

6SS EDGE LPR ARH Integration Guide



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1. INTRODUCTION

This document is intended to provide a full installation guide of ARH Smart Camera and its integration with Milestone XProtect. ARH Smart Camera is an all-in-one digital IP camera for traffic systems that combines high quality imaging with onboard plate recognition. In this integration we are getting the streams directly from ARH camera, saving the data into the database and displaying LPR results in Milestone XProtect Smart Client.

ARH LPR Main Features

- On-board ANPR camera
- Fully integrated with all Milestone XProtect versions
- View Live Detection from the Camera
- Filter through LPR history based on various criteria
- One click data Excel/PDF Export
- Alarm Hotlist capabilities



2. GETTING STARTED

2.1.System Requirements

- Windows OS 8 or above
- SOL Server 2012 or above
- ARH Configuration Application v1.0 or above
- Milestone XProtect Management Client (2016 or above)
- Milestone XProtect Smart Client (2016 or above)

2.2.System Introduction

The server part of the system consists of 2 main components: Management and LPR servers. Each LPR system contains only one Management server, and one or more LPR servers, depending on the project size and the system's distributed architecture. Both processes can be installed and ran on the same server, but each with its own configuration. The machine has to be licensed first before doing anything on the LPR system after the installation.

Below is a figure describing the architecture of the system.



5. Send results and display on Smart Client.

FIGURE 1: 6SS LPR EDGE BASE ARCHITECTURE



3. ARH EDGE LPR CONFIGURATION & INSTALLATION

3.1.SQL Server Configuration

The configuration for ARH database needs to be done on the server where Microsoft SQL server is installed.

Double click the given SQL script in order to create ARH Database and click the execute button to run the query.



FIGURE 2: CREATE ARH DATABASE USING SQL QUERY

3.2.<u>ARH Edge LPR Plugin</u>

3.2.1. Setup Wizard

Unzip the Release folder and open to run the setup wizard for the LPR plugin.



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FIGURE 3: LPR PLUGIN SETUP FOLDER

闄 6SS LPR Client		_	
Welcome to the 6SS LPI	R Client Set	up Wizard	
The installer will guide you through the ste	eps required to insta	III 6SS LPR Client on	your computer.
WARNING: This computer program is pro Unauthorized duplication or distribution of or criminal penalties, and will be prosecute	tected by copyright this program, or an ed to the maximum	law and international y portion of it, may res extent possible under	treaties. sult in severe civil the law.
	Cancel	< Back	Next >

FIGURE 4: LPR SETUP WIZARD

Choose the path to where the LPR plugin folder will be created as shown in **Figure 5**. Click next to continue and the setup will be installed as shown in **Figure 6**.



					-
😸 6SS LPR Client			—		×
Select Installation Folder					5
The installer will install 6SS LPR Client to the follo	wing folder.				
To install in this folder, click "Next". To install to a	a different fo	lder, enter it bel	ow or cl	ick "Bro	wse".
Eolder:					
C:\Program Files\Milestone\MIPPlugins\6SS'	\			Browse	
			D	isk Cost	
Install 6SS LPR Client for yourself, or for anyon	e who uses	this computer:			
Just me					
C	ancel	< Back		Nex	t>
IGURE 5: 6SS LPR CLIENT INSTALLATION F	OLDER				

6SS has been successfully inst	alled.					
Click "Close" to exit.						
Please use Windows Update to	check for a	iny critical upd	ates to the .NI	ET Framev	vork.	
		iny chicarapa		- i i idiilov	YOIN.	

FIGURE 6: 6SS LPR CLIENT INSTALLATION SETUP



3.2.2. Smart Client Interface

Once the installation completes, navigate to Milestone XProtect Smart Client, click connect after entering your credentials and specify the SQL server host name or IP address for first time use only.



FIGURE 7: SQL SERVER NAME

Once connected click on Setup button, create a view and drag and drop "Live LPR" under System Overview, as

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	* <u>28</u> 655	
	Alarms	
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	Carousel	
	Hotspot	
	HTML Page	
	Image	
	Live LPR	
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	BR Map	
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in	Text	

Figure 8, into the created view.

shown



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Shortcut: Set	
System Overview	~
 Alarms Carousel Hotspot HTML Page Image Live LPR LPR Map Matrix Smart map Smart Wall Text 	

FIGURE 8: ADD THE PLUGIN

Click again on **Setup** to view the Live plugin by selecting a camera using the button "Select Camera" in the bottom right corner. The button will be renamed by the camera's name. Each captured plate number by the specified camera will be shown in the right panel.



FIGURE 9: VIEW LIVE PLUGIN

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After installing the LPR plugin setup you will notice that an additional tab named "LPR" has been added next to the **Alarm Manager** tab.

In this tab you can easily find the list of all captured plate numbers with its relevant plate type, color, country, confidence level, speed, speed limits, screenshot image of the plate number, along with the camera's name.

Use the filters in the right panel to filter the LPR list as convenient and click on "Refresh" button to update the LPR table. You can anytime generate an excel file (**Figure 11**) and a pdf document (**Figure 12**) for your evidence proof or later investigation.

Milestone XProtect Smart Client														2/26/2020 3:15:43 PM	_ 0 ×
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Smart Camera															
Camera Country	ry P	late	Bg Color	Celor	Date	Confidence	Speed	Speed Limit	Direction	Category	GPS lat	GPS lon	Image		
DirectShow Virtual Video Server (0.0.0.1) - Camera 1 Saudi_A	Arabia 13	ال من ١٠١	WHITE	WHITE	2020.02.26 11:11AM	32	59	120					11-1-JI	Country lext	
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DirectShow Virtual Video Server (0.0.0.1) - Camera 1 Saudi_A	Arabia A/	- 64174	WHITE	WHITE	2020.02.26 11:11AM	44	99	120					8832 ZVB		
DirectShow Virtual Video Server (0.0.0.1) - Camera 1 Saudi_A	Arabia 11	بارن ۸۶۲	WHITE	WHITE	2020.02.26 11:11AM	7	86	120					6398 NR8-		
DirectShow Virtual Video Server (0.0.0.1) , Camera 1 Saudi A	Arabia 11		WHITE	WHITE	2020.02.26 11:11AM	20	87	120					6122 222		
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DirectShow Virtual Video Server (0.0.0.1) - Camera I Saudi_A	Arabia 👎		WHITE	WHITE	2020.02.26 II:IIAM	•	59	120		-	_		34.11 HH J		
DirectShow Virtual Video Server (0.0.0.1) - Camera 1 Saudi_A	Arabia 🕬	YY. 214	WHITE	WHITE	2020.02.26 11:11AM	18	65	120					4720 KAB		
DirectShow Virtual Video Server (0.0.0.1) - Camera 1 Saudi_A	Arabia 10	11. 21.	WHITE	WHITE	2020.02.26 11:11AM		57	120					275-2170		
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DirectShow Virtual Video Server (0.0.0.1) - Camera 1 United_	Arab Emirates 2	21460	WHITE	WHITE	2020.02.26 11:11AM	44	69	120					21460	1 11 1120	1.001
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FIGURE 10: LPR HISTORY



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	6SS LPR	6	8	From	2019 06 06			
		2 2		Till	2019-06-07			
	Camera	Plate Number	Country	State	Confidence	Date	Plate Color	Image
	DirectShow Virtual Video Server (0.0.0.1) - Camera 1	288297	United_Arab_Emirate	s <mark>SH</mark> J	82	2019-06-06 15:14	WHITE	2 88297
	DirectShow Virtual Video Server (0.0.0.1) - Camera 1	P38794	United_Arab_Emirate	s Dubai	61	2019-06-06 15:14	WHITE	P 38794
	DirectShow Virtual Video Server (0.0.0.1) - Camera 1	N30197	United_Arab_Emirate	s <mark>Dubai</mark>	76	2019-06-06 15:13	WHITE	N 30197
	DirectShow Virtual Video Server (0.0.0.1) - Camera 1	A41786	United_Arab_Emirate	s RAK	78	2019-06-06 15:13	WHITE	A 41786
	DirectShow Virtual Video Server (0.0.0.1) - Camera 1	G43125	United_Arab_Emirate	s Dubai	80	2019-06-06 15:13	WHITE	G 43125
	DirectShow Virtual Video Server (0.0.0.1) - Camera 1	44381B	United_Arab_Emirate	s RAK	71	2019-06-06 15:13	WHITE	44381 B

FIGURE 11: LPR EXCEL FILE

			6SS LPR Report	From :2019-08-07	12:00:00 AM To :	2019-08-07 11:59	:59 PM		
Camera	Plate Number	State	Confidence	Date	Plate Color	id	Image	Туре	Country
DirectShow Virtual Video Server (0.0.0.1) - Camera 1	G43125	Dubai	78	2019-08-07 10:32:20 AM	WHITE	86990	G 43125	G	United_Arab_Emin ates
DirectShow Virtual Video Server (0.0.0.1) - Camera	288297	SHJ	80	2019-08-07 10:32:19 AM	WHITE	86987	2 88297		United_Arab_Emin ates
DirectShow Virtual Video Server (0.0.0.1) - Camera	A41786	RAK	76	2019-08-07 10:32:13 AM	WHITE	86977	A == 41786	A	United_Arab_Emin ates
DirectShow Virtual Video Server (0.0.0.1) - Camera	44381B	RAK	78	2019-08-07 10:32:13 AM	WHITE	86976	44381 B	В	United_Arab_Emi ates
DirectShow Virtual Video Server (0.0.0.1) - Camera	N30197	Dubai	78	2019-08-07 10:31:55 AM	WHITE	86972	N 30197	N	United_Arab_Emin ates
DirectShow Virtual Video Server (0.0.0.1) - Camera	G43125	Dubai	78	2019-08-07 10:31:53 AM	WHITE	86969	G 43125	G	United_Arab_Emin ates
DirectShow Virtual Video Server (0.0.0.1) - Camera	288297	SHJ	82	2019-08-07 10:31:52 AM	WHITE	86964	88297 سيبيد 2		United_Arab_Emin ates
DirectShow Virtual Video Server (0.0.0.1) - Camera	P38794	Dubai	74	2019-08-07 10:31:51 AM	WHITE	86962	P 38794	P	United_Arab_Emin ates
DirectShow Virtual Video Server	A41786	RAK	76	2019-08-07 10:31:46 AM	WHITE	86955	A 🚟 41786	A	United_Arab_Emin ates

FIGURE 12: LPR PDF FILE



3.2.3. Management Client Interface

Open Milestone XProtect Management Client, click connect after entering your credentials and navigate to MIP Plugins- LPR- LPR under **Site Navigation.**

The LPR Hotlist is mainly used to alert users when a specific plate number is detected by the camera. Specify the plate number, plate type (blacklisted or whitelisted), status (enabled/disabled), and the event/action that may be attached to this plate number as shown in the below figure. Click **Update Status** if you need to change the Alarm Status and click **Delete Alert** button to delete the Alert from the list.



FIGURE 13: ARH EDGE LPR HOTLIST