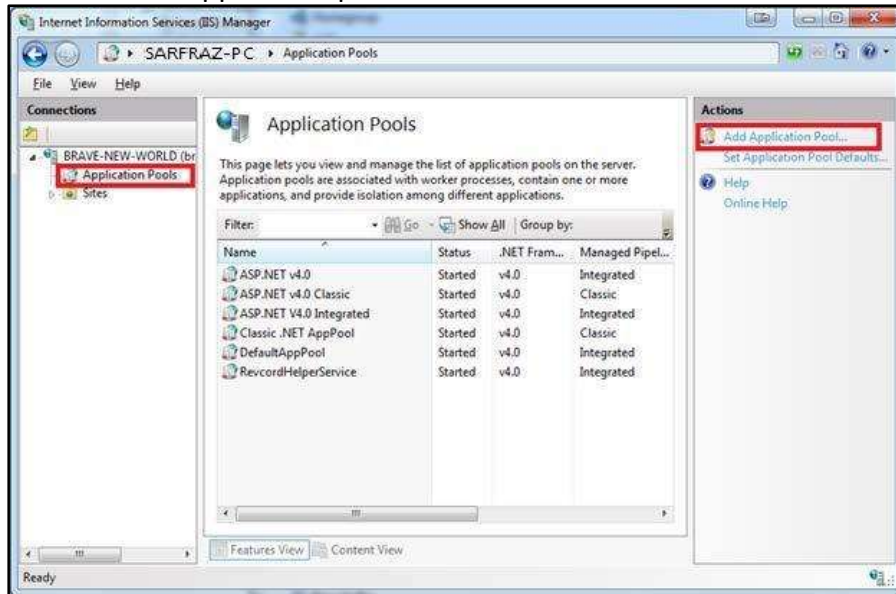
2. Enter the application pool name "RevcordHelperService" and select .NET Framework v4. Then click on the **OK** button.
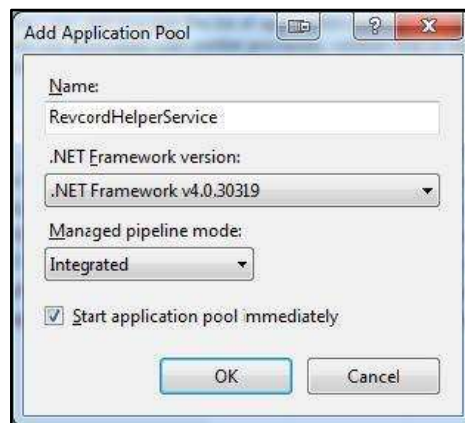
3. Set the identity of a new application pool.
    A. Right Click on "RevcordHelperService" on the application pools list.
    B. Click **Advanced Settings**.
    C. Under the "Process Model" head, click on the **identity browse** button.

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D. Application pool identity dialog will appear.
E. Select the Custom account option and click on click on the **Set** button.
F. Enter credentials of the Administrator account and click on the **OK** button.

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The user account must be either Administrator or another user with administrative rights.

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Enable 32-Bit Application

For RevcordHelperService it is required to enable a 32-Bit application flag. To enable 32-Bit applications follow the following procedure.

1. Open the IIS Manager.
2. Click on **application pools** in the left pane.
3. You will see a list of all the application pools. Right-click on the RevcordHelperService application pool.
4. Select **Advanced Settings**. A new window will be displayed.
5. Under General, select **True** for Enable 32-Bit application, as shown below.
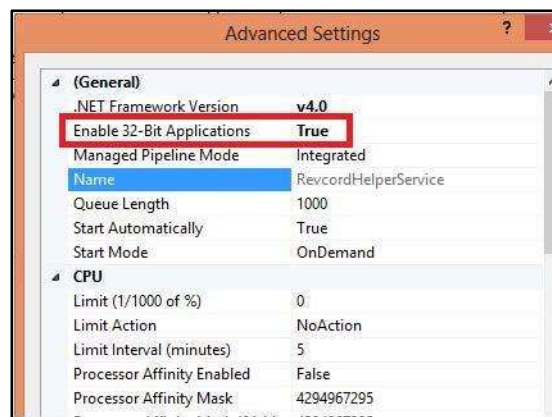
Create RevcordHelperService Applications

1. Open IIS Manager.
2. In the Connections pane, expand the Sites node.
3. Right-click the Default Web Site to create an application and click Add Application.
4. In the Alias text box, type "RevcordHelperService" for the application URL. This value is used to access the application in a URL.
5. Click **Select** if you want to select a different application pool than the one listed in the Application pool box. In the Select Application Pool dialog box, select "RevcordHelperService" application pool from the Application pool list and then click OK.
6. In the Physical path text box, type the physical path of the "RevcordHelperService" application's folder, or click the browse button (...) to navigate the file system to find the folder.
7. Optionally, click **Test Settings** to verify the settings that you specified for the application.
8. Click **OK**.

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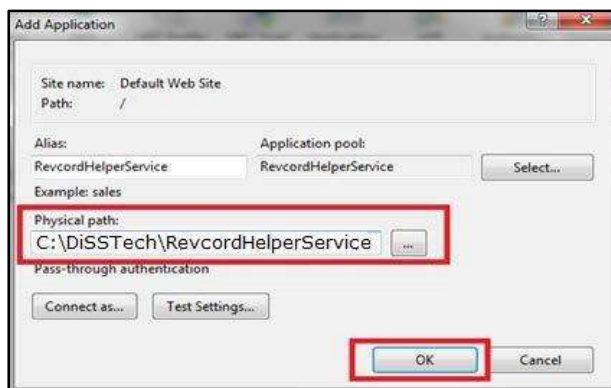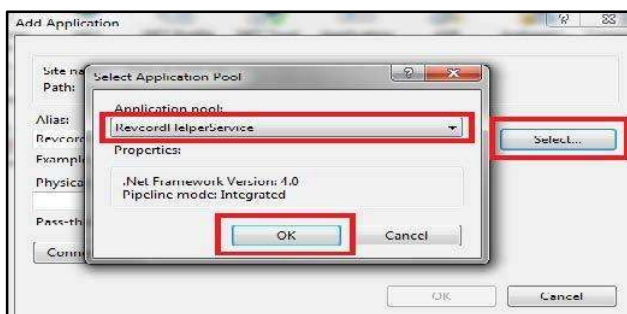
TROUBLESHOOTING CHECKLIST FOR WEB CLIENT INSTALLATION

✓ Are you using the latest version of Edge, Firefox, Opera, Safari, or Google Chrome?
✓ Are you entering the proper IP address of the server as outlined: enter the following in the address bar of Internet Explorer: http://IPADDRESS/vrec or http://COMPUTERNAME/vrec (only on a local network)
✓ Is the IP address of the server set in the Revcord Installation Utility correctly to match the server's IP address?
✓ Are you entering the Usernames and Passwords correctly?
✓ Did you confirm that 80, 2002, 8005, 8970, 4510, 4520, 4530, 10000, and 10999 ports are not being blocked by Windows or a third-party program?

Advanced Troubleshooting

Socket Error

This error can be caused by the following:
1. A mismatch between your IP address of the server in the Installation Wizard and the server's actual IP address
2. The wrong port number in the VOD Server
3. A firewall issue
4. Wrong path of streaming service directory in the VOS servers' settings.
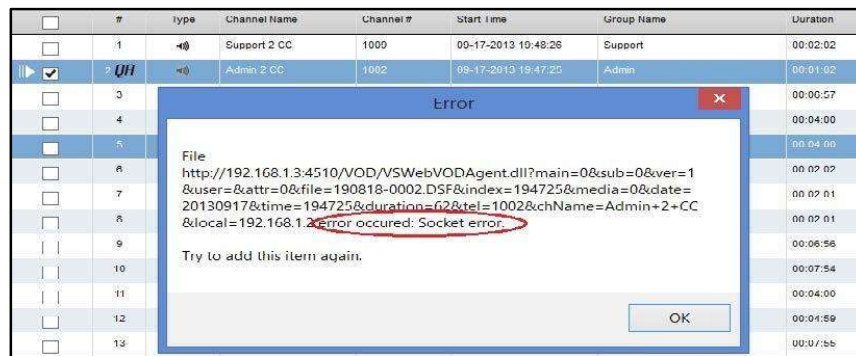
Verifying IP Address for The Server and Installation Wizard

To verify the IP Address of the Server and the Configuration Wizard, first, go to the Start menu and select Accessories and then Command Prompt.
At the prompt type in "IPCONFIG /ALL". This will display your IP Address of the Server.

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Once the IP of the Server is verified, open the Revcord Configuration Wizard and go to the Recorder Details and click on the recorder name to edit the settings. Verify the IP Address in the Recorder Details is the same as the Server IP Address.
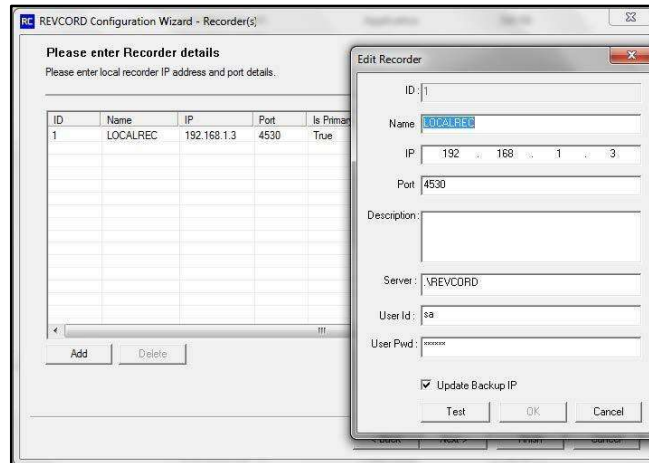
Wrong Port Number on VOD Server

If the port number has been changed, this can also cause a problem. The web client has a set port of 4510. To set the VOD server port please have a look at the screenshot:
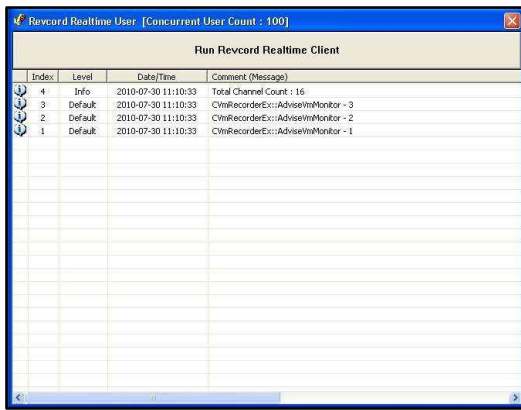
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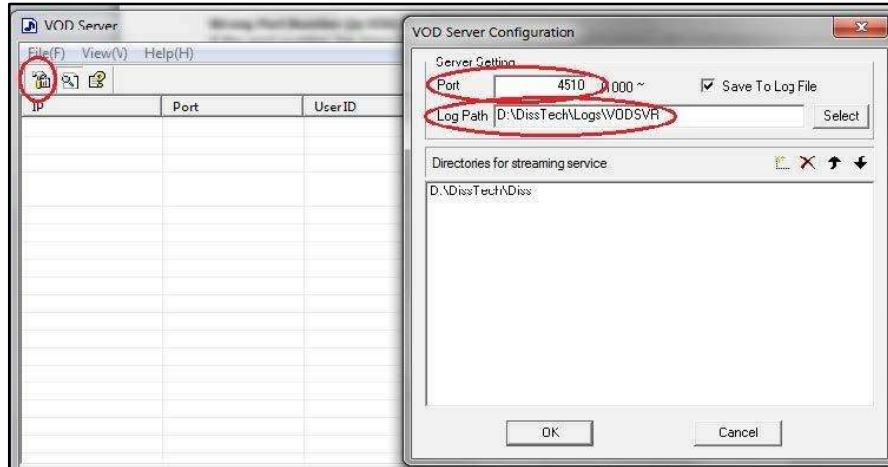
1) Click on the Configuration button .
2) Set port number as shown in the above figure
3) Click OK

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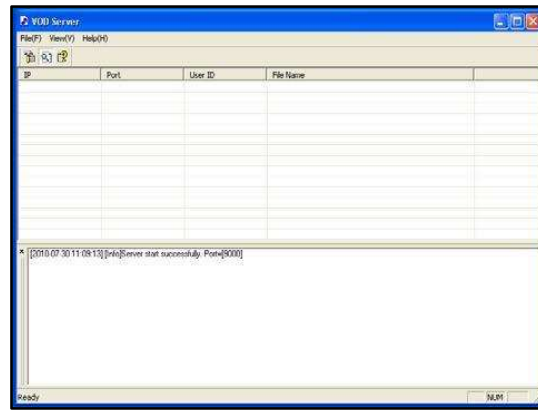## Verify Server Connection Is Not Blocked by A Firewall

If you access the Real-time Server Service and the VOD Server on the server in the right-hand system tray, there will be a log, which shows remote connections. If the log shows an error of "disconnect from remote host", this means the server is not being allowed to connect to the client. This is going to be a firewall or third-party software problem. Please contact your IT manager.

Real-time Server   VOD Server

Conflicting Decoders on The Client Machine

Other programs potentially can override the decoders used by Revcord. This is a problem sometimes seen with customers that have security-type cameras, Encoders, and Decoders hooked up to their computers as well as the Revcord client.

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GETTING HELP

Please refer to your internal support personnel, your dealer, or the installer for Technical Support. If there is an issue that they cannot solve, they will turn the issue over to the Revcord Technical Support Team.

For basic support and documentation, please refer to our website: http://www.revcord.com

Technical Support - For questions or problems that cannot be resolved, please first go to our website to the Live Chat Support

Other Technical Support Contacts:

Toll Free:	800-968-3606
Local:	281-404-7040
Fax:	281-404-5323
Email:	support@revcord.com
Address:	Revcord
	1250 Wood Branch Park Dr Suite#490
	Houston, Texas 77079
	U.S.A

To better service your needs and questions please visit the Revcord support system by clicking the link below.

If this is an emergency, please call the main Revcord line at 281-404-7040 and select option 2 for support services. All other inquiries and or service requests should be submitted via email at support@revcord.com, or via our support ticketing system to better keep track of you and your requests.

Revcord Support Ticketing system   https://support.revcord.com/portal/en/newticket

Registration is easy and quick. You will be able to keep track of all your requests, issues, and information.

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