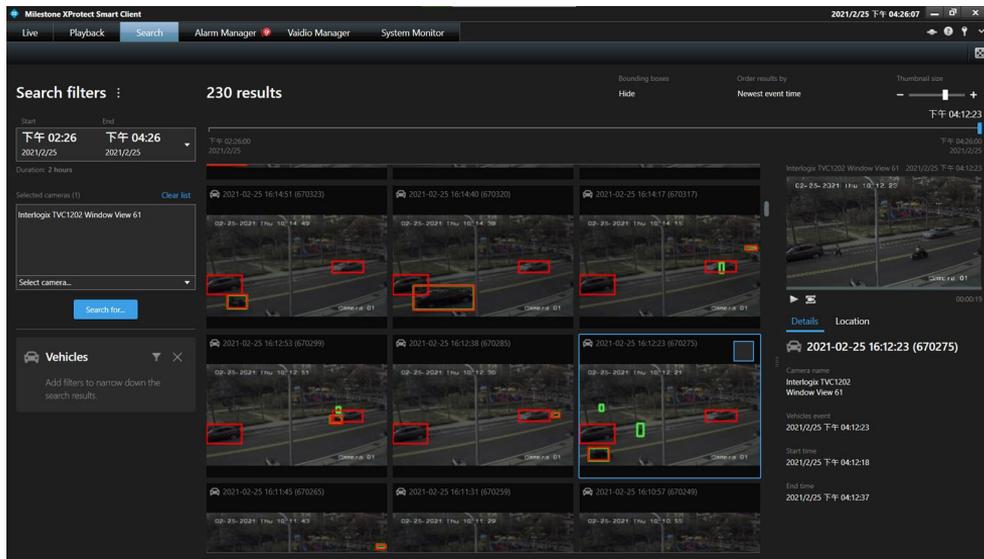


Vaidio Plugins For Milestone

Vaidio Search & Mgmt Plugin

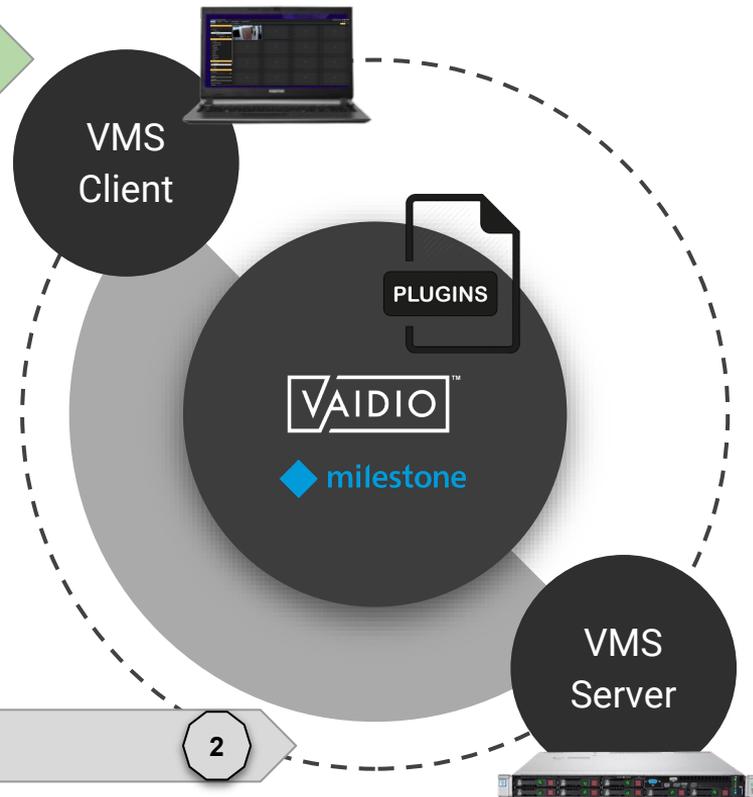


1



Vaidio Alert Porter Plugin

2



Contents

Vaidio Search & Mgmt Plugin

Click on the button to jump to the section

Preparations

Vaidio Search & Mgmt
Installation Guide

Vaidio Search & Mgmt
Manual

Business contact sales@aicuda.world (EMEA) or sales@ironyun.com (Americas and ASIA)
Technical support contact support@aicuda.world

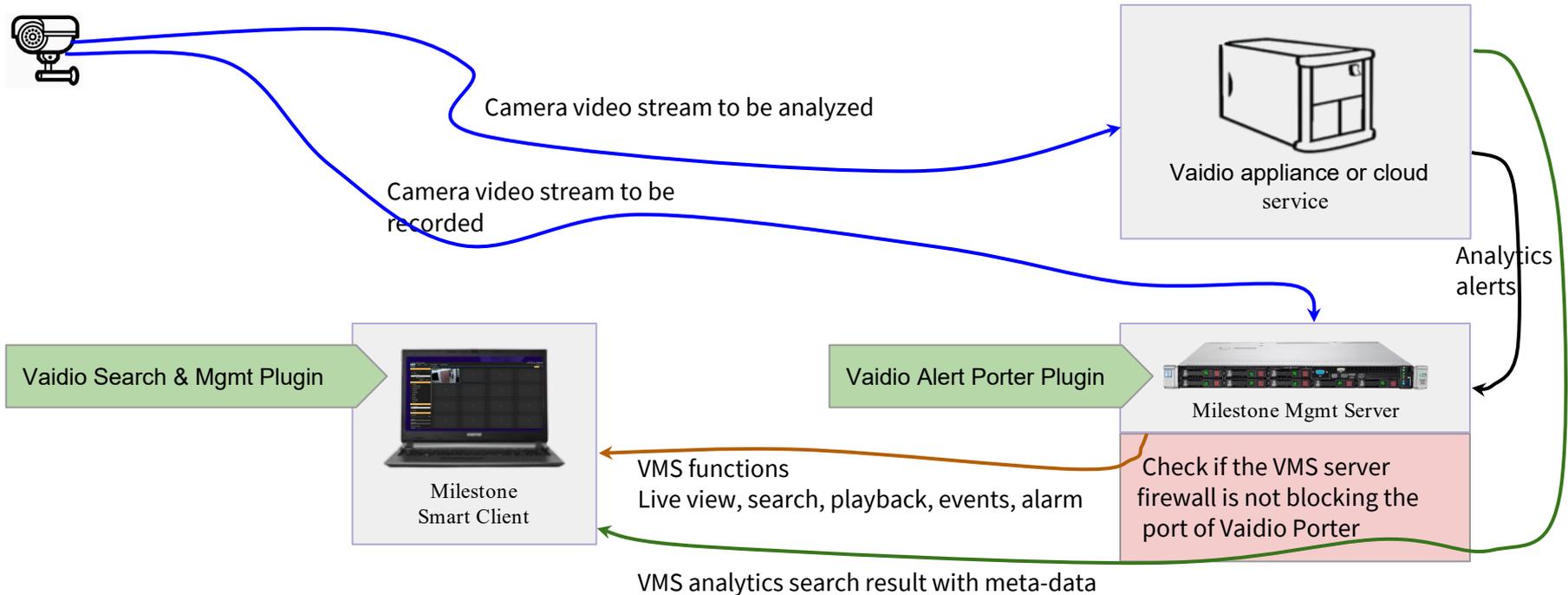
Preparations

Vaidio Search & Mgmt Plugin

A video analytics plugin for Milestone VMS and Smart Client. This plugin addresses two functions:

- (1) The discovery & management of video analytic services (Vaidio) embedded in smart client.
- (2) The video search function.

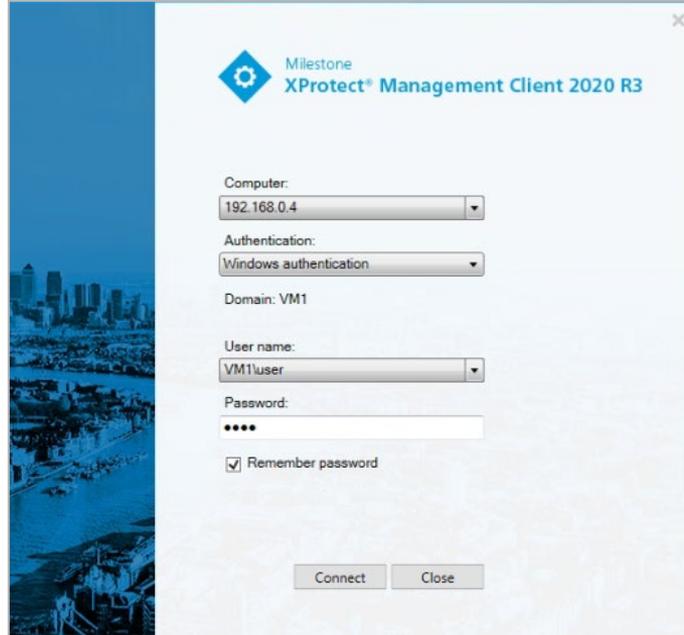
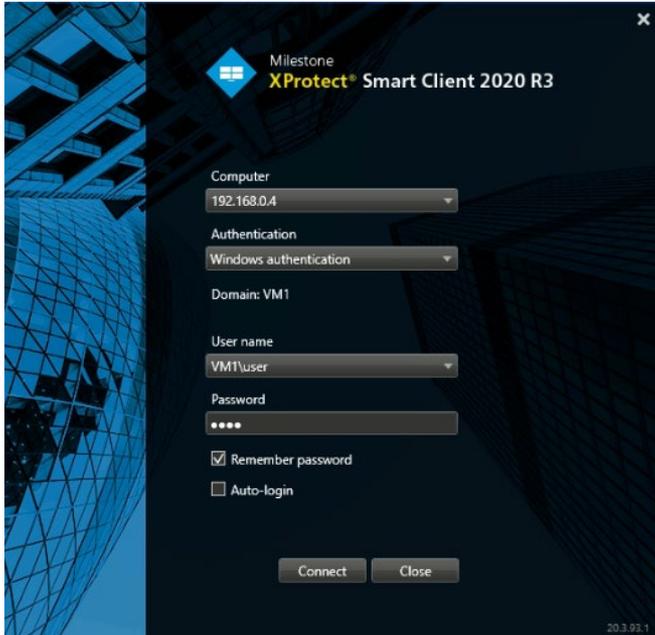
Preparation - Topology, Flow & Components



To synchronize the system it is required among camera, VMS and Vaidio service to share "a common" NTP time server

Preparation - Milestone VMS & Vaidio

- Install Milestone XPCO or XPE in 2020R3 on x64 Windows 10 platform.
- Standalone or distributed Smart Client 2020R3 is tested with Vaidio v4.2.1.
- Both Vaidio and VMS need to have access to the camera stream.



Installation Guide

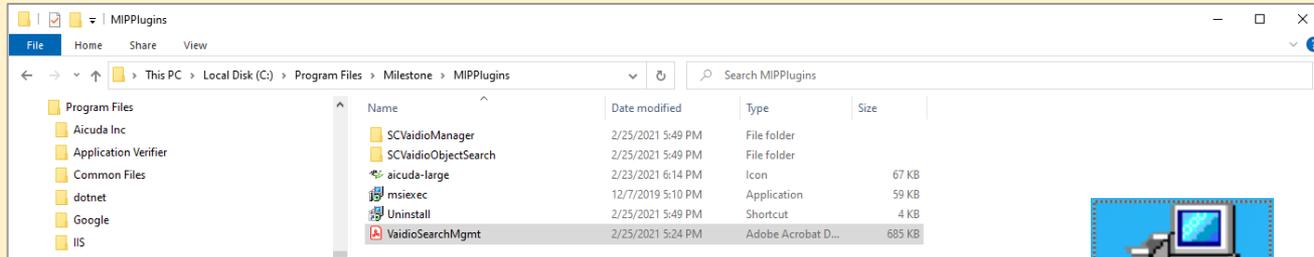
Vaidio Search & Mgmt Plugin

A video analytics plugin for Milestone VMS and Smart Client. This plugin addresses two functions:

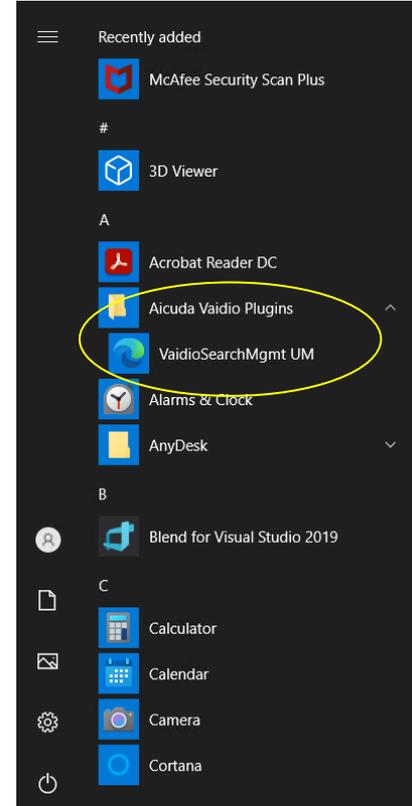
- (1) The discovery & management of video analytic services (Vaidio) embedded in smart client.
- (2) The video search function.

Installation & Verification

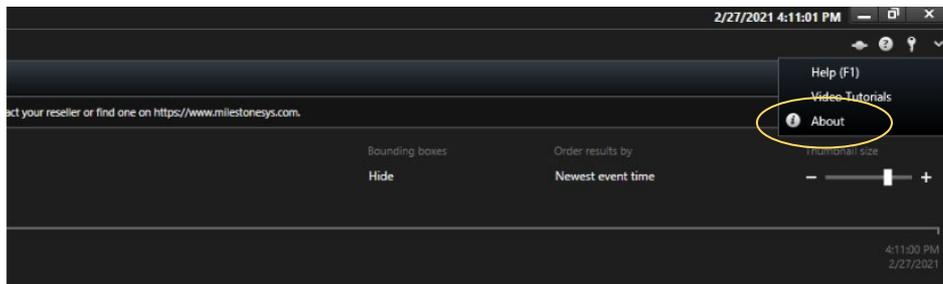
1. A base Milestone VMS installation on XPCO or XPE platform in Windows 10 w/ x64. Tested in version 2020R3 20.3a (64 bits)
2. Download the plugin from the [download link](#) and copy it in the **smart client** folder on the client PC. You have the option to click “cancel” or “next” in the installation process. Installation folder and Milestone smart client folders are fixed and cannot be redirected.



1. Launch the downloaded installer
“VaidioSearchMilestonePluginInstaller-x.x.x.x.exe”

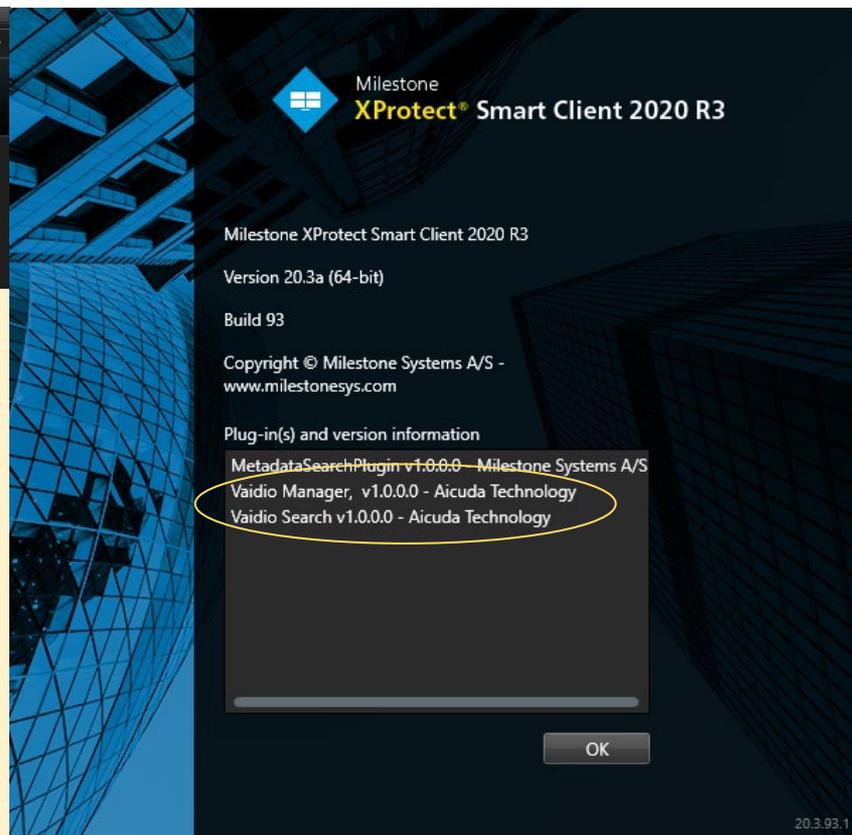


Plugin Verification



** To verify if the plugin is properly loaded in the Milestone Smart Client.

- Run Smart Client and check “About” section.
- Check if “Vaidio Manager vx.x.x.x” is listed.
- Check if “Vaidio Search vx.x.x.x” is listed.
vx.x.x.x is a placeholder for the version number.



Plugin Removal

Apps & features

Choose where to get apps

Installing apps only from Microsoft Store helps protect your device.

Anywhere

Apps & features

[Optional features](#)

[App execution aliases](#)

Search, sort, and filter by drive. If you would like to uninstall or move an app, select it from the list.

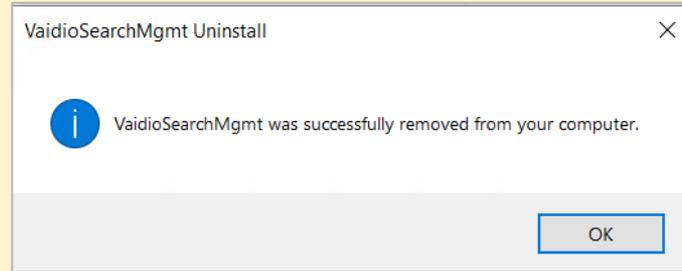
vaudio

Sort by: Name Filter by: All drives

1 app found

 VaidioSearchMgmt version 1.0.5.0 216 MB 4/21/2021

To uninstall the *VaidioSearchMgmt* plugin, open the “Programs and Features” tab in “Control Panel” to remove the plugin. There is only the option to remove the plugin directly.



aicuda - Programs and Features

Control Panel > Programs > Programs and Features

Control Panel Home

Uninstall or change a program

View installed updates

Turn Windows features on or off

To uninstall a program, select it from the list and then click Uninstall, Change, or Repair.

Name	Publisher	Installed On	Size	Version
 VaidioAlertPorterServerPlugin	Aicuda Inc.	4/23/2021	90.8 MB	1.0.6
 VaidioSearchMgmt version 1.0.6.0	Aicuda, Inc.	4/22/2021	215 MB	1.0.6.0

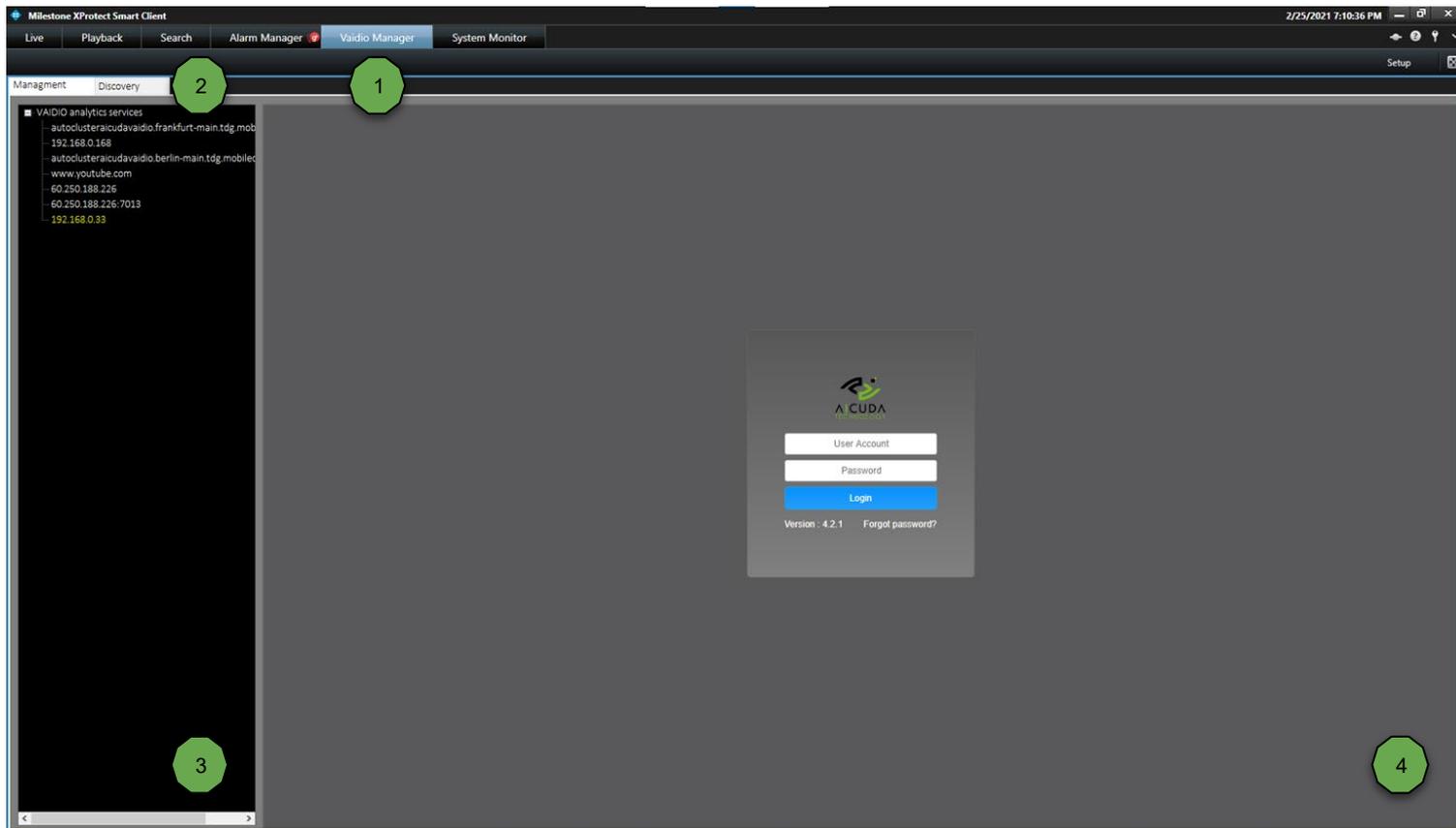
Manual

Vaidio Search & Mgmt Plugin

A video analytics plugin for Milestone VMS and Smart Client. This plugin addresses the following functions:

- (1) The discovery & management of video analytic services (Vaidio) embedded in smart client.
- (2) The video search function.
- (3) The plugin license activation.

Vaidio Manager - Management Page



The screenshot shows the Vaidio Manager web interface. The top navigation bar includes tabs for 'Live', 'Playback', 'Search', 'Alarm Manager', 'Vaidio Manager' (selected), and 'System Monitor'. The main content area is split into two tabs: 'Management' and 'Discovery'. The 'Management' tab is active, displaying a list of Vaidio analytics services on the left and a login form in the center. The list includes IP addresses, domain names, and phone numbers. The login form has fields for 'User Account', 'Password', and a 'Login' button. A footer shows the version '4.2.1' and a 'Forgot password?' link. Four green callout circles are placed on the interface: 1 points to the 'Vaidio Manager' tab, 2 points to the 'Discovery' tab, 3 points to the service list, and 4 points to the bottom right corner of the interface.

Vaidio Manager tab
For Vaidio Discovery
and Management

1

**Discovery / Manage
ment tab**- Switch
between Discovery
and Management
page

2

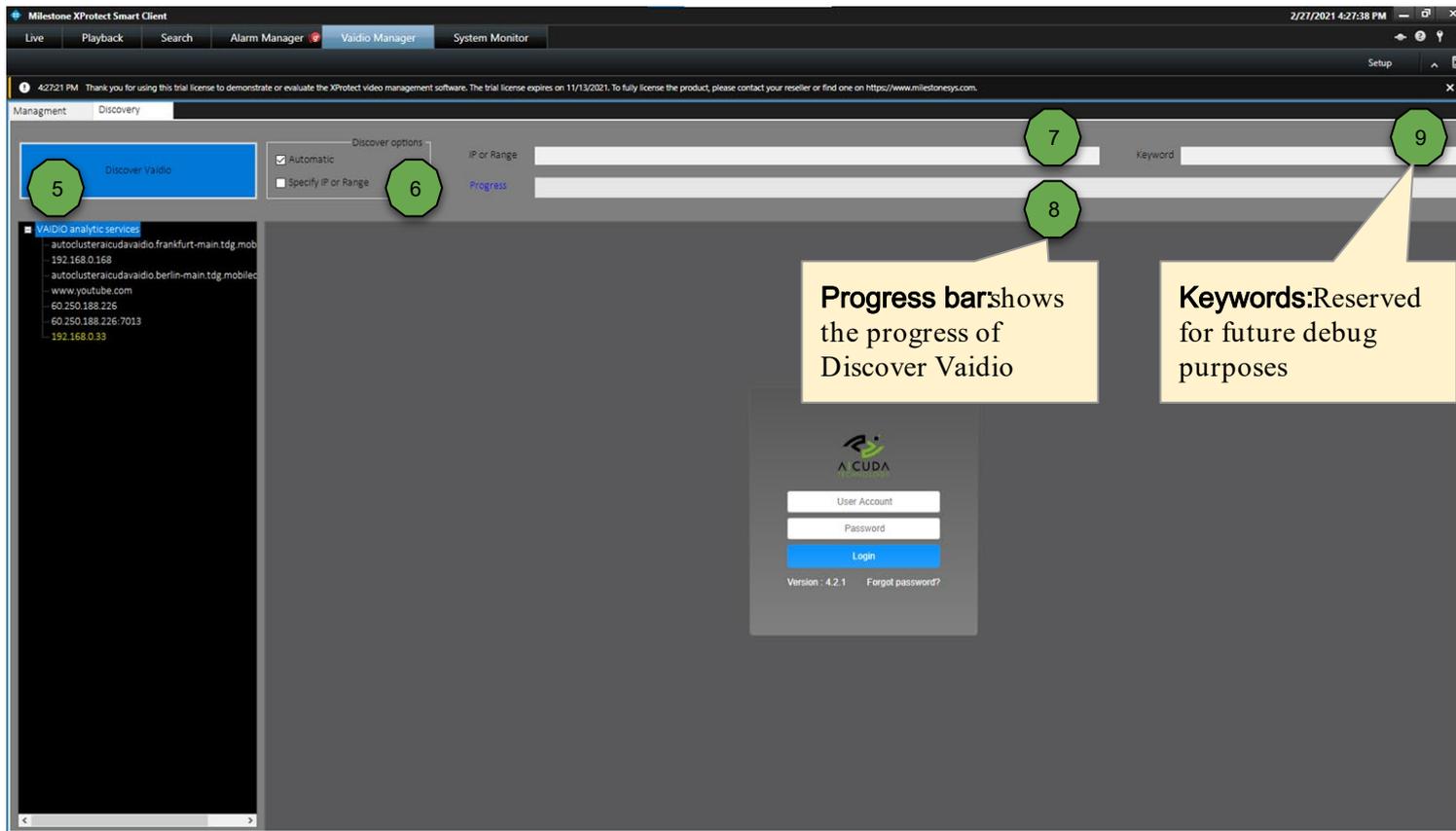
**Discovery list of
Vaidio Analytics
Services**- Press
Vaidio Analytics
services and
scroll down in list

3

GUI - Vaidio web
GUI

4

Vaidio Manager - Discovery Page



The screenshot shows the Vaidio Manager Discovery Page. At the top, there are navigation tabs: Live, Playback, Search, Alarm Manager, Vaidio Manager (selected), and System Monitor. Below the tabs, there's a status bar with a timestamp and a license notice. The main interface is divided into several sections:

- Discovery Options:** A section with a "Discover Vaidio" button (5), a "Discover options" group containing "Automatic" (checked) and "Specify IP or Range" (6) checkboxes, and a "Progress" indicator (8).
- IP or Range Field:** A text input field (7) for specifying IP addresses or ranges.
- Keyword Field:** A text input field (9) for entering keywords.
- Vaidio Analytic Services List:** A list of discovered services on the left side, including URLs and IP addresses.
- Login Panel:** A central panel with a login form (User Account, Password, Login button) and version information (4.2.1).

Discover Button-
Press to start
Discover / add
Vaidio Service with
options specified in (6)

Progress bar shows
the progress of
Discover Vaidio

Keywords:Reserved
for future debug
purposes

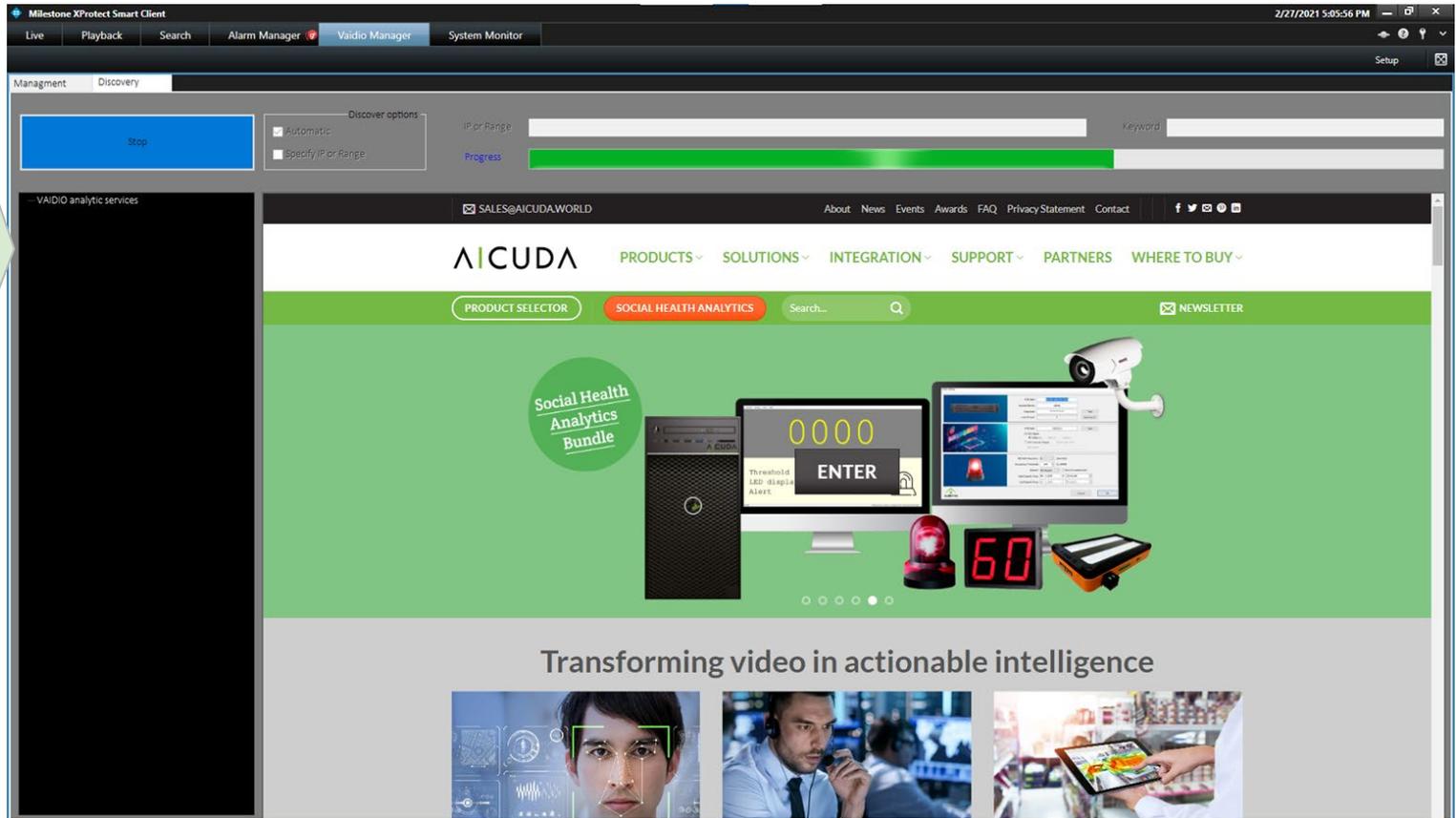
Discover options-
Automatic: option
to discover Vaidio
automatically in a
LAN
Specify IP or Range:
Add a specific URL /
IP to the Vaidio list
or discover the
specified range

IP or Range Field
key in the URL to
"ADD" or the IP
Range to Discover

Vaidio Manager - Discover Automatically

Press the “Discover” button to scan the Vaidio services with default “Automatic” option.

The progress bar reflects the status of the scan process. User can wait until the scan is completed or press the “Stop” button.



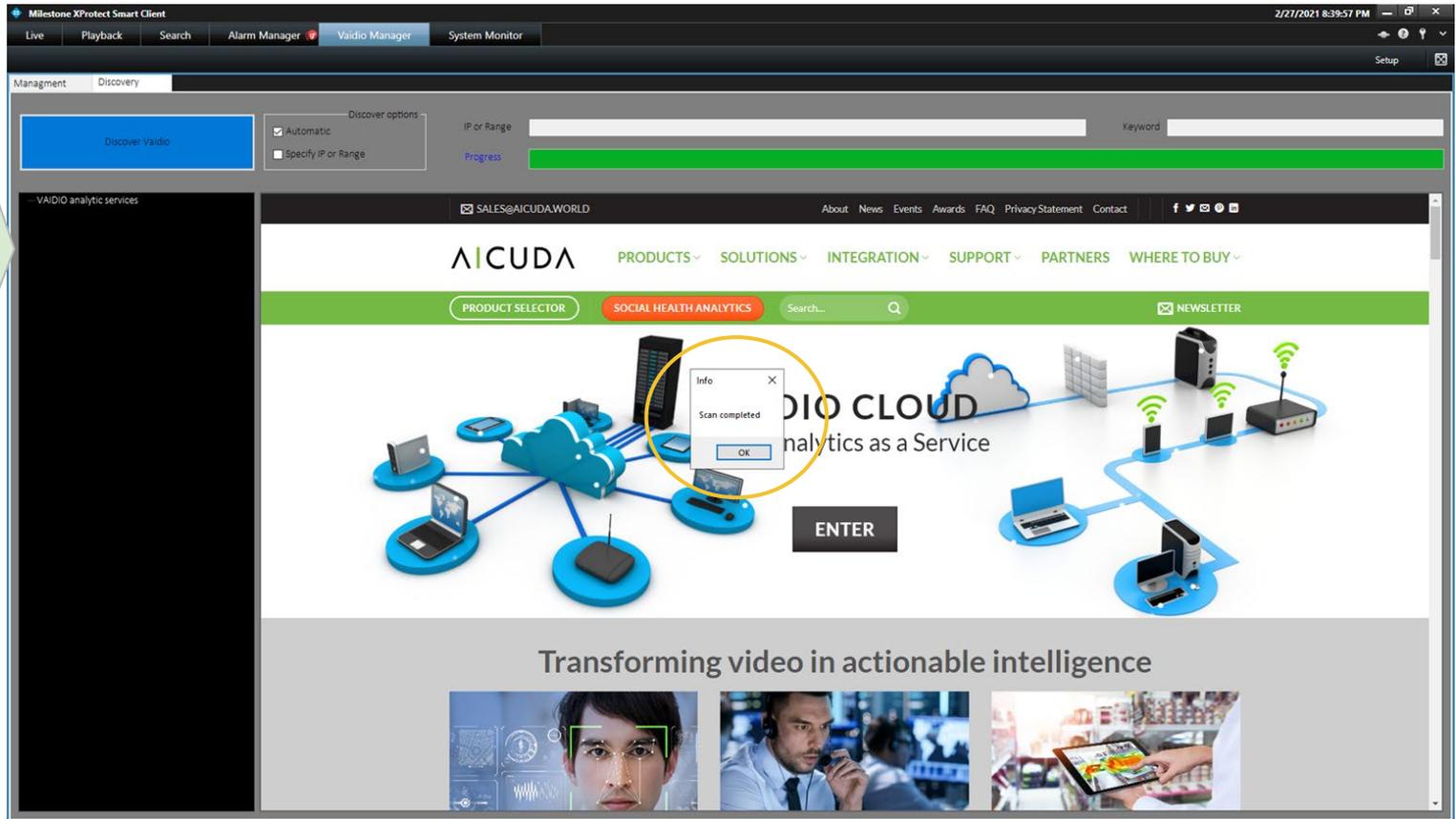
The screenshot displays the Vaidio Manager software interface within a browser window titled "Milestone XProtect Smart Client". The interface is divided into several sections:

- Top Navigation:** Includes tabs for "Live", "Playback", "Search", "Alarm Manager", "Vaidio Manager" (active), and "System Monitor".
- Discovery Panel:** Located under the "Management" tab, it features a "Discover" sub-tab. A large blue "Stop" button is on the left. To the right, there are "Discover options" with checkboxes for "Automatic" (checked) and "Specify IP or Range". Input fields for "IP or Range" and "Keyword" are present, along with a green progress bar.
- Website Preview:** The main area shows a preview of the AICUDA website. The website header includes "SALES@AICUDA.WORLD" and navigation links like "PRODUCTS", "SOLUTIONS", "INTEGRATION", "SUPPORT", "PARTNERS", and "WHERE TO BUY". A prominent banner for "Social Health Analytics Bundle" features images of a server, a monitor displaying "0000 ENTER", a security camera, a red alarm light, a digital display showing "60", and a tablet.
- Footer:** The website preview includes the slogan "Transforming video in actionable intelligence" and three small images at the bottom: a person's face with a green bounding box, a person on a phone, and hands holding a tablet.

Vaidio Manager - Discover Automatically

Once the scan is completed a message box pops up indicating that the Discovery process is completed.

Once the user hits the OK button, the scan result of all Vaidio analytics services are listed in a tree view.



The screenshot displays the Vaidio Manager interface within a Milestone XProtect Smart Client window. The interface includes a top navigation bar with 'Live', 'Playback', 'Search', 'Alarm Manager', 'Vaidio Manager', and 'System Monitor'. Below this is a 'Management' tab with a 'Discovery' sub-tab. A 'Discover vaidio' button is visible, along with 'Discover options' for 'Automatic' (checked) and 'Specify IP or Range'. A green progress bar indicates the scan is in progress. A central banner for 'AICUDA' features a 'PRODUCT SELECTOR' and 'SOCIAL HEALTH ANALYTICS' buttons, a search bar, and a 'NEWSLETTER' sign-up. The main content area shows a network diagram with a cloud and various devices, with a yellow circle highlighting an 'Info' dialog box that says 'Scan completed' and has an 'OK' button. Below the diagram is an 'ENTER' button. At the bottom, a section titled 'Transforming video in actionable intelligence' features three images: a person with a face-tracking overlay, a person on a phone, and a person using a tablet.



This inset screenshot shows the 'Vaidio analytic services' tree view. It includes a 'Discover Vaidio' button and a list of services with their IP addresses:

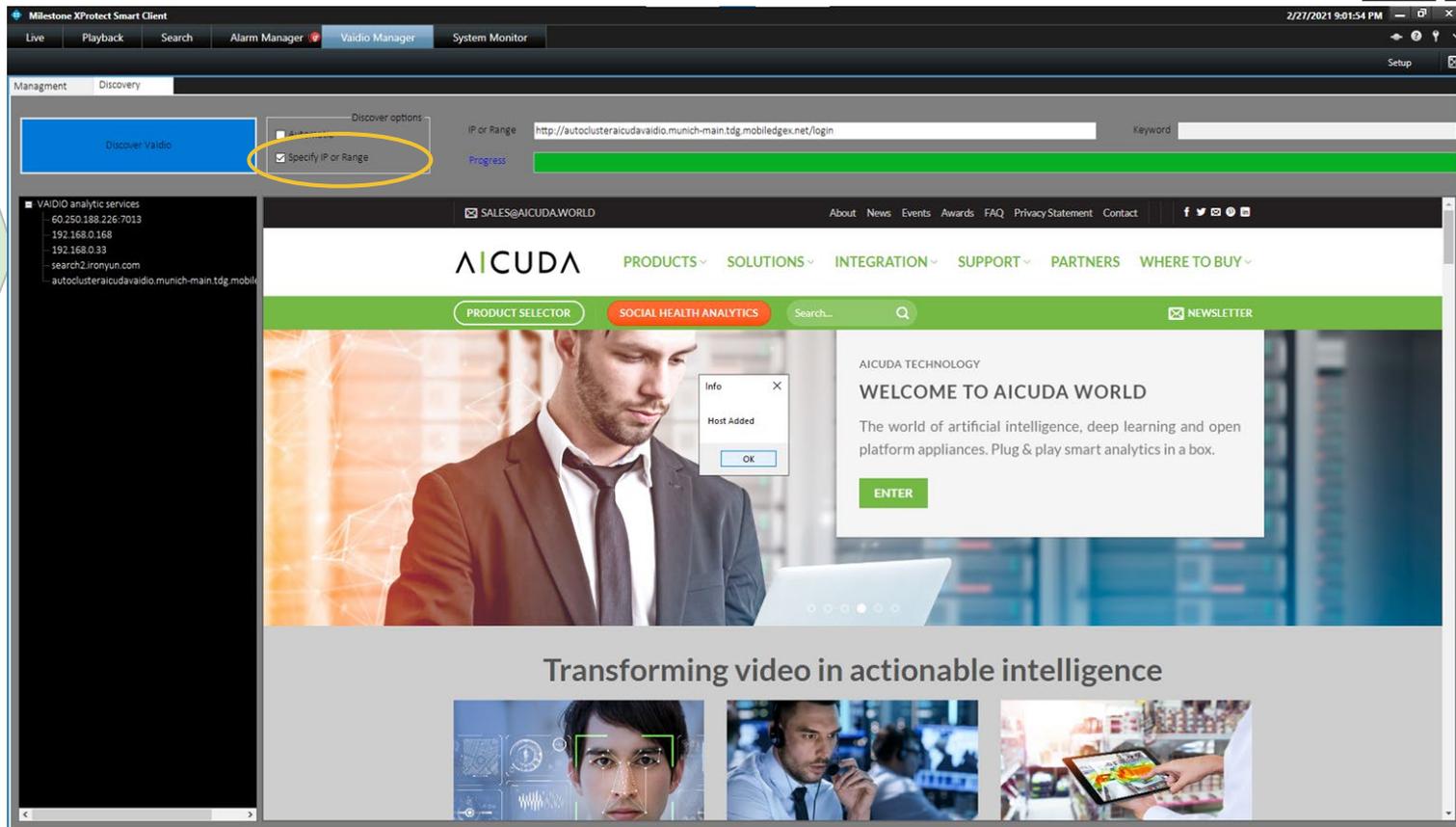
- Vaidio analytic services
 - 192.168.0.33
 - 192.168.0.168

Vaidio Manager - Add URL / Host IP

Click the “Specify IP or Range” box and hit the “Discover Vaidio” button.

Add a specific URL in the “Specify IP or Range” box. The URL becomes visible in the tree view.

The URL is not able to connect if the network connection or service is not available.



The screenshot shows the Vaidio Manager software interface. The top navigation bar includes 'Live', 'Playback', 'Search', 'Alarm Manager', 'Vaidio Manager', and 'System Monitor'. The main window is divided into a 'Management' section on the left and a 'Discovery' section on the right. In the 'Discovery' section, there is a 'Discover options' panel with a 'Specify IP or Range' checkbox checked. Below this, an input field contains the URL 'http://autocluster.aicudavaidio.munich-main.tdg.mobiledgx.net/login'. A 'Discover Vaidio' button is visible to the left of the input field. The background of the software window shows the AICUDA website, which includes a navigation menu with 'PRODUCTS', 'SOLUTIONS', 'INTEGRATION', 'SUPPORT', 'PARTNERS', and 'WHERE TO BUY'. A central banner features a man in a suit looking at a laptop, with the text 'AICUDA TECHNOLOGY WELCOME TO AICUDA WORLD' and 'The world of artificial intelligence, deep learning and open platform appliances. Plug & play smart analytics in a box.' Below the banner, there is a section titled 'Transforming video in actionable intelligence' with three small images illustrating video analysis and user interaction.

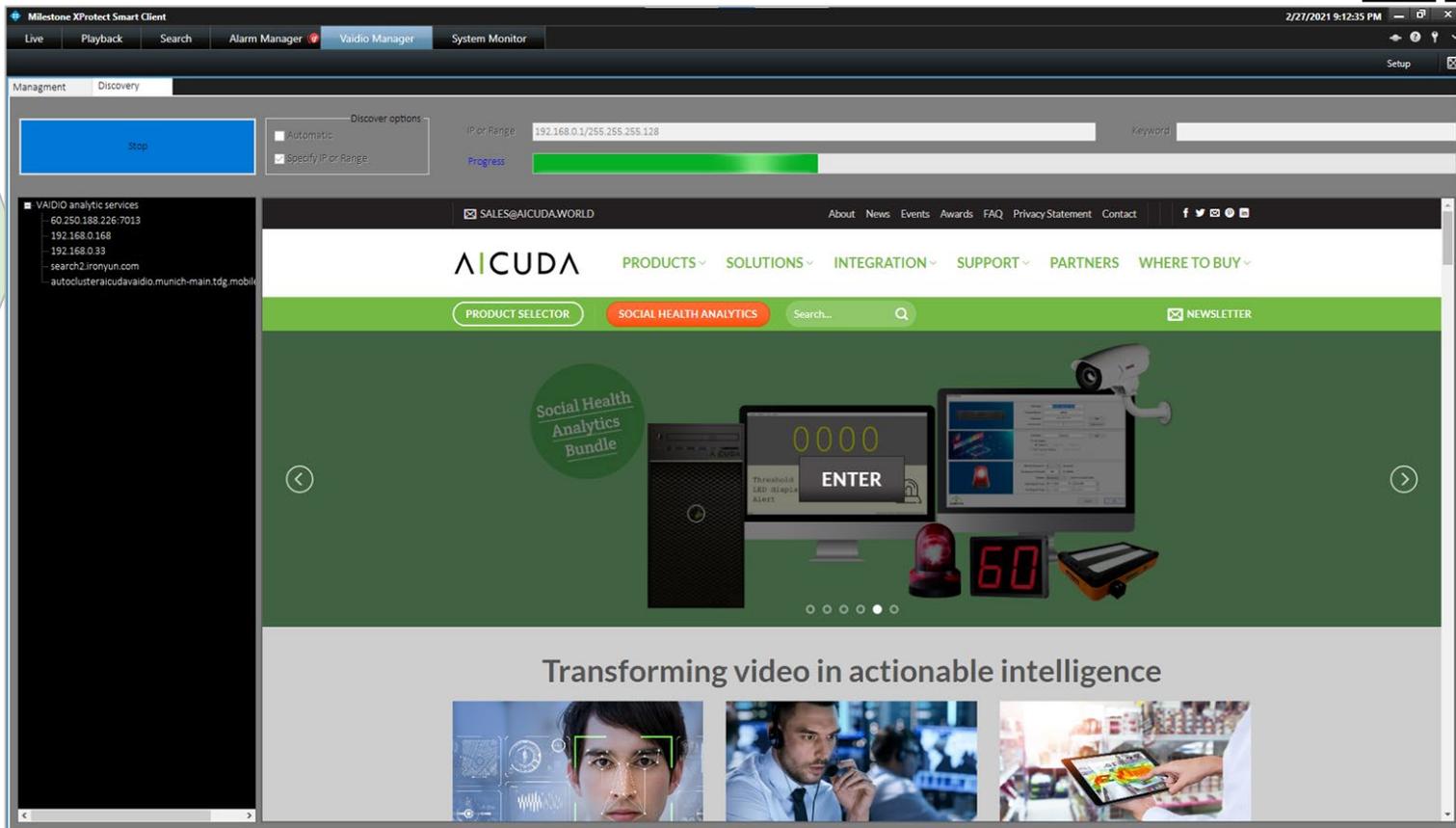
Vaidio Manager - Discover IP Range

Click the “Specify IP or Range” box and hit the “Discover Vaidio” button.

Key in the IP and netmask to specify the scanning range and reduce the time of discovery. In the example on the right the scanning range is determined by the netmask.

The actual scan range is

*192.168.0.1 ~
192.168.0.127*

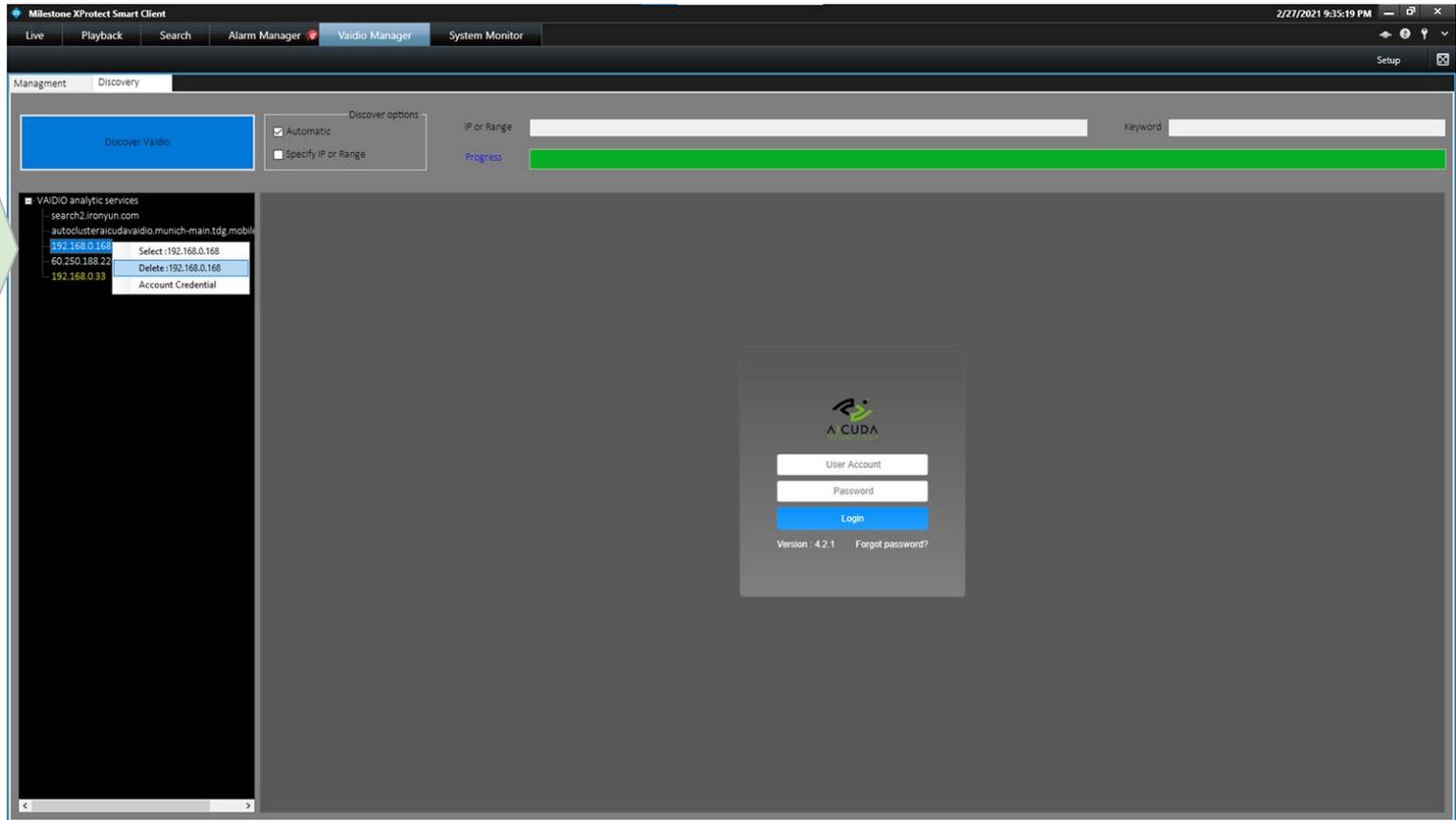


The screenshot displays the Vaidio Manager interface within the Milestone XProtect Smart Client. The 'Discovery' tab is active, showing a 'Discover options' section with 'Specify IP or Range' checked. The 'IP or Range' field contains '192.168.0.1/255.255.255.128'. A progress bar indicates the discovery is in progress. On the left, a terminal window shows the discovered IP range: '60.250.188.226-7013', '192.168.0.168', '192.168.0.33', 'search2.ironyun.com', and 'autocluster.aicudavaidio.munich-main.tdg.mobile'. The background shows the AICUDA website with navigation links and a 'Social Health Analytics Bundle' promotion.

Vaidio Manager - Remove Vaidio From List

Right click on one of the scan result in the tree view. Select “Delete” to remove the Vaidio service from the analytics service list.

** IP address in the list is automatically removed if the automatic scan is not able to find it. Exception: if the IP is a selected service or the user specifically added the IP in the “Specify IP or Range” box.

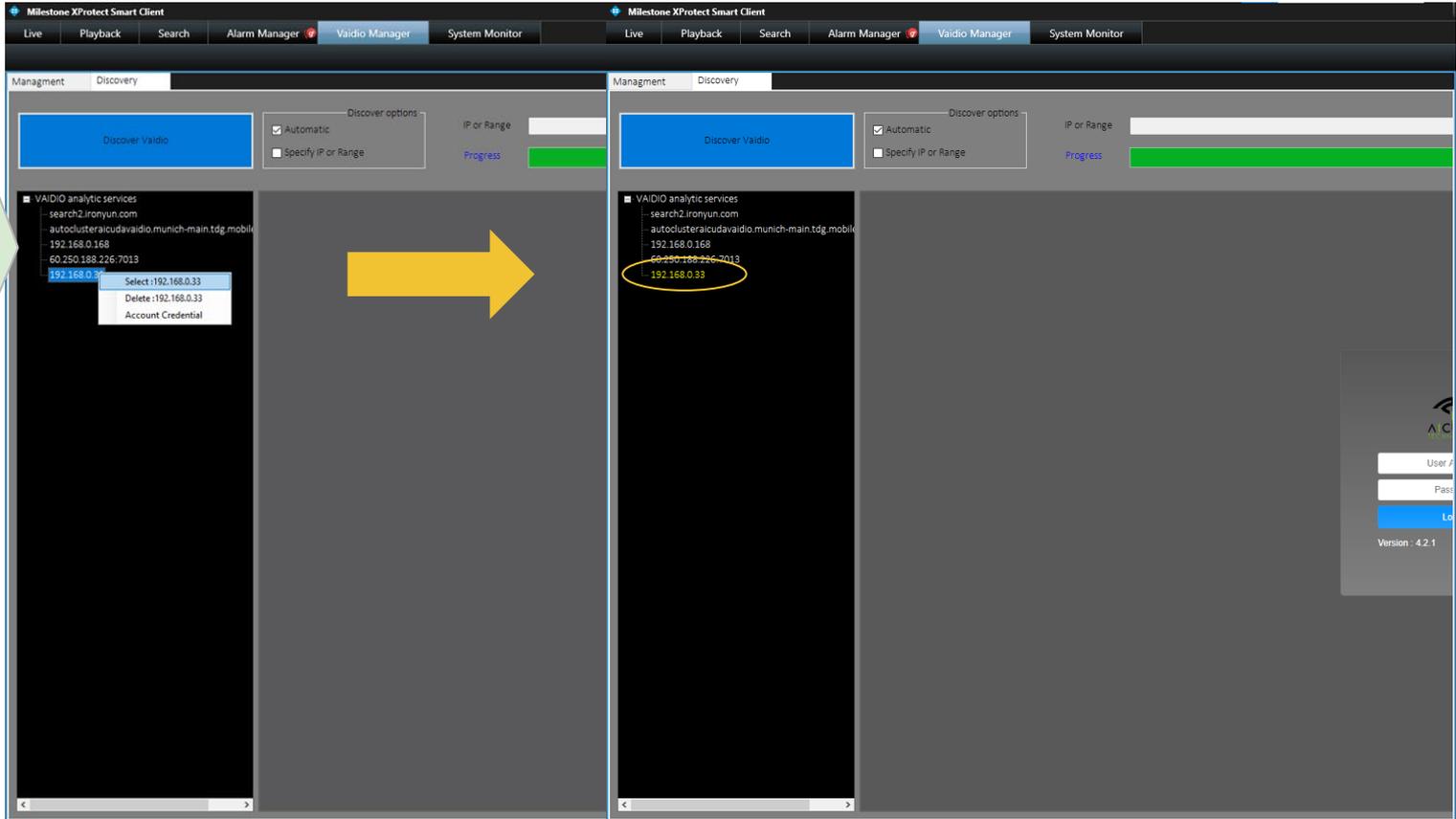


Vaidio Manager - Specify Vaidio For Search

Right click on one of the analytics services in the tree view. Choose "Select". The selected analytics service is now going to push the analytics search results to the Milestone Smart Client search function. The user can only select one analytics service at a time.

The default credentials will be loaded. User can change credentials manually.

The selected Vaidio analytics service is colored in yellow.

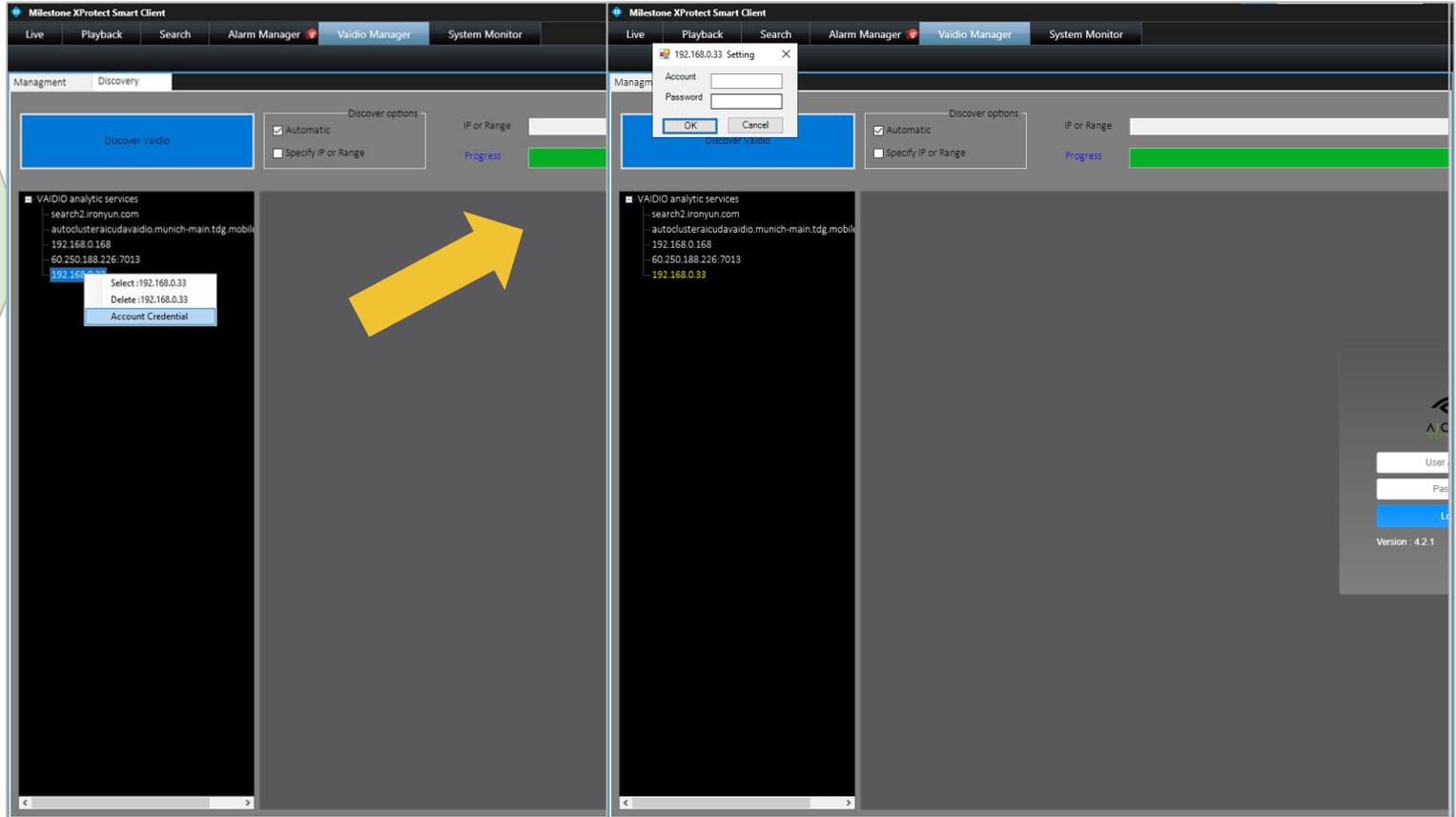


The screenshot displays the Vaidio Manager interface within the Milestone XProtect Smart Client. The interface is divided into two panels, both showing the 'Discover Vaidio' process. The left panel shows a list of Vaidio analytic services with a context menu open over the IP address '192.168.0.33', where the 'Select' option is highlighted. A yellow arrow points from this menu to the right panel. The right panel shows the same list of services, but the IP address '192.168.0.33' is circled in yellow, indicating it has been selected. The interface includes navigation tabs like 'Live', 'Playback', 'Search', 'Alarm Manager', 'Vaidio Manager', and 'System Monitor'. A 'Discover Vaidio' button and 'Discover options' section are visible at the top of each panel.

Vaidio Manager - Credentials For Vaidio

Right click on one of the analytics services in the tree view and select "Account Credentials".

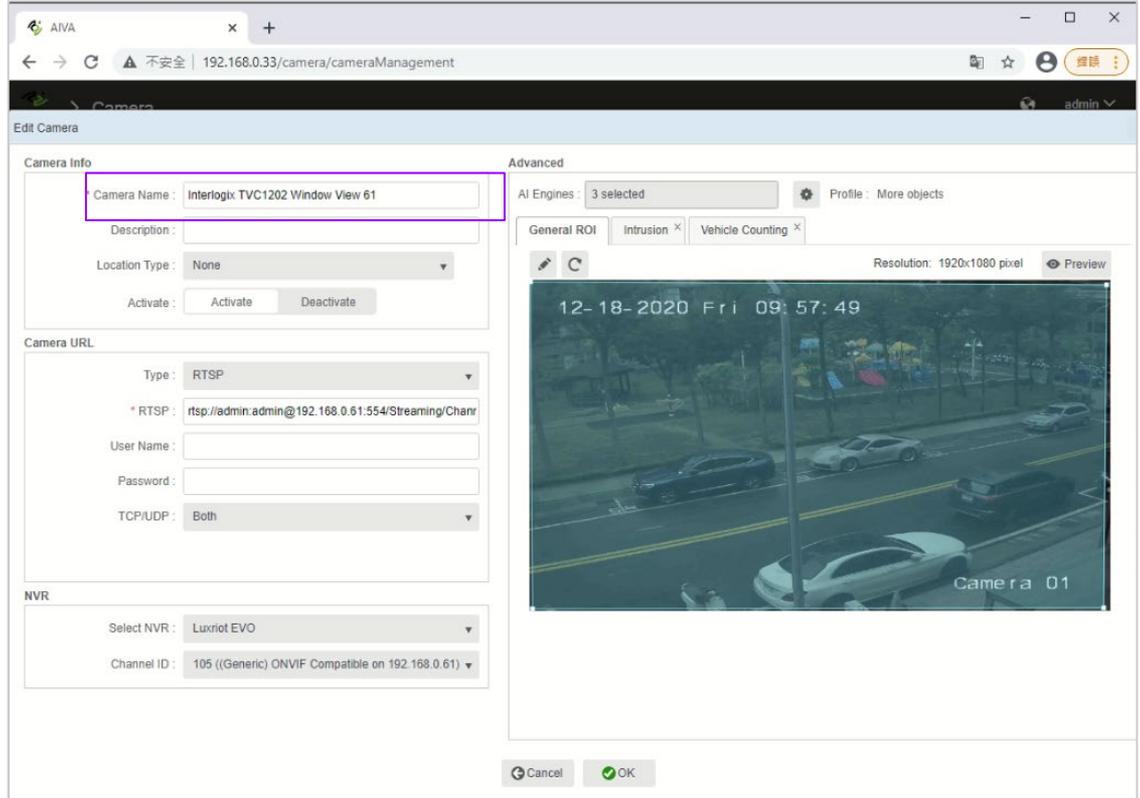
A pop up window appears and the user is able to key in the access credentials for the selected Vaidio analytics service.



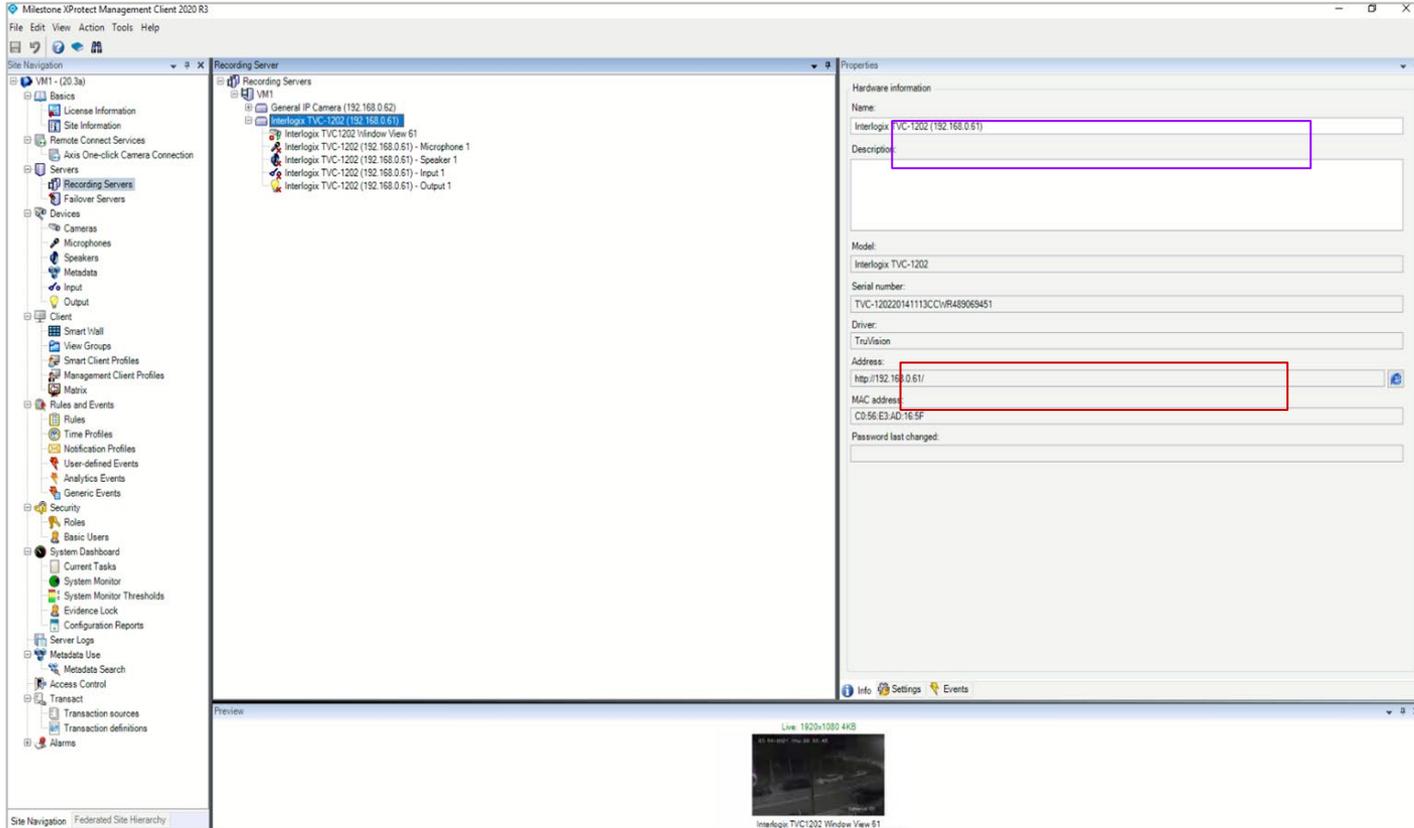
Vaidio Search - Camera Match

Automatic mapping of the camera for analytics and recording. Camera needs to be visible in both Milestone and Vaidio software.

1. Add the camera in the Milestone Management Client
2. Add the camera in Vaidio.
3. Important that the camera name is exactly the same in Vaidio and Milestone software.



Vaidio Search - Camera Match



The screenshot displays the Milestone XProtect Management Client 2020 R3 interface. The left sidebar shows a tree view of site configuration, with 'Recording Servers' selected. The main pane shows the configuration for a 'Recording Server' named 'VM1', specifically for a 'General IP Camera (192.168.0.62)'. The 'Interlogix TVC-1202 (192.168.0.61)' camera is selected, and its properties are shown in the right pane. The 'Name' field is highlighted with a purple box and contains the text 'Interlogix TVC-1202 (192.168.0.61)'. The 'Address' field is highlighted with a red box and contains the text 'http://192.168.0.61/'. The 'Description' field is empty. Other fields include 'Model: Interlogix TVC-1202', 'Serial number: TVC-120220141113CCWR489069451', 'Driver: TruVision', 'MAC address: CD:56:E3:AD:76:5F', and 'Password last changed:'. The bottom of the interface shows a 'Preview' window with a live video feed from the camera, labeled 'Live: 1920x1080 4x8' and 'Interlogix TVC-1202 Window View 51'.

Mapping is based on the camera name to manage the interaction between Milestone Management Client and Vaidio.

Avoid duplication of the camera name in Vaidio and Recording Server to prevent redundant search results.

** Similar RTSP URL for a different camera name can also cause redundant search.

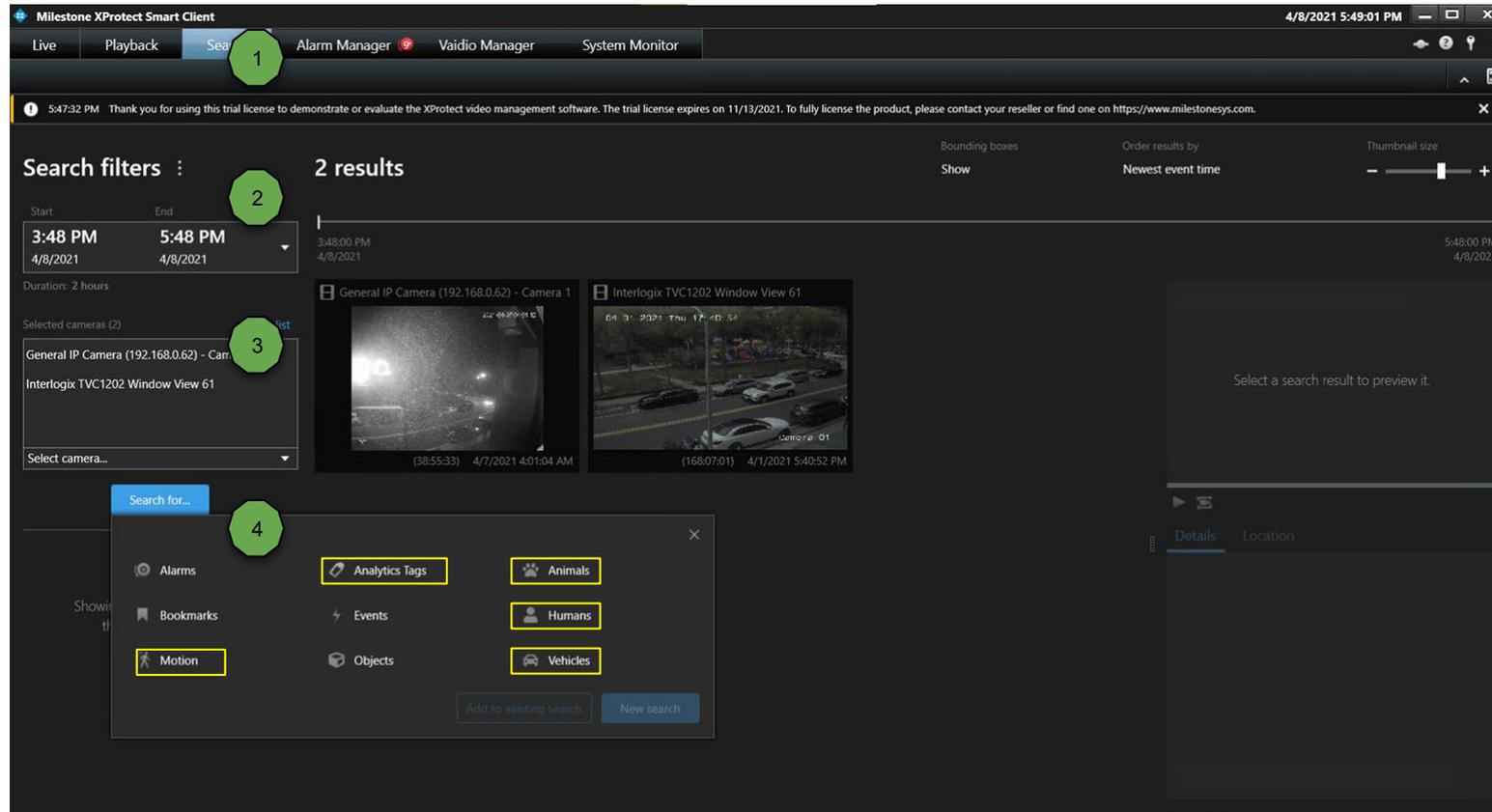
Vaidio Search - Operation Sequence

(1) Press Smart Client Search tab

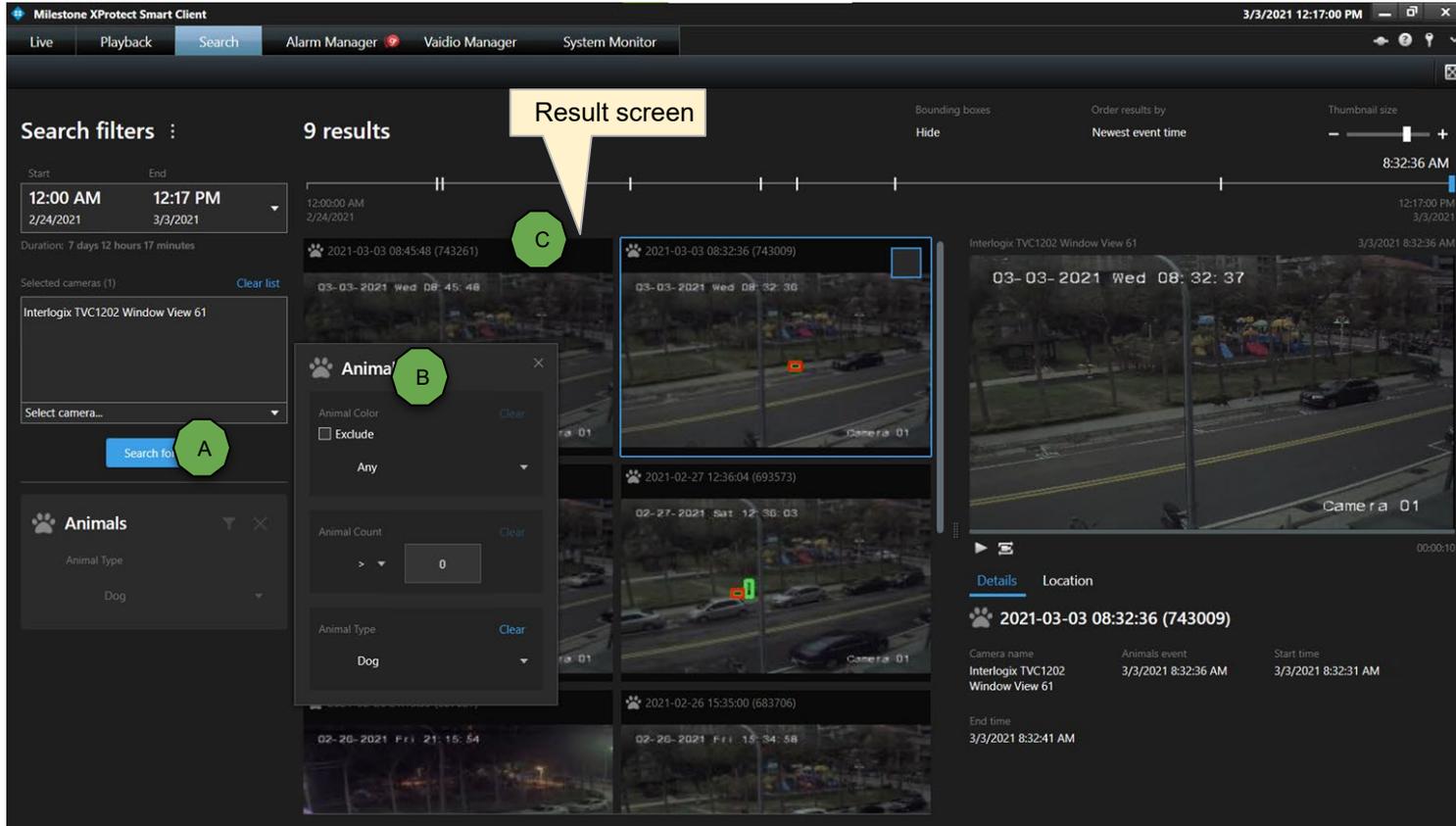
(2) Specify the date and time range

(3) Select the cameras for the search
(** Please note that the selected camera must be added to Vaidio via Vaidio GUI. Camera mapping is based on IP or RTSP).

(4) Via the Vaidio plugin it is possible to select Humans, Vehicles, Animals, Objects and Analytics Tags



Vaidio Search - Search Types & Options



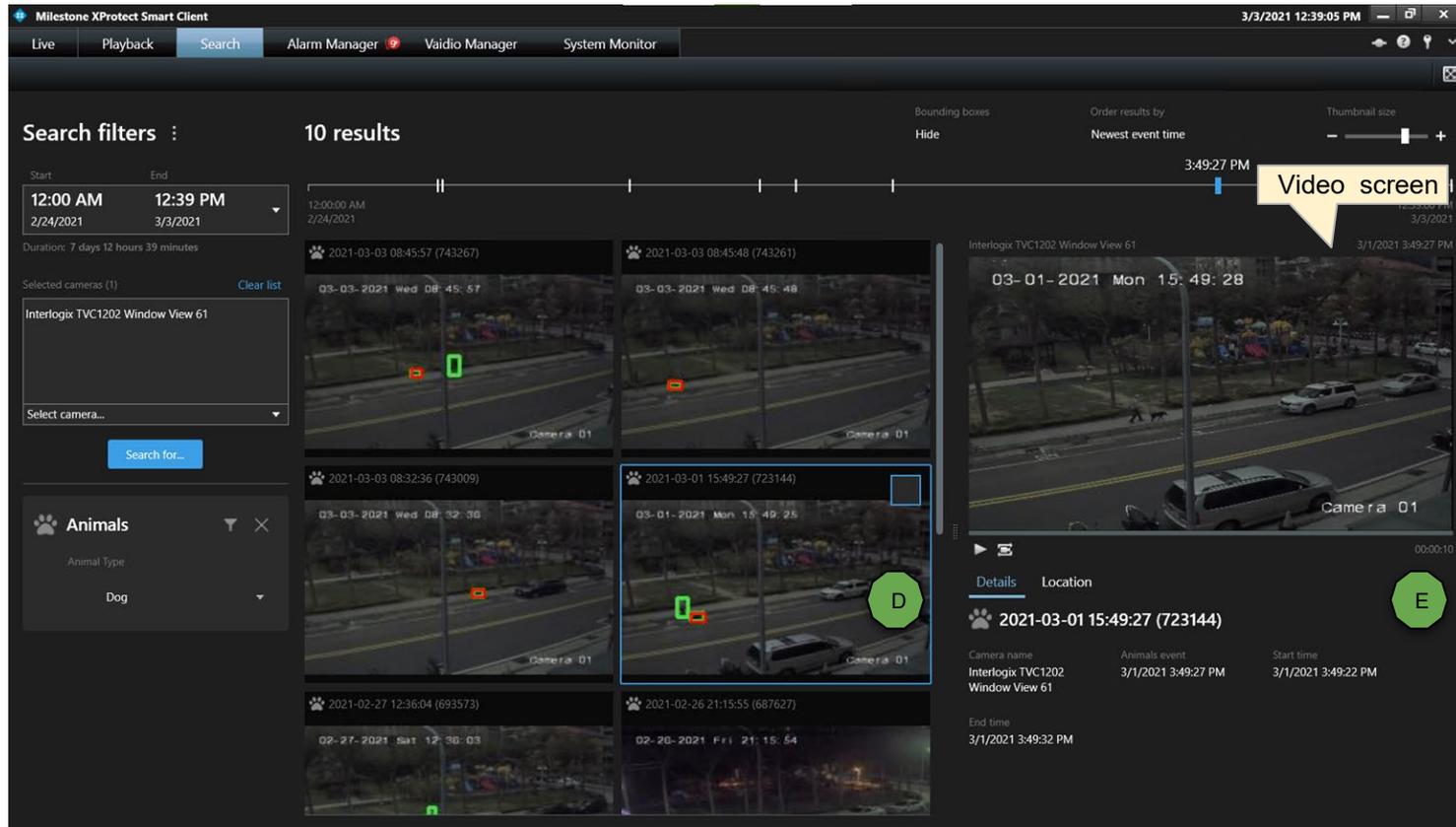
(Continue from step 4 previous slide)

(A) Press “Search for” button to select Animals and the search option for Animals pops up.

(B) Specify the animal, the color and the quantity to search for.

(C) The Milestone Smart Client will automatically show the search results. The red bounding box highlights the target animal.

Vaidio Search - Video Details Search Results



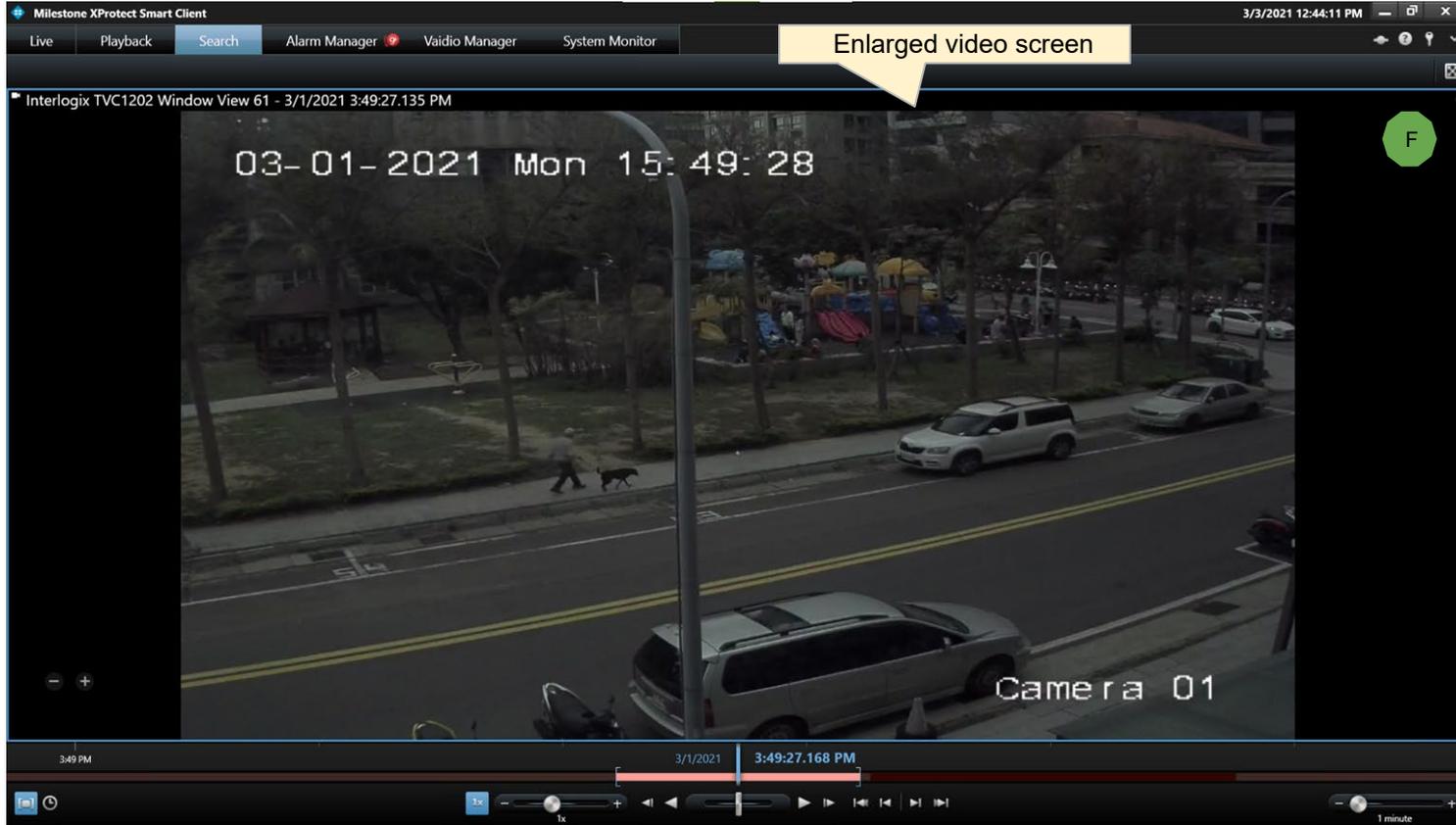
The screenshot shows the 'Vaidio Manager' interface with search filters and results. The search filters include a date range from 12:00 AM on 2/24/2021 to 12:39 PM on 3/3/2021, a selected camera 'Interlogix TVC1202 Window View 61', and an animal type filter set to 'Dog'. The search results grid shows 10 results, with the fourth result (2021-03-01 15:49:27) highlighted with a blue border and a green circle labeled 'D'. A yellow callout bubble labeled 'Video screen' points to the search results area. The video player on the right shows the selected event, with a green circle labeled 'E' on the play button.

(D) Click on one of the search results windows to enlarge the video.

(E) The corresponding video footage is now visible in the video screen.

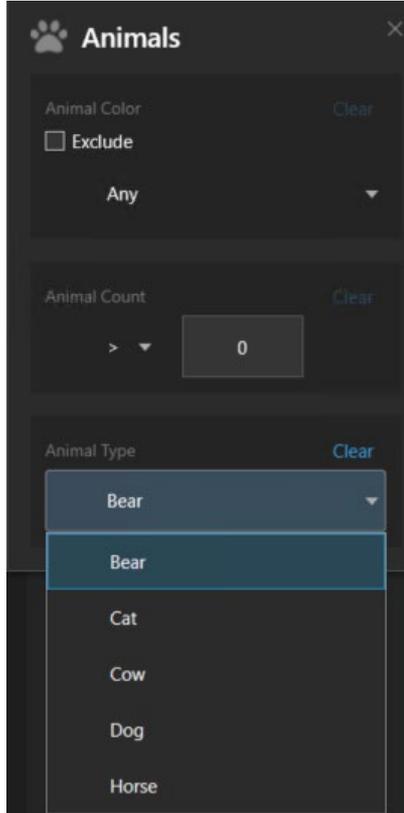
(F) Click on the video screen to enlarge the video at the detected time event.

Vaidio Search – Video Search Enlarged Screen



To turn back to the standard view, double click the enlarged screen.

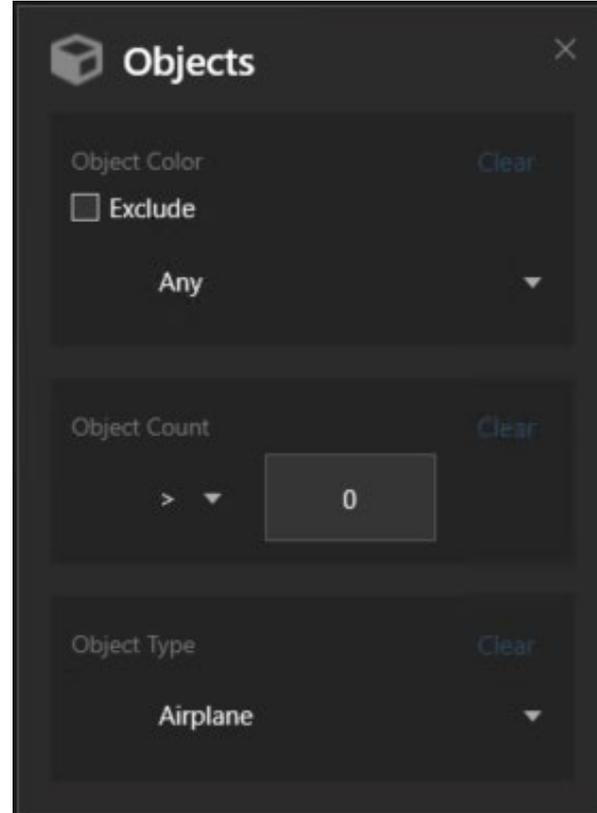
Video Search - Animals & Objects



The screenshot shows the 'Animals' search panel. It has a paw print icon and a close button. The 'Animal Color' section includes a 'Clear' button, an 'Exclude' checkbox, and a dropdown menu set to 'Any'. The 'Animal Count' section has a 'Clear' button, a right arrow, a dropdown arrow, and a text input field containing '0'. The 'Animal Type' section has a 'Clear' button and a dropdown menu with a list of options: Bear, Bear, Cat, Cow, Dog, and Horse.

1. **Color:** select the color of the animal or use **Exclude** option in the checkbox.
2. **Count:** select the number of animals to search for in one video frame.
3. **Type:** select the animal type to search for.

** Bear, Cat, Cow, Dog and Horse are default options. For more options please contact Aicuda / IronYun sales team.



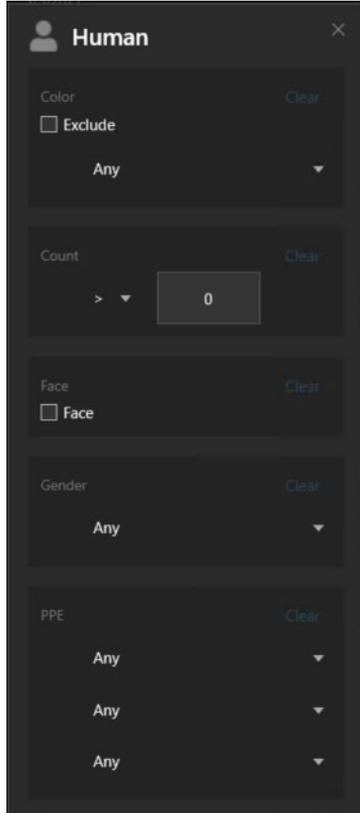
The screenshot shows the 'Objects' search panel. It has a cube icon and a close button. The 'Object Color' section includes a 'Clear' button, an 'Exclude' checkbox, and a dropdown menu set to 'Any'. The 'Object Count' section has a 'Clear' button, a right arrow, a dropdown arrow, and a text input field containing '0'. The 'Object Type' section has a 'Clear' button and a dropdown menu with 'Airplane' selected.

1. **Color:** select the color of an object or use **Exclude** option in the checkbox.
2. **Count:** select the number of similar objects to search for in one video frame.
3. **Type:** select the object type to search for.

** 22 listed objects are default options.

For more options please contact Aicuda / IronYun sales team.

Video Search - Humans & Vehicles



Human [Close]

Color [Clear]

Exclude

Any [Dropdown]

Count [Clear]

> [Dropdown] [0]

Face [Clear]

Face

Gender [Clear]

Any [Dropdown]

PPE [Clear]

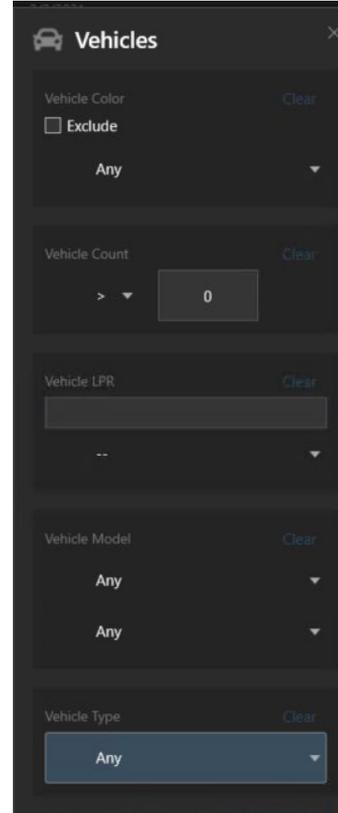
Any [Dropdown]

Any [Dropdown]

Any [Dropdown]

1. **Color:** select the color of the clothes to search for a specific human
2. **Count :** select the number of humans to search for in one video frame.
3. **Face** Search for human faces. Face picture: 40px * 40px.
4. **Gender:** search for male or female.
5. **PPE** search for humans that wear and not wear Personal Protection Equipment.

** Face recognition is not supported in the Milestone plugin so far. Please contact Aicuda / IronYun sales for support.



Vehicles [Close]

Vehicle Color [Clear]

Exclude

Any [Dropdown]

Vehicle Count [Clear]

> [Dropdown] [0]

Vehicle LPR [Clear]

-- [Dropdown]

Vehicle Model [Clear]

Any [Dropdown]

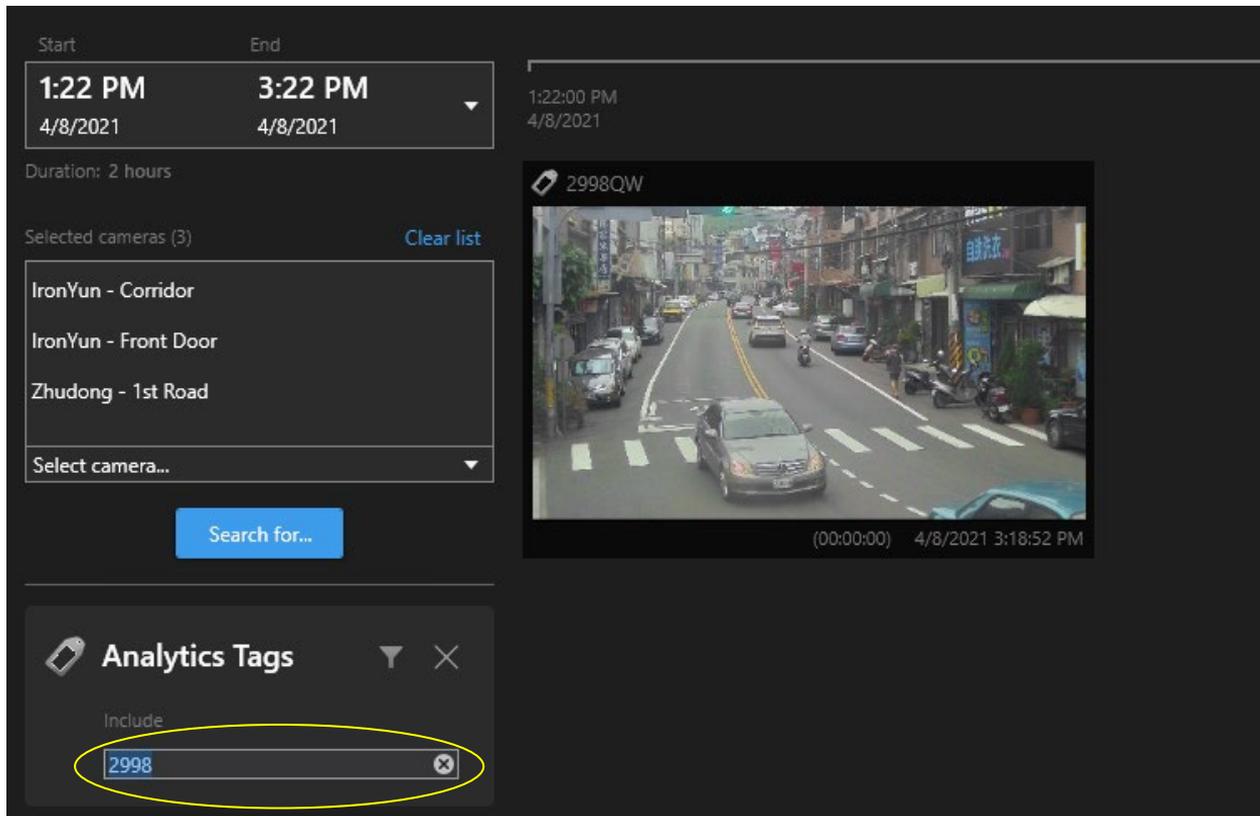
Any [Dropdown]

Vehicle Type [Clear]

Any [Dropdown]

1. **Color:** select the color of a vehicle to search for a specific vehicle.
2. **Count :** select the number of vehicles to search for in one video frame.
3. **Vehicle LPR** search for a specific license plate number or search from a pre-defined list. (**created via Vaidio GUI)
1. **Vehicle Model** select the make and model of a car to search for.
2. **Vehicle type** select the specific vehicle type to search for

Video Search - Analytics Tag



The screenshot shows a video search interface. At the top, there are 'Start' and 'End' time filters set to 1:22 PM and 3:22 PM on 4/8/2021. Below this, the duration is '2 hours'. A list of 'Selected cameras (3)' includes 'IronYun - Corridor', 'IronYun - Front Door', and 'Zhudong - 1st Road'. A 'Search for...' button is visible. At the bottom, an 'Analytics Tags' section has a search input field containing '2998', which is circled in yellow. The main video player shows a street scene with a car license plate '2998QW' highlighted. The video timestamp is '(00:00:00) 4/8/2021 3:18:52 PM'.

Click on “Search for” in the Milestone Smart Client and select “Analytics Tags”. Type in the text to search for. In this example the keyed in text “2998” refers to a part of a license plate number. As a result all cars with license plate number “2998” pop-up.

The keyed in number appears in the placeholder of {LicensePlate} similar to the example below.

Example of Alert delivered to Milestone Alarm:

<http://192.168.0.47:2234/v1/alerts/AicudaDetectionToyota?cn={cameraName}&t={eventTimeStamp}&tag={LicensePlate}>

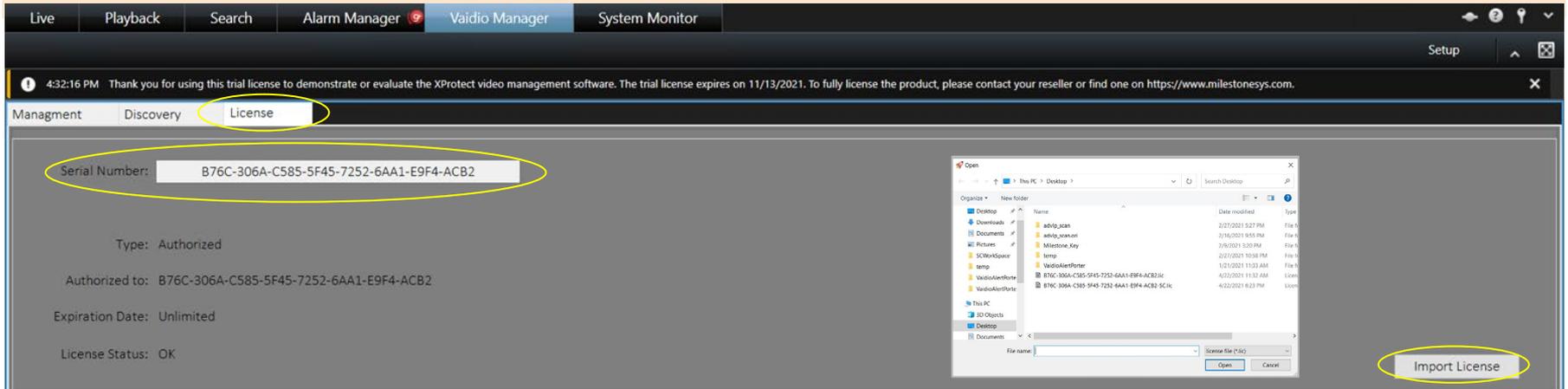
License – Search & Mgmt

3 levels of licenses

- **Free / Limited:** limited functions after installation, no expiration date. Only 5 alerts for one hour a day.
- **Trial:** 30 days full trial license after installation, available via sales@aicuda.world or sales@ironyun.com. The trial license gives the customer the possibility to evaluate the Milestone plugin for a limited period of time.
- **Paid:** full functions for an unlimited period of time.

License Status OK / Expired / Not Match / InValid / Not Match Product (Plugin product mismatch)

** Select “Activation” to open the license dialog from the “Import License” tab. Copy the serial number information and send to sales@aicuda.world or sales@ironyun.com to apply for the license. After receiving the license file the user can open the same dialog window to activate the license.



The screenshot shows the software interface with the following elements:

- Navigation Bar:** Live, Playback, Search, Alarm Manager, **Vaidio Manager** (selected), System Monitor.
- Message Bar:** 4:32:16 PM Thank you for using this trial license to demonstrate or evaluate the XProtect video management software. The trial license expires on 11/13/2021. To fully license the product, please contact your reseller or find one on <https://www.milestonesys.com>.
- Management Tab:** Management, Discovery, **License** (selected).
- License Dialog:**
 - Serial Number: **B76C-306A-C585-5F45-7252-6AA1-E9F4-ACB2**
 - Type: Authorized
 - Authorized to: B76C-306A-C585-5F45-7252-6AA1-E9F4-ACB2
 - Expiration Date: Unlimited
 - License Status: OK
- Open File Dialog:**
 - Location: This PC > Desktop
 - Files:

Name	Date modified	Type
adrijp.joan	2/27/2021 3:27 PM	File (i)
adrijp.joan.txt	3/18/2021 9:55 PM	File (i)
Milestone.Key	7/6/2021 3:00 PM	File (i)
temp	2/27/2021 10:58 PM	File (i)
ValidaUserStore	1/23/2021 11:23 AM	File (i)
ValidaUserStore	4/22/2021 11:52 AM	License
B76C-306A-C585-5F45-7252-6AA1-E9F4-ACB2.SLIC	4/22/2021 8:23 PM	License
 - Buttons:** Import License (circled in yellow)

Note:

1. Please close the Milestone Smart Client before removing or upgrading a license.
2. The Search plugin is installed in the Client and works with Milestone XPCO and XPE.
3. The system time among entities (VMS Server, VMS client, Vaidio and Cameras) needs to be consistent with the same NTP source.
4. If a search takes much longer as normal, please reduce the time period or reduce the number of cameras.