.: www.totalrecallvr.com :.

Total Recall VR Archiver

User Guide

May, 2022

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Related Documents:

[1] Prolancer Pty Ltd, Total Recall VR web site. Available from: http://www.totalrecallvr.com/.

[2] Prolancer Pty Ltd, Prolancer web site. Available from: http://www.prolancer.com.au/.

[3] Prolancer Pty Ltd, Total Recall VR Overview User Guide, 28.0, May 2022

[4] Prolancer Pty Ltd, Total Recall VR Browser User Guide, 19.0, May 2022

[5] Prolancer Pty Ltd, Total Recall VR Monitor User Guide, 19.0, May 2022

[6] Prolancer Pty Ltd, Total Recall VR Embedded GUI User Guide, 28.0, May 2022

[7] Prolancer Pty Ltd, Total Recall VR Manager User Guide, 28.0, May 2022

[8] Prolancer Pty Ltd, Total Recall VR Deployment User Guide, 28.0, May 2022

Table of Contents

1. Preface 4

1.1. Conventions 4
1.1.1. Notes & Warnings 4
1.1.2. Typographic Conventions 4
1.1.3. Procedures 5

1.2. We Need Feedback 5

2. Introduction 6

2.1. About This Guide 6

2.2. What is Total Recall VR 6

2.3. What is Total Recall VR Archiver 8

3. Start Here 10

3.1. System Requirements 10

3.2. Compatibility 10

3.3. Mega Archives 10

3.4. Pre-Installation 11
3.4.1. Java SE Runtime Environment 11
3.4.2. H2 Database 12
3.4.3. Remote Interface 14

3.5. Application Installation 15

3.6. Application Update 16

3.7. First Run 17

4. User Interface 25

4.1. Main Menu Bar 25
4.1.1. File Menu 25
4.1.2. Service Menu 26
4.1.3. Help Menu 26

5. Application Configuration 28

5.1. Mega Archive Configuration 28

5.2. Recorders 29

6. Archiver Service 32

7. Criteria Builder 34

7.1. Anatomy of a Query 34

7.2. Criterion Comparators 35

7.3. Creating Queries 36

7.4. Fast Queries 44

8. Software License 48

1. Preface

1.1. Conventions

Our guides use several conventions to highlight certain words and phrases and draw attention to specific pieces of information.

1.1.1. Notes & Warnings

We use the following visual styles to draw attention to information that might otherwise be overlooked:

Notes are tips, shortcuts or alternative approaches to the task at hand. Ignoring a note should have no negative consequences, but you might miss out on a trick that makes your life easier.

Important boxes detail things that are easily missed: configuration changes that only apply to the current session, or services that need restarting before an update will apply. Ignoring the information will not cause data loss, but may cause irritation and frustration.

Warnings should not be ignored. Ignoring warnings will most likely cause data loss.

1.1.2. Typographic Conventions

We use typographic conventions to call attention to specific words and phrases. These conventions, and the circumstances they apply to, are as follows.

Example	Meaning
Select Guide to display ...	Locate the link named "Guide" on the screen, position the cursor over the link and then depress the appropriate mouse button to follow the link.
Select **Add** to create a new ...	Locate the button or menu item named "Add" on the screen, position the cursor over the button or menu item and then depress the appropriate mouse button to initiate an action.

Enter ***Commission*** ...	Locate the field named "Commission" on the screen, position the cursor over the field and then depress the appropriate mouse button to select the field. Once the cursor appears in the field, enter a value.
Choose ***Country*** ...	Locate the field named "Country" on the screen, position the cursor over the field and then depress the appropriate mouse button to display the available options. Then position the cursor over the desired option and depress the appropriate mouse button to select it.
Tick ***Active User*** ...	Locate the check box named "Active User" on the screen, position the cursor over the check box and depress the appropriate mouse button to place a visual tick in the box.
Un-tick ***Active User*** ...	Locate the check box named "Active User" on the screen, position the cursor over the check box and depress the appropriate mouse button to remove the visual tick in the box.
Enter *$30.95* ...	Enter "$30.95" using the keys on your keyboard.

1.1.3. Procedures

We use numbered sequence of steps to define procedures for performing certain tasks. For example:

Procedure Title

1. This is the first step of the procedure.
2. This is the second step of the procedure.
    a. This is the first sub-step of step 2.
    b. This is the second sub-step of step 2.
3. This is step three.

1.2. We Need Feedback

If you find a typographical error in this guide, or if you have thought of a way to make this guide better, we would love to hear from you.

Please submit your feedback using the feedback form on our web site: http://www.prolancer.com.au/contact/feedback.

If you have a suggestion for improving the guide, then try to be as specific as possible when describing your suggestion. Otherwise, if you have found an error, please include the section number and some of the surrounding text so we can find it easily.

2. Introduction

2.1. About This Guide

This guide describes the Total Recall VR Archiver application.

The guide is intended for Total Recall VR end users. It describes how to configure and use the Total Recall VR Archiver application. Please keep a copy of this guide handy for quick reference.

2.2. What is Total Recall VR

Total Recall VR is a professional audio logging and call recording system which is self-contained, fully featured and cost-effective. Enterprises and governments worldwide use it to create electronic records of many forms of audio communication including telephone, 2-way radio, broadcast radio, public address, intercoms, room microphones and much more.

Total Recall VR is the ideal solution for:

- Recording business telephone conversations;
- Recording agent calls in contact centres;
- Logging emergency response communication;
- Logging business operations communication;
- Logging radio broadcasts;
- Logging public announcements;
- Logging Air Traffic Control communication;
- Creating audio records of meetings, legal proceedings, public enquiries and similar events; and
- Creating compliance records to meet duty of care and legal requirements.

Total Recall VR captures all audio in digital format and stores it in a proprietary, secure and tamper proof file format in its on-board hard drive storage. The file format preserves the originality of the audio that it stores and has a number of built-in mechanisms that aid quick and reliable detection of tampering. However, for ease of access, Total Recall VR client applications can generate copies of recordings in a number of popular and everyday formats such as Microsoft's Wave (.wav) and MPEG Layer-3 (.mp3).

Storing audio by itself does not help when looking for one recording in a store that can hold hundreds of thousands of recordings. That is why, in addition to audio, Total Recall VR captures and then stores information related to each recording and audio source in its database such as start time, end time and duration of recordings, calling and called numbers on telephone calls, DTMF digits during calls, radio IDs, user configurable notes and much more. This information is the backbone of a powerful search capability which can pin point a single recording in a set of hundreds of thousands of recordings which reside either on a Total Recall VR recorder or in one of many types of off-system archives of recordings.

In addition to the audio recorder and the on-board storage, each Total Recall VR system comes with a built-in media player with comprehensive player controls (start, stop, fast-forward, rewind …). The player can play audio stored in files directly on the system or stream audio to a remote client application which then outputs the sound to the PC speakers of the PC that it runs on.

While audio recording, storage and re-play are the main functions of Total Recall VR, every Total Recall VR offers many more advanced, professional-grade features. For example:

- Ability to capture audio from different types of audio sources (analogue, VoIP, RoIP, AoIP and ISDN), at the same time – hybrid recording.
- Live and real-time monitoring (listening) of recordings in progress on the system itself or on a remote PC with the aid of a PC client application.
- Feature-rich archiver which can create searchable archives of recordings on CD, DVD or BD discs, USB keys or drives and network drives, either automatically or on-demand.
- Automated self-cleaning mechanism that removes obsolete recordings automatically and on regular intervals to keep the system operating endlessly.
- SNMP agent capable of generating SNMP alarms (traps).
- SMDR integration for a number of popular PBXes.
- Fully internationalised user interface; all menus and software available in multiple languages.
- Role based access control.
- On-board LCD display and control keypad on selected models.
- A range of PC client applications with value adding functionality.
- APIs and PC applications for integration with other business systems and solutions.

When audio records are critical to your operations, Total Recall VR delivers. It is professional, reliable and fully self-contained solution for audio logging and call recording that comes at an affordable price.

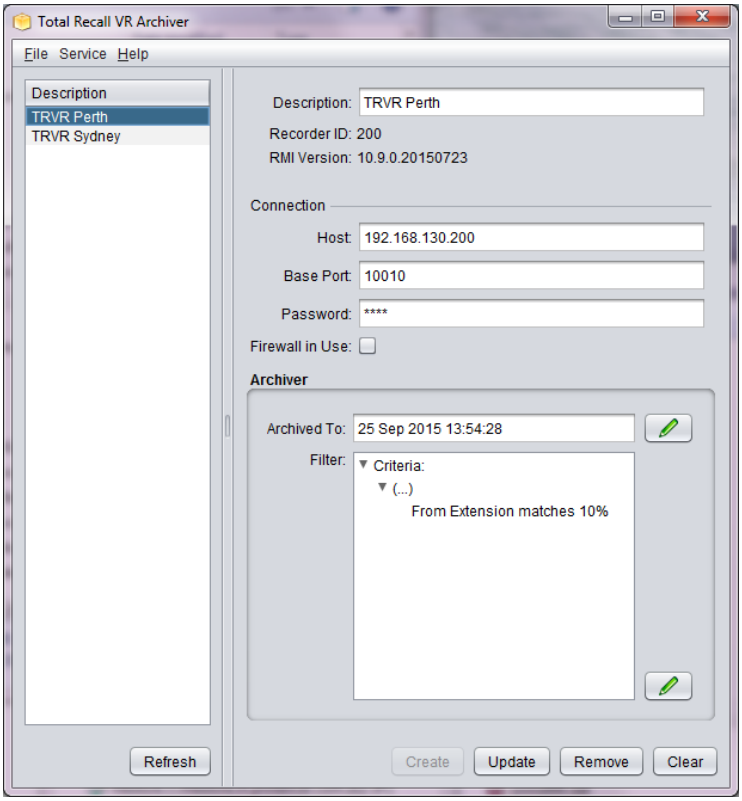
The Total Recall VR Overview [3] guide contains a comprehensive description and overview of Total Recall VR.

2.3. What is Total Recall VR Archiver

Total Recall VR Archiver is a combination of a Windows service and a GUI application.

The service can be used for near real-time continuous archiving of recordings from one or multiple Total Recall VR systems to a single Total Recall VR mega archive.

The GUI application provides for configuration and control of the service.



Total Recall VR Archiver offers:

- Windows service operating mode.
- Continuous near real-time archiving of recordings from one or multiple Total Recall VR systems to a single Total Recall VR mega archive.
- Mega archives with unlimited number of recordings (subject to disk space limits).

Total Recall VR Archiver is a Java/Windows based application designed to run on a PC with Windows 7, 8, or 10 or a server with Windows Server 2010 or 2012.

Total Recall VR Archiver is a licensed application. You must purchase an Activation License in order to use the application.

3. Start Here

3.1. System Requirements

Total Recall VR Archiver is a Java based application designed to run on a PC with Windows 7, 8 or 10 or a server running Windows Server 2010 or 2012.

The application is compatible with Windows XP and Vista, however it has not been tested for correct operation on Windows XP and Vista.

Total Recall VR Archiver should be installed on a system with the following minimum specification:

- 25Mb free hard disk space.
- 4Gb memory (RAM).
- Display hardware that supports the 1024x768 resolution.
- At least one network connection

3.2. Compatibility

Total Recall VR Archiver uses cutting edge technology to connect to Total Recall VR systems that run different releases of the Total Recall VR application.

As a result, it is possible to connect Total Recall VR Archiver to Total Recall VR systems that run a 9.x.y, 10.x.y or 11.x.y version of the application at the same time. However, the minimum releases of the Total Recall VR application that have support for applications like Total Recall VR Archiver are 9.16.0 and 10.7.0 so you will have to upgrade your Total Recall VR systems to at least 9.16.0 or 10.7.0, if possible to do so, in order to use Total Recall VR Archiver with your systems.

It is not possible to connect Total Recall VR Archiver to Total Recall VR systems that run application version 8.x.y or earlier.

3.3. Mega Archives

Mega archives are Total Recall VR archives that are designed to house unlimited number of recordings. Of course, disk space and database limits apply. They comprise of:

- **Database**.

  Mega archives use a database on a database server to store recording meta-data and operating state.

At this stage, mega archives are capable of using a database on an H2 database server. Future releases of the application will be able to use other database servers such as Microsoft SQL Server, MySQL and PostgreSQL.

The database server can be located on the same machine as the Total Recall VR Archiver or (more likely) on a different machine.

- **Disk Space**.

  Mega archives use disk space to store recording files.

  The disk space used by the Total Recall VR Archiver can be on the disks that are part of the machine that is running Total Recall VR Archiver or network disks.

You can use applications like the Total Recall VR Browser [4] and Total Recall VR Monitor [5] to access and manage recordings in mega archives.

3.4. Pre-Installation

Total Recall VR Archiver requires 3rd party software and drivers which you may need to install before installing it.

3.4.1. Java SE Runtime Environment

This 3rd party software is mandatory. The application will not run at all without it.

Total Recall VR Archiver is a Java application and as such it requires a Java SE runtime environment to run.

You must install a 32bit, version 8 (tested and recommended), Java SE Runtime Environment on your PC to use Total Recall VR Archiver.

You can download a Java SE Runtime Environment installer from http://www.oracle.com/technetwork/java/javase/downloads/index.html.

You may already have a Java SE runtime environment on your PC or server. Ask your friendly technical staff to help you determine this if you are not sure how to check.

If your PC is running a 64bit version of Windows, then you may already have a 64bit Java SE runtime environment on your PC or server. If this is the case you must install the 32bit Java SE runtime environment on your PC or server as well in order to use Total Recall VR Archiver. Ask your friendly technical staff to help you if you are not sure what to do.

3.4.2. H2 Database

This 3rd party software is mandatory. The application will not run at all without it.

Total Recall VR Archiver uses an H2 database to store recording meta-data and operating state. You must install an H2 database server on the same machine, or a different machine, in order to use Total Recall VR Archiver.

You can download a Windows installation package for an H2 database server from http://www.h2database.com/html/download.html. We have tested the application with version 1.4.200 and we recommend that you use this version.

Once you have installed an H2 database on a server, configure the H2 database service (using the wrapper.conf file in the services directory) and make sure that the H2 database service is running.

This document uses an H2 database server which runs on a machine with IP address 192.168.120.200 and provides service on TCP port 9092 in examples. The same server provides a management service on TCP port 8082.

The H2 database installation instructions are not as clear as they should be when it comes to explaining how to get an H2 database server going. The following is a

summary of the steps and can be used as a guide when setting up an H2 database server; however, it does not aim to replace the official H2 database documentation.

Install an H2 database server

1. Download the latest stable Windows installer from http://www.h2database.com/html/download.html. We downloaded a file named 'h2-setup-2019-10-14.exe' for this example.
2. Run the installer file which by default will install the software in "c:\Program Files\H2" on a 32bit system or "c:\Program Files (x86)\H2" on a 64bit system.
3. Step 2 does not install the H2 database service automatically. You must manually install it, after configuring it, as follows.

   The service ensures that the H2 database starts when the machine restarts.
4. The service configuration is in the "c:\Program Files\H2\service\wrapper.conf" file. We modified the following to tailor the service to our environment:

```
1. # Application parameters.  Add parameters as needed starting from 1
2. ## -- Make sure to allow tcpPort on the firewall -- ##
3. wrapper.app.parameter.1=org.h2.tools.Server
4. wrapper.app.parameter.2=-tcp
5. wrapper.app.parameter.3=-tcpPort 9092
6. wrapper.app.parameter.4=-tcpAllowOthers
7. wrapper.app.parameter.5=-web
8. wrapper.app.parameter.6=-webPort 8082
9. wrapper.app.parameter.7=-webAllowOthers
10. wrapper.app.parameter.8=-ifNotExists
11. wrapper.app.parameter.9=-baseDir "c:/worktemp/db"
```

   In summary, we want the service to store database files in the "c:\worktemp\db" directory on the local machine and run on TCP port 9092. Also, we want the service to use TCP port 8082 for web management.
5. With the above changes in place, open a terminal window and change to the "c:\Program Files\H2\service" directory. Then:
   a. Run the *1_install_service.bat* script to install the service on the machine. This adds the "H2 Database Engine Service" to the set of services on the machine.
   b. Run the *2_start_service.bat* script to start the service.
   c. To make sure that the service is running, start a browser using the *3_start_browser.bat* script on the same machine. This should show the login page for the database server management console.
6. Edit the firewall configuration for the machine and make sure that TCP ports 9092 and 8082 (if you are using our configuration from step 4) are not blocked.

   How you complete this step depends on the firewall application that you are using. Please consult the documentation for your firewall application.

7. Once the firewall is allowing communication to TCP ports 9092 and 8082 open a browser on a different machine and attempt to access the H2 server web management console using http://192.168.120.200:8082 (if you are using our configuration from step 4) to make sure that remote access to the server is possible.

Note that you do not need to create database users and a database for Total Recall VR Archiver once the server is running. Total Recall VR Archiver will create users and a database when it attempts to access the server for the first time.

3.4.3. Remote Interface

This recorder configuration is mandatory. The application will not be able to connect to recorders without it.

Total Recall VR Archiver will connect to one or more Total Recall VR systems.

Total Recall VR Archiver uses the Remote Interface provided by Total Recall VR systems to connect and interact with Total Recall VR systems. As a result, you must configure the Remote Interface on each Total Recall VR system that you wish to access from Total Recall VR Archiver.

See section 6.5 in the Total Recall VR Embedded GUI User Guide [6] for details on how to configure the Remote Interface on systems with built-in screen.

For example:

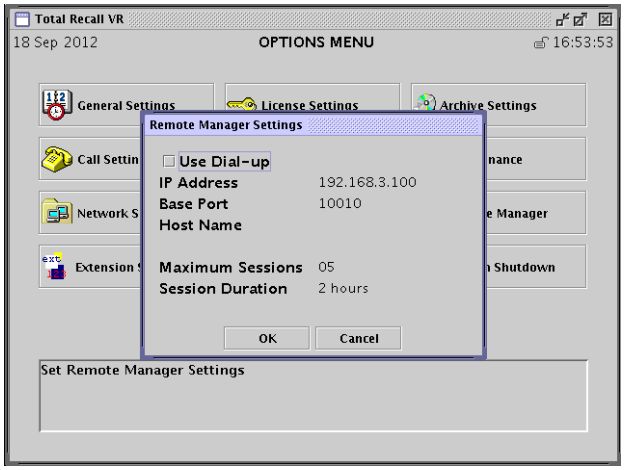


Figure 1: Remote Interface Configuration

If your Total Recall VR system does not have a built-in screen, then use the Total Recall VR Manager application to configure the Remote Interface. See section 8.2.5 in the Total Recall VR Manager User Guide [7] for details on how to configure the Remote Interface on systems without a built-in screen.

For example:

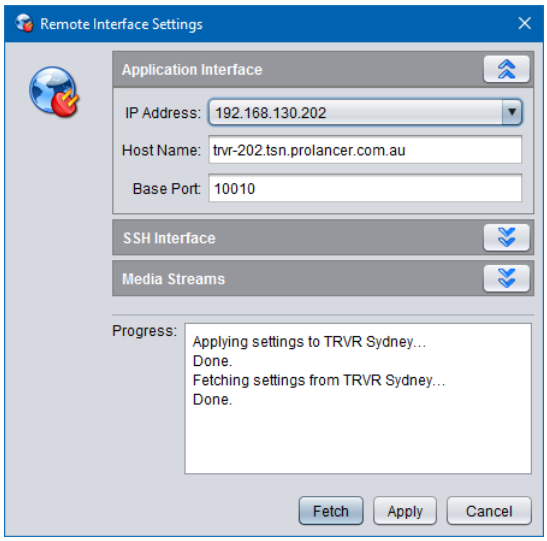


Figure 2: Remote Interface Configuration

3.5. Application Installation

A Total Recall VR Archiver installer is available for download from our web site. We do not ship installation media for Total Recall VR Archiver.

Please visit http://www.totalrecallvr.com/applications/total-recall-vr-archiver to download the installer for Total Recall VR Archiver.

The installer is a wizard based installation program which will guide you through the installation steps. To install Total Recall VR Archiver on your PC:

Install Total Recall VR Archiver

1. Extract the TRVRArchiver-Setup-x.y.z.yyyymmdd.exe file from the TRVRArchiver-Setup-x.y.z.yyyymmdd.zip file that you downloaded from our web site.
2. Double-click on the TRVRArchiver-Setup-x.y.z.yyyymmdd.exe file to launch the installer.

3. Follow the prompts to complete the installation.

The installer does not automatically start the Total Recall VR Archiver service at the end of the installation.

You must start the service manually after installing and configuring the application, or alternatively restart the machine.

3.6. Application Update

To upgrade Total Recall VR Archiver:

- If you wish to keep the previous configuration and activation license for the application, then simply follow the installation procedure. Do not uninstall the previous version of the application.
- If you wish to have a clean installation of the application, with new configuration, then first uninstall the previous version of the application and then install the new version. Please make a record of your activation license before you uninstall the old version of the application. You will need the activation license for the new version of the application.

The installer will stop the Total Recall VR Archiver service when uninstalling the application or before upgrading it.

The installer does not automatically start the Total Recall VR Archiver service at the end of the upgrade.

You must start the service manually after upgrading and configuring the application, or alternatively restart the machine.

The installer will reset the runtime properties of the service to their default values. So if you have been using the service with custom runtime properties, for example the Log On properties, then you must customise the properties again after the upgrade and before you run the service.

3.7. First Run

Total Recall VR Archiver requires an activation license key to run. As a result, when you run the Total Recall VR Archiver GUI application for the first time, it will prompt you to enter an activation token or license as shown on the following screen capture.

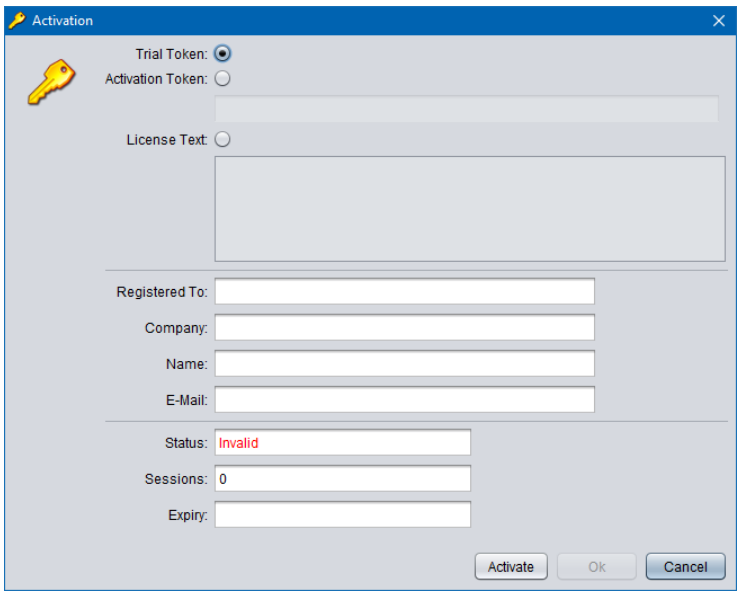


Figure 3: Activation Dialog

You can activate the application in one of the following ways:

1. Activate a 10 day trial of the application by choosing the **Trial Token** option. This mode of activation requires Internet access.

   Note that you will be able to activate one, and only one, trial of the application on a given PC. Once the 10 day trial is complete, it will not be possible to activate another trial for the application on the same PC.

2. Activate the application for either a limited time or perpetually by entering an **Activation Token** that we send you when you purchase a license for the application. This mode of activation requires Internet access.

   Based on the number of licenses that you purchase, and the type of token that we send you, you may be able to activate the application with the token on a single PC or multiple PCs. Please consult the instructions that come with the token for more details.

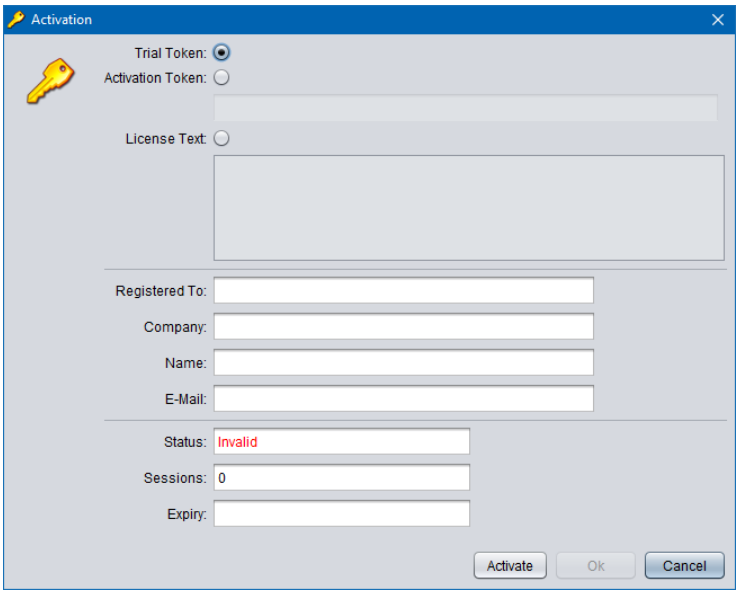
3. Activate the application for a limited time or perpetually by entering a **License Text**. This mode of activation does not requires Internet access.

   This mode of activation, in general, will be used only for existing licenses (activated previously) when lost or misplaced. Please contact us for instructions on how to proceed to recover lost activation licenses. However, it can be used to activate the application on PCs that do not have Internet access.

Instructions for each method of activation follows.

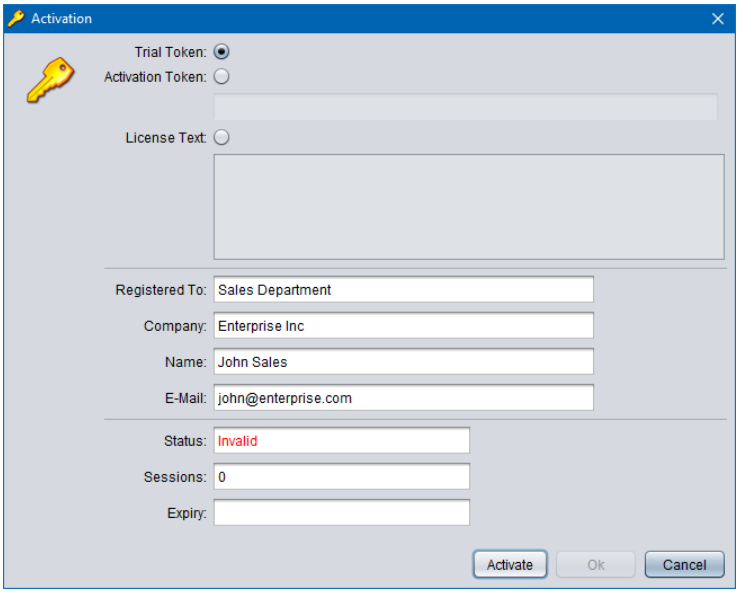
Activation with the Trial Token

1. To activate a 10 day trial of the application select **Trial Token**.

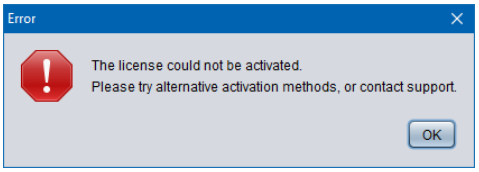


2. Enter ***Registered To***, ***Company***, ***Name*** and ***E-Mail*** as desired. Note that the details that you enter here will be needed to recover the trial activation license in the event that it is lost or misplaced so make a record of them and keep them in a safe place.

   For example:

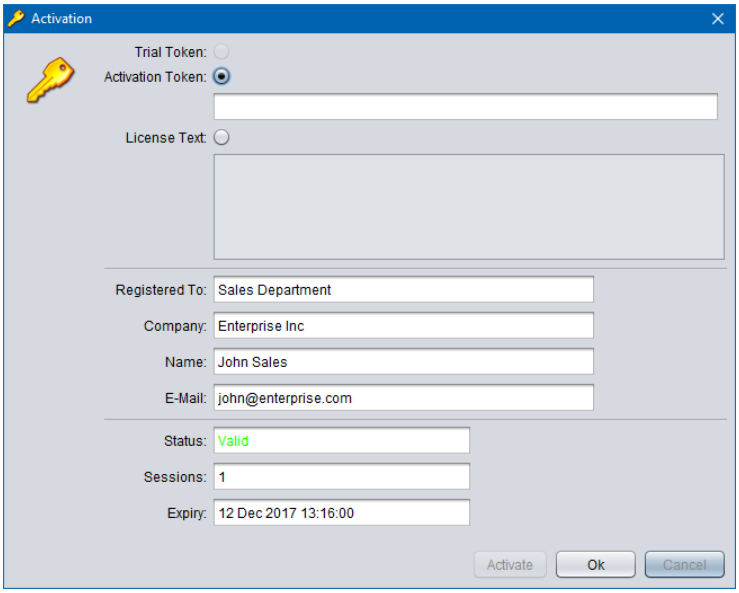


3. Select **Activate** to attempt activation. The application will attempt activation (over the Internet) with the Total Recall VR licensing server. If you receive the following error message, then a trial of the application was previously activated on the PC.



As a result, the Trial Token cannot be used to activate the application (again).

4. In most cases the activation will be successful. For example:



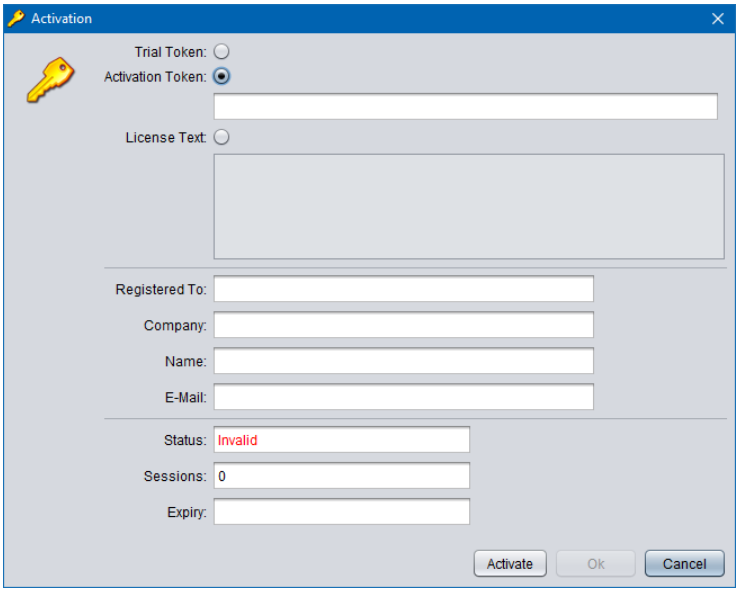
5. Select **Ok** to start the trial of the application. You will not be asked to activate the application again during the trial.

Activation with an Activation Token

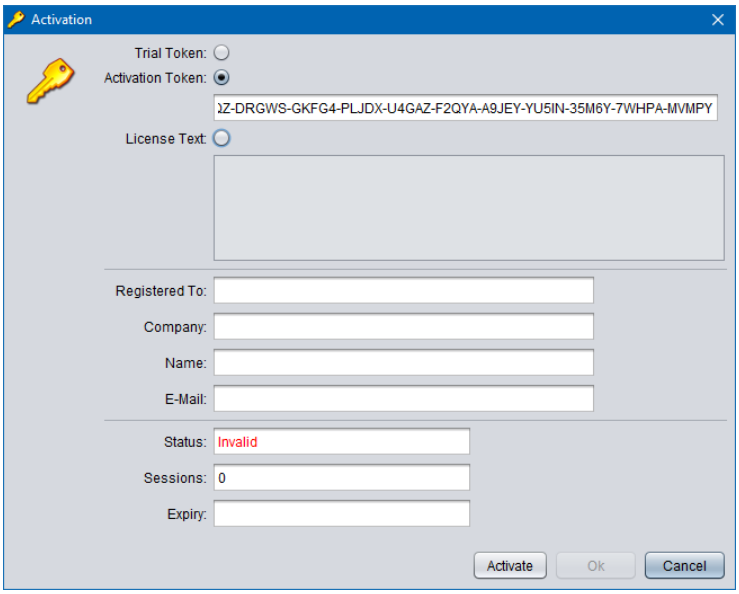
1. If you have received an activation token from us, then you can activate the application with the token. This is an example of an activation token that you will receive:

   `ZU2QL-DSFGK-GHAHA-3NW9B-24RAH-LJQ9A-A9LEH-GTPH5-3G6L4-XJPTX-H5SEA`

2. To activate the application with an activation token select **Activation Token**.

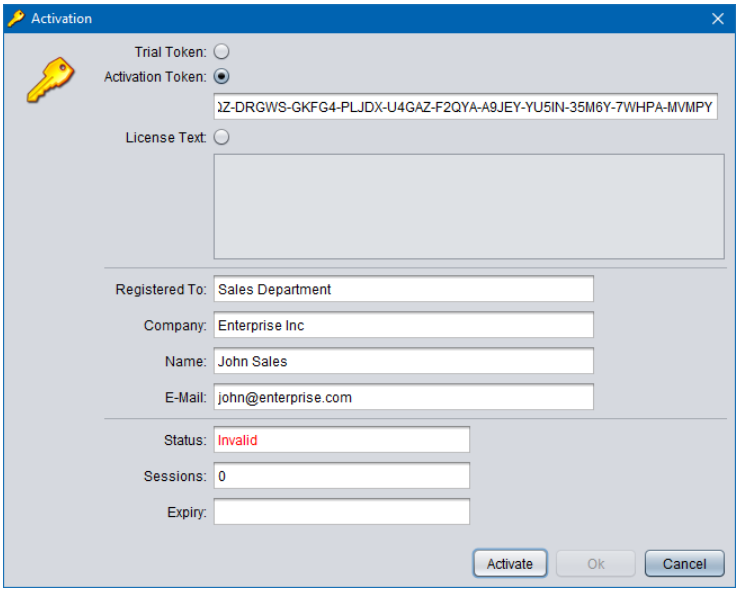


3. Enter the token as you received it from us. For example:

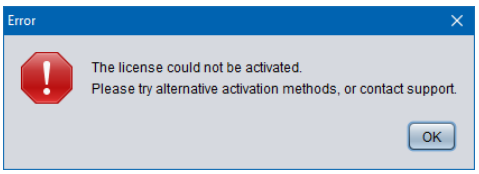


4. Enter ***Registered To***, ***Company***, ***Name*** and ***E-Mail*** as desired. Note that the details that you enter here will be needed to recover the activation license in the event that it is lost or misplaced so make a record of them and keep them in a safe place.

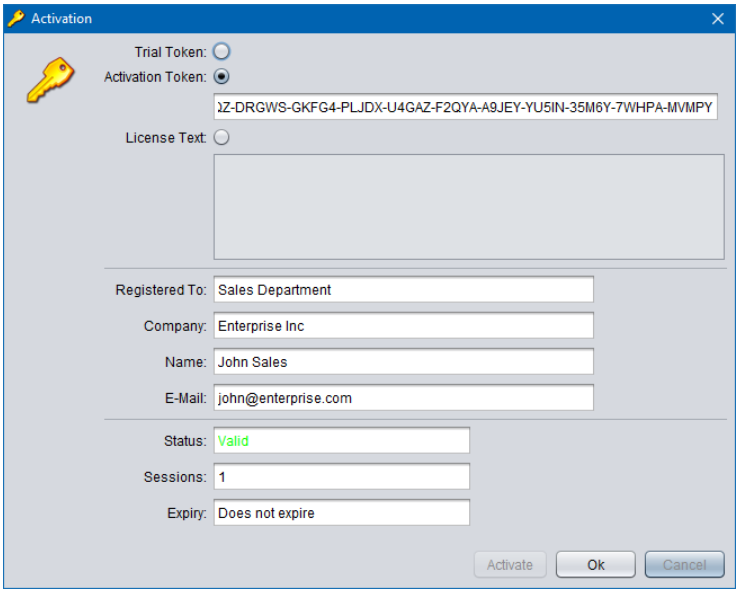
   For example:



5. Select **Activate** to attempt activation. The application will attempt activation (over the Internet) with the Total Recall VR licensing server. If you receive the following error message, then the Activation Token is no longer valid, or it was previously used to activate the application.



6. In most cases the activation will be successful. For example:



7. Select **Ok** to start using the application.

(Re)Activation with License Text

1. We may send you the license text of an activation license if you cannot activate the application over the Internet, or if you have activated the application before and misplaced your activation license for the application on a particular PC. This is an example of license text that you will receive (some lines were removed to save space):

```
# Example Application License (id: 1511837763868)
6729c0c1fc5b9b29b19c4336e2068b75b231474c87cbce079ff39ea741b0
04ec3480fda88ffed82f6dee402293e82e1ece184925ed3510c2189c2b18
4c819332337373235b9e7b8210da6286c2f502de30a0a4140e3a5ddc1102
       :
       :
4abc5a5efd5f38c804a4ee8b45e92495aac362e67cf5c9721a48400c9ee3
8b699a6d3fc266e0d8efabcede2d58427ac92f510576c4250af30d5ad7a2
5cde6395e2493adb54960307e8083ae8
```

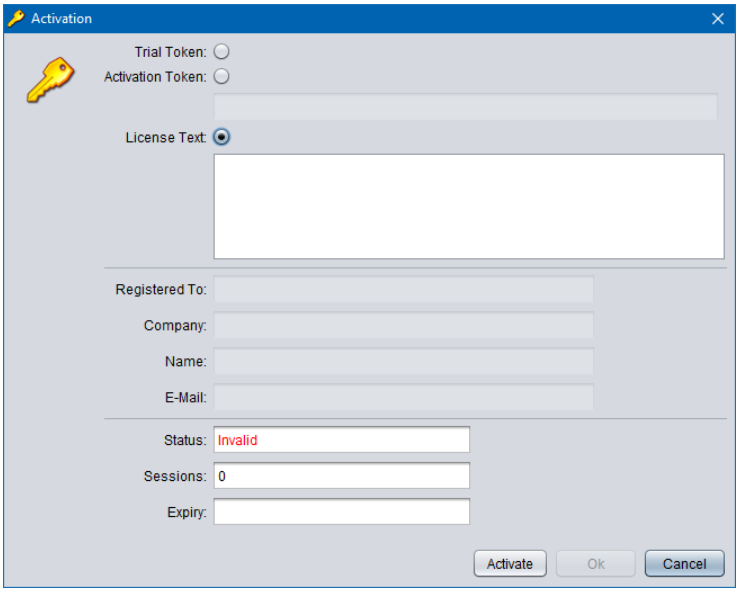
   Note:

   a. The PC does not need Internet access to (re)activate the application with license text.

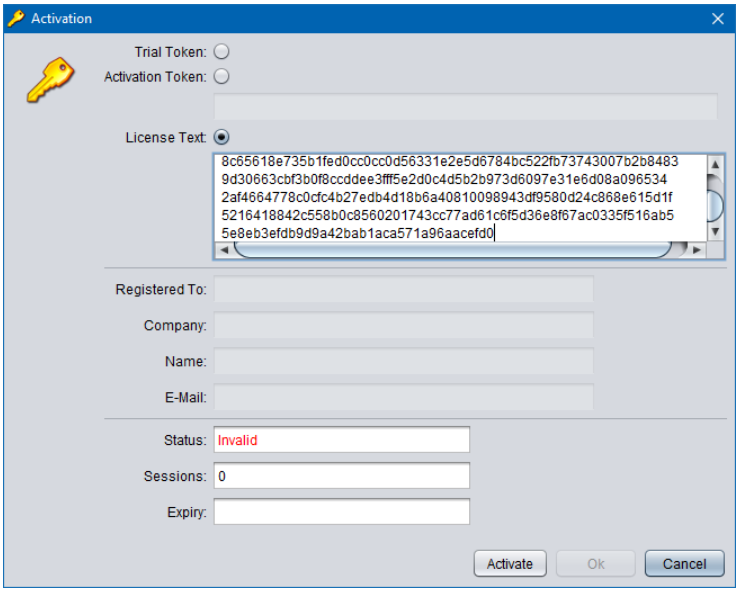
   b. The license text that we will send you is for an existing license which activates the application on the same PC (without hardware modifications) as it was when activated for the first time.

   c. If the activation license is lost due to damaged hard disk, or motherboard and you replace the faulty hardware, then the license text of the original activation license (which we will send you) will no longer be valid as the hardware of the PC changed and you will have to purchase a new license.

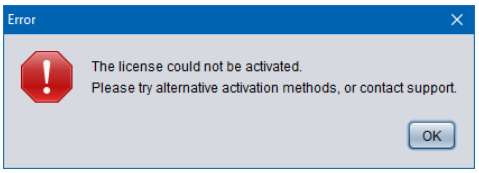
2. To activate the application with a license text select **License Text**.



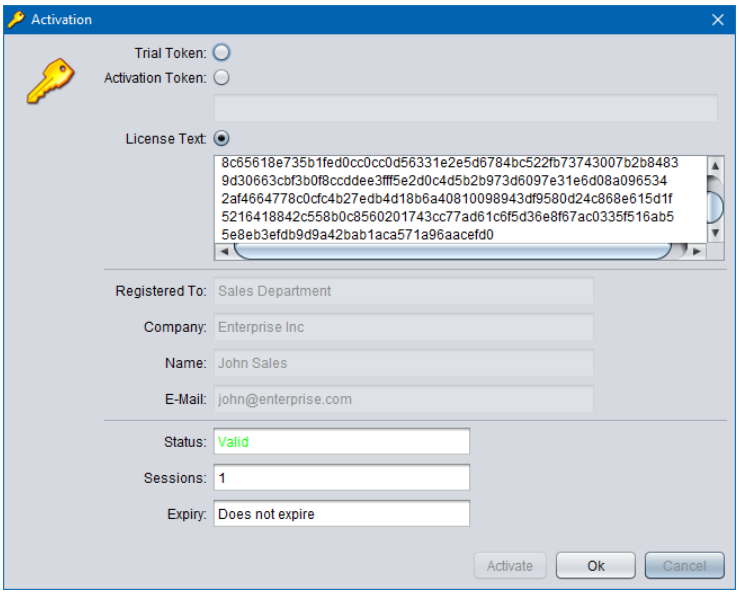
3. Enter the license text as you received it from us. For example:



4. Select **Activate** to attempt activation. If you receive the following error message, then the activation license is no longer valid, or it is for a different application, or it is for a PC with different hardware.



5. In most cases the activation will be successful. For example:



6. Select **Ok** to start using the application.

Once you activate the application (for the first time), it will display the Preference dialog which allows you to configure the application.

Proceed to configure Total Recall VR Connector as described in section 5 Application Configuration.

4. User Interface

Total Recall VR Archiver uses a simple GUI application to configure and control its Windows service.

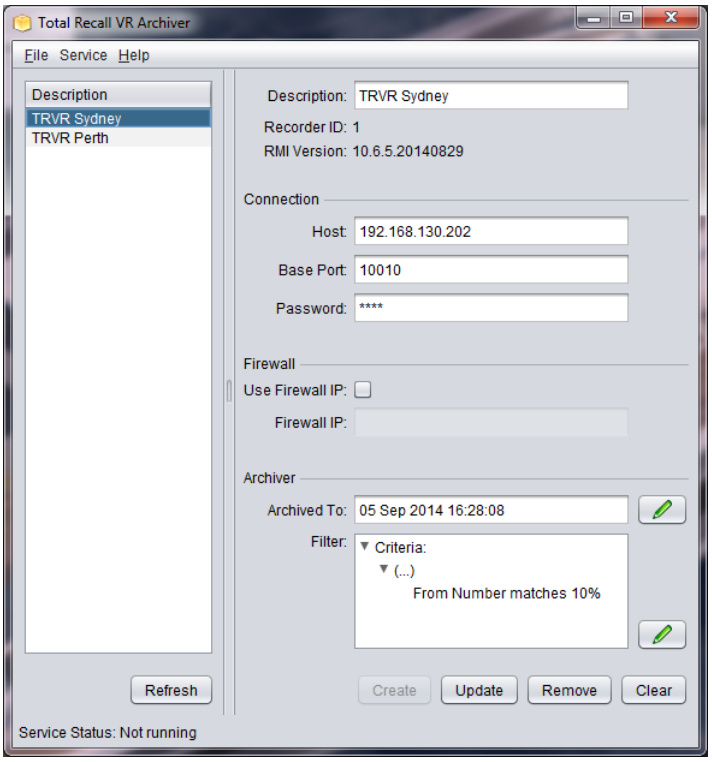


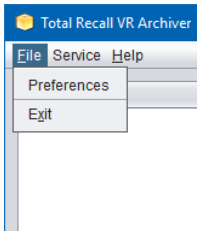
Figure 4: Total Recall VR Archiver GUI Application

Use the GUI application to add Total Recall VR systems connections; to start, stop and restart the service and to view the service state.

4.1. Main Menu Bar

The Total Recall VR Archiver main menu bar includes 3 menus: File, Service and Help.

4.1.1. File Menu



The File menu includes the following options:

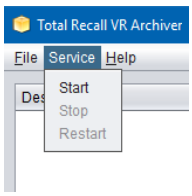
1. **Preferences**

   It opens the Preferences dialog which allows you to make changes to the application configuration.

2. **Exit**

   It terminates Total Recall VR Archiver GUI application. It does not stop the service.

4.1.2. Service Menu



The Service menu includes the following options:

1. **Start**

   It starts the Total Recall VR Archiver Windows service.

2. **Stop**

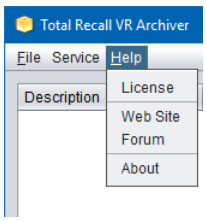
   It stops the Total Recall VR Archiver Windows service.

   Note that if the service is in the process of archiving recordings then it may take few minutes for it to stop as it will first complete archiving the current batch of recordings before it stops.

3. **Restart**

   It restarts (stop followed by start) the Total Recall VR Archiver Windows service.

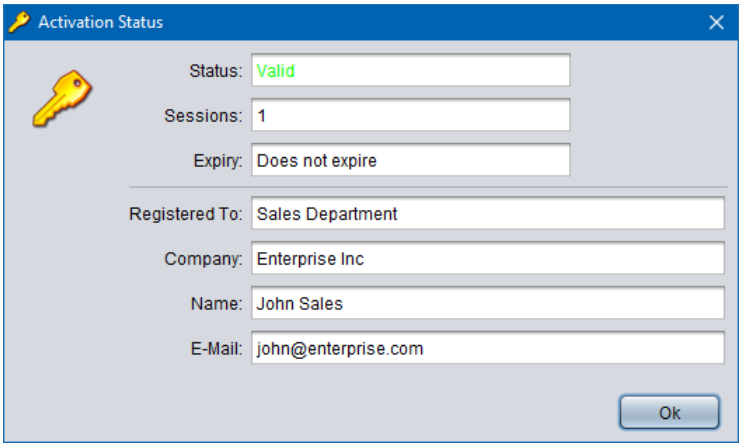
4.1.3. Help Menu



The Help menu includes the following options:

1. **License**

   It displays the Activation Status dialog which shows information on the activation license:



2. **Web Site**

   It starts the default system web browser and loads the front page of the Total Recall VR web site.

3. **Forum**

   It starts the default system web browser and loads the Forums page of the Total Recall VR web site.

4. **About**

   It display ‘about’ information about the application including the version number of the application.

5. Application Configuration

For best results with Total Recall VR Archiver, we recommended that you configure it as explained in this section before using it.

5.1. Mega Archive Configuration

Each Total Recall VR Archiver fetches recordings from one or multiple Total Recall VR systems and stores the recordings into one mega archive.

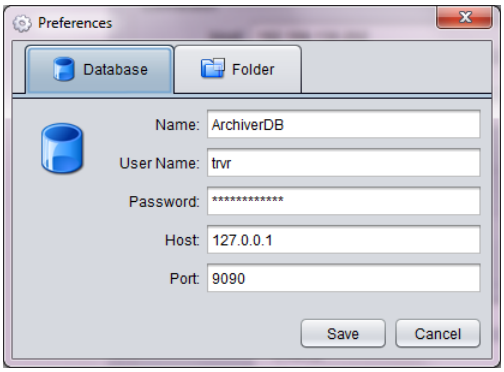
DO NOT configure multiple Total Recall VR Archivers to use the same mega archive.

Doing so will compromise the integrity of the mega archive.

Use the Preferences dialog to configure the mega archive (its database and disk space for storing recording files) that will be used by a Total Recall VR Archive.

Mega Archive configuration

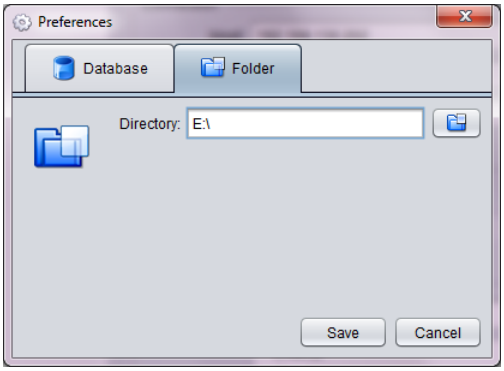
1. Select **Preferences** from the **File** menu to display the Preferences dialog:



2. On the **Database** tab:
    a. Enter ***Name***. This is the name of the H2 database that will be created, if required, and used by this instance of Total Recall VR Archiver.
    b. Enter ***User Name***. This is the user name that Total Recall VR Archiver will use when connecting to the database.
    c. Enter ***Password***. This is the password that Total Recall VR Archiver will use when connection to the database.
    d. Enter ***Host***. This is the IP address, or the host name, of the server which runs the H2 database server.

e. Enter ***Port***. This is the TCP port that is used by the H2 database server to provide database services.

3. Switch to the **Folder** tab:



4. Enter ***Directory***. This is the directory where Total Recall VR Archiver will store the recording files.

   Specify one of:

   - Local directory. For example “E:\trvr-mega-archive” Alternatively select to display a dialog which lets you choose a directory.
   - UNC path to a shared directory when using network attached storage. For example “\\nas.mydomain.com\trvr-mega-archive”. In this case you must configure the Archiver service to run with the credentials of a local user that has rights to create directories and files on the network attached storage.

   Select **Select** to return to the Preferences dialog.

5. Select **Save** to save the configuration. Restart the application and the service with the new configuration.

5.2. Recorders

Total Recall VR Archiver fetches recordings from one or multiple Total Recall VR recorders in order to store them in the mega archive on regular basis.

You must specify connection details for each recorder.

If you have multiple Total Recall VR systems, then you must assign a different recorder ID to each system before you configure Total Recall VR Archiver to connect to them.

See the Total Recall VR Embedded GUI User Guide [6] and/or the Total Recall VR Manager User Guide [7] on how to assign a recorder ID to your systems.

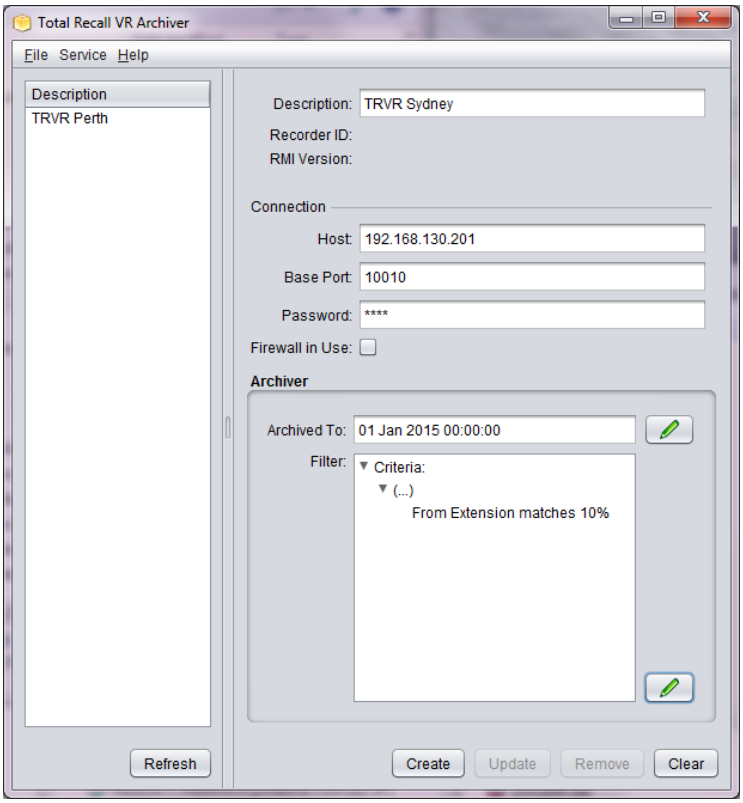
You must configure the Remote Manager Interface on your Total Recall VR systems before you configure Total Recall VR Archiver to connect to them.

See section 3.4.3 Remote Interface for more details.

Then, to add a recorder to the mega archive:

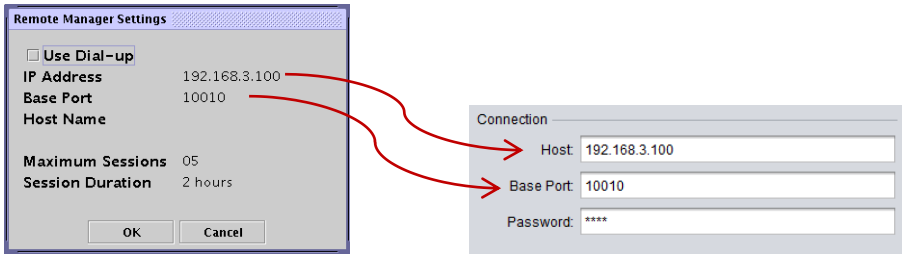
Add a recorder

1. Stop the service. Select **Stop** from the **Service** menu.
2. Select **Clear**.
3. Enter the connection details:



   a. Enter ***Description***, which must be unique, to help you identify the recorder.

   b. Enter ***Host*** and ***Base Port*** which must reflect the configuration of the Remote Manager Interface on a Total Recall VR system. For example:



c. Enter ***Password*** which must be the password assigned to the Administrator user on the Total Recall VR system. By default this password is '0000' (four zeroes); however, you may have changed it to a different value.

d. If there is a firewall between the networks that connect the system that runs Total Recall VR Connector and the Total Recall VR system, then tick ***Firewall in Use*** and then change ***Host*** and ***Base Port*** as described in the Total Recall VR Deployment Guide [8].

e. Set the ***Archived To*** time to a time just before the oldest recording that resides on the recorder.

f. Optionally, create a ***Filter*** that will be used by the Archiver when choosing which recordings to fetch from the recorder. See section 7 Criteria Builder for details on how to use the Criteria Builder dialog to create the filter.

4. Select **Create**. Total Recall VR Archiver will attempt to connect to the recorder and access details from it and if successful it will add the recorder to its configuration.

5. Start the service. Select **Start** from the **Service** menu.

Once you start the service after adding a recorder, the service will start fetching recordings from the recorder and then store the recordings in the mega archive.

6. Archiver Service

The Total Recall VR Archiver service is a Windows service that continuously fetches new recordings from Total Recall VR systems and stores them in its mega archive.

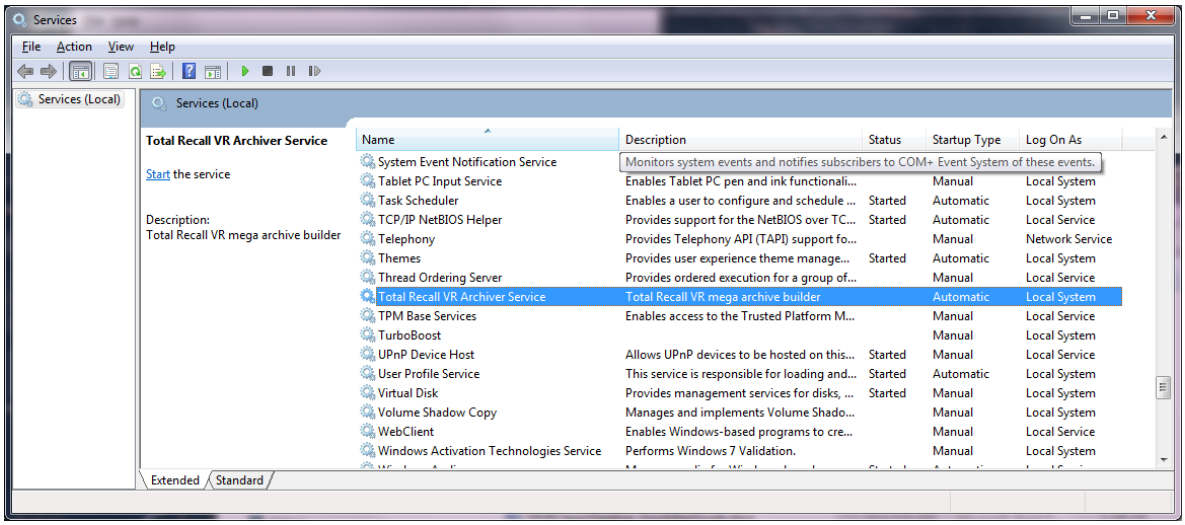


Figure 5: Total Recall VR Archiver Service

You can use the Windows Services console (see previous screen capture) to control the operation of the service. Alternatively, you can use the Total Recall VR Archiver GUI application to control the operation of the service.

However, you must use the Total Recall VR Archiver GUI application to configure the service. This is not possible with the Windows Services console.

The service may take considerable time to fetch all recordings from a Total Recall VR system that has many recordings on it when you run the service for the first time with such Total Recall VR system.

Allow 5 minutes per 1000 recordings.

Once the service completes fetching the initial set of existing recordings, its starts to fetch new recordings in near real-time as recordings are created.

The service will transfer large amounts (multiples of GB) of data over your network on regular bases.

This can have undesirable impact on your network and lead to excess data charges for your data network provider if you do not plan the traffic flow correctly.

The service creates an operating log which is a text file. The file is called TRVRArchiverService.log and is located in the "<install folder>\log" directory. Typically this is the "C:\Program Files (x86)\TRVR Archiver\log" folder.

You should examine this log from time to time to make sure that the service is operating without problems.

7. Criteria Builder

Total Recall VR Archiver uses Criteria Builder to create recording filters for each Total Recall VR connection.

Criteria Builder is an application that provides for the creation and editing of comprehensive natural language search queries.

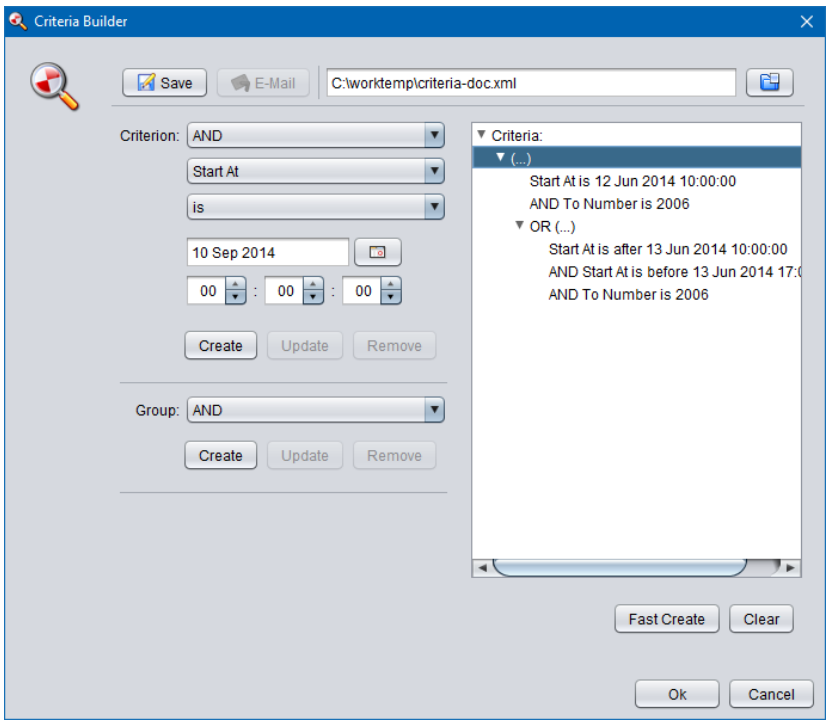


Figure 6: Criteria Builder

Not sure how to create a query? Or struggling to get the right query?

E-mail us the details of the query that you wish to create and we will e-mail you a query file which you can load into Criteria Builder and then use it in the application.

This is a free service.

7.1. Anatomy of a Query

Criteria Builder creates queries which comprise of criteria that may be organised into groups. Criteria and groups may be joined with logical ‘and’ and ‘or’ operators to form complex queries.

The main building blocks of each query are criteria. For example:

- Start At is after 12 Jun 2014 10:00:00
- To Number is 2006
- From Extension matches 10%

You can join criteria together with ‘and’ and ‘or’ to create conjunctions and disjunctions. For example:

- Duration is more than 00:01:00 AND To Number is 2006
- To Number is 1000 OR To Extension matches 10%

Criteria Builder does not impose a limit on the number of criteria that are joined with ‘and’ and ‘or’.

You can organise criteria into groups and then join whole groups with ‘and’ and ‘or’ to create complex conjunctions and disjunctions. For example:

- Duration is more than 00:01:00 AND (To Number is 1000 OR To Extension matches 10%)
- (Start At is after 12 Jun 2014 10:00:00 AND Duration is more than 00:01:00) AND (To Number is 1000 OR To Extension matches 10%)

Criteria Builder does not impose a limit on the number of groups and the level of nesting of groups.

7.2. Criterion Comparators

An integral part of each criterion is a comparator. Criteria Builder supports the following comparator (most are self-explanatory):

Operator	Description
is	Matches values that are same as the one specified.
is not	Matches values that are NOT the same as the one specified.
is less than	Matches values that are less than the one specified.
is more than	Matches values that are more than the one specified.
is before	Matches values that are before the one specified.
is after	Matches values that are after the one specified.
matches	Matches values that match the specified pattern. The pattern comprises of alphanumeric characters and the following wildcard characters: % - matches zero or more alphanumeric characters. For example: 10% matches any sequence of

	characters that start with 10. To match the actual % character use '\%'. _ - matches exactly one character. For example: 10_ matches any sequence of 3 characters that start with 10. To match the actual _ character use '_'.

7.3. Creating Queries

The flexibility of Criteria Builder enables creation of complex queries. Also, queries that result in the same search outcome may take different forms and shapes. Consequently, it is impossible to explain here how you can create every possibly query. Instead we explain how you can create the following example query:

To Number is 2006 AND (

(Start At is after 12 Jun 2014 10:00:00 AND

Start At is before 12 Jun 2014 17:00:00)

OR

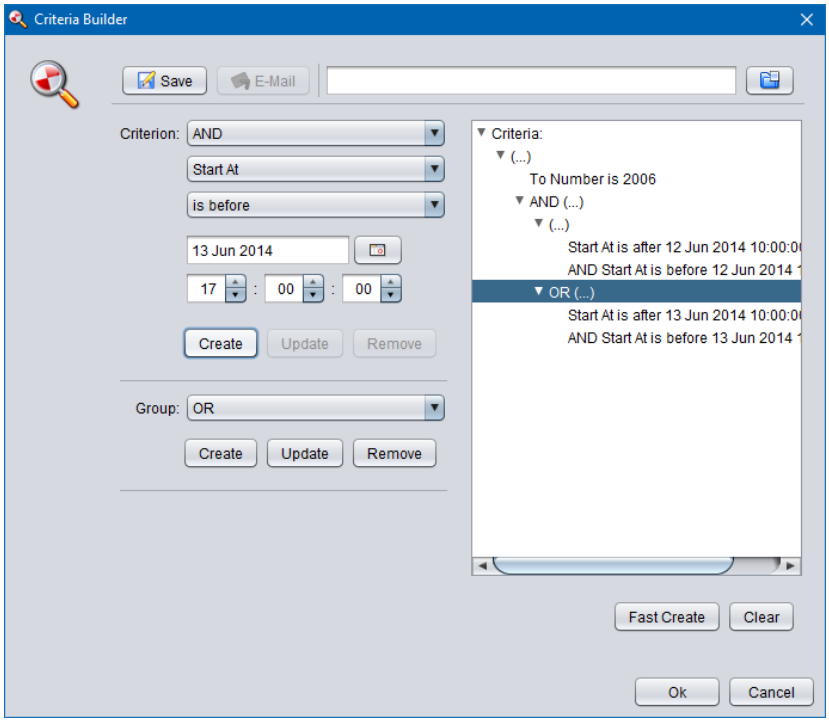
(Start At is after 13 Jun 2014 10:00:00 AND

Start At is before 13 Jun 2014 17:00:00)

)

The query basically identifies all recordings which have To Number set to 2006 and started between the hours of 10am and 5pm on the 12th and 13th of June 2014.

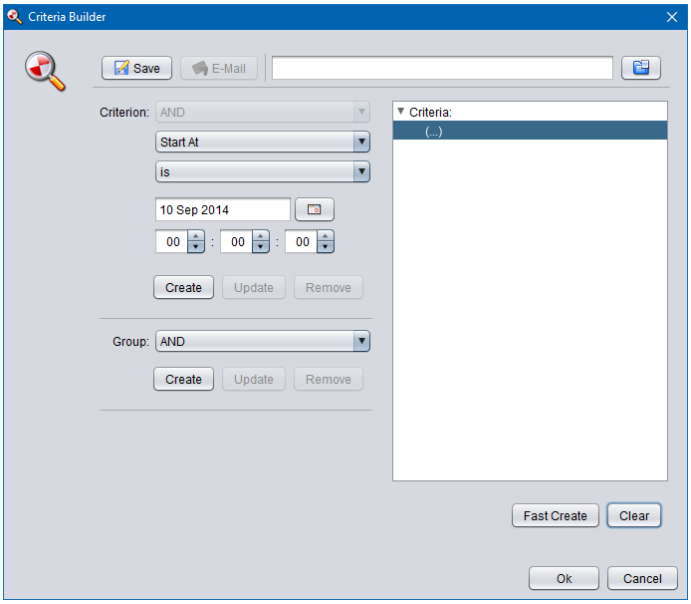
The following screen capture shows the query in Criteria Builder:



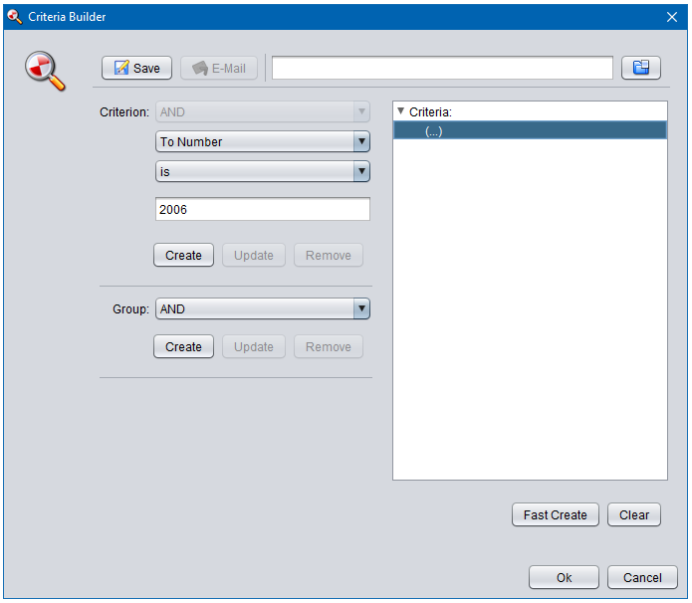
The example query comprises of 5 criteria and 3 groups one of which is used to group two groups.

Example query creation

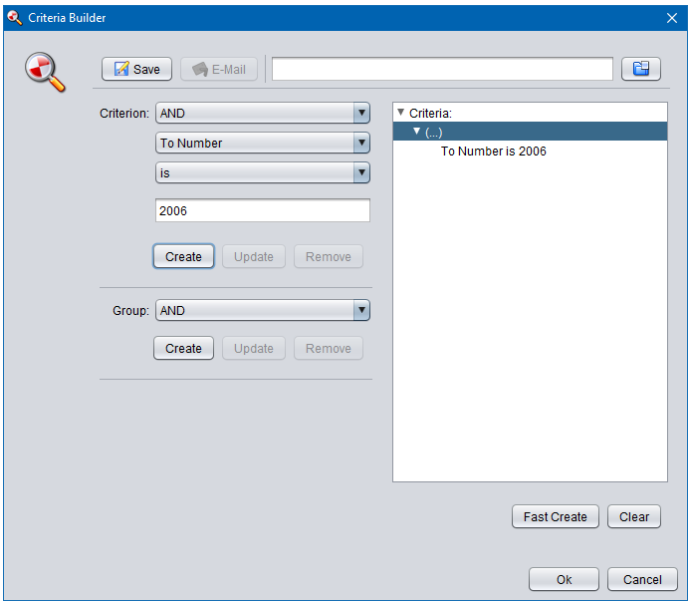
1. New queries start with an empty Criteria tree:



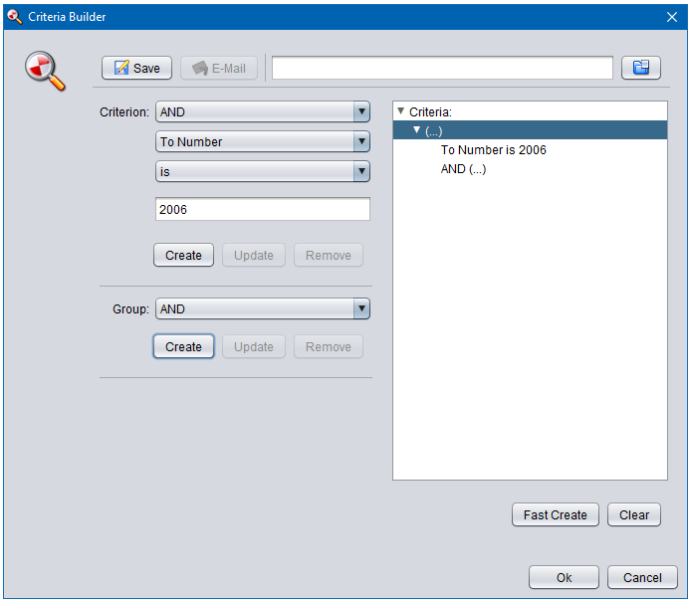
2. To create the first criterion (*To Number is 2006*), first set ***Criterion*** as shown on the following screen capture:



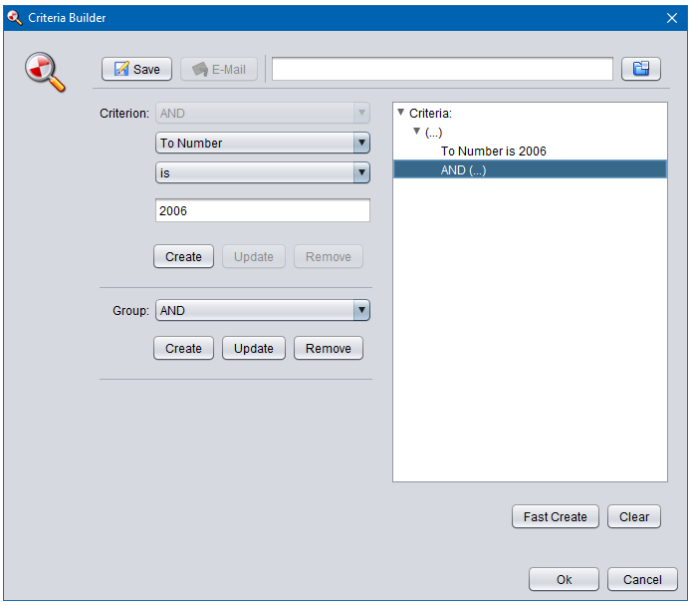
3. Now select **Create** in the **Criterion** area to add the criterion to the Criteria tree:



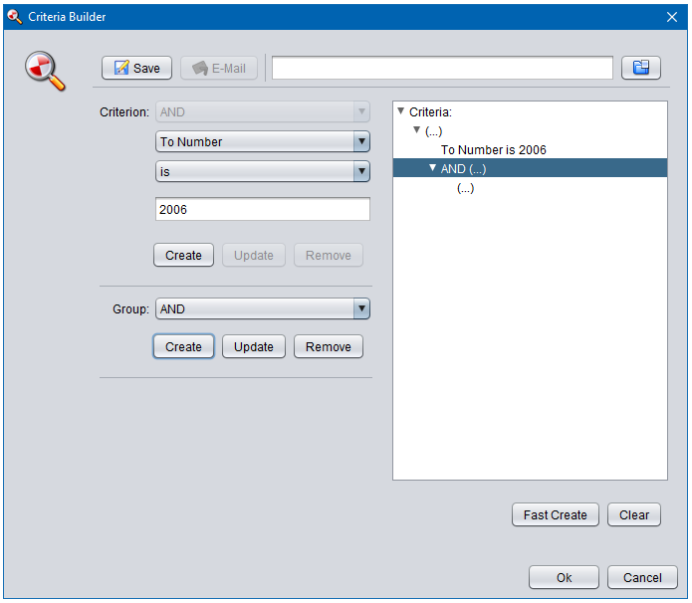
4. Now we need to create the group that will hold the two groups with the Start At criteria. Choose AND for ***Group*** and then select **Create** in the **Group** area to add the group to the Criteria tree:



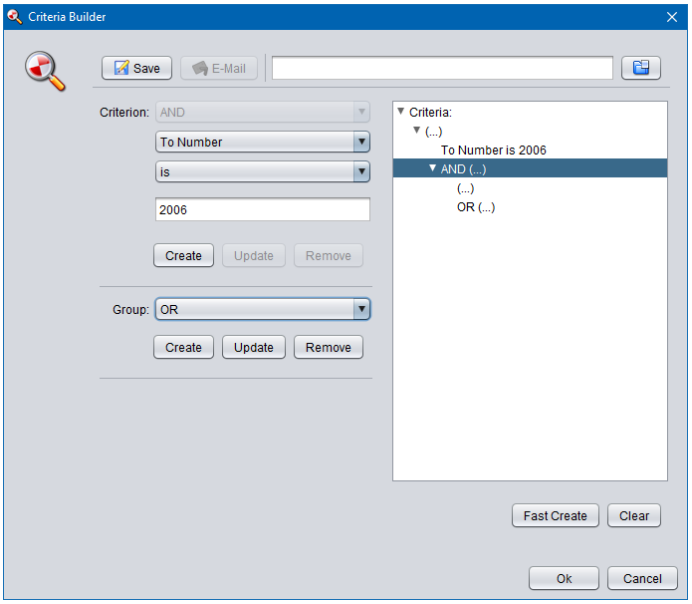
5. The new group comprises of two groups which are joined with “or” in our example query. So we will create the two groups first. To do so, select the group node that we just created on the Criteria tree:



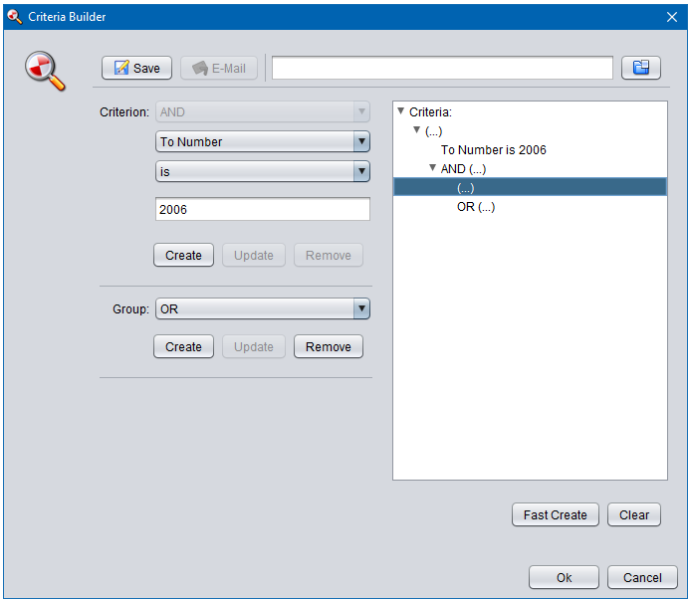
6. Choose AND for ***Group*** and then select **Create** in the **Group** area to add the first group to the Criteria tree:



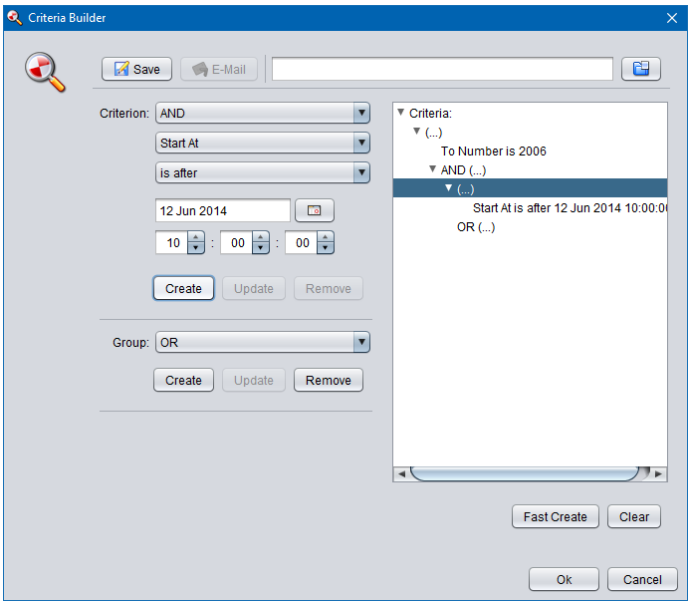
7. Choose OR for ***Group*** and then select **Create** in the **Group** area to add the second group to the Criteria tree:



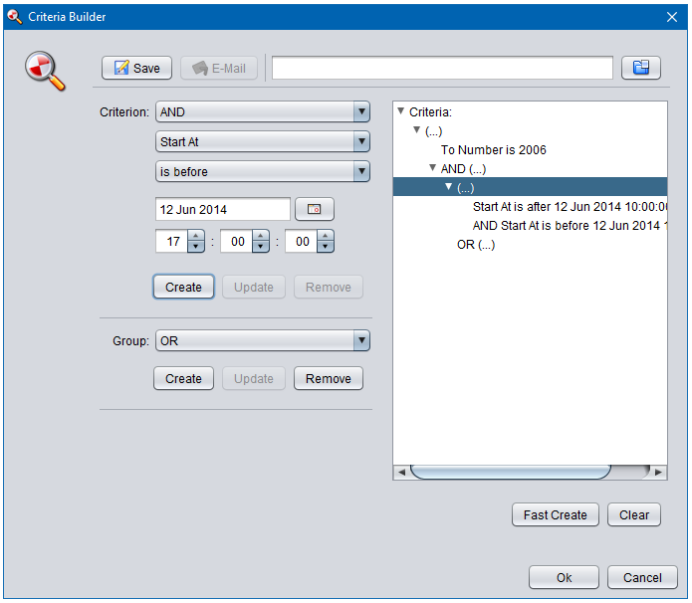
8. Now we will add the criteria for 12th of June. To do so, select the first sub-group in the Criteria tree:



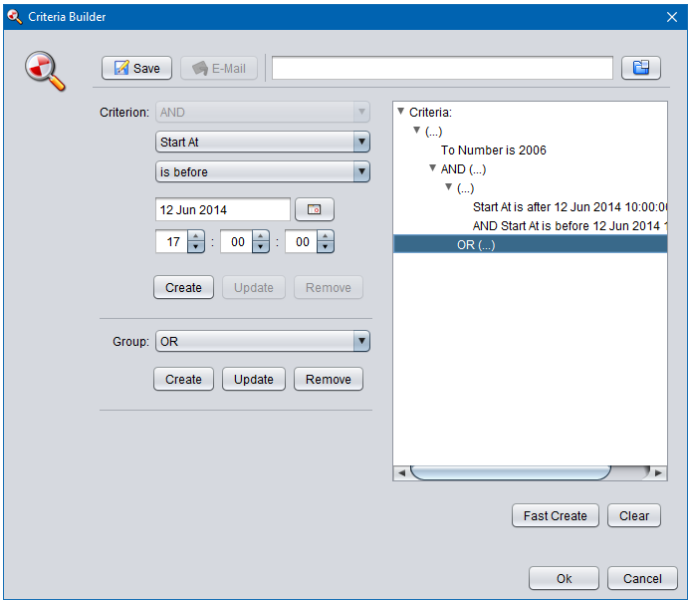
9. To create the first criterion for 12th of June (*Start At is after 12 Jun 2014 10:00:00*), first set ***Criterion*** as shown on the following screen capture, and then select **Create** in the **Criterion** area:



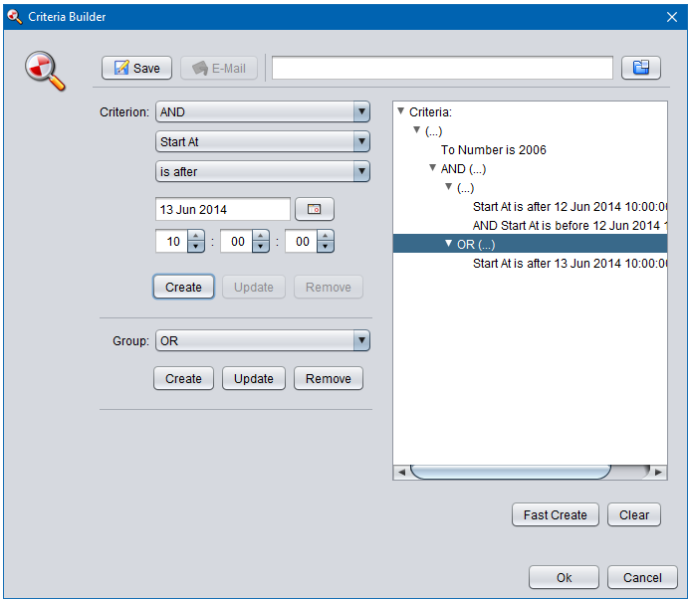
10. To create the second criterion for 12th of June (*Start At is before 12 Jun 2014 17:00:00*), first set ***Criterion*** as shown on the following screen capture, and then select **Create** in the **Criterion** area:



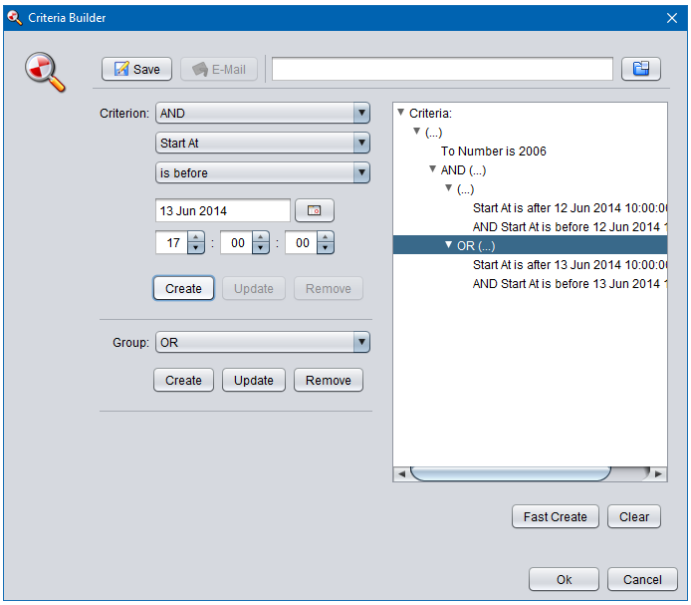
11. Finally we will add the criteria for 13th of June. To do so, select the second sub-group in the Criteria tree first:



12. To create the first criterion for 13th of June (*Start At is after 13 Jun 2014 10:00:00*), first set ***Criterion*** as shown on the following screen capture, and then select **Create** in the **Criterion** area:

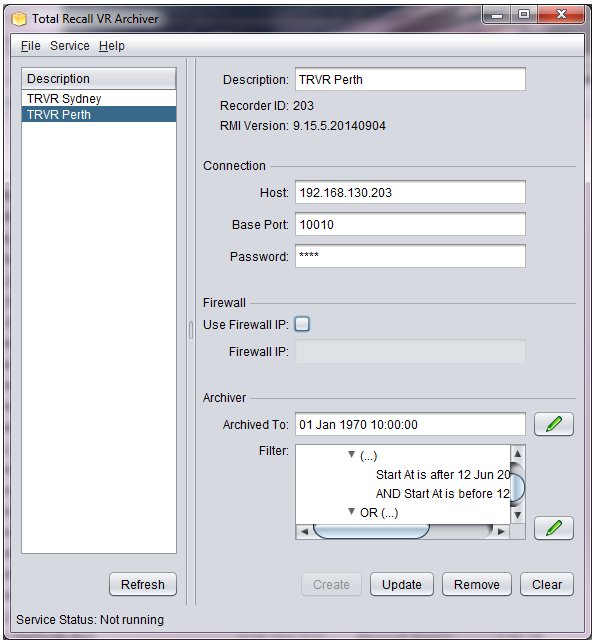


13. To create the second criterion for 13th of June (*Start At is before 13 Jun 2014 17:00:00*), first set ***Criterion*** as shown on the following screen capture, and then select **Create** in the **Criterion** area:



14. The query is now complete.

15. Select **Ok** to close Criteria Builder.



16. Select **Update** to store the query (filter) in the configuration.

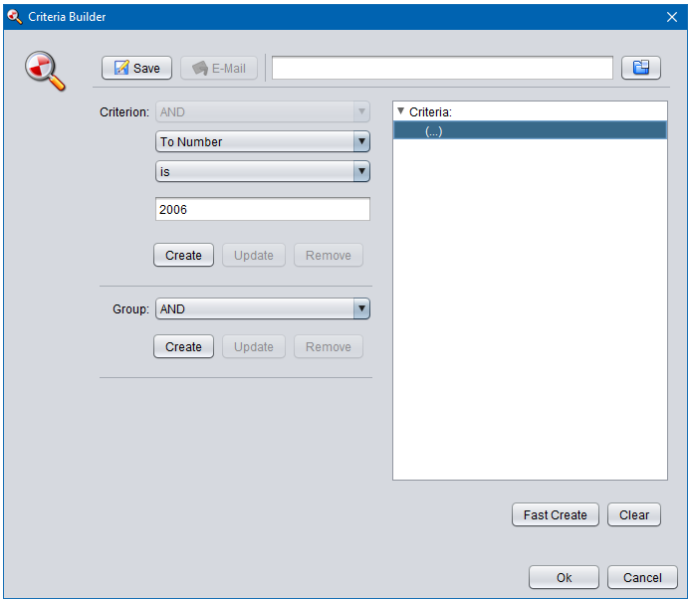
7.4. Fast Queries

The previous sections explains the flexibility of Criteria Builder, however if you find the flexibility a bit overwhelming then it is possible to create simple, but very useful queries using the Quick Query builder.

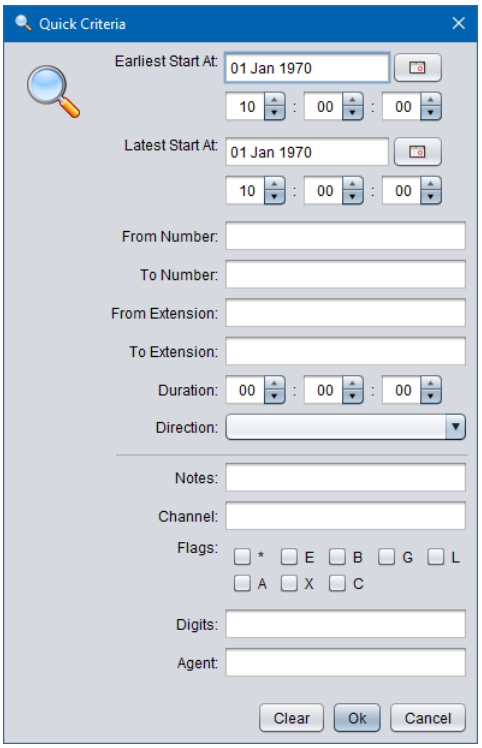
You need specify only values for various search parameters and the Quick Query builder will create a query for you. You can use the query as is or modify it in the Criteria Builder.

Fast query creation

1. Start with an empty Criteria tree (select **Clear** if the Criteria is not empty as shown on the following screen capture):

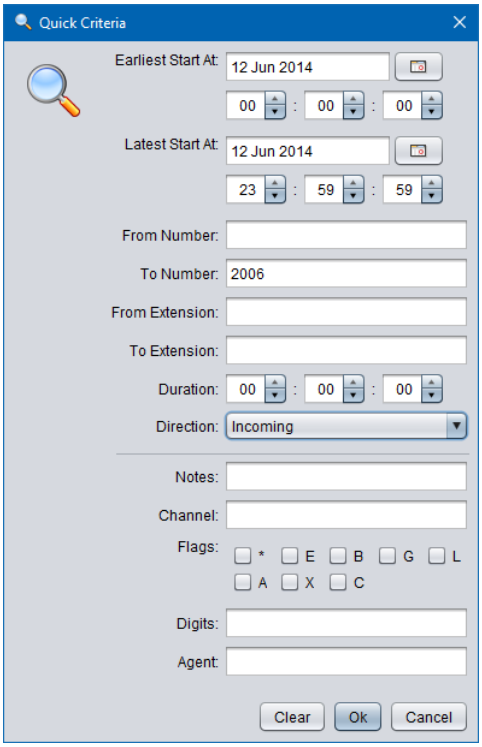


2. Select **Fast Create** to display the Quick Criteria dialog:



3. Enter values for the parameters that you wish to use in the query. Parameters that do not have a value will be ignored.

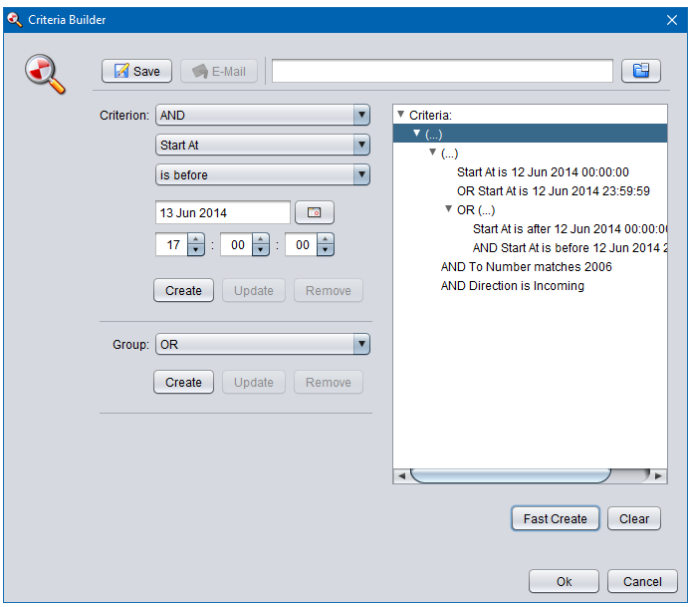
   For example let's assume we wish to filter all incoming calls to 2006 on the 12th of June 2014. If so, set values as shown on the following screen capture:



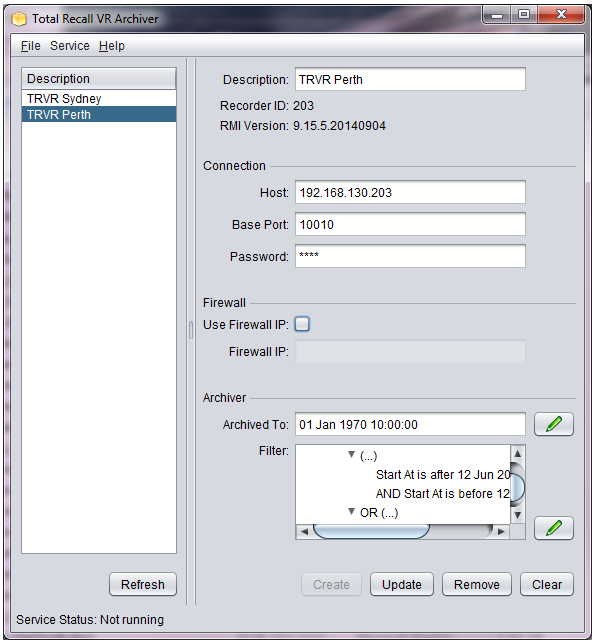
That is, set:

- ***Earliest Start At*** to 12 Jun 2014, 00:00:00
- ***Latest Start At*** to 12 Jun 2014, 23:59:59
- ***To Number*** to 2006
- ***Direction*** to Incoming

4. Select **Ok** to load the query into the Criteria Builder:



5. Now you can use the query as is or modify it as desired before using it.
6. Select **Ok** to close Criteria Builder.



7. Select **Update** to store the query (filter) in the configuration.

Of course, not all queries can be created with this method. For complex queries please use the Criteria Builder directly as explained in the previous section.

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