VRM Exporter

Command line interface (CLI)

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1 Introduction

The VRM Exporter enables the block-based export of recordings managed by Video Recording Manager. The recording blocks are directly copied from the iSCSI storages and can optionally be converted to MP4 files.

To export recordings you can either use VRMeXport Wizard (graphical user interface) or the VRM Export command line interface (CLI).
The installer for VRMeXport Wizard also contains the VRM Export CLI.

This document contains a few examples how to use the VRM Export CLI and a list of all arguments, which can be passed to the VRM Export CLI.

2   Examples

2.1   Operation via command line

After installing the VRM Exporter, the directory containing the CLI executable should have automatically been added to the *Path* environment variable.

To check whether this has been configured correctly, open Command Prompt:

```
vrm_export_cli --help
```

If an error is displayed instead of the CLI help, fix the *Path* environment as follows:

1. Open **Edit the system environment variables**.
2. Click **Environment Variables…**
3. In the **System variables** table, select the path.
4. Click **Edit…**, then click **New**.
5. Insert *C:\Program Files (x86)\Bosch\Video Recording Manager\VRM eXport Wizard*
6. Click **OK** three times to close all opened windows.
7. Reopen Command Prompt and try to execute the command *vrm_export_cli --help* again.
   Note: The installation directory might have been customized during installation. If this is the case, insert the customized installation directory containing the file **vrm_export_cli.exe** instead.

Before using the CLI, it is recommended to create a user who is only permitted to playback recordings.

– In this example, the user export with password **7Bkp#;^4La** is created.
– The IP address of the example VRM is **10.1.1.1.**

To export the last 24 hours of recordings from all cameras into a subdirectory of *D:\vrm-export*, issue the following command:

```
vrm_export_cli
--source https://10.1.1.1
--username export
--password "7Bkp#;^4La"
--destination D:\vrm-export
```

Note:
– Omit the line breaks, they are only used to improve readability. This also applies to the following code blocks.
– Do not forget to quote the *--password* argument using double quotes to prevent the shell from interpreting special characters contained in the password.
– If the destination path contains spaces, quote it in double quotes, for example *--key-path "D:\vrm export"*.

If you use PowerShell, the history of executed commands is persited in a file. To get the history save path of PowerShell, execute *(Get-PSReadlineOption).HistorySavePath*.

If you pass passwords as command line options, these are persited in the file as well and can potentially be read by a third party. To prevent this, omit the password option and input the password via standard input instead.

If the recording is encrypted, the redundancy key needs to be provided. Otherwise, the CLI cannot finish the conversion to the MP4 format.

In this example, the redundancy key is stored at `D:\vrm-export\redundancy-key.pfx` with password `Sx23k#+5qV`.

To provide the redundancy key, append `--key-path` and `--key-password` to the command:

```
vrm_export_cli
--source https://10.1.1.1
--username export
--password "7Bkp#;^4La"
--destination D:\vrm-export
--key-path D:\vrm-export\redundancy-key.pfx
--key-password "Sx23k#+5qV"
```

If the path to the redundancy key contains spaces, quote it in double quotes, for example `--key-path "D:\vrm export\redundancy key.pfx"`.

Again, if you use PowerShell and do not want passwords to be persited in the PowerShell history file, omit the password options and input the passwords via standard input instead.

2.2   Operation via scheduling script

The installation directory of the VRM Exporter contains a scheduling script. This script can be used to schedule a daily run of the VRM Export CLI at 00:00 h.
The script uses Task Scheduler and encrypts passwords given to the VRM Export CLI to make them accessible only to the executing user account.

To run the scheduling script:
1.   Open the installation directory of the VRM Exporter `C:\Program Files (x86)\Bosch\Video Recording Manager\VRM eXport Wizard`
     Note: The installation directory might have been customized during installation.
2.   Right-click the file **schedule_vrm_export.ps1** and click **Run with PowerShell**.
3.   Wait until the script asks for the parameters for the VRM Export CLI and input all parameters. Do not input the executable name **vrm_export_cli**.
     For the previous example, the input would be:
     ```
     --source https://10.1.1.1
     --username export
     --password "7Bkp#;^4La"
     --destination D:\vrm-export
     --key-path D:\vrm-export\redundancy-key.pfx
     --key-password "Sx23k#+5qV"
     ```
It does not matter whether you provide password options or not. The script will ask for all additionally required passwords.
If you want to customize the export duration, do not use `--start` and `--stop`, but use `--start-relative` and `--stop-relative` for relative times instead.

The scheduling script sets up the task to run even if the current user is not logged on. To do this, the script needs the Windows password of the logged on user account. Enter the password when the script asks for it.
The script finally reports that the task is scheduled.

To check whether the task functions properly:
1.   Open Task Scheduler.

2.   In the left tree, select **Task Scheduler Library**.
3.   Select the **VRM export** task in the middle.
4.   In the right menu, select **Run**.
      Task Scheduler will show whether the last execution was successful or not.
      For details, open the log file at `%USERPROFILE%\Documents\Bosch\VRM`
      `\vrm_export.log`.

To customize the task:
1.   Open Task Scheduler.
2.   In the left tree, select **Task Scheduler Library**.
3.   Select the **VRM export** task in the middle.
4.   In the right menu, select **Properties**.
      The task executes the PowerShell script located at `%LOCALAPPDATA%\Bosch\Video`
      `Recording Manager\VRM eXport Wizard\run_vrm_export.ps1`.
      In the last line of this script, you can change the parameters passed to the VRM Export
      CLI.

2.3   Operation via Task Scheduler

It is possible to manually create an export task using Task Scheduler. Bear in mind that you
should not store the passwords passed to VRM Export CLI as clear text.

To manually create an export task:
1.   Open Task Scheduler.
2.   In the right menu, click **Create Task...**
      The **Create Task** dialog box is displayed.
3.   Under the **General** tab, in the **Name:** field, enter a meaningful task name.
4.   In the **Security options** section, select **Run whether user is logged on or not**.
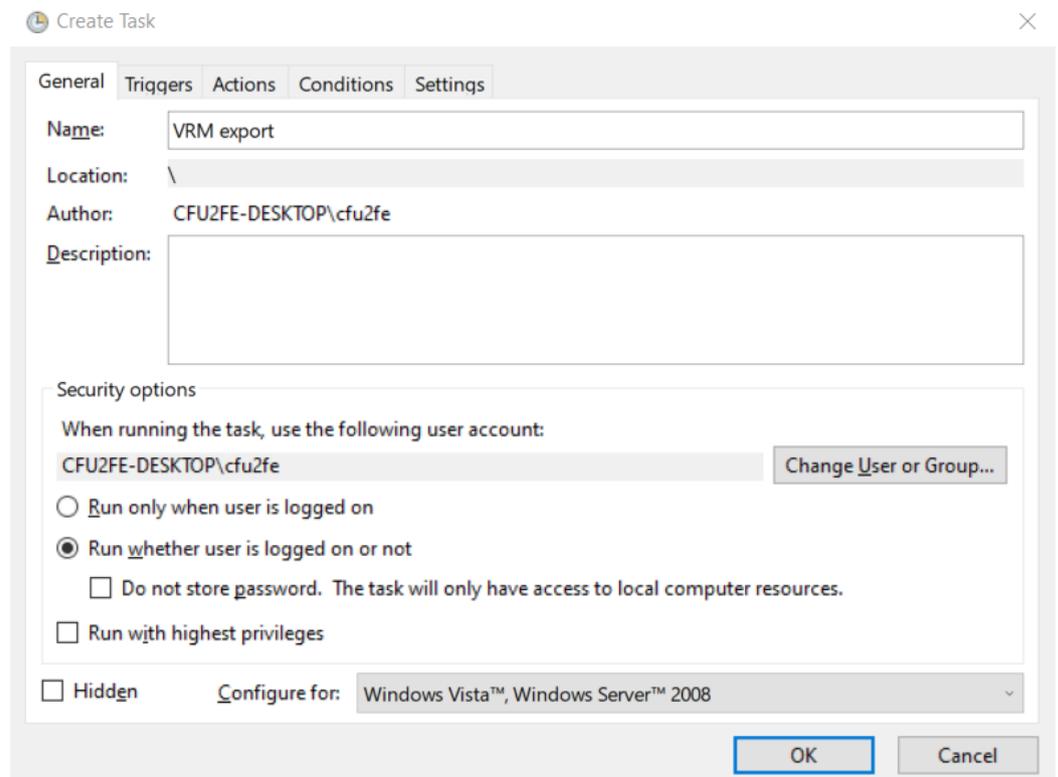
5. In the **Create Task** dialog box, click the **Triggers** tab.
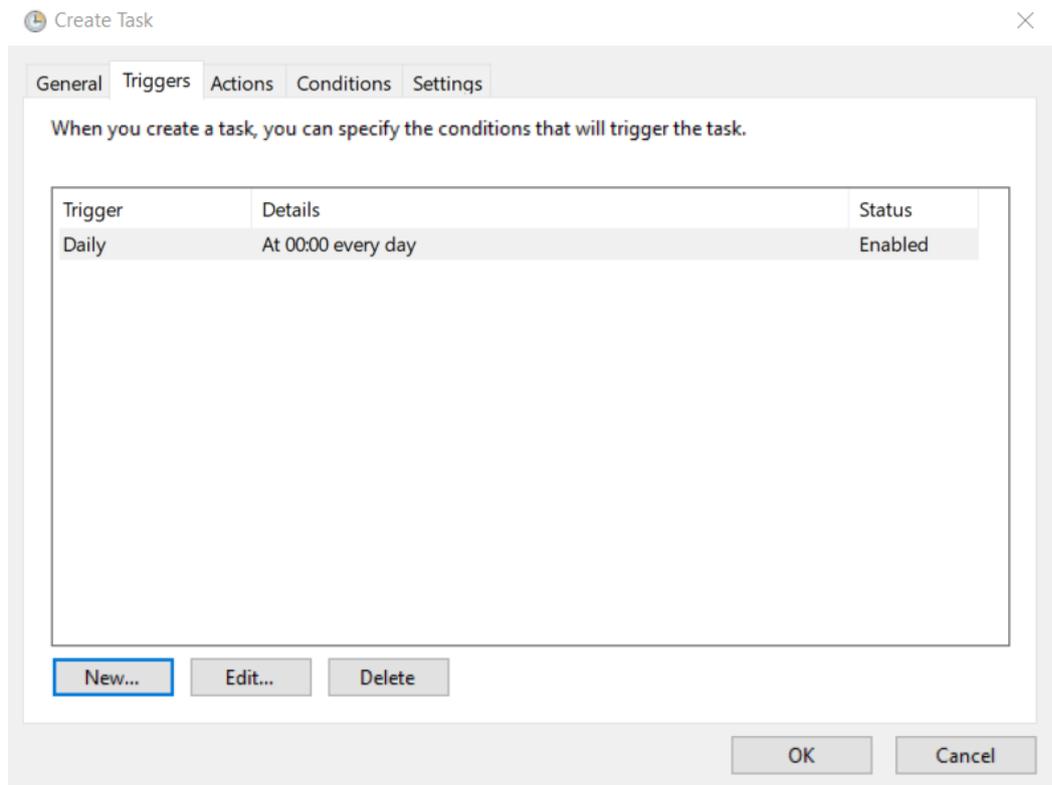
6. Click **New...** to create a trigger.
The **New Trigger** dialog box is displayed.

7.   In the **New Trigger** dialog box, select the desired settings (In the following example, the task is launched daily at 00:00:00 h).

New Trigger   ✕

Begin the task: On a schedule   ˅
Settings

○ One time   Start: 01/01/2021   ▭▾   00:00:00   ⏶⏷   ☐ Synchronize across time zones
◉ Daily
○ Weekly   Recur every: 1   days
○ Monthly

Advanced settings
☐ Delay task for up to (random delay):   1 hour   ˅
☐ Repeat task every: 1 hour   ˅   for a duration of: 1 day   ˅
   ☐ Stop all running tasks at end of repetition duration
☐ Stop task if it runs longer than: 3 days   ˅
☐ Expire: 12/10/2022   ▭▾   13:48:56   ⏶⏷   ☐ Synchronize across time zones

☑ Enabled

                                                                    OK   Cancel

8.   Click **OK** to save the settings.

9.   In the **Create Task** dialog box, click the **Actions** tab.
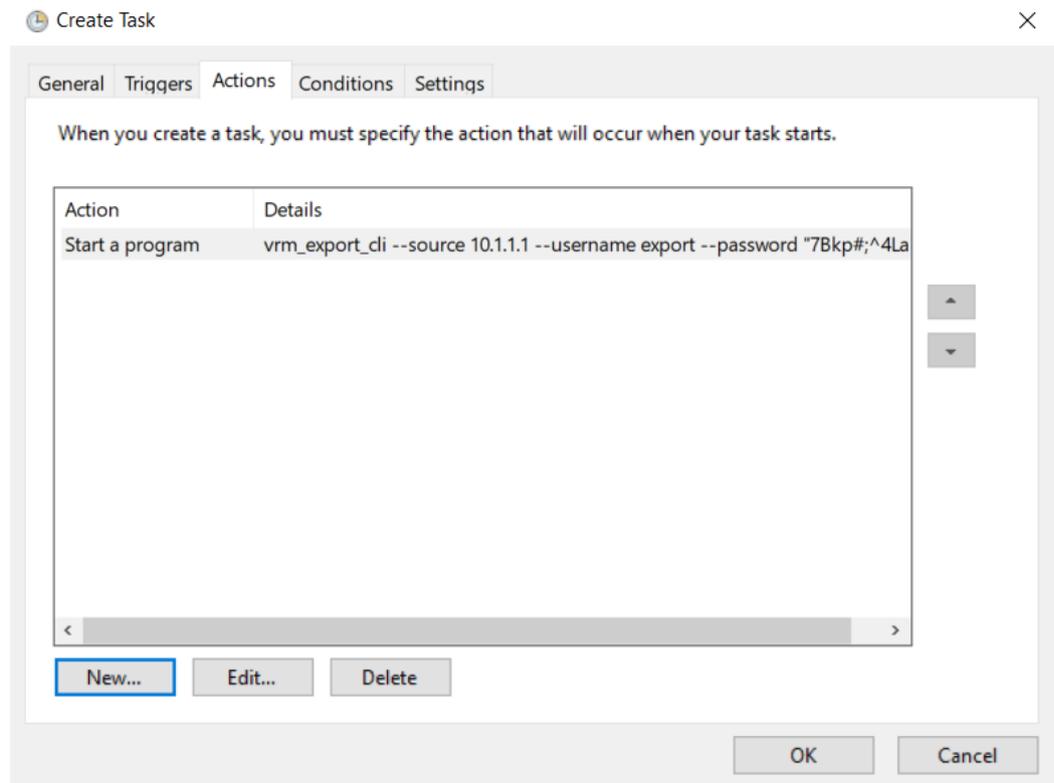
10. Click **New...** to create an action.
     The **New Action** dialog box is displayed.
11. In the **Program/Script** field, enter **vrm_export_cli**.
     In the Add arguments (optional): field, enter all arguments.
     In the case of the previous example, this would be:
     --source https://10.1.1.1
     --username export
     --password "7Bkp#;^4La"
     --destination D:\vrm-export

```
--key-path D:\vrm-export\redundancy-key.pfx
--key-password "Sx23k#+5qV"
```

New Action   ✕

You must specify what action this task will perform.

Action: Start a program   ⌄

Settings

Program/script:

`vrm_export_cli`   Browse...

Add arguments (optional):   -password "Sx23k#+5qV"

Start in (optional):

                                            OK   Cancel
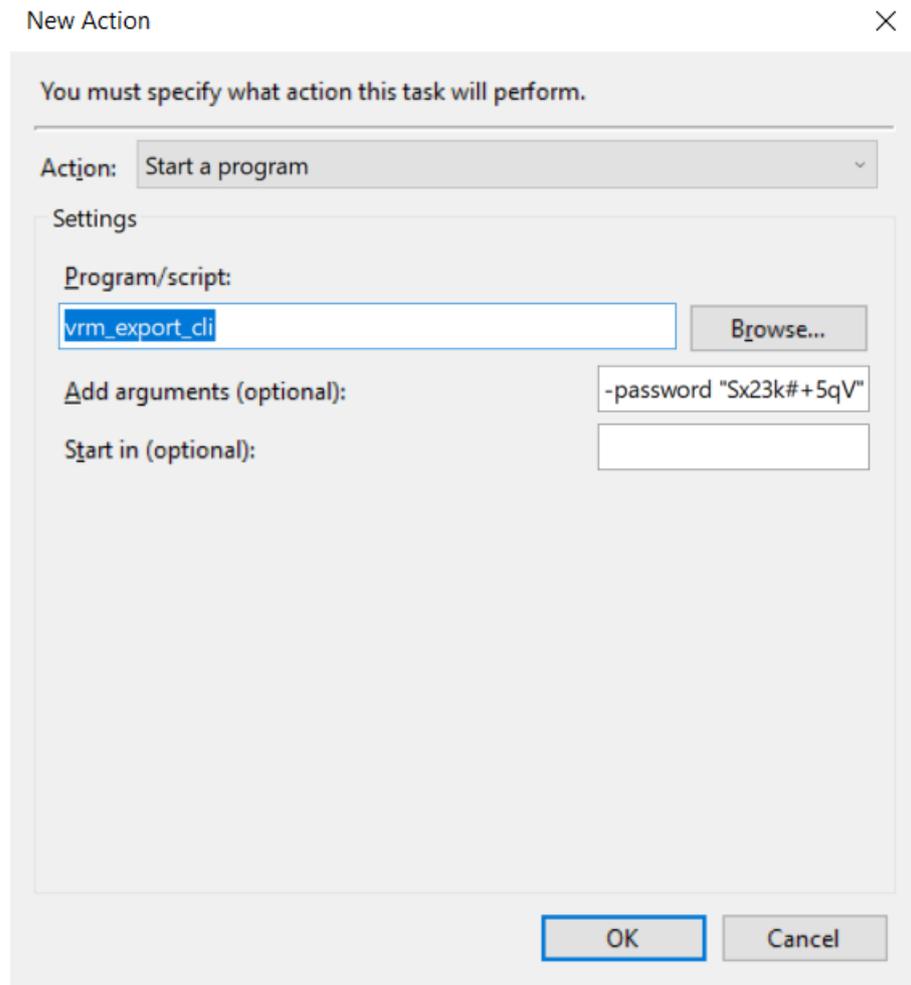
12. Click **OK** to save the settings.
13. In the **Create Task** dialog box, click OK to save the task.
     The export will now run daily at 00:00:00 h.

To check whether the task functions properly:
1. Open Task Scheduler.
2. In the right menu, click **Run**.
     Task Scheduler will show whether the last execution was successful or not.
For details, open the log file under *%USERPROFILE%\Documents\Bosch\VRM*
\vrm_export.log.

3   Arguments

The following table lists all arguments, which can be passed to the VRM Export CLI.

Argument	Description
--source ARG	Address of Video Recording Manager from which recordings should be exported. – Required. The address can be an IPv4 address, an IPv6 address in square brackets, or a hostname. To use HTTPS, prepend the address with **https://**.
--username ARG	Username of the Video Recording Manager user for the export. – Required.
--password ARG	Password of the Video Recording Manager user for the export. If this option is not given, the password is read from standard input.
--destination ARG	Destination path for storing the export. – Required. The path must point either to a local drive or to a mounted network drive. The export is stored in a subdirectory with the export name.
--type ARG	Type of the export. Possible options: *block, mp4*, *all*. By default, *all* is used. – *block*: Only the raw recording blocks are stored – *mp4*: Only the MP4 files are stored – *all*: The raw recording blocks and MP4 files are stored.
--track-ids ARG	Track IDs of the cameras, from which the desired recordings should be exported, separated by commas. If this option is not given, the export includes all cameras managed by Video Recording Manager.
--start ARG	Start the export at the given local time (*YYYY-MM-DDThh:mm:ss*). This option must not be used in combination with *--start-relative*. If no start option is given, the export starts 24 hours before the current time.
--start-relative ARG	Start the export the given number of hours before the current time. This option must not be used in combination with *--start*. If no start option is given, the export stops at the current time.
--stop ARG	Stop the export at the given local time (*YYYY-MM-DDThh:mm:ss*). This option must not be used in combination with *--stop-relative*. If no stop option is given, the export stops at the current time.

Argument	Description
--stop-relative ARG	Stop the export the given number of hours before the current time. This option must not be used in combination with *--stop*. If no stop option is given, the export stops at the current time.
--bandwidth-limit ARG	Limit the bandwidth of the export per target (in kbit/s). If this option is not given, the bandwidth is unlimited. This option should be set to prevent affecting ongoing recordings.
--session-limit ARG	Limit the number of iSCSI sessions to use in parallel for the export. If this option is not given, the number of sessions is limited to 16. At most one session per target is used.
--name ARG	Name the export. The name must only consist of **0-9, a-z, A-Z, .,** -, and **_**. If this option is not given, a name in the format **YYYY-MM-DDThh.mm.ss_YYYY-MM-DDThh.mm.ss** is generated, where the first part denotes the start time of the export and the second part denotes the stop time of the export.
--key-path ARG	Path to the redundancy key for decrypting the recording. This option is not applicable for type block.
--key-password ARG	Password of the redundancy key for decrypting the recoridng. This option is not applicable for type block. If -key-path is given and this option is not given, the password is read from standard input.
--help	Show the help menu.

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