User Guide

Valerus-Neural Labs License Plate Recognition (LPR) Integration

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General

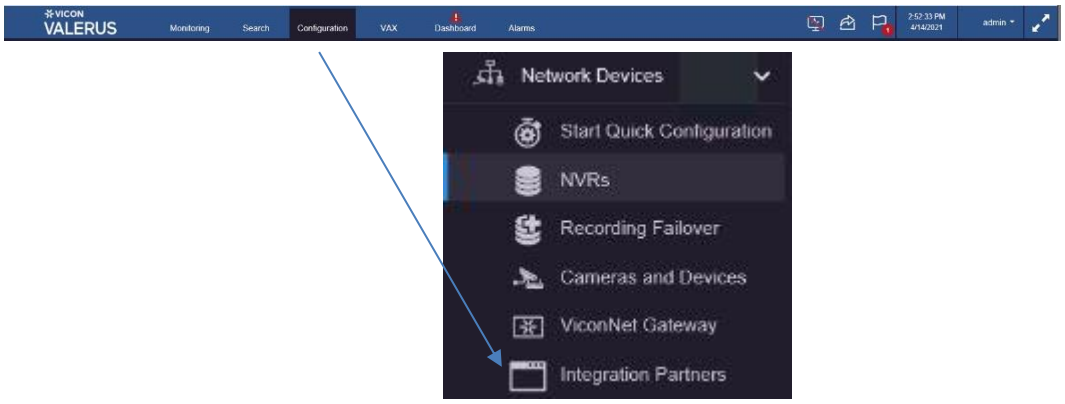
As an enterprise level video management solution, Valerus VMS provides the opportunity to integrate with a variety of supported integration partners. Neural Labs License Plate Recognition (LPR) is one these supported integration partners. Once added into the Valerus system, Valerus can react to events that occur in the LPR system within the Valerus Alarms Management system, as well as used with the Maps and Rules features. This Integration Partnership assumes the user has a functioning Neural Labs system and is familiar with its settings and operation.

Adding LPR to Valerus

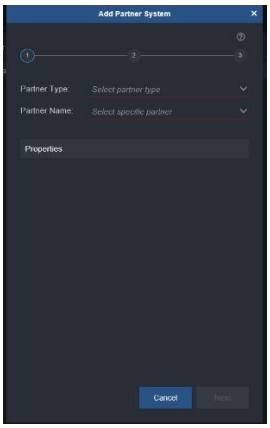
Integration Partners

A Neural Labs LPR system can be integrated with the Valerus system. Once the integration configuration is complete, events from the LPR system can be received in Valerus. In this way, for example, if an LPR sensor detects a suspicious license plate number (typically will be flagged as “blacklisted”), the related camera in the parking lot can provide video of the car along with the LPR information.

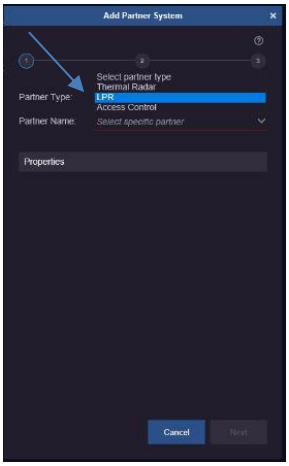
- From the Valerus main interface, select the Configuration tab from the top. Under Network Devices, select Integration Partners.

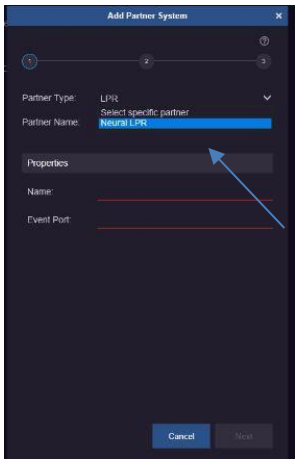


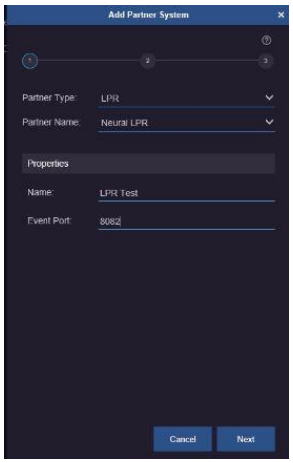
- Click Add Partner. The Add Partner System screen displays as below.



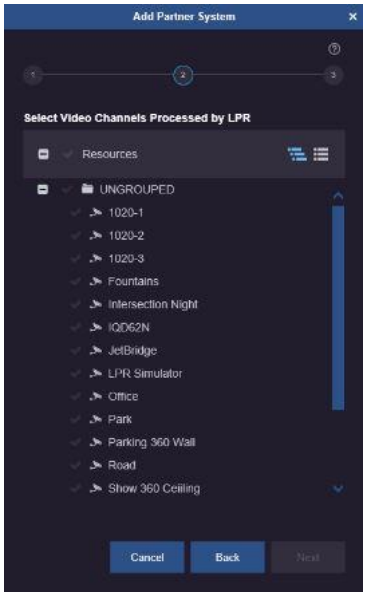
- From the Partner Type, select LPR. From the Partner Name, select Neural Labs. Fill in the Properties fields as required. Enter a Name for the partner to be displayed in Valerus and the Port number that is configured in the Neural Labs server to send the events to. This setting needs to be added on the Neural Labs system; refer to the Appendix at the end of this document. Click Next





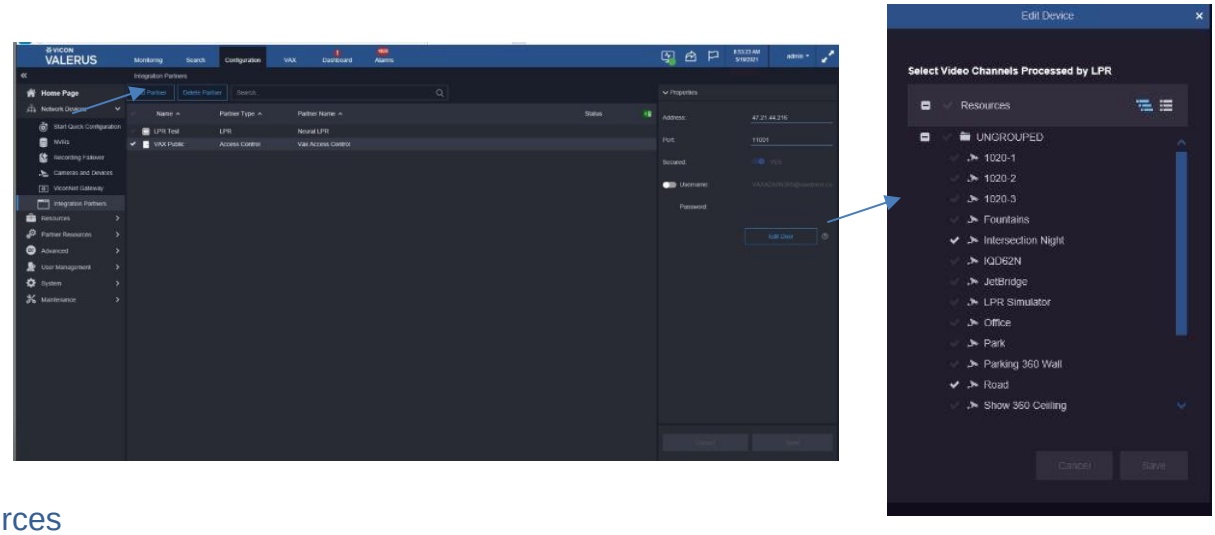


- In a large system, it is expected that only a certain number of cameras or video channels will be used to process for license plate recognition (for example the cameras covering entry to the parking garage). When setting up the Neural Labs system, the specific Valerus video channels should have been selected and the same needs to be done in Valerus to keep synchronization. The entire list will be presented here, allowing you to select the video channel resources that will be processed by LPR from the list. Click Next.



- It is not required to select an Event Type at this time; it is grayed out.

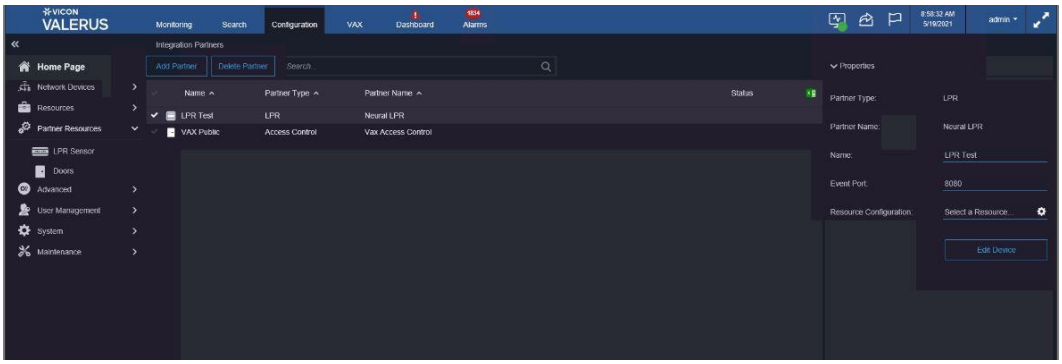
- Click Save. The partner is now listed on the Integration Partner screen. The Properties of the partner are listed to the right. The video channels selected for this device can be changed by clicking the Edit Device button; this may be required if channels are added or removed from the Neural Labs system.



Partner Resources

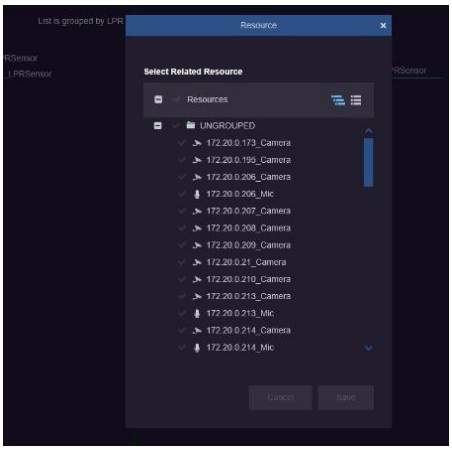
After the LPR system has been added to Valerus, LPR resources are created for it and can be edited.

- Under Configuration, select Partner Resources, LPR Sensor. The following screen displays, showing the sensors that were previously configured under Integration Partners.

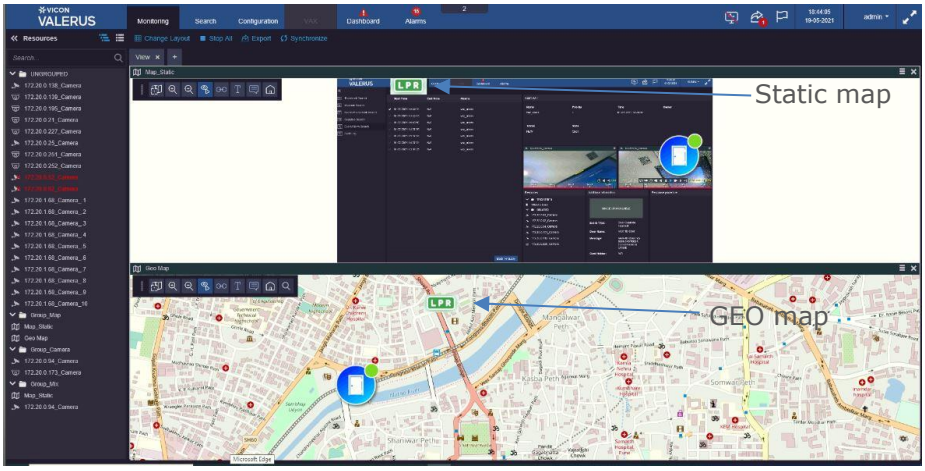


- The properties of each resource are shown, including the Partner type, its name and Numeric ID (if assigned). The Device it was associated with in Integration Partner configuration is shown, with a direct link to it, as needed. The Visible button determines if this resource will be listed in the appropriate resources list and on the Map screen.

- From here, a Related Resources can also be selected. Select the checkmark next to the desired resource; click Save. For example, if there is a camera near where the LPR camera is located (like a parking garage), it can be selected to display additional video with a different angle at the site where the car license plate is being read.



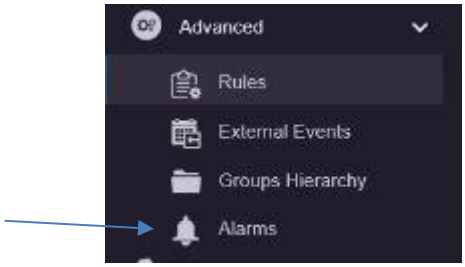
- The LPR sensor(s) will show as a resource that can be added to both a GEO and static map; a green LPR label will be shown on the map, allowing you to place it either next to the camera icon whose video is used for processing or by itself. When the map is displayed on the Monitoring screen, hovering over the LPR icon will show the properties of the device.
- When a license plate is read by the LPR system, it will be shown as a text bubble above the icon.
- If an alarm event for this LPR sensor is triggered (for example an alarm was set to alert if a blacklisted plate was read), the LPR icon will turn red, indicating it is in an alarmed state.



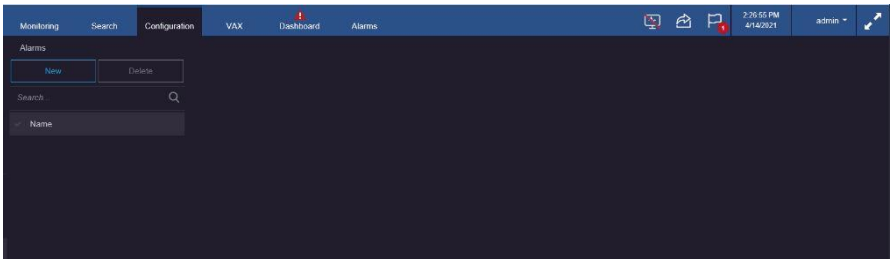
Alarms

The Alarms screen defines which events are elevated to an alarm level, what resources are bundled with it and the life cycle for the alarm. When defining alarms for the integrated Neural Labs system, it can be determined how Valerus will respond to certain set conditions.

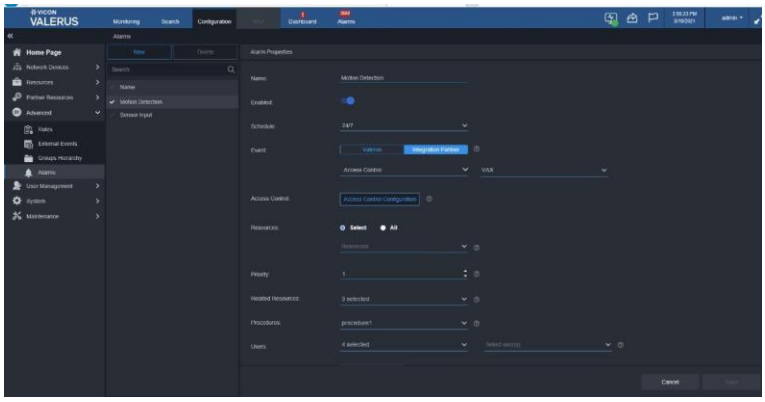
- Under Valerus Configuration, Advanced, select Alarms.



- The following screen displays.

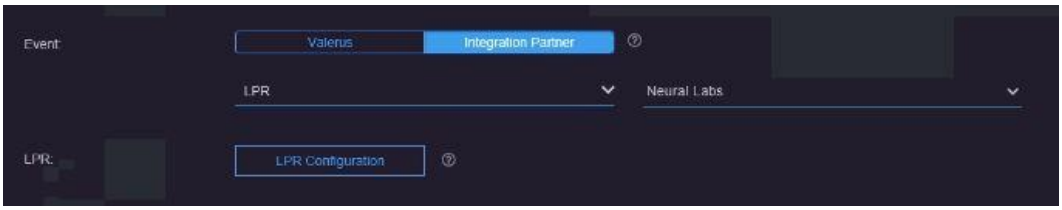


- Click the New button. The alarms editor screen displays. From Event, select Integration Partner.



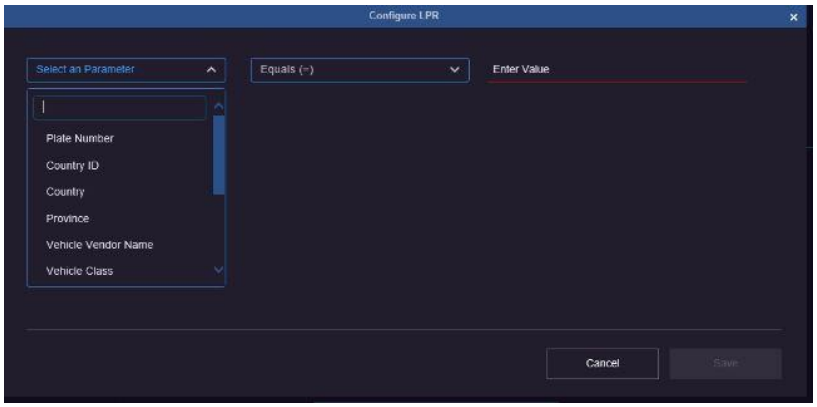
- Assign a name to the alarm in the Name field.
- The Enable/Disable button allows the alarm to be temporarily disabled as needed without deleting it. Use the slide button to enable/disable.
- Select a schedule from the dropdown list to define a schedule for this specific alarm to run on. This allows using an existing schedule or creating a new schedule using the scheduling system in Valerus. It is important to identify the correct schedule for each alarm to minimize the number of unwanted alarms.
- In the Event field, select Integration Partner for events that will be the trigger this alarm.

- Select the LPR event type from the dropdown list and Neural Labs from the next dropdown.



Note: If the selected system does not exist in Valerus or it exists but has no resources set (no LPR sensors), you will not be able to define the alarm for it.

- Click LPR Configuration to open the following screen.



- Select the parameter needed from the dropdown list. Select an expression from the field for Equals; this dropdown changes depending on the parameter selected. Finally, enter a Value. Click Save to complete the configuration. The typical type of alarm from an LPR can be when a license plate type is showing “Blacklist” or when the system spotted a particular vendor of car is

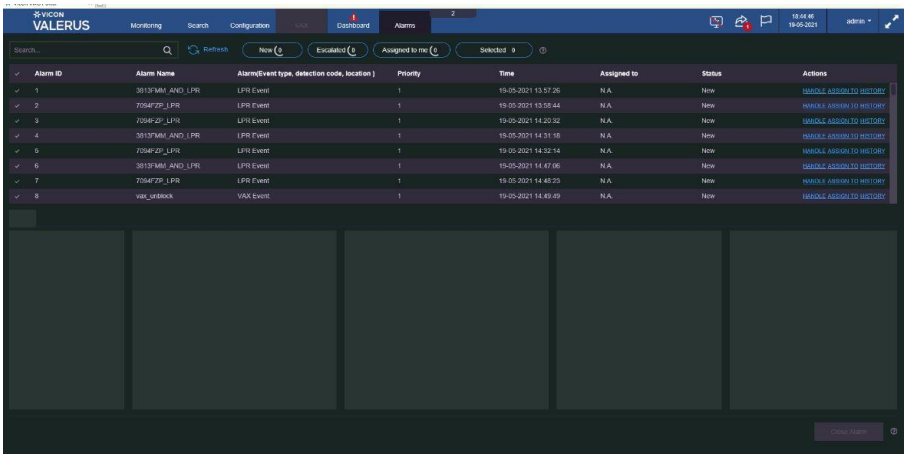
being looked for. (The various list configurations are done in the Neural Labs system ahead of time; these impact on what is available from the dropdown lists. Refer to the Appendix for details on configuring these lists.)

- To add another option, click Additional criteria. This Additional criteria can be defined as a logical And/Or, meaning either of these can occur or both must occur for an alarm to be triggered. For example, you might want to know if a particular vendor car was identified AND the specific license plate number.
- From the Resources dropdown (Select button), choose the devices (i.e., LPR sensors) that the event is expected to trigger an alarm for. Multiple resources can be selected and will be treated as a logical OR if an alarm occurs; if an event is detected on one or the other device, the alarm will be triggered. Up to 5 devices can be linked to each alarm, so if, for example, 10 LPRs need to be selected, two alarms will need to be defined. An All button can be used to select all resources in the list in a single alarm.
- Enter a priority for the alarm, 1-5 with 1 being the highest. This priority level can be used later to sort the alarms in the Alarms Management screen.
- Using the Related Resources dropdown, select the resource(s) that will also be available when the alarm is triggered, creating an alarm bundle or package. This is useful if there are multiple cameras in the same area with different views (i.e., motion detected from camera A relates to camera B in the same area); having a related camera resource can provide a video display to see the alarm. The related resources will show on the Alarms Management screen along with the triggering resource. Note that the related resources selected here are those that will show in the alarm record in the Alarms Management screen, while the single related resource set for the sensor is used for Rules.
- As an added option, one of the procedures created (remember to create procedures prior to defining the alarms) can be selected to go along with the alarm.
- Select the users who will receive this alarm notification from the roles or users dropdown (or a combination of both). This is important in situations where certain alarms should be shared with specific users while others may need to be shared with different users (for instances where it is inappropriate for some users to view video from certain areas, i.e., alarms from the women’s wing in a mixed prison should only go to the women’s wing operators).

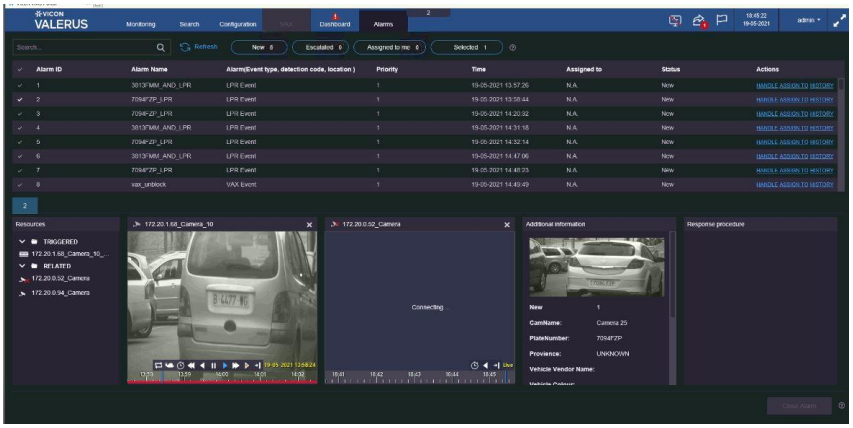
Alarms Management

The Alarms tab on the top of the Valerus interface opens a dedicated for Alarms Management and shows the alarms along with their status. These are the events that have been elevated to alarm status set in the Advanced, Alarms screen in Configuration, including LPR alarms. From this screen, the operator can work to review and categorize the alarms. This tab can be moved to another monitor for ease of use. **Refer to the Alarms Management Guide for details on using this screen.**

- At the top of the alarm page, there are several filtering options meant to simplify the selection of the alarms the operator needs to view and work on. In the Search field, LPR can be entered to sort the alarm list for only those types of alarms.



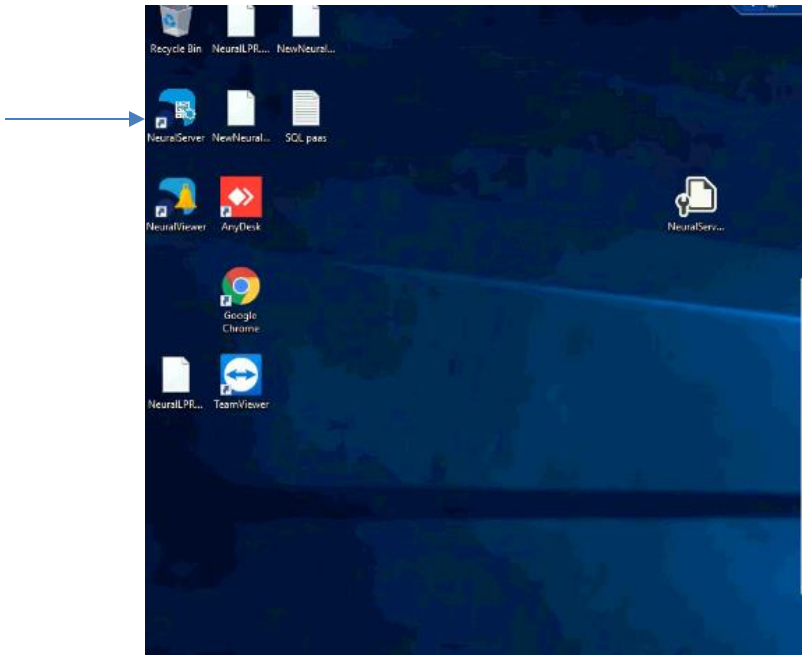
- After the list is sorted to show LPR alarms, each alarm can be selected to assign or handle. Multiple alarms can be selected. When an alarm has been selected, its details will display in the area at the bottom of the screen. The Additional Information area will display the details provided by the LPR system.



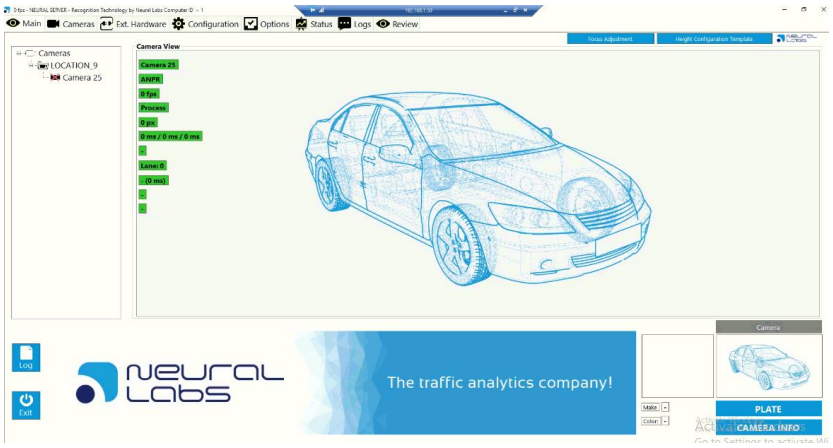
Appendix

The Neural Labs server needs to be configured to work with Valerus. In particular, the port set when configuring the Integration Partner must be the same as that set on the Neural Labs server. Note that the NVR and cameras should be configured in Valerus.

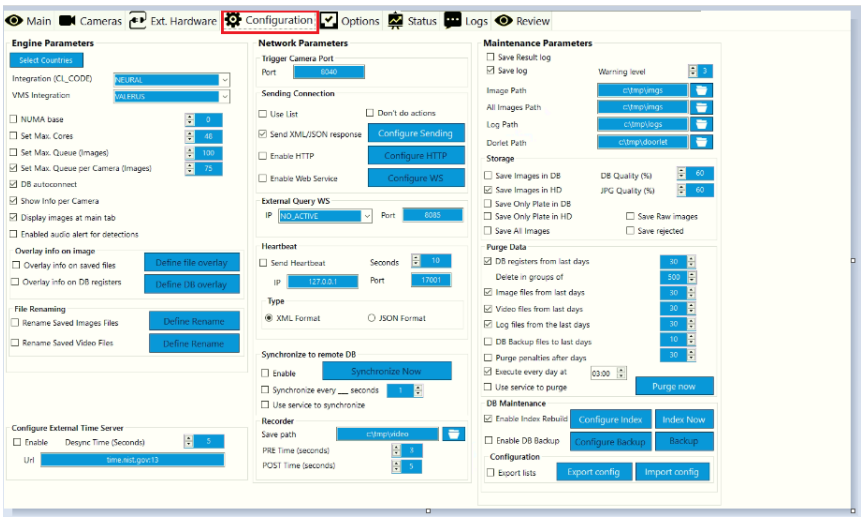
- On the PC where Neural Labs LPR is installed, click the Neural Server icon.



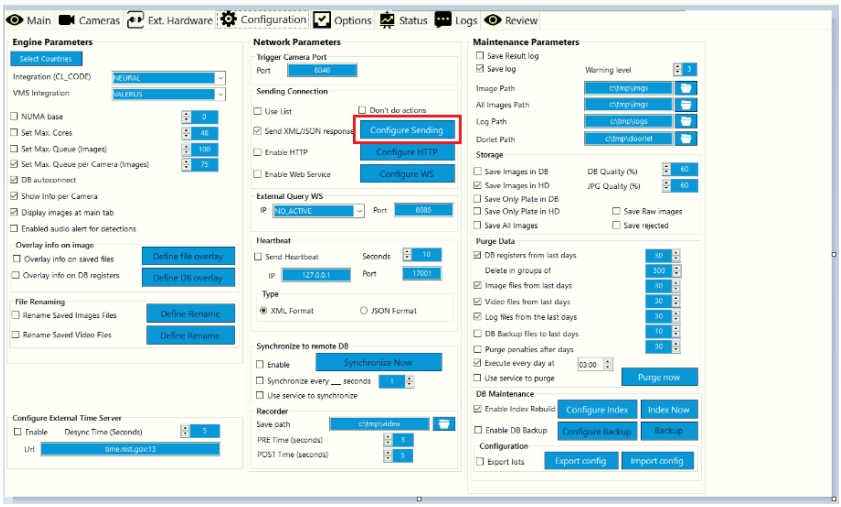
- Neural LPR should open. Click on the Configuration option.



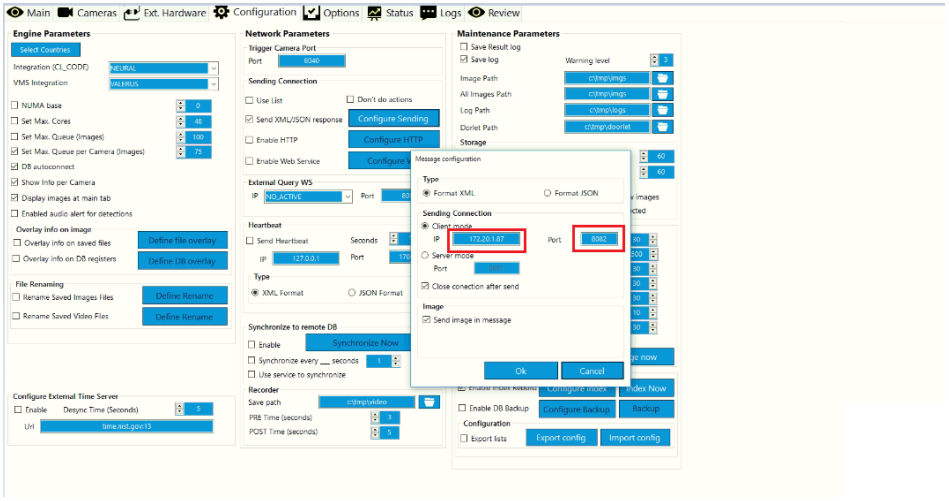
- The Configuration page will open.



- Click on Configure Sending Option to configure the IP and Port.

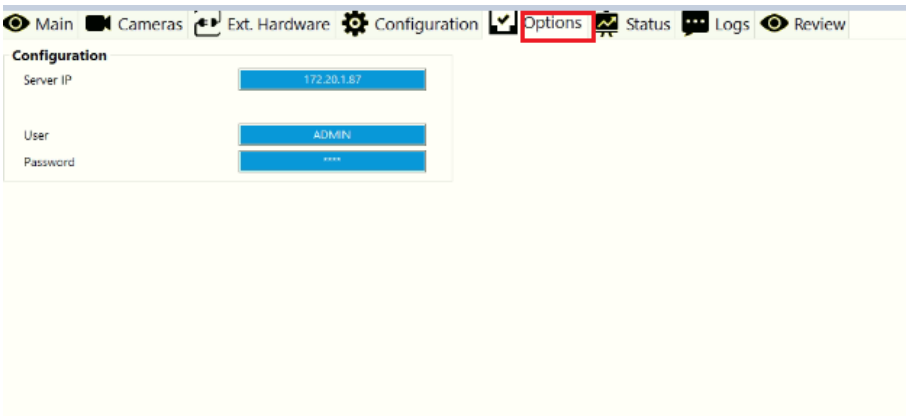


- The Message Configuration pop-up will open. Enter AppServer IP. Enter Port, which is used while adding Neural LPR Integration Partner. Click Apply and Save button.

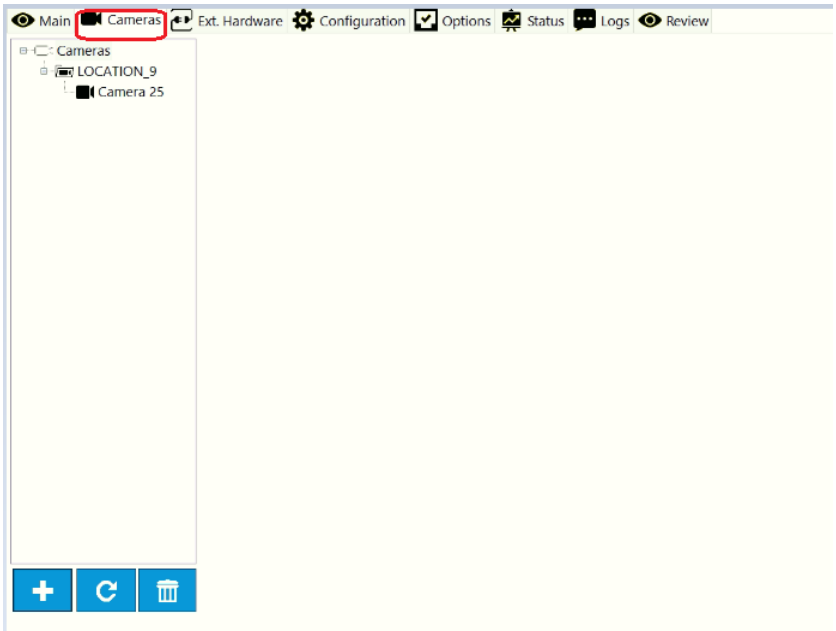


- Click on Options tab. A page opens to set VMS login details. Enter the details listed below. Click Apply and Save button. After the details are saved, close the Neural Server application.

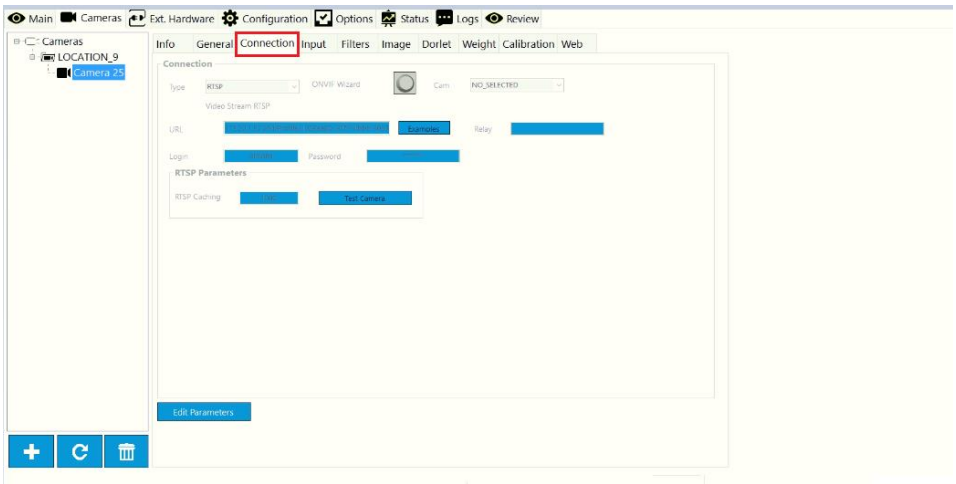
  Server IP: AppServer IP
  User: ADMIN
  Password: 1234



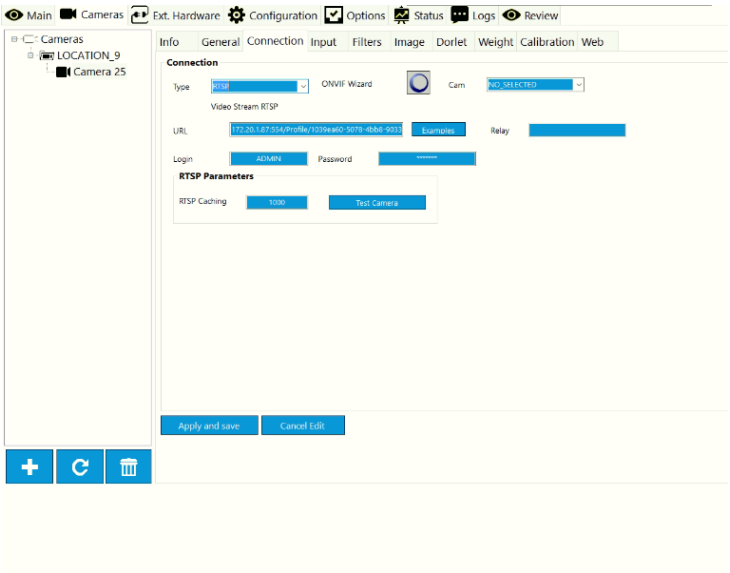
- Open the Neural Server Application again. Click on Cameras option. A page will display to configure Sensor camera.



- Click/Select camera. The system will display several option tabs, such as Info, General, etc. Click on the Connection tab.



- Click the Edit Parameters button. The Connection page will open in Edit mode.



- Select Type as RTSP and Cam as sensor camera on which event is to be triggered. Click Apply and Save button. Sensor Camera is now configured successfully. Close Neural Server.

- Open Neural Server again. Click on Main option tab and select camera. You will see that Neural LPR is configured successfully; user can now work on Neural LPR.

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