

SAIMOS[®] VA 2022 R1 Release Notes



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| First Release Date: | 5 th May 2022 |
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| Codename: | Data |
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| Current stable build: | 4.2.0 (2022-05-05) |
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SAIMOS[®] VA 2022 R1 (Codename: Data) is the first release of 2022 following up 2021 R2 and it is a big one. It offers a lot of new functionality, more stability, heightened security and better performance. Have a look at the highlights in the [Major improvements and news](#) section. If you have any questions, please don't hesitate our support via support@saimos.eu or at our [support page](#).

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Important Notes

As the build number base was increased to 4.* with the release (2021 R1) this indicates a fully redesigned backend with numerous changes to the underlying structure in the mantle of the 4th generation build of SAIMOS® VA. This means new architecture requirements as well as the necessity for a database migration for upgraded systems from 2020 R3 or older. Here are the most important facts for upgrading to or installing a fresh 2022 R1 release.

Structure

Utilizing our new installer, SAIMOS® VA now comes with a proper static/dynamic data separation also on Windows systems. That means on Windows, a newly installed release will have the following file structure:

- Static installation files and binaries are located at

`C:\Program Files\SAIMOS VA`

- Dynamic configuration files, logs and configuration databases are located at

`C:\ProgramData\SAIMOS VA`

Installation files as well as dynamic data located at `C:\ProgramData\cogvis3` will not be touched by the installation of the 2021 R1 release. To migrate old data towards the new release please refer to the [Upgrade](#) section below. After a successful migration the previous installation could be removed manually if desired.

Upgrade from 2020 R3 or older

Due to a complete change in file structure it is recommended to do a clean upgrade from older SAIMOS® VA versions (2020 R3 or older) to the 2022 R1 release. Necessary steps are:

- Create a fresh backup of the current running SAIMOS® VA release
- Save the backup dump to a save location
- Uninstall all previously installed SAIMOS® VA packages from the system
- Install SAIMOS® VA 2022 R1 on the system
- Restart the OS
- Perform a backup restore using the new SAIMOS® VA Command Prompt

After successfully completing the above steps, your previous SAIMOS® VA release should be successfully ported to 2022 R1. For further upgrade instructions, please refer to our new web based manual that is downloadable for offline use at the SAIMOS® VA software repository. If you need any help or have problems upgrading, please don't hesitate to contact our support.

Upgrade from 2021 R1/R2

Upgrading from 2021 R1/R2 only requires to run the 2022 R1 installer and upgrade by installation. However, it is always recommended to do a full backup before upgrading the system. Please refer to the manual for upgrade instructions.

License upgrade (for 2020 R3 or older)

The 2022 R1 release represents a major upgrade for releases 2020 R3 or older and will require re-licensing. Customers with active update plans will be able to acquire a refreshed license via our [licensing portal](#) or by contacting our [support](#). Customers without an active update plan should contact their SAIMOS[®] sales representative for upgrade options. After upgrade or installation of 2022 R1 a new 30 day trial period will be activated to guarantee continuous operation and to ease the update process. If you are facing any problems or have any questions, please don't hesitate to contact us.

CPU requirements

Due to the heavy use of the Intel[®] OpenVINO[™] Toolkit SAIMOS[®] VA is compatible with the following CPU generations:

- 6th to 11th generation Intel[®] Core processors
 - newer than 6th generation is recommended
 - Please be advised that some 6th generation CPUs might not be supported as they do not provide AVX2 capabilities
- 1st to 3rd generation of Intel[®] Xeon[®] Scalable processors

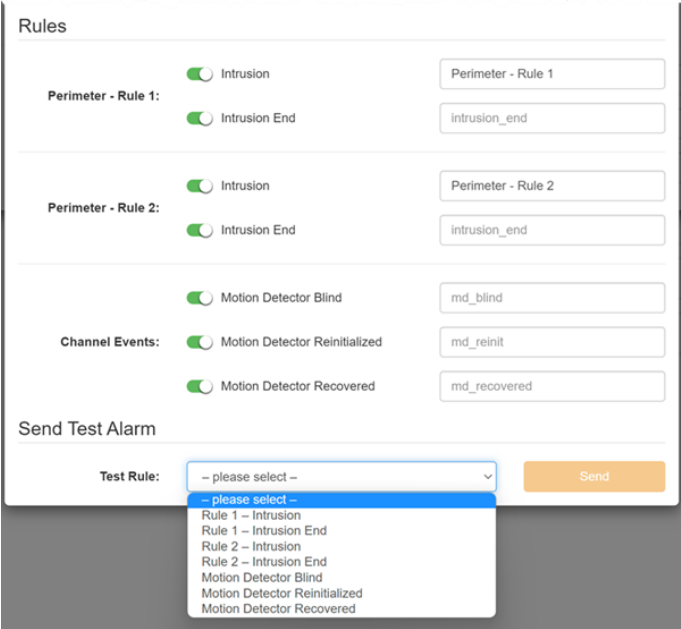
Older CPU models will not be able to run the Node runtime as well as channels. However, the SAIMOS[®] VA Server might still be operable (however it is not tested anymore by SAIMOS[®]). Backports for older CPU models will not be supported from this release onwards. Processors other than the above mentioned are neither tested nor supported by this Release of SAIMOS VA.

Major improvements and news

The following subsections will give you a quick insight about the major improvements and news for this release.

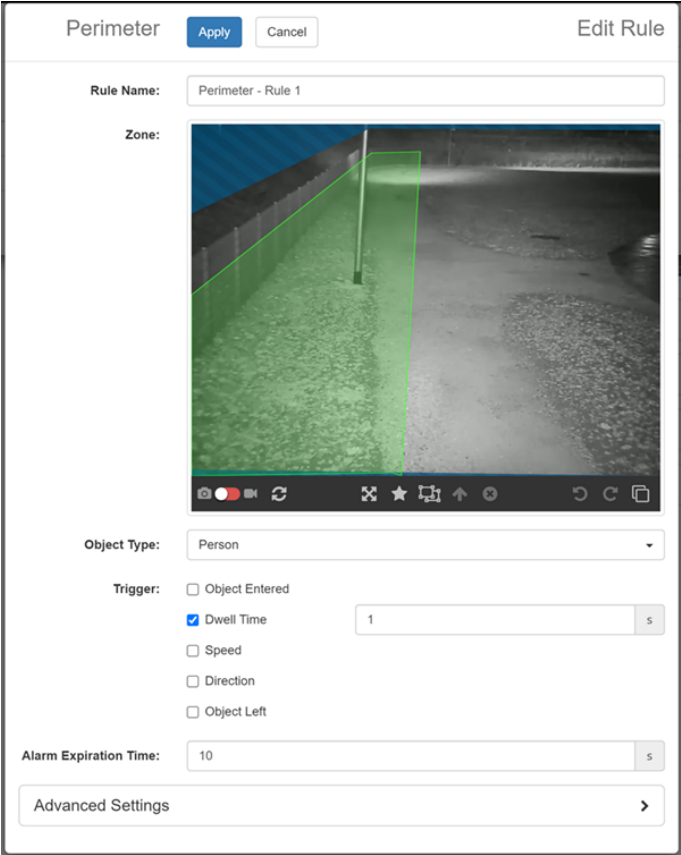
Redesigned Alarm Engine

We redesigned the Alarm Engine completely for better consistency and more flexibility. The former Alerts and System Alerts have been discontinued. The new Alarm Engine allows for more granularity on the Rule level and individual messaging as well as enabling/disabling per available Rule. Last but not least, testing alarms is now a lot easier.



Major improvements for Perimeter

We added classification to Perimeter. Now for every rule, it is possible to select which object type should trigger (Person, Vehicle, None, Any).^[^1] Additionally we completely redesigned the Rule engine and enabled additional Triggers (enter Zone, leave Zone) as well as added relaxation events. Rule triggers are now bound to the object and not to the rule which allows for one alarm per object triggering a Rule. We know that classification always comes with the need for more performance. This is why we tried our best to keep the needed performance at a minimum while still enabling state-of-the-art deep learning classification using Intel OpenVINO. The classification is optional and fully configurable to your performance needs.



Classification for Count 2D

If we can do it for Perimeter, why not as well for Count. This means, Count will have the same classification possibilities as Perimeter for Person, Vehicle, None, Any.^[^1]

Major improvements to the LPR Rule engine

LPR got a major upgrade for it's rule engine and can satisfy multiple use-cases within the same channel. Rules can now be either used for Alarming or counting with no limit to the amount of rules.

Alarms

Alarms are now more flexible and also allow directional alarming as well as not recognized feature. Here are all the options:

- Plate detected
- Plate recognized (License plate found in list(s))
- Plate not recognized (License plate not in the selected list(s))
- Directional alarming (for all the above)

Counting and occupancy

LPR has been fully integrated to the SAIMOS Count engine and detected or recognized license plates can be counted or contribute to an occupancy area / statistic. This means, LPR can now be fully integrated with counting use-cases and also supports selective occupancy management for parking spaces. The counting and occupancy rules are very flexible. Here is an example configuration:

LPR

Apply


Cancel

Edit Rule

Rule Name:

LPR Count Street

Zone:



Scenario:

☐ Alarm

☒ Counting

Counting Options:

☒ Enter Zone

Arrow Direction

☒ Leave Zone

Direction Opposite to Arrow

☐ Any License Plate

☒ Only if Recognized

☐ Only if Not Recognized

Plate Lists:

count

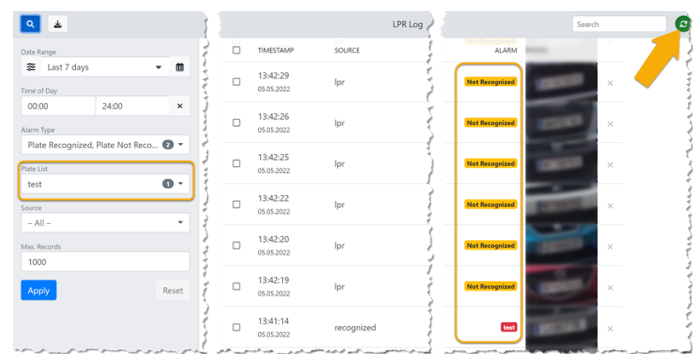
Occupancy Areas:

street lpr

+

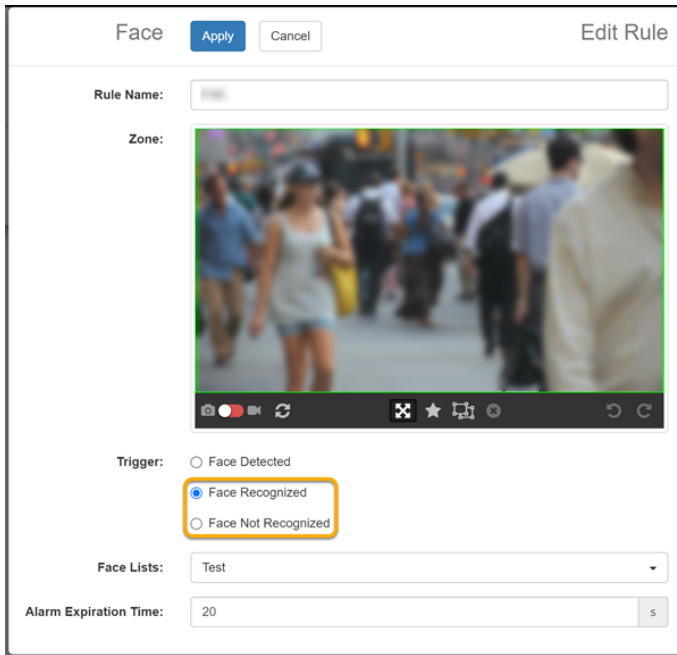
Improved LPR Log

The LPR Log has been re-worked and now provides additional filters and a clearer UI.



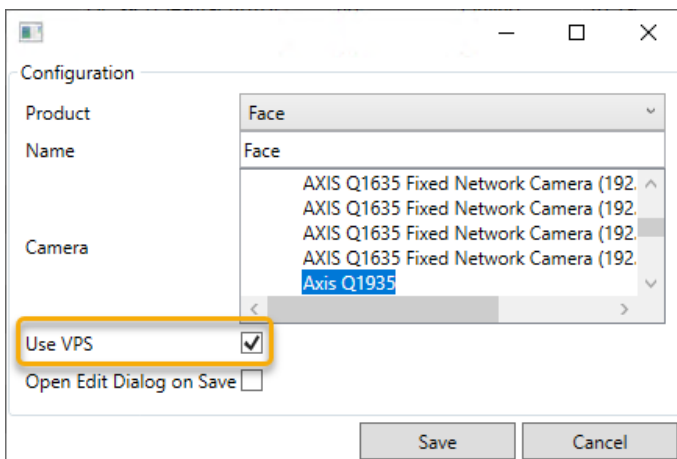
Improvements to the Face rule engine and Face Log

Face now also supports "Not in List" recognition alarms improving the access control capabilities as well as observation capabilities. In addition to that we refreshed the Face Log and added new filters and better recognition / non recognition tags.



Addition of VPS Streaming for Milestone XProtect

We added the possibility to directly decode streams from Milestone XProtect utilizing the VPS service. This will improve streaming performance as well as stability for direct streaming from Milestone. In addition to that, CPU requirements for the Recording server will drop significantly as no transcoding is required anymore. Also, encrypted connections are possible. Future versions will also support metadata streaming to Milestone as well as streaming for the SAIMOS Scrambler.



Behind the scenes (security, stability, fixes) in detail

The following subsections will give you more insight in all of the technical changes of relevance.

SAIMOS VA Milestone Plugin

- Adapt new rule and alarm handling within SAIMOS VA to the plugin channel creation.
Now more Alarms and also general channel Alarms are created by the plugin automatically.
- Add standalone VPS Service to the Plugin installer for direct streaming to SAIMOS VA
- Add the option to create a VPS device for each SAIMOS VA channel created by the Plugin

- Add SAIMOS VA display control for Management and Smart Client to the native Role editor

Now it is possible to select which UI elements of SAIMOS VA are shown to certain Roles within Milestone XProtect®

- Numerous stability and UI fixes

SAIMOS VA

- Improve System Alarms as well as their internal logging output within System Log (e. g. channel name instead of channel ID)
- Improve SAIMOS Alarm engine for harmonized Alarming throughout the System (All alarming products + System Alarms) on a Rule basis with individual naming per Rule for each channel. Alerts have been renamed to Alarms for more consistency.
- Fix Edge channel communication
- Add SAIMOS LPR to the SAIMOS Count engine and enable Count and Occupancy Management
- Add non-recognition Trigger for SAIMOS LPR
- Add non-recognition Trigger for SAIMOS Face
- Improve Rule engine for
 - Perimeter
 - Count
 - LPR
 - Face

Harmonize Rule management and optimize UI handling. Multiple additional Rule options for all mentioned products

- Add VPS handling for VPS live stream retrieval from Milestone
- Add VPS handling for VPS live stream retrieval from Siveillance
- Improve Face Log and LPR Log regarding filters and visualization
- Add Person and Vehicle classification option to Count
- Add Person and Vehicle classification option to Perimeter
- Improve streaming backend for better performance with additional motion detector scaling to allow for lower motion detector performance while still enabling inference on the master image
- Improve classifier performance with OpenVINO int8 based classifier adaptations
- Numerous improvements and fixes for Standard/Core trackers for better tracking performance and quality
- Add additional OpenVINO based classifiers for Standard/Core products

- Fix System UUID calculation for licensing
- Backend Library Updates for more stability and security
- Numerous improvements to the SAIMOS VA Manual
- Numerous smaller fixes for Server and Node

Service Builds

None at the moment this release is still fresh.

[^1]: Please be advised that classification capability might not be optimal for all camera perspectives or fisheye lenses. If in doubt, please consult with a SAIMOS VA expert.