exacqVision

Overview

The evLPR is a utility application that receives license plate recognition data from specific HikVision cameras. It then formats the data and sends it to one or more exacqVision servers as serial data. The utility runs in the background as a Windows service or Linux daemon.

Installation

First, download the correct installation file for your operating system here.

WINDOWS

To install on a Windows system, double click the *evLPR_1.0.25148.0_x64.exe* file to run the installer and follow the prompts. For a first-time installation, the installer will offer to run the configuration editor prior to trying to start the service. If you do not have all information needed to set up the configuration at this time, it can be done after the installer has finished.

LINUX

Open a terminal and run the following command (without quotations)

"sudo dpkg --install evLPR_1.0.25148.0_x64.deb Be sure to either use the "cd *filepath*" command to first navigate to the folder containing the installer file, or include the file path in the install command above, just before the filename.

Recent Test Environment

- Model: HikVision DS-2CD4A26FWD-IZHS/P
- Firmware: V5.4.5 Build build 170914
- ExacqVision 20.03 Enterprise license
- For more information on specific LPR-capable HikVision cameras, visit HikVision.com



Configuration

The HikVision camera does not use event-driven reporting. Instead, we must use HTTP GET and POST calls to query the camera for new data. This querying is done in a timed loop. It is vital that the camera time be set correctly.

- 1. Log in to the camera using the web interface, then select the **Configuration** tab from the top menu bar.
- 2. In the left-column menu, select System Settings, then click on the Time Settings tab
- 3. Select the correct time zone from the Time Zone selector
- 4. Select the NTP radio button
- 5. Input Server Address (e.g. pool.ntp.org), NTP Port (usually 123), and the desired update Interval
- 6. Click the **Test** button to check the connection.
- 7. You could also use the **Manual Time Sync** option and sync with the local computer time. Since it is best to have evLPR running on the same system as the ExacqVision Server, this option works very well.
- 8. If applicable, remember to adjust the Daylight Savings Time settings on the DST tab.
- 9. Hit the **Save** button to save the new settings. The resulting page should look similar to this:

KVISION	Live View	Playback	Picture	Configuration			
Local	Basic Information	Time Settings	DST RS-232	About Device			
System	Time Zone	(GMT-05	:00) Eastern Time((US&Canada) v			
System Settings	NTP						
Maintenance	NTP						
Security	Server Address	pool.ntp.	org				
User Management	NTP Port	123					
Network	Interval	1440	min				
Video/Audio		Test					
Image	Manual Time S	Sync.					
Event	O Manual Time S	Sync.					
Storage	Device Time	2018-06-	11T12:58:14				
Road Traffic	Set Time	2018-06-	11T12:28:50	📆 🗌 Sync. with computer time			
	🗄 Sa	ve					
	VISIONLocalSystemSystem SettingsMaintenanceSecurityUser ManagementNetworkVideo/AudioImageEventStorageRoad Traffic	Live View Local System System Settings Maintenance Security Security User Management NTP Port Interval Video/Audio Image Event Storage Road Traffic	Live View Playback Local Basic Information Time Settings System Time Zone (GMT-05) System Settings NTP Maintenance NTP Security Server Address pool.ntp.of User Management NTP Port Itage Manual Time Sync. Storage Road Traffic Set Time 2018-06- Save 	Live View Playback Picture Local Basic Information Time Settings DST RS-232 System Time Zone (GMT-05:00) Eastern Time System Settings NTP Maintenance ● NTP Security Server Address pool.ntp.org User Management NTP Port 123 Network Interval 1440 Video/Audio Test Image Manual Time Sync. Event ○ Manual Time Sync. Storage Device Time 2018-06-11T12:58:14 Road Traffic Set Time 2018-06-11T12:28:50			



+1.317.845.5710 +5255.56080817 +44.1438.310163 +31.485.324.347 USA (Corporate Headquarters) Mexico Europe/Middle East/Asia Central Europe

Page 2 of 9 April 2020

Configuring the evLPR Service

Setup of the evLPR service is done with the cfgedit configuration editor utility, which can be found in the evLPR installation directory. This is a graphical editor which lays out the configuration elements in a more convenient format. The first time the editor is executed, it will display a minimal configuration tree, with no values defined except for those options which have default values.

There are 5 main points of interest to edit here.

- 1. Address: The IP of the camera being used
- 2. User: username of camera
- 3. Password: password of camera
- 4. **SerialPort**: a customizable port number used to communicate with the exacqVision Server.
- 5. Fields: the specific data points requested from the camera in each LPR capture events

exacqVision evLPR Configurat File Edit View Help Output fields to display (separate)	tion Editor — v ated by spaces) (optional)		TIP: When opening the exacqVision evLPR Configuration Editor for the first time, you can use <i>evLPR_Sample.xml</i> as a template to get you started. Just click <i>File > Open</i> , then navigate to the
evLPR			installation folder. By default this is
Cameras			"C:\Program Files\exacqVision\evLPR"
PollInterval	1		
Camera		ſ	
Туре	Hikvision		To edit any of these, just double click the
Address	172.19.235.130		section. You will edit by typing text or
Port	80		selecting options from a dialog box, like the
User	admin		Fields section, shown here;
Password	admin		· · ·
SerialPort	9090		Choose Fields X
- Output			Choose and/or reorder items
Fields	captureTime plateNumb	er picName	
UseFieldLabels	True		🛛 🖾 captureTime
LabelSeparator	:	\	🖉 . w la ta Nu wala a w
~ HeldSeparator	,	\	
			picName Move Up
Save	Exit Reset /	AII 🛛	Move Down
Restar	t evLPR Service		OK Cancel





+1.317.845.5710 +5255.56080817 +44.1438.310163 +31.485.324.347 USA (Corporate Headquarters) Mexico Europe/Middle East/Asia Central Europe

Page **3** of **9** April 2020

exacqVision Serial Profile Configuration

- 1. Click on Serial Profiles in the left navigation tree.
- 2. Click the *New* button to create a new Serial Profile.
- 3. On the configuration tab, specify a Profile Name.
- 4. SOT and EOT are not required.
- 5. Select *Standard* for the Market Type.
- 6. Case sensitivity is optional and only necessary with SOT/EOT configured.
- 7. Click *Apply* to save the Profile.



NOTE: The data shown here will appear after configuring the Serial Port.



+1.317.845.5710 +5255.56080817 +44.1438.310163 +31.485.324.347 USA (Corporate Headquarters) Mexico Europe/Middle East/Asia Central Europe

Page 4 of 9 April 2020

exacqVision Serial Port Configuration

- 1. Log into the exacqVision Client as an Administrator and click on the Config (Setup) Icon.
- 2. Click on *Serial Ports* in the left navigation tree.
- 3. Click the *New* button in the bottom left corner, and enter a Name for the Serial Port.
- 4. Select **POS** from the Use dropdown menu.
- 5. In the *Profile* field, select the Serial Profile name you created. In this example, *HikVision LPR*. If you have not yet created one, select *New* and you can name it later in the Serial Profile page.
- 6. Select *TCP* from the type dropdown menu.
- 7. In the *Address* field, enter the IP address of the computer where the evLPR service is running. If the service is running on the same machine as the exacqVision server, use 127.0.0.1 as the address.
- 8. In the *Port* field, enter the SerialPort number you chose in the evLPR Configuration Editor earlier.
- 9. The *Max Line Length* and *Line Ending* fields are optional but have been edited for this example to show clearer separation in LPR data.
- 10. Click Apply





+1.317.845.5710 +5255.56080817 +44.1438.310163 +31.485.324.347 USA (Corporate Headquarters) Mexico Europe/Middle East/Asia Central Europe

Page **5** of **9** April 2020

String Replacements

It is also possible to replace information in the data received to display customized information. In this example, specific license plate numbers have been replaced with the name of the vehicle to be more humanly readable.

V exacqVision Client				- 0	×
📃 🔍 🦫				🔛 🔄 🕝 exacqV	/ision
Configuration Filter Systems Add Systems Add Systems Add Systems Filter Client Groups Understore Tours Layouts Filterprise Configure System Storage Storage Storage Storage Filterprise Fi	Profile Import Export Hikvision LPR	S Global Settings Encrypt database Days to Retain Data: [Configuration Live Display Select All String plateNumber: 813942 plateNumber: MFVD842 plateNumber: MFVD842 plateNumber: 778CG4	60 Control Con	Apply Cancel Apply Cancel rds Line Masks String Replacements Rules Replace KnownVehicle: BATMOBILE KnownVehicle: KITT KnownVehicle: CTO-1 KnownVehicle: M.FALCON	

See the Search section below to see how these string replacements look in searched data.





+1.317.845.5710 +5255.56080817 +44.1438.310163 +31.485.324.347 USA (Corporate Headquarters) Mexico Europe/Middle East/Asia Central Europe

Page 6 of 9 April 2020

Event Keywords

In order to associate HikVision LPR Events to ExacqVision actions, you must first create Event Keywords. These keywords must identically match the output received from the HikVision camera, as indicated in the previous section.

Please note that the string values are inherently case sensitive.

- 1. Click on the *Event Keywords* tab, then click the New button
- 2. Enter the event *String* value for each of the individual HikVision Event that have been chosen in the Fields section of the evLPR Configuration Editor. (See page 3 for more details.)
- 3. Click *Apply* to save the Keywords.

V exacqVision Client		– 🗆 X
📃 🔍 🧐) exacqVision
V exacqVision Client Configuration Filter Systems Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client Client	Serial Profile Giolal Settings Days to Retain Data: O Profile Configuration Enable Configuration Enable Control Profile Import::: Export:: Enable Control Enable Control Control <th>) exacqVision</th>) exacqVision
	New Delete	Apply Cancel
< >		

Continue to **Event Linking** below to see how these event keywords can be used.



+1.317.845.5710 USA (Corporate +5255.56080817 +44.1438.310163 +31.485.324.347

Headquarters) Mexico Europe/Middle East/Asia Central Europe

Page 7 of 9 April 2020

exacqVision Event Linking Configuration

Once the keywords have been added, go to **Event Linking** in the configuration tree on the left. Here you will create associations between the HikVision LPR Events and actions that ExacqVision can perform based on those events.

- 1. Click the *New* button to create a new Link.
- 2. Select Serial Port as the Event Type.

exacqVision

- 3. Select the *Event Source* (example: *HikVision Keyword captureTime*) to associate to an action
- 4. Specify the Action Type, Action Target, Pre and Post Trigger, then click Apply to save changes.

V exacqVision Client												-		<
📃 🔍 🎭									5 8 2 9		?	ехас	qVisio	n
Configuration Q Filter &						Even	nt Linking							
- 💭 Add Systems	Server	Actions			1									
🗊 🌆 Client	Log	Event Type	Event Source		At Least	Action Type	Action Target	Pre Trigger	Post Trigger	Status				
		Serial Port	Hikvision - Keyword	l captureTime	Immediate	Record Video	HikVision LPR	1	1	Off				
- Cours														
Enterprise Enterprise Enterprise														
- Configure System														
Add IP Cameras														
G → Camera Recording														
HikVision LPR														
	Ever	nt Type		Event Source			Action Type	Action Target				Pre Trigger		
Alarm Outputs	Video Motion Video Loss		Hikvision Hikvision - Keyword captureTime		me	Log Event Record Video	Q3505 HikVision LP	R			1	Seconds		
	Inp	ut Trigger		Hikvision - k	eyword plateNun	nber	Record Audio					De et Trieren		
Add Security Integration	Seri	ial Port ial Profile					Notify					Post Irigge	r la i	
Audio Inputs/Outpu	Hea IP (alth Camera Connectii	n				Auto Export PTZ Preset						Seconds	
Storage	Sof	t Trigger					Security Trigger							
Serial Ports	Ana	ne Trigger alytics					Analyze Video							
- Motifications	Sou	irce Group thound Connecti	an				· ·							
- 🙆 Auto Export	Sec	urity Integration	Connection											
- Schedule	Sec	urity Integration . urity Integration .	Alert Alarm											
Archiving	Seri	ial Port Connectio	on											
Associations	INO	Recording		Lasts at Le	ast 1 🏺	seconds 🗸								
File Management														
- 🔏 Users					Lo	g Settings								
📖 🚨 Change Password					M	ximum Days to Ke	ep Logged Events: 30	▲ ▼						
< >					Ne	w Delete	Apply	Cancel						
-														_



+1.317.845.5710 +5255.56080817 +44.1438.310163 +31.485.324.347 USA (Corporate Headquarters) Mexico Europe/Middle East/Asia Central Europe

Page 8 of 9 April 2020

Searchable Event Recording

Once your keywords and events are configured, those events can now be searched by time and date. The result from the examples above is shown here.

V exacqVision Client		- 🗆 X								
	iii 💼 💼 🔍 🤤 (🗄 🖶 👰 🖿 🔍 exacqVision								
Search Cameras		Hikvision								
Cameras	-	captureTime: 2020040871704180000, plateNumber: JR1237, picName: 202004081704182500, country: USA								
Q3505 HikVision LPB		captureTime: 2020040871719460000, KnownVehicle: ECT0-1, picName: 202004081719467400, country: USA								
		captureTime: 2020040871721350000, plateNumber: 718962, picName: 202004081721356200, country: USA								
······································	-	captureTime: 2020040871730470000, KnownVehicle: BATMOBILE, picName: 202004081730476200, country: USA								
		captureTime: 20200408T1817330000, KnownVehicle: M.FALCON, picName: 202004081817330200, country: USA								
	No Camera	captureTime: 20200408T1819360000, plateNumber: 778C, picName: 202004081819366900, country: USA captureTime: 20200408T1824570000, plateNumber: N499Y, picName: 202004081824573000, country: USA								
	-									
		captureTime: 20200408T1907560000, KnownVehicle: M.FALCON, picName: 202004081907568900, country: USA								
		captureTime: 20200408T1909090000, plateNumber: 778C, picName: 202004081909095000, country: USA								
		captureTime: 20200408T1938310000, plateNumber: FVD872, picName: 202004081938311400, country: USA								
		captureTime: 20200408T1942380000, plateNumber: FVD872, picName: 202004081942382200, country: USA								
		captureTime: 2020040871943360000, KnownVehicle: BATMOBILE, picName: 202004081943364200, country: USA								
		captureTime: 20200408T1955560000, plateNumber: FVD872, picName: 202004081955563700, country: USA								
	Search Serial	🚺 🔍 🚺 🗩 💌 🔣 💽 🔴 Paused 🛛 🖓 🖓 🖳 🖕								
	Search Range									
Cameras	4/ 7/2020									
Groups	Start Time: 06:29 PM									
Maps 1	4/ 8/2020									
Uiews	End Time: 07:53 PM									
P Events	Search Quick Export									
Cases	📰 💄 🛍 📄									

(Individual results may vary. Purchase necessary. See Exacq Sales for details. No fictional vehicles were harmed in the making of this guide.)

Contact Info & Support

HikVision Technical Support

Web: https://us.HikVision.com/en/contact-usa

exacqVision Technical Support

Web: https://exacq.com/support/techsupport/



