



.: www.totalrecallvr.com :.

Infinity ES^x Appliance

Quick Start Guide

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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 Infinity Overview User Guide, 1.0, December 2021
- [4] Prolancer Pty Ltd, Total Recall VR Cockpit User Guide, 1.0, December 2021
- [5] Dell, Dell EMC PowerEdge R450 Technical Guide, A01, September 2021
- [6] HP Enterprise, HPE ProLiant DL160 Gen10 Server User Guide, 6, September 2020

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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.

<i>Example</i>	<i>Meaning</i>
Select <u>Guide</u> to display ...	Locate the link named "Guide" on the screen and then either: <ul style="list-style-type: none">• Position the cursor over the link and then depress the appropriate mouse button to follow the link; or

	<ul style="list-style-type: none"> • Tap on the link with a single finger to follow the link.
Select Add to ...	<p>Locate the button or menu item named "Add" on the screen and then either:</p> <ul style="list-style-type: none"> • Position the cursor over the button or menu item and then depress the appropriate mouse button to initiate an action; or • Press on the button with a single finger to initiate the action.
Select  to ...	<p>Locate the button or menu item with the icon “” on the screen and then either:</p> <ul style="list-style-type: none"> • Position the cursor over the button or menu item and then depress the appropriate mouse button to initiate an action; or • Press on the button with a single finger to initiate the action.
Enter <i>Commission</i> ... or Set <i>Commission</i> ...	<p>Locate the field named "Commission" on the screen and then either:</p> <ul style="list-style-type: none"> • 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; or • Tap in the field with a single finger to select the field. Once the cursor appears in the field, enter a value.
Choose <i>Country</i> ...	<p>Locate the field named "Country" on the screen and then either:</p> <ul style="list-style-type: none"> • 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; or • Press on the field with a single finger to display the available options. Then tap with a single finger on the desired option to select it.
Tick <i>Active User</i> ...	<p>Locate the check box named "Active User" on the screen and then either:</p> <ul style="list-style-type: none"> • Position the cursor over the check box and depress the appropriate mouse button to place a visual tick in the box; or • Tap on the check box with a single finger to place a visual tick in the box.

Un-tick <i>Active User</i> ...	Locate the check box named "Active User" on the screen and then either: <ul style="list-style-type: none">• Position the cursor over the check box and depress the appropriate mouse button to remove the visual tick in the box.• Tap on the check box with a single finger to remove the visual tick in the box.
Enter \$30.95 ...	Enter "\$30.95" using the keys on your physical or on-screen 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, then we would love to hear from you.

Please submit your feedback using the feedback form on our web site:

<http://www.prolancer.com.au/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. Thank You

Congratulations on your purchase of a latest generation Total Recall VR Infinity professional audio logging and call recording appliance. Thank you.

Total Recall VR has more than 20 years history of creating professional audio logging and call recording systems which are self-contained, fully featured and cost-effective. Enterprises and governments worldwide use Total Recall VR products 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.

2.2. About This Guide

This guide contains information intended to get you recording with your new Total Recall VR appliance as quickly as possible.

However, to enjoy the maximum benefit from your purchase we recommend that you carefully read the following additional documents:

- Total Recall VR Cockpit User Guide [4].

2.3. What is Infinity ES^X?

Total Recall VR Infinity ES^X is a Total Recall VR appliance that is based on commercial off-the-shelf enterprise grade server hardware such as the Dell PowerEdge R450 and the HP Enterprise ProLiant DL160.

The appliance is a combination of a latest generation Linux operating system and a suite of Total Recall VR Infinity recorder services that have been engineered to run on a commercial off-the-shelf enterprise grade server hardware. Depending on the combination of Total Recall VR Infinity recorder services that are part of the appliance, each instance of Infinity ES^X can be used as a:

1. Total Recall VR Infinity recorder appliance; or
2. Total Recall VR Infinity archive appliance.

As a recording appliance, Infinity ES^X supports only IP (VoIP, RoIP, AoIP ...) recording channels and is capable of recording:

- SIP sessions (calls) via UDP/TCP ports.
- SIPrec sessions via UDP/TCP ports.
- Cisco BiB sessions via UDP/TCP ports.
- Unicast and multicast RTP streams via SPAN ports.
- Unicast and multicast RTP streams via UDP ports.
- RTSP sessions via UDP/TCP ports.

- ATC recording via ED-137B/C Part 4.
- RoIP (analogue, MPT-IP and DMR networks) recording via Tait VRP.
- RoIP (DMR networks) recording via Hytera HDAP.
- RoIP (analogue, DMR, P25, NXDN ... networks) recording via Omnitronics RTP.
- RoIP (analogue, DMR, P25, NXDN ... networks) recording via Zetron SIP logging interface.

As an archive appliance, Infinity ES^X acts as a repository (archive) for recordings and associated metadata as well as a repository (archive) for audit events.

In all cases, users access Infinity ES^X appliances via instances of Total Recall VR Cockpit [4], the user interface for the latest generation Total Recall VR Infinity appliance and custom recorders.

3. Start Here



If a ruling is required on the legality of recording in your country, then please seek legal advice from a legal professional in your country.

THIS PRODUCT MUST NOT BE USED FOR ILLEGAL OR UNAUTHORISED RECORDING PURPOSES.

3.1. Unpacking

Please use care and assistance when unpacking, lifting and moving your Total Recall VR appliance.



DO NOT DROP your Total Recall VR appliance. It contains sensitive electronic components.

Check the box for damage. A crushed box, holes, or water damage, for example, could indicate that the Total Recall VR appliance has been damaged. Open the box and inspect the Total Recall VR appliance and the associated accessories.



If your Total Recall VR appliance appears damaged then contact your supplier, or us, right away. Save all packaging and if possible take photos that clearly show the damage to all packaging and the Total Recall VR appliance.

Check that you have received the following in the box:

1. The Total Recall VR appliance and the associated accessories (power cables, mounting rails, face plate and keys for the face plate).
2. A USB thumb drive that contains Total Recall VR manuals (including this one) as well as Total Recall VR PC applications.



If items are missing then contact your supplier, or us, right away to arrange replacements.

3.2. Front & Back Panel – Dell PowerEdge R450



The definitive guide for the information in this section is the Dell EMC PowerEdge R450 Technical Manual [5].

The front panel of your Total Recall VR appliance features a security bezel which prevents unauthorised access to the system disks. The following screen capture is a view of the front panel with the security bezel removed.



<i>Item</i>	<i>Description</i>	<i>Note</i>
A	Easy swap disk caddies.	Two or four caddies will contain disks depending on the RAID configuration.
B	Power on/off button	
C	Console port	Connect a standard VGA monitor to this port, if required.
D	USB port	Connect a USB keyboard to this port, if required.

The back panel of your Total Recall VR appliance has a standard set of connectors.



<i>Item</i>	<i>Description</i>	<i>Note</i>
A	LAN port 1	Use this port to connect your appliance to your enterprise LAN.
B	LAN port 2	Use this port for recording IP traffic.
C	iDRAC management port	Use this port to access the iDRAC on your Dell server.
D	USB 3.0 ports	Connect a USB drive to use as a Total Recall VR archive. Support maximum output current of 0.9A.
E	Console port	Connect a standard VGA monitor to this port, if required.
F	Power connector 1	
G	Power connector 2	

3.3. Front & Back Panel – HPE ProLiant DL160



The definitive guide for the information in this section is the HPE ProLiant DL160 Gen10 Server User Guide [6].

The front panel of your Total Recall VR appliance features a security bezel which prevents unauthorised access to the system disks. The following screen capture is a view of the front panel with the security bezel removed.



<i>Item</i>	<i>Description</i>	<i>Note</i>
A	Easy swap disk caddies.	Two or four caddies will contain disks depending on the RAID configuration.
B	Power on/off button	
C	USB port	Connect a USB keyboard to this port, if required.

The back panel of your Total Recall VR appliance has a standard set of connectors.



<i>Item</i>	<i>Description</i>	<i>Note</i>
A	USB 3.0 ports	Connect a USB drive to use as a Total Recall VR archive. Support maximum output current of 0.9A.
B	iLO management port	Use this port to access the iLO on your HPE server.
C	Console port	Connect a standard VGA monitor to this port, if required.
D	LAN port 1	Use this port to connect your appliance to your enterprise LAN.
E	LAN port 2	Use this port for recording IP traffic.
F	Power connector 1	
G	Power connector 2	

3.4. Hardware Options

Your Total Recall VR appliance may have been fitted with some of the following hardware options to customise it to better fit your environment.

3.4.1. Solid State Disks (SSDs)

This option replaces the standard 2.5" SAS hard disk with 2.5" SAS solid state disks (SSDs).

3.4.2. RAID-5 Disk Configuration

This option replaces the standard RAID-1 disk configuration with a RAID-5 disk configuration.

4. Installation

4.1. Safety Information

Always follow basic safety precautions when installing your Total Recall VR appliance to reduce the risk of injury from electrical shock and fire.



WARNING: Potential shock hazard. Total Recall VR appliances must be installed by qualified personnel.

Observe the following:

1. Read and understand all instructions in the Total Recall VR guides.
2. Observe all warnings and instructions marked on the product.
3. Use only grounded electrical outlets when connecting your Total Recall VR appliance to a power source. If you are unsure if an outlet is grounded, then have a qualified electrician check it.
4. First connect your Total Recall VR appliance to a grounded power outlet, and only then connect the telephone lines.
5. Do not touch the contacts on the ends of any cables that are used with your Total Recall VR appliance. If any cable becomes damaged, then have it replaced immediately.
6. Shut down and unplug your Total Recall VR appliance from telephone jacks, and then from power outlets, prior to moving or cleaning.
7. Do not open your Total Recall VR appliance. There are no user serviceable parts inside it. Refer all servicing to qualified personnel.

4.2. General

Your Total Recall VR appliance is computer equipment and in general has the same physical and electrical requirements as a computer server. Attention should be paid to the environment to assure long life and reliable operation.

4.3. Location

When choosing a location for your Total Recall VR appliance, consider the following:

- **Convenience.** Make the unit accessible to operators and service personnel who need to access it.

- **Security.** Users with access to the unit can remove power, disconnect cables and possibly compromise the recordings on your Total Recall VR appliance. User logins are no protection against determined attackers with physical access to the appliance.
- **Operating environment.** Your Total Recall VR appliance requires adequate cooling, clean and always on power source, vibration and shock free surface and protection from liquids.



DO NOT place your Total Recall VR appliance in enclosed cupboards, a damp or dusty room or location with direct exposure to sunlight. Doing so will severely reduce the lifetime of your Total Recall VR appliance and void the warranty.

4.4. AC Power

Your Total Recall VR appliance uses “universal” switching, AC to DC power adapter. This means that you can plug the power adapter into any line (mains) voltage from 100 Volts to 240 Volts AC nominal.



However, to prevent unplanned shutdowns caused by power glitches or interruptions, we strongly recommend the use of an Uninterruptible Power Supply (UPS) unit.

Always use only grounded electrical outlets when connecting your Total Recall VR appliance to a power source. If you are unsure if an outlet is grounded, then have a qualified electrician check it.

4.5. Local Area Network

Connect at least one network interface to a network that has DHCP enabled and that can be accessed from at least one device (PC) that will run an instance of Total Recall VR Cockpit.

To simplify the initial configuration process, we recommend that you connect both network interfaces to a network at this point, either the same or different networks.



Ideally, you will connect your Total Recall VR appliance to your enterprise network via the first LAN interface and your IP communication network via the second LAN interface.

4.6. Initial Run

You can power your Total Recall VR appliance once you have completed the physical installation of the appliance and connected the appliance to your network. However, we recommend that you delay that for a moment and until you complete the following:

1. Install and activate an instance of Total Recall Cockpit on a device (usually a Windows based PC) that has network access to at least one of the networks to which your Total Recall VR appliance is connected.

See the Total Recall VR Cockpit User Guide [4] for information on how to install and activate a Total Recall VR Cockpit instance.

2. Connect a standard VGA monitor to the console port of your Total Recall VR appliance temporarily.

Once the appliance is up and running, you can get the IP addresses that were assigned to its network interfaces by the DHCP servers from a console window. For example:

```
Fedora 34 (Thirty Four)
Kernel 5.14.9-200.fc34.x86_64 on an x86_64 (tty1)
LAN1 IP: 192.168.130.153
LAN2 IP: 192.168.130.199
trvr-0x100-002 login: _
```

At this point you can configure an Appliance Recorder Node in the Manager view of Total Recall VR Cockpit.



For information on how configure an Appliance Recorder Node using the Manager view see the Total Recall VR Cockpit User Guide [4].

For example, to access the appliance that is shown on the previous screen capture via the interface with IP address 192.168.130.153:

Recorder Node

Appliance Recorder Node

☐ Appliance Recorder Node

Recorder: TRVR Appliance 130.153

System Service

Base URL: ssh://trvr@192.168.130.153:22

Refresh Done

Custom Recorder Node

You will have management and monitoring access to the appliance once you create the node and you are ready to proceed with the initial configuration.



We do not disclose the password for the root user, or any other operating system user, to protect the integrity of the Total Recall VR appliance.

You must use Total Recall VR Cockpit to manage and monitor the appliance.

5. Initial Configuration



The definitive guide for the information in this section is the Total Recall VR Cockpit User Guide [4].

This section contains information that will help you complete the initial basic configuration of your Total Recall VR appliance.

Before you proceed with the initial configuration of your Total Recall VR appliance make sure that:

- The Total Recall VR appliance is up and running;
- You have a running instance of Total Recall VR Cockpit that can access the appliance over your network.
- You have created an Appliance Recorder Node in the Management view of Total Recall VR Cockpit to one of the network interfaces of the appliance – see section 4.6 Initial Run.

Continuing with the example from the previous sections, where we created an Appliance Recorder Node for the appliance with network interface with IP address 192.168.130.153, the following screen capture shows the Manager view of Total Recall VR Cockpit when it is ready to perform the initial configuration:

The screenshot displays the Total Recall VR Cockpit interface. At the top, a status bar shows the date and time (17 Nov 2021 10:24:57) and the managed appliance (TRVR Appliance 130.153). The main area is divided into three panels:

- Recorder Services:** A table listing various services and their status.
- Service Manager:** A configuration panel for the 'Recording Service'.
- System Manager:** A panel for system configuration and control.

Type	Instance	Status
Audit Event REST Service	trvr.ars	Active
Audit Repository House Keeper	trvr.arhk	Active
Audit Repository IPC Connector	trvr.aric	Active
Database Service	trvr.db	Active
Media Repository Archive Connector	trvr.mrac	Active
Media Repository House Keeper	trvr.mrhk	Active
Media Repository IPC Connector	trvr.mric	Active
Meta Data REST Service	trvr.mdrs	Active
Monitoring Service	trvr.mms	Active
Profile REST Service	trvr.prs	Active
Recording Service	trvr.mrs	Active
Recordings REST Service	trvr.cfrs	Active
RTP Media Server	trvr.rtpms	Active
RTSP Media Server	trvr.rtpms	Active
SIP Media Server	trvr.sipms	Active
Tail VRP Media Server	trvr.vrps	Active

Service Manager Configuration:

- Type: Recording Service
- Instance: trvr.mrs
- Configuration tab selected.
- Recorder Source: applianceRecorder
- Rollover Timer: 00:00:00
- Quiet Timer: 00:00:00
- Event Service:
 - Session Events: ☐ Log Events
 - Resource Events: ☐ Log Events
 - Meta Data Events: ☐ Log Events

System Manager Configuration:

- Configuration tab selected.
- Buttons: Date & Time, Network, Network Storage, License, Support.
- Control tab selected.
- Buttons: Shutdown.
- Tools tab selected.
- Buttons: Detach USB, Manage Disks, Upgrade, Get Logs, Tail Logs, Request License.

5.1. Network Configuration

Your Total Recall VR appliance has two network interfaces. Use one (usually the first one) to connect the appliance to the enterprise network and the other (usually the second) for recording.

The image displays two side-by-side screenshots of the 'Network' configuration window in the Total Recall VR appliance. Both windows show the same configuration fields, but with different interface selections.

Left Screenshot (Interface 1):

- Hostname: trvr-vx100-002.tsn.prolancer.com.au
- Network Interface: Interface 1 (LAN 1)
- Network Device: ens192
- IPv4 Settings: Automatic (checked)
- IP Address: 192.168.130.153/24
- Gateway: 192.168.130.1
- Name Server: 192.168.20.200
- VLAN ID: (empty)

Right Screenshot (Interface 2):

- Hostname: trvr-vx100-002.tsn.prolancer.com.au
- Network Interface: Interface 2 (LAN 2)
- Network Device: ens224
- IPv4 Settings: Automatic (checked)
- IP Address: 192.168.130.199/24
- Gateway: 192.168.130.1
- Name Server: 192.168.20.200
- VLAN ID: (empty)

Both windows have 'Refresh' and 'Done' buttons at the bottom. A status box at the bottom of each window indicates 'Fetching hostname. Fetching connection configuration for all network interfaces. Done.'

As you may already know, the default configuration for both interfaces is to use automatic configuration (via DHCP).



We recommend static configuration for both network interfaces.



Exercise extreme caution when changing the configuration of the network interfaces – you may lose connection to the appliance if you are configuring the network interfaces remotely and if you misconfigure the network interface that is in use for the current connection to the appliance.

To use static configuration, untick ***Automatic*** and specify ***IP Address*** and optionally ***Gateway***, ***Name Server*** and ***VLAN ID***.

If you lose the connection to the appliance while configuring the network interfaces, then remember that you can get the current IP addresses that are assigned to the interfaces of the appliance from a console. Once you know the IP addresses, then you can create a new, or update an existing, Appliance Recorder Node in the Manager view of Total Recall VR Cockpit to re-gain access to the appliance.

5.2. Recording

To start recording with your total Recall VR appliance you may have to change the configuration of some, or all, of the following Total Recall VR recording services:

- “RTP Media Server”
- “RTSP Media Server”
- “SIP Media Server”
- “Tait VP Media Server”

In addition, although less likely, you may have to change the configuration of the “Recording Service”.

Finally, you may need to define address transforms and recording policies via the “Profile REST Service”.

6. Basic Operation



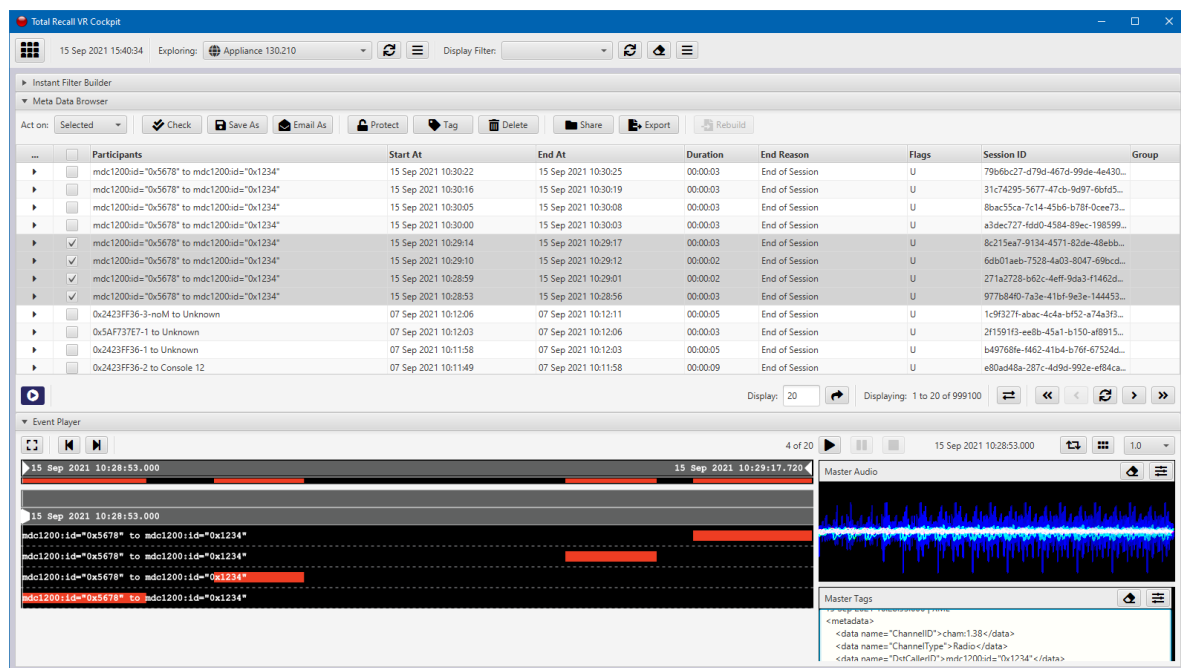
The definitive guide for the information in this section is the Total Recall VR Cockpit User Guide [4].

6.1. Recording Repository Access

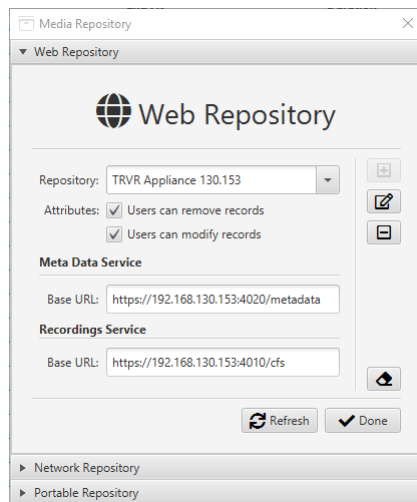
Your Total Recall VR appliance has a built in recording repository where it will store the recordings that it creates. This repository provides a REST interface via the “Meta Data REST Service” and the “Recordings REST Service”.

The Explorer view of Total Recall VR Cockpit has a built in browser for recordings that are stored in repositories with different type of access. The browser has a suite of recording management and productivity tools that work on recording files and recording metadata.

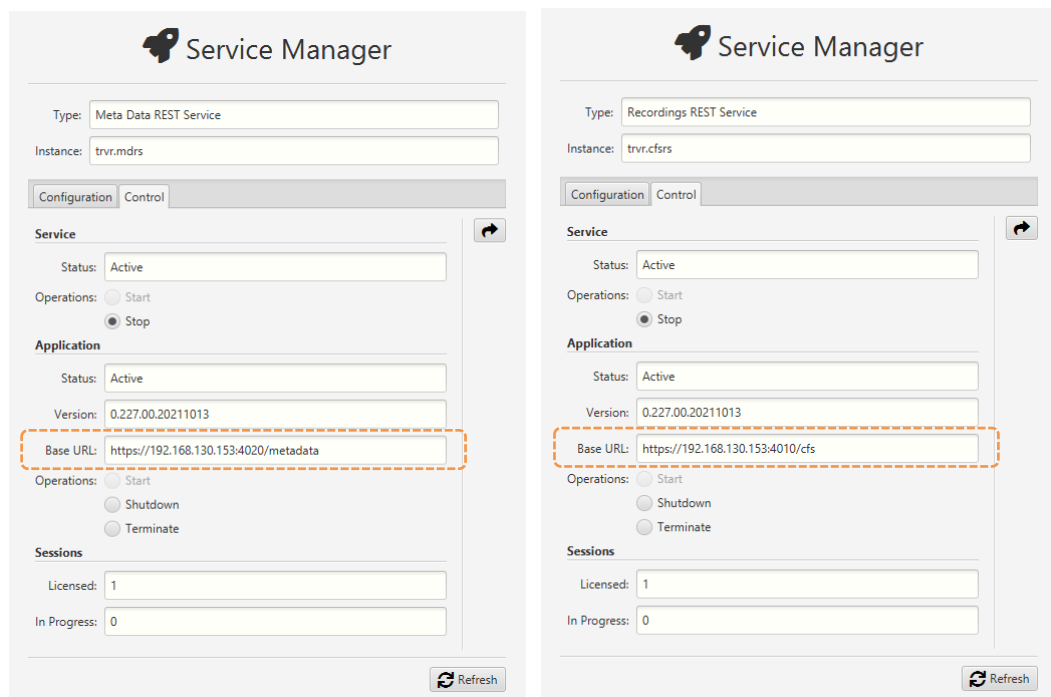
In addition, the Explorer view of Total Recall VR Cockpit has a built in event player that is capable of processing multiple recordings in the correct time order. Use the event player to reconstruct the timeline of events (incidents) and listen to the events as they happened in time.



You need to create a Media Repository record, in particular a Web (Media) Repository record, in the Explorer view in order to access the recordings that are in the recording repository of your Total Recall VR appliance. For example:



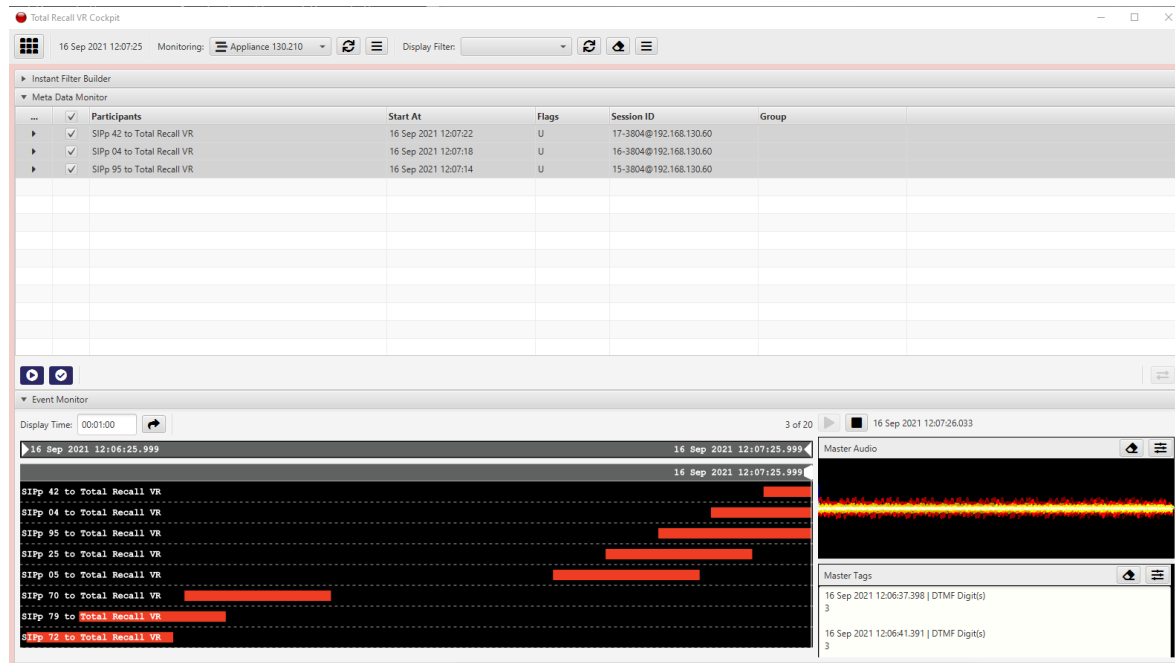
As you may have already noticed, to configure a Web (Media) Repository you need the base REST URLs for both the “Meta Data REST Service” and the “Recordings REST Service”. You can get the base URLs from the service runtime status, for example:



6.2. Live Monitoring

Your Total Recall VR appliance has a built in media and metadata streaming interface (also known as media feed). This interface is provided by the “Monitoring Service” which can stream both media and metadata of recordings as they are recorded, in real time.

The Monitor view of Total Recall VR Cockpit can connect to such media feeds and show the metadata of recordings in progress, automatically construct a visual representation of a running timeline of the recordings in progress and play the media that is being recorded for the recordings that appear on the timeline.

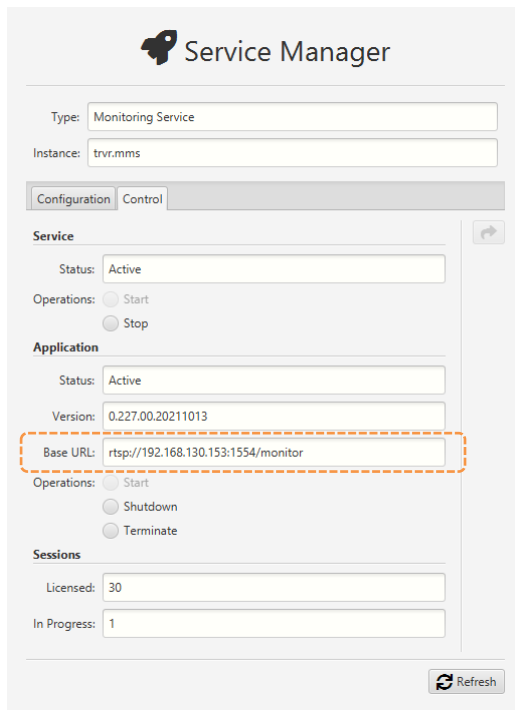


You need to create a Media Feed record in the Monitor view in order to access the media feed on Total Recall VR appliance. For example:

The 'Media Feed' configuration window shows the following fields and controls:

- Feed:** TRVR Appliance 130.153
- System Service:**
- Base URL:** rtsp://192.168.130.153:1554/monitor
- Buttons:** Refresh, Done

As you may have already noticed, to configure a Media Feed you need the base RTSP URL of the feed. You can get the base URL from the runtime status of the “Monitoring Service”, for example:



The screenshot shows the 'Service Manager' interface. At the top, there's a logo and the title 'Service Manager'. Below it, there are fields for 'Type' (Monitoring Service) and 'Instance' (trvr.mms). A tab bar shows 'Configuration' and 'Control'. The 'Configuration' tab is active. Under the 'Service' section, 'Status' is 'Active', and 'Operations' has 'Start' and 'Stop' buttons. Under the 'Application' section, 'Status' is 'Active', 'Version' is '0.227.00.20211013', and 'Base URL' is 'rtsp://192.168.130.153:1554/monitor'. The 'Base URL' field is highlighted with a dashed orange border. Below it, 'Operations' has 'Start', 'Shutdown', and 'Terminate' buttons. Under the 'Sessions' section, 'Licensed' is '30' and 'In Progress' is '1'. A 'Refresh' button is at the bottom right.

6.3. Automatic Archiving – Web Repository

Ideally you will configure your Total Recall VR appliance to archive recordings to a Total Recall VR archive appliance.



A working archiving strategy must be implemented to avoid losing recordings as a result of auto-cleaning. See section 7.2 Disk and Database Space.

However, in order to do so, you need to first purchase a Total Recall VR Infinity archive appliance, and then configure the “Media Repository Archiving Connector” service to use it.



For complete and detailed instructions on how to setup automatic archiving to a Web Repository see the Total Recall VR Cockpit User Guide [4].

If you do not own a Total Recall VR Infinity archive appliance, then your next best option is to archive to a Network Repository – see the following section.

6.4. Automatic Archiving – Network Repository

If you do not own a Total Recall VR Infinity archive appliance, then we recommend that you configure your Total Recall VR appliance to archive recordings to a Network Repository.



A working archiving strategy must be implemented to avoid losing recordings as a result of auto-cleaning. See section 7.2 Disk and Database Space.

However, in order to do so, you need to first create a Network Repository and then configure the “Media Repository Archiving Connector” service to use it.



For complete and detailed instructions on how to setup automatic archiving to a Network Repository see the Total Recall VR Cockpit User Guide [4].

6.5. Automatic Archiving – USB Disk

In the cases where you do not own a Total Recall VR Infinity archive appliance and you cannot create a Network Repository (see the previous two sections), you have the option to archive to a USB disk that is attached to your Total Recall VR appliance.



A working archiving strategy must be implemented to avoid losing recordings as a result of auto-cleaning. See section 7.2 Disk and Database Space.

Generally you can use any USB disk that you can attach to your Total Recall VR appliance recorder, however:

- Prefer brand new and unused disks.

- Prefer USB 3.1 or USB 3.0 disks. Avoid USB 2.0 disks at all costs.
- Disks with less than 128GiB capacity are unlikely to have enough capacity for a Portable Repository with maximum allowed occupancy, while a lot of space may be wasted on disks with more than 500GiB. This of course depends on the length of your recordings, shorter recordings have smaller file size while longer have larger file size.

USB disks, in particular thumb drives, generally come preformatted with an NTFS file system and as a result they can be used straight out of the box. However, you can use unformatted disks, as well as disks with a FAT32 and an exFAT file system.

Once you attach a USB disk to your Total Recall VR appliance, proceed to configure the “Media Repository Archiving Connector” service to use it as a Portable Repository.



For complete and detailed instructions on how to setup automatic archiving to a Portable Repository see the Total Recall VR Cockpit User Guide [4].

7. Preventative Maintenance

All Total Recall VR appliances require minimal preventive maintenance to ensure maximum performance.

7.1. Disks

The physical disks that are part of your Total Recall VR appliance are the hardest working component. Information is constantly written to and read from the disks.

The average life expectancy of any type of disk is about 4 years. However, as with any electronic and mechanical technology, the disks in your recorder may last much longer or much shorter time.

We recommend that you replace the physical disks that are used by your Total Recall VR appliance every 4 years or so.



Your Total Recall VR appliance is fitted with a hardware RAID controller. Use the hardware manufacturer management tools to manage the system disks and the RAID.

Total Recall VR Cockpit cannot be used to manage the system disks and the RAID on your Total Recall VR appliance.

7.2. Disk and Database Space

All Total Recall VR appliances manage disk and database space automatically. An integrated auto cleaning function ensures that there is enough free disk and database space to record endlessly.



A working archiving strategy must be implemented to avoid losing recordings as a result of auto cleaning.

The auto cleaning function is performed by the “Media Repository House Keeper” recording service. By default it automatically starts deleting recordings when the database occupancy reaches 100%, or the disk occupancy reaches 95%, whichever occurs first. It removes oldest first recordings until the database occupancy is at or below 85%, and the disk occupancy is at or below 80%.

However, you may be using different limits on your appliance, so check the configuration of the “Media Repository House Keeper” service.

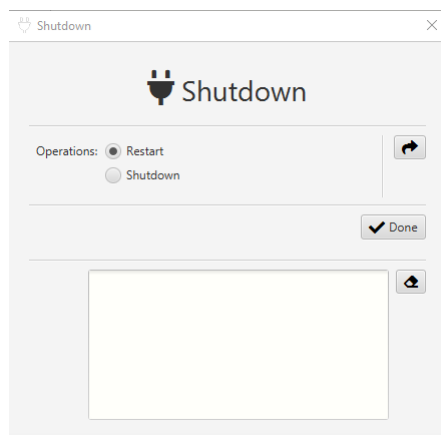
7.3. Orderly Shutdown

You must power down your Total Recall VR appliance in an orderly fashion to prevent damage to its electronic components, in particular its disks, and prevent partial or total information loss.



DO NOT remove power or simply turn off any of the Total Recall VR products while in use. This will result in disk damage and most likely in a partial or total information loss. In addition, it may cause damage to other electronic components. Finally, it will void the warranty.

To shut down, or restart, a Total Recall VR appliance in an orderly fashion use the **Shutdown** control:



8. Troubleshooting

8.1. Limited Product Warranty

For full details of the limited product warranty for this Total Recall VR product please visit our web site: <http://www.totalrecallvr.com/warranty>.

8.2. Support Information

If after using this manual, and other related Total Recall VR manuals and in particular the Total Recall VR Cockpit User Guide [4], you still have questions about the operation of your Total Recall VR appliance and applications, or you are experiencing problems with your Total Recall VR appliance and applications, then:

1. Please visit the Total Recall VR online forums, <http://www.totalrecallvr.com/forum>, where you may find answers to common problems that you may experience when installing and using Total Recall VR products.
2. Please browse the Total Recall VR online articles and tutorials, <http://www.totalrecallvr.com/articles-and-tutorials>, where you may find information on how to use Total Recall VR products in combination with products from other manufacturers.



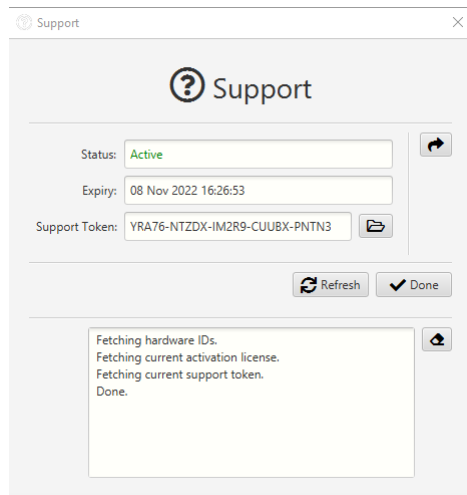
If you continue to experience problems, then in all cases you should seek support from the point of purchase first.

In the cases where you need to contact us directly and require remote support, then please write to itsupport@prolancer.com.au to book a remote support session.



You need to provide a valid and active support token when you seek support in order to receive support directly from us for your Total Recall VR appliance or application.

Use the Support tool to determine the status of your support token as shown on the following screen capture:



If the **Status** of the support token is not *Active*, or it has expired, then you will need to renew the support token, or purchase a new one, before you can receive support from us.

Please note the following regarding the support token:-

- a. You do not need to purchase support tokens for any of your Total Recall VR appliances if you do not wish to receive support directly from us. Please discuss your support options with a representative from the point of purchase. They may, and should, offer support options that are likely to be tailored to your case when compared to the remote support that we offer as the manufacturer of the products.
- b. Support tokens are valid for one (1) year starting from the date that is exactly one (1) month after the date when the appliance that it relates to was shipped from our factory. Support for the first month after the shipment date is free and does not require a valid support token. So during the first year, if you purchase a support token for an appliance at the same time when you purchase the appliance, then you will receive thirteen (13) months of support from the shipment date of the related product. Each subsequent year you will receive twelve (12) months if you renew the support token.
- c. Each token relates to one Total Recall VR appliance and cannot be transferred to another Total Recall VR appliance or used to get support for another Total Recall VR appliance.
- d. On expiry, support tokens can be renewed on back-charging basis. That is you need to pay for years missed and the current year when you renew an expired token. For example:

Let's assume that you purchased a support token when you purchased the Total Recall VR appliance. Further, let's assume that you did not renew the token or purchase a new one after it expired at the end of the first year. If you request support in year 3 of ownership, then you will need to pay for 2 years of support (to cover support for year 2 and 3) to renew your existing token or purchase a new one. The purchase will give you a token that will expire at the end of year 3.

- e. You can purchase a support token at any time on back-charging basis for any Total Recall VR appliance. For example:

Let's assume that you did NOT purchase a support token when you purchased a Total Recall VR appliance. If you request support in year 3 of ownership, then you will need to pay for 3 years of support (to cover support for year 1, 2 and 3) to purchase a new support token. The purchase will give you a token that will expire at the end of year 3.



In summary, if you wish to receive support directly from us for a Total Recall VR appliance, then you need a valid and active support token for the Total Recall VR appliance.

However, you do not need to purchase support from us. Instead, please discuss your support options with a representative from the point of purchase. They may, and should, offer support options that are likely to be tailored to your case when compared to the remote support that we offer as the manufacturer of Total Recall VR appliances.

[End of Document]