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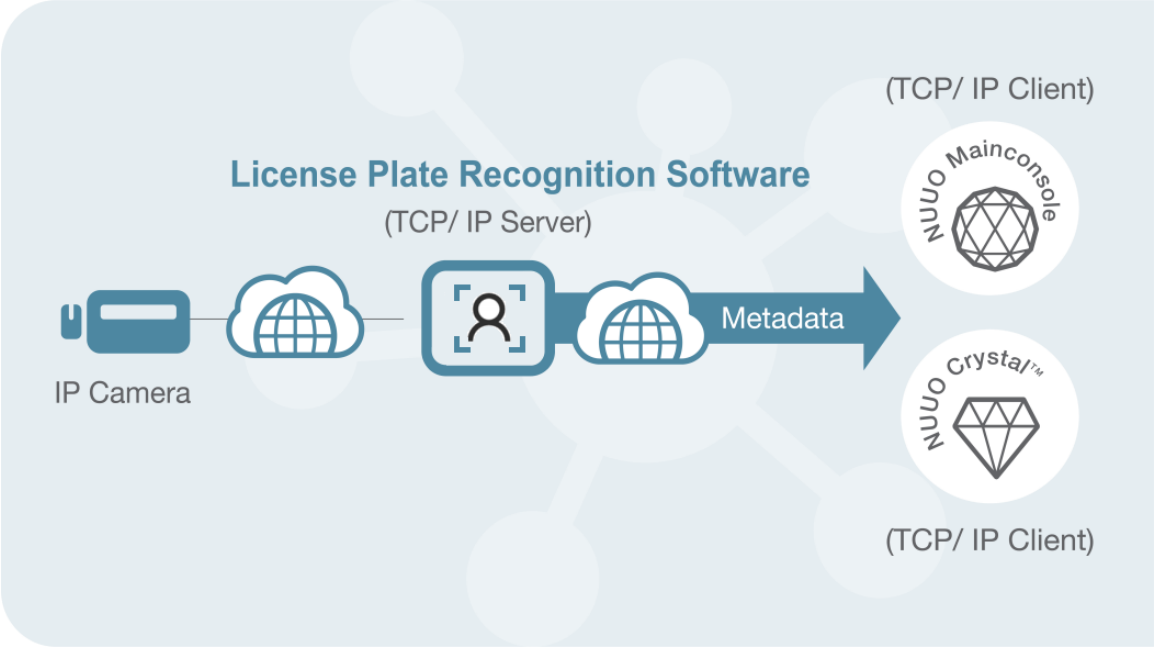
I. Facial Recognition Solution

Furthering its dedication to be a top Video Surveillance solution provider, NUUO is pleased to announce its new strategic partnership with Herta, a globally recognized facial recognition software provider.

NUUO and Herta are now working together to provide the most cutting edge facial recognition solutions for under both NUUO Crystal™ and NUUO Mainconsole (NVR IP+, Hybrid NDVR, and DVR card) platforms. The suite ensures that our clients always have access to the most advanced facial recognition solution in the market.

A. System Architecture

NUUO metadata server will query and update the facial recognition analysis results from Herta Facial Recognition Windows-based application in specified time period. With this information, users can create a pre-defined Blacklists and Whitelists and take appropriate actions such as opening a gate or generating an alert.



B. Compatible Versions

Herta Version	Product	Server Version	Client Version	Plugin Version
Herta 3.0	Crystal™	v.3.10.0	v.3.10.0	v.2.3.0.0
BioSurveillance Solution	Mainconsole	v7.8.0	v7.8.0	v.2.3.0.0

II. Herta Facial Recognition System Installation

A. Trial Version

For trial, please reach out to Herta Customer Success Team by creating a case via https://hertasecurity.com/en/support.

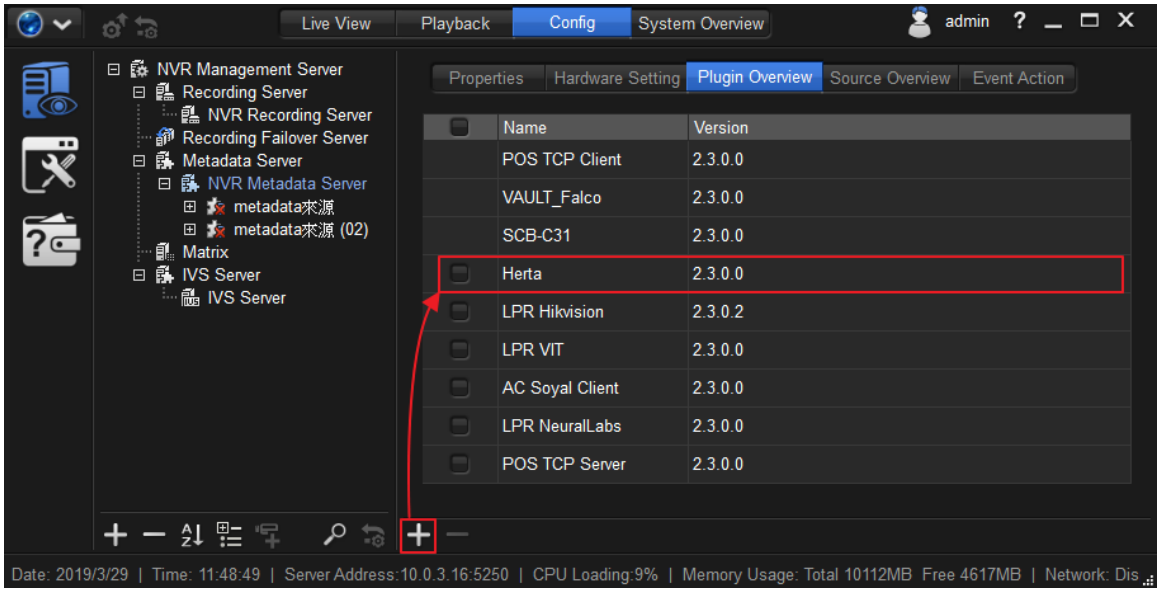
B. Herta Facial Recognition Server Set-up

Please refer to the hardware requirements and user guide for details.

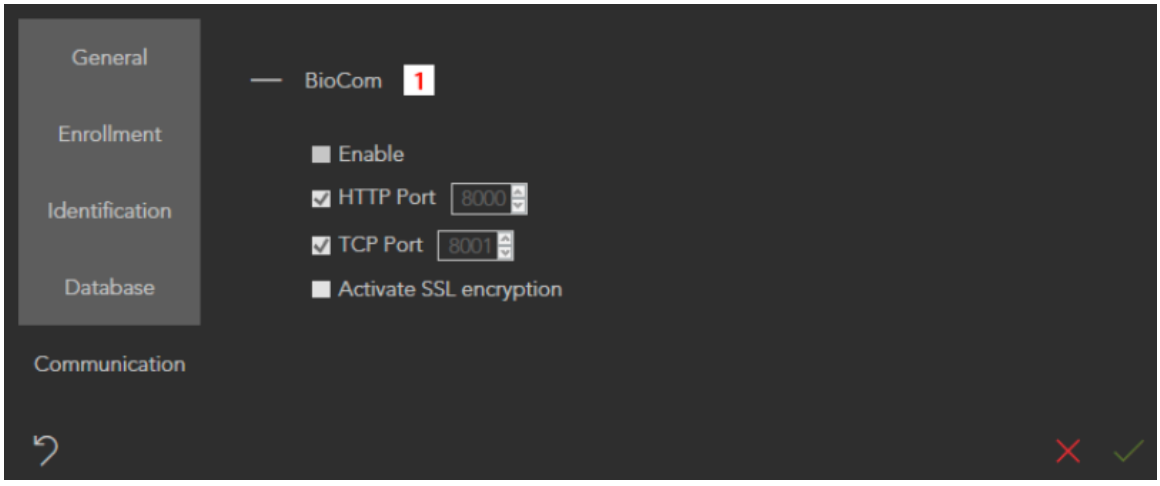
III. NUUO Server Configuration

A. Crystal™

a. To use this feature, please upgrade your Crytal™ Server firmware and Client application to v.3.10.0 or above version. Also, please download the plugin for Herta Facial Recognition System in NUUO's official website and install it in the "Plugin Overview" tab.



b. Open the Herta Facial Recognition application and setting for Herta Plugin. Herta Setting: Settings > Communication > BioCom, "Enable" and "HTTP Port" must be checked, then assign an available HTTP port.



The statement for connection setting in the user guide Herta > BioCom:

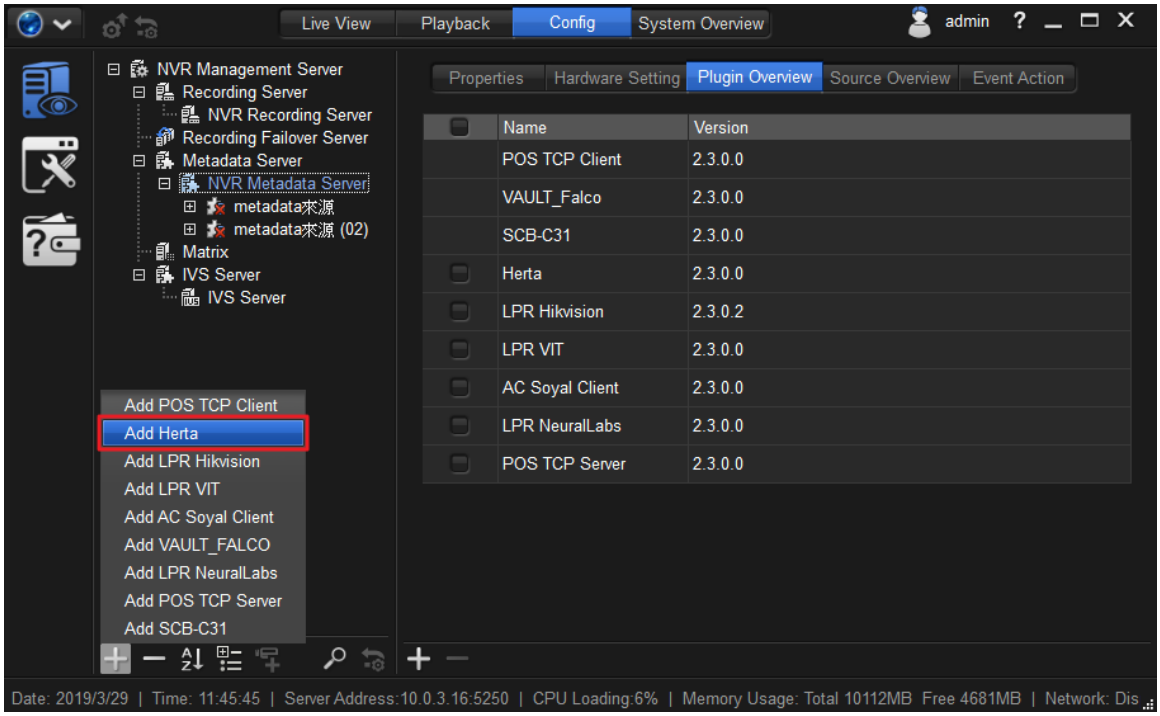
- *Enable: Herta Server send alarms configured to an external application using the BioCom module automatically.*
- *HTTP Port: Setting the HTTP port where to send the alarms.*

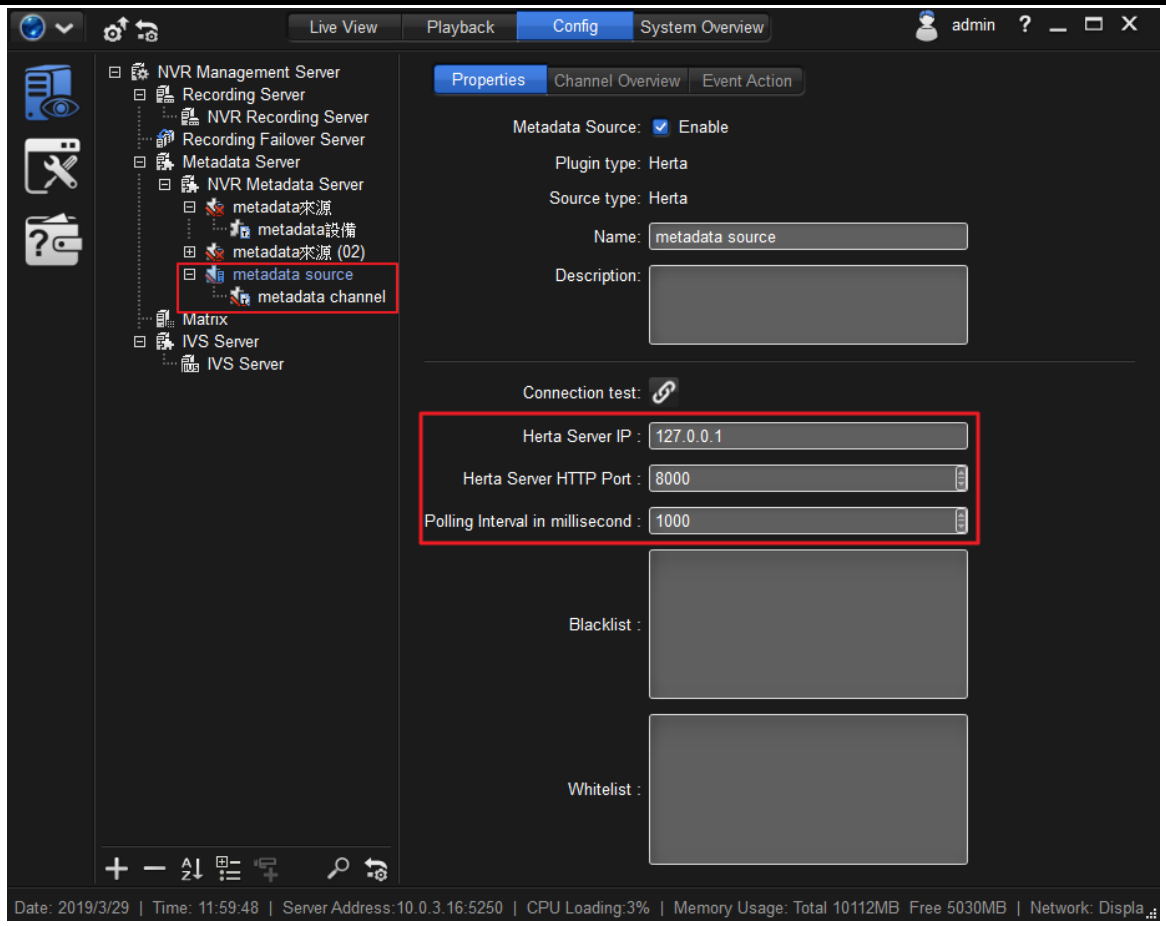
- *TCP Port: Setting the TCP port where to send the alarms.*
- *Activate SSL Encryption: It can encrypt your shipments by SSL encryptio.*

Notice:

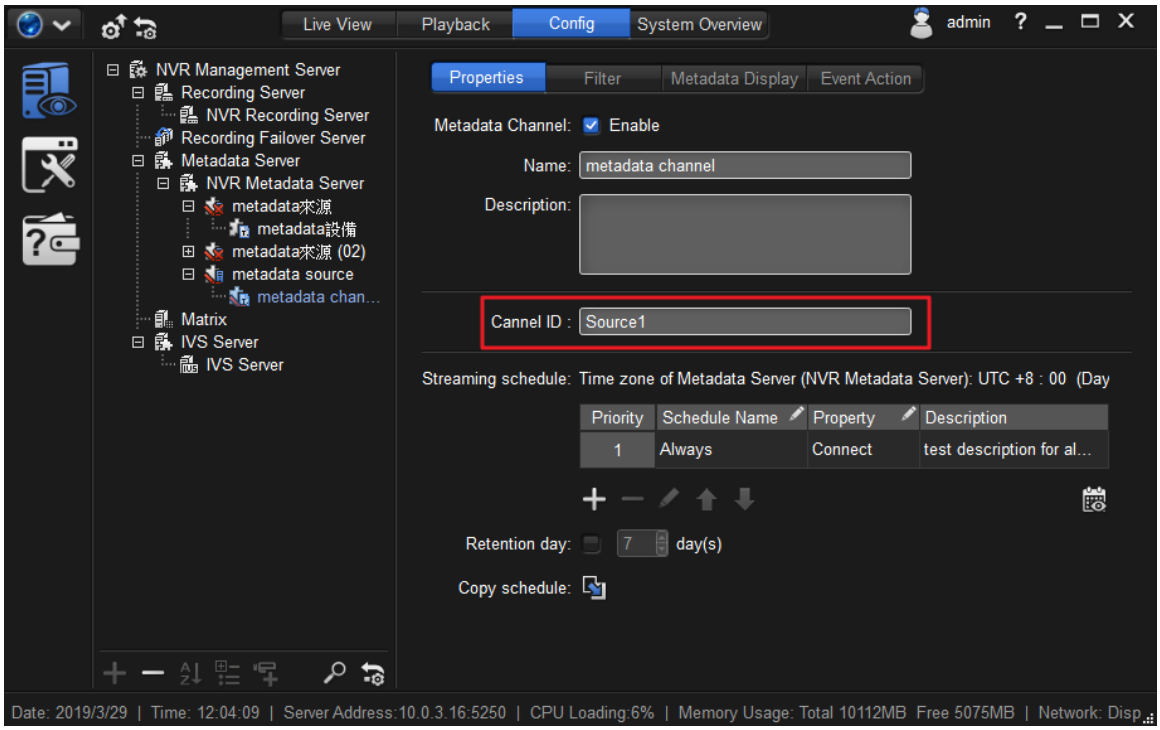
- *"Enable" and "HTTP Port" must be checed for metadata.*
- *Metadata Server Port: Please make sure you assign an available "HTTP Port" for receiving the metadata from Herta Facial Recognition System. Using occupied port may lead to receive unnecessary metadata from other metadata source.*

c. Add a metadata source of Herta Facial Recognition System and input the assigned server IP and port, then setting the Metadata "Polling Interval" in millisecond.

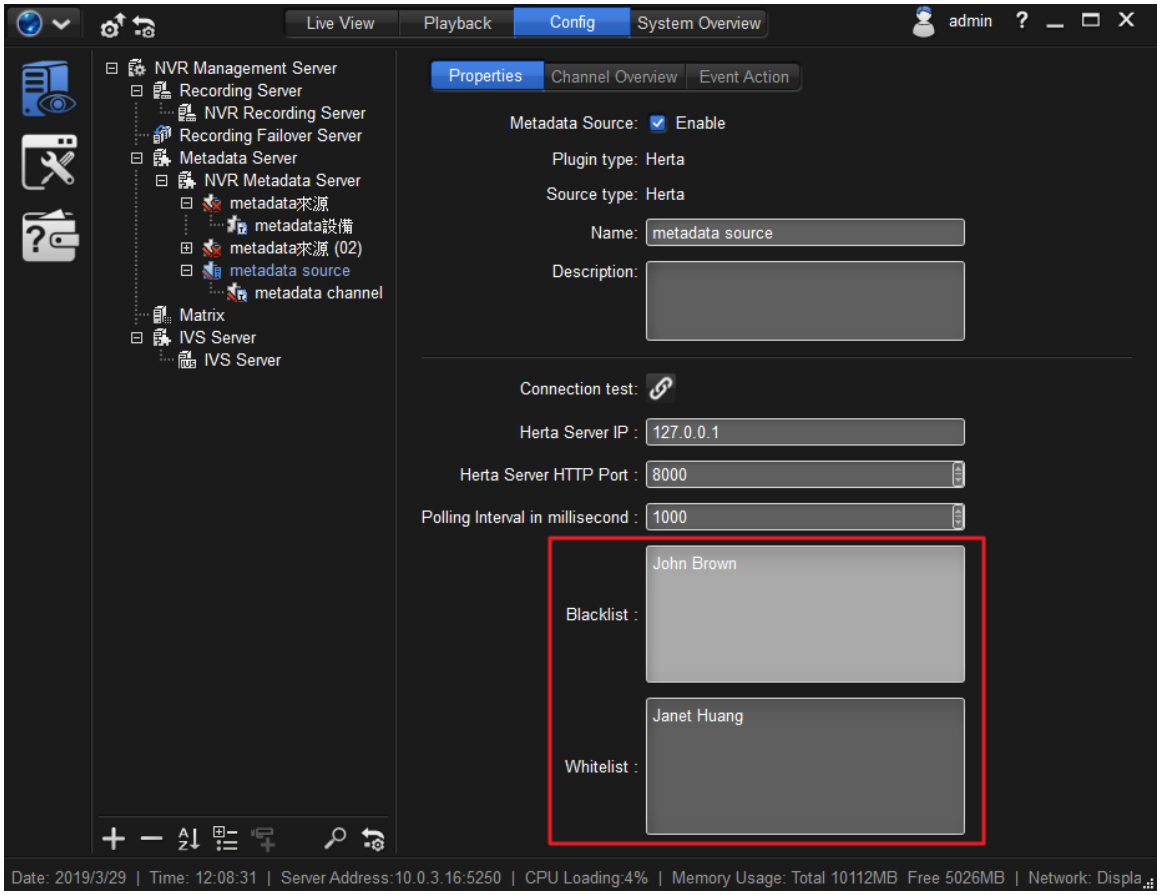


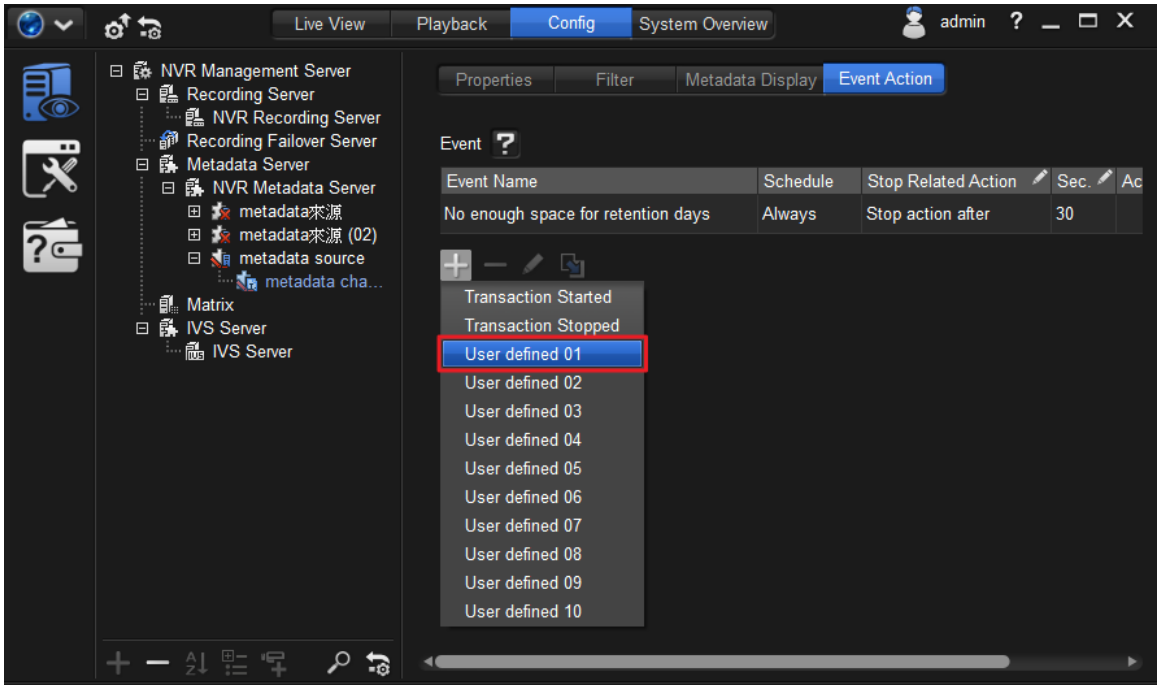


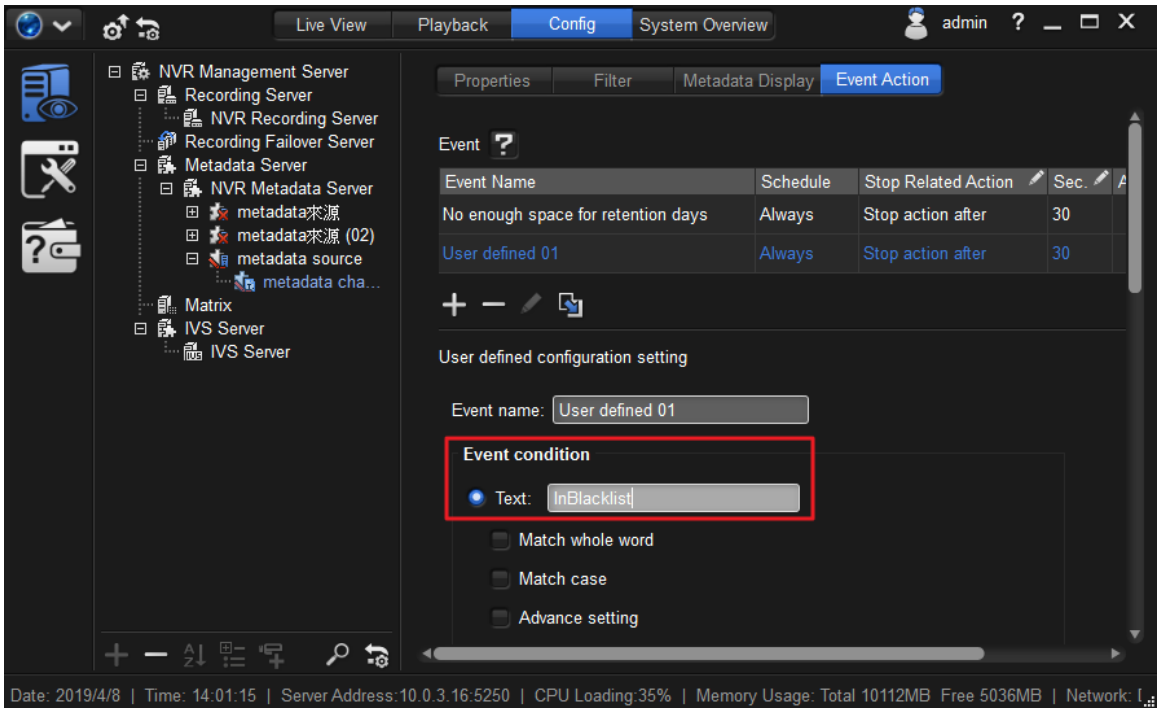
d. Users can add corresponding metadata channels and define “Channel ID” for receiving the detection results from multiple channels. (The “Channel ID” is defined by Herta Facial system named “Camera Source”, “Channel ID” and “Camera Source” setting string must totally equal.)



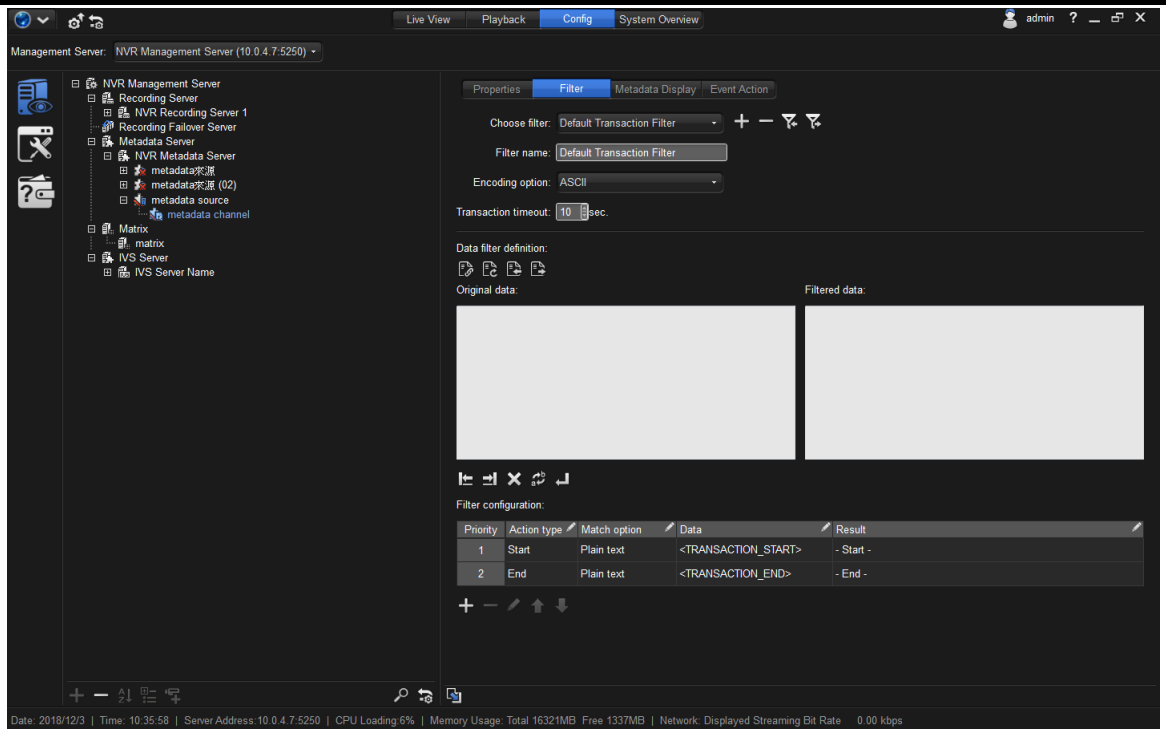
e. For Blacklist and Whitelist applications, input the relevant license plate numbers into the blacklist and whitelist column in the “Properties” tab. All the metadata channels under the metadata source will share the same blacklist and whitelist for flexible system design. Then, setup a specific action for blacklist or whitelist by User Defined Event in metadata channel > Event Action and modify the text of the event condition to “InBlacklist” or “InWhitelist” (Please use the correct case for each letter. The comparison is case-sensitive). Once set-up is complete, the Crystal Server will automatically compare the receiving license plate numbers with those in the list and do instant responses. (The character limit of each list is up to 250,000 characters)







f. Metadata channel Filter: Every tag of data transaction is start with "<TRANSACTION_START>" and end with "TRANSACTION_END"



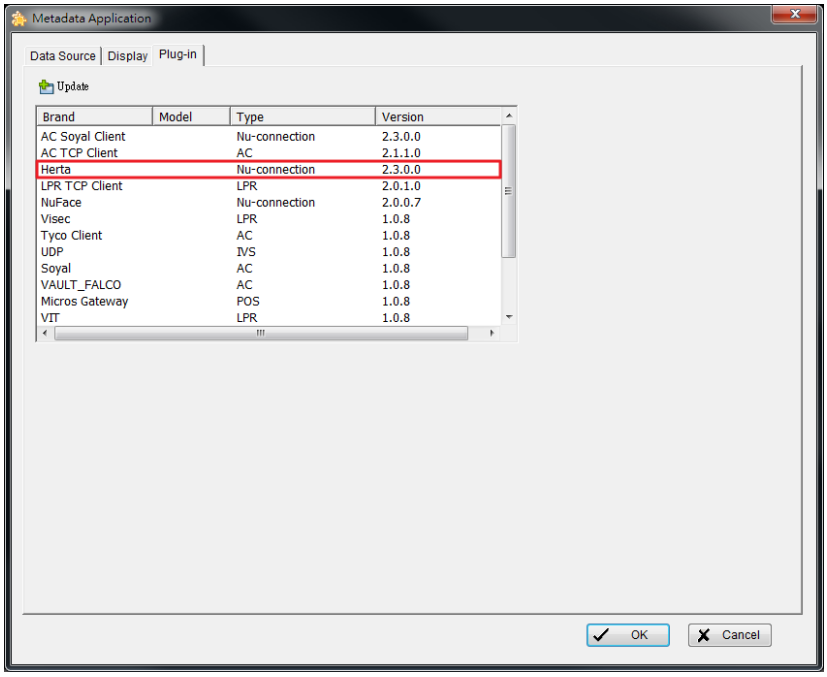
Note:

- *Please make sure you upgrade the client version to 3.10.0.*
- *For blacklist and whitelist, please use the correct case for each letter (The comparison is case-sensitive) and spilt them by new line.*
- *Please make sure you setup both start and end in the filter for the system to define a complete detection result.*

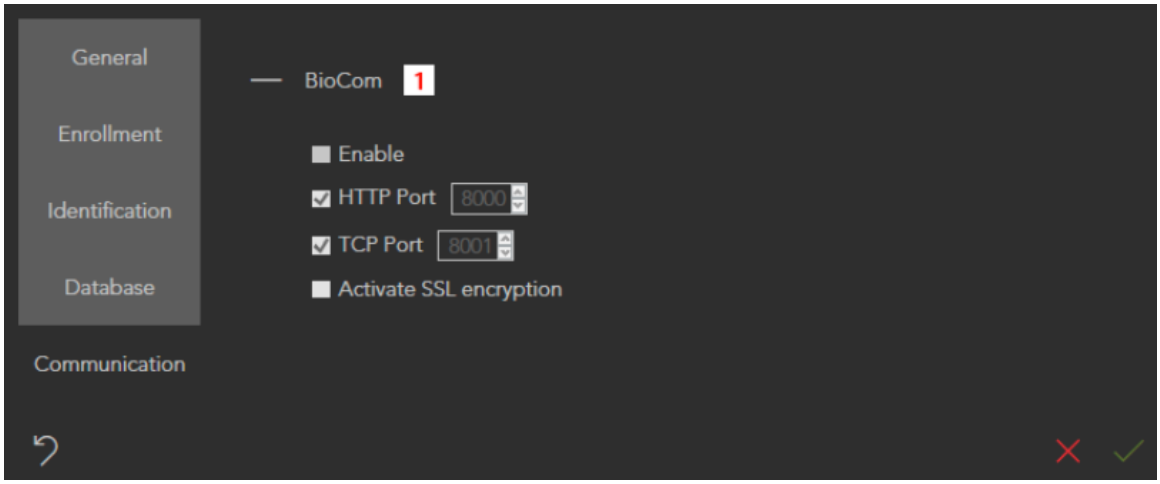
B. Mainconsole

a. To use this feature, please download and put the .dll plugin file for Herta Facial Recognition System into the corresponding installation directory.

- For 32bit Mainconsole, please download the 32bit .dll plugin file and put it into the C:\Program Files (x86)\NUUO\SCB_IP\PluginPack\MetadataModelHerta.
- For 64bit Mainconsole, please download the 64bit .dll plugin file and put it into the C:\Program Files (x86)\NUUO\SCB_IP\x64\PluginPack\MetadataModelHerta.



b. Open the Herta Facial Recognition application and setting for Herta Plugin. Herta Setting: Settings > Communication > BioCom, and “Enable” and “HTTP Port” must be checked, then assign an available HTTP port.



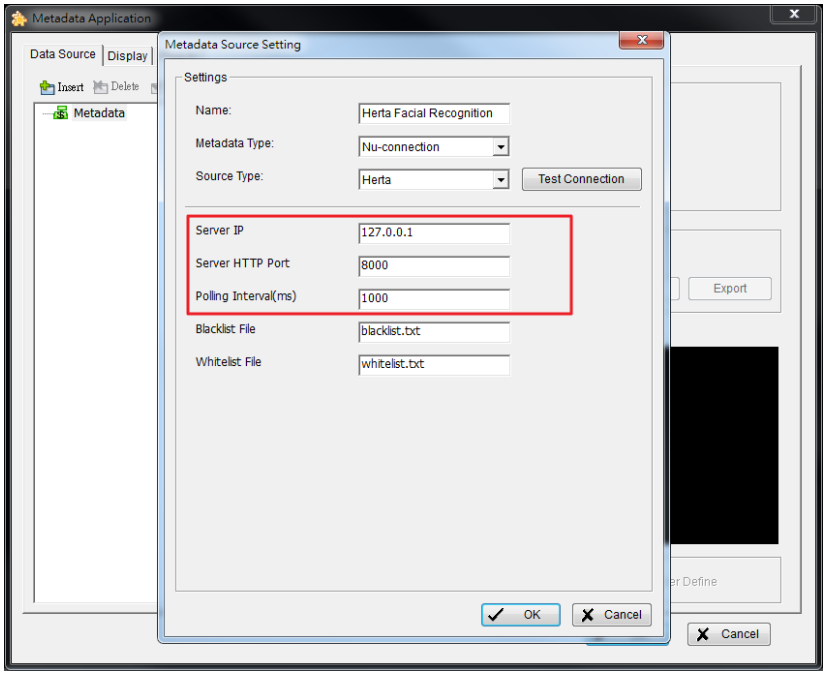
The statement for connection setting in the user guide Herta > BioCom:

- *Enable: Herta Server send alarms configured to an external application using the BioCom module automatically.*
- *HTTP Port: Setting the HTTP port where to send the alarms.*
- *TCP Port: Setting the TCP port where to send the alarms.*
- *Activate SSL Encryption: It can encrypt your shipments by SSL encryptio.*

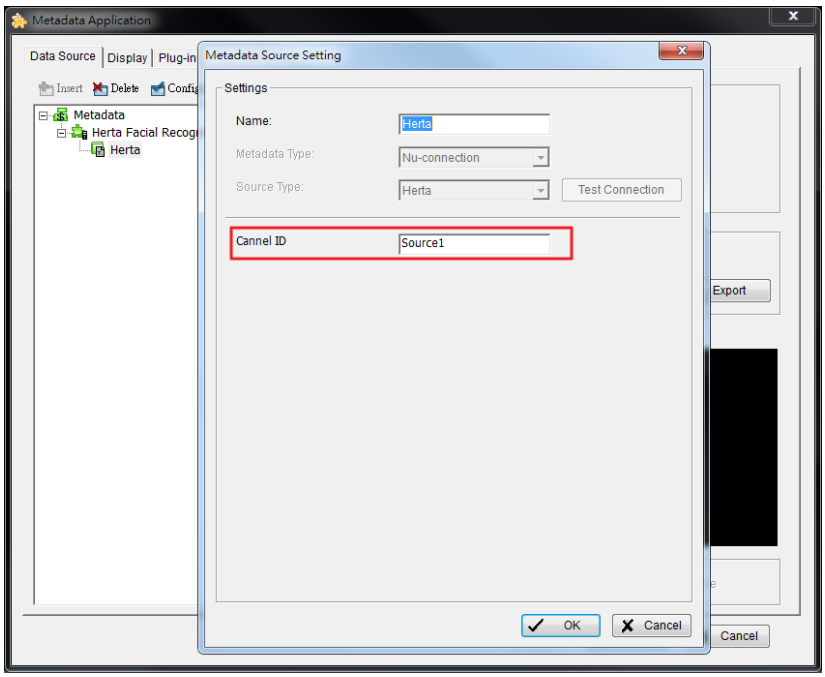
Notice:

- *“Enable” and “HTTP Port” must be checed.*
- *Metadata Server Port: Please make sure you assign an available “HTTP Port” for receiving the metadata from Herta Facial Recognition System. Using occupied port may lead to receive unnecessary metadata from other metadata source.*

c. Add a metadata source of Herta Facial Recognition System and input the assigned port, then setting the Metadata “Polling Interval” in millisecond.

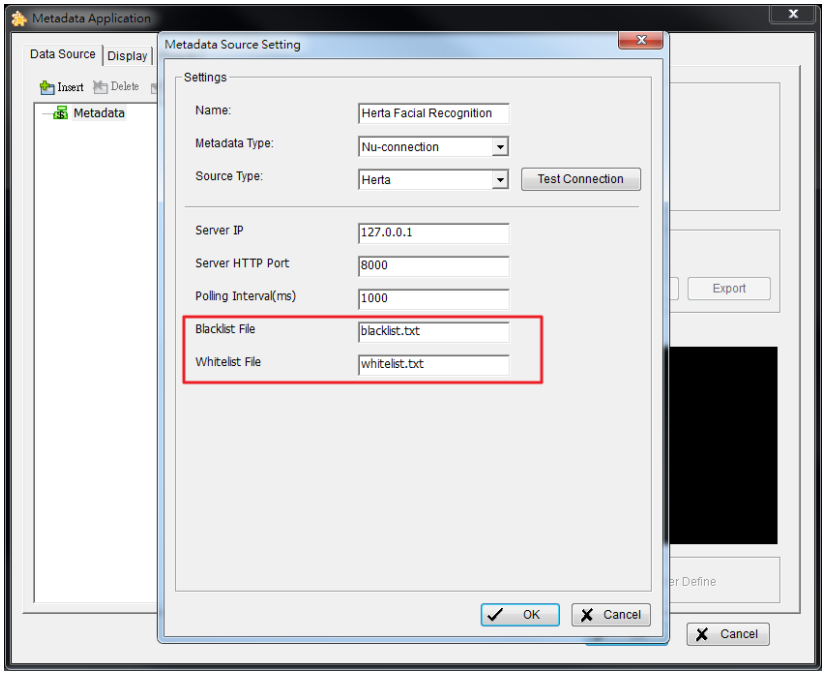


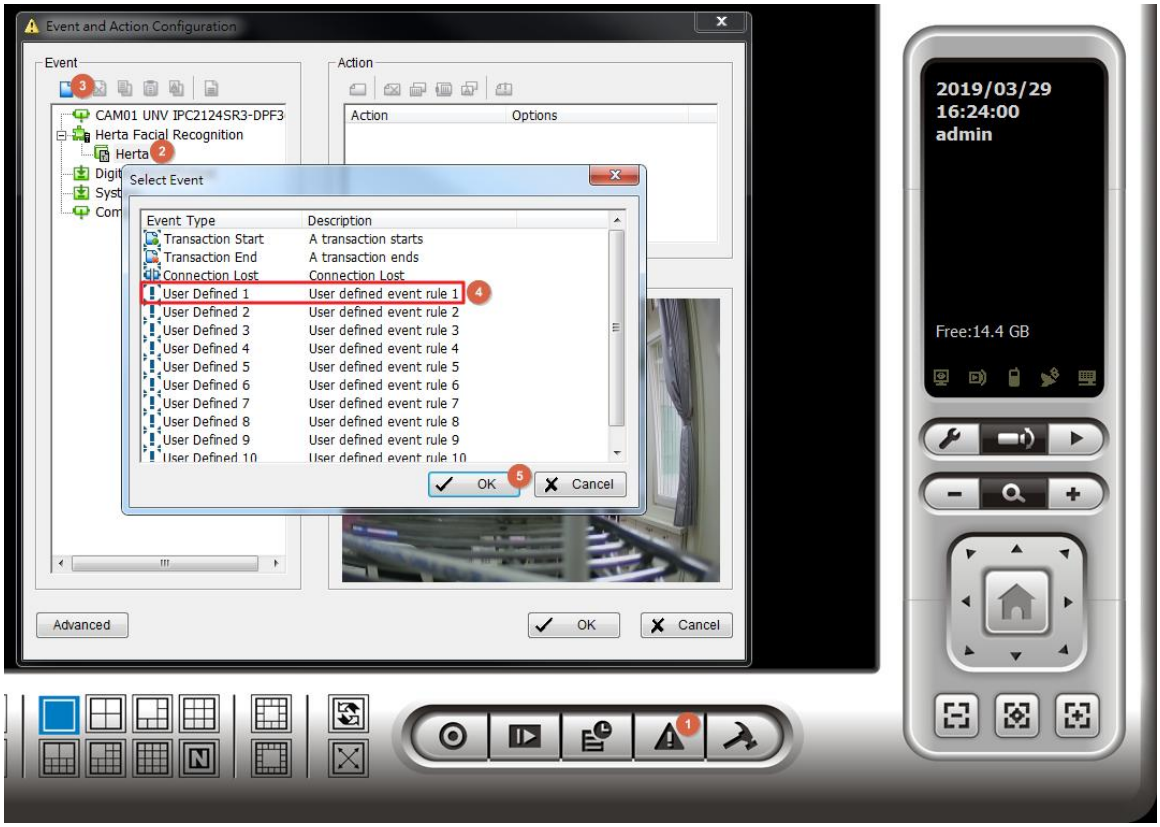
d. Users can add corresponding metadata channels and define “Channel ID” for receiving the detection results from multiple channels. (The “Channel ID” is defined by Herta Facial system named “Camera Source”, “Channel ID” and “Camera Source” setting string must totally equal.)

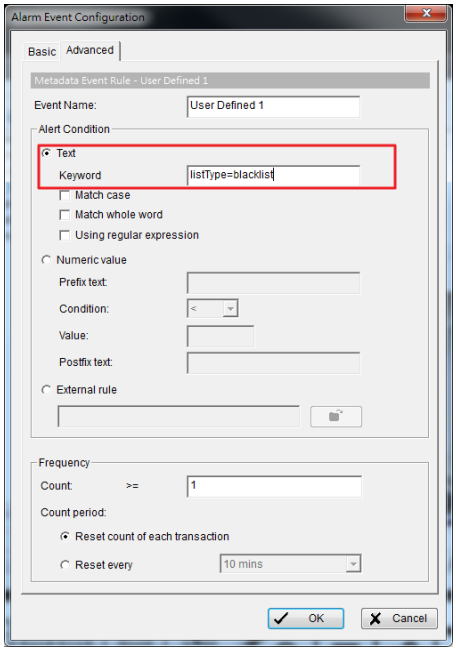


e. For Blacklist and Whitelist applications, create and input relevant license plate numbers into a blacklist and whitelist .txt file and put the files into the corresponding plugin installation folder (C:\Program Files (x86)\NUUO\SCB_IP\PluginPack\ MetadataModelHerta 32bit or C:\Program Files (x86)\NUUO\SCB_IP\x64\PluginPack\

MetadataModelHerta for 64bit). Then, setup a specific action for blacklist or whitelist by User Defined Event in Smart Guard > 3rd Party Facial Recognition Event > Event Action and modify the text of the event condition to “listType=blacklist” or “listType=whitelist” (Please use the correct case for each letter. The comparison is case-sensitive). Once set-up is complete, the Mainconsole will automatically compare the receiving data with those in the list and do instant responses. (The character limit of each list is up to 1,000,000 characters)







Note:

- *For blacklist and whitelist, please use the correct case for each letter (The comparison is case-sensitive) and spilt them by new line.*
- *Please make sure you setup both start and end in the filter for the system to define a complete detection result.*

C. Metadata Display

The plugin will receive the .xml file sending from the Herta Facial Recognition System Server, and transform the data into a human readable format displayed in the interface of NuClient and Mainconsole. Users can omit those unwanted data by setting the regular expression in metadata channel > Filter (Crystal/ Mainconsole).