

INSTALLATION GUIDE





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1.1. What is carGuroo?

carGuroo is a native Milestone XProtect LPR plugin that quickly and accurately provides vehicle data (license plate, make, model and type) in various scenarios



car Guroo

Plugin with preset settings in Milestone



Quick installation and easy configuration

Milestone
XProtect plugin

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Managed in Milestone. All configurations are done in XProtect Management Client

Own database. The plugin works with own FF Group database (200M of events)

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System requirements

*For the carGuroo recognition server

Minimum:

Intel® Core[™] i3-10105T Processor, 16 GB RAM, HDD free space: 500 MB installation, 180 GB for DB* (for 1-2 channel) **For the low traffic with average 2000 events per day

Recommended:

Intel® Core[™] i9-10980XE Extreme Edition Processor, 32 GB RAM, HHD free space: 500 MB installation, 2 TB for the database* (for 16 channels)

Supported OS:

Windows 10/11 PRO, Enterprise, Windows Server (64 bit) 2019, 2022 Essentials, Standard and Datacenter

Supported XProtect versions:

Milestone XProtect 2023 R1 and newer (Express+ or higher)



1.3. Supported regions





* Customer can choose the region from the UI

F





This release is available for download from the official FF Group folder on Google Drive here.

Run carGurooSetup.exe as an administrator



Windows may require you to confirm your choice:

ATTENTION! Running carGuroo Installation as an Administrator is required for correct installation.







This case assumes that all Milestone and CarGuroo components will be installed on the same host:



In the case of a multi-server system configuration, you have the opportunity to install carGuroo components on different hosts.

In this case, starting by installing the carGuroo recognition server is recommended.

© :	Setup - carGuroo version 1.1
Ir	nstallation selection
	Plugin for Management Client
	Plugin for Smart Client
	✓ CarGuroo recognition server

The carGuroo server can be installed on a separate host within the same network segment with other Milestone components.

Also, within one system you can run several carGuroo recognition servers. All recognition servers will be managed through the XProtect Management Client.

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2.3. carGuroo recognition server path, ports, DB connection



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carGuroo service port: 5137	Setup - carGuroo version 1.1 Database connection info		- 0			
	Host: localhost 2 Use local PostgreSQL server (Pos Port: 5432 Liser TD *	tgreSQL installer will be l	launched if PostgreSQL is not installe			
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ugin installation paths and ath for the events data

nough free space on your hard drive. Event hard drive space. If there is not enough carGuroo events storing path to a disk with space

> ecify the main mmunication ports*

> > ×

Cancel

*If some of the ports are already occupied you will get the appropriate message by clicking the "Next" button. For example:

Setu		×
	Ports 5432 already in use, please d	efine other ones
		ОК

In this case, please specify another port or free it from other applications and continue with the installation.

Specify PostgreSQL database connection settings (In case of updating existing system enter proper password for the PostgresSQL DB. In case of new installation specify the password which you will use for the BD).

If you change default Database credentials, please note they will be required during further PostgreSQL installation





2.4. Milestone XProtect connection

Choose authentication method: with Windows user or with XProtect Basic* user

*Basic user should be assigned to the Administrators group first

×

(IION)

Cancel

- Check the summary info and process installation by clicking "Next"
 - During the first carGuroo installation it is necessary to install the PostgreSQL database.

After this step, the PostgreSQL installer will be run automatically. Click "Next"





2.5. Database Setup (PostgresSQL)

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Cancel

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	Select the components you want to you are ready to continue. PostgreSQL Server pgAdmin 4 Stack Builder	to install; clear the compo	onents you do no Click on a compon	t want to install. Click ent to get a detailed (Next when description	
VMware InstallBuilde	Command Line Tools	Setup Password				-
		Please provide a par Password Retype password	ssword for the dat	tabase superuser (postg	gres).	
ł	L Mware InstallBuilder					
		VMware InstallBuilder			< Back	Next >

Specify the folder to install the database or use the default value

Select components to install or use the default value. The PostgresSQL Server component is required for installation.

We recommend to install Postgres by default; don't install StackBuilder

- Please input the password that you previously specified for Postgres superuser in the <u>previous step</u> with PostgreSQL creds

milestone



2.6. Database Setup (PostgresSQL)

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Select the port number (the default is 5432)

- Skip this step by clicking the "Next" button
 - Confirm installation



Finished PostgreSQL installation

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2.7. Finish carGuroo recognition server installation



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Wait for installer to finish

- The installation of the carGuroo recognition server is now complete

carGuroo 2.8. Install components for the Management and Smart Client



Please close Management and Smart Clients before carGuroo plugins installation.

Using the same installer carGuroo_1_1_Setup, on a host with the XProtect Management Client already installed, install the corresponding components of the carGuroo plugin.

Please check the proper plugin path during the installation.

A similar procedure should be performed on the host with the Smart Client installed by installing the necessary carGuroo components for the XProtect Smart Client. *You can install the plugin on several hosts with XProtect Smart Clients installed, thus providing simultaneous access to recognition data for several users.



*For the best user experience, it is highly recommended to have a gigabit network connection between all carGuroo and Milestone hosts.





3.1. Activating the license





Open the Management Client and in the Site Navigation side panel go to the MIP Plug-ins and choose carGuroo plugin. Create the recognition server by right clicking above the "Servers" object

> Specify the recognition server name, recognition server's host address and ports (should be the same as you input during Recognition Server installation procedure)

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3.1. Activating the license





Input your activation code and click the "Activate" button to perform activation

> successful activation, you will see a corresponding notification

Please Note! It is mandatory to have an Internet connection while the activation procedure.



3.2. Connecting cameras





 Connect cameras for LPR from the list simply by checking the boxes next to the camera name



3.3. Adding ROI





Configure every camera for recognition by adjusting the ROI and checking the plate size. You can check recognition quality by viewing raw data in the trace log located at the following path:

C:\ProgramData\CarGuroo\Logs\Y YYY-MM-DD\Trace



3.4. Recognition parameters

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Choose the "Settings" tab to select preferred region and to fine tune recognition settings (sensitivity, threshold, min. and max. plate size in pixels and number of symbols on the license plate). These settings are only for advanced users

*"Preferred country" feature is available only for the EU and USA regions. "Preferred country" is designed to improve the quality of country recognition for Europe and states for the USA

- It is recommended to restart Milestone services and then carGuroo services after finishing adjusting recognition parameters or after changing the setting of Preferred country



3.4. Recognition parameters



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- To increase make and model recognition quality now you can specify vehicle view on the camera image*
 - Set "Both" if you are not finished yet with the camera installation angle
 - Set "Front view" if, in the recognition zone, you will see only the front of the vehicle
 - Set "Rearview" if, in the recognition zone, you will see only the rear part of the vehicle

*Please see our "carGuroo cameras installation Guide" to understand more about camera installation requirement



3.4. Recognition parameters





Now you can specify the recognition scenario for post-analytic. The main goal is to provide one recognition event per vehicle without duplicates.

The **"Default" scenario covers 90% of real-life cases** (traffic monitoring in the highways/city streets, parking, etc). This scenario has complicated logic which also covers the "Traffic flow" scenarios below.

We added more scenarios for some "hard" installation cases:

"Parking entry" - this scenario will help you in cases when a vehicle approaches the camera at low speed.

"Stationary car" - this scenario could help you in cases when the car is parked in front of the camera and stays for a long time (from several minutes to several hours).

"Test mode" - could be useful while checking recognition quality. This mode disables post analytic and in the results tab, you will get all raw recognition results.

"Traffic flow - best result on the confidence" - this is a private work scenario. For example, if a car license plate was recognized only 10 times, then the algorithm from 10 recognition results will select one result with the highest confidentiality for display.

"Traffic flow - best result on the statistic" - This is a private work scenario. For example, if a car license plate was recognized only 10 times, while 7 times the number was recognized incorrectly with a confidentiality of 0.6 and three times correctly with a confidentiality of 0.9, then the algorithm, based on the statistics of the number of recognitions, will display one result out of 7 incorrect ones since such there were more results.

car Guroo







3.6. FF DataFactory integration





- Go to "Servers" "Integration" tab
- Insert FF DataFactory IP address and operating port
- Match checkbox on the specific camera to start sending metadata to FF DataFactory



3.7. Create new Rule for the listed vehicles





- Go to "Rules and Events" "Rules
- Create new rule with type "Perform an action on <event>
- Choose "License plate in List Detected" predefined event from the Event list
- Add any action available in Milestone for this rule (for example "Set device output" for opening the barrier for listed vehicles



3.8. Create new Alarm Definition for the listed vehicles



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Navigation - 4 × Alarm Definitions	Alarm Definition Information			
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Analytics Events		License Plate In List Detected		~
Generic Events	Sources:	DirectShow Virtual Video Server (0.0.0.1) - Camera 1	Select	
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- Go to "Alarms" "Alarm Definitions"
- Create new Alarm Definition with type "Perform an action on <event>
- Choose Triggering event "MIPSDK carGuroo plates list" event from the Event list
- Add any additional parameters available in Milestone for this Alarm Definition



4.1. Live events



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Launch XProtect Smart Client and choose the carGuroo tab. You will see live events populating the table automatically

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"Live" mode will be automatically disabled when you switch to the any other Smart Client's tab to reduce the load on your computer

4.2. Search



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First to need to specify the server on which you want to perform the search by choosing it from the drop list on the left upper corner of carGuroo Main Workspace

4.2. Search



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- By clicking on a particular car detection row in the list, you will see detailed results incl. Image on the right side of the screen
- When "Live" mode is selected the latest recognition event will be displayed automatically on the right Work Space section with the vehicle photo. Please disable the "Live" view if you want to start to search specific recognition events.



4.2. Search



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28.02.2024 19:20:34	7AE6759	CZE	skoda	octavia	6000		[decoder][Kyiv] 10	0.0.3.182					
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28.02.2024 17:50:33	7AE6759	CZE	skoda	octavia	5		[decoder][Kyiv] 10.0.3.182		Contraction of the second	7AE	6759		
								[decoder][Kyiv] 10.0.3.	[decoder][Kyiv] 10.0.3.182 - 28/02/2024 20:20:35 PM				
									Date / Time:	28.02.2024	20:20:35		
									License plate:	7AE6759	7AE 6759		
									Country:	Czechia			
									Make:	skoda			
									Model:	octavia			
									Type:	E			
									Color:				

- Specify time period for the search ("For the all time" is default)
- 1 Select car type
- 2 Input camera name / part of the camera name (if needed)
- 3 Input the list name / part of the list name (if needed)
- 4 Enable "Partial license plate matching if you if you want to find the vehicle by symbols combinations in the license plate
- 5 in the "search" field you are able to input country name, vehicle brand and model, color of the vehicle and the license plate

4.3. Export



Milestone XProtect Smart Client											0	×
Views Exports	Search	Alarm	Manager 🕼	Incidents car	iuroo	System Monitor			A Not secu	22:58:39	4	
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Date/Time	License Plate	Country	Make	Model	Туре	List	LPR Came cv pdf	1/1-5				
25.10.2023 22:58:07	NAURS212	DEU	hyundai	elantra	6	GERMANY	AXIS P1368-E Network Camera (10.0.3.168)			-200		
25.10.2023 22:58:04	NAUEN909	DEU	toyota	rav4	E	GERMANY	AXIS P1368-E Network Camera (10.0.3.168) - Camera 1	1		F		14
25.10.2023 22:58:04	NAURS212	DEU	jeep	cherokee!grand_ch	Eoo	GERMANY	AXIS P1368-E Network Camera (10.0.3.168) - Camera 1	- in the second				
25.10.2023 22:57:42	NAURS212	DEU	jeep	cherokee!grand_ch	E	GERMANY	AXIS P1368-E Network Camera (10.0.3.168) - Camera 1	6	NAUSEN 909		M	
25.10.2023 22:57:37	NAUEN909						AXIS P1368-E Network Camera (10.0.3.168) - Camera 1	1				
25.10.2023 22:57:24	NAURS212	DEU	jeep	cherokee!grand_ch	£00	GERMANY	AXIS P1368-E Network Camera (10.0.3.168) - Camera 1	AXIS P1368-E Network Ca	mera (10.0.3.168) - Camera 1 - 25.1	0.2023 22:57:37		
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25.10.2023 22:56:27	NAURS212	DEU	nissan	altima!maxima!sent	E CO	GERMANY	AXIS P1368-E Network Camera (10.0.3.168) - Camera 1	Model:	rav4			
25.10.2023 22:56:22	NAUEN909	DEU	toyota	rav4	Eoo	GERMANY	AXIS P1368-E Network Camera (10.0.3.168) - Camera 1	Type:	°0			
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- You can export results and choose export format from csv and pdf



4.4. Custom view with sidebar





2



5. Structural scheme









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