**Отдел за безопасност на движението**

3M, сграда 235-3A-09

Ст. Пол, Минесота 55133-3225 [www.3M.oom/mvss](http://www.3M.oom/mvss)

3M™ AVERAGE SPEED CAMERA SYSTEM VR-EXPORT

ПОТРЕБИТЕЛСКО РЪКОВОДСТВО

ИЗДАНИЕ 2.1

СПИСЪК С ИЗВЪРШЕНИТЕ ПОПРАВКИ

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| ИЗДАНИЕ | ДАТА | КРАТКИ ДАННИ ЗА ИЗВЪРШЕНАТА ПРОМЯНА |
| 1.3 | 17/07/2009 | Първоначална версия с хартиено копие на два езика |
| 1.4 | 04/08/2009 | VR updated to reflect HOSDB comments |
| 1.5 | 26/05/2010 | Актуализиране на някои снимки на екран |
| 1.6 | 04/02/2013 | Добавен/актуализиран Serco EROS 2 export |
| 1.7 | 26/02/2013 | Добавени StarTraq XML и DomeAPI  Добавена функция за проследяване на експорта исторически |
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| 2.1 | 19/02/2014 | Леки промени на някои думи след извършена вътрешна проверка |
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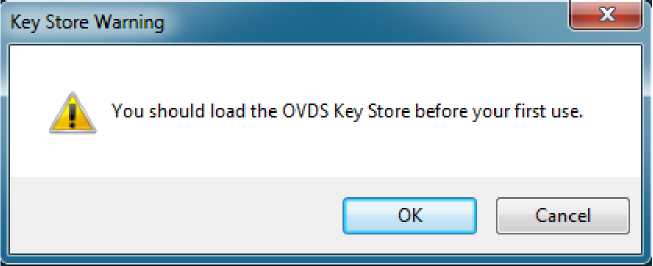
1 Стартиране

Системата на 3M™ камерата със средна скорост произвежда група от записи с нарушения (VR), записани на CD-ROM. VR-Export представлява самостоятелна функционалност, която може да бъде използвана от компютър в бек офиса или на лаптоп, напр., за да бъде занесена в съда за представяне на доказателство. VR-Export осигурява графичният потребителски интерфейс за преглед на всички аспекти на записите с нарушения. Основните функции на системата са:

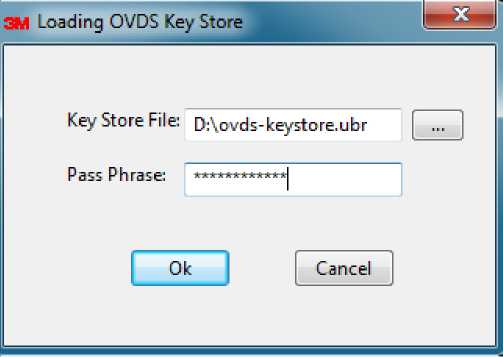
* Зареждане, изготвяне на списък, сортиране, разглеждане и търсене от CD на VR
* Показване на детайли от нарушението
* Експортиране на данни за нарушението във файлова система в HTML формат с цел съхраняване на хартиен носител или за обединяване други документи
* Показване на записите със синхронизиране на времето с външната станция
* Зареждане и актуализиране на базата с ключове за сигурност

Като продължение на VR-Viewer, VR-Export работи и като интерфейс между 3M™ системата на камера със средна скорост и бек-офис системите за издаване на билети, които работят с нарушенията. В допълнение към горепосочените функции, VR-Export осигурява и програма за съдействие с графичен интерфейс за експортиране на нарушения към Serco и/или Startraq системите за издаване на билети в стандартни формати за Великобритания. Системата може да бъде настроена да експортира нарушения в други формати, според изискванията на клиентите. Имайте предвид, че в настоящото ръководство условията на VR-Viewer и VR-Export са равностойни.

Обикновено за работата на VR-Export е необходима употребата на донгъл. Ако работите с версия на VR-Export, която не е защитена с донгъл, при стартиране на програмата трябва да напишете паролата за достъп до базата с ключове на VR-Export. Тъй като нарушенията са записани като проверени и криптирани записи на CD в ERCU, трябва да бъде отворена съответстващата база с ключове и да бъдат разгледани във VR-Export. Ако предварително не е заредена база с ключове, както когато програмата VR-Export бъде заредена за първи път, тогава трябва да заредите базата с ключове на VR-Export, както е показано на фиг. 1 и фиг. 2. За да направите това е необходимо да използвате CD, генериран от системата за управление на ключове (КМ). Освен предоставяне на CD, трябва да напишете и паролата за достъп до базата с ключове.

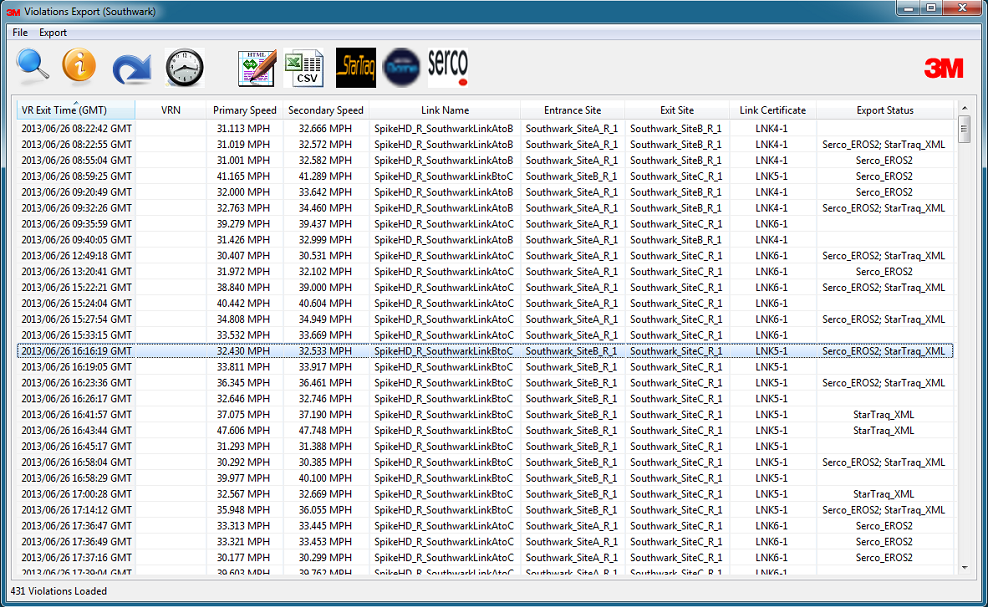


Фиг. 1: Диалогов прозорец за зареждане на базата с ключове за VR-Export



Фиг. 2: Зареждане на базата с ключове на VR-Export

При стартиране VR-Export автоматично зарежда криптираните записи с нарушения от едно от конфигурираните CD/DVD устройства. Зареждането на всички нарушения може да отнеме няколко минути, но по време на зареждането имате достъп до вече заредените нарушения. Обобщаващ екран с всички нарушения се представя за преглед на основните доказателства за извършените нарушения във формата на таблица, както е показано на фиг. 3. Възможно е да сортирате всички или някои от заредените нарушения по час на извършване, VRN, първоначална скорост, вторична скорост, име на линка, идентификационен номер на камерата-източник или приемник, или идентификационен номер на съответстващия сертификат за калибриране на линка. Всички свързани функции, описани по-долу, са достъпни през горните менюта, като за някои от по-често използваните операции са създадени и бутони за пряк достъп.



Фиг. 3: Обобщен изглед на VR-Export

Препоръчително е CD с нарушенията да стои в CD устройството през цялото време. В противен случай би се наложило да слагатe този CD при последващите операции. Имате възможност да прегледате нарушенията на друг CD без да рестартирате програмата.

Имайте предвид, че в сравнение с изображенията, показвани в настоящия документ, действителният изглед на менютата и бутоните може да се различава леко в зависимост от вашите конфигурации и от версията на софтуера, с която работите.

2 Търсене на нарушения

Хиляди нарушения могат да бъдат съхранявани на CD или показвани на екран. Функцията за търсене по много критерии може да спомогне за намаляване на този брой и да улесни прегледа им. Както е показано на фиг. 4, имате възможност да търсите нарушения, изпълняващи едно или няколко от следните условия:

* Violated link selected from a drop-down list
* Plate number: support wildcards "?” for any character and "\*” for substring including none. Leave it blank if matching all plates
* Minimum violated speed: leave it blank for all violated speed
* Time period when the violations happened: zero time gap will match any violated time

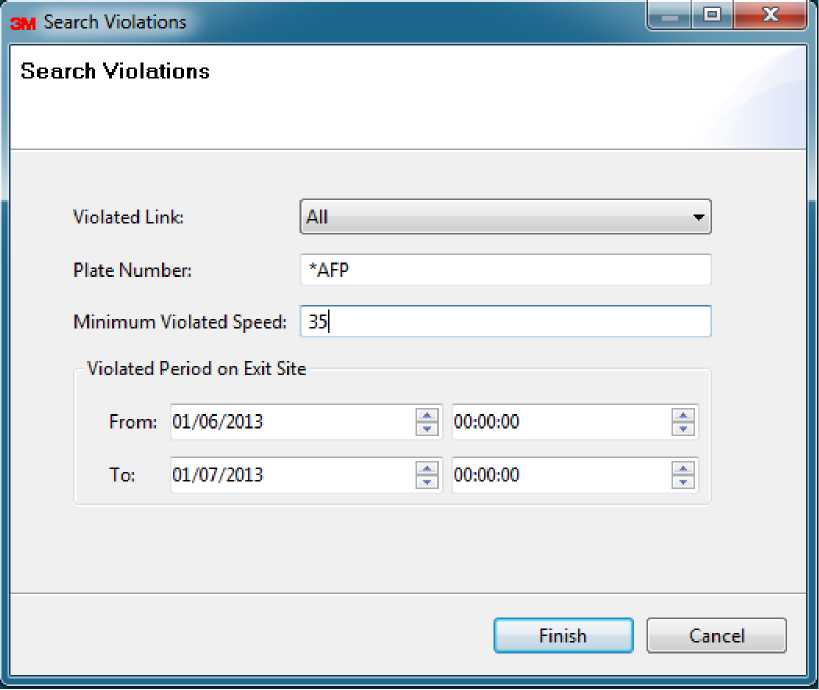


Figure 4: Search Violations

If there are matched violations, they will be then listed in the summary table, otherwise an error message will be shown.

1. Refresh/Reload Violation List

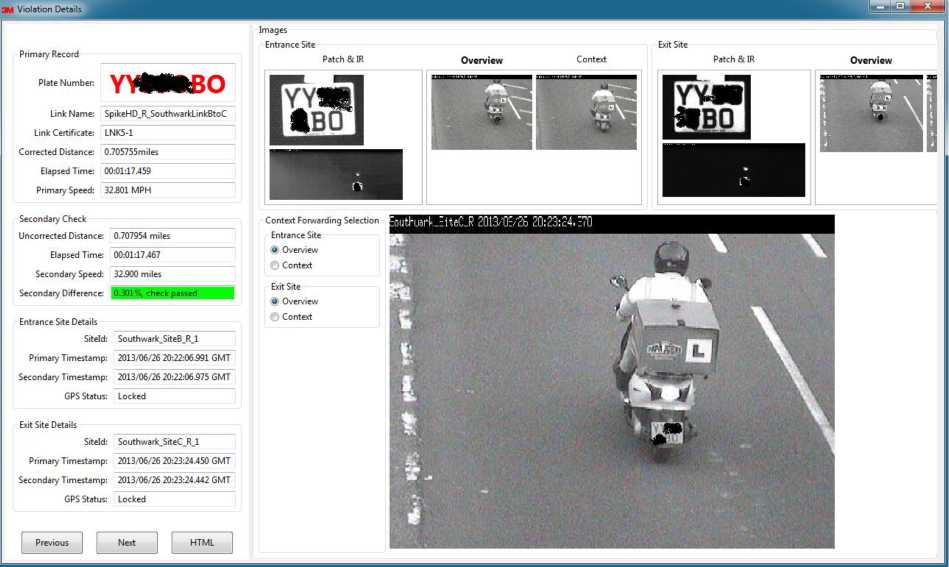
• It may be necessary to refresh or reload the violation list by clicking the "Refresh” menu item or action button whenever:Restoring the full list of all violations after a search operation.The violation CD is changed and the violation list to needs reflect the contents of the inserted CD.

1. Violation Details

The detailed evidence of a selected violation can be displayed in a new window through corresponding menu/button operation or mouse double click, as shown in Figure 5. On the top-right part of the window, the patch images are visible as well as thumbnails for infra-red and overview images related to a violation, from both entrance and exit cameras. Thumbnails for up to 8 context images, if existent, will be also displayed in this part. Clicking on any thumbnail will display the full high resolution version in the right-bottom part of the window, double-clicking a thumbnail will open it in a new window at its original resolution.

Navigation amongst multiple selected violations or all violations shown in the summary table in this window is also available by clicking the "Previous” and "Next” buttons, or pressing page up, page down, home, end and various arrow keys on the keyboard.

Alternatively, it is possible to show the violation details in a pop-up window in the format of HTML, as shown in Figure 6. There is also an option to save the details as an HTML file or print it by selecting the appropriate function from right mouse menu.



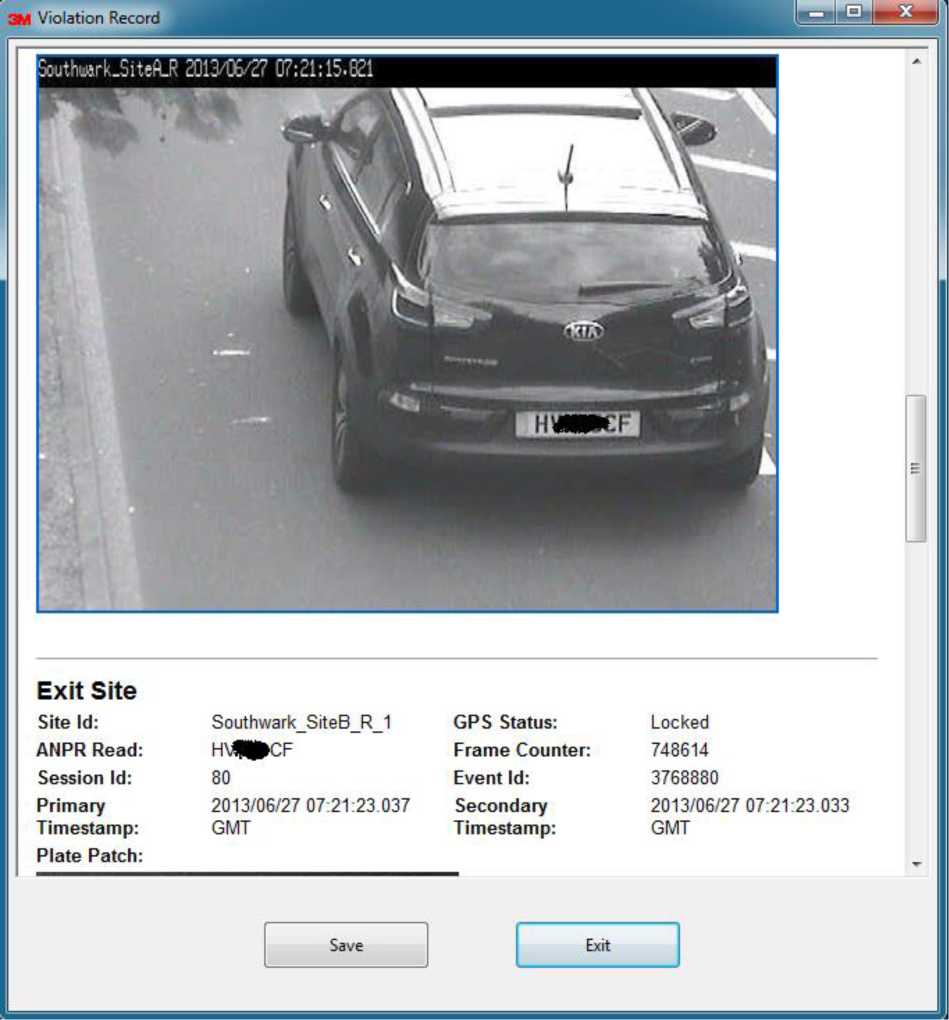


Figure 6: Violation Details in HTML Format

3 Export Violations

VR-Export is the interface utility between 3M™ Average Speed Camera System and backoffice ticketing systems which interface with the violator. VR-Export can export the encrypted violations of interest into some standard formats such as those for ticketing systems from Startraq and Serco EROS 2, HTML files and a custom summary CSV file with or without separated evidential image files, as shown in Figure 7. However, the actual available export options are configurable, depending on the requirements of the customers. For the Startraq and Serco export functions, it is strongly recommend that the compatibility between exported results and the actual Startraq/Serco software is checked with 3M.

All the exporting operations are quite similar. The set of violations to export must be selected as well as the exported destination location and film name for Statraq. It may take some time (even hours if exporting hundreds of thousands violations at a time) to finish this operation when the number of export violations is large. The VR-Export shows the progress (sometimes the GUI even won’t update the progress properly and will only show "not responding”), so patientience is required. A summary report message box is shown at the end of the export process.

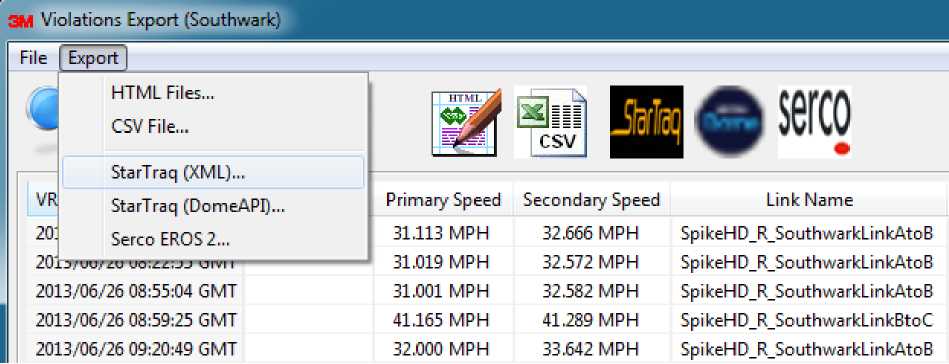
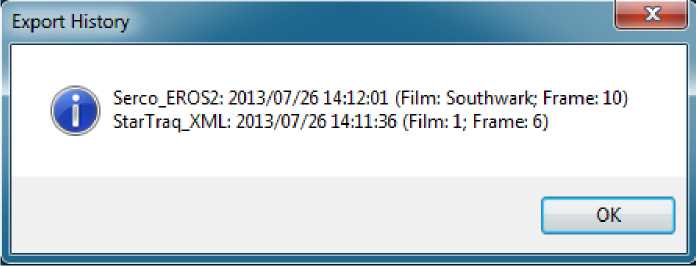


Figure 7: Export Functions

If VR-Export is configured to track ticketing back office export history, the full history of the export details of a particular violation can be displayed as shown in figure 8.

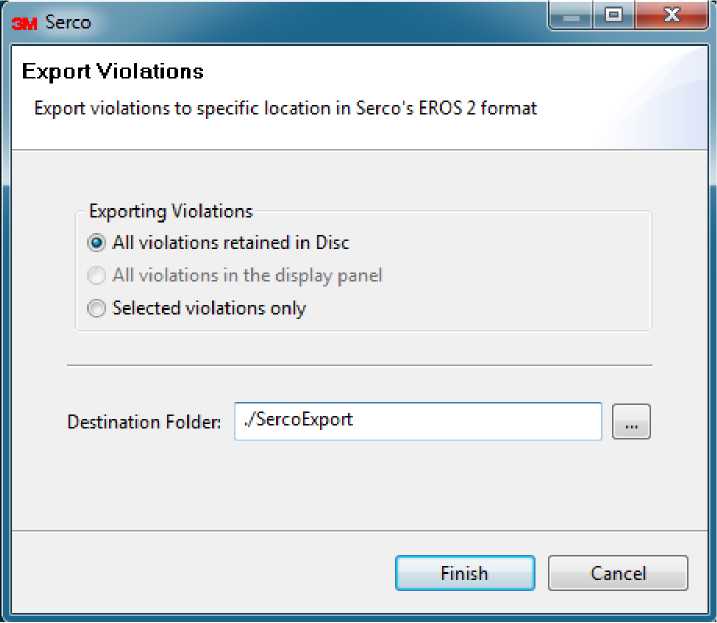


1. Serco EROS 2

Serco EROS 2 export process is shown as figure 9. Usually 3M™ Average Speed Camera System has 8 images for each violation, but Serco EROS 2 only has the capability to show 6 images on the screen. Although VR-Export doesn’t drop any image during the export, it provides some flexibility for the users to control which images to show on the screen, for a batch of exported offences or one particular violation. VR-Export always prioritizes the patch, infrared images from both the entrance and exit cameras to show, and lets the user prioritize which overview and context images to export.

Depending on the configuration, a dialog as in Figure 10 might be shown to choose the default export behaviour when starting the VR-Export. If ythe "Interactive” way is chosen, VR- Export allows the option to choose which image is prioritized from both the entrance and exit cameras for each violation, as shown in figure 11 of the violation details page. From dialog in Figure 10, it is also possible to choose which images will be prioritized by default for all the violations to be exported. The choices will be saved for the next time.

The chosen site identity referred to Serco EROS 2 is configurable, which could be derived from the instation serial, enforced link name or exit camera siteId. As EROS2 only recognizes site identity with up to 10 alphanumeric characters, the site identity will be the chosen source which has the non-alphanumeric characters removed and is truncated at the beginning if it is still more than 10 characters. "AvgSpeed3M” will be used as site identity if a valid reference can’t be derived in this way.



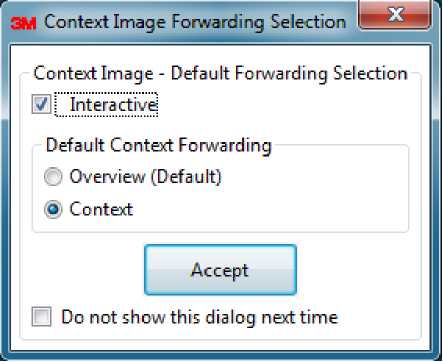


Figure 10: Serco Export Priority Choices



Figure 11 Interactive Serco EROS 2 export image priority

1. StarTraq (XML and DomeAPI)

The VR-Export supports two ways of exporting violations to StarTraq ticketing software. One is in the format compliant with Startraq XML interface specification as shown in Figure 12.

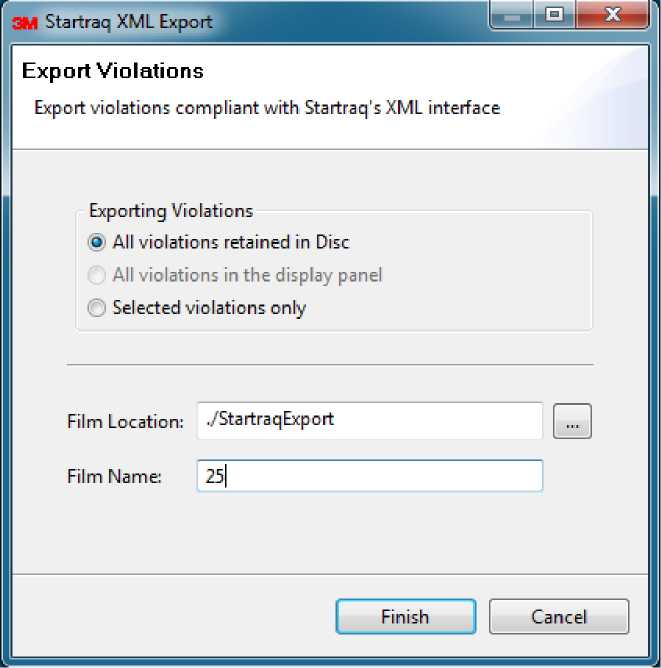


Figure 12: Export Violations in StarTraq XML

The other one is exporting violations directly to StarTraq Dome web service. There are a few configuration items to be set on the Dome sever side to make sure Dome understand where the violations are coming from.

* Camera Type: This should be "3MAverageSpeed”, or otherwise advised by StarTraq side and configured in VR-Export configuration file as instructed in Appendix 1.
* Site Code: This should be the enforced link names in 3M™ Average Speed Camera System. There could be several of them and they are visible in the "Link Name” column of the VR-Export main GUI.
* Camera Number: This should be the sitelds of the exit cameras of each enforced link. Again, they can be found in the "Exit Site” column of the VR-Export main GUI.

The actual export process is shown as figure 13. The WSDL URI, user name and password could pick up from the configuration file if you so prefer. Alternatively they can be manually set at each export process.

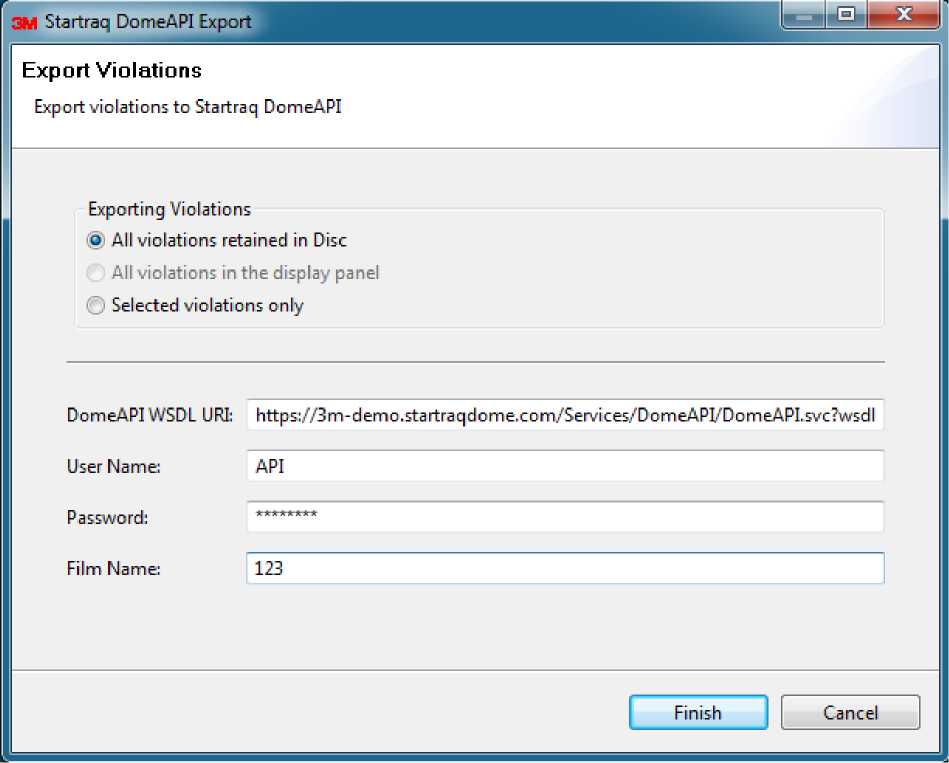


Figure 13: Export Violations via StarTraq Dome Web Service

1. CSV and HTML Exports

The main purpose of CSV export is to get a summary of the all/selected violations in particular order of your choice, as shown in figure 14. Off course it is also possible to export the images associated with each violation during the export if required.

When exporting to HTML files (figure 15), VR-Export will also present the results in a pop-up new window after the operation finishes, as shown in Figure 16. The violation to show in the window can be selected from the drop-down list at the top. The exported HTML file may be directly imported into Microsoft Word using the ‘insert file’ command as illustrated in Appendix 2.

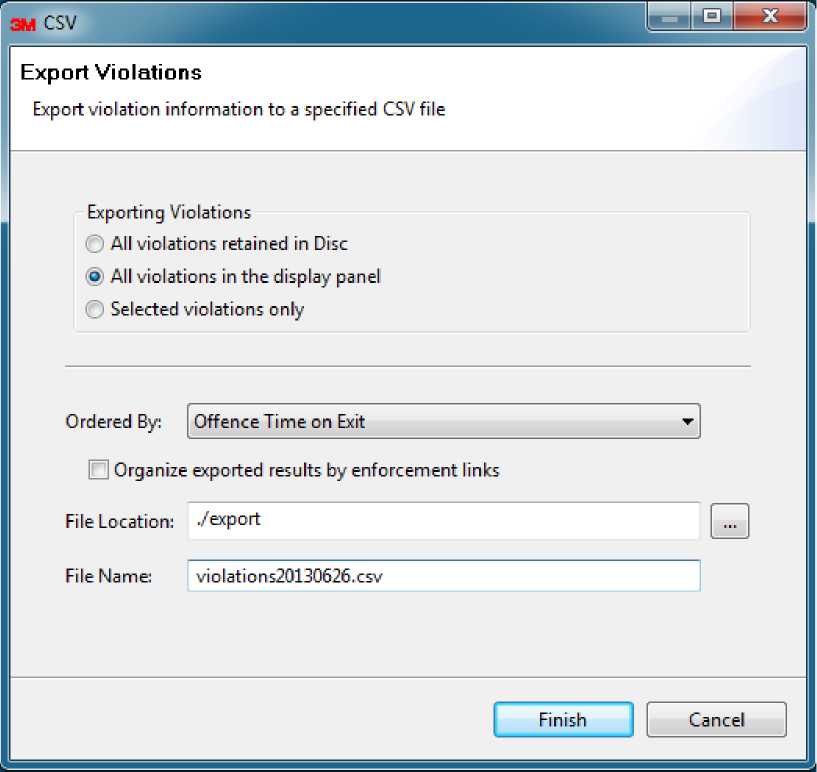


Figure 14: Export Violations to CSV

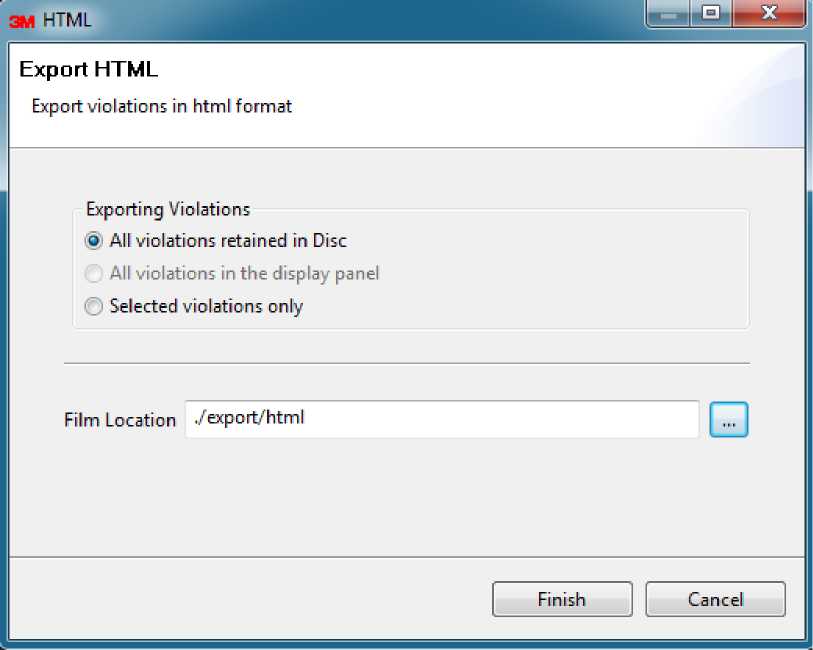


Figure 16: Export Violations to HTML

3M Violation Record

Exported files are saved at D:\projects.SpeedSpike\WorkSpace.SpeedSpike.RC77.Vl.3.branch\VR-Viewer\export\html\20130726101336

|  |  |  |  |
| --- | --- | --- | --- |
| Select violation to show 1 Violation (Plate: VA®j0OX, Link: SpikeHD\_R\_SouthwarkLinkBtoC, Speed: 31.518 MPH, Happened on: 2013/06/27 07:13:35 GMT) | | | - |
|  | | | |
| Violation Record |  |  | 1 |
| Primary Record |  |  |  |
| n . 7e85334d-ff8a^41e-a7ad- Keterence: c 4f531b455cc6 | Violation Time: | 2013/06/27 07:14:11.264 GMT |  |
| Link Name: SpikeHDRSouthwarkLinkBtoC | Link Certificate: | LNK5-1 |  |
| Corrected 0.705755 miles Distance: | Elapsed Time: | 00:01:20.611 |  |
| Primary Speed: 31.518 MPH | Vehicle Plate: | vwasfix |  |
| Secondary Check |  |  |  |
| Uncorrected „ ..  . 0.707954 miles Distance: | Elapsed Time: | 00:01:20.624 |  |
| Secondary Speed: 31.611 MPH | Secondary  Difference: | 0.296%, check passed |  |
| Entrance Site |  |  |  |
| Site Id: Southwark SiteB R 1 | GPS Status: | Locked |  |
| ANPR Read: VMKOX | Frame Counter: | 721224 |  |



4 Time Synchronization Records

VRs and associated time synchronization records are recorded on the same evidential CD- ROM. The VR-Export provides a menu/button operation to present all time synchronization records as shown in Figure 17. Each synchronization record is for an enforcement network with one or more links and many cameras. The GUI shows the synchronization time and its result status for each record for the enforcement network. Moreover, for each camera, it is possible tosee when the time synchronization message was received, the primary and secondary timestamps for the camera, and the result status of the time synchronization for this camera.

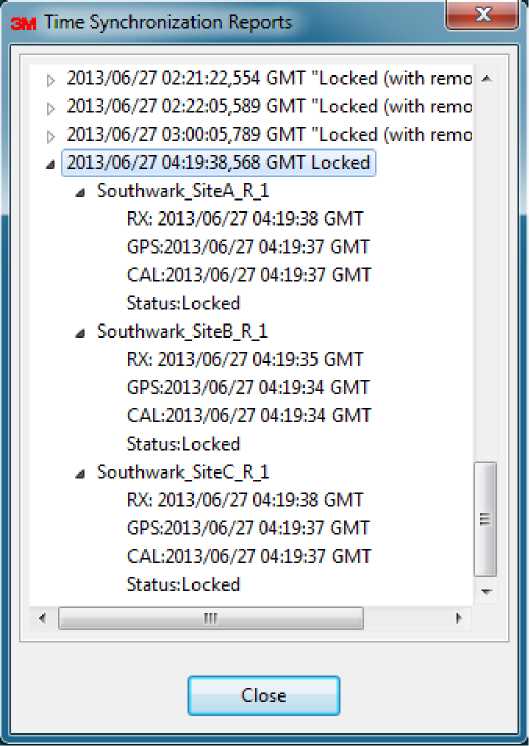


Figure 17: Time Synchronization Reports

5 Change Key Store

The final main function in VR-Export is to update the key store, which can be found under the "File” menu, as shown in Figure 18. Key Stores (in this case the PPKP between the ERCU and the VR-Export) should be updated on a regular basis, at least annually. Refer to your 3M™ Average Speed Camera System Administrator for a CD containing the updated Key Store. To load the new Key Store the full path name of the new key store file must be specified as well as the pass phrase to access the key store to finish this operation. The VR- Export has backward compatibility with the key store, which means that any violation encrypted with an older or the same version of corresponding keys can be decrypted and shown on this VR-Export. Only violations which have been encrypted with a newer version of the Key Store than currently loaded in the VR-Export are not accessible.

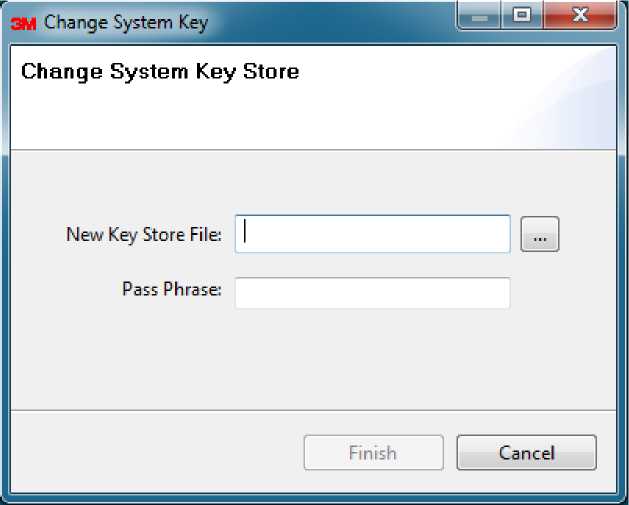


Figure 18: Change Key Store

Appendix 1: Configurations in VR-Export

Some configurations can be set in the configuration file $VREXPORT/conf/Viewer.properties, of which most used along with their default values are shown as follows:

* Indicates the CR-ROM driver where the VR files are located vr.media.drive = D:
* Speed unit in the system, could be either MPH (miles per hour, default) or KPH vr.speed.unit = MPH
* true: log ticketing export details in the DB; DB setup is needed is true vr.backoffice.export.db.track = true
* true (and vr.backoffice.export.db.track is true): extra column in the main GUI
* will show the export status summary for each viilation show.export.status.column = false
* true: an extra column in the main GUI to show the local timestamp at exit show.extra.local.time.column = false
* Indicates where should be the export HTML files to be generated by default export.html.path = ./export/html
* Serco EROS 2 cofiguations. vr.serco.export.enabled = false export.serco.path = ./export/serco
* The source of Serco site identity. 1: inststation serial from key store; 2: link
* name 3: exit camera siteId. They will be normalized and/or truncated to meet serco
* specification

vr.serco.export.site.identity.source = 1 vr.serco.export.context-forwarding.show-dialog = true vr.serco.export.context-forwarding.image = InteractiveContextDefault

* StarTraq XML export configurations vr.startraq.export.xml.enabled= false export.startraq.path = ./export/startraq
* StarTraq Dome WS confiugations vr.startraq.export.domeapi.enabled = false
* The following three is optional and could be manually input from the GUI later vr.startraq.export.domeapi.uri = vr.startraq.export.domeapi.username = vr.startraq.export.domeapi.password =

vr.startraq.export.domeapi.camera.type = 3MAverageSpeed

* csv export configuations vr.csv.export.enabled = true extra.gmt.time.column.in.csv = false links.to.images.in.csv = false

Appendix 2: HardCopy example directly imported into

Microsoft Word ( VRN's anonymised)

Violation Record **Primary Record**

**Reference:**

11:27:09

Link Name: Corrected Distance: Primary Speed: 1cd0298a-65b5-441 a-9fe5-

42652c8446c2

SouthwarkSpikeHDLinkBtoC

0.775779 miles 37.628 MPH

Violation Time: Link Certificate: Elapsed Time: Vehicle Plate: 17/07/2009

GMT

LNK4-1

00:01:14.222

Deleted

Secondary Check

**Uncorrected Distance:**

**Secondary Speed:** 37.742 MPH

**Elapsed Time:**

0.778044 miles

00:01:14.214

Entrance Site

Site Id: Southwark\_SiteB\_SpikeHD\_1

Deleted 199

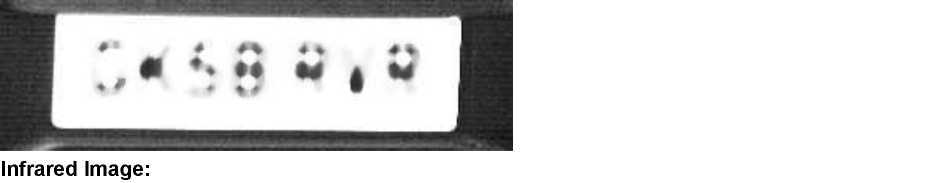
**GPS Status: Frame Counter: Event Id: Secondary Timestamp:**

Locked

27513

4171

17/07/2009 11:25:54.960 GMT



**ANPR Read: Session Id: Primary Timestamp: Plate Patch:**

17/07/2009 11:25:54.970 GMT



Overview Image:



Additional Contextual Image:



Exit Site

**Site Id: ANPR Read: Session Id: Primary Timestamp: Plate Patch:**

Locked

28269

2344

17/07/2009

GMT

11:27:09.174

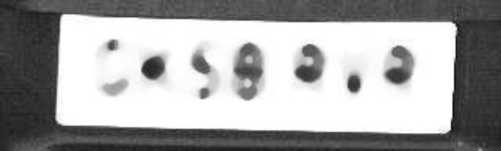
Southwark\_SiteC\_SpikeHD\_1 GPS Status: Deleted Frame Counter:

198 **Event Id:**

**Secondary**

17/07/2009 11:27:09.192 GMT

**Timestamp:**



Infrared Image:



Overview Image:



Additional Contextual Image:

