ADAPTIVE RECOGNITION



Vidar PAX Quick Installation Guide



The PAX Integrated Traffic System employs a variety of hardware components strategically positioned to monitor, analyze, and manage traffic flow, specifically focusing on passenger counting and vehicle tracking. This part of the documentation provides an overview of each hardware component's purpose within the system.

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Table of Contents

1.	Intro	oduction	4
2.	Har	dware Components	4
2.	1.	TrafficSpot PC	4
2.	2.	Switch	4
2.	3.	ANPR Cameras	4
2.	4.	PAX Cameras	5
2.	5.	Infrared Barrier	5
2.	6.	Height Infrared Barrier (Optional)	5
З.	Sys	tem Purpose	5
4.	Hov	v to configure	6
4.	1.	Before configuration	6
4.	2.	Before installing TrafficSpot	6
4.	3.	How to setup camera to forward software trigger to TrafficSpot PAX system	7
5.	Hov	v to install services	9
5.	1.	Install Docker environment	9
5.	2.	Install TrafficSpot	9
5.	3.	Install Vision server(s)	9
5.	4.	Install License server	10
5.	5.	Start services	10
б.	Cor	figuring TrafficSpot	12

7. Mo	dules to configure	14
7.1.	Vision servers	14
7.2.	Anpr Server	14
7.3.	Mmr Server	14
7.4.	Pax Server	15
7.5.	SoftwareTriggerModule	15
7.6.	Height Alert Trigger	15
7.7.	Vidar (Front, Rear, Left, Right)	15
7.8.	GDS	15
7.9.	Save media	15
7.10.	OpencvClient	15
7.11.	LedAmpronController	16
7.12.	AmpronDisplayControllerModule	16
7.13.	Status module	16
8. Mo	nitoring	17
8.1.	Status	17
8.2.	Logs	18
8.3.	APPENDIX	19
CONTAG	CT INFORMATION	23



1. INTRODUCTION

The PAX Integrated Traffic System employs a variety of hardware components strategically positioned to monitor, analyze, and manage traffic flow, specifically focusing on passenger counting and vehicle tracking. This part of the documentation provides an overview of each hardware component's purpose within the system.



2. HARDWARE COMPONENTS

2.1. TRAFFICSPOT PC

• Neural Network Controller must be plugged in (USB or PCI)

2.2. SWITCH

• Gigabit port has to be connected to the TS PC.

2.3. ANPR CAMERAS

- Front ANPR + PAX Camera: Captures the front license plate of vehicles as they approach the monitoring station. It's essential for identifying vehicles and correlating them with pre-registered data or for toll collection purposes.
- Rear ANPR Camera (optional): Reads the rear license plate as vehicles exit the monitoring area, ensuring a secondary data point for vehicle identification and for double-checking the information captured by the front camera.

2.4. PAX CAMERAS

• Side PAX Cameras (Left and Right): These cameras are responsible for counting the number of passengers within a vehicle. They utilize advanced image processing algorithms to detect and count occupants, which is crucial for carpool lane enforcement and for statistical data collection on vehicle occupancy.

2.5. INFRARED BARRIER

• Infrared Barrier: This component is part of the triggering mechanism for the cameras. As a vehicle interrupts the infrared beam, it signals the cameras to capture images. It's also used for traffic flow measurement, vehicle presence detection, and sometimes for height detection if paired with a height sensor.

2.6. HEIGHT INFRARED BARRIER (OPTIONAL)

• Height Sensor: An optional component that's used to measure the height of passing vehicles. It's particularly useful for enforcing height restrictions in certain areas like tunnels, bridges, or toll roads.

3. SYSTEM PURPOSE

The PAX system's purpose is multifaceted. It's designed to:

- Monitor Traffic Flow: By counting the number of vehicles and passengers, it helps in managing lane usage and traffic patterns.
- Enforce Regulations: It assists in the enforcement of traffic laws, such as carpool lane requirements and vehicle height restrictions.
- **Collect Toll Fees:** In tolling applications, the ANPR cameras are integral for automated billing based on the vehicle's license plate.
- Gather Statistical Data: The system provides valuable data for urban planning and traffic management strategies by analyzing patterns of vehicle occupancy and flow.

4. HOW TO CONFIGURE

4.1. BEFORE CONFIGURATION

For the PAX system to work you have to configure TrafficSpot using the configuration frontend. But before all, you have to check the followings.

- Time synchronization. All devices have to be synced with NTP. Usually, the NTP service is running on the TrafficSpot PC and all other devices are syncing to it. Any other external NTP server can be used, but make sure that all devices are in sync.
- 2. TrafficSpot is triggered with a software trigger. It is vital to check that the trigger from the Infra barrier is forwarded to the TrafficSpot. Usually, the infra barrier is connected to one of the Vidar cameras. Then that camera needs to be set up to forward the trigger to the TrafficSpot pc as a software trigger. If TrafficSpot is already running and waiting for Software triggers, you can check if it received any in the status.
- 3. Check camera FPS. The minimal frame per second is 10.
- 4. Check the camera image quality, and shutter time. Shutter time shall be short enough to get clear images.
- Check GDS. TrafficSpot PAX archives recorded data into a local or remote GDS. Check if the GDS is installed already. If yes, make sure the TrafficSpot is registered and allowed to archive into the GDS.

4.2. BEFORE INSTALLING TRAFFICSPOT

Before starting the TrafficSpot the system has to be ready at the endpoint. This means, that all the devices have to be mounted, installed and well configured. Look at the checklist at the end of this document.



4.3. HOW TO SETUP CAMERA TO FORWARD SOFTWARE TRIGGER TO TRAFFICSPOT PAX SYSTEM

Please go to Advanced setup / Event Manager. In the Trigger selector register GPIO trigger, Trigger Mode must be "level". Then click to save these settings.

			/	
VIDAR SMART > ADVANCED S	ETUP > EVENT MANAGER			2023.12.12-1331
BASIC SETUP	EVENT MANAGER		RESULTS	SUPLOAD SAVE ?
ADVANCED SETUP	PRIMARY SOURCE			Automatic 💠
STREAM SETTINGS PRIVATE ZONES	TRIGGER SELECTOR			
EVENT MANAGER	GPIO Trigger 🛛 🗙			
ANPR		+		
MAINTENANCE				
HELP				
	GPIO TRIGGER			SAVE ?
	GP input:	?	GP output:	
	Sample rate:	100 Hz ᅌ	Required samples:	1
	Logic active level: Start offset [ms]:	High 🗘	End offset [ms]:	0
	Trigger mode:	Rising edge		
		Software Version: 2023.12.12-1331	Copyright © 1993-2023 Adaptive Re	cognition Hungary. All rights reserved.

- 1. Then please go to Plain config and under it go to /trigger/eventman. You have to select section: section_forward.
- 2. set the following source (source0, source1, source2, source3) to trigger/gpiotrigger
- 3. action2 must be: default_no_pretrigger

4. target2-> this must target the TrafficSpot pc dedicated software trigger module like:

				MIN	MAX	DEF	STEP	ATTR	TYPE
t_output0:	0	[-]	Set	-	-	-	-	rw	u 8
source0:	trigger/gpiotrigger	[-]	Set	-	-	-	-	rw	s0
output0:	0	[-]	Set	-	-	-	-	rw	u8
action0:	default	[-]	Set	-	-	-	-	rw	s0
target0:		[-]	Set	-	-	-	-	rw	s0
t_output1:	0	[-]	Set	-	-	-	-	rw	u8
source1:	trigger/gpiotrigger	[-]	Set	-	-	-	-	rw	s0
output1:	0	[-]	Set	-	-	-	-	rw	u8
action1:	default	[-]	Set	-	-	-	-	rw	s0
target1:		[-]	Set	-	-	-	-	rw	s0
t_output2:	0	[-]	Set	-	-	-	-	rw	u8
source2:	trigger/gpiotrigger	[-]	Set	-	-	-	-	rw	s0
output2:	0	[-]	Set	-	-	-	-	rw	u8
action2:	default_no_pretrigger	[-]	Set	-	-	-	-	rw	s0
target2:	192.168.2.50:8994	[-]	Set	-	-	-	-	rw	s0
t_output3:	0	[-]	Set	-	-	-	-	rw	u8
source3:	trigger/gpiotrigger	[-]	Set	-	-	-	-	rw	s0

192.168.2.50:8994

5. On the side cameras go to Advanced Setup/Stream Settings and activate Synchronize to external source, and then click Save Changes.

SOURCE SETTINGS SAVE CHANGES ?								
SENSOR 1			SENSOR 2					
Source #1:	1440x1080 synchronized	;	Source #1:	1440x1080 synchronized	•			
Rotation:	0° 🗘	>	Rotation:	0°	\$			
ichronize sensors to intern Horizontal external source.	nal or Vertical mirroring:		Horizontal mirroring:	Vertical mirroring:				
Synchronize to external source:	✓							
	Synchronization set the framerate of the Sensor 2 automatically to align with the Sensor 1.							
The source framerate	The source framerate is reduced from native framerate on Source #1 of Sensor 1, Source #2 of Sensor 1. For details, see documentation.							

The same settings must be applied to height alert triggers, but on a different camera.

5. HOW TO INSTALL SERVICES

5.1. INSTALL DOCKER ENVIRONMENT

Please follow the install guide from this site!

https://docs.docker.com/engine/install/ubuntu/

🕛 Important!

Do not use snap to install docker, as it might need a lot more configuration afterwards to make it work properly.

If you are ready with it, you must be able to run the following command:

sudo docker run hello-world

5.2. INSTALL TRAFFICSPOT

To install TrafficSpot you have to copy the proper ts dockerfile to the target computer, and run the following command:

sudo docker load < ts_solution.tar</pre>

Instead of solution you have to give the correct filename of the specific solution. The loading of the image can take few minutes. When the command is run, you successfully installed TrafficSpot.

5.3. INSTALL VISION SERVER(S)

To be able to read data from images you have to install the engines as well. The engines are also coming as docker images. There are engine groups that can be installed separately. The most common one is the anpr_mmr image which can be installed like this:

sudo docker load < anprmmr_eur.tar</pre>

These images are coming with the solution and licensed with a license server. In the same way you have to load the paxserver.tar file.

5.4. **INSTALL LICENSE SERVER**

License server is vital for the working of a solution. If the license server is not installed, the engines will nor read any information from the passed images, and your solution will make empty events.

START SERVICES 5.5.

To start TrafficSpot for event collection, follow these steps in this order.

5.5.1. Start license server

License server must be installed to the endpoint pc or a remote pc. This service gives license to the vision servers that do the plate recognition and passenger counting.

5.5.2. Start vision servers

There is a start script for each vision server. If you have the license server on the same machine, you only have to run this script to start the server.

In case of a remote license server, you have to modify the "ipnnc" section of the config in the run script and change the host to the target machine IP address.

You can find the start scripts in the Appendix.





5.5.3. Start TrafficSpot

For starting TrafficSpot this is an example startscript. The only thing you have to modify is the mounted volumes paths. Three volumes need to be passed.

- config: this is the folder that might contain a config.xml file. If present, this is the config that TrafficSpot starts with. When configuration made on the frontend and saved, TrafficSpot saves the config in this folder for further use.
- 2. logs: This is the folder that TrafficSpot uses for logging. Logfiles are generated here.
- 3. media: This is the folder that TrafficSpot uses for media output, if needed.

When mounting a volume, the part before the ":" is the folder you want to mount from the host. Do not touch the second part, because those are the folders that TrafficSpot uses inside the container as input-output folder.

Example start script:

#!/bin/bash

TODO: Make sure the mounted volume exists, and also change them according to your existing folders!

If the config volume contains a "config.xml" file, the TrafficSpot will start with that configuration.

```
docker stop tsdocker
docker rm tsdocker
docker run --network host \
    --name tsdocker \
    --log-opt max-size=150m \
    --log-opt max-file=5 \
    --volume /home/ar/configs/:/its_ts/configs/ \
    --volume /home/ar/logs/:/its_ts/logs/ \
    --volume /home/ar/logs/:/its_ts/logs/ \
    --volume /home/ar/media/:/its_ts/media/ \
    --cap-add=SYS_PTRACE \
    --security-opt seccomp=unconfined \
    --it ts:latest
```

6. CONFIGURING TRAFFICSPOT

When all services and TrafficSpot is running you can visit the 3000 port of the machine that runs the TrafficSpot container. You will find here the configuration fronted of TrafficSpot. It looks like this.

● TS STATUS GUI LOGS	TRAFFICSPOT CONFIGURATION	ADAPTIVE RECOGNITION
Lane configuration	Add lane (+)	19 × 1
<i></i>		

To configure TrafficSpot first you have to click on the "Add lane" button. By clicking it you will get your solution specific options for TrafficSpot setup for a single lane. You can add 1-4 lanes per running TrafficSpots.

In a solution all lanes need to be functionally similar. The following example shows a Passenger Counter solution.

● TS STATUS GUI LOGS		TRAFFICSPOT CONFIGURATION	ADAPTIVE RECOGNITION
Lane configuratio	n	Lane 1 (*) Add Iane (+)	四 土 土
Optional functions			
Save pax images for engine tra			
Make and Model recognition	OFF		
Modules			
Anpr server	?		
Pax server	?		
SoftwareTriggerModule	?		
Vidar Front Pax	1		
Vidar Front Anpr	?		
Vidar Rear Anpr	?		T
Vidar Left Pax	?		
	0		

In the middle section you can see an image about the solution and the devices that have to be present to solve the desired functionality. You can click on the devices to make the device specific configurations like host/port settings in case of a camera.



In the left side you find the lane configuration options, and modules. You might click on an optional function if you need it in your solution. For some optional function, you might need extra hardware/software components, like cameras or engines. Select them only if you have these components. The following optional functions can be selected for PAX solution:

- 1. MMR (make and model recognition for vehicles)
- 2. Image contrasting: Selected images from pax engine will be contrasted to make human check easier.
- 3. Height alert: Infra gate is needed at a certain height. TrafficSpot will save height alert in event package if vehicle is too high.
- 4. Ampron led panel: TrafficSpot can switch state of led panel, so trafficflow can be continuous at the gate.
- 5. Save images for engine training: You can enhance your recognition with archiving images about events. If you send the event data to Adaptive Recognition, it can be used to train engines further.

In the modules section you will find the modules that TrafficSpot needs to start. You must click to configure each of them.

TS STATUS GUI LOGS				
Lane configuratio	'n	Lane 1 🛞 Add Iane 🕑		± ± ±
Optional functions Save pax images for engine tr	aining			
Make and Model recognition	OFF	Set up Anpr server	1	
Modules Anpr server		url*http://iocalhost:8089/api		
		Cancel	re	
		TOT TOT		I,

After entering all needed parameter values, please click on the save button. Some modules might have default configurations.

All of the modules have to be configured correctly according to the installation. After selecting and approving each parameter, you will see that the module has a tick sign.

Modules	5
Anpr server	\odot
Pax server	?

After all of your modules have the tick sign, your TrafficSpot configuration is ready. Now please save it to the server, with the "save config to server" icon.



Now you are ready to start the TrafficSpot with the start button in the left upper corner of the frontend.

7. MODULES TO CONFIGURE

7.1. VISION SERVERS

In case of vision servers the only thing that can change is the URL that the server is listening on. Please make sure that the configured values are correct. Normally the servers are installed on the same pc as the TrafficSpot. Then if it is started with the official script, the vision servers will listen on the ports that the TrafficSpot default config wants to bind to.

7.2. ANPR SERVER

For ANPR data you need to configure the ANPR server. This is a vision server process. If you start it with the official script on the same endpoint, you don't have anything to do just set the location and save the module settings.

7.3. MMR SERVER

The same applies to MMR server as in the case of ANPR server. MMR usually comes with ANPR, so the settings are normally the same as for the ANPR module.

7.4. PAX SERVER

Pax server comes as a different vision server. If started with the official script, you also don't have anything else to do just click on the save button.

7.5. SOFTWARETRIGGERMODULE

This is the main triggering module for this solution. It represents the infra barrier, which is not directly connected to the TrafficSpot PC. It usually connected to one of the Vidar cameras, and in the Vidar camera it has to be set up so, that the trigger is forwarded to TrafficSpot as a software trigger. It is vital to set up the listening port in this module to the same port which is configured in the Vidar camera.

7.6. HEIGHT ALERT TRIGGER

This module is similar to the module before, receives software triggers from infra barrier.

7.7. VIDAR (FRONT, REAR, LEFT, RIGHT)

These modules represent the cameras installed on the endpoint. Please make sure you configure the hosts and ports correctly. If usernames and passwords need to be set up, you can do it in the advanced settings. The special module here is the front camera. Make sure to configure 2 streams, one for PAX engine and one for ANPR function. There is also a laser sensor in the Vidar camera. Please set up the occupation distance correctly. It is needed for the Ampron LED display controlling.

7.8. GDS

GDS is the database used to archive the events generated by TrafficSpot. In case of local GDS, you only have to setup the source field value. This must be set up in the GDS first. Only registered users can write in the GDS.

7.9. SAVE MEDIA

This modules purpose is to archive event images for engine training. Used only if the corresponding optional function is set.

7.10. OPENCVCLIENT

This module is necessary if the image contrasting is selected. This service must be installed as a docker image, and need to be started with the official start script attached to it.

7.11. LEDAMPRONCONTROLLER

This module is needed in case an Ampron display is installed on the lane. This modules task is to give control messages and triggers based on the actual traffic flow.

7.12. AMPRONDISPLAYCONTROLLERMODULE

This module controls the Ampron display. The displayer IP address and port must be set up according to the installation.

7.13. STATUS MODULE

This module generates real time status of the Pax system. The output format is JSON. Each module is listed in the status and marked with the following flags:

- 1. **OK:** The module is running well.
- 2. WARNING: The module is running, but there might be some problem with event creation.
- 3. **CRITICAL:** The module is not working correctly, huge impact on event creation or event quality. Human interaction is needed.

When module is in WARNING or CRITICAL status, you can see which parameter of the module causes the problem. I you look at the parameter closely, you will see a tip, what you should do to resolve the problem.



MONITORING 8.

8.1. **STATUS**

After starting TrafficSpot you can monitor its state by clicking the "TS STATUS GUI" button. You will see the graphical version of the status json mentioned in the status module section. A status looks similar to this.

Refresh status

▼ systemInfo	
actualNumOfImages : 0	
actualNumOfImagesInCameraBuffer : 0	
actualSizeOfImagesInCameraBuffer [B]: '0 B'	
actualSizeOfImagesInCameraBuffer [MB] : '0 MB'	
applicationName : 'TrafficSpot'	
currentTimeUTC : '2023-07-27 12:01:15.121'	
frameVersion : '4.0.330'	
numberOfStatusClients : 1	
numberOfStatusFiles : 2	
objectType : 'systemInfo'	
operatingSystemUptime : '23 day(s) 02:28:27'	
programStartTimeLocal : '2023-07-27 12:01:11.306'	
programStartTimeUTC : '2023-07-27 12:01:11.306'	
runningTime : '0 day(s) 00:00:03'	
threads : '27'	
usedMemory : '29.859375 MB'	
usedMemory w/o CameraBuffer : '29.859375 MB'	
≻ CM	
▶ CloudClient	
▷ CloudClientPax	
▶ ImageSequenceMaker	
► SICKLaser	

You will see all the modules listed in the status. If all modules are coloured in gold, that means everything seems to be working well. In the example above, SICKLaser modul is coloured red, which means that there is a critical error with it. Critical errors make event creation impossible and can lead to half events, or even no event creation at all. If you click on the module you can see the cause of the critical state. A critical error of a module can happen, when TrafficSpot cannot reach a device. It might happen because of a bad configuration, but it might as well mean that the device is offline at the moment. In case of cameras a critical error can be caused by that the time of the camera in not synced to the pc's time. This can lead to bad event pairing of data loss during event creation.



8.2. LOGS

Besides looking at the status of the TrafficSpot you might as well need to look at the logs created by TrafficSpot. You can click on the logs button to make it visible.

	Max rows	Filter							
RELOAD CLEAR	30		Follow log	CLOSE					
2023-07-27 12:1	6:31.440 [GDS] Connecting to	o GDS							
2023-07-27 12:1	6:31.440 [GDS] websocket di	sconnected							
2023-07-27 12:16:31.441 [GDS] websocket disconnected									
2023-07-27 12:1	6:31.441 [GDS][E] websocket	error: Connection refused							
2023-07-27 12:1	6:31.441 [GDS][E] websocket	error: Connection refused							
2023-07-27 12:1	6:32.439 [GDS] URL: ws://loc	alhost:8888/gate							
2023-07-27 12:1	6:32.439 [GDS] URL: ws://loc	alhost:8888/gate							
2023-07-27 12:1	6:32.440 [GDS] websocket di	sconnected							
2023-07-27 12:1	6:32.440 [GDS] websocket di	sconnected							
2023-07-27 12:1	6:32.440 [GDS][E] websocket	error: Connection refused							
2023-07-27 12:1	6:32.440 [GDS][E] websocket	error: Connection refused							
2023-07-27 12:1	6:33.439 [GDS] URL: ws://loc	alhost:8888/gate							
2023-07-27 12:1	6:33.439 [GDS] URL: ws://loc	alhost:8888/gate							
2023-07-27 12:1	6:33.440 [GDS] Connecting to	o GDS							
2023-07-27 12:1	6:33.440 [GDS] Connecting to	o GDS							
2023-07-27 12:1	6:33.440 [GDS] websocket di	sconnected							
2023-07-27 12:1	6:33.440 [GDS] websocket di	sconnected							
2023-07-27 12:1	6:33.440 [GDS][E] websocket	error: Connection refused							
2023-07-27 12:1	6:33.441 [GDS][E] websocket	error: Connection refused							
2023-07-27 12:1	6:34.439 [GDS] URL: ws://loc	alhost:8888/gate							
2023-07-27 12:1	6:34.439 [GDS] URL: ws://loc	alhost:8888/gate							
2023-07-27 12:1	6:34.440 [GDS] websocket di	sconnected							
2023-07-27 12:1	6:34.440 [GDS] websocket di	sconnected							
2023-07-27 12:1	6:34.440 [GDS][E] websocket	error: Connection refused							
2023-07-27 12:1	6:34.440 [GDS][E] websocket	error: Connection refused							

If you click on the "follow log" tick, you can see the actual log output of TrafficSpot. In the above example it is clear that the TrafficSpot wants to connect to a GDS server but the connection is refused all the time. This is caused by a bad configuration.



8.3. APPENDIX

8.3.1. Checklist

All devices installed on the endpoint

- 1. Cameras
 - a. Front VIDAR camera
 - b. Right VIDAR camera
 - c. Left VIDAR camera
 - d. Back camera (optional)
- 2. Trigger devices
 - a. Infra barrier between the right and left camera to trigger when vehicle present.
 - b. Infra barrier between the right and left camera to for hight alert (optional)
- 3. Other
 - a. PC with installed Neural Network Controller & licese server
 - b. Ampron display (for continuous traffic flow)
 - c. Switch with gigabit port to TS PC.
 - d. Infra illuminators are working well.

Set up all devices

- 1. PC
- a. NTP service is running
- b. docker engine installed
- c. docker images present & loaded
 - i. ts_pax:latest
 - ii. anprmmrserver:eur
 - iii. paxserver:latest
 - iv. imoadraccruicserver:latest (in case of extra read needed)
- 2. Cameras
 - a. NTP settings: IP address set to the TS PC, sync is working.
 - b. The consumed streams are set to minimum 10 FPS.
 - c. Triggers from the infrabarrier is set up to be forwarded to TS PC as a software trigger.
 - d. Camera settings are configured well (the images are clear and anpr&pax grade)

TrafficSpot setup

- 1. Open tspc_ip:3000 and setup all modules to be ticked.
- 2. Start the TrafficSpot
- 3. Check the status to see if there is any problem with the system. When a module is red, open the problematic parameter and read the tip that helps to resolve the problem.

TS startscript example

#!/bin/bash

docker stop tspax docker rm tspax

```
docker run --name tspax \
    --network host \
    --volume /home/arh/dockerimages/ts/ts-
pax/configs/:/its_ts/configs/ \
    --cap-add=SYS_PTRACE \
    --security-opt seccomp=unconfined \
    -d ts:pax
```

Anpr/mmr server startscript example

#!/bin/bash

TODO: You can only chane the env config json.

Change the ipnnc remote_servers section if the license server is not running on the local host.

Depending on the expected load and the number of anpr/mmr licenses installed, you can edit the thread_count parameters, so it fits your needs.

```
docker stop anprmmrserver
docker rm anprmmrserver
docker run --name anprmmrserver \
                        --network host \
                        --log-opt max-size=150m \
                        --log-opt max-file=5 \
                        --restart unless-stopped \
                        --env config='{"ipnnc":{ "local port": 8998,
"remote servers":[{"host":"127.0.0.1", "port":8998}], "log":{ "file":
"./loadbalancer.log","logsize":10000,"logcount":50,"level":"INFO"}},"para
meters":{ "unpr thread count":"0", "host":"any", "port":"8089", "default max
queue size":"20","unpr max memory":"0"},"modules":{"ANPR":{"type":"ANPR"
, "path":"/api/anpr", "engine":"eur" ,
"thread count":"4"},"MMR":{"type":"MMR", "path":"/api/mmr",
"engine":"eur" , "thread count":"4"}}}' \
                        -d anprmmrserver:eur
```

Pax server startscript example

#!/bin/bash

TODO: You can only chane the env config json.

Change the ipnnc remote_servers section if the license server is not running on the local host.

Depending on the expected load and the number of pax licenses installed, you can edit the thread_count parameter, so it fits your needs. Recommended one license/lane.

```
docker stop paxserver
docker rm paxserver
docker run --name paxserver \
           --network host \setminus
           --log-opt max-size=150m \
           --log-opt max-file=5 \
           --restart unless-stopped \
           --cap-add SYS ADMIN \
           --cap-add SYS PTRACE \setminus
           --security-opt seccomp=unconfined \
           --env config='{"ipnnc":{ "local port": 8998,
"remote servers":[{"host":"10.0.6.65", "port":8998}], "log":{ "file":
"./loadbalancer.log","logsize":10000,"logcount":50,"level":"INFO"}},"para
meters":{ "unpr thread count":"0", "host":"any", "port": "8091", "default max
queue size":"20", "unpr max memory":"0"}, "modules": {"PAX": {"type":"PAX",
"path":"/api/pax" , "thread count":"4"}}}' \
           -d paxserver:latest
```



Imoadraccruic server startscript example (optional)

#!/bin/bash

TODO: You can only chane the env config json.

Change the ipnnc remote_servers section if the license server is not running on the local host.

Remove all modules which you don't need in your solution.

Depending on the expected load and the number of pax licenses installed, you can edit the thread_count parameter, so it fits your needs. Recommended one license/lane.

```
docker stop imoadraccruic
docker rm imoadraccruic
docker run -- name imoadraccruic
           --network host \setminus
           --restart unless-stopped \
           --env config='{"ipnnc":{ "local port": 8998,
"remote servers":[{"host":"127.0.0.1", "port":8998}], "log":{ "file":
"./loadbalancer.log", "logsize":10000, "logcount":50, "level": "INFO"}}, "para
meters":{ "unpr thread count":"0", "host":"any", "port": "8094", "default max
queue size":"20"}, "modules": {"IMO": {"type":"IMO", "path":"/api/imo",
"engine":"imoadr" , "thread count":"4"},"ADR":{"type":"ADR",
"path":"/api/adr", "engine":"cmanpr-7.3.11.63:adr l e",
"thread count":"4"}, "ACCR": {"type":"CMOCR", "path":"/api/accr",
"engine":"iso", "thread count":"4"},"UIC":{"type":"CMOCR",
"path":"/api/uic", "engine":"cmocr-7.3.16.120:uic",
"thread count":"4"}}' \setminus
           -d imoadraccruicserver:latest
```

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If this is your first online support request, please contact your sales representative to register you in our Support System. More help here (www.adaptiverecognition.com/support)!

Returning User

All registered ATSS customers receive a personal access link via e-mail. If you previously received a confirmation message from ATSS, it contains the embedded link that allows you to securely enter the support site.

