User Guide

User Guide. Introduction

On page:

General Information

Purpose of the Document

This document, titled User guide contains the information necessary for building, implementing, and operating a security system based on *Axxon Next*.
The structure of this document enables the user to get acquainted with the software package and then, depending on the user's level of training, choose sections of interest for more detailed study. The chapters in this guide, whether they are informative or serve as a reference, have their own internal structure.
The chapters Introduction and Description of the Software Package are intended to generally acquaint the user with the technical features and functionality of the Axxon Next software package, as well as with the key stages of building a security system based on the software package.
Recommendations to the user/administrator for installing the software and configuring equipment are presented in detail in the chapter Installing the Axxon Next Software Package. The chapter Lic ensing of the software product contains instructions on how to register a license to use the Axxon Next software package..
Startup and shutdown of the software package are described in the chapter Launching and Closing the Axxon Next Software Package.
The chapter Configuration of the Axxon Next Software Package presents step-by-step instructions on configuring user-specific settings and activating the required functionality. This information is useful for system administrators as well as for operators with permissions to manage system settings.
Recommendations on configuring the user interface, working in various video surveillance modes, and utilizing the functional capabilities of the Axxon Next software package are presented in chapter Working with the Axxon Next Software Package.
Chapter Description of utilities contains a description of additional software utilities employed when working with the software package.
The Appendices contains a glossary of the product's basic terms and definitions. It also lists all known issues that you may encounter while using Axxon Next.

Purpose of the Axxon Next Software Package

The Axxon Next software package is an entry-level product in the Axxon product line developed by AxxonSoft. Security systems based on Axxon Next range from home security systems (for an apartment or house) to professional security systems for small and mid-size businesses (hotels, automotive service centers, shops, parking structures, etc.).
Video and audio surveillance of guarded locations, video analysis, and rapid response to suspicious

situations without operator involvement, and storage and export of obtained data are just a few of Axxon Next's many functions.
The Axxon Next software package enables the user to accomplish a wide spectrum of tasks, as it works both with digital equipment and with analog video cameras (through video capture cards), and also makes it possible to create a hybrid security system containing both kinds of equipment.

The Axxon Next software package supports touchscreens.

Description of the Software Package

Basic principles of building a security system based on the Axxon Next software package

Building a security system based on the Axxon Next software package includes the following recommended stages:

1. Selecting a configuration for the security system (with the help of professionals)
2. Building a separate local area network with restricted access
3. Calculating the sufficient bandwidth required for each segment of the local area network
4. Selecting and configuring the software and hardware platform on which the selected security system configuration will be implemented (selecting and configuring personal computers to act as servers and clients in accordance with the requirements, as referenced in the section titled Implementation Requirements for the Axxon Next Software Package, Operating system requirements)
5. Selecting and connecting reliable equipment that is optimally suited for a specific security system (with the help of professionals)
6. Training personnel to work with the Axxon Next software package in accordance with the requirements (see the section titled Requirements for Personnel Quantity and Qualifications) .

Basic subsystems of the Axxon Next software package and their functions

In order to determine the required configuration for a security system, first you must become familiar with the functional capabilities of the Axxon Next software package. The following subsystems provide these capabilities:

1. The video subsystem

2. The audio subsystem
3. The analytics subsystem
4. The PTZ subsystem
5. The event registration subsystem
6. The notification subsystem
7. The relay subsystem

These subsystems can interact in either a single-server or multi-server (distributed) system.

This section provides information on the software's basic functions.

Video subsystem

The video subsystem encompasses all the tools that provide for the acquisition of video data, its processing, and its storage on media.

Video data comes in from IP devices connected over TCP/IP or from analog video cameras connected through video capture cards.

Video data in the Axxon Next software package is processed automatically by the analytics subsystem or manually by an operator. Depending on the task, the results of the video data processing are transferred to and utilized by other subsystems of the software package, including the event registration subsystem, the notification subsystem, and others.

The following system objects enable the functions of the video subsystem:

1. **Camera**
2. **IP server**

The functions of the video subsystem take place through the following user interfaces:

1. Video surveillance monitor
2. Viewing tile
3. Control elements accessible to the user in the **Layouts** tab

Thanks to Axxon Next's video subsystem, the user can utilize the following functions:

1. Viewing video images in a supported resolution from a video camera while simultaneously listening to the audio from a microphone linked to that camera (if it is connected to an IP server) or connected to it physically
2. Displaying information in a viewing tile:
    a. Current time
    b. Name of video camera
    c. Audio volume
    d. Indicator of recording of video image from a camera
    e. Video stream settings (if configured accordingly; see the section Configuring Display of Video Statistics)
3. Video image processing
    a. Digital zooming
    b. Contrast adjustment
    c. Deinterlacing
    d. Sharpness adjustment
4. Modifying layouts, including changing the sizes of viewing tiles
5. Displaying a magnified video image from a selected video camera (viewing tile)
6. Displaying a snapshot initiated by an operator, without interrupting video recording
7. Color coding a viewing tile (video camera) to indicate its status: **Alarm**, **No alarm**, **Snapshot**, etc.
8. Video recording can be performed:

    a. continuously;
    b. video recording initiated by a detection tool or by an operator, with a pre-alarm recording option;
    c. scheduled video recording.
9. Recording to archive (video and audio streams are written to one file)
10. Storage and export of single frames and video sequences
11. Playback of video image recorded to the archive from one or more video cameras (in the latter case, playback will be synchronous) with simultaneous playback of sound recorded together with the video

> **Note**
>
> In the case of synchronous playback of video from several video cameras, the sound is played back only from the microphone of the active video camera

12. Working with alarms registered by one or more video cameras:
    a. Navigating between archive recordings of alarms
    b. Viewing brief information on an alarm and its recording in the archive
    c. Filtering alarms
13. Using any Client to view video footage from all Servers over TCP/IP

The Audio Subsystem

The audio subsystem encompasses all the tools that provide for the collection of audio data, its processing, and its storage on media.

Audio data comes in from microphones which are either linked to video cameras (only for video cameras connected to IP servers) or physically connected to video cameras (embedded and external microphones).

> **Note**
>
> The indicator that a microphone is linked/physically connected to a video camera is that it will be a child of the video camera object

Audio data is processed both automatically by the analytics subsystem and manually by the operator. Depending on the task, the results of the audio data processing are transferred to and utilized by other subsystems of the software package, including the event registration subsystem, the notification subsystem, and others.

The **Microphone** system object enables the functions of the audio subsystem. You can access these functions through the Viewing tile context menu.

Thanks to Axxon Next's audio subsystem, the user can utilize the following functions:

1. Listening to audio from a microphone linked to a video camera while simultaneously viewing video images from that camera
2. Recording to archive (video and audio streams are written to the same file)
3. Simultaneous playback of the video and audio recordings of an event
4. Using any client to listen to audio from all servers over TCP/IP

The Analytics Subsystem

The analytics subsystem encompasses all the tools that provide for automatic analysis of incoming video and audio data.

> **Note**
>
> The operator also has the option of analyzing video and audio data manually

Depending on the task, the results of the data analysis are transferred to and utilized by other subsystems of the software package, such as the event registration subsystem, the notification subsystem, the relay subsystem, and others.

Integrated use of the following types of detection tools enables the functions of the analytics subsystem:

1. Situation analysis detection tools
2. Basic video detection tools
3. Basic audio detection tools
4. On-board detection tools of video cameras (video stream processing)
5. Embedded analytics (processing of signals from a "dry contact" sensor of a video camera).

The results of the video data processing appear on the video surveillance monitor.

Thanks to Axxon Next's analytics subsystem, the user can utilize the following functions:

1. Setting detection zones and/or masks
2. Detecting the beginning and/or stop of motion of an object in a set area of a video camera's field of view
3. Detection of an object crossing a set line in a video camera's field of view
4. Detecting the appearance and/or disappearance of an object in a set area of a video camera's field of view
5. Detecting abandoned items in a set area of a video camera's field of view
6. Detecting loitering (prolonged presence) in a set area of a video camera's field of view
7. Detecting changes in the position of a video camera in space
8. Detecting loss of image quality
9. Detecting the absence/presence of an audio signal from a microphone
10. Detecting noise
11. Functions for video stream processing, provided by the on-board video camera detection tools that are part of Axxon Next
12. Processing of signals (non-contact/contact) from embedded "dry contact" sensors of video cameras, with the possibility of configuring the execution of a specific action when such signals are received (see next item)
13. Setting the responses that are automatically executed when a detection tool is triggered (individually for each detection tool)
14. Simultaneous use of various types of detection tools

The PTZ Subsystem

The PTZ subsystem encompasses all the tools that provide for remote control of a PTZ device and the lens of a video camera.

In the Axxon Next software package, the **Telemetry** system object enables the functions of the PTZ subsystem. You can access these functions through the PTZ device control panel.

> **Note**
>
> You can also control a PTZ device with a physical USB joystick (the system automatically determines when such a device is connected to a computer with Axxon Next installed)

Thanks to Axxon Next's PTZ subsystem, the user can utilize the following functions:

1. Setting and using preset video camera positions (presets)
2. Automatic modification of video camera position along a route offered in the camera's list of presets (patrolling)
3. Controlling a video camera's lens: Modifying the parameters of the iris, focus, and optical zoom
4. Manual modification of a video camera's horizontal and vertical tilt angle using a virtual joystick

The Event Registration Subsystem

Event registration subsystem – all the tools that provide for the collection of data about system events, processing, and its storage on media.

In the Axxon Next software package, the system (internal) log, which is kept by default, along with the utility for managing optional external logs, enables and implements the functions of the event registration subsystem.

Thanks to Axxon Next's event registration subsystem, the user can utilize the following functions:

1. Real-time display of error data
2. Storage of system event data in a local database on the server
3. Viewing of system event data stored in the system log
4. Searching for data about system events which occurred within a certain time period
5. Filtering by event type when searching the system log
6. Filtering by a key phrase found in the system description of an event when searching the system log
7. Exporting system event data in the required format
8. Logging of data about the required events in external logs and archiving and storing it on media.

The Notification Subsystem

The notification subsystem encompasses all the tools that provide for notification of the user about events which have occurred in the system.

In the Axxon Next software package, the following system objects enable the functions of the notification subsystem:

1. **Speaker**
2. **SMS**
3. **E-mail**

The notification subsystem does not require a user interface.

Thanks to Axxon Next's notification subsystem, the user can utilize the following functions when detection tools are triggered:

1. Audio notification
2. SMS notification
3. E-mail notification

The Relay Subsystem

The relay subsystem encompasses all the tools that provide for the triggering of an execution device connected to the embedded relay port of a video camera or IP server when a detection tool (including one which processes the embedded sensor of a video camera or IP server) is triggered.

In the Axxon Next software package, **Relay** system objects enable the functions of the relay subsystem. The relay subsystem does not require user interfaces.

Thanks to Axxon Next's relay subsystem, the user can configure the triggering of a video camera's or IP server's on-board relay when a detection tool is triggered.

Forensic Search in Archive Subsystem

The Forensic Search in archive subsystem is a set of tools for searching video recordings in the archive by using video image metadata. The video image metadata include information on the trajectories of object motion in the video camera’s field of view, object color, etc. (depending on the algorithms being executed on the video camera).

In the *Axxon Next* software package, the functions of the Forensic Search in archive subsystem are enabled by the object trajectory database (which is created when the software package is installed). These functions can be accessed through the video surveillance monitor.

Thanks to *Axxon Next's* Forensic Search in archive subsystem, the user can utilize the following functions:

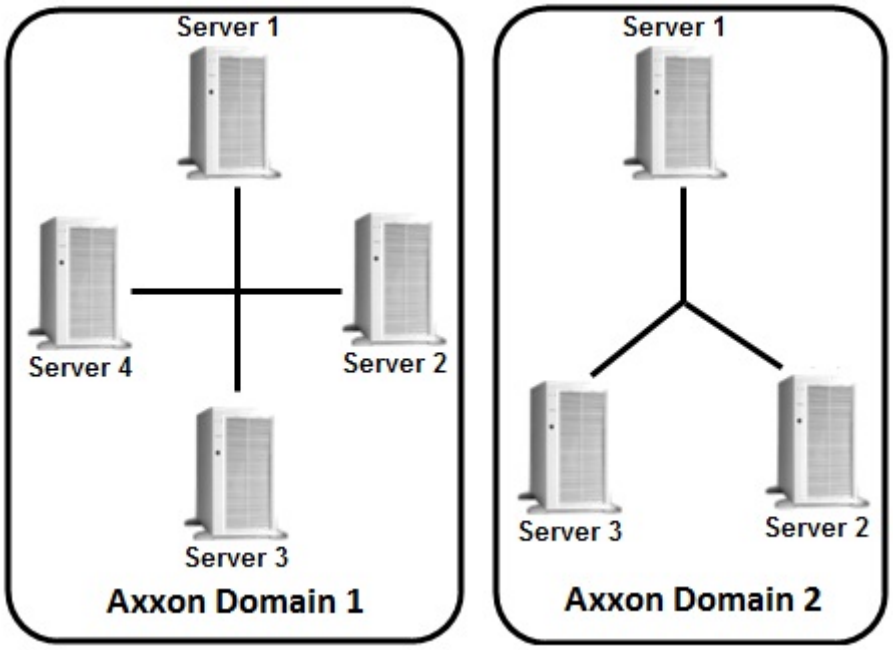
1. Selection of a video camera from which it is necessary to record video image metadata to the object trajectory database.
2. One-time searching by one of the criteria related to the video camera’s field of view:
    a. Motion in a specific area
    b. Crossing of a virtual line
    c. Loitering of an object in a specific area
    d. Simultaneous presence of a large number of objects in a specific area
    e. Motion from one area to another
3. Searching by the following parameters (optional):
    a. Minimum size of an object
    b. Maximum size of an object
    c. An object’s color
    d. Minimum speed of an object
    e. Maximum object speed
    f. Direction of an object’s motion
    g. Maximum number of objects in an area
    h. Length of time an object remains in an area

Functions of the Distributed Security System

You can create a distributed system within an Axxon Domain on Axxon Next.

Axxon Domain – a selected group of computers on which the server configuration of the *Axxon Next* software package is installed. Linking the servers in a group makes it possible to set up interaction between them, thus organizing a distributed system.

Only servers which belong to the same Axxon Domain can interact.



A distributed security system based on the Axxon Next software package offers the user the following functional capabilities:

1. Viewing and manual processing of video and audio data from several servers on one client
2. Controlling video cameras connected to various servers from one client
3. Configuring all servers of the distributed system on one client
4. Execution of automatic responses when detection tools are triggered (audio notification, triggering of relays, SMS and e-mail notification, etc.) within the distributed system.

> **Note**
>
> Axxon Nextvides the capability to build a distributed security system over a virtual private network (VPN) by using OpenVPN software. For detailed information on how to create and configure a VPN, please refer to OpenVPN's official reference documentation

Axxon Domain configuration is described in detail in the section titled Configuring Axxon domains.

Specifications of the Axxon Next Software Package

Security systems based on the Axxon Next software package have the following primary characteristics.

Characteristics	Value
Number of servers in the distributed system	Unlimited
Number of clients which support simultaneous connection to the server	Unlimited
Number of servers which simultaneously transmit video images to a client	Unlimited
Number of video capture channels for "live video" processing on one Server	Unlimited

Number of simultaneously processed signals coming from microphones	Unlimited
Number of audio output channels (to speakers, headphones, etc.)	depends on the sound card used for playback
Number of PTZ devices used	Unlimited
Number of video images displayed simultaneously on a client's screen	up to 25
Analog video camera support	yes (through video capture cards)
IP device support	IP cameras and IP video servers This list is continuously expanding: support for new hardware is added through updates to Axxon Driver Pack
Number of archives in the system	Unlimited
Video compression algorithms	MJPEG, MPEG-2, MPEG-4, MxPEG, H.264, Motion Wavelet
Available video image resolutions	resolutions supported by video cameras
Support for embedded video camera analytics	yes
Support for touchscreens	yes

Implementation Requirements for the Axxon Next Software Package

Limitations of the Axxon Next Software Package

When working with Axxon Next, the user must keep in mind the limitations that the developer has imposed on the system in order to ensure its operability.

No.	Limitation

1	To work with Axxon Next software the following minimal requirements for OpenGL are to be fulfilled: 1. version 1.3; 2. Availability the **ARB_vertex_program** extension. Recommended requirements for OpenGL as follows: 1. version 2.0 and higher; 2. Availability the **ARB_vertex_program**, **GL_EXT_blend_func_separate**, **GL_ARB_framebuffer_object** extensions. Extensions availability can be checked using the OpenGL Extension Viewer program (download). This program also contains a large database of data on OpenGL support in video cards of various vendors.
2	To install Axxon Next, you must log in to Windows as an administrator.
3	The computer name can contain only Latin characters, Arabic numerals, and/or a minus sign (-).
4	For proper installation of Axxon Next, there should be no spaces at the beginning of the name of the folder which contains the installer
5	Once Axxon Next has been installed, the computer name cannot be changed
6	For all features of Axxon Next to work properly, the system must not have any restrictions on network activity. Make sure that access is open to all TCP and UDP ports
7	It is not possible to transfer a license from one computer to another.
8	If you change any 2 of the basic hardware components (motherboard, processor, hard disk, video adapter, RAM, and network card) on the computer hosting the Axxon Next Server, your license will be invalid. For example, this is the case when you change both CPU and motherboard. However, changing a graphics card or upgrading RAM will not affect the license.

9	Time must be synchronized among all computers in the system (to be configured by the user)
10	When using NOD32 Antivirus, it is strongly recommended to either disable the Web Access Protection service or to add the IP addresses of IP cameras to the list of exceptions for anti-virus scanning
11	Before installing Axxon Next, make sure the video card drivers on the computer are fully up to date
12	Users should access computers remotely by using a NetBIOS name
13	The NetBiosName of the computer may contain up to 15 characters.
14	When configuring the firewall, limiting the network activity by ports is not allowed, since Axxon Next uses the entire range of TCP ports
15	The Client cannot be started on a remote desktop through the Remote Desktop Connection utility built into Windows
16	In the current implementation, all users of the Axxon Next software package should log in as **Administrators** (see the section titled Creating and Configuring the Role and User System Objects).
17	If a computer is linked to an Active Directory domain, one of the following conditions must be met to enable disk access: 1. Access control lists must contain only local or built-in groups and users. 2. Create an **AxxonFileBrowser** user in the domain and add it to the **Users** group. This behavior is typical only of file systems that have access permissions (for example, NTFS).

Operating system requirements

Axxon Next software package is compatible with 32-bit and 64-bit licensed versions of Microsoft Windows operating system.

Windows version	Supported edition	Note

Windows XP SP2 (x64)	Windows XP Professional	OS edition, enabling to use all realized product features	
Windows XP SP3 (x86)	Windows XP Home Edition	Restrictions, imposed by OS edition (1 physical processor, 5 SMB connections) – see http://www.microsoft.com	
	Windows XP Professional	OS edition, enabling to use all realized product features	
	Windows XP Tablet PC Edition	OS edition, enabling to use all realized product features	
	Windows XP Media Center Edition	OS edition, enabling to use all realized product features	
Windows Server 2003 R2 SP2 (x86, x64)	Standard Edition	OS edition, enabling to use all realized product features	
	Enterprise Edition	OS edition, enabling to use all realized product features	
	Datacenter Edition	OS edition, enabling to use all realized product features	
	Web Edition (x86)	Restrictions, imposed by OS edition (2 Gb RAM, 2 physical processors) – see http://www.microsoft.com	
Windows Vista SP2 (x86, x64)	Home Basic	Restrictions, imposed by OS edition (1 physical processor, 5 SMB connections) – see http://www.microsoft.com	
	Home Premium	Restrictions, imposed by OS edition (1 physical processor) – see http://www.microsoft.com	
	Business	OS edition, enabling to use all realized product features	
	Enterprise	OS edition, enabling to use all realized product features	
	Ultimate	OS edition, enabling to use all realized product features	
Windows Server 2008 SP2 (x86, x64)	Enterprise	OS edition, enabling to use all realized product features.	Full Installation type is supported.Server Core Installation type is not supported

	Datacenter	OS edition, enabling to use all realized product features.	
	Standard	OS edition, enabling to use all realized product features.	
	Web	OS edition, enabling to use all realized product features.	
	HPC	OS edition, enabling to use all realized product features.	
Windows Server 2008 R2 SP1 (x64)	Enterprise	OS edition, enabling to use all realized product features.	Full Installation type is supported.Server Core Installation type is not supported
	Datacenter	OS edition, enabling to use all realized product features.	
	Standard	OS edition, enabling to use all realized product features.	
	Web	OS edition, enabling to use all realized product features.	
	HPC	OS edition, enabling to use all realized product features.	
	Foundation	OS edition, enabling to use all realized product features.	
Windows 7 SP1 (x86, x64)	Starter (x86)	Restrictions, posed by OS edition (2GB of main memory, 1 physical processor, 1 monitor) - see http://www.microsoft.com	Stretch cards are supported in 32-bit version only
	Home Basic	Restrictions, posed by OS edition (1 physical processor) - see http://www.microsoft.com	

Home Premium	Restrictions, posed by OS edition (1 physical processor) - see http://www.microsoft.com
Professional	OS edition, enabling to use all realized product features.
Enterprise	OS edition, enabling to use all realized product features.
Ultimate	OS edition, enabling to use all realized product features.

Requirements for Personnel Quantity and Qualifications

The following roles have been defined for operating the Axxon Next software package:

1. Security system administrator
2. Security system operator

In special cases, one person can perform the functions of both the administrator and the operator.

The main duties of the administrator are to:

1. Update, configure, and monitor the operability of the security system's hardware
2. Install, update, configure, and monitor the operability of basic and system software
3. Install, configure, and monitor software applications
4. Manage user accounts (this duty can be carried out by a user entrusted with system administrator permissions).

The administrator must have the skills necessary for network configuration, including routing and firewall, as well as NetBIOS, DNS, and NTP network services.

Besides, the administrator must have high qualifications and practical experience installing, configuring, and administering the software and hardware employed in the software package.

The software package is structured so that all accessible functionality can be managed by one administrator or administration responsibilities can be divided among several users.

The main duties of an operator are to:

1. Work with the software's GUI (graphical user interface)
2. Optimize the performance of the personal computer to carry out tasks using the functionality provided in the software package
3. Create roles and users in the system (if the user has been granted the appropriate permissions)

The system operator must have experience with, and be a qualified user of, PCs running Microsoft Windows and must be able to easily perform basic operations.

Interface of the Axxon Next Software Package

The interface of the Axxon Next software package consists of three expanding menus:

1. Layouts 
2. alarms 
3. Options 

When you click a tab's icon, the tab expands and the previously expanded tab collapses. One of the menus is always expanded.

Access to any given menu is configured individually for each role in the system (see the section titled Creating and Configuring the Role and User System Objects).

If the appropriate settings are enabled (see the section titled Configuring auto hide for panels), when there is no activity in the system, the system first shrinks and then hides the panel for switching between menus, i.e., the control panel.

Installing the Axxon Next Software Package 3.0

Installing equipment

Types of Devices Used

An IP device is the source of the video signal (video data) for the Axxon Next software.

> **Note**
>
> You can connect analog video cameras to Axxon Next via video capture cards, which the software defines as IP devices

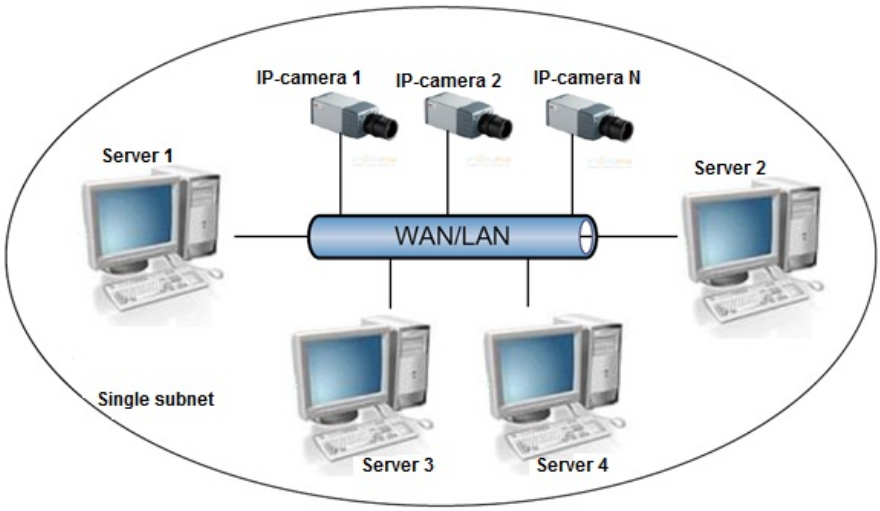
The following types of equipment are IP video and audio surveillance devices:

1. IP video cameras
2. Various types of IP video servers

IP video servers which use analog video cameras directly connected to them, digitize the analog video signal, and transmit it to users via TCP/IP. When working with analog video cameras connected to IP video servers, users can utilize the same video image viewing and transmission functions as with IP video cameras.

Connecting IP Devices

To work with IP devices, you need to connect the Axxon Next server to the local network where the required IP devices are enabled.



Based on the video signal coming in from the IP device, an assessment is made of the guarded location and the system responds to events registered for that location. The content and quality of the obtained video information depends on how the IP device is installed and configured. There are a number of rules that must be followed to obtain a high-quality video signal. In particular, high-quality peripheral equipment (hubs/routers) must be used; Home/Office devices, which are not intended for use in these kinds of security systems, are unacceptable.

> **Note**
>
> IP devices connected to such equipment will transmit a video stream with an unacceptably long delay (from 1.5 to 3 seconds per frame)

Detailed information about creating a local network and connecting IP equipment to it is presented in the corresponding reference documents.

Configuring IP Devices in Windows

IP devices can be configured in Windows by using the following software:

1. Software included with the IP device This software is used to accomplish the following tasks:
   a. Searching for network devices connected to the local network
   b. Preliminary IP address assignment (without account of routing)

> **Attention!**
>
> Without assigning preliminary IP addresses to the devices, it is not possible to access their Web interface

2. Web interface of the IP device. This interface is used to accomplish the following tasks:
   a. Configuring the IP devices with consideration for routing
   b. Configuring modes for the IP devices to work with video and audio signals
   c. Viewing video images coming in from IP devices in standard Web browser mode

Configuration of IP devices in Windows is described in detail in the official reference documentation for the respective devices.

Particulars of Configuration of Devices

On page:

Axis IP Devices

For Axis IP devices on which the Bonjour function is supported and enabled, changing the default value of the **Friendly name** parameter is strongly discouraged. If an arbitrary **Friendly name** val ue is set for an Axis IP device, a search for connected equipment in the Axxon Next software package will give incorrect results for this IP device.

Note

The Friendly name parameter is configured through the Web interface of the IP device: Setup -> System options -> Network -> Bonjour

Note

The default value of the Friendly name parameter is as follows: AXIS <model name> - <mac address>, where <model name> is the model of the Axis IP device and <mac address> is its MAC address (for example, AXIS 214 - 00408C7D2610

Stretch Cards

Only video cameras that support the same television standard can be simultaneously connected to VRC6004, VRC6008,VRC6404HD, VRC6416, VRC7008L and VRC7016LX Stretch cards: they must support either PAL or NTSC. The TV standard used in video cameras connected through a Stretch card is set automatically during launch of the Axxon Next software package. Changes in the **TV standard** parameter are invalid.

Note

The TV standard parameter is located in the **Video stream settings** group, in the properties of the **Camera** object, which is a child of the Stretch card object

Attention!

For video cameras connected through Stretch cards, it is impossible to display object tracking from embedded detection units in the viewing tile in Axxon Next

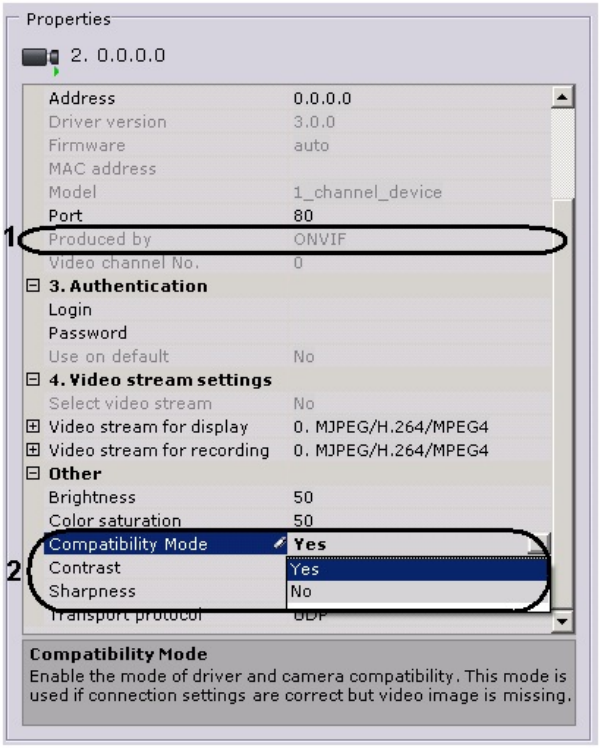
IP devices which partially support the ONVIF protocol

To connect IP devices which only partially support ONVIF functions to the Axxon Next software package, you must use an ONVIF driver (**1**) with compatibility mode enabled.

Note

Such video cameras include Hikvision models and early versions of firmware from Sony, Samsung, and others.

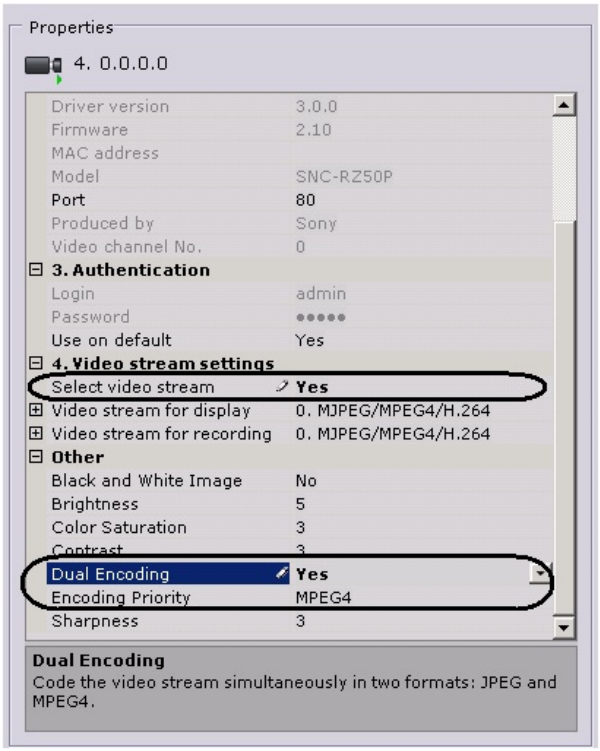
Compatibility mode makes it possible to receive a video image from video cameras; however, some capabilities of the Axxon Next software package will be unavailable.
Enabling compatibility mode for a video camera (**2**) connected using the ONVIF protocol (**1**) is recommended if the connection settings are correct, but there is no video image.



Sony IP Devices

Some Sony models support encoding of the video signal in two formats simultaneously. To use this option you must perform the following steps:

1. Select the value **Yes** for the **Video stream selection** and **Dual encoding** settings.
2. From the **Codec priority** list, select the codec which will take priority when dual encoding.



Installation the Axxon Next Software Package

Types of Installation

The following two types of installations are available when installing Axxon Next to a personal computer:

1. **Server and Client**— This type of installation is used to accomplish the following tasks:
    a. Physical connection to a personal computer and software configuration of video and audio capture devices (video cameras, microphones), event generation devices (sensors, relays, etc.), and hard disks for organizing data archives
    b. Configuring the security system architecture (creating the necessary system objects and defining the connections between them)
    c. Installing the software's user interfaces, which enable any user to connect to any server within a single security system and to perform administration/management/monitoring of a guarded location based on the permissions granted by the administrator
2. **Client** – This type of installation is used for installing the software's user interfaces, which enable any user to connect to any server within a single security system and to perform administration/management/monitoring of a guarded location based on the permissions granted by the administrator.

The way in which the basic properties of a computer in the security system depend on the type of Axxon Next installation is presented later.

Properties / type of installation	**Client**	**Server and Client**
A constant connection to another machine is required	+	-
Devices are connected locally	-	+
A local user interface is available	+	+

Installation

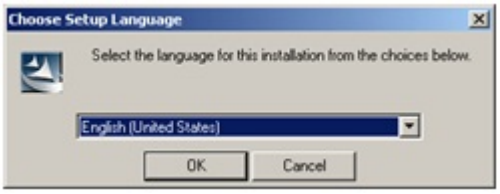
To install Axxon Next, regardless of the type of installation, you must perform the following steps:

1. Insert the Axxon Next installation CD into the CD-ROM drive. A dialog box will display the disk content

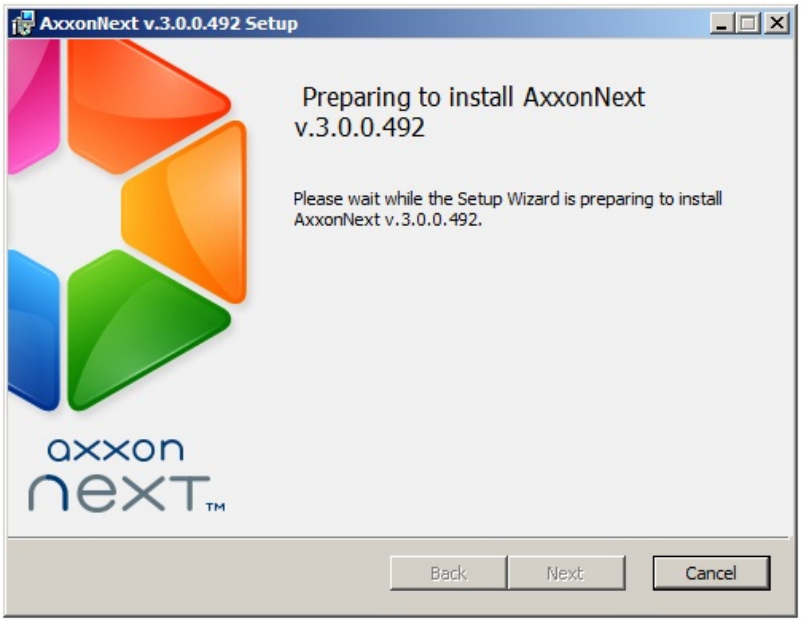
Note

The ITV Group website provides access to a leaner Axxon Next distribution package that does not include installation packages for .NET Framework 2.0 or .NET Framework 3.5 SP1. In this case, you must manually install that software prior to installing the Axxon Next software package

2. Run the Setup.exe file.
3. In the dialog box, choose the desired language from the list and click **OK**.



This setup wizard will now prepare for installation.



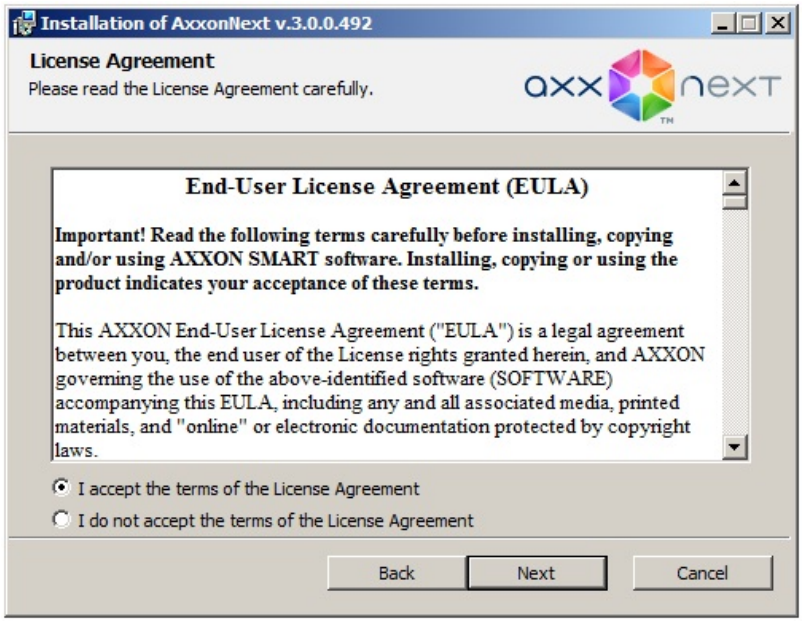
If .NET Framework 3.5 SP1 is not installed already, you will be asked to install it. To do this, you must agree with the license agreement in the .NET Framework 3.5 SP1 installation

program and then follow its interactive instructions.

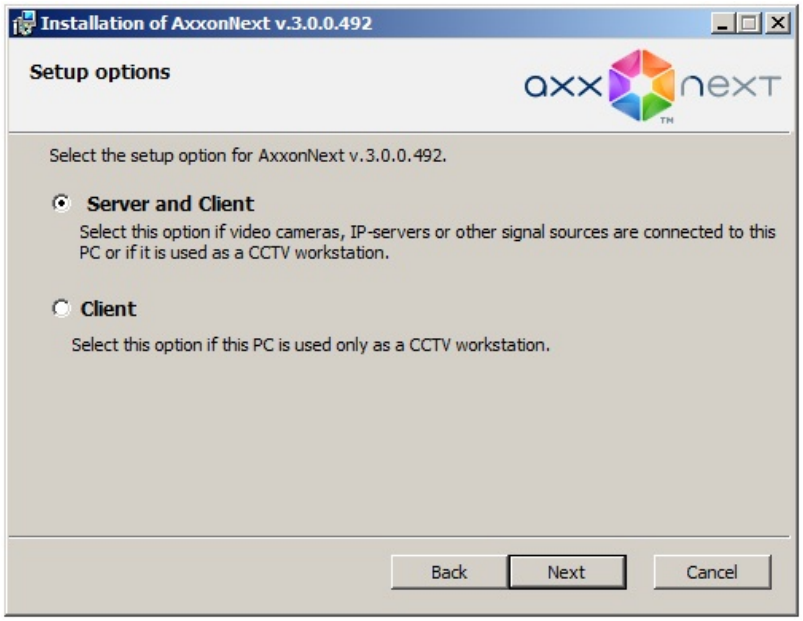
> **Note**
>
> The .NET Framework 3.5 SP1 software is automatically bundled only with Windows

4. Click **Next** on the setup wizard's welcome screen.

5. To proceed with installation, accept the terms of the license agreement by selecting the radio button next to **I accept the terms of the License Agreement** and click **Next**.



6. Select the Axxon Next software installation type in the dialog box by clicking the appropriate option button and click **Next**.



7. Indicate the destination folders for installation of Axxon Next components and click **Next**. Components include both Axxon Next and the databases used in its operation: the log database and the object trajectory database.

Attention!

You are advised to place the log database and object trajectory database on a disk that has sufficient space. If you will be using only a log database, the disk capacity must be at least 5% larger than the archive size. If you will also be using a trajectory database, the disk must be at least 15% larger than the archive.

When determining the required disk size, the size of the trajectory database can be calculated with the following formulas:

Size of object trajectory database = **N**×**T**×(0,5Gb / day)– sufficient disk size;

Size of object trajectory database = **N**×**T**×(1Gb / day)– sufficient disk size plus reserve space;

Size of object trajectory database = **N**×**T**×(5Gb / day)– sufficient disk size plus a large reserve.

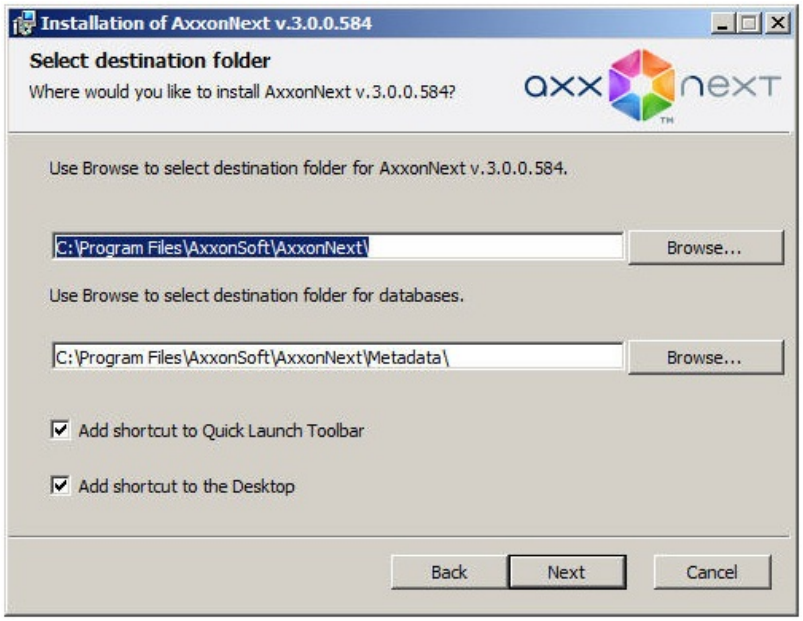
N equals the number of video cameras in the system actively recording metadata; **T** equals the period of time (number of days) that metadata will be stored. By default, T = 30 days.

Note

By default, the software will be installed to the directory C:\Program Files\Axxon Next\. By default, the log database and the object trajectory database will be placed in the directory C:\Program Files\AxxonSoft\Axxon Next\Metadata (in the pg_tablespace and vmda_db subdirectories, respectively)

Note

To add quick launch shortcuts or desktop shortcuts, select the corresponding check boxes



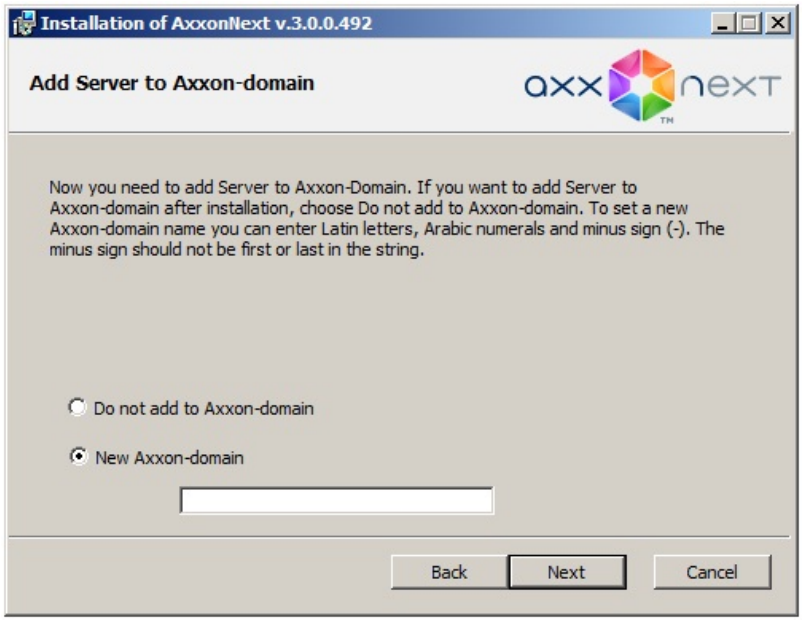
8. Enter an Axxon Domain name to create a new group of computers based on the computer. If you want to add the computer to an Axxon Domain at a later time, select **Do not add to Axxon Domain**. Click the **Next** button.

Note

When reinstalling Axxon Next, you have the option of using the previous Axxon Domain

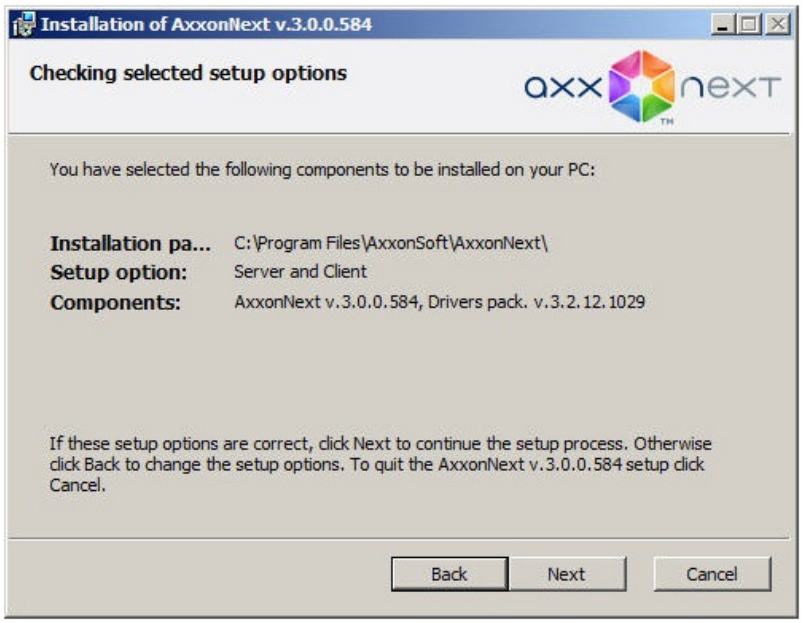
Note

Assigning the same Axxon Domain name to several Servers does not guarantee that those Servers will be in the same Axxon Domain. To place all Servers into one Axxon Domain, you must use the Axxon Next interface to add each Server to the necessary Axxon Domain. Axxon Domain configuration is described in detail in the section titled Configuring Axxon domains

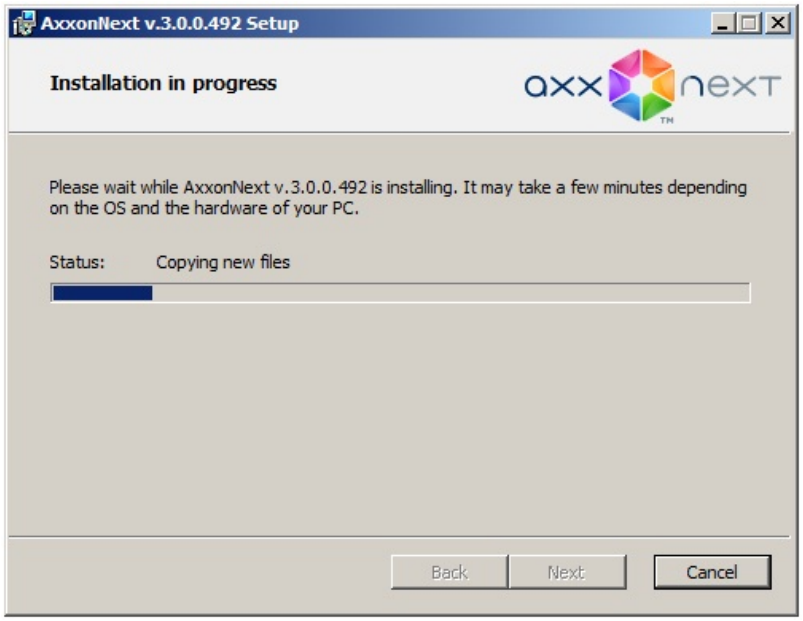


This will launch the search for or installation of a PostgreSQL 8.3.6 database server. If there is an earlier version of PostgreSQL installed on the computer, it will be updated to version 8.3.6 in the background. A new log database will be created automatically, with the name "ngp", user name "ngp", and password "ngp".

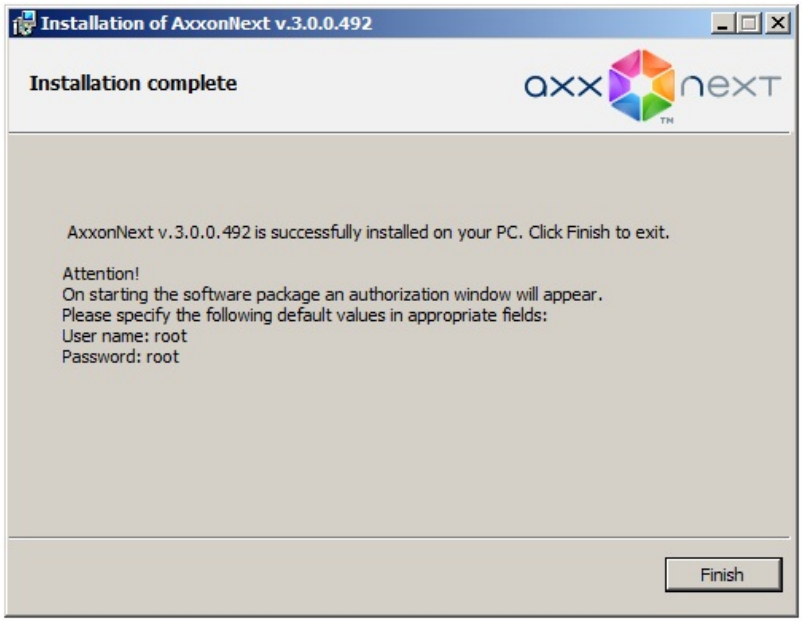
A dialog box then appears, showing the installation parameters corresponding to the selected type of installation.



9. Verify the selected installation options and click **Install** to launch the installation of Axxon Next.



A message indicating the completion of Axxon Next installation will appear in a new dialog box.



10. Click **Finish** to confirm completion of the installation.

Installation of Axxon Next is now complete.

Repairing Installation

A repair installation is used to re-install all components of the Axxon Next software package. To start a repair installation, launch the Axxon Next software installer from the installation CD without removing the previous version of the program.

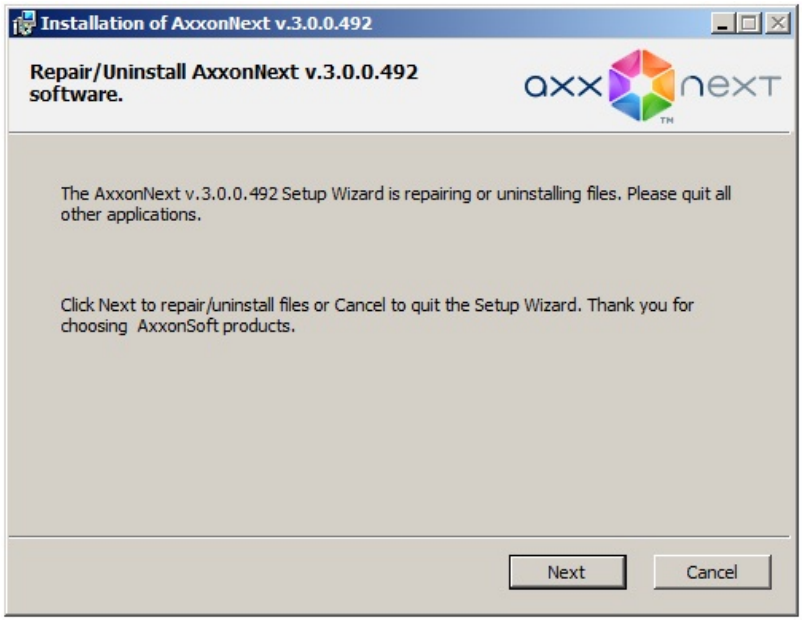
> **Note**
>
> To ensure that Axxon Next is re-installed correctly, all related applications should be closed before starting the repair installation

To run a repair installation of the Axxon Next software, you must perform the following steps:

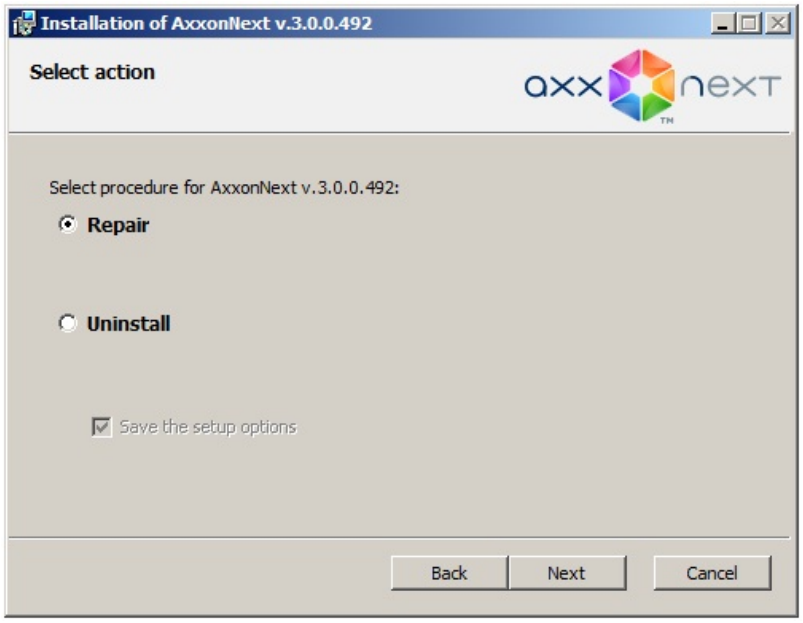
1. Insert the Axxon Next installation CD into the CD-ROM drive. A dialog box will display the

disk contents.

2. Run the Setup.exe file.
3. Click **Next** on the setup wizard's welcome screen.

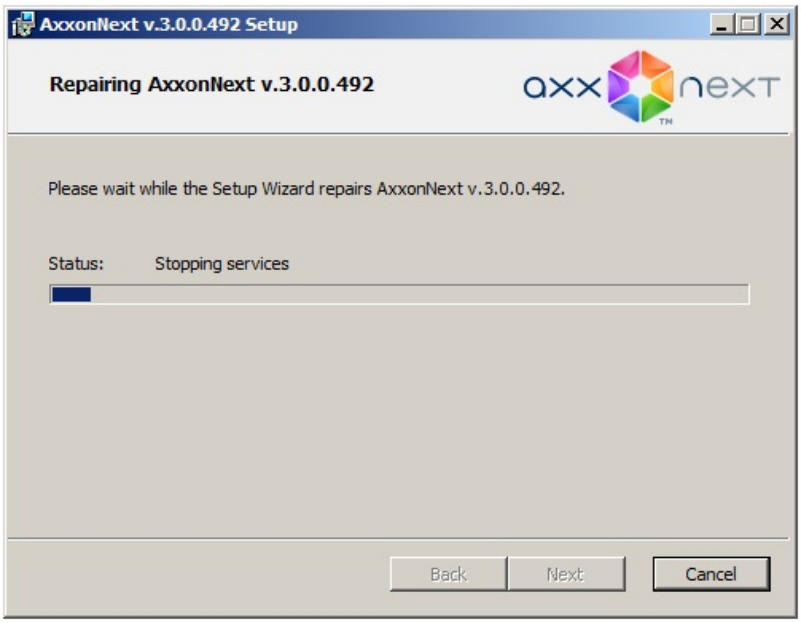


4. A dialog box will appear, allowing you to choose an operation.



5. Select the **Repair** option and click **Next**.

A dialog box will appear, showing the Axxon Next repair process.



A dialog box will appear, indicating the completion of the repair process. Click **Finish**. Repair of Axxon Next is now complete.

Removal

The Axxon Next installation program can also remove the software. Use this option when you need to remove all components of Axxon Next from your computer.

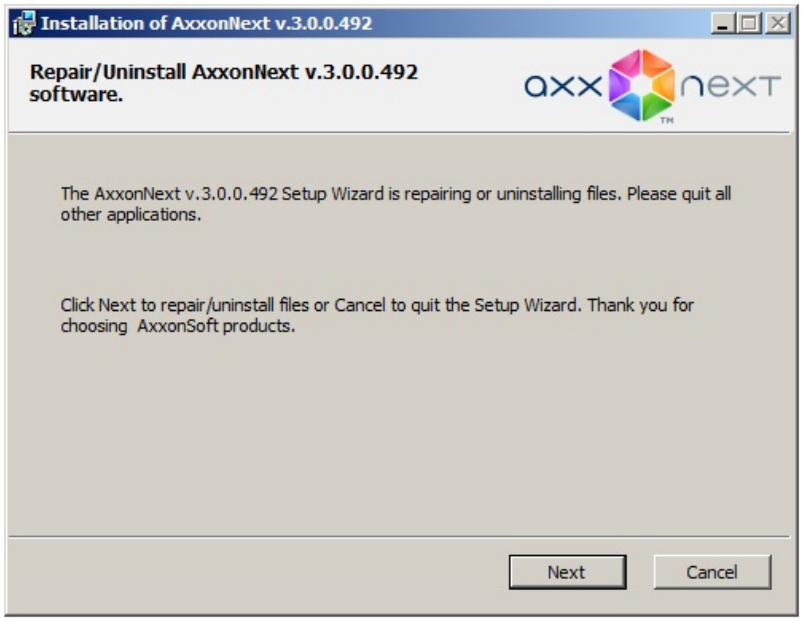
> **Note**
>
> All related applications should be closed before beginning removal of the Axxon Next software

You can launch the Axxon Next removal process using one of the following methods:

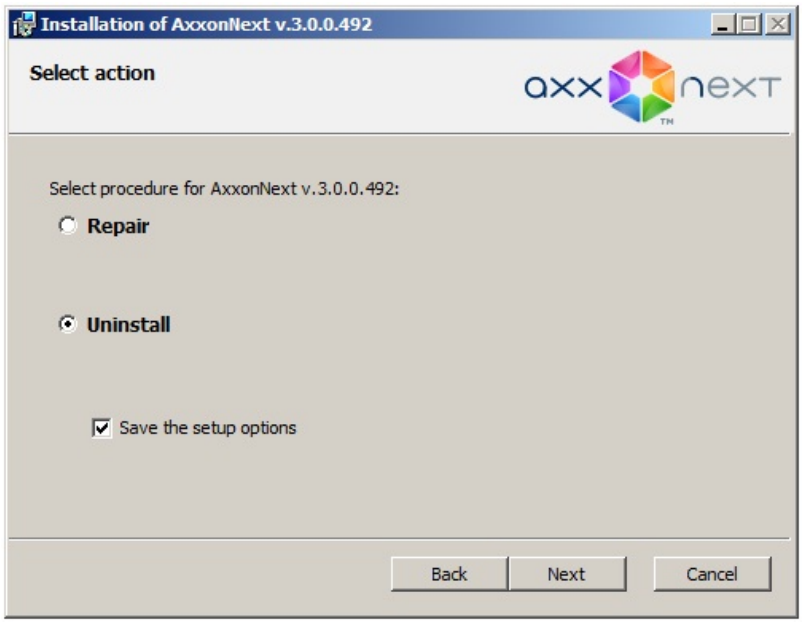
1. from the **Start** menu
2. using **Add or Remove Programs** in the Windows control panel
3. using the installation CD (by launching the Setup.exe file)

When you do this, the setup wizard's welcome screen appears. To remove Axxon Next, you must observe the following procedure:

1. Click **Next** on the setup wizard's welcome screen.

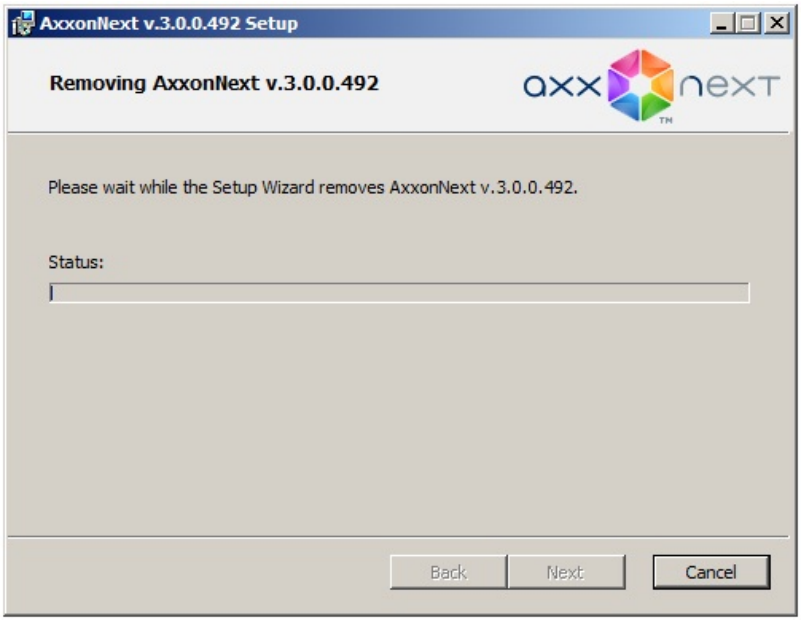


A dialog box will appear, allowing you to choose an operation.



2. Select **Remove**.
3. To save your Axxon Next settings in a database, select the **Save configuration** check box. This option may be useful when updating the product.
4. Click **Next**.

A dialog box will appear showing the Axxon Next removal process.

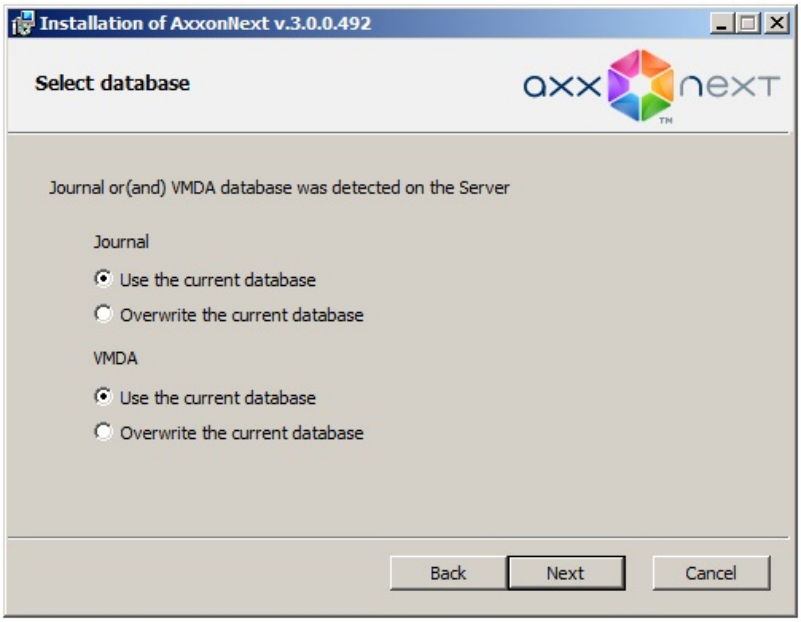


A dialog box will appear, indicating the completion of the removal process. Click **Finish**. Removal of Axxon Next is now complete.

Update

If you need to install a new version of the *Axxon Next* software package but want to keep your existing configuration and databases, complete the following steps:

1. Remove the currently installed version of Axxon Next (see the section titled Removal).
2. Install the new version of *Axxon Next* in the same folder where the older (removed) version had been installed. You can place your databases in any folder you want. When installing the new version, select the **Use the current database** radio button (for the log and object trajectory databases) in the **Select database** window.



Note

If you do not need to retain existing databases, select the **Overwrite the current database** radio button

Licensing of the software product

Axxon Next license types

Upon installation, the software will be launched in demo mode. The system will operate in demo mode from 8:00 AM to 6:00 PM. The software has no other limitations, functional or otherwise, when running in demo mode.
The Axxon Next software package must be activated in order to utilize the full functionality of the security system. You can activate the software by distributing an activation key on the system.
Data on all the types of Axxon Next licenses is presented below.

Type of license	**Number of servers in the system**	**Number of video channels per server**	**Archive volume**	**Forensic Search enabled**	**Cost**
Demo mode from 8 AM to 6 PM	Unlimited	Unlimited	Unlimited (limited only by available disk space)	Yes	Free
Axxon Next Free Version	1 (fixed)	16 (fixed)	1 terabyte	None	Free
Axxon Next	Unlimited	Unlimited	Unlimited (limited only by available disk space)	Yes (as needed)	Please contact AxxonSoft to inquire about the price

Axxon Next Free Version can be upgraded to *Axxon Next.* Upgrades must be purchased. Upon upgrade, you can use unlimited storage. Also, if you upgrade, you can purchase additional licenses for Forensic Search in archive and for servers and/or video cameras.
In the case of an Axxon Next license, an upgrade can be obtained for increasing the number of servers and video cameras in the system or adding the Forensic Search capability.

> **Note**
>
> When you upgrade your license, you cannot reduce the number of video channels

Information about the type of license you are using is displayed in the server properties in the **Pro duct Type** field: **Axxon Next Free Version** or **Axxon Next**.

Linking the license file to computer hardware

The license file contains data on basic hardware configuration (motherboard, processor, hard disk, video adapter, RAM, and network card) of all Servers. If you change any 2 of the basic hardware components, your license will be invalid. For example, this is the case when you change both CPU and motherboard. However, changing a graphics card or upgrading RAM will not affect the license.

> **Note**
>
> If you install virtualization products such as VirtualBox, VmWare etc. , this may affect the license. Should you encounter this problem, you are advised to uninstall all virtualization products or apply for a new license file

This is why when working with Axxon Next you should bear in mind the following:

1. The activation request should be sent from the computer that will host the Axxon Next Server.
2. You can upgrade your license only if you retain the initial basic hardware configuration of all the Servers.
3. It is not possible to transfer a license from one computer to another.

Product Activation Utility

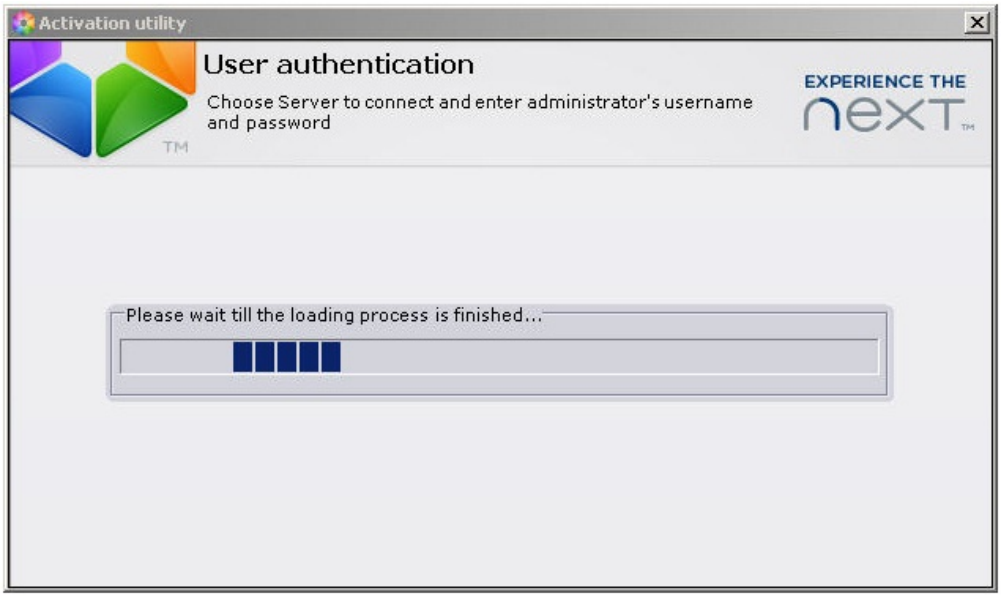
License activation for the Axxon Next software package is carried out through the product activation utility.

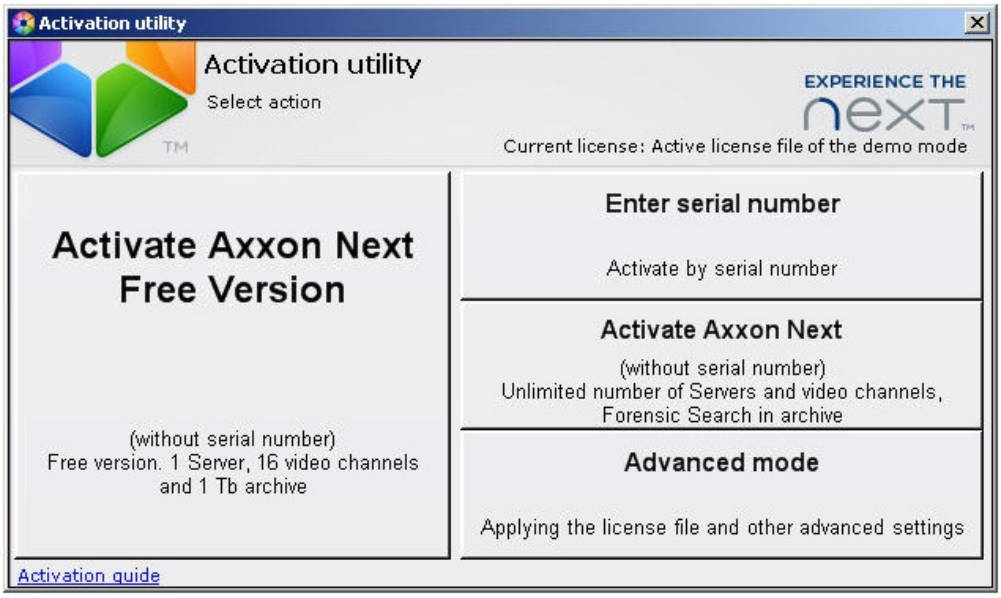
You can launch the product activation utility from the Windows **Start** menu: **Start** -> **All Programs** -> **Axxon Next** -> **Utilities** -> **Program Activation**.

> **Note**
>
> The product activation utility program file LicenseTool.exe is located in the folder <Directory where Axxon Next is installed>\Axxon Next\bin\

Then you must select the name of one of the Axxon Domain servers to which the license file will be applied (the file is applied to all Axxon Domain servers launched at the moment of activation) and connect to the system, under an administrator's user name and password, to continue the activation process.

When the utility has loaded, its main will be displayed.





License Activation

To activate Axxon Next, please refer to the document titled Activation Guide, which presents step-by-step instructions on activating, updating and upgrading Axxon Next .

It is also recommended that you use the prompts displayed in the product activation utility's dialog boxes .

Launching and Closing the Axxon Next Software Package

Play corresponding video

Startup

Starting a Server

The *Axxon Next* Server is started automatically when the operating system starts.

If a Server's operation was stopped, you must complete one of the following actions to restart the

Server:

1. Restart the system
2. Select **Start** -> **All Programs** -> **Axxon Next** -> **Start Server**
3. Start TAO NT Service and NGP Host Service

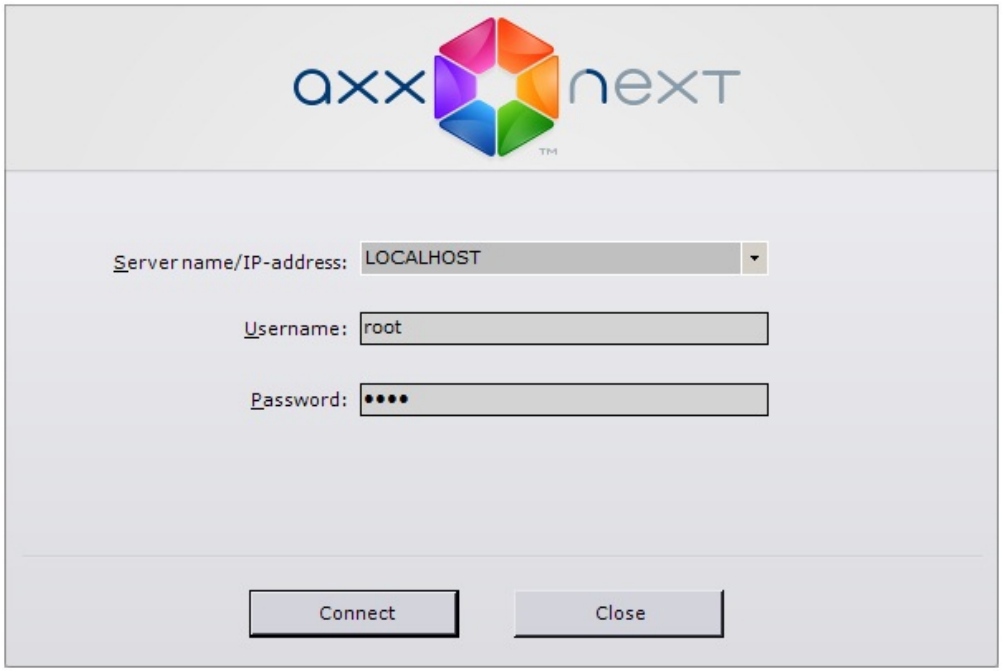
Starting an Axxon Next Client

The Axxon Next client can be started manually using the **Start** menu, which is intended for launching user programs in Windows. To start working with the software, perform the following steps:

1. Select **Start** -> **All Programs** -> **Axxon Next** -> **Axxon Next**

> **Note**
>
> The Axxon Next software package program file AxxonNext.exe is located in the folder <Axxon Next installation folder>\Axxon Next\bin\

The Axxon Next client will then launch and an authorization window will appear



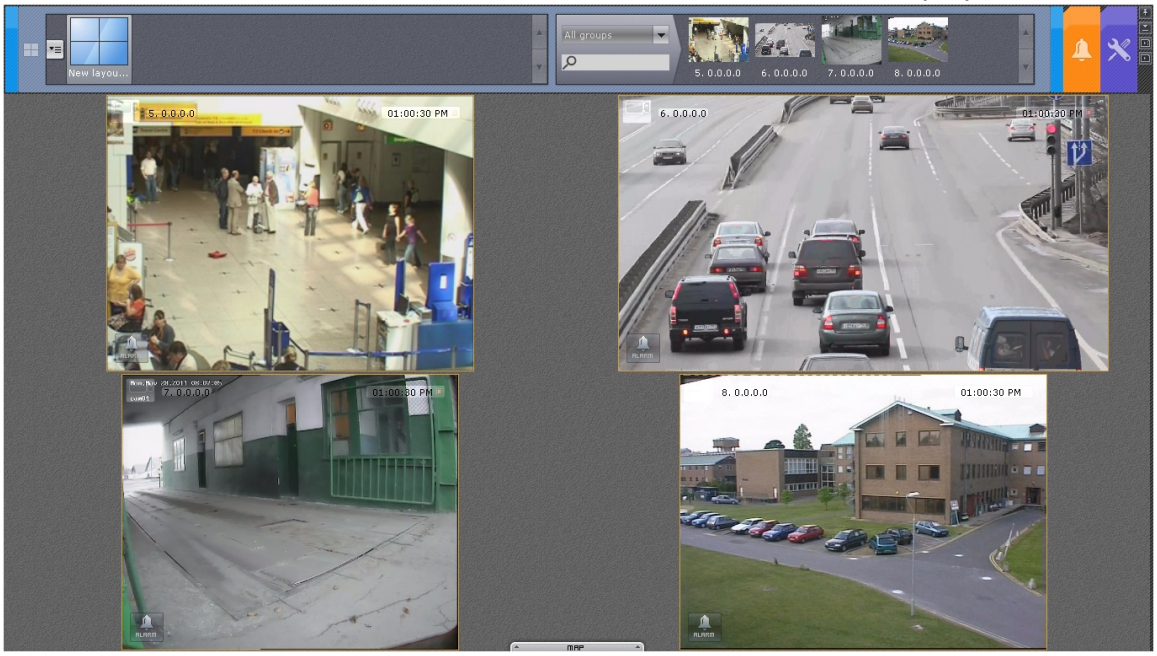
2. Enter the user name and password and click **Connect**.

> **Note**
>
> If the software is accessed by a remote user, the NetBIOS name or IP address of the computer with which the connection is established should be indicated in the **Computer** field

Note

The first login to the system is done with the user root, which has administrator permissions . Enter root in the **User Name** and **Password** fields. The administrator then needs to configure the system for multi-user access described in detail in the section titled Creating and Configuring the Role and User System Objects)

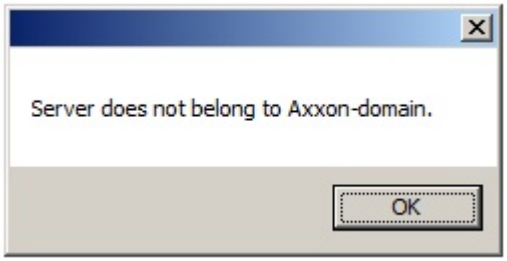
If authorization is successful, a video surveillance monitor will be displayed on the screen.



Note

If Axxon Next is launched in demo mode, then after you enter the authorization parameters, a message to this effect will appear (see the section Demo mode notification)

If the Server to which Axxon Next is connecting does not belong to any Axxon Domain, after the **C onnect** button in the authorization window is clicked, a message is displayed.



To connect to the Server, you must either create a new Axxon Domain based on the server or add the Server to an existing Axxon Domain.
If you choose the first option, click **OK** in the message and follow the instructions given in the section Creating a new domain. For the second option, click the button and follow the instructions given in the section Adding a Server to an existing Axxon Domain.

Demo mode notification

If activation has not been completed, *Axxon Next Free Versions* in demo mode.
The system will operate in demo mode from 8:00 AM to 6:00 PM. The software has no other

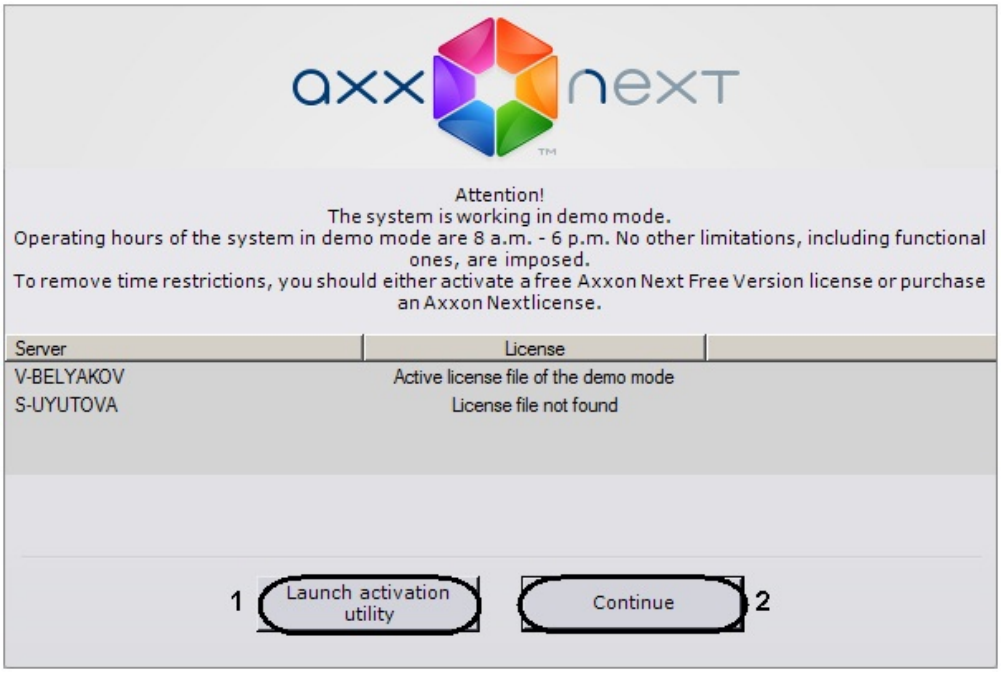
limitations, functional or otherwise, when running in demo mode.
The different types of demo modes are presented in Table.

Type of demo mode	Conditions	Axxon Next operation
Active	Axxon Next can be started between the hours of 8:00 AM and 6:00 PM	*Axxon Next* works without limitation
Inactive	Axxon Next started outside the hours of 8:00 AM and 6:00 PM	*Axxon Next* does not work

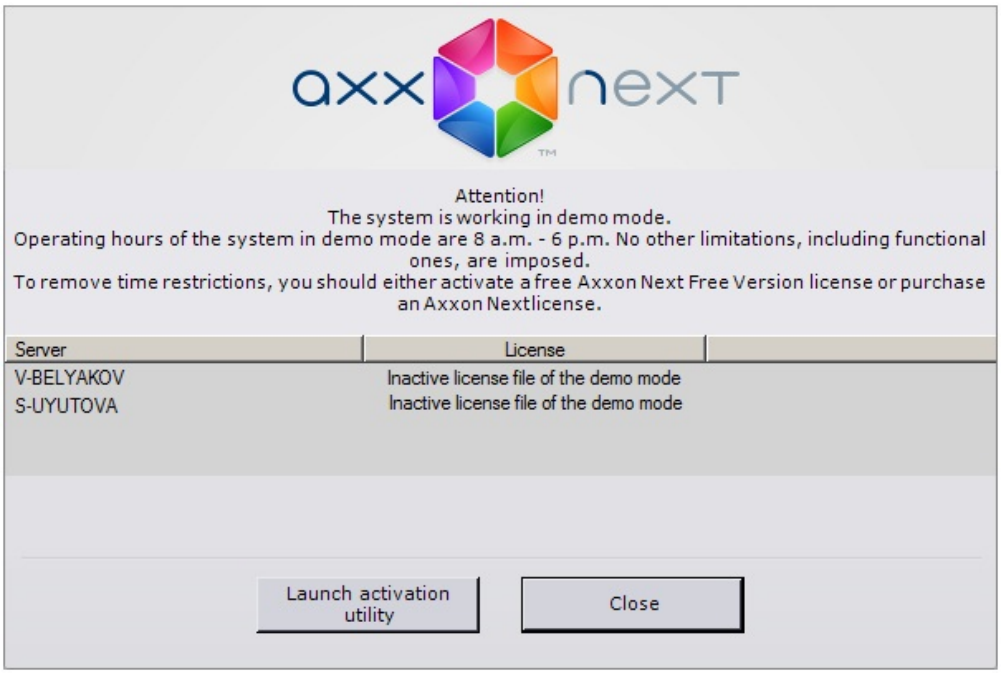
If a Client is connected to an Axxon Domain in which there is at least one Server running in demo mode, an appropriate message is displayed, along with a list of Servers in the Axxon Domain and their types of licenses.

> **Note**
>
> The notification is displayed after successful authorization

If an Axxon Domain includes at least one Server running in active demo mode, you will be given the option to continue working (**2**) or start the activation utility (**1**).



If all Servers in the Axxon Domain are running in inactive or expired demo mode, you will be given the option to launch the activation utility or close the Client.



Shutdown

Shutting down an Axxon Next Client

Before closing Axxon Next, you need to exit the user interfaces. To do this, perform one of the following:

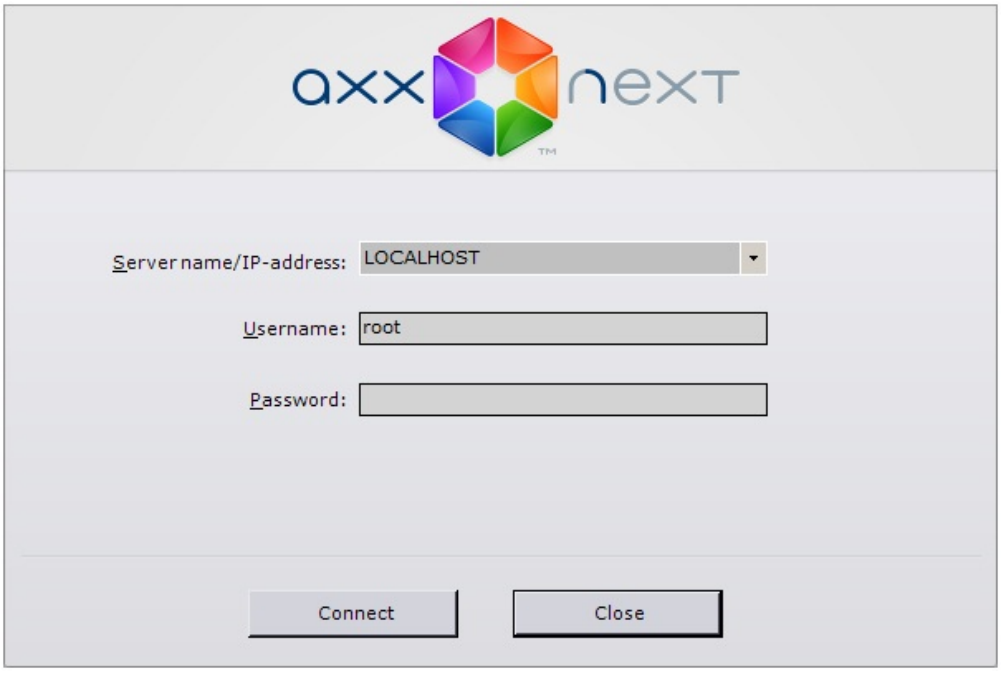
1. Click the  button located in the top-right corner of the Axxon Next dialog box.

> **Note**
>
> If the client is opened in full-screen mode (enabled by default), the!1.jpg! is not displayed. In this case you can exit the user interfaces using actions 2 and 3

2. In the **Settings** tab, click the 

button.
3. Select **Exit** in the context menu of the Axxon Next icon  , which is located on the Windows toolbar when the program window is minimized.

When you perform one of these actions, the authorization window will appear. To close Axxon Next (completely exit the client), click the **Close** button.



Shutting down a Server

To shut down an *Axxon Next* Server, complete one of the following actions:

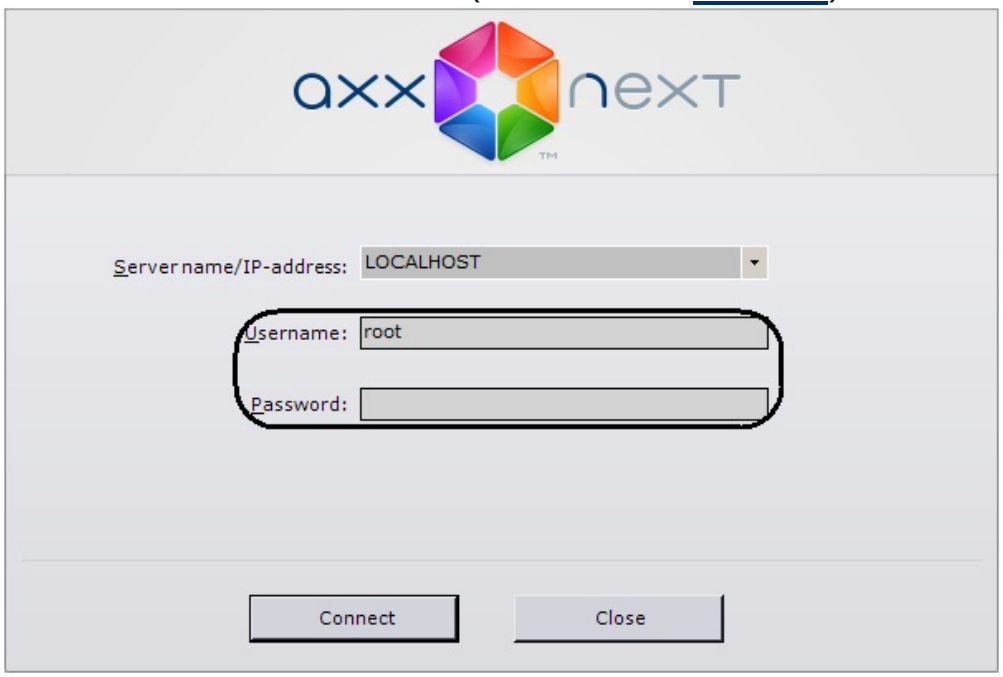
1. Select **Start** -> **All Programs** -> **Axxon Next** -> **Shut down Server**
2. Stop the TAO NT Service (the NGP Host Service will also be stopped)

Switching Users Quickly

You can switch Axxon Next users quickly without fully exiting the client.

To do this, follow the steps below:

1. Exit the Axxon Next user interface (see the section Shutdown).



2. When the authorization window appears, enter the user name under which you need to log in and the corresponding password and click **Connect**.

Switching users is now complete.

Connecting to Another Server Quickly

You can connect to another server without fully exiting the client.

To do this, follow the steps below:

1. Exit the Axxon Next user interface (see the section Shutdown).
2. When the authorization window appears, select the server to which you need to connect the client from the **Computer** list.
3. Enter the user name under which you need to log in and the corresponding password and click **Connect**.

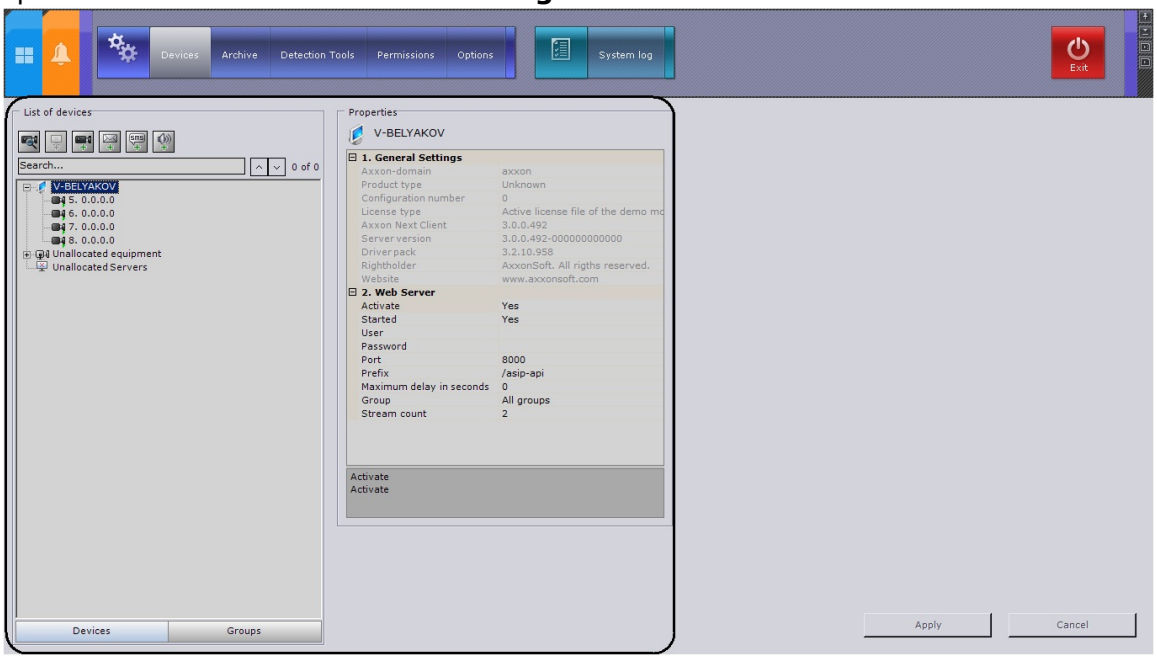
Connection to another server is now complete.

Configuration of the Axxon Next Software Package

General Information on Configuring System Objects

Procedure for Configuring System Objects

System objects form the basis for configuring the Axxon Next software package; you can set them up in the **Devices** section of the **Settings** tab.



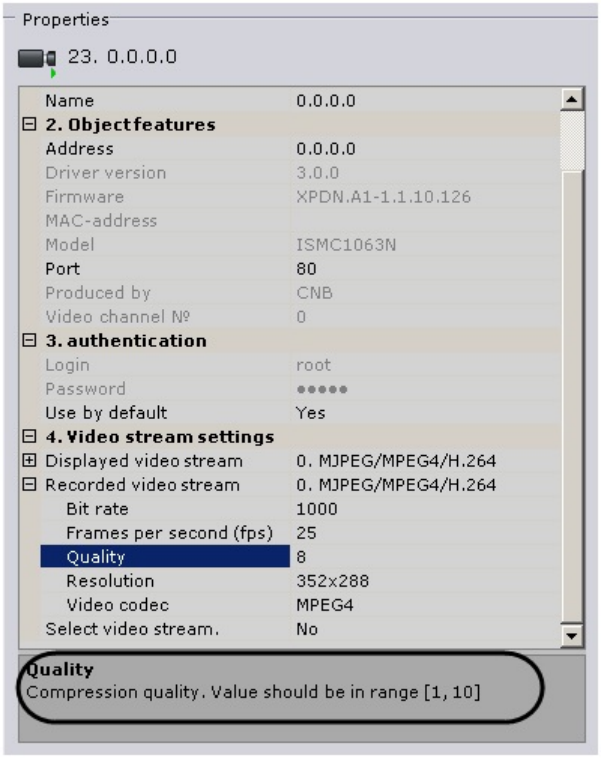
Functions such as identifying devices physically connected to a Server and managing those devices, creating users with varying permissions , and creating rules and automatic responses make up just a portion of what the the user can do by creating and configuring system objects. The procedure for working with system objects varies slightly depending on their type, but generally you should adhere to the following sequence of actions:

1. Create an object.
2. Configure its parameters.
3. Save changes.
4. Edit the values of parameters.
5. Save changes.
6. Delete the object.

Some system object parameters have a set range of values, in which case you must select the appropriate value from a list. Other parameters serve to display information, while yet others must be set manually according to the recommendations in the parameter's description.

Note

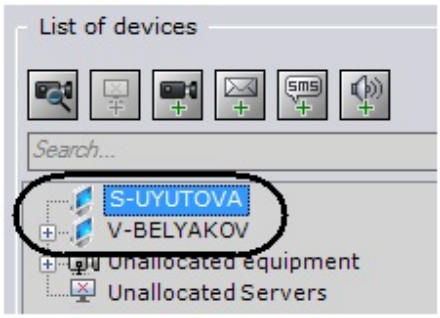
As a rule, the parameter description is displayed in a special area under the object properties table when the parameter is selected



As is evident from the sequence listed above, any changes made during configuration should be saved by clicking the **Apply** button. Before you click the **Apply** button, the changes may be cleared using the **Cancel** button. Otherwise the changes will be applied without having to restart the software.

List of Servers for an Axxon Domain

All servers under the same Axxon Domain as the server you connected to are displayed in the list of devices.



You can configure all Axxon Domain servers from any Client workstation, provided that you have the appropriate permissions (see the section Creating and Configuring the Role and User System Objects).

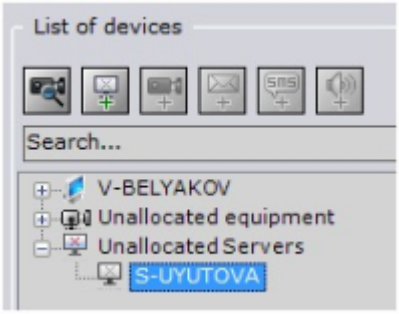
Searching for Unallocated Servers and Hardware

Unallocated Servers (that is, servers that do not belong to any Axxon Domain) and IP devices are shown in the system after you perform a device search. To start a search, click the  button.

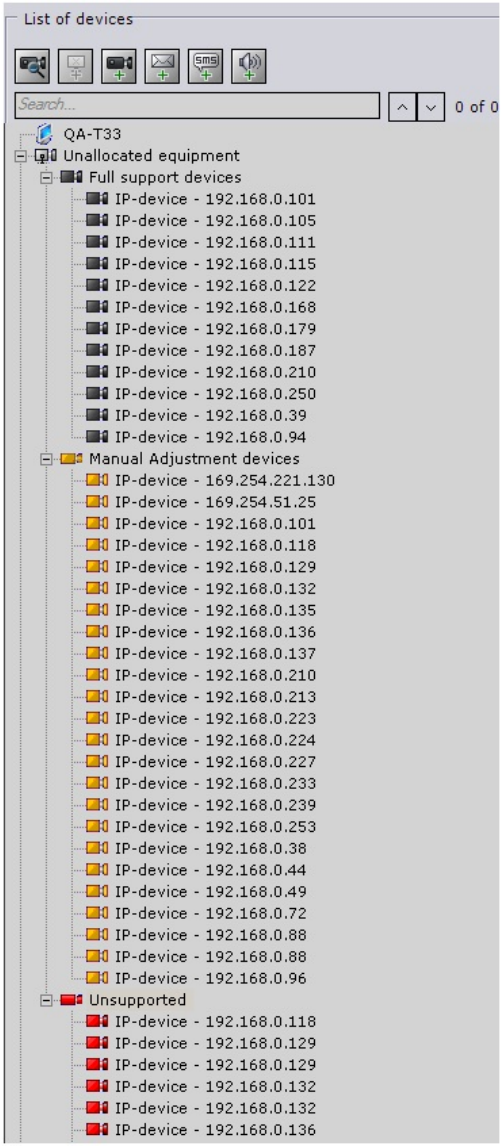
Note

Since multicast packets are used for device search, the search results may not contain the Servers and devices from other subnets

Unallocated servers found are displayed in the Unallocated Servers list. Please refer to the section Adding a Server to an existing Axxon Domain to find out how to add them to an Axxon Domain.



Found devices are sorted by group (based on status) in the **Unallocated Equipment** list.



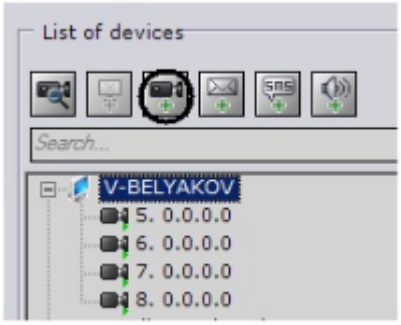
Note

To view more detailed information about a device (manufacturer, model, firmware, etc.), select its corresponding line in the lis

Icons for groups and video cameras will be in different colors depending on the status of the detected devices.

Color of video camera icon	Description
Black	The device's manufacturer, model, and firmware have been definitely determined; it can be added to the list of devices on the server as is.
Yellow	When adding the device to the list of devices on the Server, check the manufacturer, model, and firmware version used.
Red	The device's manufacturer, model, and firmware have not been determined. Video cameras must be manually added to the Server's equipment list (with the help of the tool).

The desired unallocated equipment marked with and must be linked to the Server, after which it will be displayed in the list of devices on the Server and will be accessible for further configuration. Devices marked with can be linked to a Server with the tool by selecting the server in the object tree.



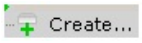
Attention!

ompatibility of devices marked with Axxon Next is not guaranteed

If you remove a server from an Axxon Domain, the server automatically joins the **Unallocated Servers** list, if the current Client was connected to another server. If the current Client was connected to the removed Server, the user interfaces will close.
When a device is deleted from the list of devices on a server, it is automatically placed in the **Unal located Equipment** list.

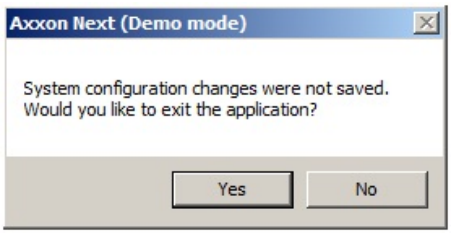
Devices are listed under **Unallocated Equipment** without verification of their presence on the network. To refresh these lists, you must launch a device search (by using the  button).

Creating Device Objects Manually

You can create objects in Axxon Next either by using the  tools located above the object tree or by using the 

link, depending on the object type. You can then configure the objects and save changes.

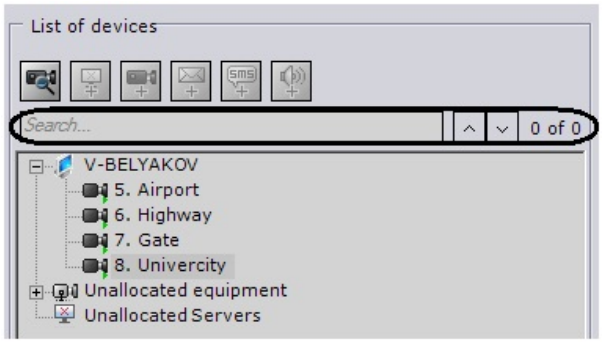
> **Note**
>
> If the settings of a newly created object are not saved, the  , icon will appear on the tab, literally indicating that the changes to the tab have not been saved. Then, when you are exiting the program, a message will appear, asking whether you want to exit without saving changes



Object search

Axxon Next allows you to search for objects in the objects tree using only part of their name. An object search can be performed on all tabs under **Devices**.
To search for objects, complete the following steps:

1. Select the tab containing the object tree that you need to search

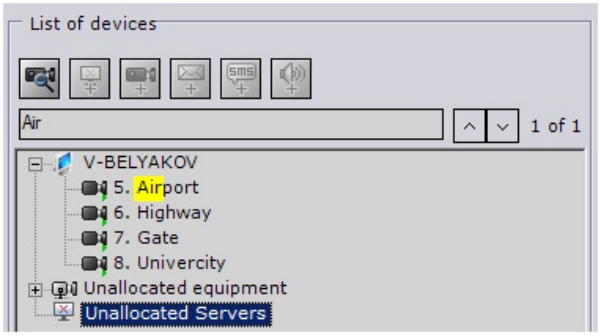


2. Enter the full or partial name of the object in the **Search...** box.

> **Note**
>
> Search is not case-sensitive

> **Note**
>
> A search can also be run based on object ID

The search starts automatically once you enter something in the box. When the search is complete, you will see the number of objects found in the tree, along with the currently displayed search results highlighted in beige.



The parts of names corresponding to the characters you entered will be highlighted in yellow on the found objects.

> **Note**
>
> If a found object is located in a collapsed branch of objects, the branch will be highlighted in yellow

To move between search results, use the  buttons.
The search results rotate in a loop; moving from the last object takes you back to the first object.

> **Note**
>
> If you move to an object located in a collapsed branch, the branch will automatically expand

Configuring Axxon domains

A distributed system based on the Axxon Next software package is created within an Axxon Domain, i.e., a selected group of Axxon Next Servers.

When configuring Axxon Domains, the following operations are used in the necessary combinations:

1. Creating a new domain
2. Adding a Server to an existing Axxon Domain
3. Excluding a Server from the current Axxon Domain

To configure Axxon Domains, you must have the appropriate permissions (see the section Creating and Configuring the Role and User System Objects).

This section gives step-by-step instructions for each operation used in configuring Axxon Domains, and then describes typical instances of their use.

Play corresponding video

Axxon Domain operations

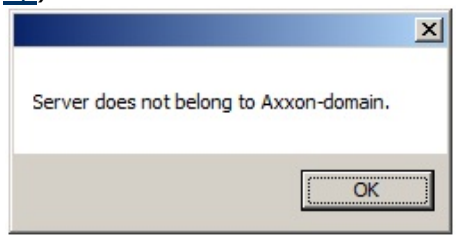
Creating a new domain

A new Axxon Domain can be created in one of two ways:

1. During installation of the Axxon Next software package with the Server and Client configuration type (see step 8 of the instructions in the section Installation)
2. When attempting to connect to a Server which does not belong to a domain

In the second case a message will appear, in which you should click **OK** (see also the section Start

up).



The **Name new Axxon Domain** window will appear. In the **New Axxon Domain name** field, enter the Axxon Domain name to create a new group of computers based on the Server and click **Apply**.

> **Attention!**
>
> It is not possible to use the above steps to add a Server to an existing Axxon Domain. Assigning the same Axxon Domain name to several Servers does not guarantee that those Servers will be in the same Axxon Domain. Different Axxon Domains can have identical names

This will create a new Axxon Domain based on the Server. The Axxon Next software package will then be launched with the entered authorization parameters (see the section Startup).

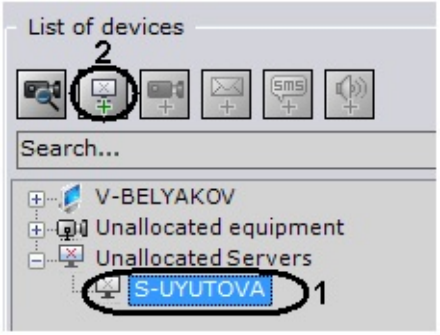
Adding a Server to an existing Axxon Domain

A Server can be added to an existing Axxon Domain from any Server within that Axxon Domain.

> **Attention!**
>
> Only unallocated Servers, i.e., Servers which do not already belong to any Axxon Domain, can be added

There are two ways to add a Server to an Axxon Domain, depending on whether or not it is present in the search results (in the **Unallocated Servers** group).
If a Server is present in the search results, you can use the following procedure to add it to an Axxon Domain:

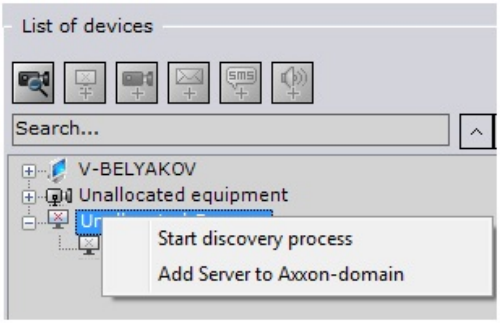
1. Select the Server in the **Unallocated Servers** group (**1**).



2. Click  or select **Add to Axxon Domain** from the context menu after right-clicking on the Server (**2**).

The Server will then be added to the Axxon Domain from the **Unallocated Servers** group.
Since the search for unallocated Servers is conducted using broadcast packets, the results may not include Servers located in a different subnetwork (for example, beyond a router which blocks broadcast packets).
In this case the option of manually adding a Server to an Axxon Domain can be useful; this option can be used with all unallocated Servers, including those present in the **Unallocated Servers** gro up.
A Server can be manually added to an Axxon Domain as follows:

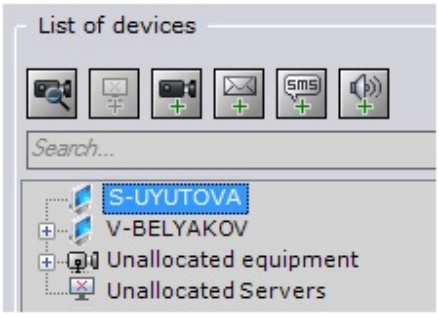
1. Select the option **Add Server to Axxon Domain** in the context menu of the **Unallocated Servers** group (the menu can be brought up by right-clicking the name of the group).



2. When you do this, the **Enter Server name** window appears.

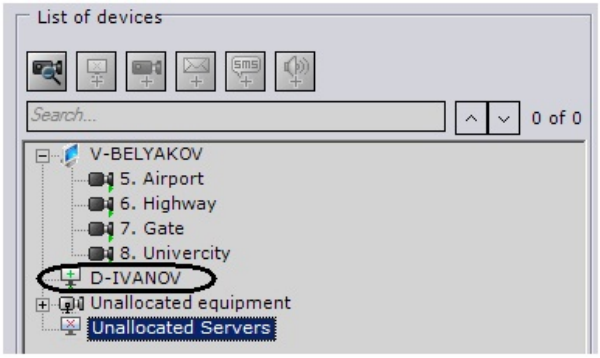
3. In the **Server Name** field, enter the NetBIOS name of the Server to be added to the Axxon Domain.
4. Click **Apply**.

The Server will then be manually added to the Axxon Domain.
After a Server is added to an Axxon Domain using any of the methods described, it will appear in the object tree.

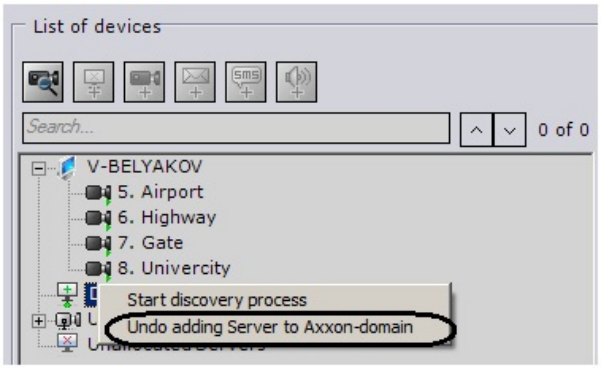


Note

If a Server is not currently accessible when it is added to an Axxon Domain, it will be displayed in the object tree with the icon



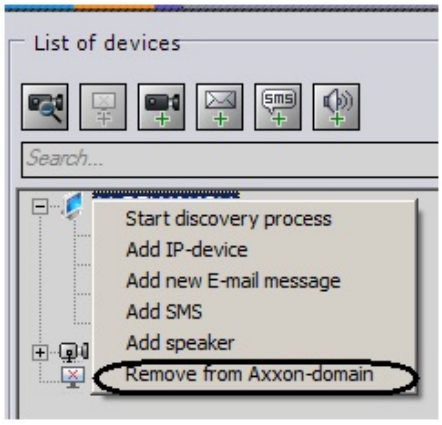
The Server will be added to the Axxon Domain as soon as the Server becomes accessible. To cancel the addition of a Server to the Axxon Domain, you must select **Undo adding Server to Axxon Domain** from the context menu (by right-clicking on the Server name).



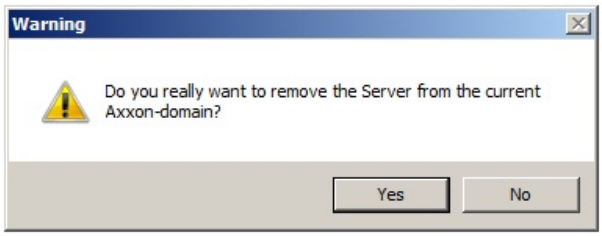
Removing a Server from an Axxon Domain

Any Server on an Axxon Domain can be used to remove a Server from an Axxon Domain.
To remove a Server from an Axxon Domain, you must perform the following steps:

1. Select the option **Remove from Axxon Domain** in the context menu of the Server (the menu can be brought up by right-clicking the name of the Server).



2. In the window which appears, confirm that you want to remove the Server from the Axxon Domain by clicking the **Yes** button.



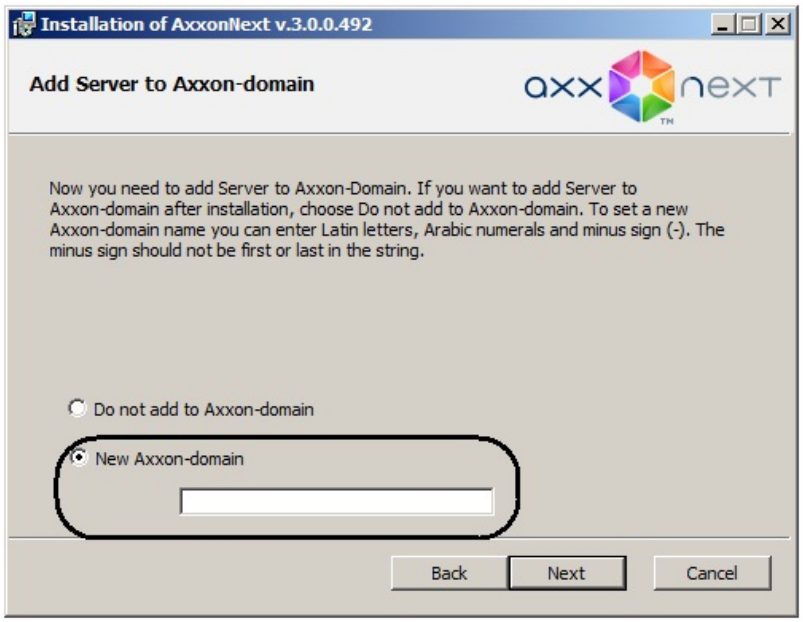
The Server will then be removed from the Axxon Domain. If the current Client was connected to the excluded Server, the user interfaces will be unloaded and the user will be prompted to repeat the authorization procedure for Axxon Next (see the section Startup).

Cases of Axxon Domain configuration

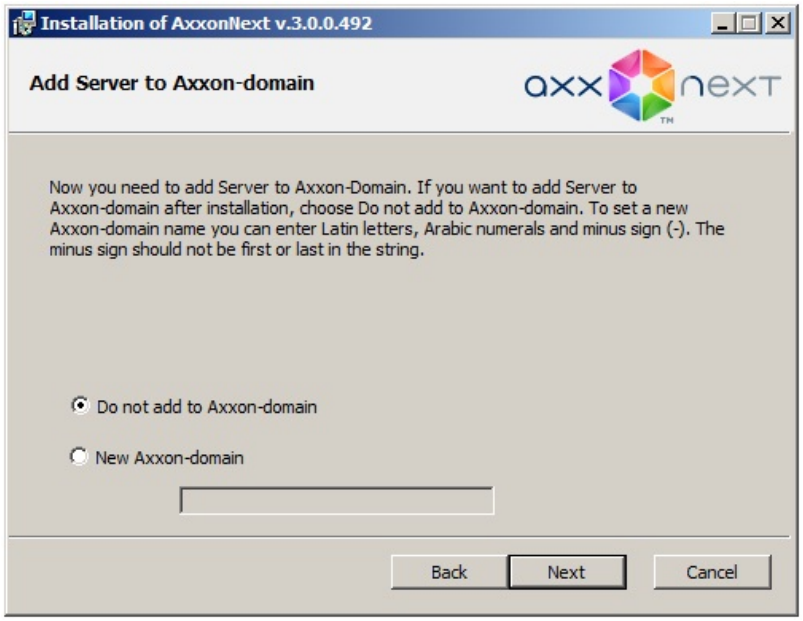
All possible cases of Axxon Domain configuration are, to some degree, a combination of two typical cases.
In the first typical case, the Servers for the future Axxon Domain are selected before Axxon Next installation. This case involves the following steps:

1. Selecting a Server on the basis of which the new Axxon Domain will be created. Installing the Axxon Next software package with the Server and Client configuration type, indicating the name of the new Axxon Domain (see also step 8 of the instructions in the section Installation).

> **Note**
>
> Any Server in the future Axxon Domain can be selected as the primary Server



2. Installing the Axxon Next software package with the **Server and Client** configuration type on the other servers of the future Axxon Domain, without adding them to the Axxon Domain (see also step 8 of the instructions in the section Installation).



3. Connecting to the primary server.
4. Adding the remaining Servers to the Axxon Domain from the primary Server according to the instructions in the section Adding a Server to an existing Axxon Domain.

In the second typical case it is necessary to add servers which are part of another Axxon Domain to a new Axxon Domain. This case involves the following steps:

1. Excluding all the Servers which are to be added to the new Axxon Domain from their current Axxon Domains, according to the instructions in the section Removing a Server from an Axxon Domain.
2. Naming the new Axxon Domain according to the instructions in the section Creating a new domain, when attempting to connect to one of the Servers excluded in step 1.
3. Adding the remaining Servers to the Axxon Domain from the primary Server according to the instructions in the section Adding a Server to an existing Axxon Domain.

Preliminary Configuration of Devices

When you launch the Axxon Next software package for the first time, you can perform the following preparatory operations:

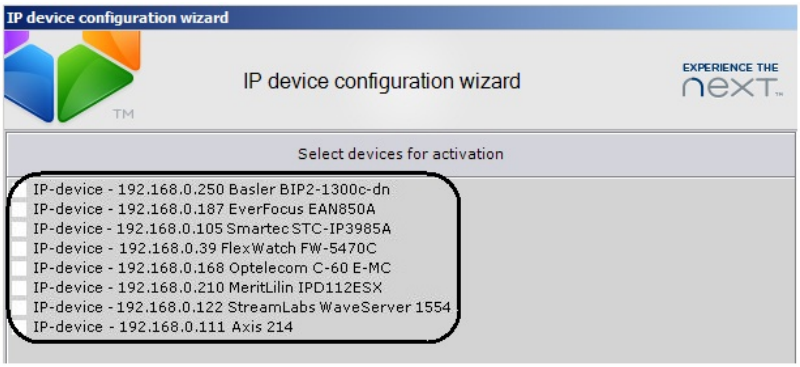
1. Selecting IP devices to register as objects.
2. Configuring a default archive for selected IP devices.

> **Note**
>
> A default archive is one in which records are made when an operator initiates an alarm

To do this, click **Yes** in the **IP device configuration application** dialog box (**1**).

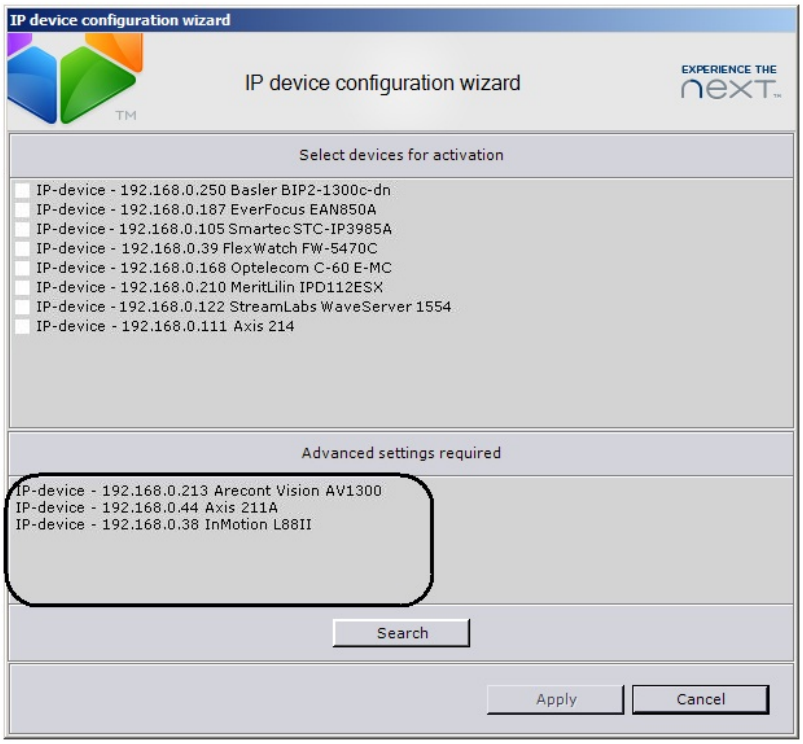
> **Note**
>
> To skip the preparatory stage when launching Axxon Next, click No (**2**)

When you do this, the IP device configuration application will launch.



When you launch this application, the program will automatically search for connected IP devices. Devices which are found are displayed in the **Select devices for activation** list.

> **Note**
>
> IP devices whose vendor, model and/or firmware version has not been determined are displayed in the Advanced configuration required

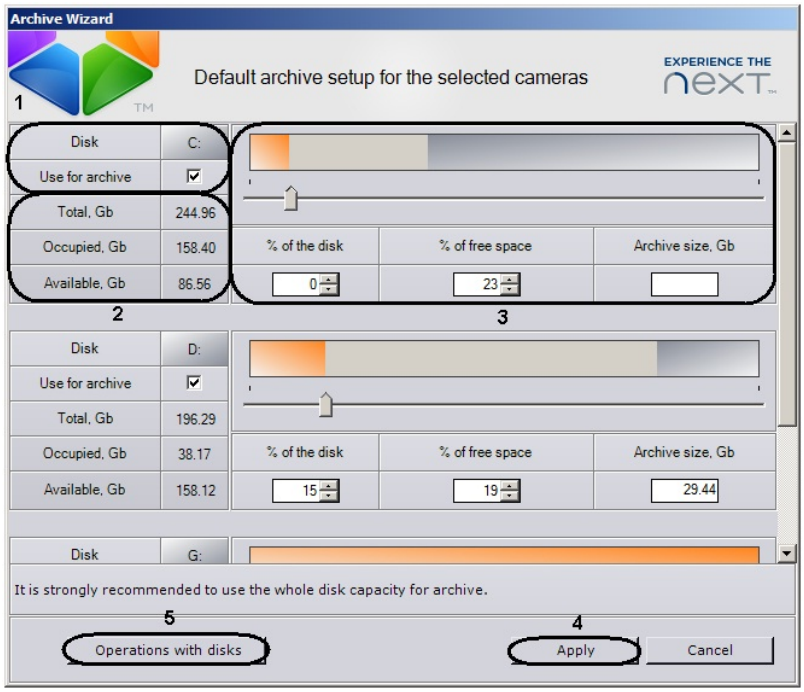


In the **Select devices for activation** list, select the check boxes for those devices which need to be registered as Axxon Next objects and then click **Apply**.

If you need to search for IP devices again, click **Search**.

After closing the IP device configuration application (by clicking **Apply** or **Cancel**), the user will be

prompted to configure the default archive for the video cameras (IP devices) selected in the first step.



To skip configuration of the default archive for the selected video cameras and start the Axxon Next software package, click the **Cancel** button.
To configure the archive, you must perform the following steps:

1. Select the **Use for archive** check boxes for the disks which are to be used to store the default archive (**1**).

   > **Note**
   >
   > The following information is provided for each disk: total volume, total occupied space, and total free space (**2**)

2. If you need to use an archive volume already located on the disk, select the Use current volume check box (**3**).

   > **Note**
   >
   > The size of the existing volume is indicated in the **Use current volume** fiel d

3. Specify the archive size (minimum of 1 GB) for each selected disk (**3**). You can specify the archive size by using one of the following four methods:

   a. Move the slider to the position corresponding to the volume of disk space allotted for the archive.

   b. Manually enter the archive size as a percentage of total disk space (in the **% of the disk** field).

   c. Manually enter the archive size as a percentage of free disk space (in the **% of free space** field).

   d. Manually enter the archive size in gigabytes (in the **Archive size, GB** field).

Note

The archive size assignment field and slider are dynamically linked; the values in the fields change as the slider moves, and vice versa

Note

The diagram over the slider serves as a graphic representation of the disk space used: gray represents used space, and orange represents the space allotted for the archive being created

Note

To allot an entire volume for an archive, you must first manually delete the file system on the disk. To do this, follow the steps below:

a. Launch the Windows Disk Management (***5***).

b. Delete the required volume.

c. Create a new volume in the resulting unformatted area.

d. Assign a letter to the volume, but do not format it.

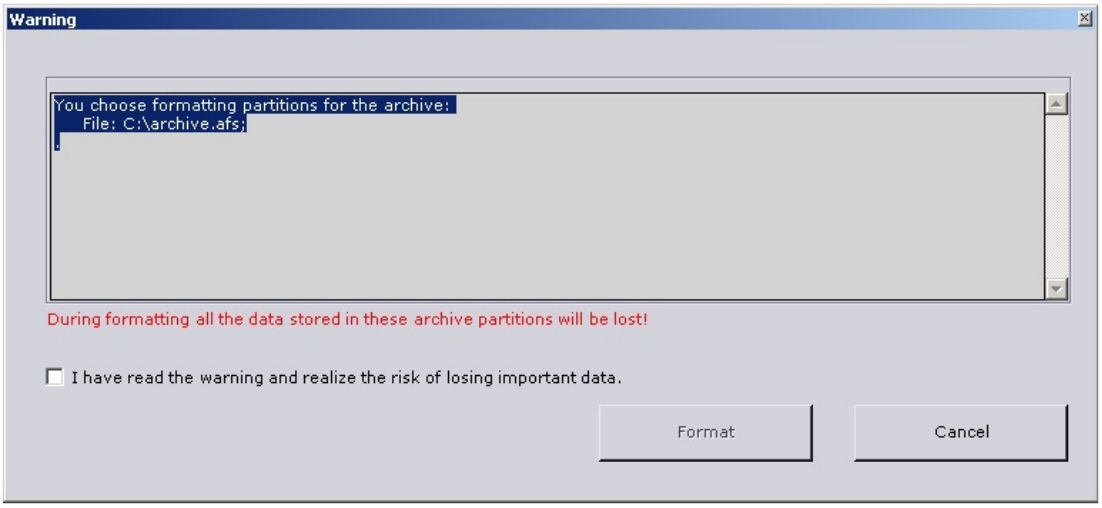
Attention!

The system disk cannot be completely allocated for an archive

4. Click **Apply** (**4**).

Note

If an archive is configured to a disk containing an old volume that is unused, a dialog box warns you that the partition containing the archive volume will be formatted



Read through the list of partitions that will be formatted. If the list is correct, select **I have read the warning and realize the risk of losing important data**, then click **Format**. Otherwise, click **Cancel** to return to preliminary archive settings.
Configuration of the default archive is complete.

Configuring System Objects for Devices

Play corresponding video

The Server Object

The **General Settings** group displays information about the software package (license, driver version, etc.) which cannot be edited.

The web server in the *Axxon Next* software package can be configured in the **Web Server** group of settings (see the section Configuring the web server).

Play corresponding video

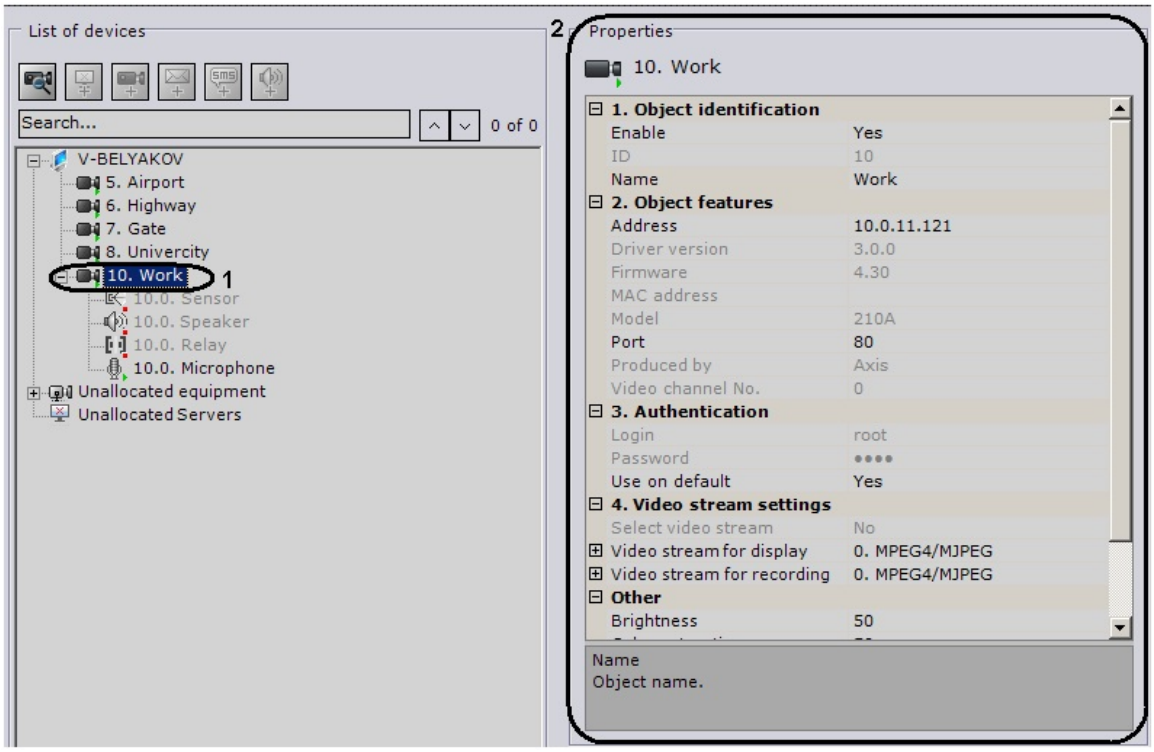
The Video Camera Object

Creation and configuration of the **Video camera** object is done in the **Hardware** tab. The object tree of a video camera is generated automatically according to its functions which are integrated into the Axxon Next software package (the presence of alarm inputs, relay outputs, PTZ unit, etc.).
The objects for the video cameras found on the network are first shown in the **Unallocated Equipment** list. After these objects have been moved to the list of server equipment, their configurations will be accessible for editing.
In the **Object Features** group you can see the following video camera features:

1. MAC address
2. IP address (determined automatically, can be changed if necessary)
3. Manufacturer, model, firmware
4. Driver information
5. Port used to transmit data between the video camera and the Axxon Next software package (this value is set to 80 by default but can be changed if necessary)

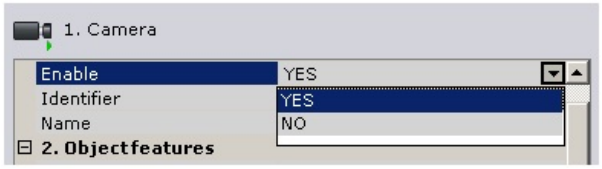
To configure the **Video camera** object, perform the following:

1. Highlight the object in the list of devices on the Server (**1**).



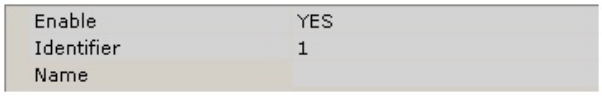
The configuration field for the selected object will be displayed in the area on the right (**2**).

2. Select **Yes** from the list in the **Enable** field to enable the video camera.



3. Assign the video camera a name which will be displayed in the objects tree and in the viewing tile, in the **Name** field.

   The ID of a video camera object is set automatically during creation. However, it can be edited in the corresponding field. The ID is also the serial number of the video camera: in the**Monitor** interface window and in the equipment tree of the server, the video cameras are placed in ascending order by ID.



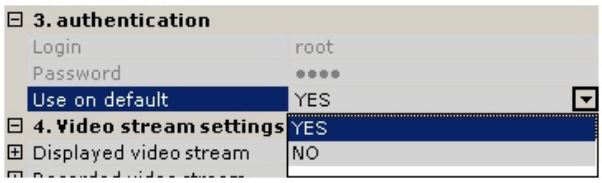
4. Enter the number of the network port through which data exchange between the video camera and the software will take place, if needed. The default value is **80**.

> **Note**
>
> At first the port number is set through the camera's Web interface

5. If the user name and/or password for connecting to the video camera are different from the factory settings, select **No** in the **Use by default** field within the **Authentication** paramete

r group and define the connection parameters.

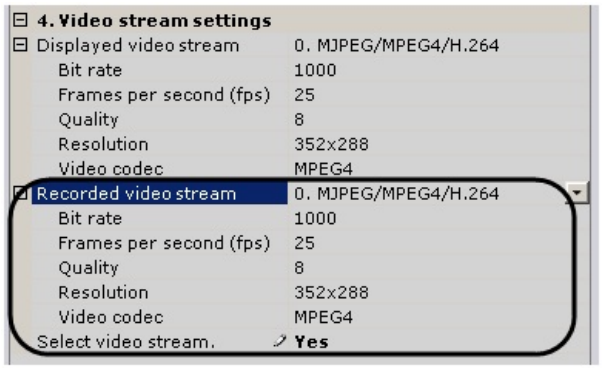
> **Note**
>
> The user name and password can be changed in the video camera's web interface



When this method of authentication is selected, the software package will connect to the video camera with the indicated user name and password.

6. If the video camera supports the simultaneous transmission of several video streams, you can separately configure a video stream for recording to the archive and a video stream for display in viewing tiles. To do this, in the **Video stream selection** list, select **Yes**. If this function is not supported by the video camera, the value of this parameter will not be active.

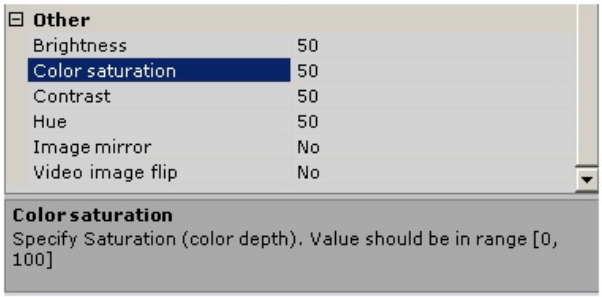
If the video camera does not support simultaneous transmission of several video streams, the parameters of the video streams for recording and for display are identical. In this case only the parameters of the video stream for recording are accessible for editing (the parameters of the video stream for display change automatically).



> **Note**
>
> In most cases, the following parameters are set for video streams: bit rate, compression rate, frame rate, and resolution. Detailed information on configurable parameters can be found in the official reference documentation for the video camera

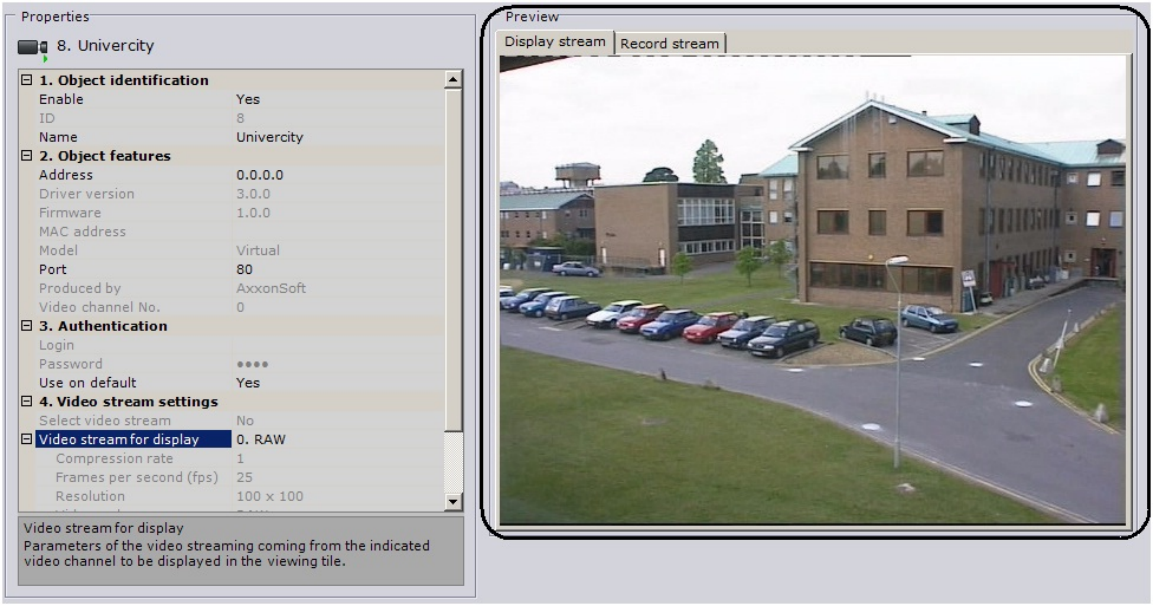
> **Note**
>
> When some video stream parameters are changed, the video camera may automatically restart, in which case it will become unavailable for some time (depending on the video camera)

7. Configure additional video camera parameters (such as contrast, brightness, and color saturation) in the **Other** group, based on their description in the Axxon Next interface or in more detail in the official reference documentation for the video camera.



8. Click **Apply** in the bottom-right corner of the program window to apply the new settings.

After saving the settings, the video camera will be activated and shifted to the work mode that corresponds to the set parameters. The **Video camera** icon indicator will turn green and the image from the camera will be displayed in the preview window.

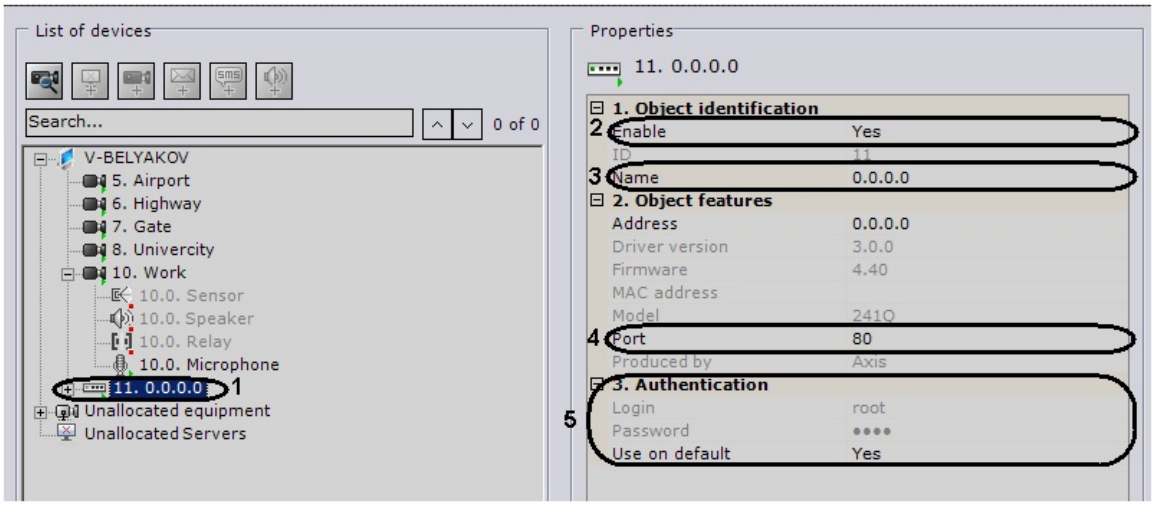


The IP Server Object

Every channel between an analog video camera and an IP server corresponds to a child **Camera** o f the **IP server** object. Configuration of these objects represents the configuration of the IP server's channels.

To configure the IP server parent object, perform the following:

1. Select the IP server object in the objects tree (**1**).



2. Select **Yes** from the list in the **Enable** field to enable the object (**2**).
3. Enter the name of the IP server in the Name field (**3**).
4. Specify the number of the network port (**4**). The default value is **80**.

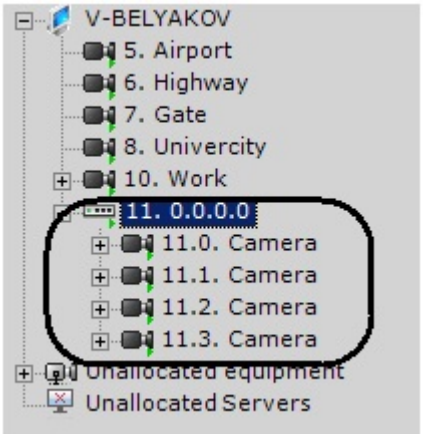
> **Note**
>
> The port number is initially set through the IP server's web interface

5. Set the authentication mode (**5**)

> **Note**
>
> The login and password for connecting to the IP server are set through its Web interface

6. Click the **Apply** button.

The IP server and its video cameras will then be enabled, and the icon indicators for the IP server and video cameras in the objects tree will turn green.



Configuration of IP server channels must be performed separately for each channel (with the help of child objects of **Video camera**).

The Microphone Object

If a microphone is physically connected to the system independent of a video camera, then you must specify the video camera to which it will be linked in the settings of the given microphone. When you do this, the **Microphone** object will become a child of the specified **Camer**a object.

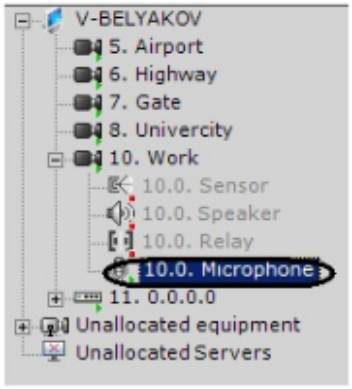
> **Note**
>
> This setting is used during synchronized video and audio monitoring of a situation as well as during synchronized video and video recording to the archive (see the section Audio *Monitoring*)

> **Note**
>
> This setting is relevant only for microphones connected to IP servers. The microphone and the video camera to which it is to be linked must be connected to the same IP server

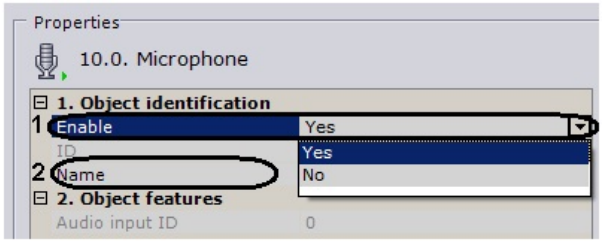
If the microphone is embedded in a video camera or physically connected to it, then its corresponding object will be automatically displayed in the objects tree as a child of that particular video camera.

To configure the **Microphone** object, perform the following:

1. Select the **Microphone** object in the objects tree.



2. Enable the microphone by selecting **Yes** in the **Enable** field (**1**).



3. Enter the name of the microphone in the **Name** field (**2**).

4. Configure additional microphone parameters (audio codec, bit rate, etc.) in the **Other** group using their descriptions in the interface of the Axxon Next software package or, for more detail, in the official reference documentation of the parent video camera.

5. Click the **Apply** button.

The microphone will then be switched to its assigned work mode.

To check the microphone's operation, you must perform the following steps:

1. Select the **Sound on/off** check box in the **Summary** group.

2. Provide an audio signal to the microphone.

3. If the microphone is configured correctly, the audio signal will be transmitted to the server's speakers. The strength of the incoming audio signal will be displayed on the indicator to the right of the **Sound on/off** check box.

Checking microphone operation is now complete.

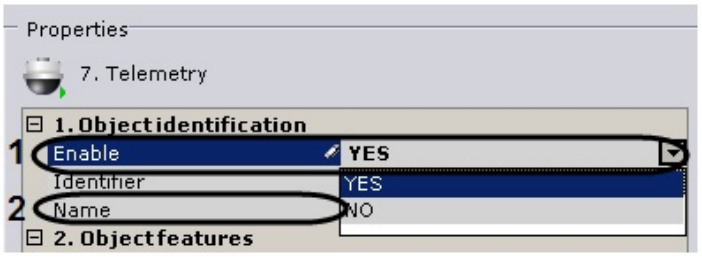
Play corresponding video

The Telemetry Object

The **Telemetry** object displays the characteristics of the PTZ device that should be connected to a PTZ video camera.
To configure a **Telemetry** object, perform the following:

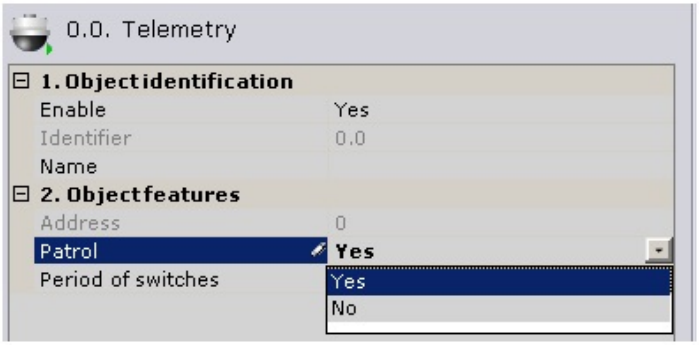
1. Select the Telemetry object in the objects tree

2. Enable the PTZ device by selecting **Yes** in the **Enable** field (**1**).



3. Enter the name of the PTZ device (**2**).

4. Enable patrol mode. When patrolling is enabled, the video camera automatically changes its position along a route defined in its presets list

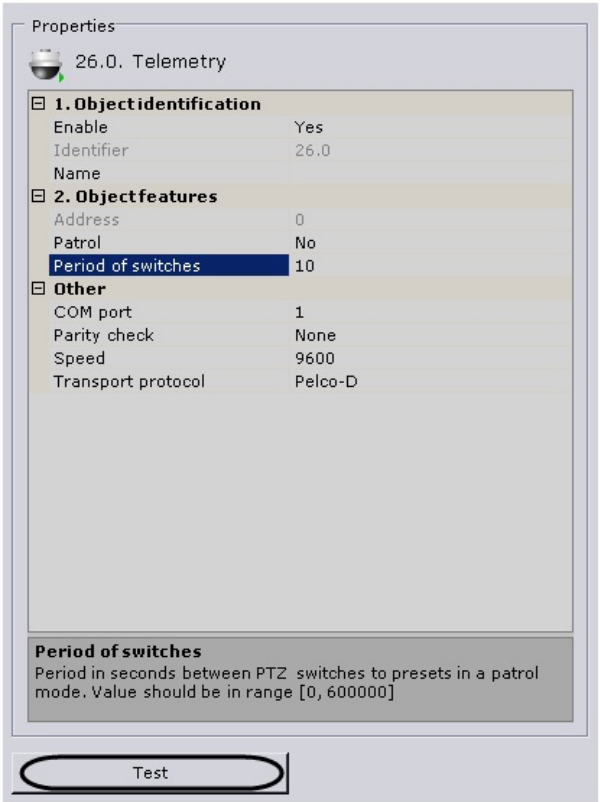


> **Note**
>
> Patrolling is enabled through the **Patrolling** button in the PTZ camera control panel (see the section titled Patrolling).

5. Set the interval of time (in seconds) at which the PTZ device will switch between presets while in Patrol mode.

6. Click the **Apply** button.

The PTZ device will then be switched to its assigned work mode.
To check the functioning of the PTZ device, click the **Test** button**.** If the PTZ device is configured correctly, it will turn one step and return to its original position.



Play corresponding video

The Sensor Object

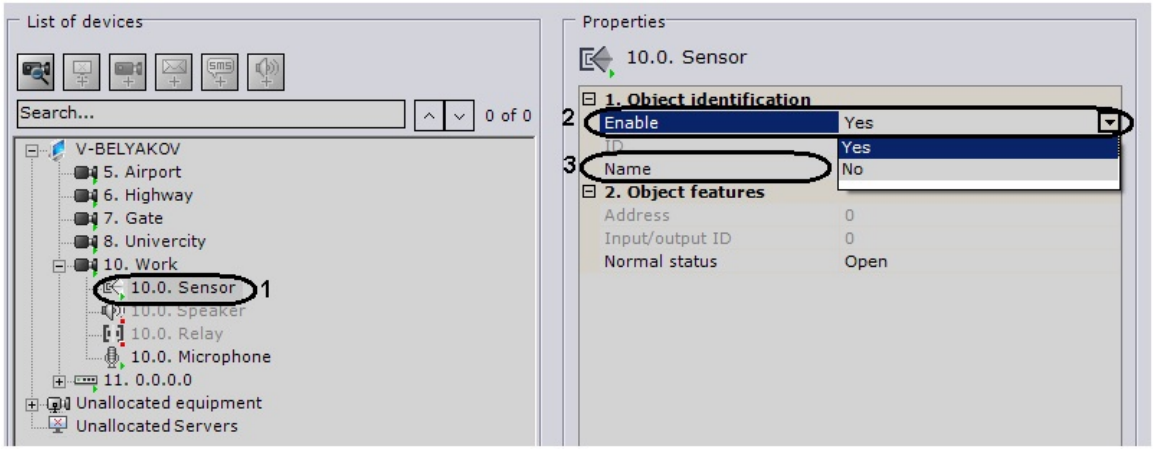
If a sensor is physically connected to the system independently of a video camera, then you must specify the video camera to which it will be linked in the settings of the given sensor. When you do this, the **Sensor** object will appear under the specified **Camera** object in the object tree.

> **Note**
>
> This setting is used to link alarms initiated by the triggering of a sensor to a video camera

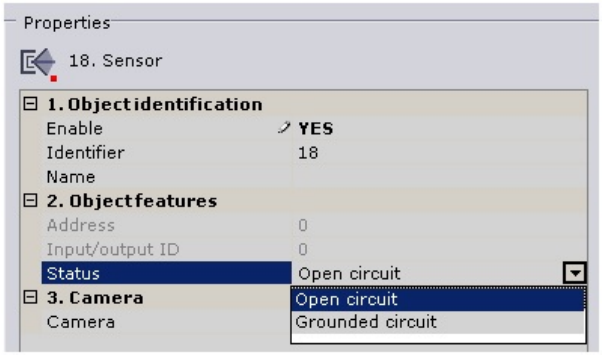
> **Note**
>
> This setting is relevant only for sensors connected to IP servers. The sensor and the video camera to which it is to be linked must be connected to the same IP server

If the sensor is embedded in a video camera or physically connected to it, then its corresponding object will be automatically displayed in the objects tree as a child of that particular video camera. To configure a **Sensor** object, perform the following:

1. Select the **Sensor** object in the objects tree (**1**).

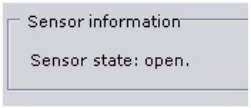


2. Enable the device (**2**).
3. Enter the name of the sensor (**3**).
4. Set the status to which the sensor will be set when no alarm is present.



5. Click the **Apply** button.

The sensor will then be switched to its assigned work mode.
The current status of the sensor is displayed in the **Sensor information** group.



Play corresponding video

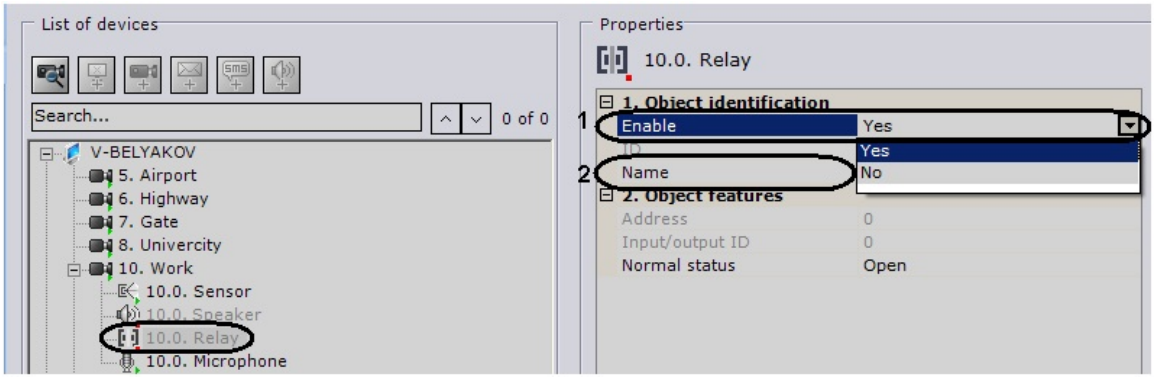
The Relay Object

If a relay is physically connected to the system independently of a video camera, then you must specify the video camera to which it will be linked in the settings of the given relay. When you do this, the Relay object will appear under the specified **Camera** object in the object tree.

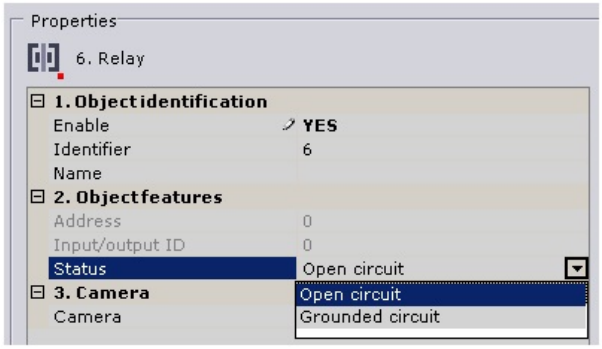
> **Note**
>
> This setting is relevant only for relays connected to IP servers. The relay and the video camera to which it is to be linked must be connected to the same IP server

If the relay is embedded in a video camera or physically connected to it, then its corresponding object will be automatically displayed in the objects tree as a child of that video camera.
To configure a **Relay** object, perform the following:

1. Select a **Relay** object in the objects tree.
2. Enable the device (**1**).

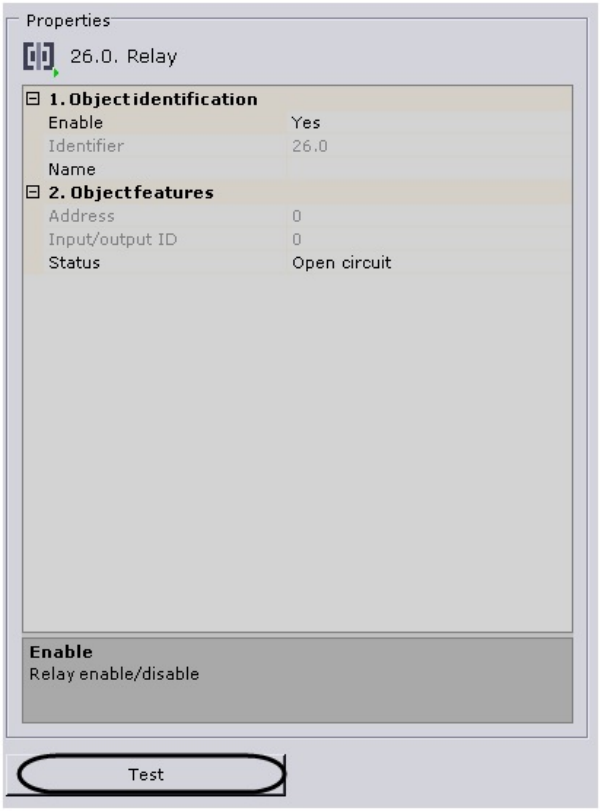


3. Enter the name of the relay (**2**).
4. Set the status to which the relay will be set when no alarm is present.



5. Click the **Apply** button.

The relay will then be switched to its assigned work mode.
To check the functioning of the relay, click the **Test** button**.** If the relay is configured correctly, its status will briefly change.



Play corresponding video

The Speaker Object

The **Speaker** object is used to configure audio notification, which is launched as an automatic response when a detection tool is triggered.

In Axxon Next you can create the following types of **Speaker** objects:

1. **IP speaker device.** Created automatically if there is an audio outlet on an IP device.

> **Note**
>
> One audio outlet on an IP device corresponds to one child **Speaker** of the **Camera** object

2. **System speaker.** Created manually. Sound on the system speaker is played back using the server's sound card.

A **Speaker** object can play audio notification files with the extensions:

1. .wav
2. .mp3
3. .mkv
4. .avi

The following audio notification file encoding formats are supported:

1. G.711
2. G.726
3. PCM

The audio notification file should be stored on the computer corresponding to the **Server** object

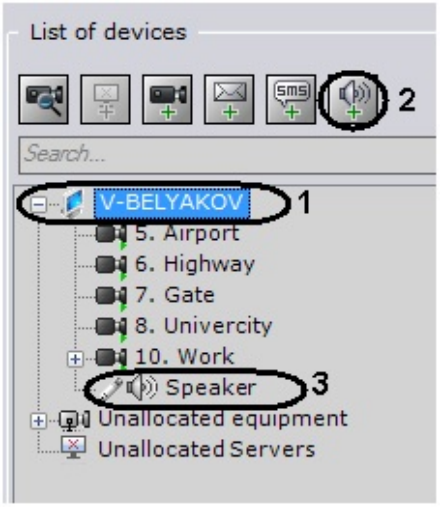
on the basis of which the **Speaker** object is registered.

Play corresponding video

Creating an Object

To create a **Speaker** system object, you must perform the following steps:

1. In the list of devices, highlight a **Server** object (**1**).



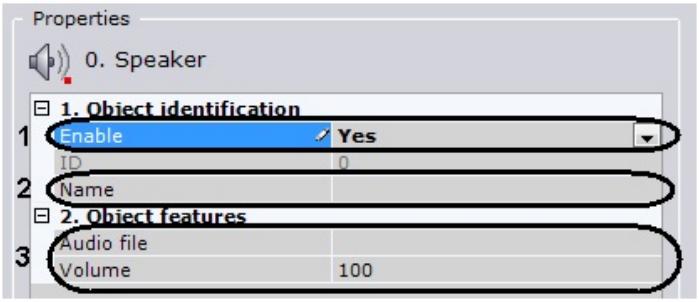
2. Click the  button (**2**).
3. Click the **Apply** button.
4. When you do this, the **Speaker** object appears in the list of devices (**3**).

Creation of the **Speaker** object is complete.

Configuring a Speaker Object

To configure a **Speaker** object, you must perform the following steps:

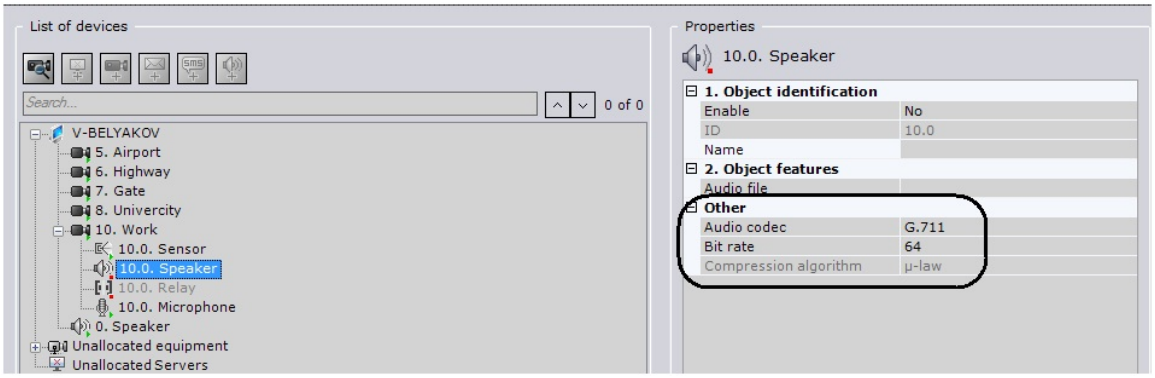
1. In the list of devices, highlight the **Speaker** object which needs to be configured.



2. Select **Yes** from the list in the **Enable** field to activate the **Speaker** object (**1**).
3. In the **Name** field (**2**), enter the desired name of the **Speaker** object.
4. In the **Audio file** field (**3**), enter the full path to the audio notification file.
5. In the **Volume** field (**4**), enter the desired speaker volume level.

Note

When configuring the speaker of an IP device, you can set other parameters as well, such as the compression algorithm for the audio signal sent to the speaker for playback. Which speaker parameters you can configure is determined by the protocol for integration of the IP device and the Axxon Next software package

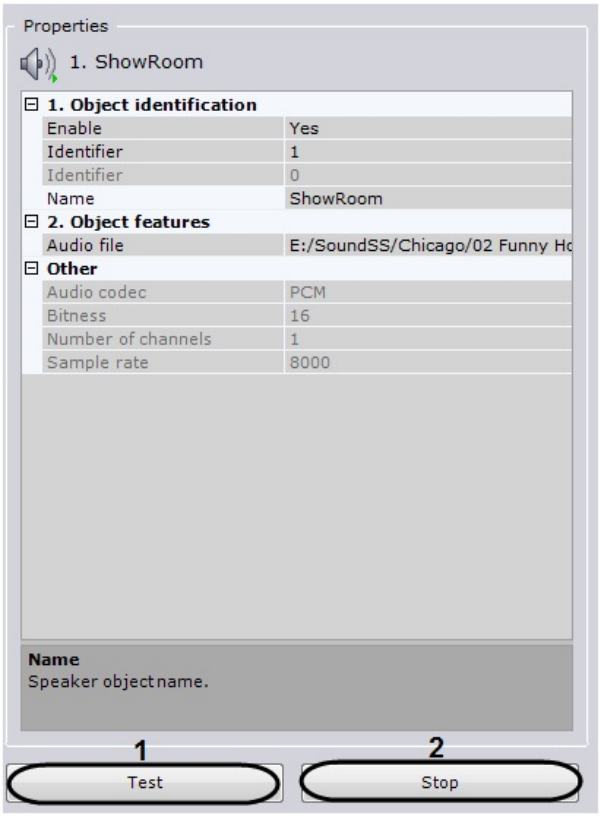


6. Click the **Apply** button.

Configuration of the **Speaker** object is now complete.

Checking Audio Notification

To check audio notification from a **Speaker** object, click the **Test** button (**1**).



When you do this, the audio notification file whose path you indicated in the corresponding field plays back (see the section Configuring a Speaker Object). To stop the test playback, click the **Stop** button (**2**).

The E-mail Object

The **E-mail** object is used to configure electronic messages which can then be sent to a user as an automatic response when a detection tool is triggered.

Play corresponding video

Creating the E-mail Object

To create an **E-mail** object, you must perform the following steps:

1. In the list of devices, highlight a **Server** object (**1**).

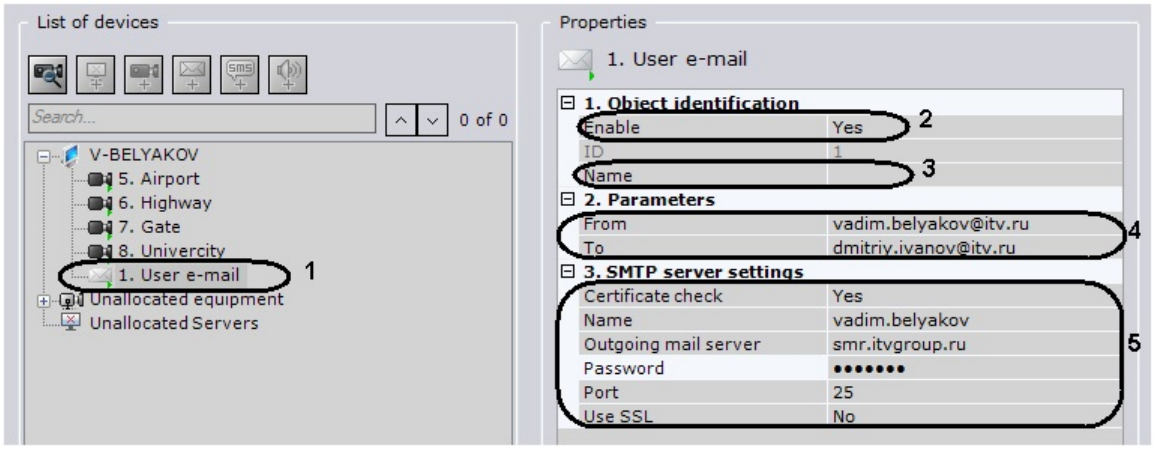
2. Click the  button (**2**).
3. Click the **Apply** button.
4. When you do this, an **E-mail** object appears in the list of devices (**3**).

Creation of the **E-mail** object is now complete.

Configuring the E-mail Object

To configure an **E-mail** object, you must perform the following steps:

1. In the list of devices, highlight the **E-mail** object which needs to be configured (**1**).



2. Activate the **E-mail** object (**2**) by selecting **Yes** in the **Enable** list.
3. In the **Name** field (**3**) enter the desired name of the **E-mail** object.
4. In the **Notification delivery parameters** field (**4**) , set the delivery parameters for the e-mail message:
   a. In the **To** field, enter the e-mail address to which the messages will be sent.
   b. In the **From** field, enter the e-mail address from which the messages will be sent.
5. In the **SMTP server settings** field (**5**) , enter the settings of the outgoing mail server:

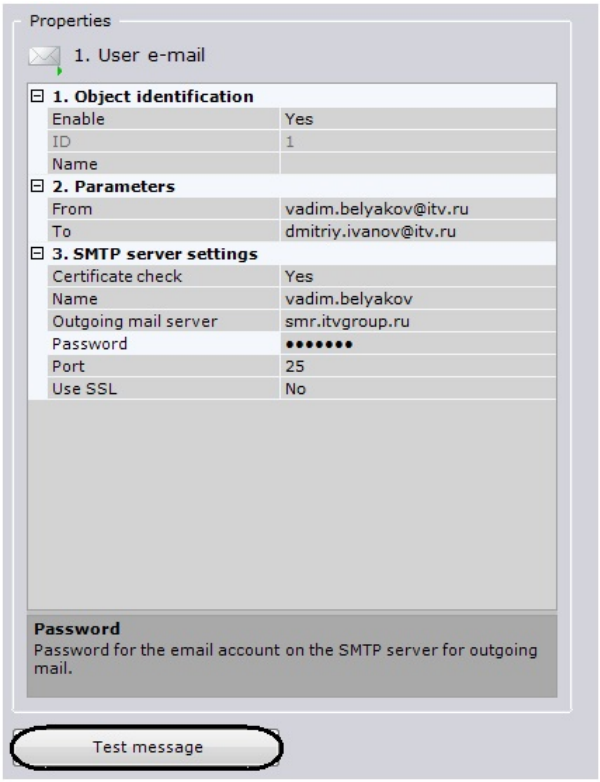
a. In the **Name** field, enter the name of the user account used to send messages on the outgoing mail server.
b. If you need to use an SSL-encrypted connection when connecting to the outgoing mail server, select **Yes** from the **Use SSL** list.
c. In the **Password** field, enter the password for the user account on the outgoing mail server.
d. In the **Port** field, enter the number of the port used by the outgoing mail server.
e. If, when using an encrypted connection, the SSL certificate must be checked, select **Yes** from the **Certificate check** list.
f. In the **Outgoing mail server** field, enter the name of the outgoing SMTP mail server.

6. Click the **Apply** button.

Configuration of the **E-mail** object is now complete.

Checking E-mail Notification

To check e-mail notification from an **E-mail** object, send a test message by clicking the **Test message** button.



When you do this, the following message is sent to the e-mail address indicated in the **To** field (see the section Configuring the E-mail Object): "This is a test message to check Axxon Next E-mail notification."

> **Note**
>
> If the recipient does not receive the message, make sure that the settings of the **E-mail** object have been properly configured

The SMS Object

The **SMS** object is used to configure SMS messages which can then be sent to users as an automatic response when a detection tool is triggered.

> **Note**
>
> If a USB modem is used to send SMS messages, use the modem utility from the modem software bundle. It will unlock the modem for correct operation

Creating the SMS Object

To create an **SMS** object, you must perform the following steps:

1. In the list of devices, highlight a **Server** object (**1**)

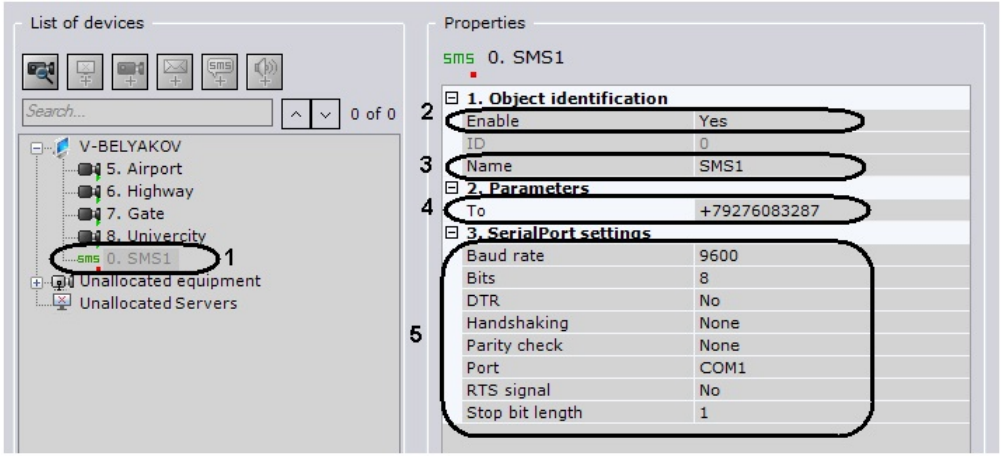
2. Click the  button (**2**).
3. Click the **Apply** button.
4. When you do this, the **SMS** object appears in the list of devices (**3**).

Creation of the **SMS** object is now complete.

Configuring the SMS Object

To configure an **SMS** object, you must perform the following steps:

1. In the list of devices, highlight the **SMS** object which needs to be configured (**1**).



2. Activate the **SMS** object (**2**) by selecting **Yes** in the **Enable** list.
3. In the **Name** field (**3**) enter the desired name of the **SMS** object.
4. In the **To** field (**4**), enter the cellular telephone number, in international format (+*<country code>xxxxxxxxxx*), to which messages will be sent.
5. In the **SerialPort settings** group (**5**), indicate the port settings used to connect to the GSM modem by which SMS messages will be sent:
   a. If you need to use a DTR control signal, select **Yes** from the **DTR** list.

b. In the **Bits** field, enter the number of bits in the byte of a data packet.
c. In the **Stop bits length** field, enter the number of bits in the stop bit of a data packet.
d. If you need to use a parity check when transmitting data, select the desired method of parity check from the Parity list.
e. From the **Port** list, select the serial port used to connect to the GSM modem.
f. If hardware control of the serial port data protocol is enabled (see step 5.8) and you need to use an RTS signal, select **Yes** from the **RTS signal** list.
g. Select the speed for data transmission via the GSM modem from the **Baud rate** list.
h. If you need to control the serial port data protocol, select the desired method of control from the **Handshaking** list: hardware (RTS/STS), software (XOn/XOff), or alternating.

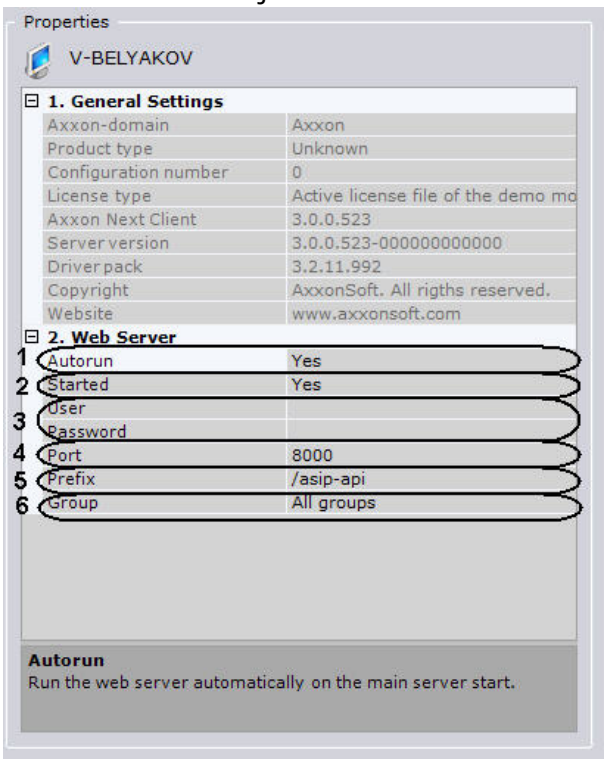
6. Click the **Apply** button.

Configuration of the **SMS** object is now complete.

Configuring the web server

To configure the web server in the *Axxon Next* software package:

1. Select a **Server** object.



2. If you want for the web server to start at the same time as the Server in the *Axxon Next* sof tware package, set the **Autorun** setting to **Yes** (**1**). The default value is **Yes**.
3. If you want to disable the web server, set the value of **Started** to **No** (**2**).
4. In the corresponding fields, enter the user name and password for connecting to the web server (**3**).
5. In the **Port** field, enter the port number on which the web server will be located (**4**).
6. In the **Prefix** field, enter the prefix that is added to the server address (**5**).
7. In the **Group** list, select the group of video cameras that you want to make accessible on the web server (**6**).
8. Click the **Apply** button.

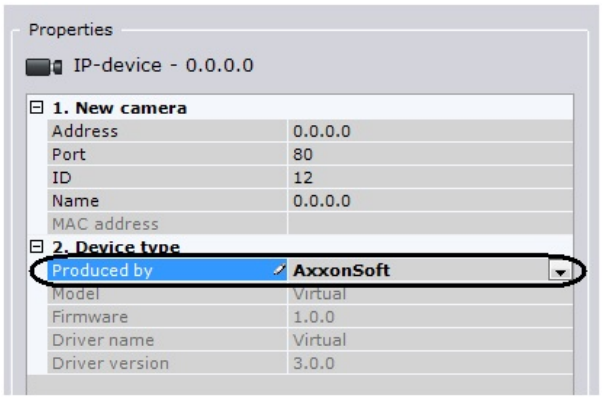
The web server is now configured and available over the Internet at the following address: http://<IP address of Axxon Next Server>:<Port>/<Prefix>. For example, if the server's IP address is **10.0.11.1**, the port is **8000**, and the prefix is **/asip-api**, then the web server can be accessed at the following address: http://10.0.11.1:8000/asip-api.

Play corresponding video

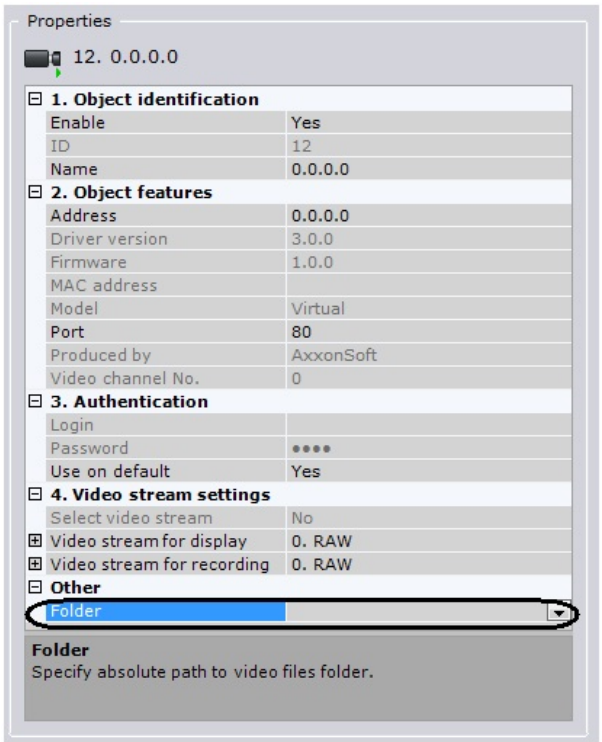
Configuring virtual video cameras

The *Axxon Next* software package enables you to work with virtual video cameras.
This requires running *Axxon Next* in test mode and consists of imitating a stream of video data by playing an available video clip (recording). You can play video recordings using video compression algorithms supported by Axxon Next (MJPEG, MPEG-2, MPEG-4, MxPEG, H.264, and Motion Wavelet).
To create and configure a virtual video camera, complete the following steps:

1. Add a **Video camera** object.



2. Select **AxxonSoft** from the **Produced by** list and click **Apply**.
3. In the **Folder** field, specify the storage location of the video clip that will be used to imitate a video signal.



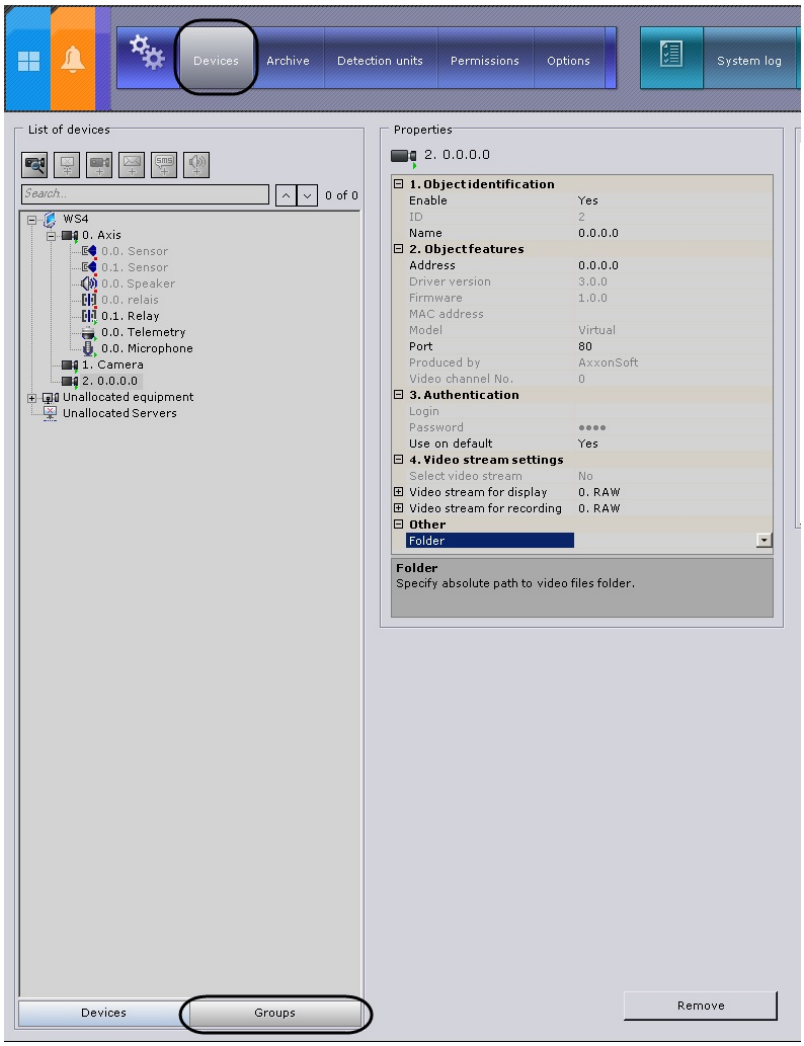
4. Click the **Apply** button.

The video file in the selected folder will then be played back in a repeating cycle. If the folder contains several files, they will all be played in a random order.

Configuring video camera groups

You can manually group video cameras to enable quicker selection of a specific video camera for display.

Video camera groups are configured through the interface using the **Devices** tab (under **Settings**). To configure device groups, you must have the appropriate permissions to configure devices.



Play corresponding video

Procedure for configuring video camera groups

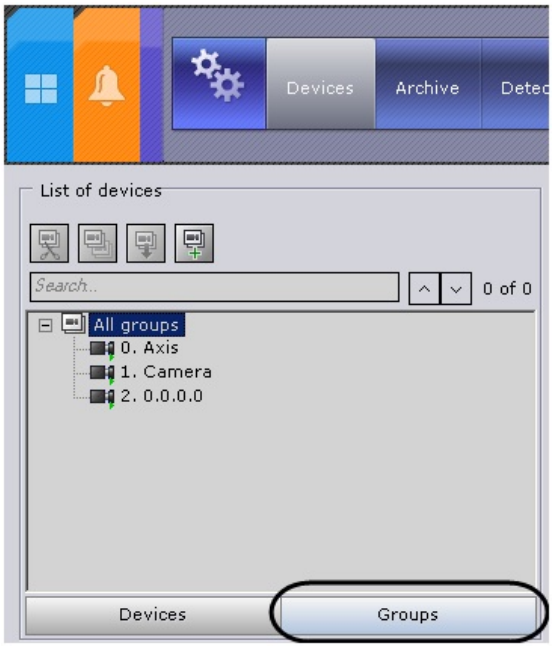
To configure video camera groups, complete the following steps:

1. Create **Group** objects.
2. Add video cameras created in the system to **Group** objects.
3. Create a system of groups and subgroups.

Creating a Group object

To create a **Group** object, complete the following steps:

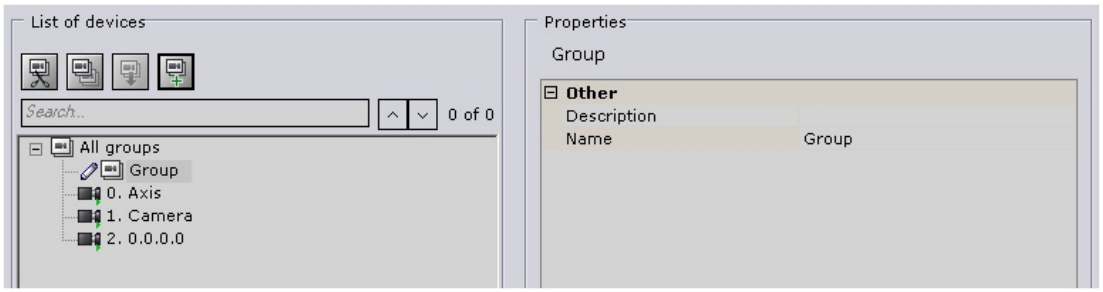
1. Go to the **Groups** tab.



2. To create a **Group** object, click the button or select **Add group** in the context menu of the **All groups** object.

> **Note**
>
> The **All groups** object, which includes all video cameras created in the system, is accessible by default. It is impossible to delete this object. It is also impossible to delete video cameras from this group

3. Specify the group name in the **Name** field.



4. Enter a description of the group in the appropriate field.
5. Click the **Apply** button.

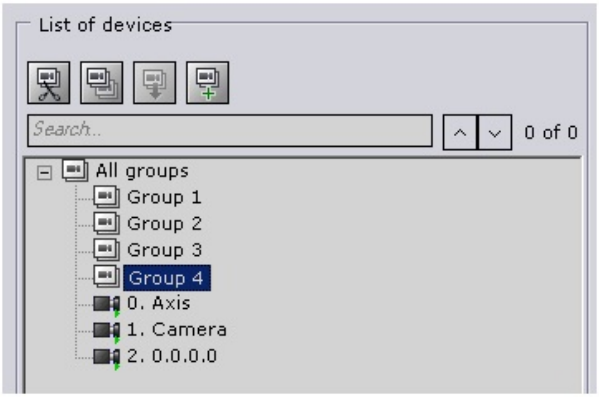
The **Group** object has now been created.

Adding video cameras created in the system to Group objects

To add video cameras to groups, complete the following steps:

> **Note**
>
> Video cameras are added to groups via management operations (see the section titled Managing Group and Video camera objects). The standard method for adding video cameras to groups is presented below

1. In the **All groups** group, select a video camera to add to the selected group.



2. Click the  button or select **Copy** from the context menu of the selected video camera.
3. Select the **Group** object to which you need to add the video camera.
4. Click the  button or select **Paste** from the context menu of the selected group.
5. Fill the groups with the necessary video cameras (see steps 1-4).

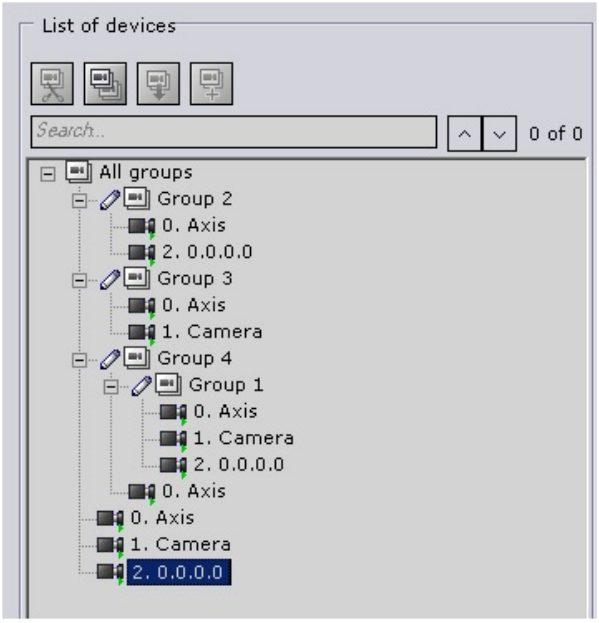
> **Note**
>
> One video camera can be assigned to multiple groups

6. Click the **Apply** button.

Adding video cameras to groups is now complete.

Creating a system of groups and subgroups

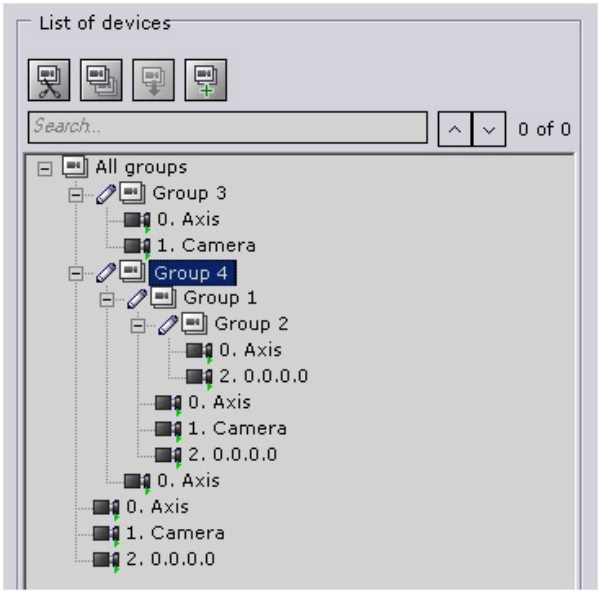
Groups can be included within other groups, forming a system of groups and subgroups.



A system of groups and subgroups can be created via group management operations and video camera management operations (see the section titled Managing Group and Video camera objects).
Group objects can be moved or copied into other **Group** objects or into the **All groups** object. However, you cannot insert **Group** objects into their own subgroups.

Note

For example, in the scenario displayed below you cannot add the **Group 4** object into the **Group 1** or **Group 2** objects



If you nonetheless attempt to add a **Group** object into its own subgroup, you will receive an error message.

Managing Group and Video camera objects

The main operations used to manage groups and video cameras are presented in table.

Action	Execution
Cut/Paste **Note** You can cut a **Video camera** object only from a **Group** obj ect. You cannot cut a **Video camera** object from the **All groups** object. It is also impossible to cut the **All groups** object	**Using the context menu:** 1. Bring up the context menu by right-clicking the **Video camera/Group** object. 2. **Select Cut**. 3. Bring up the context menu by right-clicking the **Group** object (or the **All groups** object if you want to move one of the groups) to which you want to move the **Video camera/Group** object. 4. Select **Paste**.

	Using your mouse: 1. Left-click and hold the **Video camera/Group** object. 2. Drag the object to the **Group** object (or to the **All group**s object if you are dragging a **Group** object)). 3. Release the left mouse button.
	Using the toolbar: 1. Left-click the **Video camera/Group** object that you want to move. 2. On the toolbar, click  . 3. Left-click the **Group** object (or the **All groups** object if you want to move one of the **Group** objects) to which you want to move the **Video camera/Group** object.. 4. On the toolbar, click  .
	Using the keyboard: 1. Left-click the **Video camera/Group** object that you want to move. 2. Press the key combination **Ctrl+**X. 3. Left-click the **Group** object (or the **All groups** object if you want to move one of the **Group** objects) to which you want to move the **Video camera/Group** object.. 4. Press the key combination **Ctrl+V**.
Copy/Paste	**Using the context menu:** 1. Bring up the context menu by right-clicking the **Video camera/Group** object. 2. Select **Copy**. 3. Bring up the context menu by right-clicking the **Group** object (or the **All groups** object if you want to copy one of the groups) to which you want to move the **Video camera/Group** object. 4. Select **Paste**.
	Using your mouse: 1. Left-click and hold the **Video camera/Group** object while simultaneously holding down the **Ctrl** key. 2. Drag the selected object to the **Group** obje ct (or to the **All groups** object if you are copying a **Group** object). 3. Release the left mouse button.

	Using the toolbar: 1. Left-click the **Video camera/Group** object that you want to copy. 2. On the toolbar, click  . 3. Left-click the **Group** object (or the **All groups** object if you want to copy one of the **Group** objects) to which you want to copy the **Video camera/Group** object.. 4. On the toolbar, click  .
	Using the keyboard: 1. Left-click the **Video camera/Group** object that you want to copy. 2. Press the key combination **Ctrl+C**. 3. Left-click the **Group** object (or the **All groups** object if you want to copy one of the **Group** objects) to which you want to copy the **Video camera/Group** object.. 4. Press the key combination **Ctrl+V**.
Deletion **Note** You can delete a **Video camera** object only from a **G roup** object. You cannot delete a **Video camera** objec t from the **All groups** object	**Using the context menu:** 1. Open the context menu by right-clicking the **Video camera/Group** object that you want to delete. 2. Select **Delete**.
	Using the keyboard: 1. Left-click the **Video camera/Group** object that you want to delete. . 2. Press the **Delete** key.

Configuring detection tools

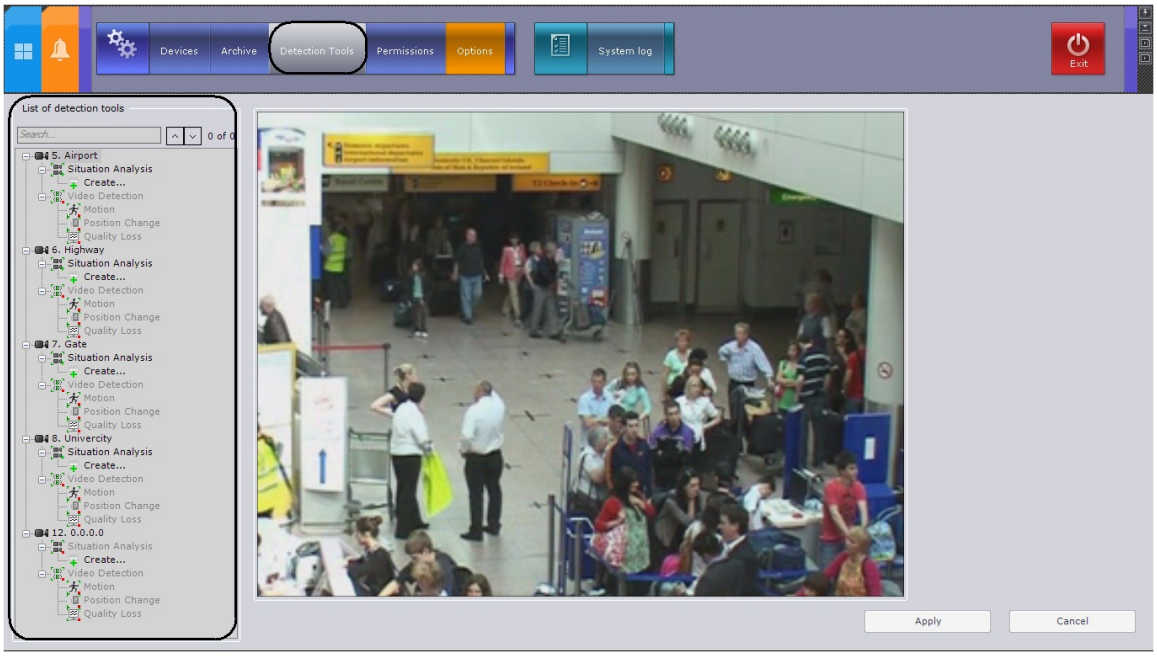
Play corresponding video

Types of detection tools

In the Axxon Next software package, several types of detection tools process incoming data:

1. Situation analysis detection tools
2. Basic detection tools:
   a. Video analytics
   b. Audio analytics
3. Detection tools embedded in a video camera (Embedded analytics):
   a. Video stream processing detection tools
   b. Detection tools which process signals from the video camera's sensor

Detection setup takes place using the interface in the **Detection Tools tab** (under **Settings**). For detection setup you must have the appropriate permissions.



The structure of the Detection Tools list consists of three levels:

1. Video cameras
2. Types of video camera detection tools
3. Video camera detection tools

> **Attention!**
>
> For a video camera and its corresponding branch to appear in the Detection Tools list, the camera must be enabled in Axxon Next

Each type of detection corresponds to a parent object:

1. **Situation Analysis**
2. **Video detection tools**
3. **Audio detection tools**
4. **Embedded analytics**
5. **Sensors**

Parent objects for those detection tools which can be configured for a video camera are created automatically depending on the camera's specifications (see the device's official reference documentation). For example, an **Audio Analytics** object is created only when there is an audio outlet on the video camera, and an **Embedded analytics** object is created only when there are embedded analytics.

Play corresponding video

Situation Analysis Detection Tools

Play corresponding video

Types of Situation Analysis Detection Tools

The following detection tools enable analysis of the situation in a video camera's field of view.

Name of a Detection Tool object	Detection description

Motion start	a detection tool triggered by the start of motion in an area of a video camera's field of view
Loitering	a detection tool triggered by the lengthy presence of an object in an area of a video camera's field of view
Object disappearance	a detection tool triggered by the disappearance of an object in an area of a video camera's field of view
Abandoned object	a detection tool triggered by the appearance of an abandoned object in an area of a video camera's field of view
Line crossing	a detection tool triggered by the trajectory of an object crossing a virtual line
Object appearance	a detection tool triggered by the appearance of an object in an area of a video camera's field of view
Stopping	a detection tool triggered by the cessation of motion in an area of a video camera's field of view

Procedure for Configuring Situation Analysis Detection Tools

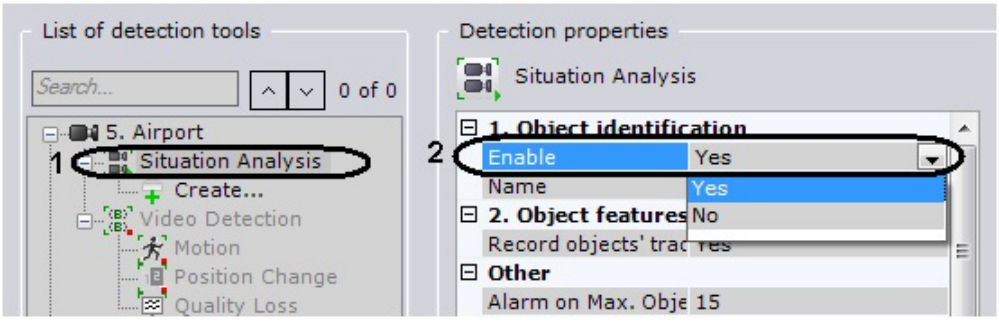
You can configure situation analysis detection tools as follows:

1. Enable situation analysis (disabled by default).
2. Set the general parameters.
3. Set common detection zones and/or masks.
4. Create objects for the required types of detection tools.
5. For each detection tool, set the virtual element (area or line) used for situation analysis.
6. Set detection parameters (only for loitering detection).
7. Check detection tool functioning with the help of the Triggers ribbon (optional, see the section Checking the Triggering of a Detection Tool).
8. For each detection tool, set rules to be automatically executed when the detection tool is triggered (see the section titled Configuring Automatic Rules).

Enabling Situation Analysis

To enable situation analysis, you must perform the following steps:

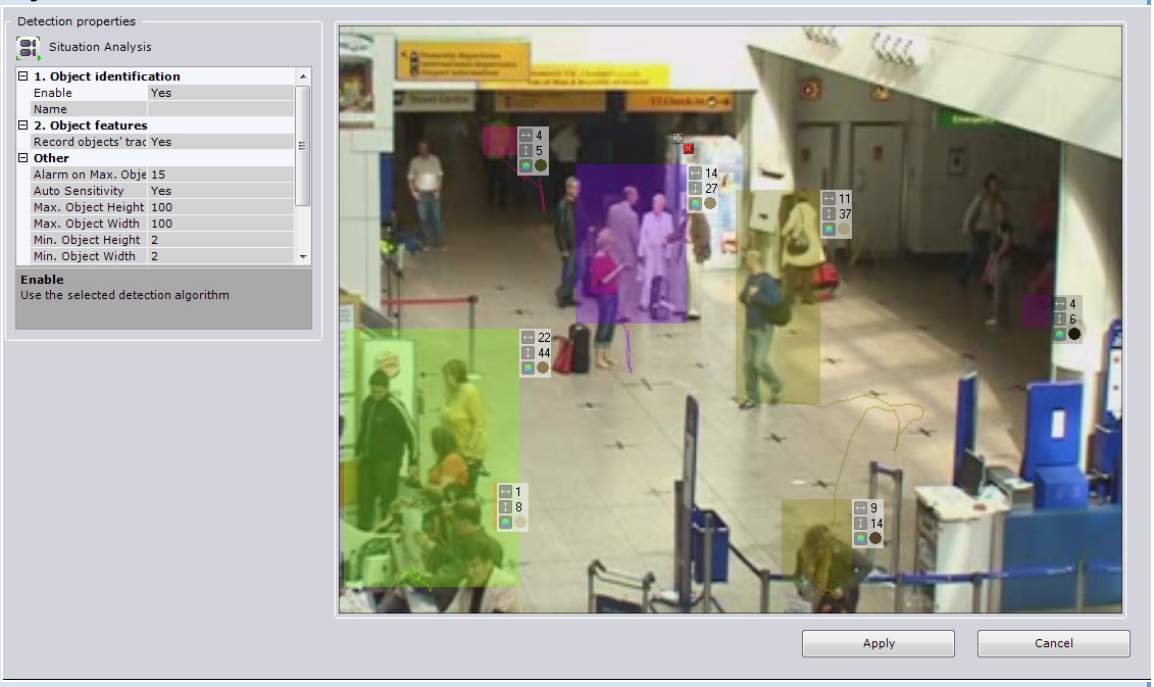
1. In the Detection Tools list, highlight a **Situation analysis** object (**1**) which offers a means of analyzing the situation in the field of view of the required video camera.



2. Select **Yes** from the **Enable** list (**2**).
3. Click the **Apply** button.

Note

After enabling situation analysis, the viewing tile will display the properties (width and height as percentages of the width and height of the frame) of tracked objects

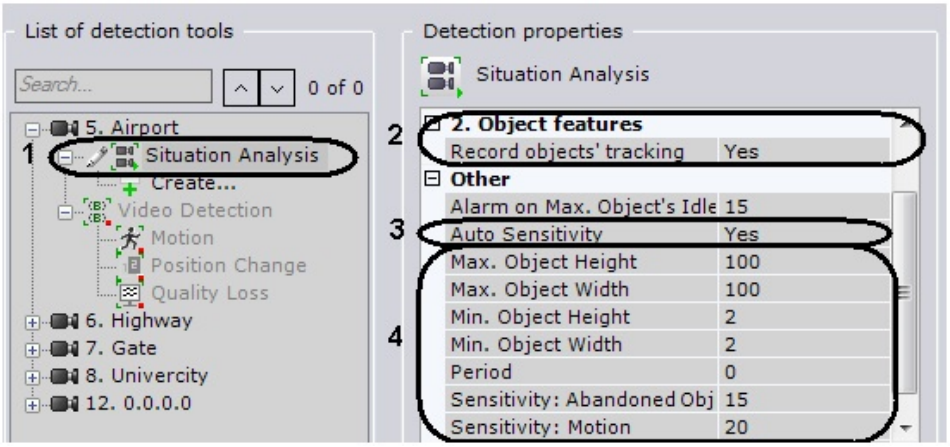


Situation analysis is now enabled.

Setting General Parameters

To set a situation analysis detection tool's general parameters, you must perform the following steps:

1. In the Detection Tools list, highlight a **Situation analysis** object (**1**) which offers a means of analyzing the situation in the field of view of the required video camera.



2. If you need to enable recording of video stream metadata, select **Yes** from the **Metadata recording** list (**2**).
3. If you require automatic adjustment of the sensitivity of scene analytic detection tools, in the **Auto Sensitivity** list, select **Yes** (**3**).

> **Note**
>
> Enabling this option is recommended if the lighting fluctuates significantly in the course of the video camera's operation (for example, in outdoor conditions)

4. In the **Maximum height** and **Maximum width** fields (**4**), enter the maximum height and width of a detectable object as a percent of the height of the video image frame. The values should be in the range [2, 100].
5. In the **Max Rest Time** field (**4**), enter the maximum rest time of an object in seconds, after which it is considered abandoned. This value should be in the range [3, 1200].

> **Note**
>
> This setting is relevant for an abandoned object detection tool

> **Note**
>
> It is recommended to start by setting the value of this parameter at 10

6. In the **Minimum height** and **Minimum width** fields (**4**), enter the minimum height and width of a detectable object as a percent of the height of the video image frame. The values should be in the range [2, 100].
7. In the **Period** field (**4**), enter the time in milliseconds. This is the period of time after which the next video frame will be analyzed. This value should be in the range [0, 65535]. If the value is **0**, each frame of the video image is analyzed.
8. In the **Sensitivity: motion** field (**4**), set the sensitivity for motion detection tools, on a scale of 1 to 80.
9. In the **Sensitivity: abandoned object** field (**4**), set the sensitivity for situational analytic tools for abandoned objects, on a scale of 5 to 30.

> **Note**
>
> These parameters depend on the lighting conditions and should be chosen empirically. It is recommended to start by setting the sensitivity at 20

10. Click the **Apply** button.

The general parameters of the situation analysis detection tools are now set.

Setting Common Detection Zones and Masks

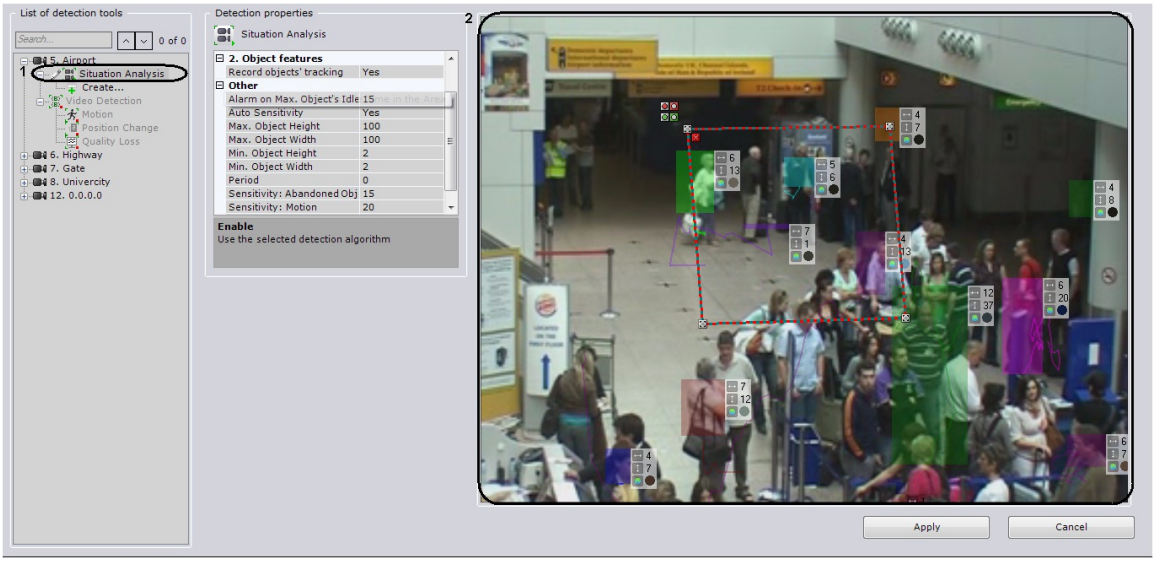
You can set detection zones and/or masks which are common to all situation analysis detection tools.

> **Note**
>
> Common zones are analyzed and common masks are ignored by all situation analysis detection tools

> **Note**
>
> Common detection masks allow you to immediately exclude from analysis those areas of a video camera's field of view which are known to be complex (leaves, water, etc.)

To set common detection zones and/or masks, you must perform the following steps:

1. In the Detection Tools list, highlight a **Situation analysis** object (**1**) which offers a means of analyzing the situation in the field of view of the required video camera.



2. In the viewing tile (**2**) set the nodes of the closed area, in order, inside or outside of which you want to create a detection zone or mask.

> **Note**
>
> When the area is being constructed, the nodes are connected by a two-color dotted line which outlines the area's borders

Action	Result
Left-click in the viewing tile	Creates a new area node
Right-click on a created node	Deletes the area node

Position the cursor on a node and hold down the left mouse button while you move the mouse	Moves the area node
Click the button	Deletes the area

3. When a closed area is set, the icon bar appears for creating detection zones or masks inside or outside the area. To utilize an icon's function, click it with the left mouse button.

Icon	Executed function
	Creates a detection mask inside the outlined area
	Creates a detection mask outside the outlined area
	Creates a detection zone inside the outlined area
	Creates a detection zone outside the outlined area

Note

If you select a mask icon, the mask created will be visualized in the viewing tile as a dimmed area

4. Repeat steps 2–3 to set the necessary common detection zones and/or masks.

> **Note**
>
> To delete an existing detection mask, you must create a detection zone inside the masked area

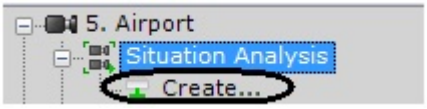
5. Click the **Apply** button.

The setting of common detection zones and/or masks is complete.

Creating a Detection Tool object

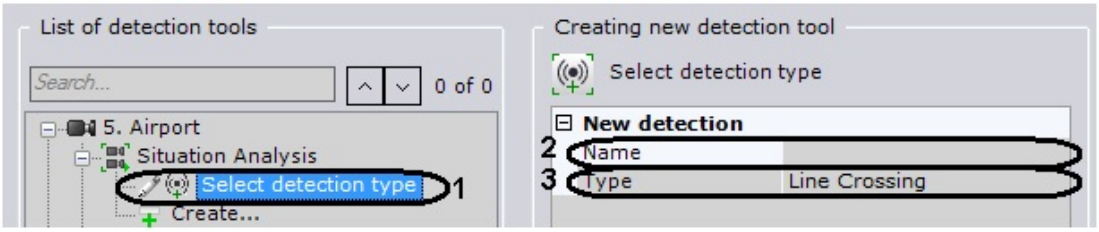
To activate the needed type of situation analysis detection, you must create the corresponding object (see the section titled Types of Situation Analysis Detection Tools).
To create a Detection Tool object, you must perform the following steps:

1. In the branch of the **Situation analysis** object which offers a means of analyzing the situation in the desired video camera's field of view, click **Create**.



> **Note**
>
> You can also create a Detection Tool object through the **Create a Detection Tool** command in the context menu of the Situation analysis object (right-click the object to open).

2. Highlight the **Select detection type** link which appears (**1**).



3. In the **Name** field (**2**), enter the detection tool name which will appear in the Detection Tools list and in the viewing tile.
4. In the **Type** field (**3**), select the desired detection type.
5. Click the **Apply** button.

Creation of the Detection Tool object is now complete.

Setting Virtual Elements

On page:
• Line • Area

For each type of situation analysis detection tool you must set a virtual element of one of two types:

1. A line
2. An area

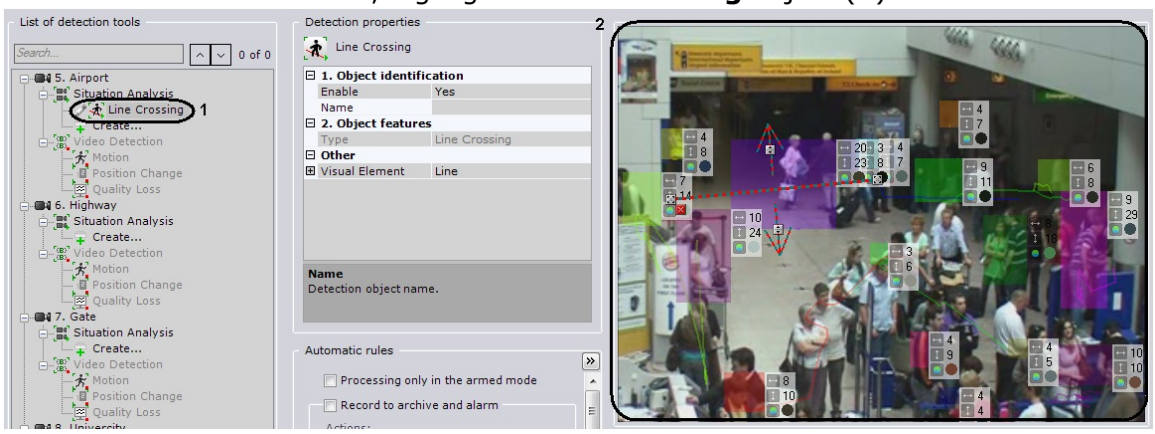
> **Attention!**
>
> If no visual element is set, the detection tool will not work

The type of visual element is determined by the detection type. Only the **Line crossing** detection requires you to set a **Line** element. Other situation analysis detection tools require you to set an **Area** element for each detection tool.

Line

The **Line** visual element sets a virtual line in the field of view of a video camera; when something crosses this line, it triggers the Line Crossing detection tool.
To set a line, you must perform the following steps:

1. In the list of detection tools, highlight a **Line Crossing** object (**1**).



2. In the viewing tile (**2**), set the endpoints of the line which, when intersected, will trigger Line Crossing detection.

Note

When the line is being constructed, the end points are connected by a two-color dotted line. The direction of the object's motion across the line is indicated by dotted arrows (**2**

Action	Result
Left-click in the viewing tile	Creates a line end point
Position the cursor on an end point and, holding down the left mouse button, move the mouse	Moves the line end point
Click the button	Deletes the line

3. By default, Line Crossing detection monitors object motion across the line in both directions. To suspend detection of motion in one direction, click the button corresponding to that direction.

Attention!

At least one direction must be selected for detection

Note

An unmonitored direction of object motion is indicated by a dimmed arrow

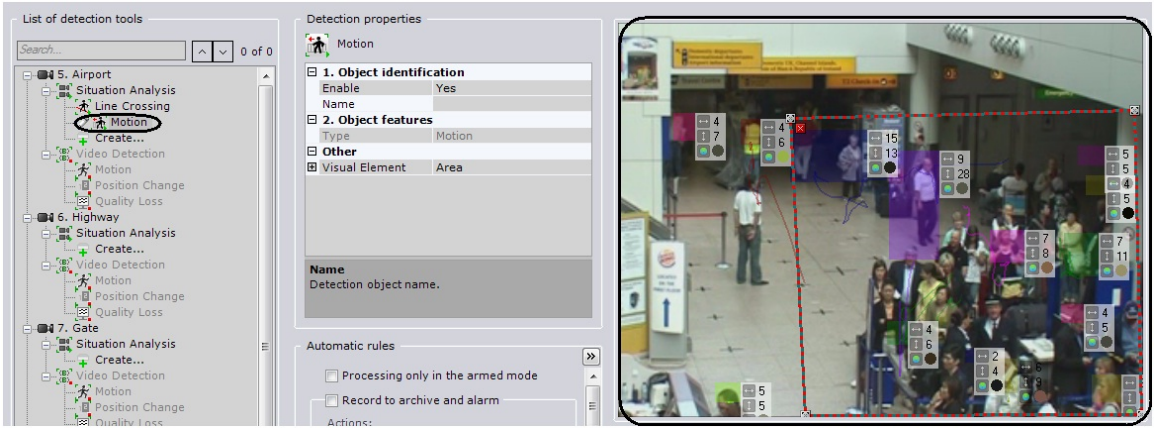
4. Click the **Apply** button.

The line is now set.

Area

The **Area** visual element sets an area of a video camera's field of view, in which the situation is analyzed by a detection tool of the selected type.
To set an area, you must perform the following steps:

1. In the Detection Tools list, highlight the Detection Tool object for which you need to set an area (**1**).



2. In the viewing tile (**2**) set the nodes of the area, in order, in which the situation requires

analysis.

> **Note**
>
> When the area is being constructed, the nodes are connected by a two-color dotted line which outlines the area's borders

Action	Result
Left-click in the viewing tile	Creates a new area node
Right-click on a created node	Deletes the area node
Position the cursor on a node and hold down the left mouse button while you move the mouse	Moves the area node
Click the button	Deletes the area

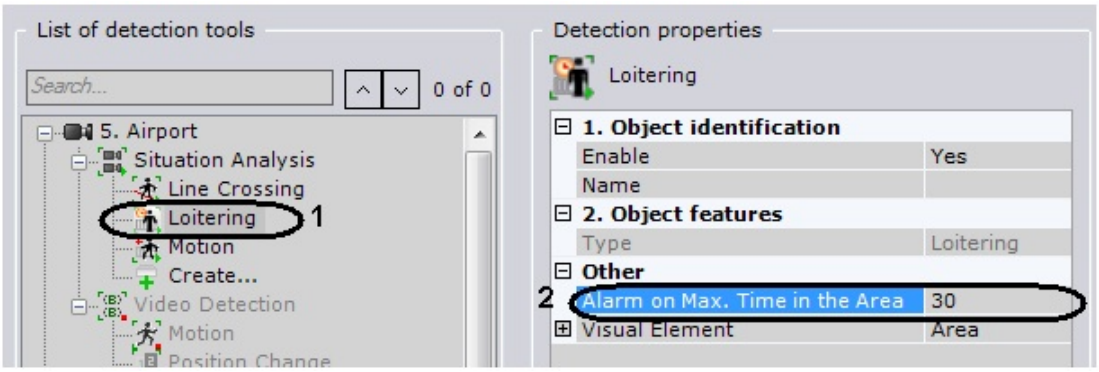
3. Click the **Apply** button.

The area is now set.

Settings Specific to Loitering Detection

When configuring the Loitering detection tool, you must set the maximum time an object can be in the analyzed area: when the maximum time is exceeded, the detection tool is triggered.
To set a maximum time, you must perform the following steps:

1. In the Detection Tools list, highlight a **Loitering** object (**1**).



2. In the **Maximum loitering time** field (**2**), enter the maximum object loitering time in seconds. This value should be in the range [0, 3600].
3. Click the **Apply** button.

The maximum loitering time is now set.

Video Analytic

Types of Video Detection

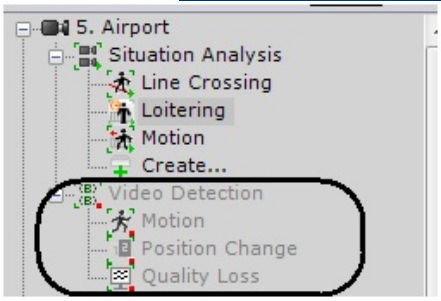
The following detection tools enable analysis of the video image from a camera.

Name of a Detection Tool object	Detection description

Loss of quality	a detection tool which is triggered when the video image received from a video camera loses quality
Motion	a detection tool triggered by motion in a video camera's field of view
Position change	a detection tool triggered by a change in the video image background indicating a change in the video camera's position in space.

Procedure for Configuring Video Detection

For each video camera, video detection tools of all three types are automatically created (see the section titled Types of Video Detection).



You can configure video detection tools as follows:

1. Enable video detection (disabled by default).
2. Set the general video detection tool properties.
3. Enable the desired video detection tools (all are disabled by default).
4. Configure the motion detection.

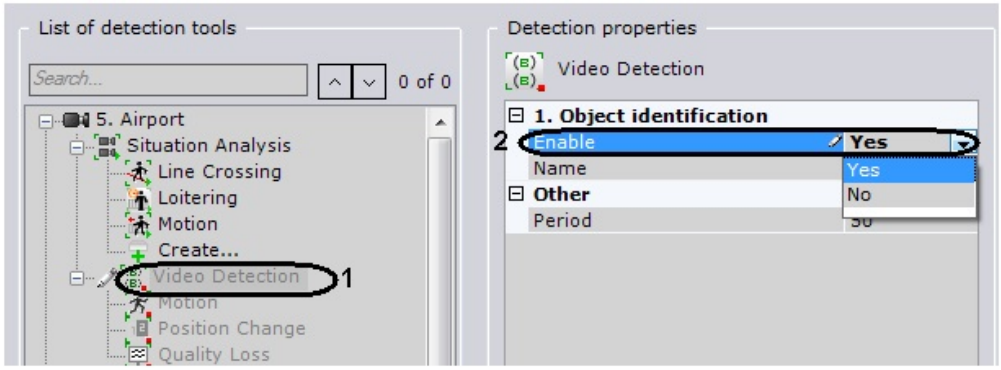
> **Note**
>
> The loss of quality and position change detection tools do not require configuration

5. Check detection tool functioning with the help of the Triggers ribbon (optional) (see the section Checking the Triggering of a Detection Tool).
6. For each detection tool, set rules to be automatically executed when the detection tool is triggered (see the section titled Configuring Automatic Rules).

Enabling Video Detection

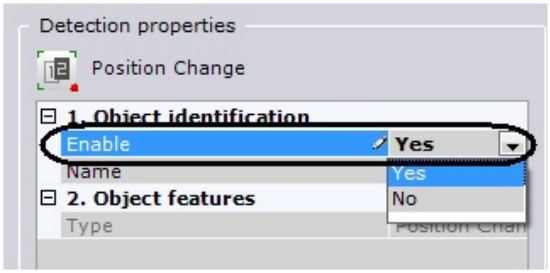
To enable video detection, you must perform the following steps:

1. In the Detection Tools list, highlight a **Video Detection Tool object** which offers a means of analyzing the video image from the desired video camera.



2. Select **Yes** from the **Enable** list.
3. Click the **Apply** button.

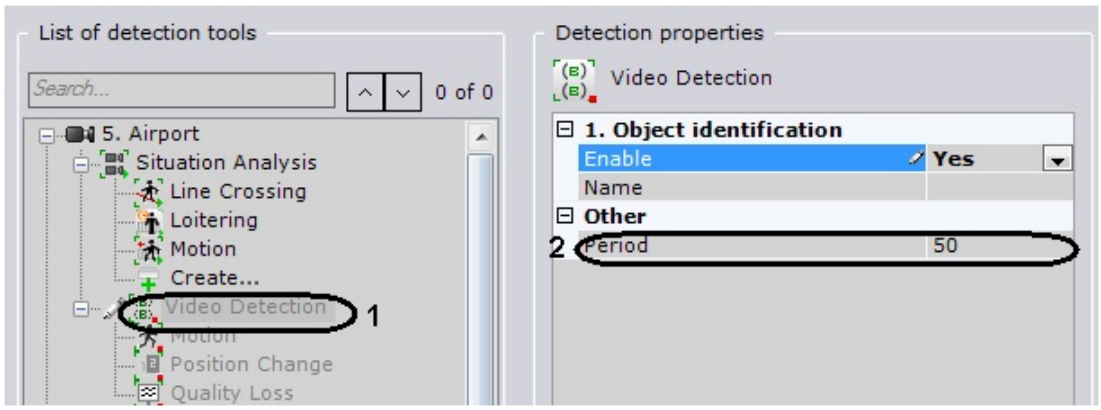
Video detection is now enabled.
The desired video detection tools may be enabled in the same way as video detection.



Setting General Parameters of Video Motion Detection

To set the general parameters of video detection tools, you must perform the following steps:

1. In the Detection Tools list, highlight a **Video Detection Tools** object (**1**) which offers a means of analyzing the video image from the desired video camera.



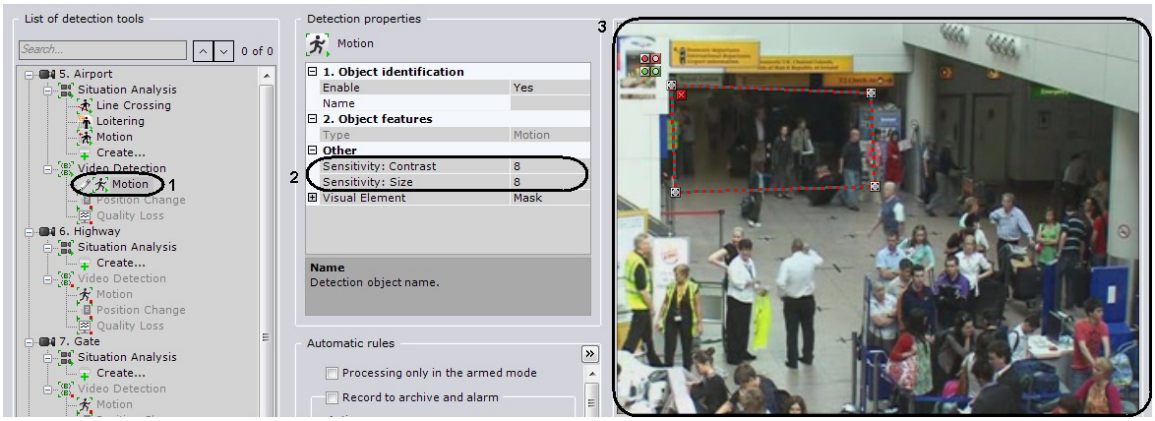
2. In the **Period** field (**2**) enter the time in milliseconds after which the next video image frame will be processed. This value should be in the range [0, 65535]. If the value is **0**, each frame of the video image is processed.
3. Click the **Apply** button.

Setting the general parameters of the video detection tools is now complete.

Settings Specific to Video Motion Detection

To configure VMD, you must perform the following steps:

1. In the Detection Tools list, highlight a **Motion** object (**1**).



2. In the **Sensitivity** field: contrast (**2**) , enter the sensitivity of the detection tool to object contrast. You should select a value empirically in the range [0, 16]. The greater the value, the less contrastive the objects which can be detected.
3. In the **Sensitivity** field: **size** (**2**), enter the sensitivity of the detection tool to object size. You should select a value empirically in the range [0, 10]. The greater the value, the smaller the objects which can be detected.
4. In the viewing tile, set detection zones and/or masks in the same way as for situation analysis detection tools (**3**).

> **Note**
>
> See steps 2–4 in the section Setting Common Detection Zones and Masks

5. Click the **Apply** button.

VMD configuration is now complete.

Audio analytics

Play corresponding video

Types of Audio Detection

The following detection tools enable analysis of the audio signal from a microphone.

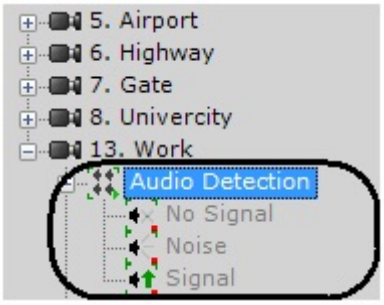
Name of a Detection Tool object	Detection description
No signal	A detection tool which is triggered by the absence of an audio signal from an audio device
Signal	A detection tool which is triggered by the reception of an audio signal from an audio device
Noise	A detection tool which is triggered by the appearance of noise

Attention!

No Signal audio detection may operate incorrectly with video cameras emitting a background signal with a non-zero volume, even if the integrated microphone is physically disabled

Procedure for Configuring Audio Detection

For each video camera equipped with one or more audio ports, audio detection tools of all three types are automatically created (see the section titled Types of Audio Detection).



You can configure audio detection tools as follows:

1. Set the general audio detection parameters.
2. Enable the desired audio detection tools (all are disabled by default).
3. Configure the Noise and Signal detection tools.

Note

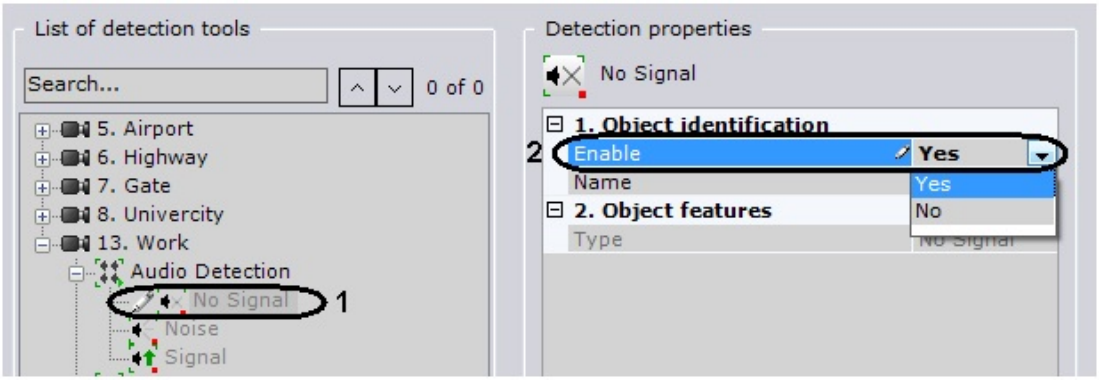
The No Signal detection does not require configuration

4. Check detection tool functioning with the help of the Triggers ribbon (optional) (see the section Checking the Triggering of a Detection Tool).
5. For each detection tool, set rules to be automatically executed when the detection tool is triggered (see the section titled Configuring Automatic Rules).

Enabling Audio Detection

To enable audio detection, you must perform the following steps:

1. In the list of detection tools, highlight the necessary audio detection tool (**1**).



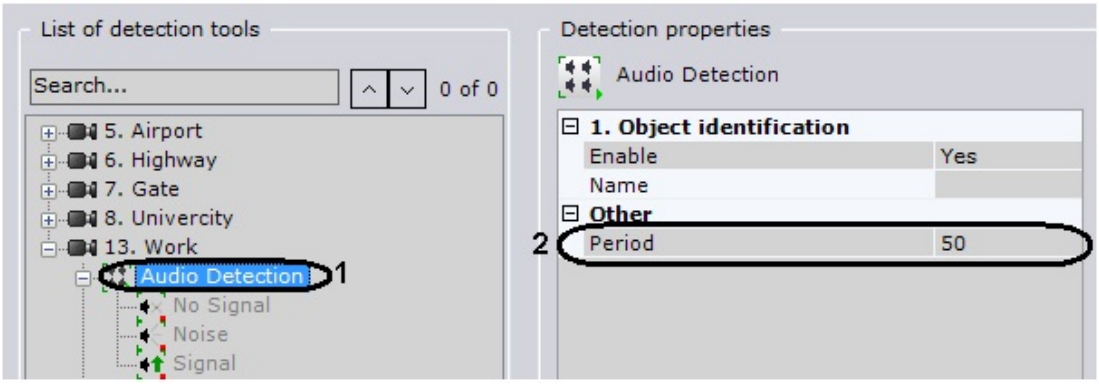
2. Select **Yes** from the **Enable** list (**2**).
3. Click the **Apply** button.

The audio detection tool is now enabled.

Setting General Parameters of Audio Detection

To set the general parameters of audio detection tools, you must perform the following steps:

1. In the detection tool list, highlight an **Audio Detection object** (**1**) which offers a means of analyzing the audio signal from a microphone connected to the desired video camera.



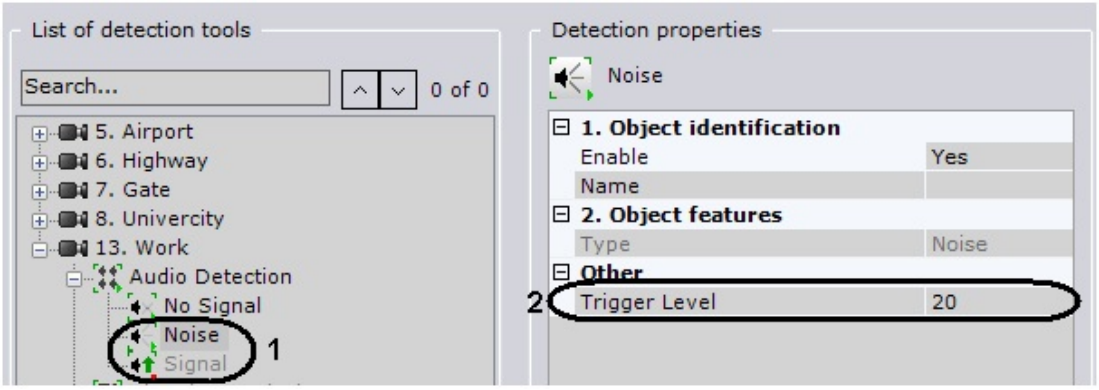
2. In the **Period** field (**2**), enter the time in milliseconds after which the next section of the audio stream will be processed by the audio detection tools. This value should be in the range [0, 65535]. If the value is **0**, each section of the audio stream is processed.
3. Click the **Apply** button.

Setting the general properties of the audio detection tools is now complete.

Settings Specific to the Signal and Noise detections

To configure the Signal and Noise detection tools, you must perform the following steps:

1. In the Detection Tools list, highlight a **Signal** or **Noise** audio detection.



2. Enter the following values in the **Level** field:
   a. When configuring the Signal detection tool, enter the audio signal level in standard units above which the detection tool will be triggered. You should select a value empirically in the range [0, 1000].
   b. When configuring the Noise detection tool, enter the noise level in standard units above which the detection tool will be triggered. You should select a value empirically in the range [0, 1000].
3. Click the **Apply** button.

Configuration of the Signal and Noise detection tools is now complete.

Embedded Analytics

At the moment of writing of this documentation, the embedded analytics of Axis and Sony video cameras and Stretch cards have been integrated into the Axxon Next software package (if they support it; see the official reference documentation for these devices).

This section contains an example of configuring Sony Ipela Embedded Analytics. When configuring the embedded analytics of other devices, you should use their descriptions in the interface of the

software package or, for more detail, the official reference documentation for these devices.

Procedure for Configuring Sony Ipela Embedded Analytics

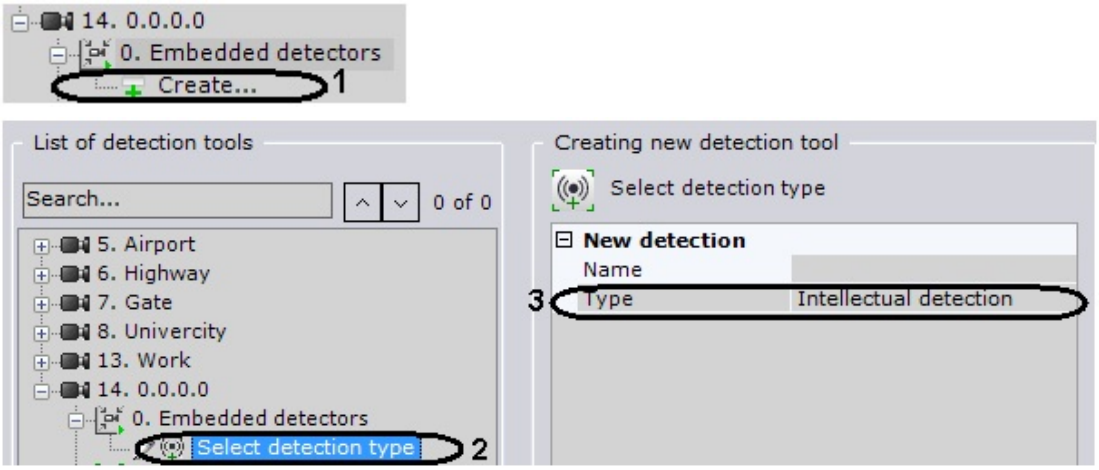
You can configure Sony Ipela embedded analytics as follows:

1. Create a detection tool object.
2. Set the detection tool parameters.
3. Check triggering of the detection tool with the help of the Triggers ribbon (optional) (see the section Checking the Triggering of a Detection Tool).
4. Set the rules to be automatically executed when the detection tool is triggered (see the section titled Configuring Automatic Rules).

Creating a Sony Ipela Detection Tool object

To create a Sony Ipela detection object, you must perform the following steps:

1. In the branch of the **Embedded Analytics object** which offers a means of analyzing the video image in the desired Sony Ipela video camera, click **Create** (**1**).



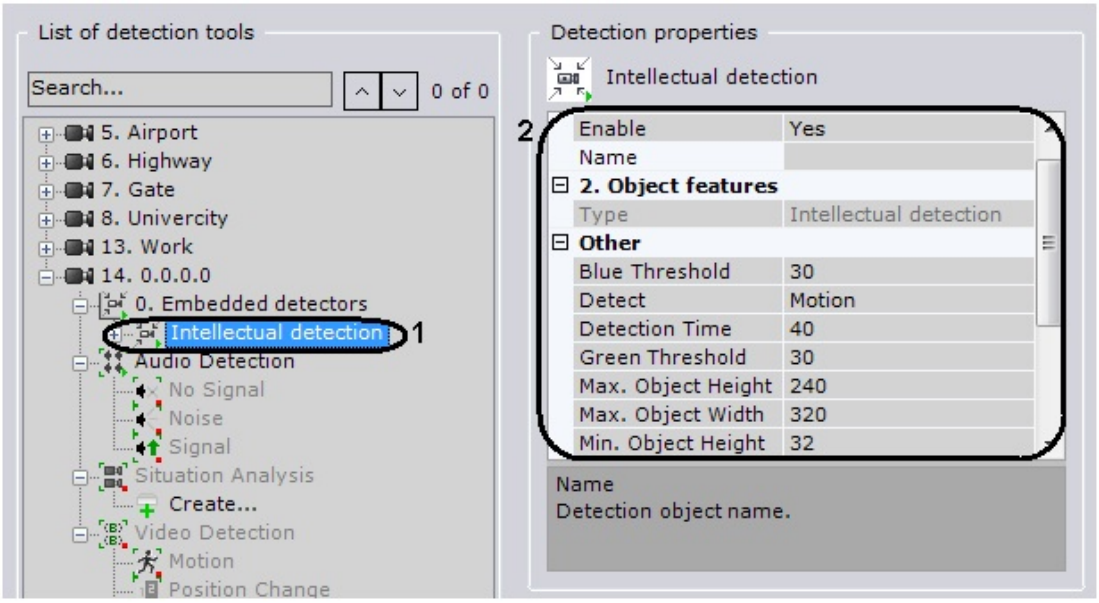
2. Highlight the **Select Detection type** link which appears (**2**).
3. In the **Type** list (**3**), select the type of the on-board **Smart detection** unit.
4. Click the **Apply** button.
5. When you do this, an **Intelligent detection** object appears in the Detection Tools list.

Creation of a Sony Ipela detection object is now complete.

Configuring a Sony Ipela detection tool

To configure a Sony Ipela detection tool, you must perform the following steps:

1. In the list of detection tools, highlight an **Intelligent detection** object (**1**).



2. From the **Detect** list, select the desired detection mode: **Motion** or **Abandoned object** (**2**) .
3. If you selected motion detection (**Motion** in the **Detect** list), set the following parameters (**2**):
   a. To enable the mode in which the detection tool also responds to stopping, select **Yes** i n the **Respond to stopping** list.
   b. In the **Rest time** field, indicate in seconds the rest time of an object after which the motion detection tool registers stopping (if you executed step 3.1). This value should be in the range [2, 60].
   c. In the **Green threshold** field, enter the saturation level of the green RGB component in the image of a moving object above which the detection tool is triggered. This value should be in the range [0, 99].
   d. In the **Red threshold** field, enter the saturation level of the red RGB component in the image of a moving object above which the detection tool is triggered. This value should be in the range [0, 99].
   e. In the **Blue threshold** field, enter the saturation level of the blue RGB component in the image of a moving object above which the detection tool is triggered. This value should be in the range [0, 99].

> **Note**
>
> The threshold saturation of the RGB component in the image of a moving object determines the sensitivity of the detection tool. It is advisable to change the saturation of all components at the same time (see steps 3.3 – 3.5)

4. If you selected abandoned object detection (**Abandoned object** in the **Detect** list), set the following parameters (**2**):
   a. In the **Start of detection** field, indicate the length of time in standard units an object remains in view before it is detected. This should be selected empirically. This value should be in the range [3, 7].
   b. In the **Detection time** field, enter the rest time of an object in seconds, as counted from the beginning of detection (see step 4.1), after which it is considered abandoned. This value should be in the range [40, 43200].
   c. In the **Realarm time** field, enter in seconds the time since the last alarm about an abandoned object after which a repeat alarm is generated (assuming that such an event occurs). This value should be in the range [60, 21600].
   d. In the **Release time** field, enter the length of time an abandoned object remains in view above which it will be considered part of the background. In this case, alarm

generation ceases. This value should be in the range [60, 43200].

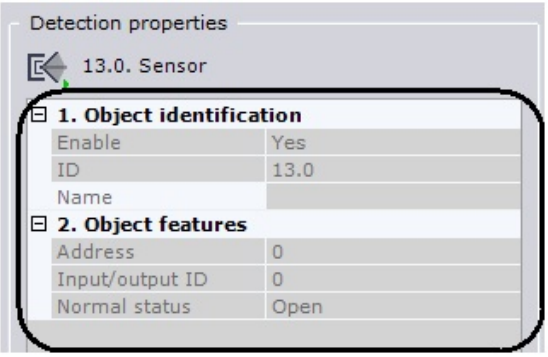
5. In the **Maximum height** and **Maximum width** fields (**2**) enter the maximum height and width of a detectable object in pixels. The height value should be in the range [8, 480] and the width value should be in the range [8, 640].
6. In the **Minimum height** and **Minimum width** fields (**2**) enter the minimum height and width of a detectable object in pixels. The height value should be in the range [8, 480] and the width value should be in the range [8, 640].
7. Click the **Apply** button.

Configuration of the Sony Ipela embedded detection tool is now complete.

Sensors

After becoming enabled on the **Devices** tab, the **Sensor** object appears on the **Detection Tools** t ab (see the section The Sensor Object)**.**

Check the functioning of the sensor in the **Devices** tab (see the section The Sensor Object). The **d etection properties** field in the **Detection Tools tab** duplicates the settings entered in the **Devi ces** tab under **Settings** and is not editable.



Perform the follow actions for the **Sensor detection tool**, on the **Detection Tools tab**:

1. Check triggering of the detection tool with the help of the Triggers ribbon (optional) (see the section Checking the Triggering of a Detection Tool.
2. Set the rules to be automatically executed when the detection tool is triggered (see the section titled Configuring Automatic Rules).

Checking the Triggering of a Detection Tool

You can check the triggering of detection tools in the **Detection Tools tab**.

To use this option you must perform the following steps:

1. In the Detection Tools list, highlight the detection tool object whose triggering you need to check.

> **Attention!**
>
> The Detection Tool object should be enabled and configured

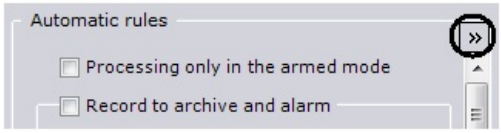
2. Produce an event whose occurrence should trigger the detection tool: motion in the frame, turning the video camera, providing sound to an audio device, etc.
3. If the detection tool is configured correctly, video image frames from the video camera corresponding to the detection tool will be displayed on the trigger ribbon with the time they were received indicated.

Checking the triggering of a detection tool is now complete.

Configuring Automatic Rules

General Information of Configuring Automatic Rules

In order for certain actions to be executed when a detection tool is triggered, you must configure automatic rules.
You can set these rules in the **Automatic rules** group. This group has two display modes:

1. normal (set by default).
   

2. expanded.
   

Choose the display mode which is more convenient for configuration. To switch from one mode to the other, click the button in the upper right-hand corner of the **Rules** group.

Types of Automatic Rules

When a detection tool is triggered, one or more rules may be executed:

1. Recording to the archive and initiation of an alarm in the system.
2. Switching to the layout with the minimum number of cells to display the selected video camera.
3. Switching a relay.
4. Switching to a PTZ camera preset.
5. Sound notification.
6. E-mail notification.
7. SMS notification.

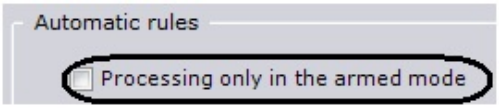
Automatic Rule Execution Modes

You can select the execution mode of all automatic rules set for a video camera's detection tool.

Responses can be executed in one of two modes:

1. If the video camera is in armed mode.
2. Whether or not the video camera is in armed mode.

If the rules should be executed only when the camera is in armed mode, select the **Handle only if in armed mode** check box.



Conditions for Setting Automatic Rules

Before setting automatic rules to be executed when a detection tool is triggered, you must make sure that the following objects have been created and configured.

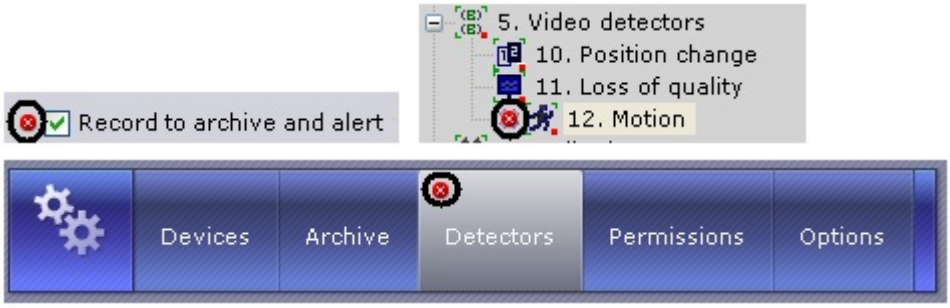
Automatic Rule	**Object which must be configured**
Recording to Archive and Initiation of an Alarm	Archive
Switch to the layout with the minimum number of cells to display the selected video camera	-
Switching Relays	Relay
Switching to a PTZ camera preset	Telemetry (you must set the presets using the PTZ device control panel)
Audio notification	Speaker
E-mail notification	E-mail
SMS notification	SMS

If the conditions necessary for setting a rule have not been fulfilled, the icon is displayed in the interface during an attempt to activate the rule.

> **Note**
>
> To activate a rule, select the check box next to its name

The icon marks the following interface elements:

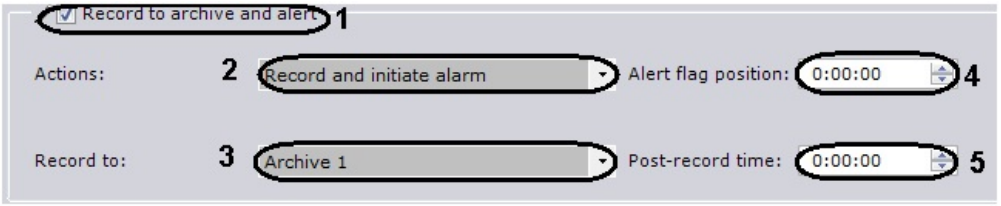
1. The name of a rule whose execution is blocked
2. The name of the Detection Tool object for which the rule is being set
3. The name of the **Detection Tools tab**.



Recording to Archive and Initiation of an Alarm

To configure recording to the archive and the initiation of an alarm when a detection tool is triggered, you must perform the following steps:

1. Select the **Record to archive and alarm** check box (**1**).



2. In the **Actions** list (**2**), select the desired action to be taken when the detection tool is triggered:
   a. Write to archive (for the value **Write on detection tool trigger**).

> **Note**
>
> When this value is selected, an alarm is not initiated in the system when the detection tool is triggered

   b. Record to archive and initiate an alarm in the system (the value **Record and initiate alarm**).
   c. Record to archive and initiate an alarm in the system if there is not currently an active alarm (the value **Record and initiate alarm if no alarm is active**).
3. In the **Record to** list (**3**), select the archive to which you need to record the video image (and audio signal, if configured accordingly) when the detection tool is triggered.

> **Attention!**
>
> Recording from the detection tool video camera to this archive must be setup (see the section Configuring Recording of the Video Stream from Video Cameras to the Archive)

4. In the **Alarm flag position** field (**4**), enter the number of seconds by which the alarm flag will be shifted back from the actual time the alarm was triggered.

Note

If the alarm flag position is set, playback of an event received for processing begins from the moment corresponding to the flag's position, and not from the moment of the beginning of the alarm

5. In the **Post-record time** field (**5**), enter the post record time, which is the length in seconds of post-alarm recording which will be added to the end of the recording made in connection with the alarm. The post record time is counted from the moment of the end of the alarm and is observed only if the alarm is evaluated by the operator before the end of the given time. If the alarm is evaluated by the operator or automatically after the end of the post record time, the recording ends at the moment of evaluation of the alarm.

Note

Post-alarm time is 0 seconds by default

Note

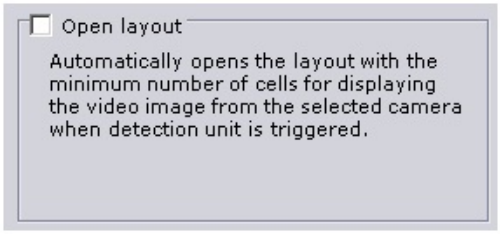
For example, let's say that the post record time is 2 minutes. An alarm is registered. If the operator evaluates the alarm before it is over or within 2 minutes of the moment it ended, the recording will end exactly 2 minutes from the moment the alarm ended. If the alarm is evaluated by the operator or automatically after two minutes have passed since the end of the alarm, the recording ends at the moment of evaluation of the alarm

6. Go to another automatic rule, or click **Apply**.

Configuration of recording to the archive and initiation of an alarm when a detection tool is triggered is now complete.

Switching to the layout with the minimum number of cells to display the selected video camera

To configure the system to switch to the layout with the minimal number of cells for displaying the selected video camera when a detection unit is triggered, select the **Open layout** check box.



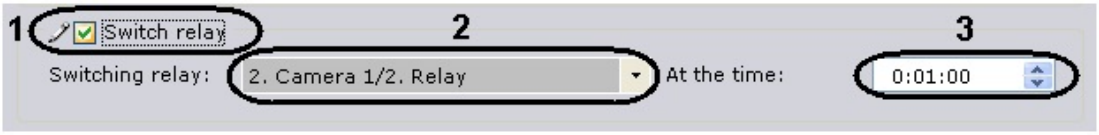
The following procedure is used for displaying video cameras:

1. The system searches for layouts that contain the specified video camera and are accessible to the user.
2. The system chooses the layout with the minimum number of cells to display the selected video camera.
3. If the required layout does not yet exist, the system creates a new layout with a single video camera.
4. The system switches to the selected layout.
5. The video camera becomes active in the selected layout, and the viewing tile is expanded by one level.

Switching Relays

To configure the switching of a relay when a detection tool is triggered, you must perform the following steps:

1. Select the **Switch relay** check box (**1**).



2. In the **Switching relay** list (**2**), select the **Relay** object corresponding to the relay which needs to be switched when the detection tool is triggered. Any enabled relay in the system can be used, including one tied to another server.
3. In the **Length of time** field (**3**), enter the length of time for which the relay should be in switched status.
4. Go to another automatic rule, or click **Apply**.

Configuration of switching a relay when a detection tool is triggered is now complete.

Switching to a PTZ camera preset

To configure switching to a PTZ camera preset, you must perform the following steps:

1. Select the **Go to preset** check box (**1**).

2. In the **PTZ** list (**2**) select a **Telemetry** object that matches the PTZ device of the PTZ video camera. The pan/tilt unit of any PTZ camera can be used, including one tied to another server (if it is enabled).
3. In the **Preset number** list (**3**), select the number of the camera preset to which the camera should switch when the detection tool is triggered.
4. Go to another automatic rule, or click **Apply**.

Configuration of switching to a PTZ camera preset is now complete.

Audio notification

To configure audio notification when a detection tool is triggered, you must perform the following

steps:

1. Select the **Sound notification** check box (**1**).

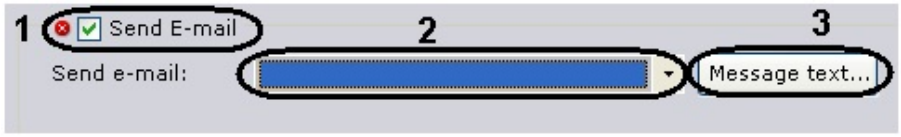
2. In the **Choose the speaker** list (**2**), select the **Speaker** object corresponding to the speaker on which you wish to play the sound notification.
3. In the **During** field (**3**), enter the time in the format HH:MM:SS during which the sound notification is to be transmitted.
4. Go to another automatic rule, or click **Apply**.

Configuration of sound notification when a detection tool is triggered is now complete.

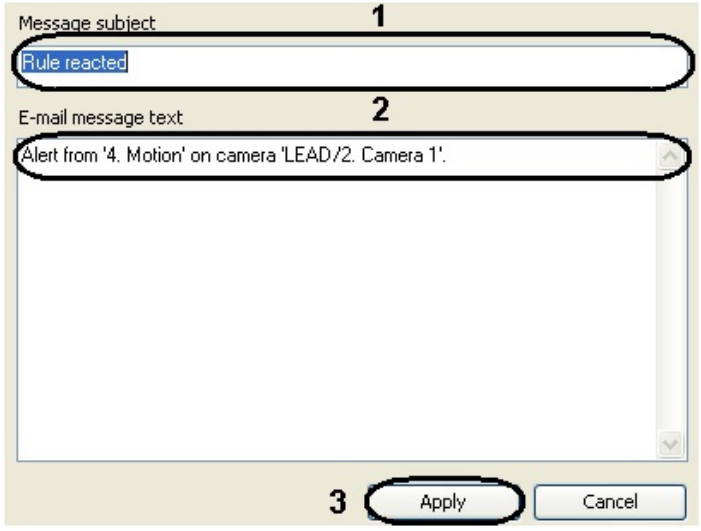
E-mail notification

To configure e-mail notification when a detection tool is triggered, you must perform the following steps:

1. Select the **Send E-mail** check box (**1**).



2. In the **Select e-mail list** (**2**), select the **e-mail** object which will be used for e-mail notification when a detection tool is triggered.
3. Click the **Message text** button (**3**).
4. In the **Message subject** field of the window which appears (**1**), enter the subject of the e-mail message which will be sent when the detection tool is triggered.



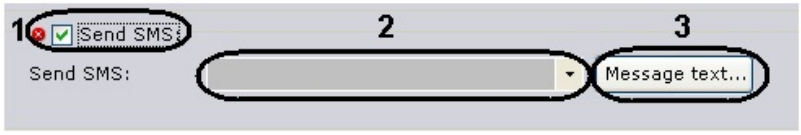
5. In the **E-mail text** field (**2**), enter the text which should be sent in an e-mail message when the detection tool is triggered.
6. To close the window and save changes, click the **Apply** button (**3**).
7. Go to another automatic rule, or click **Apply**.

Configuration of e-mail notification when a detection tool is triggered is now complete.

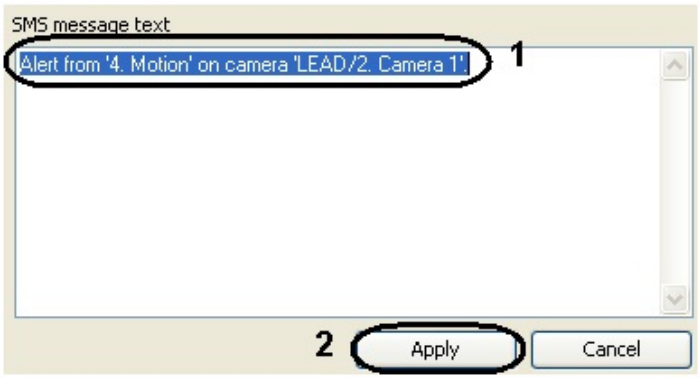
SMS notification

To configure SMS notification when a detection tool is triggered, you must perform the following steps:

1. Select the **Send SMS** check box (**1**).



2. In the **Select SMS** list (**2**), select the **SMS** object which will be used for SMS notification when a detection tool is triggered.
3. Click the **Message text** button (**3**).
4. In the **SMS message text** field of the window which appears (**1**), enter the text which should be sent in an SMS when the detection tool is triggered.



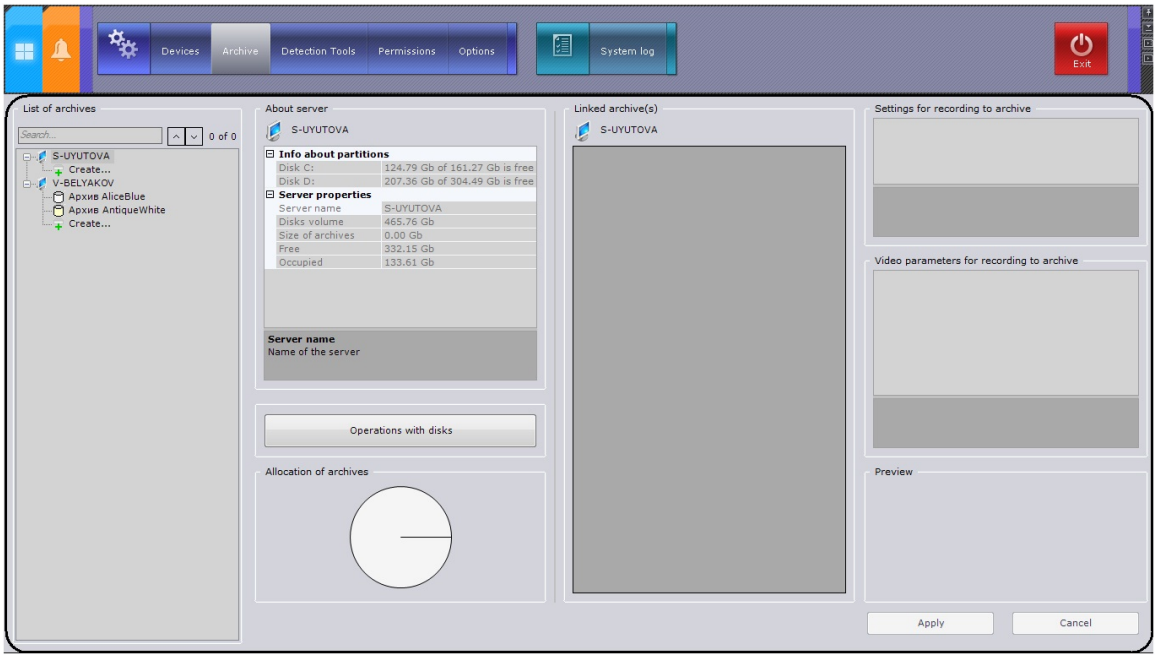
5. To close the window and save changes, click the **Apply** button (**2**).
6. Go to another automatic rule, or click **Apply**.

Configuration of SMS notification when a detection tool is triggered is triggered is now complete.

Configuring Archives

General Information of Configuring Archives

You can configure archives using the interface in the **Archive** tab (under **Settings**). To create archives you must have the appropriate permissions.



On the base of one server you can create an unlimited number of archives.

An archive can be distributed on several volumes of the server. On one volume for one archive you can create only one partition, which occupies either a file of a set size or the entire volume.

Procedure for Configuring Archives

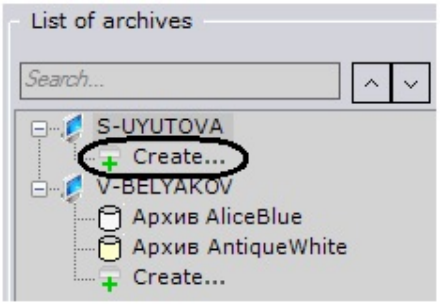
You can configure archives as follows:

1. Create archives with the desired parameters.
2. Configure recording of the video stream from video cameras to the archive.

Creating Archives with the Desired Parameters

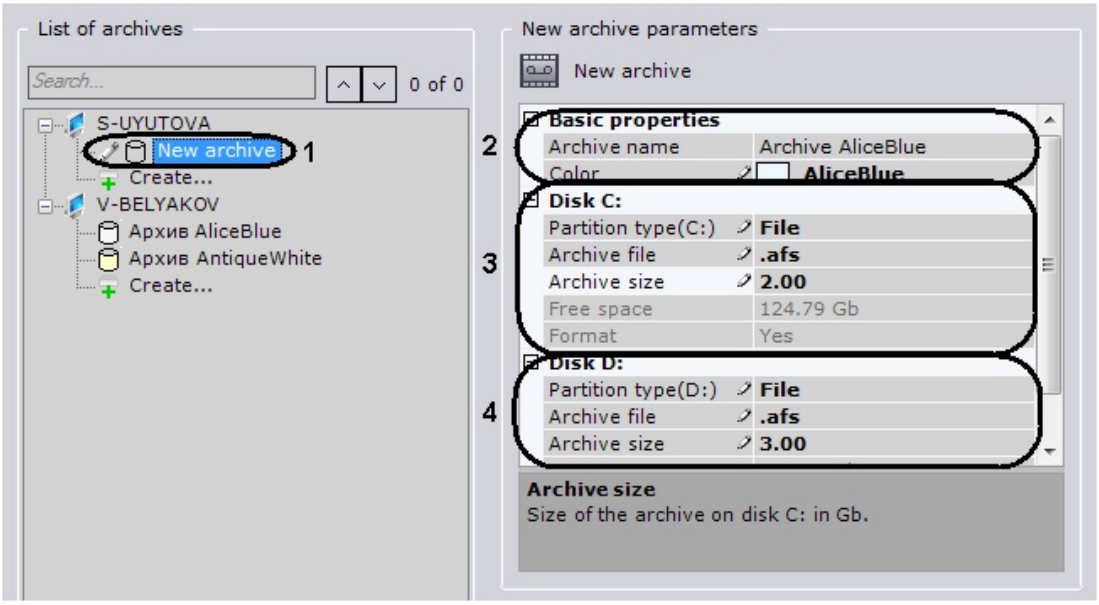
To create an archive with the desired parameters, you must perform the following steps:

1. In the branch of the **Server** object corresponding to the computer on which you need to organize an archive, click the **Create** link.



> **Note**
>
> You can also create an archive by selecting the matching command in the context menu of the **Server** object (the menu can be brought up by right-clicking the name of the Server)

2. Highlight the **New archive** link which appears (**1**).



3. In the **Basic properties** group (**2**), identify the archive:
   a. in the **Archive name** field, enter the desired archive name.
   b. From the **Color** list, select a color to label the archive.
4. Place the archive partitions on one or several volumes of the server **3**):
   a. From the **Partition type** list, select the desired type of archive partition on the disk: a file or the entire volume.

> **Note**
>
> The system disk cannot be completely allocated for an archive

b. If you select a **File** partition, enter the full path to the .afs file which should be used for creating an archive partition on the disk in the **Archive file** field.

> **Note**
>
> If the indicated file does not exist, it will be automatically created when changes are saved

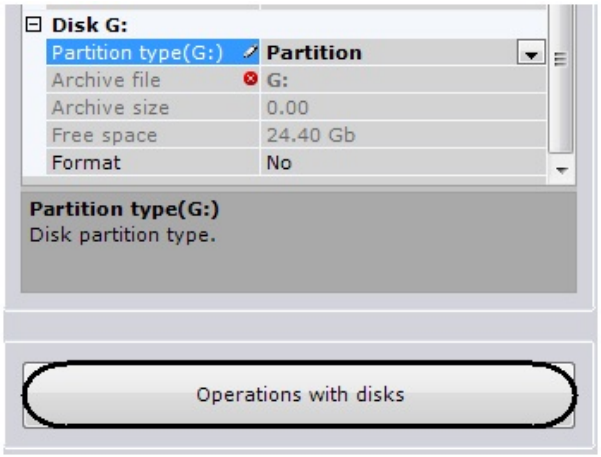
> **Note**
>
> If an archive was created from an existing file, it will be possible to extract archived recordings from the file only if the following conditions are met:
>
> i. The name of the computer on which the recording was written to the existing archive file is the same as the name of the current computer.
> ii. The IDs of the video cameras from which the recordings were written to the existing archive file are the same as the IDs of the current video cameras.

c. If you select a **File** partition, enter the amount of disk space in gigabytes which should be used for the archive partition in the **Size** field.

> **Note**
>
> The size of an archive partition on a disk should be greater than 1 GB

> **Note**
>
> If you are creating an archive based on an existing file, the **Archive size** field automatically displays the size of the file. It may be changed

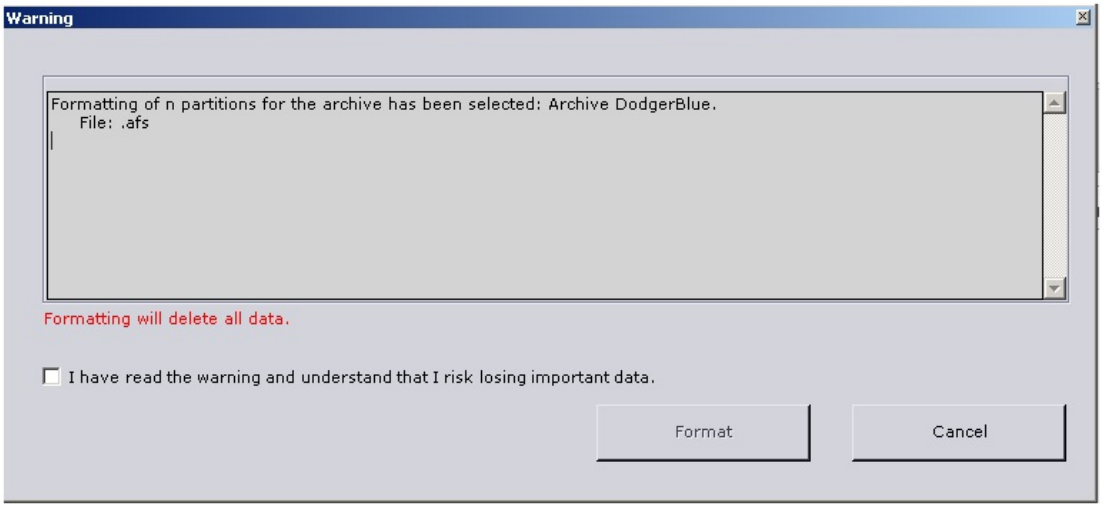
d. If the **Disk** partition is chosen, you must manually delete the file system on the selected disk by using the Windows disk management utility and then repeat the archive creation procedure. To start this utility, click the **Disk operations** button.



> **Note**
>
> Deleting the file system on the disk in the disk management utility consists of the following:
>
> i. Delete the volume.
> ii. Create a new volume in the resulting unformatted area.
> iii. Assign a letter to the volume, but do not format it.

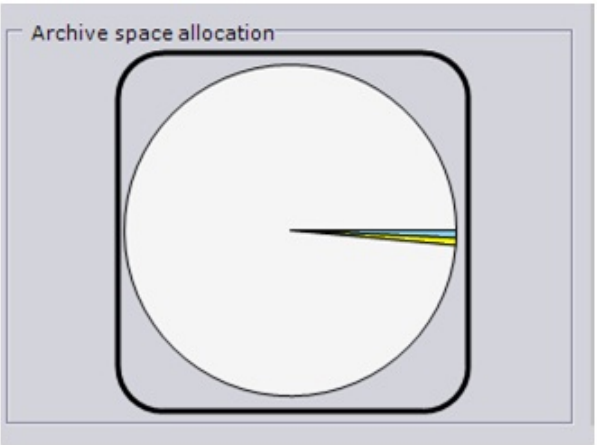
e. Repeat steps 4.a–4.d to place archive partitions on all desired volumes of the server (**4**).

5. Click the **Apply** button.
6. A dialog box will appear, warning you about formatting of the partitions (files and/or volumes).



7. Read through the list of partitions that will be formatted. If the list is correct, select I **have read the warning and realize the risk of losing important data**, then click **Format**. Otherwise, click **Cancel** to return to the archive settings.

Creation of an archive with the desired parameters is now complete.
The archive size relative to the total amount of space on system disks is displayed in the **Allocati on of archives** chart.



Play corresponding video

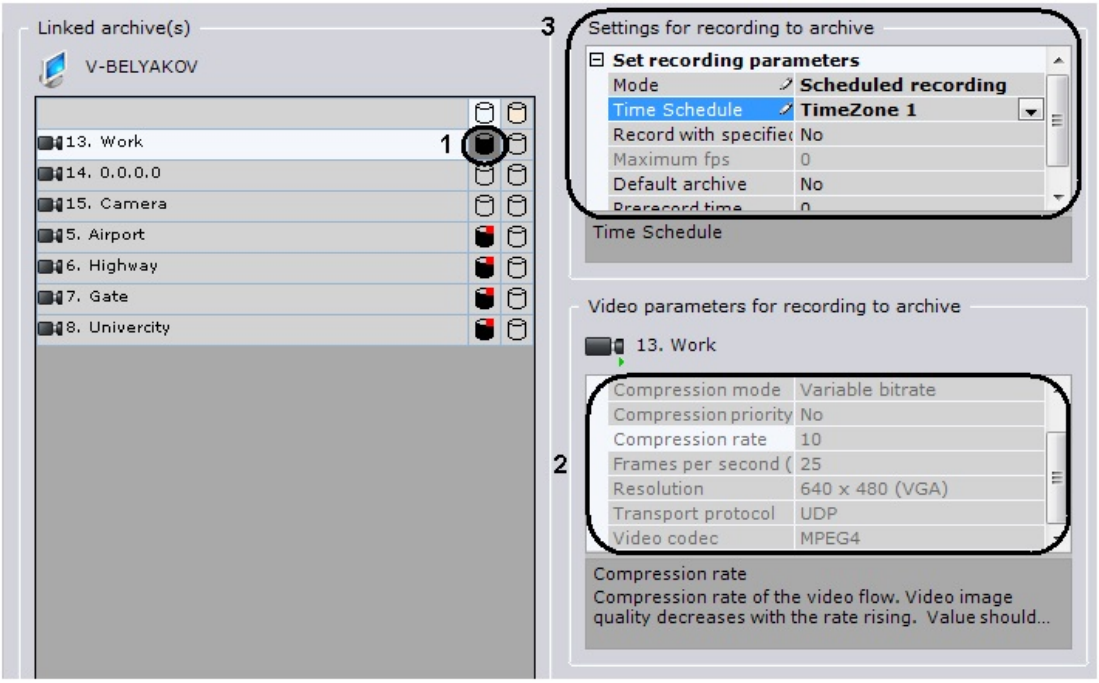
Configuring Recording of the Video Stream from Video Cameras to the Archive

To configure recording of the video stream from video cameras to the archive, you must perform the following steps:

1. Left-click the icon in the **Linked archive(s)** table (**1**) at the intersection of the row corresponding to the camera from which the video stream should be recorded to an archive and the column corresponding to that archive.

> **Note**
>
> Archives are marked with badges of the corresponding colors (see the section Creating Archives with the Desired Parameters)

> **Note**
>
> Parameters for the video stream that is recorded to disk form the camera are shown in the**Video parameters for recording to archive** group (**2**)



2. In the **Mode** list (**3**), select the desired mode of recording the video stream from the video camera to the archive.

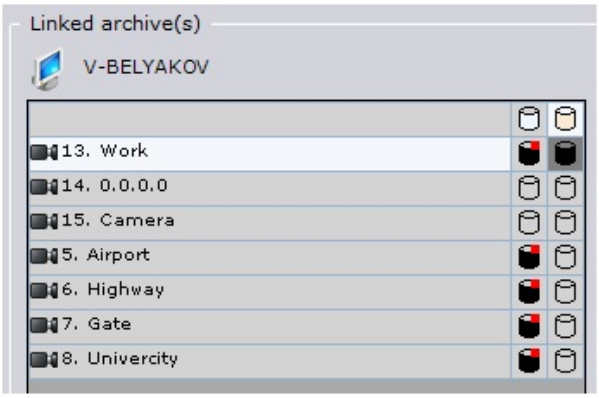
Recording mode	**Description**
No recording	The video stream is not recorded to archive
Continuous recording	The video stream is recorded to archive continuously
Scheduled recording	The video stream is recorded to archive according to specific schedules
Recording on demand	The video stream is recorded to archive when detection units are triggered or when an alarm is manually initiated

3. If scheduled recording has been chosen, in the corresponding drop-down list (**3**), select the schedule (see the section Configuring schedules) according to which recordings will be written to the archive.
4. If you need to record to archive using scaling, select **Yes** in the drop-down list (**3**).
5. If you choose recording with scaling, enter the maximum frame rate when recording the video stream from a video camera to the archive in the **Max frame rate** field (**3**). If the frame rate of the video stream coming in from a video camera is less than the indicated value, the recording will be made at the original and not the maximum rate.
6. The default archive of a video camera is the archive to which images from a given video camera are recorded during user-initiated alarms. For each video camera one and only one default archive must be set. The first archive to which recording of a video stream from a video camera was configured automatically becomes the default archive.
   If you need to make another archive the default one for this video camera, select **Yes** in the **Default archive** list for that other archive (**3**).
7. In the **Pre-alarm recording time** field (**3**), enter the buffering time of the video stream from the camera in seconds. This value should be in the range [0, 120].

Note

Pre-alarm recording is the period of pre-event recording that will be added to the beginning of an alarm event recording

8. Repeat steps 1–6 to configure recording of the video stream from a camera to all desired archives.



9. Click the **Apply** button.

Configuration of recording of the video stream from a camera to archives is complete.

Note

The archive's icon in the **linked archive(s)**table automatically changes based on the recording settings.

Default archive/Mode	No recording	Recording with scaling	Recording at the specified fps
None			
Yes	-		

Play corresponding video

Deleting Archives

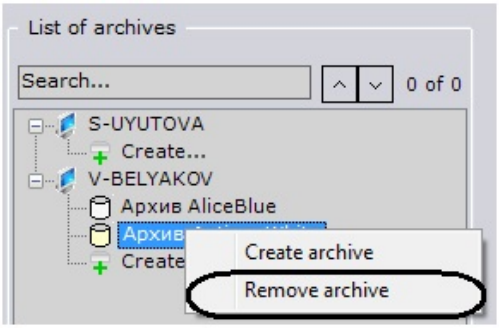
You can delete an archive from the system.

Attention!

When an archive is deleted, the archive file or partition is not physically removed. It can be used again for creating an archive; however, the archive recordings stored on them will be lost

To delete an archive from the system, you must perform the following steps:

1. Select the archive to be deleted in the archive list.
2. Right-click to bring up the context menu. Select the **Remove archive** command.



3. Click the **Apply** button.

Deleting an archive from the system is now complete.

Configuring the Interactive Map

To configure the Interactive Map go to the Map View mode (see the sections Interactive Map, Opening and closing the map).

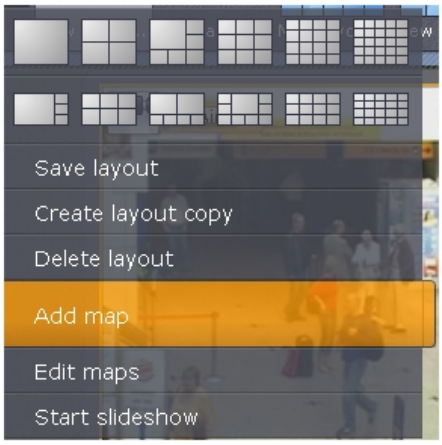
> **Note**
>
> Interactive Map is not available, if the layouts tab is featuring standard layouts (see the section Switching between layout types).

Play corresponding video

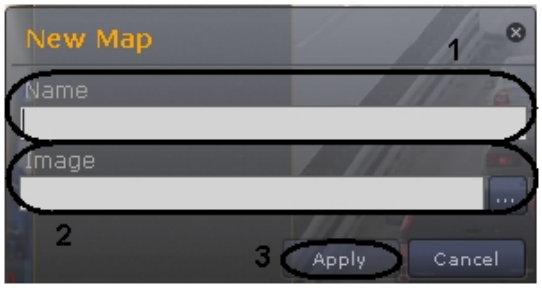
Creating a new map

To create a new map , complete the following steps:

1. Click  in the bottom left corner of the screen or click and select **Add map** from the context menu of the **Layouts** ribbon.

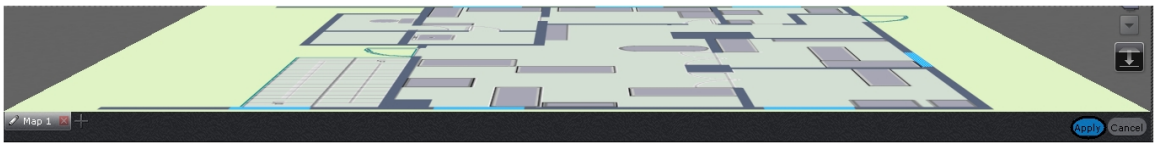


2. Enter the map's name (**1**) and choose the picture that will be used as a blueprint of the guarded facility(**2**).



3. Click **Apply** (**3**).

You have created a new map and opened it in the editing mode. To leave the editing mode click **Apply**.



> **Note**
> To leave the editing mode, go to the context menu of the **Layouts** ribbon and click **Save map**.

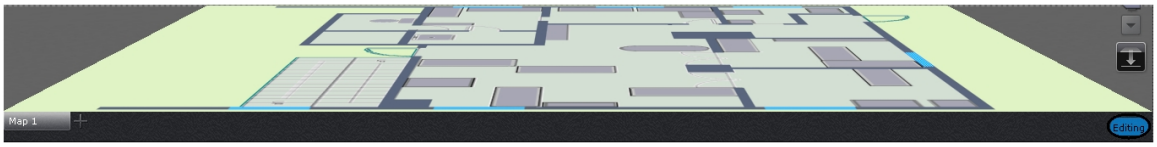
You have created a new map.

Adding system objects to the map

You can add three types of objects to your map: **Video camera**, **Relay** and **Sensor**

You can add these only n the editing mode.

To enable the editing mode click **Editing**.

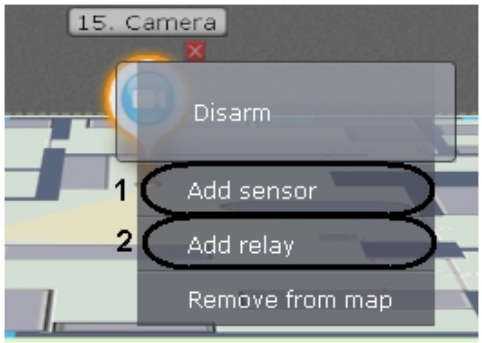


Adding sensors and relays

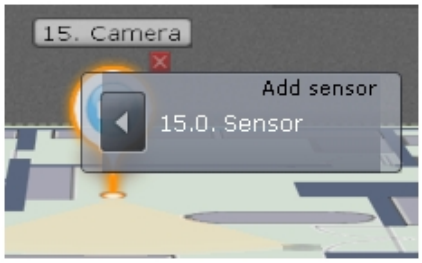
To add sensors and relays to the map:

> **Note**
> Only **Sensor** and **Relay** objects that have been activated can be added to the map.

1. Right-click the icon of the video camera on the map. A context menu appears.
2. To add a sensor, select **Add sensor** (**1**). To add a relay, select **Add relay** (**2**).



3. In the list, select a **Sensor** or **Relay** object.



4. To save changes and exit editing mode, click the **Apply** button.

Sensors and relays have now been added.

By default, the icons of the sensor and relay are attached to the video camera's icon. If you move the video camera icon, the icons of all of the video camera's devices are moved as well.

However, you can detach the sensor and relay icons from the icon of the video camera. To do so, move them. Then the sensor and relay icons are moved independently.

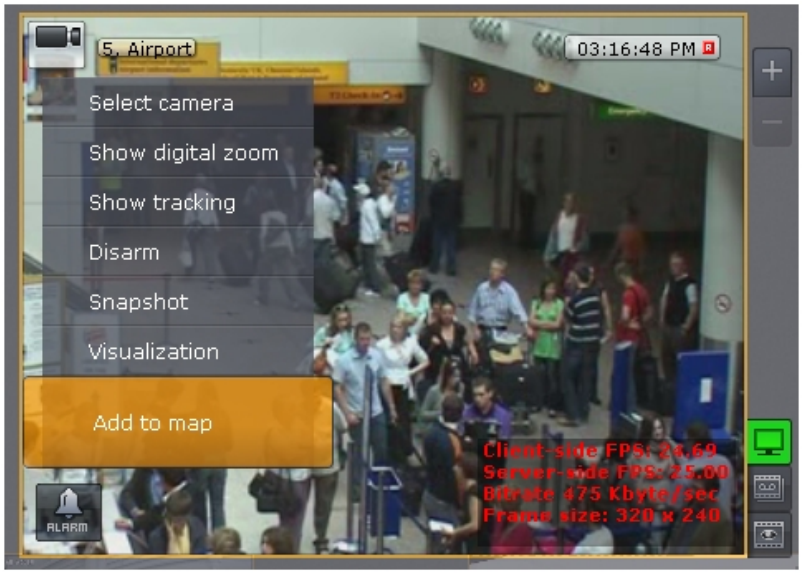
Adding video cameras

You can add cameras to the map in one of two ways:

1. By using the viewing tile context menu.
2. By dragging a video camera icon from the video camera panel to the map.

To add a video camera to the map by using the viewing tile context menu:

1. In the viewing tile context menu, select **Add to map**.



2. Drag the video camera's icon to the place on the map that represents the camera's actual location at the site (**1**).

3. On the map, use the corner nodes to adjust the video camera's field of view to match the actual situation at the site (**2**).
4. To save changes and exit editing mode, click the **Apply** button (**3**).

The video camera has now been added.

There is another way of adding a video camera to the map:

1. In the video camera panel, left-click a video camera's icon. Holding down the mouse, drag it on to the map.
2. Repeat steps 2 through 4 of the instructions for adding a video camera to the map by using the viewing tile context menu.

The video camera has now been added.

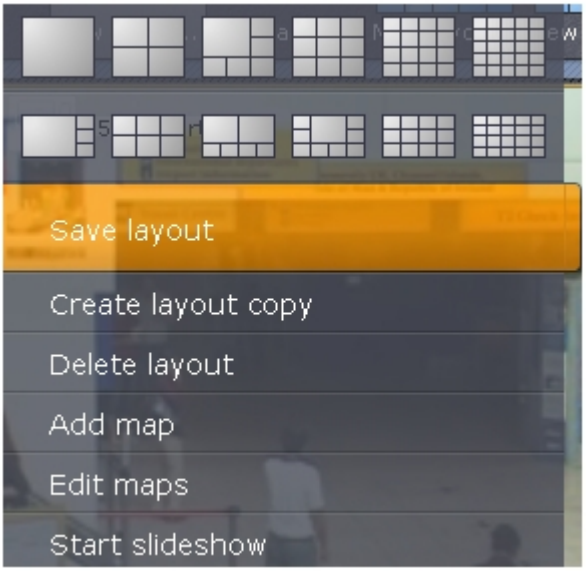
Attaching a map to a layout

You can attach a map to a layout. This means that when you switch to the layout, the attached map opens automatically.

To attach a map to a layout:

1. Select the layout that you want to attach to the map in the layouts ribbon, or create a new map (see the section Creating and deleting layouts).

2. Switch to map view mode (see the section Opening and closing the map)
3. Switch to an existing map that you want to attach to the layout, or create a new map (see the sections Switching between maps and Creating a new map).
4. In the context menu of the layouts ribbon, select **Save layout**.



After you save the layout, its icon resembles than shown in picture below.

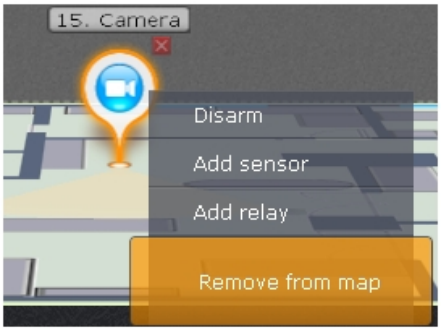
If a map is open in 2D mode when you save a layout, when you switch to that layout, the map will always open in 2D mode. The layout icon resembles that shown in picture below.

The map is now attached to the layout.

Removing objects from the map

You can remove objects from the map only in editing mode.

To remove an object from the map, click the button that is next to the object icon, or in the context menu, select **Remove from map**.

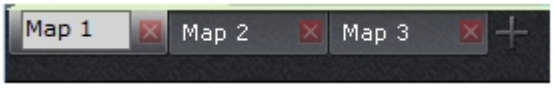


To save changes and exit editing mode, click the **Apply** button.

Renaming the map

You can rename the map only in editing mode.

To rename the map, in the lower-left corner of the screen, left-click a tab and specify a new name.



To save changes and exit editing mode, click the **Apply** button.

Deleting a map

You can delete a map only in editing map.

To delete a map, in the lower-left corner of the screen, click the button on the corresponding tab.

To save changes and exit editing mode, click the **Apply** button. To cancel the operation, click the **Cancel** button.

Configuring Forensic Search in Archive

In order for Forensic Search in archive to be possible with a video camera, the following conditions must be met:

1. There are video stream recordings from the desired video camera in the archive.
2. There are metadata recordings from this video stream in the object trajectory database.
3. The user has the appropriate permissions.

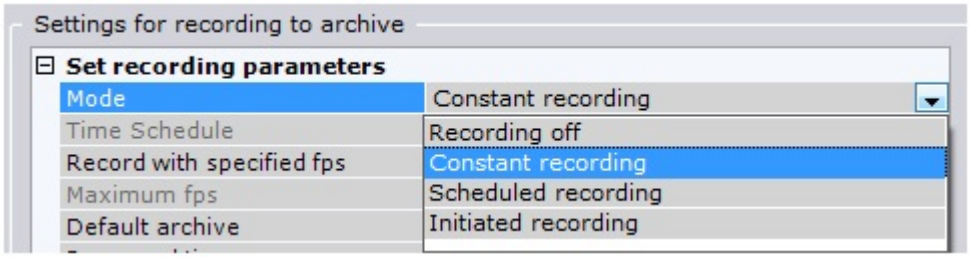
This section contains information on how to configure the Axxon Next software package to satisfy these conditions.

Play corresponding video

Possible ways to configure recording to the video stream archive

Any of the following recording modesallow using Forensic Search for a camera's archive footage(see the section Configuring Recording of the Video Stream from Video Cameras to the Archive):

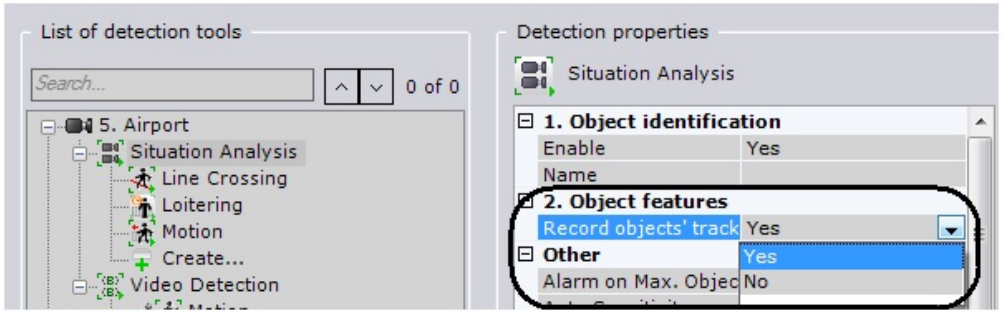
1. Constants recording.
2. Initiated recording.
3. Scheduled recording.



Enabling recording of video stream metadata

To enable recording of video stream metadata, you must perform the following steps:

1. Switch to the **Detection Tools tab** under **Settings**.
2. Enable situation analysis (see the section Enabling Situation Analysis).
3. Select **Yes** in the object trajectory recording list.



4. Click the **Apply** button.

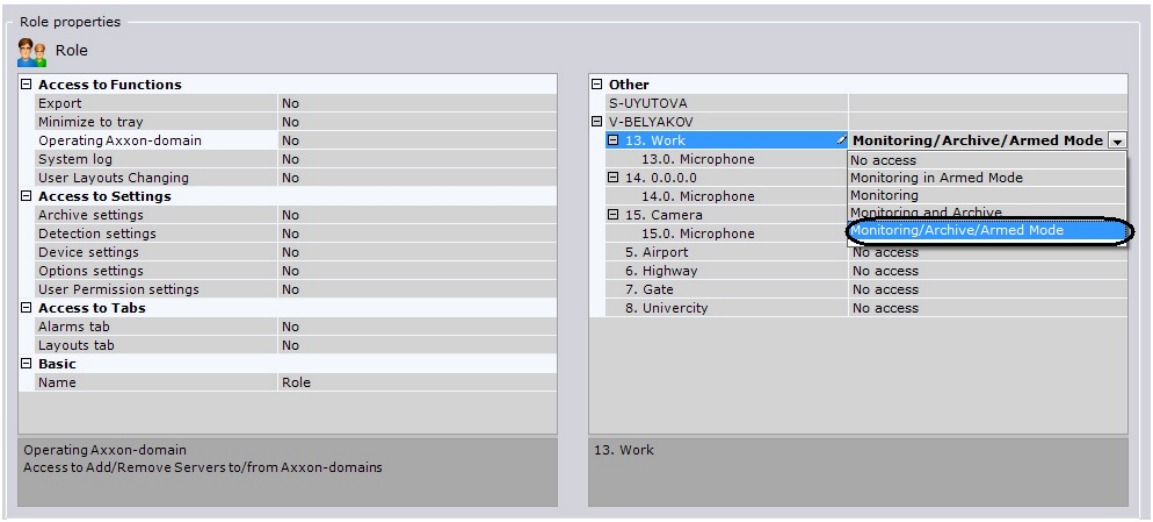
Recording of video stream metadata will then be enabled. The video stream metadata will be

recorded to the object trajectory database when the video stream is recorded to the archive.

> **Note**
>
> Information on configuring storage of metadata is provided in the section titled Configuring storage of the system log and metadata

Configuring user permissions for Forensic Search in archive

To use the Forensic Search in archive, it is sufficient to have **Monitoring and Archive** or **Monitoring/Archive/Armed Mode** permission (see the section Creating and Configuring the Role and User System Objects).



Configuring the user interface

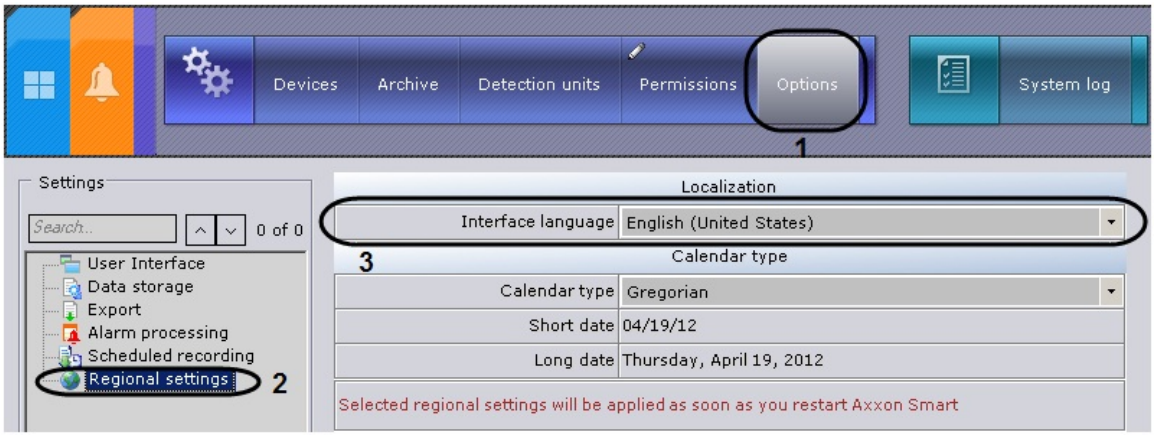
Play corresponding video

Selecting the interface language

When working with *Axxon Next*, the user can choose the interface language.

To select the interface language, complete the following steps:

1. Go to **Settings** **Options** **Regional settings** (**1**–**2**).



2. Select an interface language from the interface language drop-down list (**3**).
3. Click **Apply** to save the changes.
4. Restart *Axxon Next*.

The newly selected interface language will be applied once *Axxon Next* is restarted.

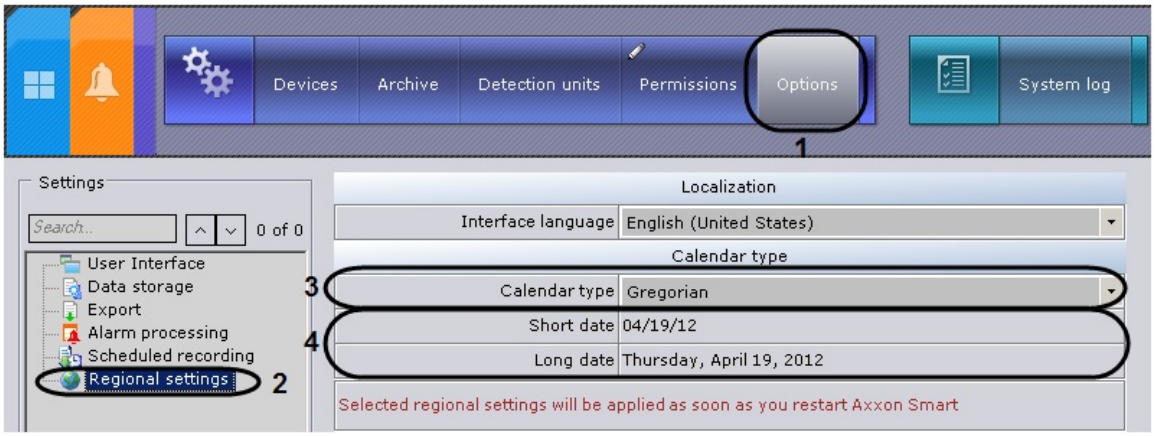
Play corresponding video

Selecting the calendar type

When working with *Axxon Next*, the user can choose the type of calendar used (Gregorian or Persian).

To select the interface language, complete the following steps:

1. Go to **Settings Options Regional settings** (**1**–**2**).



2. Select the calendar type that is used in Axxon Next from the calendar drop-down list (**3**). The short and long forms of dates are also displayed in their respective fields (**4**).
3. Click **Apply** to save the changes.
4. Restart *Axxon Next*.

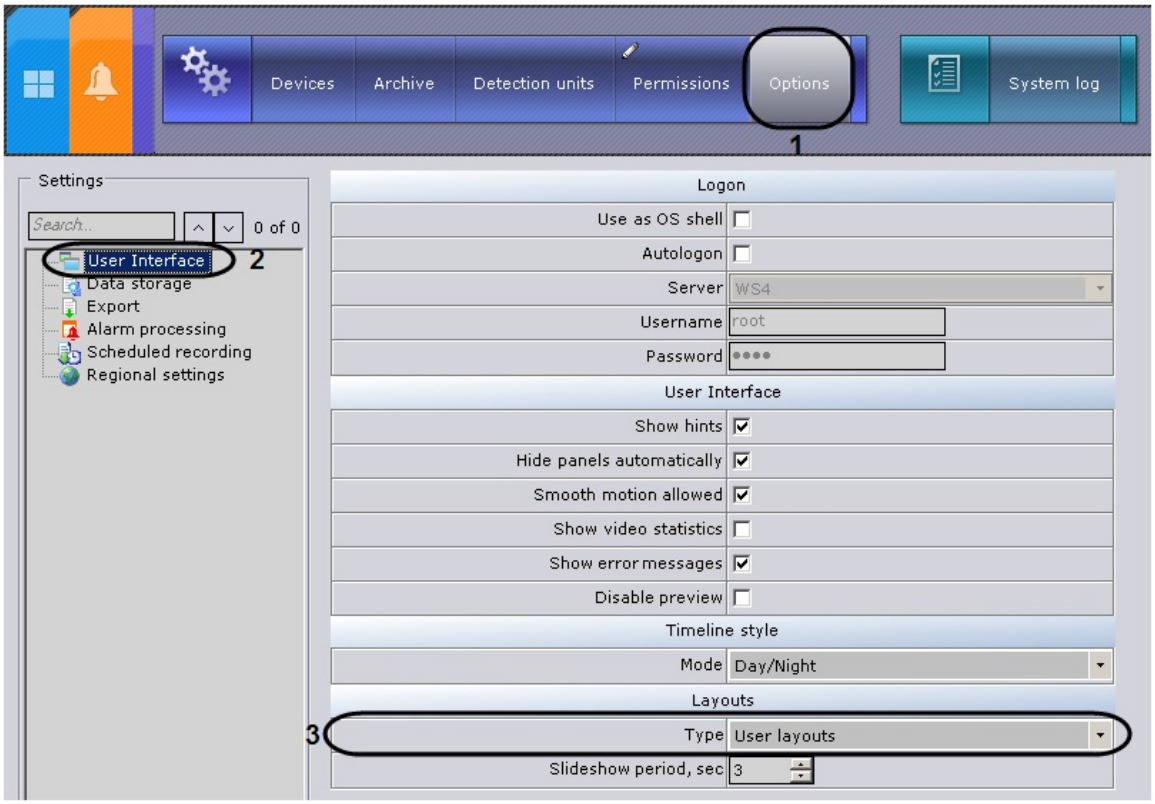
The newly selected calendar type will be applied once *Axxon Next* is restarted.

Play corresponding video

Switching between layout types

When working with Axxon Next, the user can choose either a standard layout or a user-defined layout. To switch between these types of layouts, perform the following:

1. Go to **Settings Options User interface** (**1**–**2**).



2. Select the layout type in the corresponding drop-down list (**3**).
3. Click the **Apply** button to save the settings.

The layout ribbon will then operate in the selected mode.

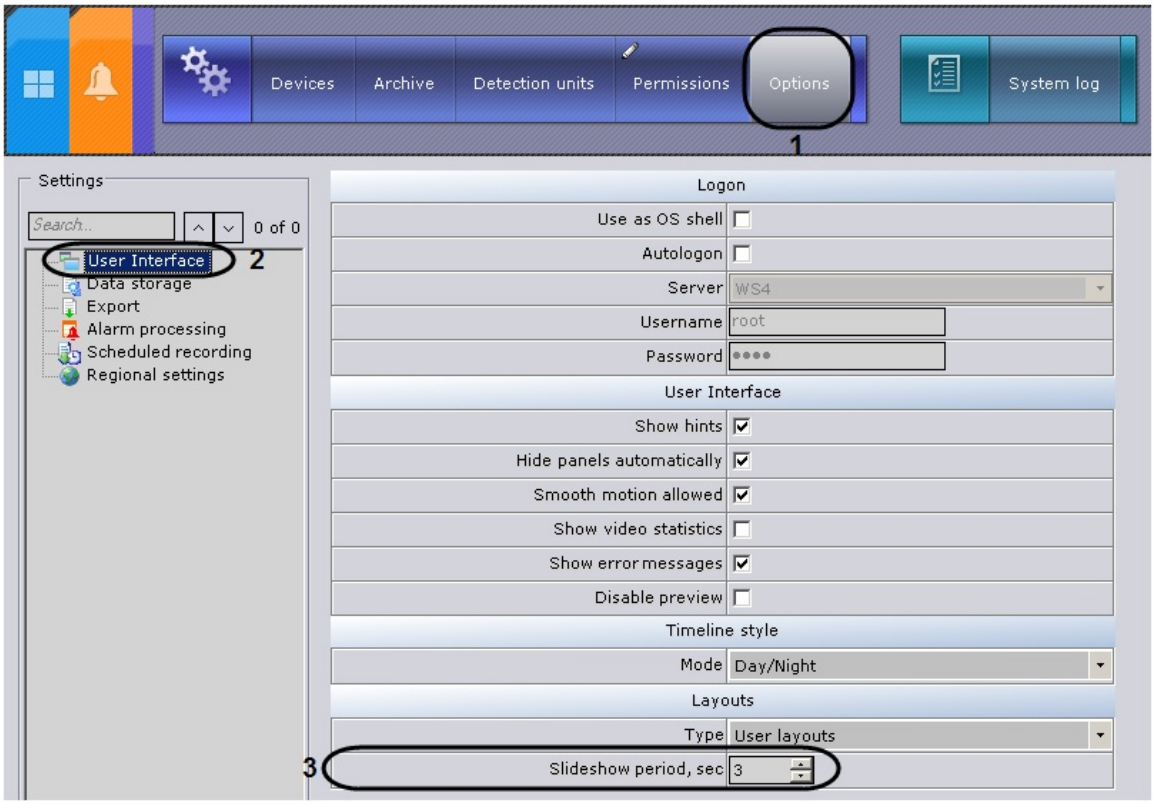
> **Note**
>
> Switching layout modes is allowed only for users with **Layout configuration** per missions

Configuring Slideshow parameters

Slideshow mode is a cyclical switching of layouts according to an assigned frequency (dwell-time). Slideshow is launched using the context menu of the layouts ribbon.

To configure the slideshow dwell-time, perform the following:

1. Go to **Settings Options User interface** (**1**–**2**).



2. Set the slideshow dwell-time, in seconds, in the corresponding field (**3**).
3. Click **Apply** to save the changes.

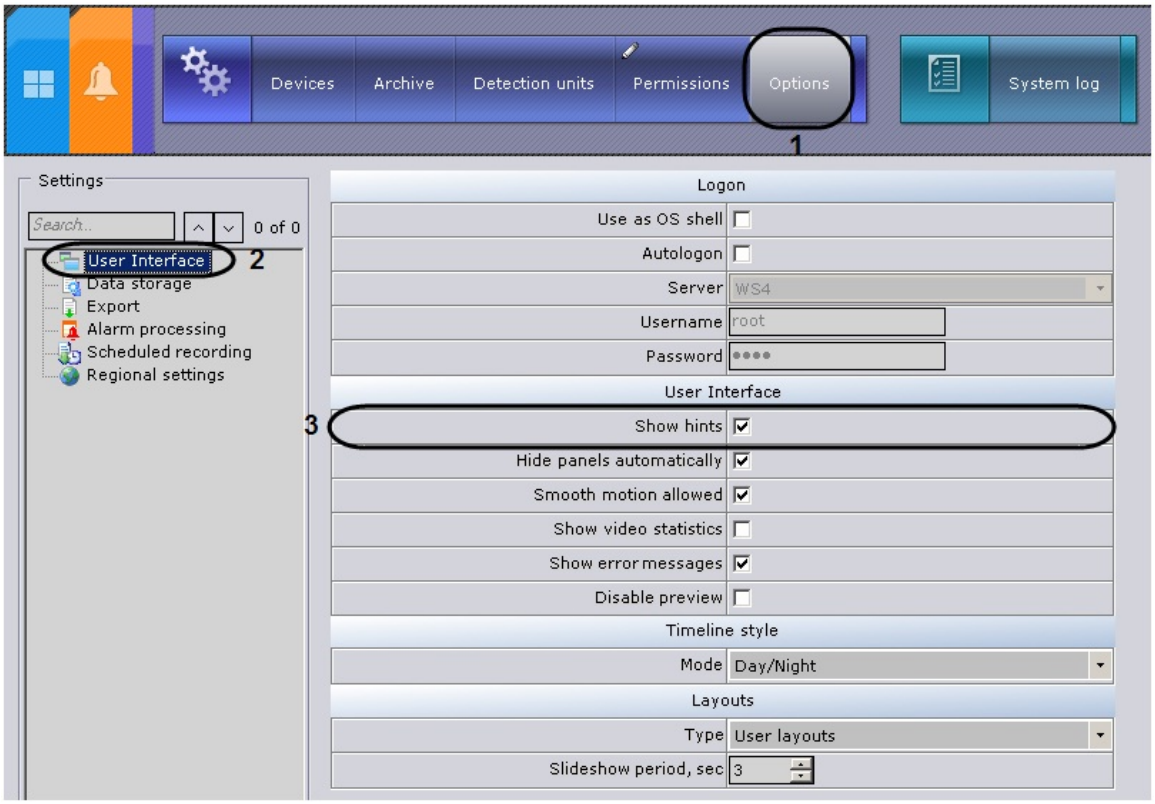
The slideshow dwell-time is now set.

> **Note**
>
> Switching layout modes is allowed only for users with **Layout configuration** per missions

Hiding tooltips

In Axxon Next, tool tips are displayed when the cursor is moved over a control element. Tooltips are enabled by default. To turn off tooltips, perform the following:

1. Go to **Settings Options User interface** (**1**–**2**).



2. Clear the **Show hints** check box (**3**).
3. Click **Apply** to save the changes.

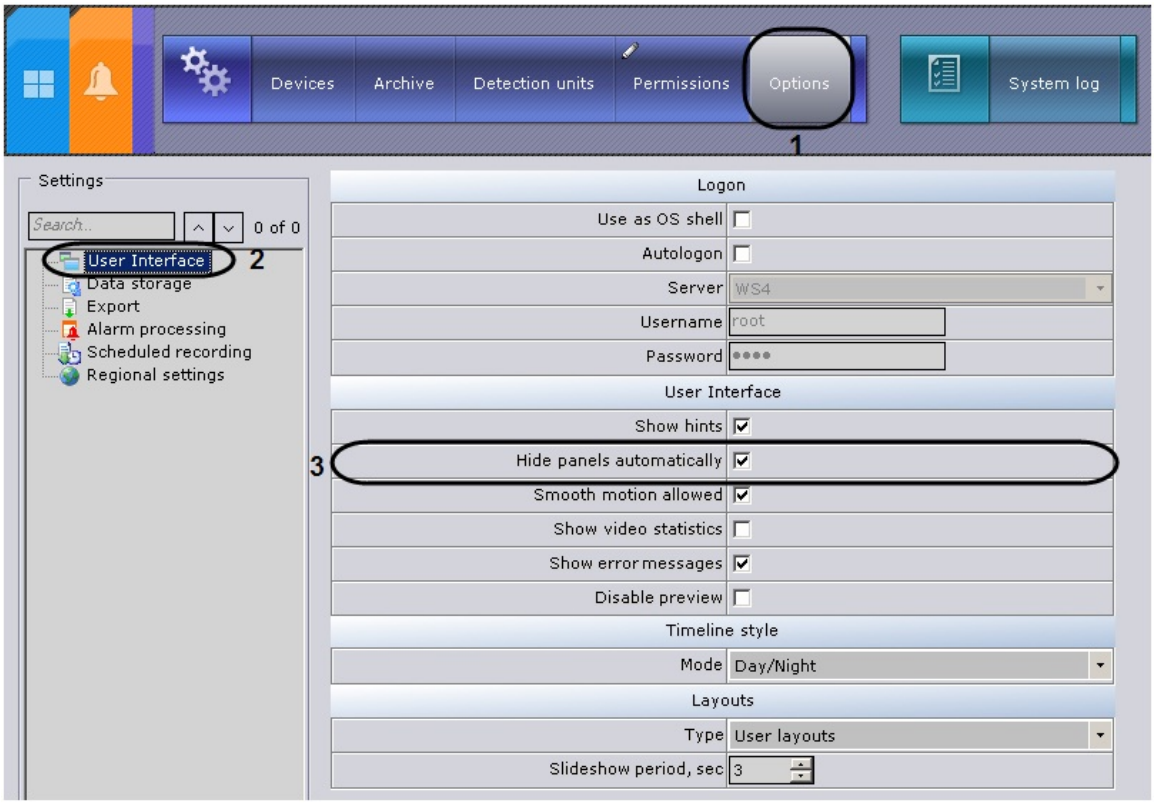
Tooltips are now disabled. Tooltips can be re-enabled by simply selecting the **Show hints** check box.

Configuring auto hide for panels

Auto hide entails hiding the top panel if there is no input from the keyboard or mouse. There are two levels of auto hide: shrinking the panel (after 10 seconds of inactivity) and hiding the panel (after 30 seconds of inactivity). Auto hide is enabled by default.

To turn off auto hide for panels, perform the following:

1. Go to **Settings Options User interface** (**1**–**2**).



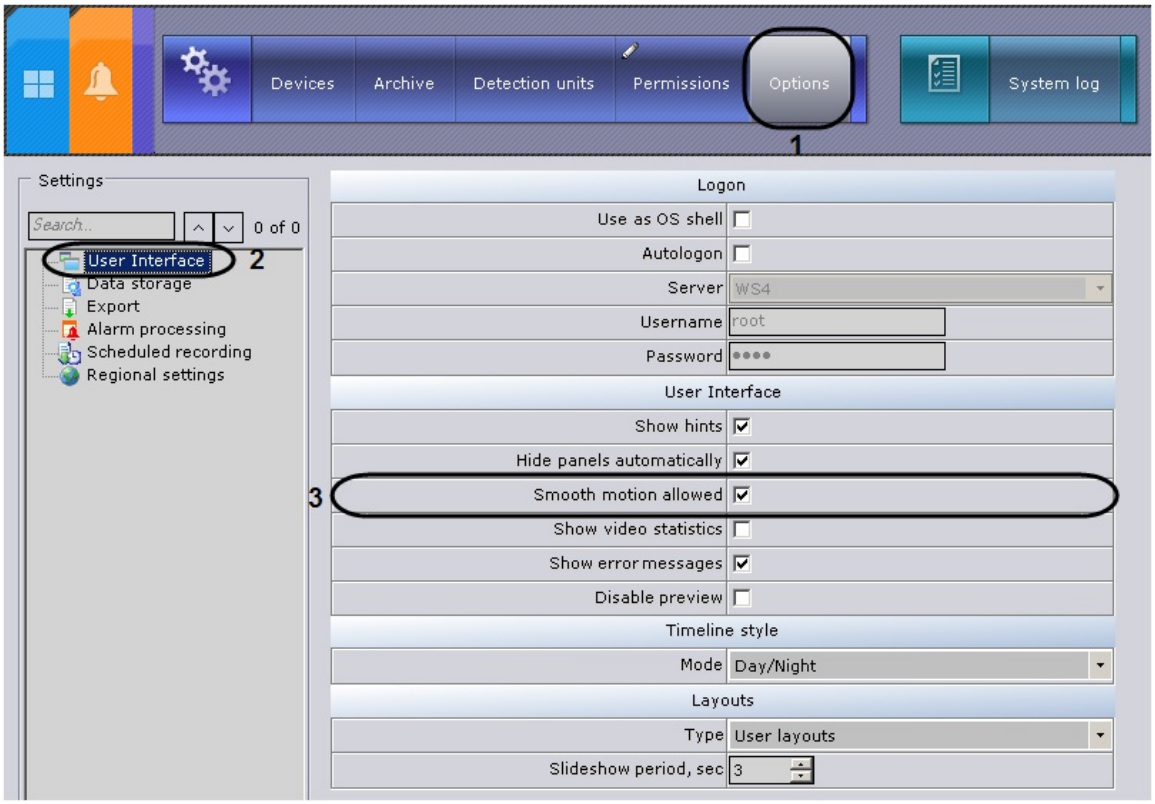
2. Clear the check box for hiding ribbons automatically (**3**).
3. Click **Apply** to save the changes.

Automatic hiding of panels will now be disabled.

Configuring animation

Smooth motion is needed to smoothly change the position of viewing tiles, as well as for smooth switching between tabs. Animation for viewing tiles is enabled by default. To disable this option, perform the following:

1. Go to **Settings Options User interface** (**1**–**2**).



2. Clear the **Use animation** check box (**3**).
3. Click **Apply** to save the changes.

Animation for viewing tiles will now be disabled.

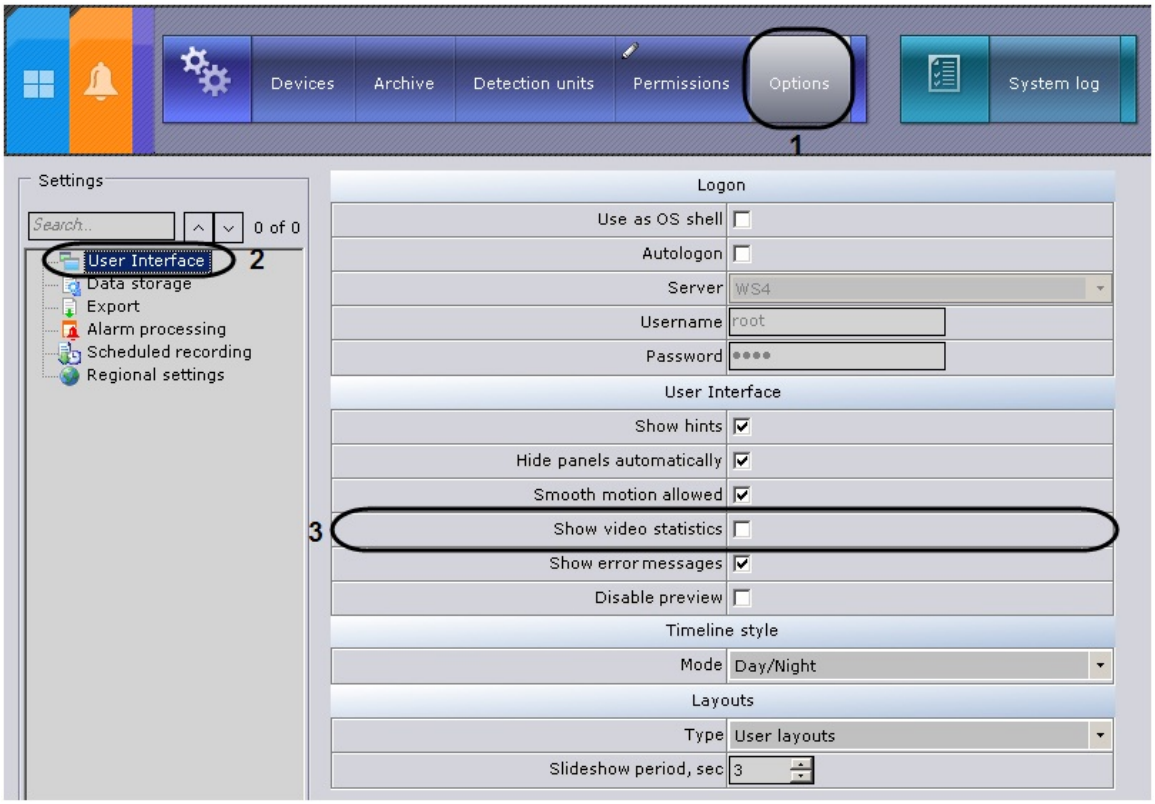
Configuring Display of Video Statistics

You can display the following video statistics in the viewing tile:

1. Frame rate of the displayed video stream
2. Frame rate of the video stream received from a video camera or an archive
3. Bit rate of a compressed video stream
4. Resolution of the displayed video stream

To use this option you must perform the following steps:

1. Go to **Settings Options User interface** (**1**–**2**).

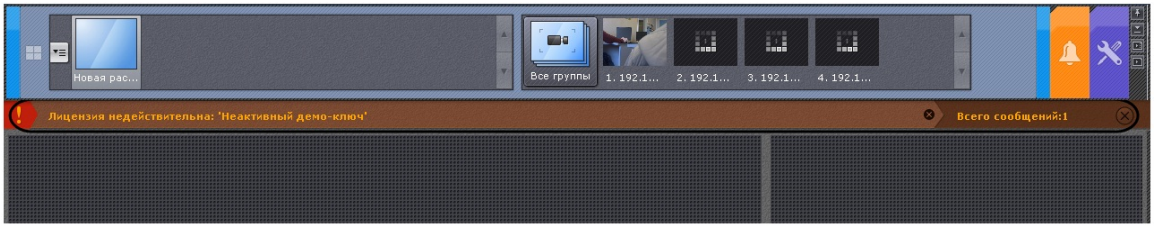


2. Select the **Show video statistics** check box (**3**).
3. Click **Apply** to save the changes.

The video statistics will now be displayed in the viewing tile for all modes (Live Video, Archive, Alarm, and Archive Search).

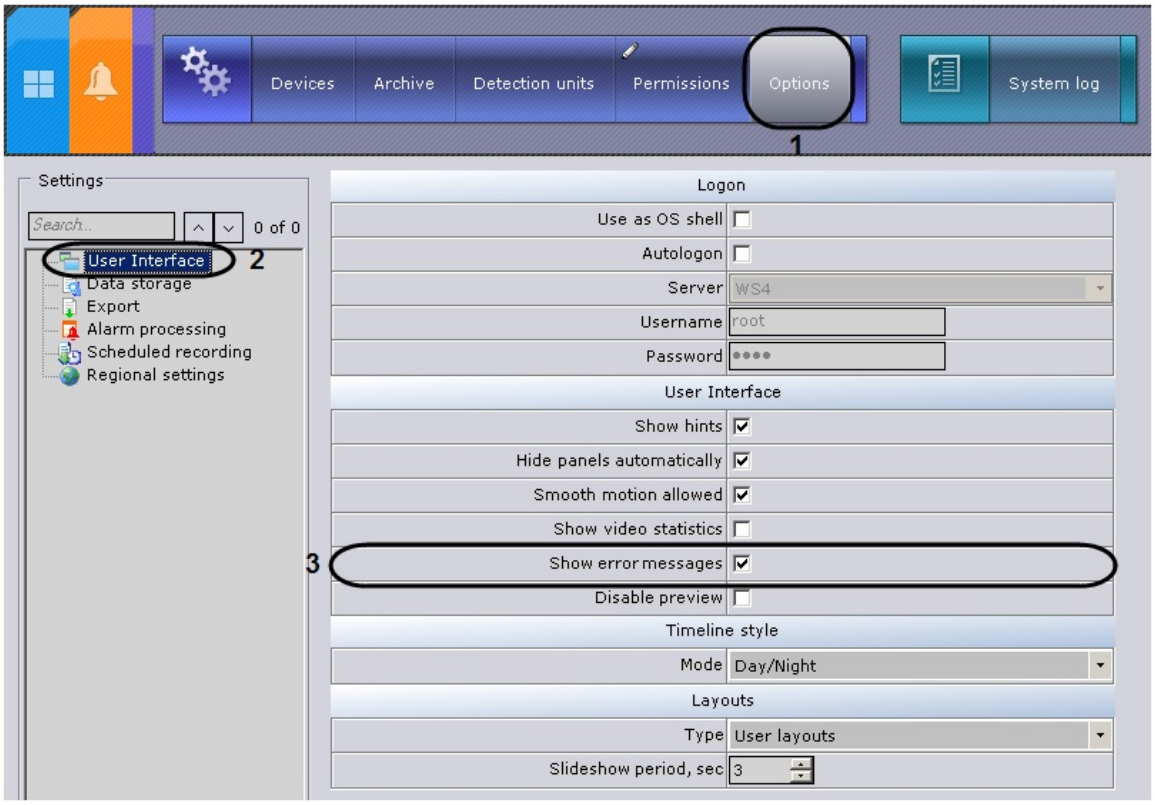
Configuring Display of Error Messages

By default, messages about system errors which have occurred are displayed in real time in the **L ayouts** and **Alarms** tabs of the Axxon Next software package.



To turn off display of error messages, you must perform the following steps:

1. Go to **Settings Options User interface** (**1**–**2**).



2. Clear the **Show error messages** check box (**3**).
3. Click **Apply** to save the changes.

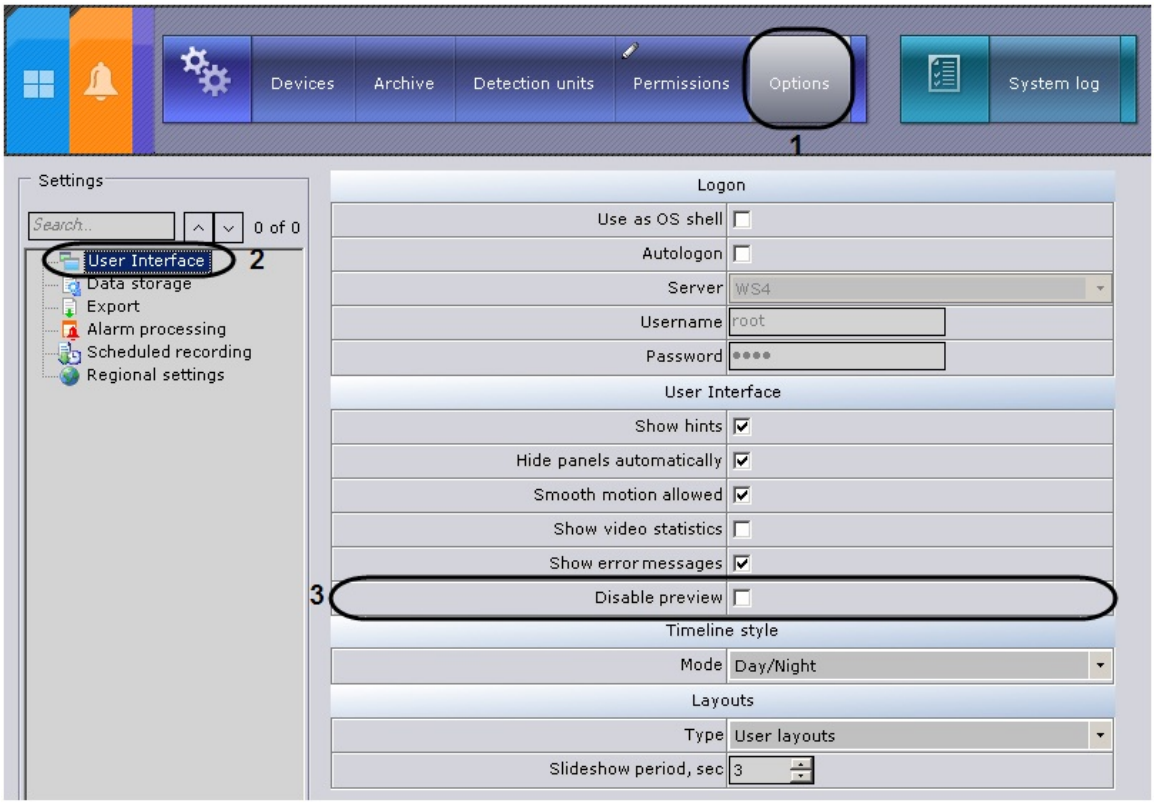
After you complete these actions, error messages will no longer be displayed.

Configuring previews of alarm events

You can disable previews of alarm events in the viewing tile.

To do this, follow the steps below:

1. Go to **Settings Options User interface** (**1**–**2**).



2. Select the **Disable preview** check box (**3**).
3. Click **Apply** to save the changes.

After you complete these actions, previews of alarm events will be disabled.

Configuring the timeline

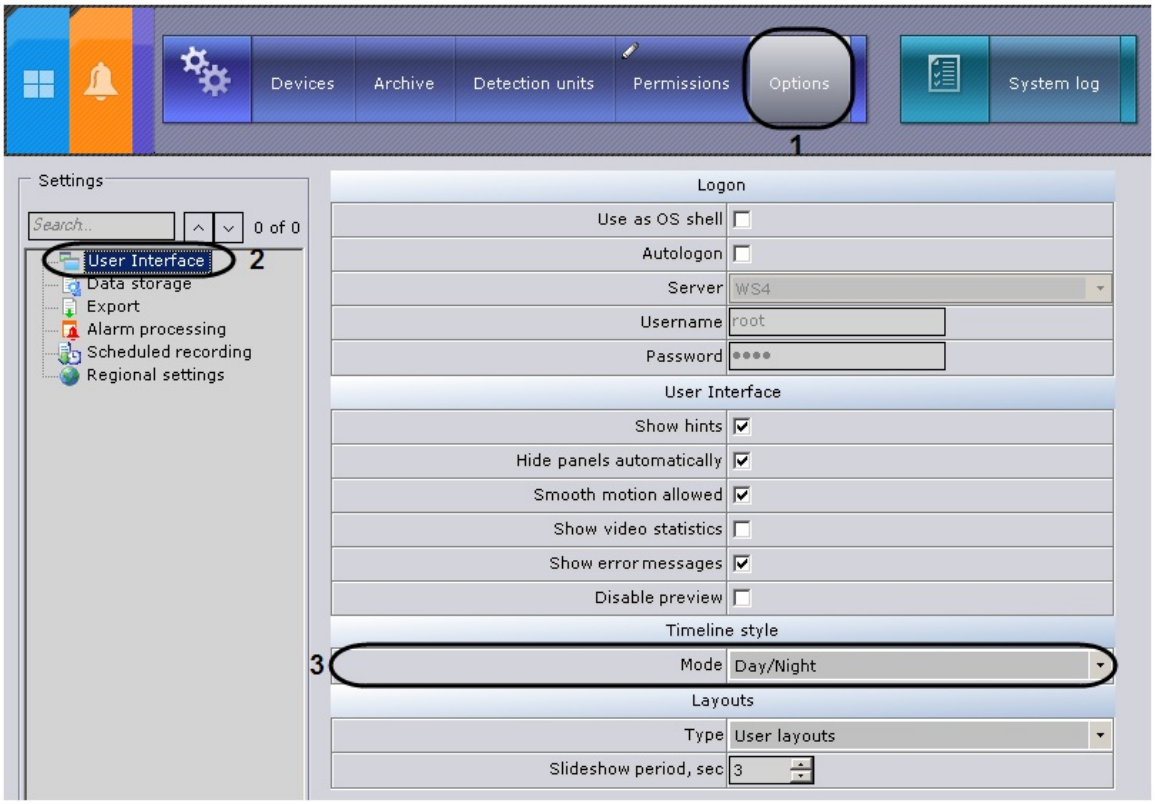
In Axxon Next, a timeline is displayed in the right portion of the video surveillance monitor when a viewing tile is switched to archive playback mode. The external appearance of the timeline can be changed depending on the selected style: **Day/night** or **By shift**.

Configuring the Day/night style

If the **Day/night** style is selected, the timeline will be displayed in light-colored segments from 6:00 AM to 6:00 PM and dark-colored segments from 6:00 PM to 6.00 AM.

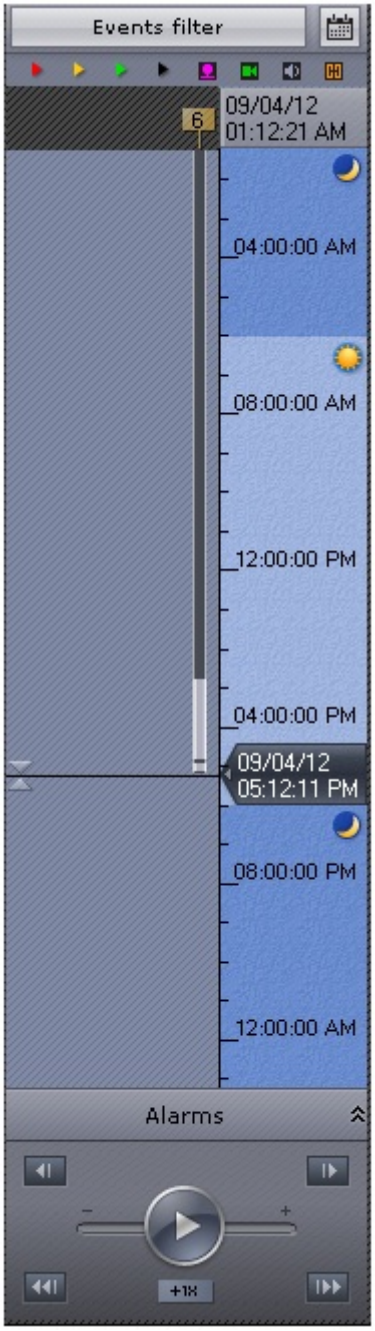
To set the **Day/night** style for the timeline, you must perform the following steps:

1. Go to **Settings Options User interface** (**1**–**2**).



2. Select **Day/night** from the **Mode** drop-down list in the **Timeline style** settings group (**3**).
3. Click **Apply** to save the changes.

The timeline will now look like the one pictured in figure when viewing an archive.

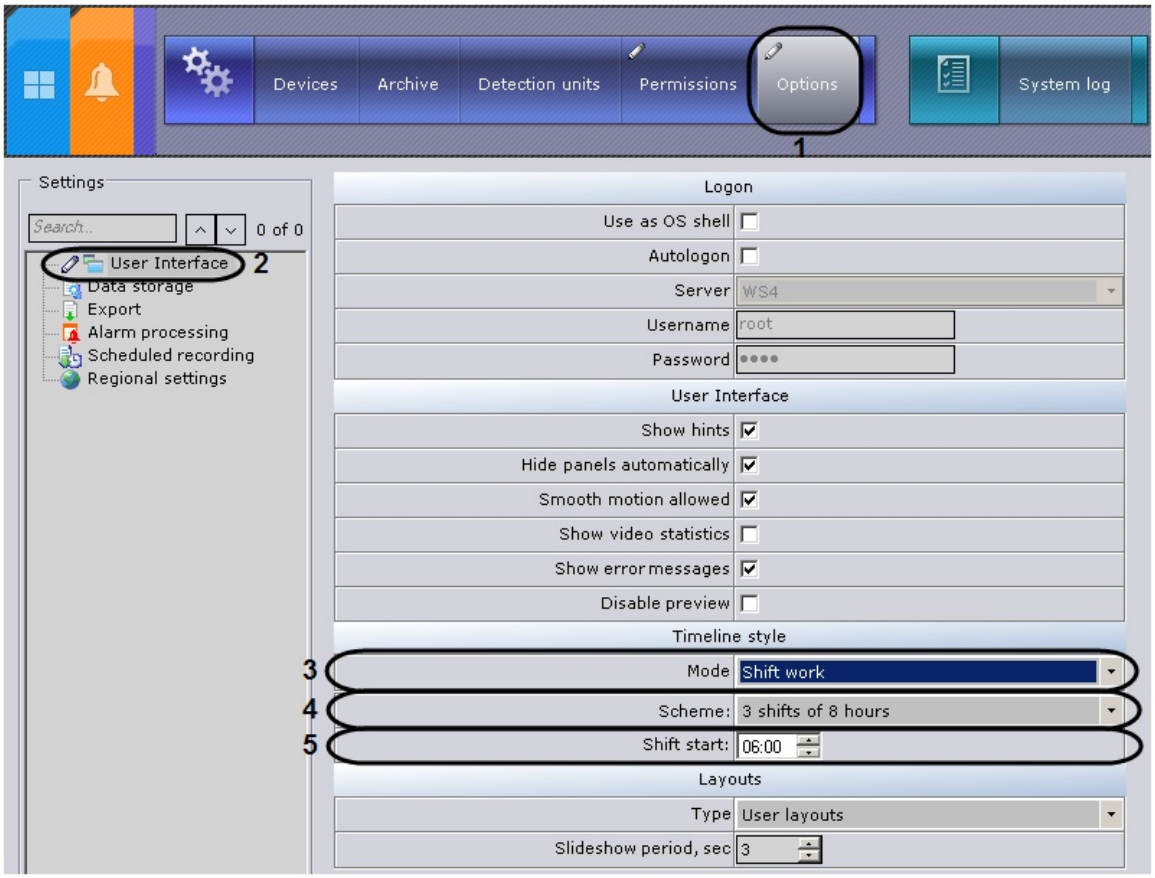


Configuring the Shift work style

If the **Shift work** style is set, the timeline will be displayed in alternately colored segments (depending on the number of shifts set per day and the beginning of the first shift). Each segment contains an identification number for each shift. In Axxon Next, the user can choose 3 types of shifts (three 8-hour shifts, two 12-hour shifts, or one 24-hour shift).

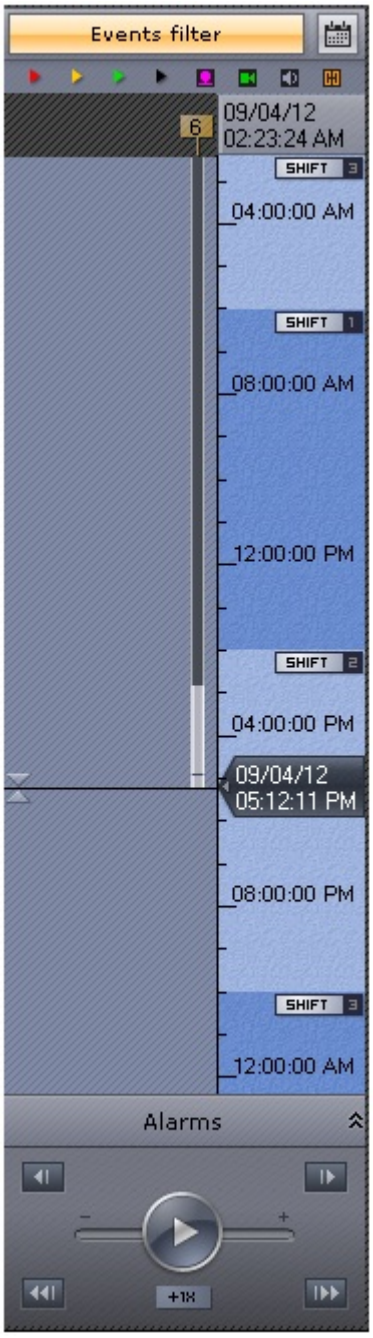
To configure the **Shift work** style, you must perform the following steps:

1. Go to **Settings Options User interface** (**1**–**2**).



2. Select **Shift work** from the **Mode** drop-down list in the **Timeline style** settings group (**3**).
3. Select the shift type from the **Scheme** list (**4**).
4. Define the start time of the shift (**5**).
5. Click **Apply** to save the changes.

The timeline will now look like the one pictured in figure when viewing an archive.



Configuring how Axxon Next starts

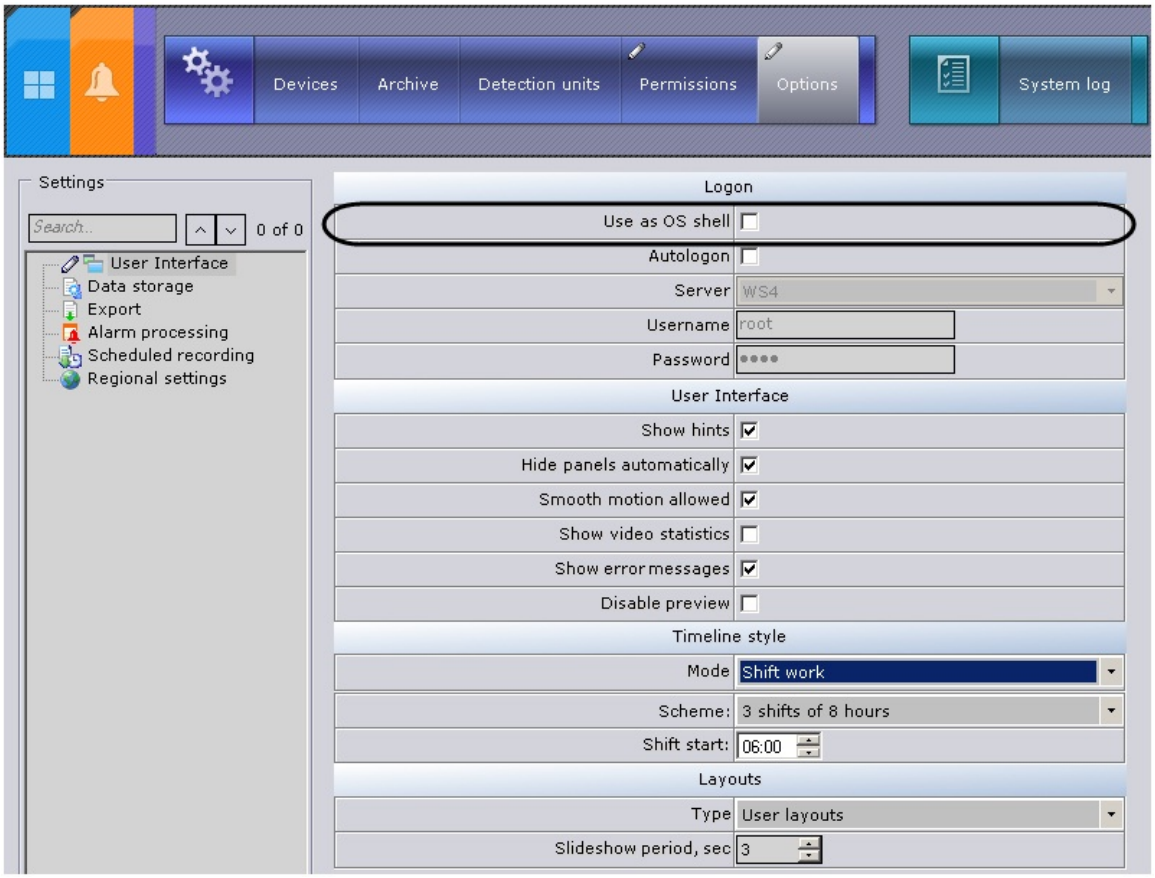
Play corresponding video

Configuring Axxon Next instead of the standard Windows OS shell

Autorun of Axxon Next, instead of the standard Windows OS shell, is used in cases where you need to restrict access to computers running the digital video surveillance system, including preventing the launch of various applications, file copying and deletion, various Windows operations, and other non-standard use of the computers.

If you configure *Axxon Next* to autorun instead of the standard Windows shell, *Axxon Next* will launch instead of Windows *Explorer* immediately after Windows loads. This makes it impossible for the user to launch certain applications installed on the computer or to work with certain program dialog boxes.

To activate autorun of the Axxon Next software package instead of the standard Windows shell, select the **Use as OS shell** check box in **Settings Options User interface** and click **Apply**.



Axxon Next will now launch instead of the standard Windows shell the next time you start Windows.

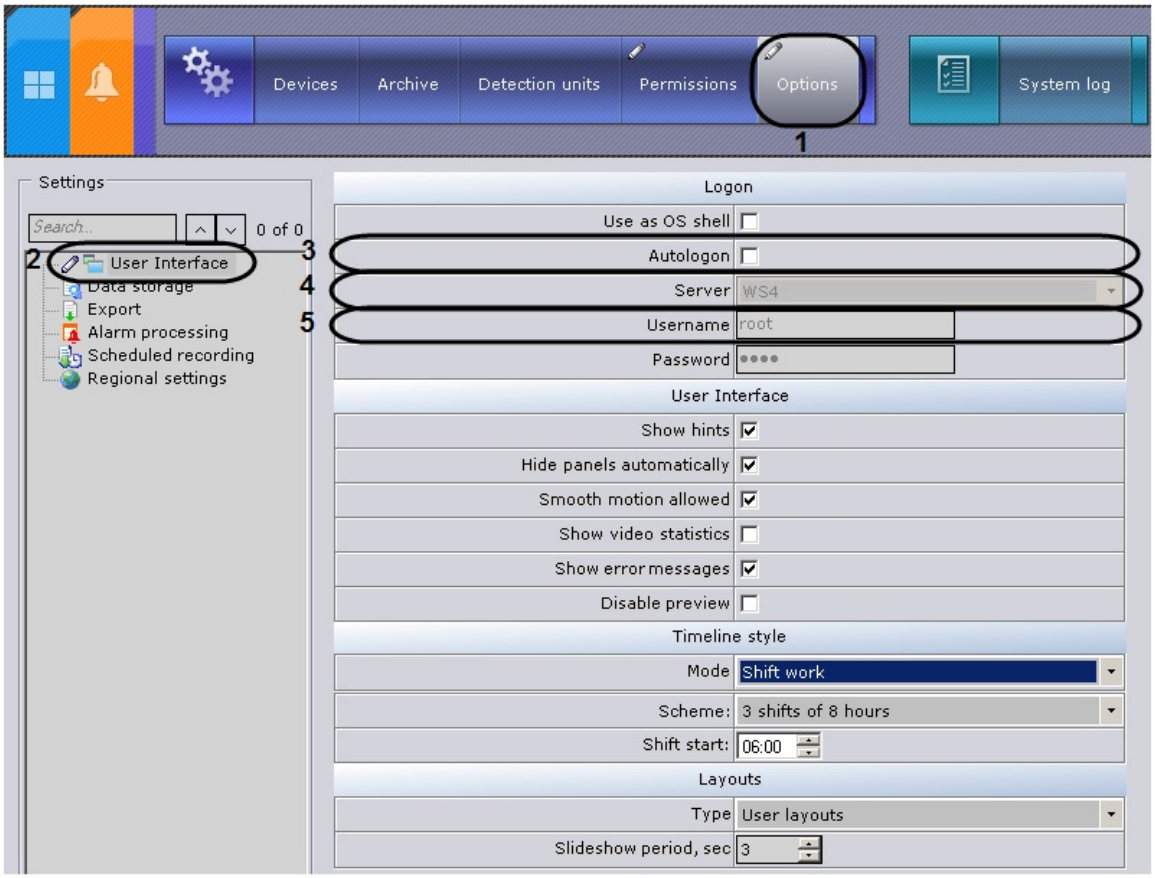
> **Note**
>
> If User Accounts Control is enabled in the Windows OS, this option will not be available and the **Use as OS shell** check box will be grayed out. If this check box was selected before UAC was enabled, you can remove it

Configuring autologon

Axxon Next allows automatic user authorization when a Client is started.

To configure autologon, complete the following steps:

1. Go to **Settings Options User interface** (**1**–**2**).



2. Select the **Autologon** check box (**3**).
3. From the Server list, select the Server you need to query for automatic authorization (**4**).
4. Enter the user name and password to be used for automatic authorization (**5**).
5. Click the **Apply** button.

Configuration of autologon is now complete. Once *Axxon Next* is restarted, it will automatically connect to the selected Server under the specified user.

> **Note**
>
> In this case, Axxon Next will enable only those functions that correspond to the rights and permissions of the specified user

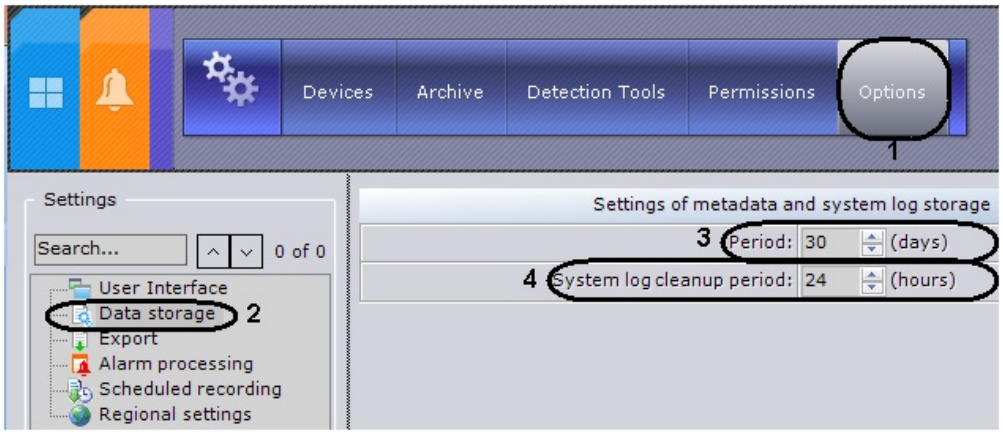
Configuring storage of the system log and metadata

The system log is a log containing system information on events, including system error entries.

The system log is stored in a local database for each server. You can set access to the system log for a user group in the **Permissions** tab under **Settings** (see the section titled The Role object).

To configure storage of the system log and metadata, perform the following:

1. Go to **Settings Options User interface** (**1**–**2**).



2. In the **Period** field, enter the amount of days to store the system log in the Server's database and to store metadata in the object trajectory database (**3**).
3. In the appropriate field, enter the amount of hours after which outdated events will be purged from the system log (**4**).

   Outdated events are events that have been stored in the system log for a period greater than that indicated in step 2.

> **Note**
>
> Every 12 hours after Axxon Next is started, the object trajectory database is purged of video recordings that have been stored for more than the specified storage period

4. Click the **Apply** button.

Configuration of the system log is now complete.

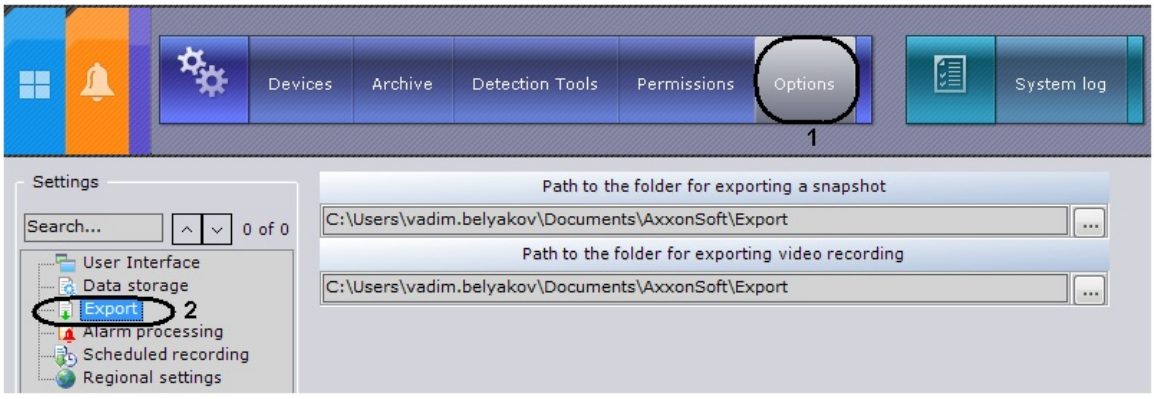
Play corresponding video

Configuring export

Configuration of the export of video recordings or frames consists of selecting folders for saving exported files. By default, files are exported to C:\Documents and Settings\User\My Documents\AxxonSoft\Export on Windows XP. On Windows 7 and Windows Vista, the default folder is C:\Users\User\Documents\AxxonSoft\Export.

To change export settings, you must perform the following steps:

1. Go to **System settings** ▸ **Options** ▸ **Export** (**1**–**2**).



2. In the **Path for snapshot export** and **Path for video export fields**, enter the full path to

the folders where exported files are to be saved. To do this, click the button  .

> **Attention!**
>
> If you modify the paths to exported file folders on one computer, those paths will also be changed on all computers in the Axxon Domain and on all Clients

3. Click the **Apply** button.

Changing the export settings is now complete.

Exported video recordings will be stored in .mkv format; video frames will be stored in JPG format.

Play corresponding video

Configuring Alarm Management Mode

You can set the following parameters for alarm handling:

1. The maximum allowed time for ignoring alarms is the length of time a new alarm can remain unaccepted for handling by an operator before it is assigned **Unclassified** status and is deleted from the **Alarms** tab.

> **Note**
>
> To begin processing an alarm, you must switch to Alarm Management mode

> **Note**
>
> The time allowed for evaluating an alarm after accepting it for handling is not limited

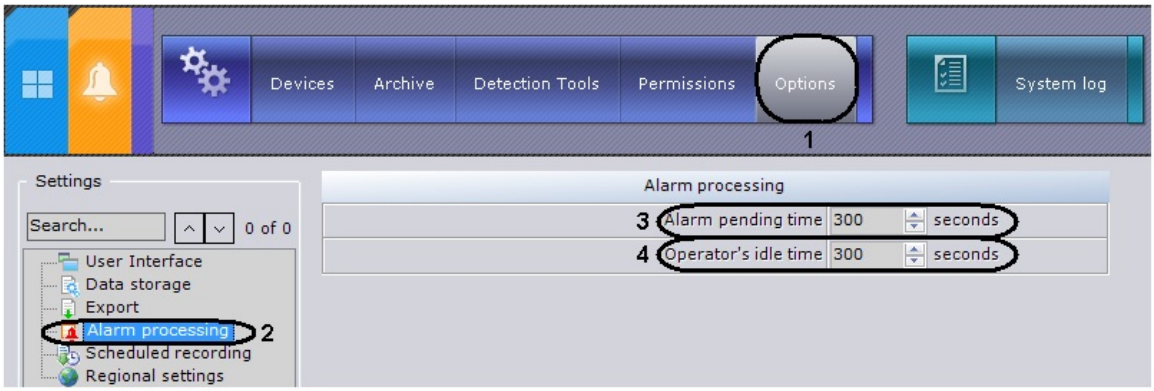
> **Note**
>
> If the operator is in Alarm Management mode and activates a tile from another video camera, Alarm Management mode will close

2. The maximum allowed reaction time to an alarm is the length of time from the moment the operator who accepted an alarm for processing exits alarm mode, after which the alarm returns to **New** status, and the count for the allowed time for ignoring an alarm begins again.

> **Note**
>
> For example, an operator can exit alarm mode to view the video archive related to the alarm

To configure alarm handling in the system, you must perform the following steps:

1. Go to **Settings** **Options** **Alarm processing** (**1**-**2**).



2. In the **Alarm pending time** group, enter the time in seconds during which it is necessary to accept the alarm for processing before it is assigned the **Unclassified** status (**3**).
3. In the **Operator's idle time** field, enter the time in seconds during which an operator who accepted an alarm for processing and exited alarm mode without evaluating it must return to alarm mode (**4**).
4. Click the **Apply** button.

Configuration of alarm handling is now complete.

Play corresponding video

Configuring schedules

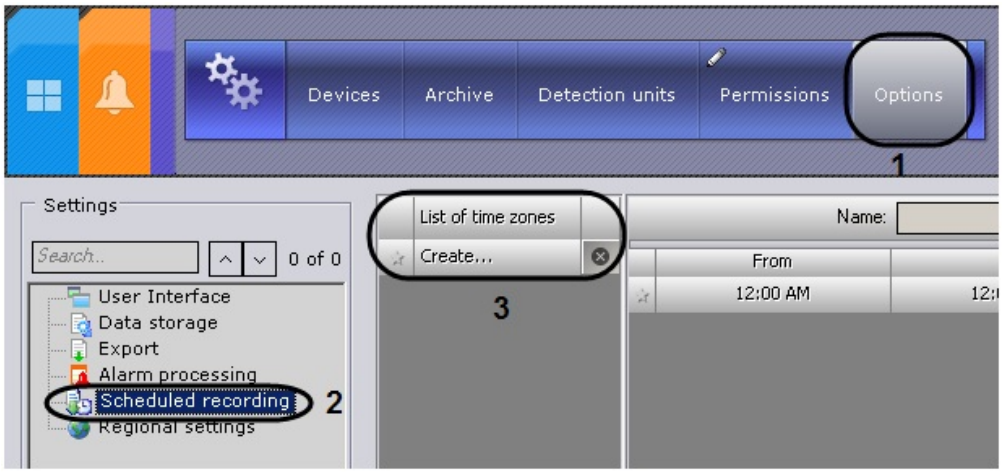
A schedule consists of all the time intervals for which video streams from video cameras will be recorded to archive.

Play corresponding video

Creating schedules

To create a schedule, complete the following steps:

1. Go to **Settings Options Scheduled recording** (**1**-**2**).



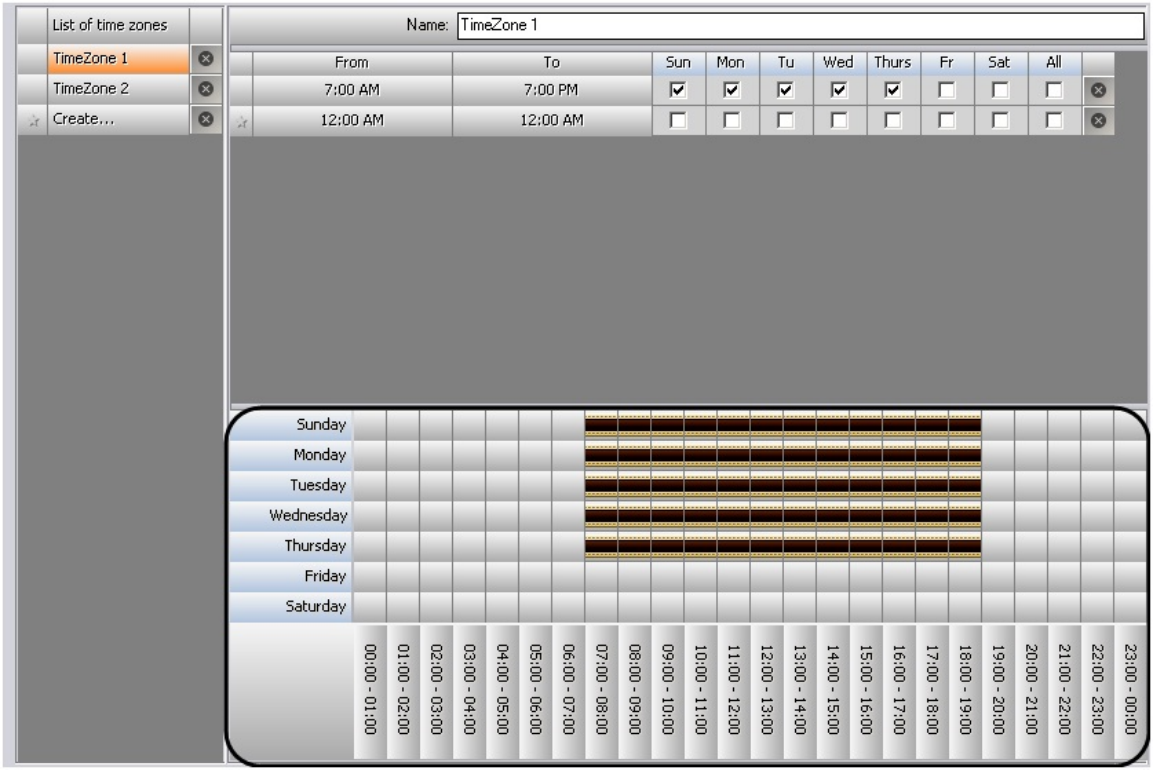
2. Under **List of schedules,** click the **Create...** field and enter the name of the schedule (**3**)
3. Set the time intervals for the schedule:
   a. Enter the interval's start time in the **From** column with the help of the buttons accessible by left-clicking the appropriate cell twice (**1**).

Button	Action
	Shift the interval start back by 1 hour
	Shift the interval start back by 15 minutes
	Shift the interval start ahead by 15 minutes
	Shift the interval start ahead by 1 hour

b. Enter the interval's end time in the **To** column with the help of the buttons accessible by left-clicking the appropriate cell twice (**2**).
c. Select the days of the week to be included in the interval by selecting the appropriate check boxes (**3**).
d. Create the necessary number of intervals to be included in the schedule

> **Note**
>
> To delete a time interval, click in the corresponding row

A visual display of time intervals for each day of the week is provided on the time chart.



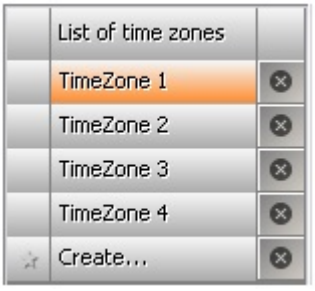
4. Click the **Apply** button.

Creation of a schedule is now complete.

Deleting a schedule

To create a schedule, complete the following steps:

1. Go to the list of schedules (under **Settings Options Scheduled recording**).



2. Click beside the schedule that you want to delete.
3. Click the **Apply** button.

Deletion of a schedule is now complete.

Creating and Configuring the Role and User System Objects

In Axxon Next, only one role (**Administrator**) and one user (**root**) are registered default. Their deletion is prohibited. Administrators possess permissions to configure all components of the video surveillance system. To register an operator with individual permissions, you must create a new role with those permissions and a new user account for that user.

Registration and configuration of roles and users is carried out through the **Permissions** tab in **Se ttings**.

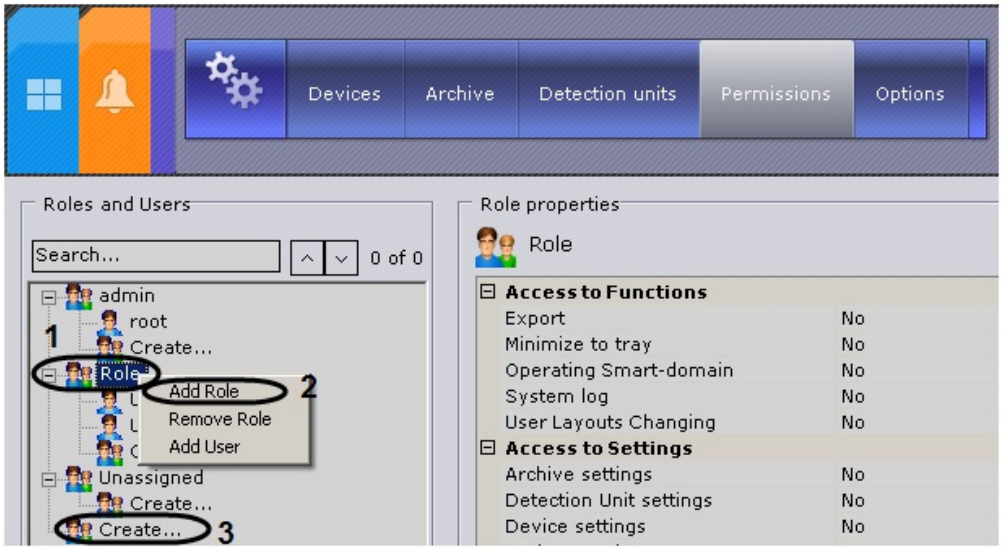
Play corresponding video

The Role object

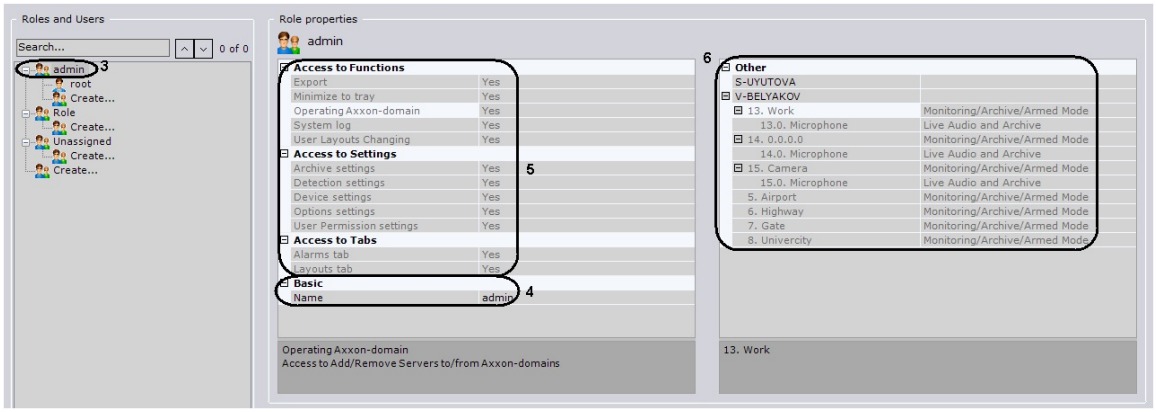
A role is intended for assigning a group of users individual rights and permissions for administration, management and/or monitoring of individual components of Axxon Next.
To register a new role, perform the following:

1. Select a role in the user tree (**1**).
2. Bring up the context menu of the user tree by right-clicking the mouse.
3. Select **Add role** (**2**).

> **Note**
>
> To register a new role, you can also click **Create** (**3**)



A new role will then appear in the user tree, and the properties of that role will appear on the right.



4. Assign a name for the role in the role properties (**4**).
5. Select **Yes** for the components for which access needs to be granted (**5**).
6. Select the appropriate permissions to devices (**6**).

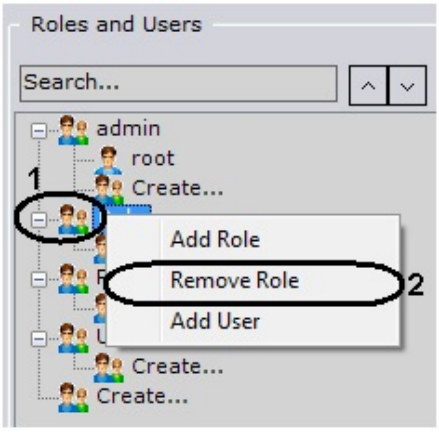
Device	Access permissions	Description
Video camera	No access	Unable to view image from the video camera. Archive is inaccessible.

	Monitoring in Armed mode	The image from the video camera can be viewed only when the video camera is armed. Archive is inaccessible. The user is unable to arm/disarm the video camera.
	Monitoring	The user can view the image from the video camera. Archive is inaccessible.
	Monitoring and Archive	The user can view the image from the video camera. Archive is accessible.
	Monitoring/Archive/Armed mode	All functions are accessible.
Microphone	No access	The user is unable to listen to live sound from the video camera. The user is unable to listen to sound recordings from the archive.
	Live Audio	The user is able to listen to live sound from the video camera (the microphone must be turned on). The user is unable to listen to sound recordings from the archive.
	Live Audio and Archive	All functions are accessible
Telemetry	No access	The user cannot control pan/tilt/zoom
	Control	The user can control pan/tilt/zoom

7. Click the **Apply** button to save the role.

The new role has now been created.
To delete a role, perform the following:

1. In the user tree, select the role that you want to delete (**1**).



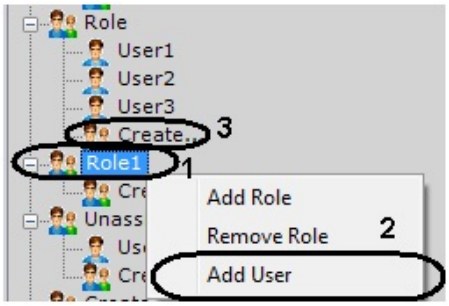
2. Bring up the context menu of the user tree by right-clicking the mouse.
3. Select **Delete role** (**2**).
4. Click **Apply** to save the changes.

The role has now been deleted. All users that were assigned the specified role will now be placed in the **Unassigned** group.

The User Object

In Axxon Next, several users can be assigned to one role. The user will be granted the permissions for administration, management and/or monitoring that are indicated in the settings of the role. When registering the user, their name and password are specified so that the user can log into the system.
To register the user, perform the following:

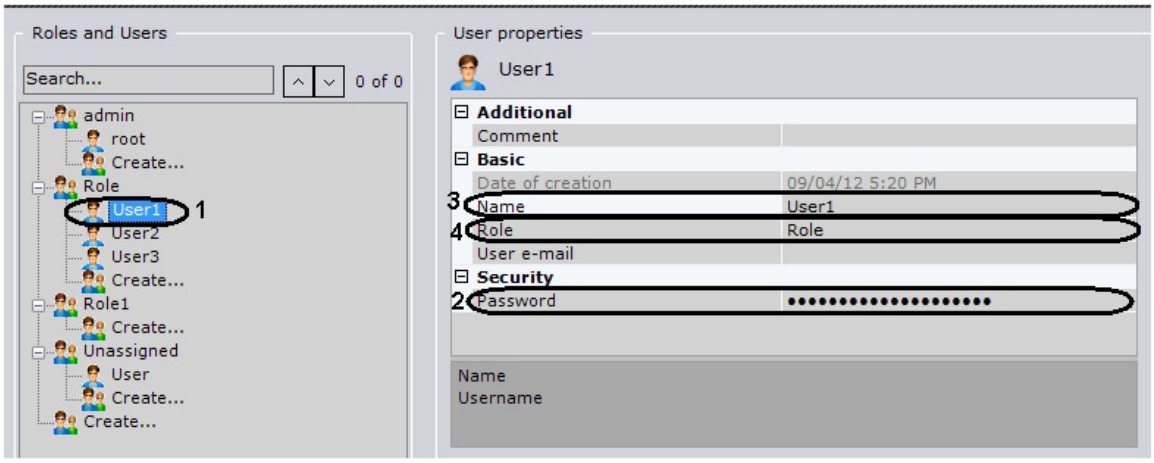
1. Select a role in the user tree (**1**).



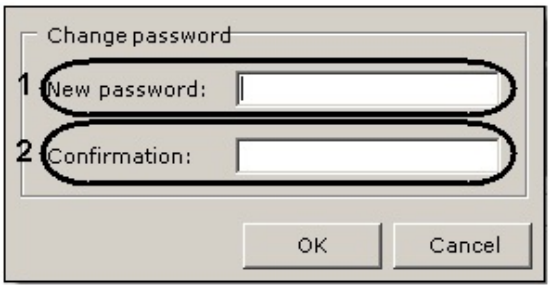
2. Bring up the context menu of the user tree by right-clicking the mouse (**2**).
3. Select **Add user** (**2**).

> **Note**
>
> To register a user, you can also click **Create** (**3**)

The new user will then appear in the user tree, and the permissions configuration panel for that user will open on the right.



4. Enter the password in the**Security** configuration group (**2**).
   a. Click . The **Change password** window opens.



   b. Enter the user's assigned password in the **New password** field (**1**).
   c. Retype the assigned password in the **Confirmation** field (**2**).
   d. Click **OK** to save the settings.
5. Enter the user name in the **Basic** configuration group (**3**, User properties).
6. Select a role in the **Basic** configuration group (**4**, User properties).

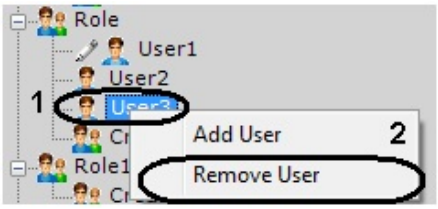
> **Note**
>
> If **Role** has an empty value in the drop-down list, the user will be placed in the **Unassigned** group. Users in the Unassigned group will not be able to log in to Axxon Next. To remove a user from the **Unassigned** group, the user must be assigned a role (see step 6)

7. If necessary, enter an e-mail address and additional information about the user in the **E-mail** and **Comment** fields.

8. Click the **Apply** button to save the settings.

The user has now been registered and added to the user tree.
To delete the user from the tree, perform the following:

1. Select the user (**1**).



2. Bring up the context menu of the user tree by right-clicking the mouse.
3. Select **Delete user** (**2**).
4. Click **Apply** to save the changes.

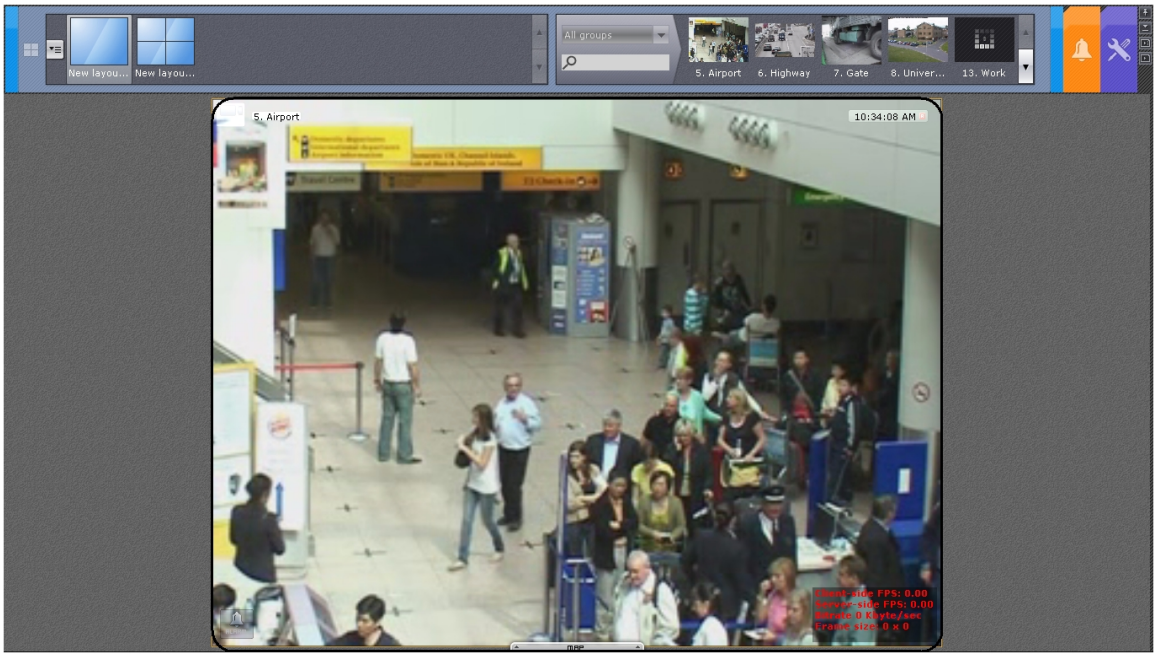
The user has now been deleted from the user tree.

Working with the Axxon Next Software Package

Main Elements of the User Interface

Viewing Tile

A viewing tile is used to display video stream on the monitor of a computer with specific parameters for the purpose of video surveillance, archive viewing, and forensic search in archives. The viewing tile also has a function which allows the generation and evaluation of alarm events in the process of video monitoring of a guarded location.



A more detailed description of the functions of the viewing tile can be found in the section titled Video Surveillance.

Color Coding of Frames

Color coding of the frame of a viewing tile is used to indicate the status of the video camera.

Color of viewing tile frame	Camera status
Green	Camera disarmed
Yellow	Camera armed
Red	Alarm for this camera

Gray	Archive mode
Dark blue	**Snapshot** function enabled

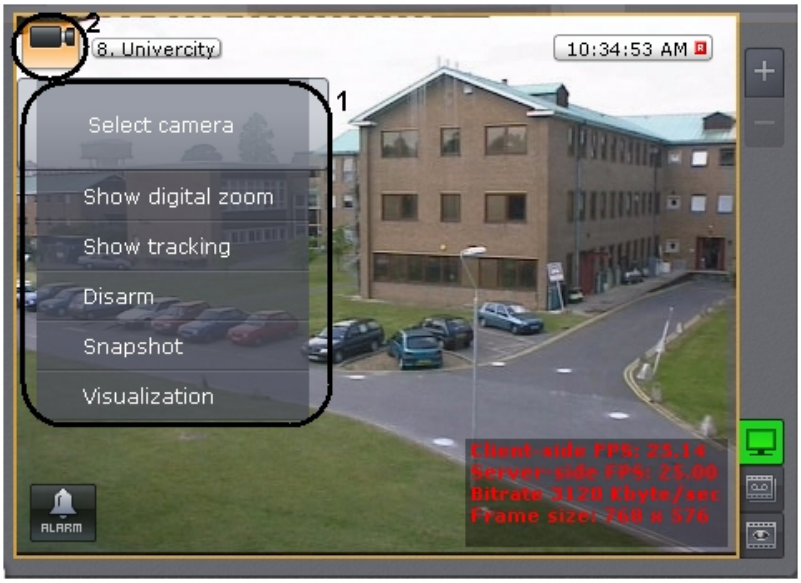
> **Note**
> Color coding for alarm status has priority over color coding for archive and snapshot modes.

Viewing Tile Context Menu

The viewing tile context menu is used to access the following functions (depending on the enabled surveillance mode):

1. Video surveillance
2. Audio monitoring
3. Exporting frames and recordings
4. Object tracking

To bring up the viewing tile context menu (**1**), left-click the video camera icon in the upper left-hand corner of the tile (**2**).



Time Display

The time display appears in the upper right-hand corner of the viewing tile.

In real-time mode, the time display shows the current time: 16:16:33 .

In archive, alarm, and video frame search modes, it shows the time of the fragment being viewed and the playback mode:

1. Forward playback 14:47:29 .
2. Reverse playback 14:47:19 .
3. Pause 14:48:42 .

The **Snapshot** function can be enabled in all video monitoring modes, with the help of the :time display. To do this, left-click in the area with the clock. A snowflake will now appear to the left of the clock. 15:28:37 .

If recording of video from a video camera is currently underway, a red R is displayed to the right of the clock. 14:47:29 . Otherwise, a gray letter "R" will be displayed. 10:09:47 .

Display of Video Statistics

You can display video statistics in the viewing tile (see the section titled Configuring Display of Video Statistics). In real-time mode the video display statistics are shown. In Alarm, Archive, and Clip Search modes, it shows the time of the fragment being viewed and the playback mode:

Video statistic	Parameter description
Client-side FPS	Frame rate of the displayed video stream.
Server-side FPS	Frame rate of the video stream received from a video camera or an archive.
Bitrate	Bitrate of a compressed video stream.
Frame size	Resolution of the displayed video stream.

Video Surveillance Mode Selection Tabs

To select the video surveillance mode, use the tabs in the lower right-hand part of the viewing tile.

Color coding of tabs corresponding to inactive surveillance modes is disabled:

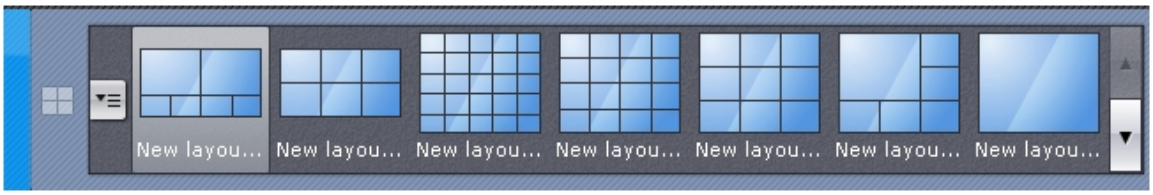
1. Live Video mode  .
2. Alarm Management mode  .
3. Archive mode:  .
4. Archive Search mode:  .

The tab corresponding to the active surveillance mode is highlighted with a color:

1. Live Video mode  .
2. Alarm Management mode  .
3. Archive mode:  .
4. Archive Search mode:  .

Layouts

An Axxon Next operator is granted access to work with the layouts ribbon. The layouts ribbon can work in the user-defined mode or in a standard mode of operation.



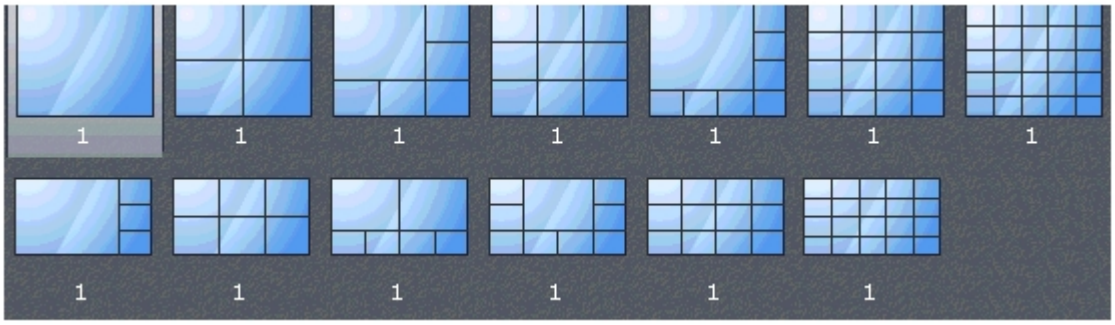
By default, the standard mode is enabled for the layouts ribbon. The operating mode of the layouts ribbon can be selected in the **Settings** tab.

Standard operating mode of the layouts ribbon

The standard mode of the layouts ribbon comprises an automatically determined set of standard layouts. When working in standard mode, the Axxon Next operator may not create, delete, or edit layouts.

Each tab on the layouts ribbon represents a group of layouts of the same type. The layouts in a group differ only in the video cameras contained within them. If a group of layouts contains more than one layout, then a context menu will become accessible for that group. The operator can use this context menu to select layouts in the group or to launch a cyclical slideshow of layouts in that group.

In Forensic Search in archive mode, the following video surveillance functions are accessible: 1x, 4x, 9x, wide-frame, and others.



User-defined operating mode of the layout ribbon

A user-defined mode of the layout ribbon comprises a set of layouts created by an operator. When working in user-defined mode, the *Axxon Next* operator can create, edit, or delete layouts.

Creating and deleting layouts

Layouts are created based on standard layout types. To create a new layout, select one of the standard layouts in the context menu of the layouts ribbon. The newly created layout will be named automatically. The layout will then be placed at the beginning of the list in the layout ribbon.

If necessary, the name of the newly created layout can be changed. This can be done by left-clicking the mouse over the layout name and then editing the name. To save the name, type Enter or left-click anywhere on the screen (except for the line that contains the name).

To delete the selected layout, perform the following:

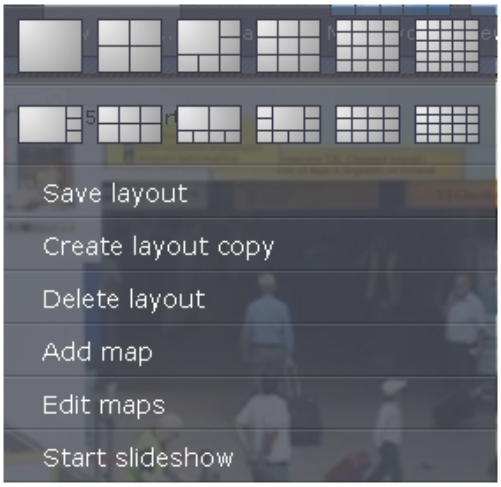
1. Select the layout on the layout ribbon.
2. Click the  button to bring up the context menu.
   The context menu of the layout ribbon will then be displayed.
3. Select **Delete layout**.

Deletion of the layout is now complete.

Editing layouts

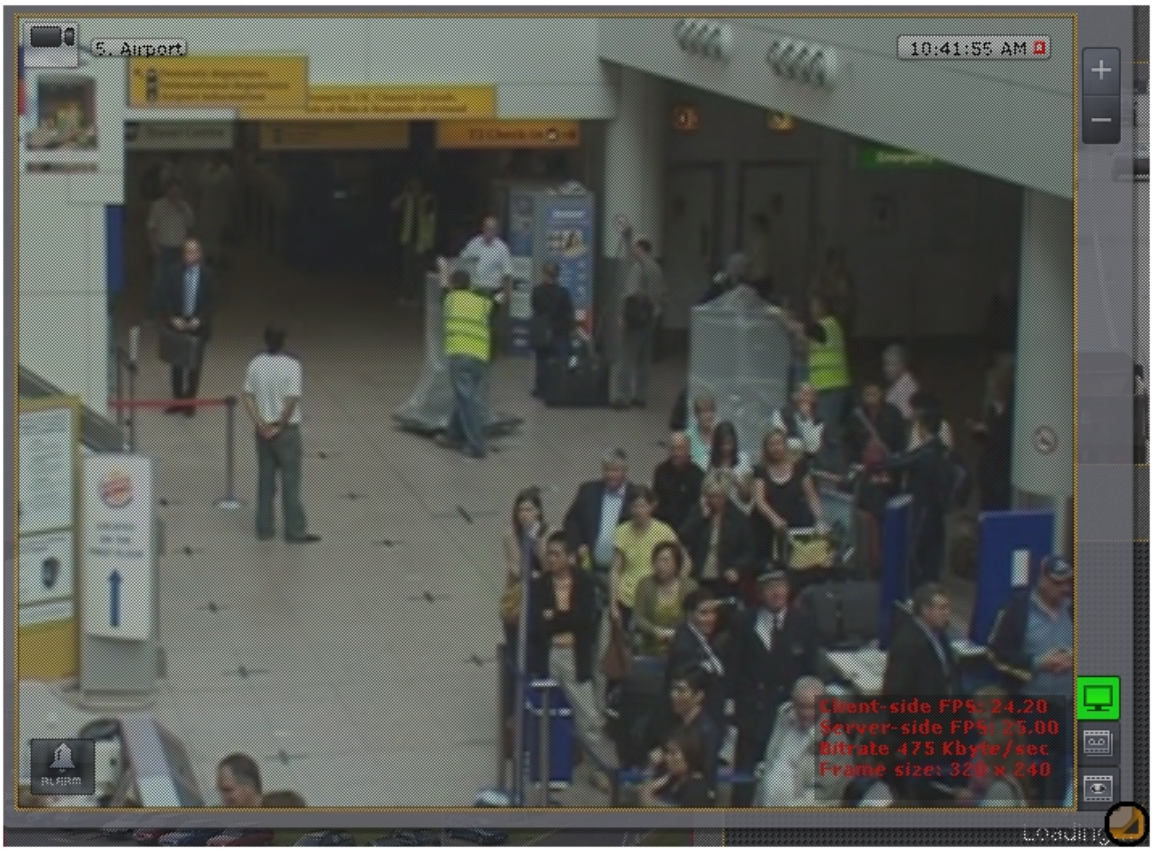
Editing a layout is done by creating a new layout based on one that has been already created and modified in terms of the quantity, content, and position of viewing tiles.

To create a new layout based on a previously created one, switch to the desired layout, bring up the layout ribbon context menu in the video surveillance monitor, then click  and select **Save layout**.



A new layout will now be created.

The number of viewing tiles in a layout can be modified by increasing the size of one or more viewing tiles using the increase/decrease buttons in the viewing tile (**1**) and then clicking the **Set** button (**2**).



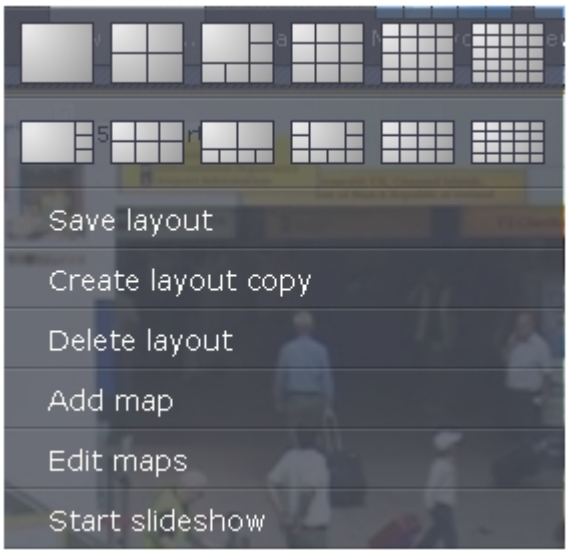
The **Set** button is made available once the size of the viewing tile is increased. Clicking the **Set** bu tton sets the current size of the viewing tile. Once the size of the viewing tile is set, you cannot reduce the size of the viewing tile.

To save the position of video cameras in the layout, select **Save layout** in the context menu.

Layout slideshow

Slideshow mode is rotation through all user-accessible layouts according to an assigned frequency (dwell-time).

To launch slideshow mode, bring up the context menu of the layout ribbon, click the  button, and select **Start slideshow** .



This will launch switching by rotation of all user-accessible layouts according to the assigned dwell-time.

To turn off slideshow mode, bring up the context menu of the layout ribbon and select **Stop slideshow**.

Interactive Map

The 3D interactive map is used to visualize the secured facility, control cameras and identify cameras' location. The interactive map allows controlling the objects from the context menus of the graphical symbols on the map showing the states of the corresponding objects.

The *Axxon Next* 3D map is basically a photograph, drawing, blueprint or a gif, jpeg, png image.

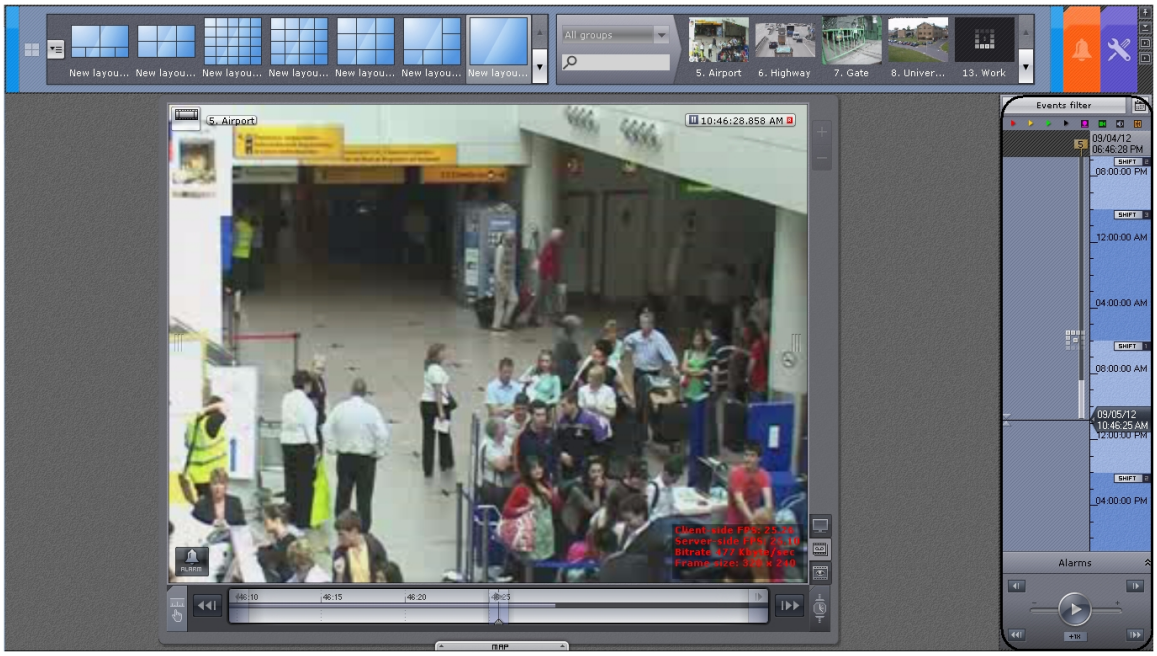
The size and resolution of the images is not limited.

Please refer to the section titled Working with the Interactive Map for further details on how to work with the 3D map.

The Archive Navigation Panel

The Structure and Function of the Archive Navigation Panel

The archive navigation panel is automatically displayed in the right-hand part of the screen when you switch the viewing tile to Archive or Search for Clip by Frame mode.



The archive navigation panel includes the following components:

1. The alarm events filter.
2. The position selection panel.
3. Timeline.
4. Alarms list.
5. Playback panel.

The archive navigation panel is used for the following functions:

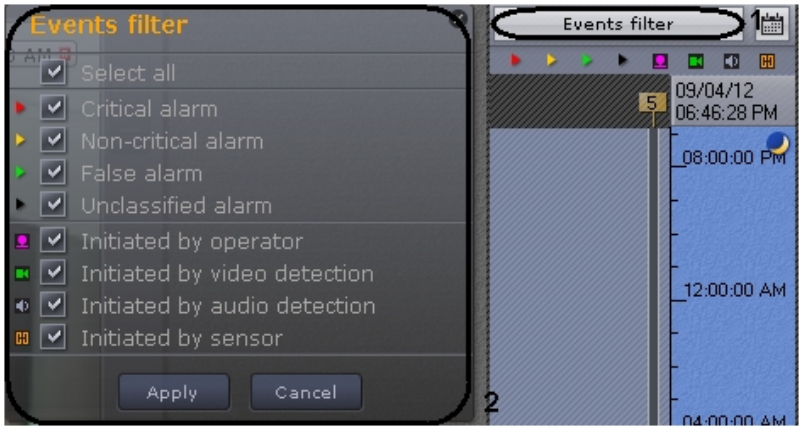
1. Navigating through the archive.
2. Playing back recordings.
3. Selecting playback mode: forward or backward.
4. Setting playback speed.
5. Selecting alarms for display on the timeline and in the alarm events list.
6. Viewing the list of alarm events of the selected type.

The Alarm Events Filter

The **Events filter** component is used to select the type alarm events to be displayed on the archive navigation panel.

To select a type of alarm events, you must perform the following steps:

1. Click the **Events filter** button (**1**). The **Events filter** window will then be displayed (**2**).



2. Select the check boxes for the types of alarms which should be displayed on the archive navigation panel, according to their status:
    a. Critical alarm
    b. Non-critical alarm
    c. False alarm
    d. Unclassified alarm
3. Select the check boxes for the types of alarms which should be displayed on the archive navigation panel, according to the cause of their initiation:
    a. Initiated by operator
    b. Initiated by video detection tool (basic, situation analysis, or embedded)
    c. Initiated by audio detection tool (basic, situation analysis, or embedded)
    d. Initiated by sensor

    Note.
    By default, all check boxes are already selected.

4. Click the **Apply** button.

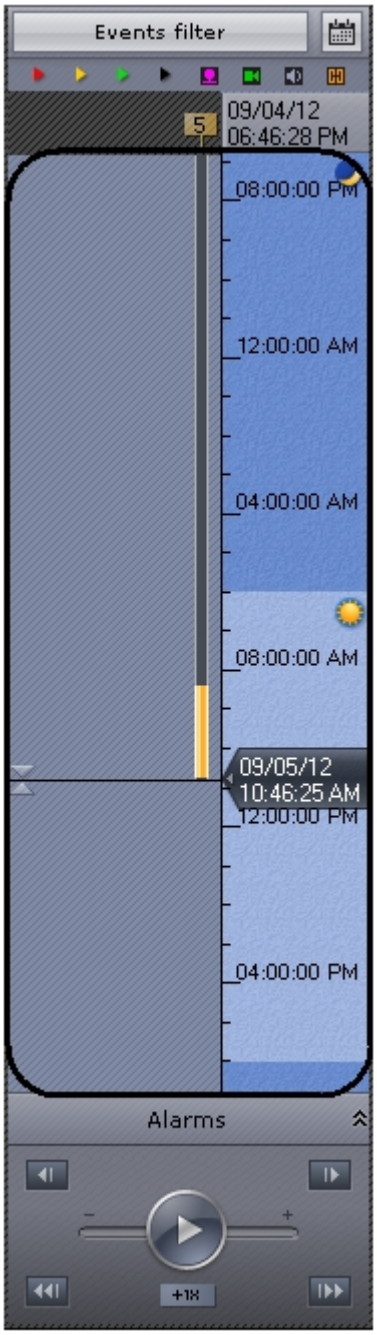
Note.
To close the window without saving changes, click **Cancel** or .

Selection of alarm events is now complete.

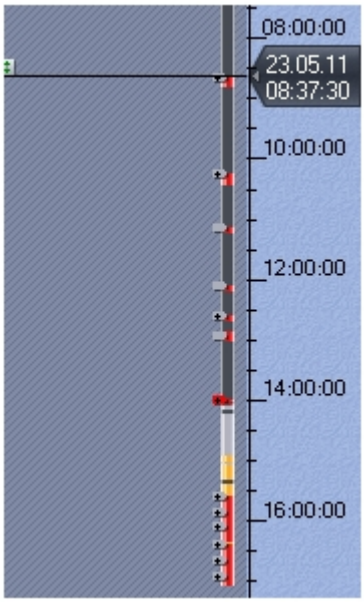
Events of the selected type will be displayed on the timeline (see the section titled The Timeline) and in the alarm events list (see the section titled The alarms List).

The Timeline

The timeline is a graphical representation of the time axis of the archive and is located in the middle part of the navigation panel.



The timeline contains indicators of the presence of recordings, or tracks.

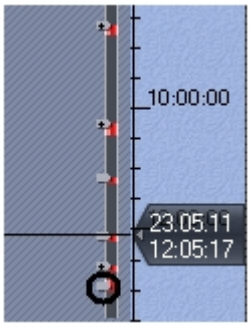


Tracks are marked in different colors depending on the alarm status or detection tool activation: Display of any particular alarm event in the list is determined by filter settings (see the section titled The Alarm Events Filter).

Condition	Color of the alarm period on the track
Archive absent	Dark Gray
archive	White
Archive present, detection tool activated (no alarm)	Orange
Archive present, alarm active	Red

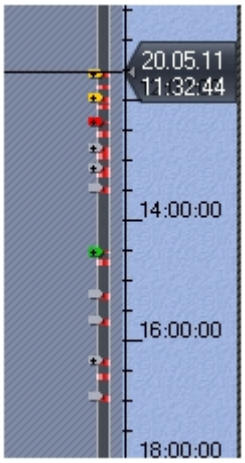
Note
The colors of alarm periods overlap when they coincide in time.

At the moment when an alarm is assigned a status (critical, non-critical, false, or unclassified), a flag is added to the track. A flag is added to the point on the timeline when the alarm began.



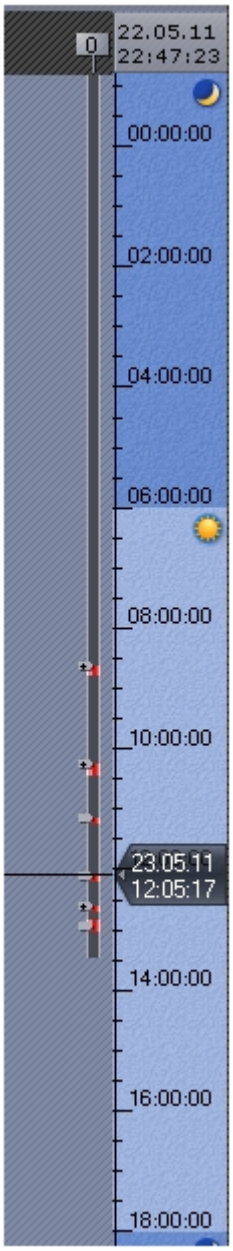
The flag is colored according to the alarm status:

1. Green – false alarm
2. Yellow – non-critical alarm
3. Red – critical alarm
4. Gray – unclassified alarm

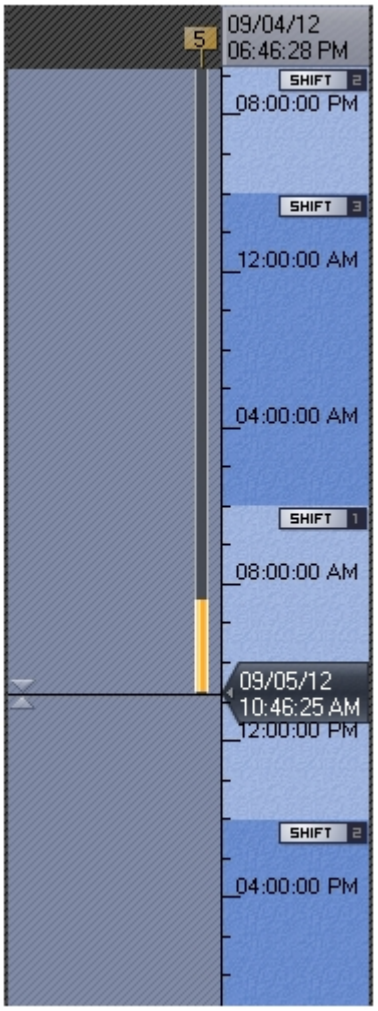


The timeline's background can be displayed in two styles, depending on settings (see the section titled Configuring the timeline*):*

1. **Day/Night**



2. **Shift work**



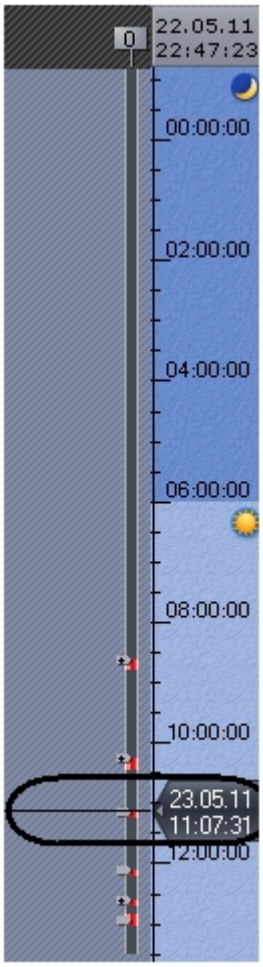
You can scroll and zoom the timeline using the mouse.

To scroll the timeline, move the cursor on its background (displayed in the **Day/Night** or **Shift work** style) vertically while holding down the left mouse button. To change the scale of the timeline, right-click the timeline's background (**Day/Night** or **Shift work**) and, while holding down the right mouse button, move the cursor down to zoom out or up to zoom in.

> **Note**
> You can also scroll and zoom the timeline using the position selection panel (see the section The Position Selection Panel).

The timeline lets you select at which moment to start playback of a recording in the viewing tile. To choose at which moment to begin playback, you can either left-click the indicator and hold it down while dragging it to the desired position, or just left-click the left portion of the timeline.

If there is no recording in the selected position, the indicator will automatically move to the position corresponding to the nearest recording.



Note

You can also set a timeline indicator in the desired position by indicating the exact date and time (see the section titled Setting the timeline indicator in the desired position.).

You can position the indicator with the help of the alarms list (see the section The alarms List).

The Position Selection Panel

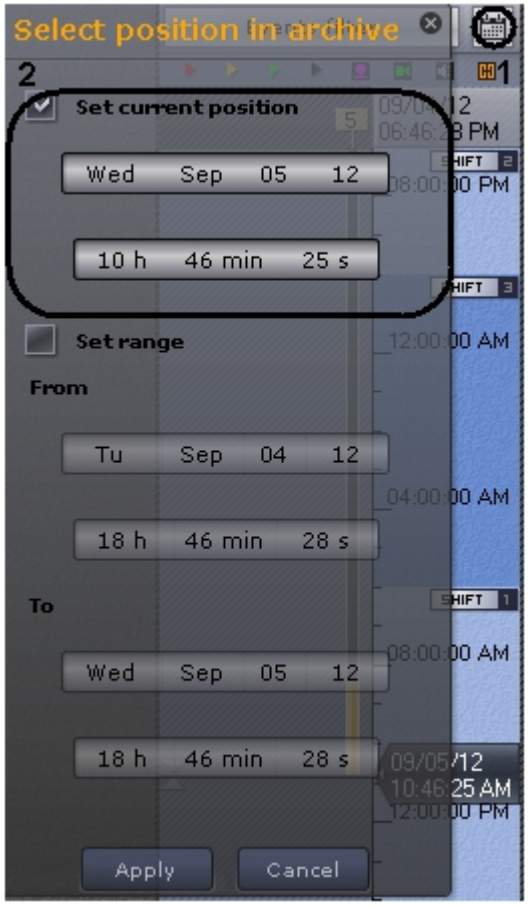
The position selection panel is used for the following functions:

1. Setting the timeline indicator in the desired position.
2. Scrolling and zooming the timeline.

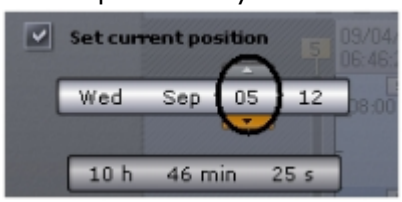
Setting the timeline indicator in the desired position

To set the indicator in the desired position, you must perform the following steps:

1. Click the  button (**1**). The **Archive position selection** window will then appear.



2. In this window, select the **Set current position** check box (**2**). The time parameters in the **Set current position** group, which determine the position of the timeline indicator, will become available for editing.
3. Position the cursor over the desired time parameter (day of the week, date, month, year, hour, etc.) (**2**). Arrows for increasing () and decreasing () the selected parameter then appear. To change the parameter by one unit, click the corresponding arrow once. Repeat this step to modify all desired time parameters.



4. Click the **Apply** button.

> **Note**
> To close the window without saving changes, click **Cancel** or .

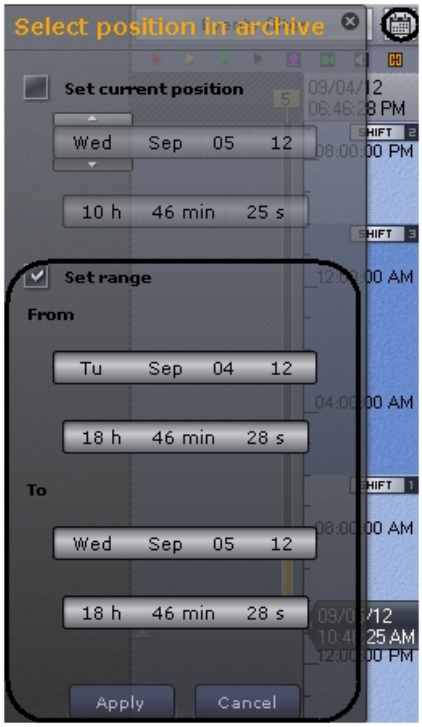
Setting the timeline indicator in the desired position is now complete.

Scrolling and Zooming the Timeline

A limited section of the timeline is displayed in the **Monitor** interface window.

To scroll and zoom the timeline, you must perform the following steps:

1. Click the button (**1**). The **Archive position selection** window will then appear.



2. In this window, select the **Set range** check box (**2**). The time parameters in the Set range group, which determine the boundaries of the displayed section of the timeline, will become available for editing.
3. Set the **From** and **To** boundaries of the timeline in the same way as in step three of the section titled Setting the timeline indicator in the desired position..
   Setting the timeline section results in the scrolling of the timeline.
   If you set a narrow section, the scale of the timeline will increase. If you set a wide section, the scale will decrease.

> **Note**
> The range cannot fall within the same day.

4. Click the **Apply** button.

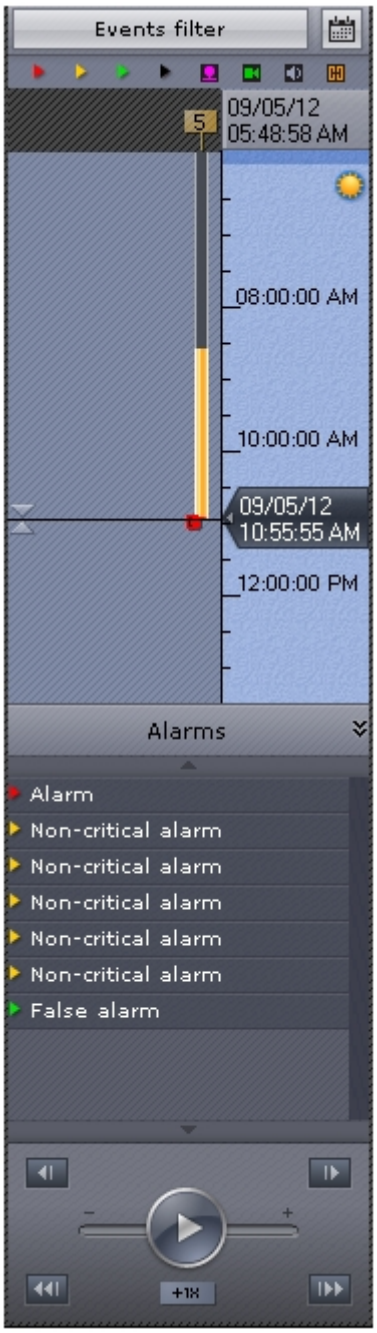
> **Note**
> To close the window without saving changes, click **Cancel** or .

Scrolling and zooming the timeline is now complete.

The alarms List

To display the alarms list, click the **alarms** button.

The alarms list is now displayed.



Note
Whether or not a particular alarm is displayed in the list depends on the filter settings (see the section The Alarm Events Filter).

Note
The alarm list displays only those alarm events that are currently present in the visible portion of the timeline.

To hide the alarms list, click the **alarms** button again.

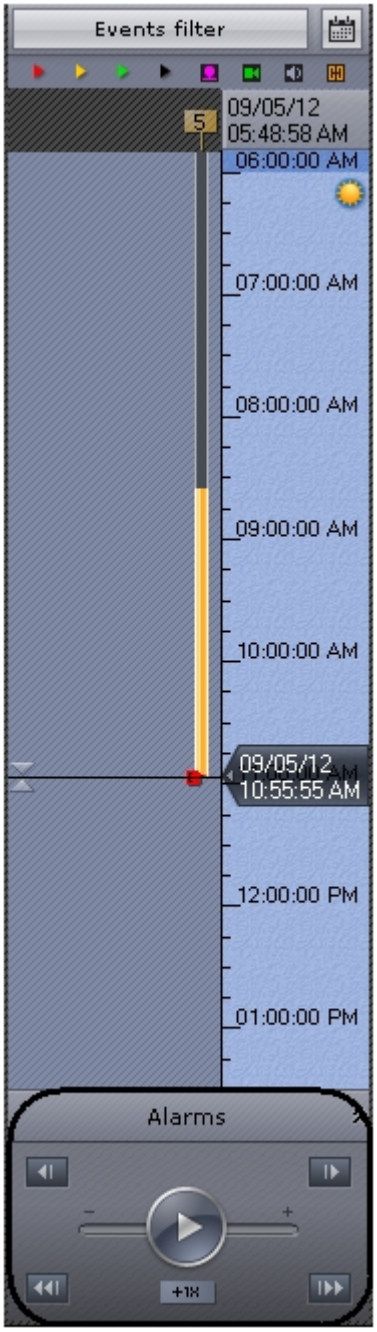
When you place the cursor over an alarm in the list, detailed event information appears.

Note
Navigation through the archive using the alarms list is described in the section Navigating Using the Playback Panel.

Note
Navigation through the archive using the alarms list is described in the section Navigating Using the Playback Panel

The Playback Panel

The playback panel is located in the lower part of the navigation panel.



The playback panel contains the following buttons:

1. Go to preceding frame.
2. Go to next frame.
3. Switches to the preceding recording.
4. Switches to the next recording.
5. Play/Pause.

The button also acts as a slider which sets the speed and mode (forward/backward) of playback.

> **Note**
> Use of the playback panel is described in detail in the section Navigating Using the Playback Panel.

Advanced archive navigation panel

The advanced archive navigation panel is automatically displayed in the lower portion of the viewing tile when you switch to Archive mode or Archive Search mode.

The advanced archive navigation panel includes the following components:

1. Timeline
2. Playback control buttons
3. Tabs for compressed and standard archive playback modes

The advanced archive navigation panel is used to position the archive at a specific time, control playback, and switch to compressed archive playback mode.

The timeline on the advanced archive navigation panel features archive tags  . This tag stands for a lack of archive in a compressed format. The time period for which there is no archive is indicated near the tag.

The advanced archive navigation panel works completely in sync with the playback panel and the timeline:

1. The playback mode selected on the advanced navigation panel is displayed on the playback panel.
2. The playback speed that is set on the playback panel will be used as the playback speed when playback is restarted on the advanced navigation panel, and vice versa.
3. The playback control buttons on the advanced navigation panel are the same as the buttons on the playback panel.
4. Any movement through the main timeline is duplicated onto the timeline of the advanced navigation panel.

The PTZ Control Panel

The PTZ control panel is displayed automatically in the right-hand part of the screen when the viewing tile of a PTZ camera is activated in Live Video mode.

> **Note**
> The PTZ control panel is displayed only if the **Telemetry** object for the particular video camera is enabled (see the section titled The Telemetry Object).

The PTZ control panel is used for the following functions:

1. Controlling PTZ video cameras.
2. Setting and switching to camera presets.
3. Launching/stopping patrolling.

The PTZ control panel includes the following interface elements:

1. Presets list
2. Dialer
3. PTZ controls for iris, focus, and optical zoom
4. Virtual 3D joystick
5. Patrol button

Note
Use of the dialer, PTZ controls, joystick, and patrol button is described in the section Controlling a PTZ Camera.

The Dialer Panel

The dialer panel is used to switch to a PTZ preset.

To display the dialer panel, click the **Dialer** button. The dialer panel will then be displayed on the PTZ control panel.

The Dialer button:

The Dialer panel:

To hide the dialer panel, click the **Dialer** button again.

Switching to a PTZ preset using the dialer panel is described in detail in the section titled Control Using the Dialer Panel

The Presets List

The presets list created for a selected video camera is displayed in the upper part of the PTZ control panel.

For each preset in the list, the following parameters are displayed:

1. The identification number
2. A descriptive name

The presets list is used for the following functions:

1. Creating presets.
2. Editing the identification number and name of an existing preset.
3. Deleting presets.
4. Switching to a preset.

You can create up to 100 presets with numbers from 0 to 99. To create a preset, you must perform the following steps:

1. Place the PTZ camera in the position which is to be saved as a preset.
2. Click  . Fields for entering an identification number and a descriptive name for the preset will then appear.


3. Fill in these fields as desired.

> **Attention!**
> If a preset with the identification number entered already exists, its parameters, as well as the corresponding PTZ camera position, will be overwritten.

4. Left-click anywhere in the presets list and press Enter to save changes.

Creation of a preset is now complete.

To edit the number and name of an existing preset, you must perform the following steps:

1. Highlight the desired preset in the list.
2. Click  . The identification number and descriptive name fields will then become accessible for editing.
3. Modify the preset number and/or name as desired.
4. Left-click anywhere in the presets list to save changes.

Editing of the preset is now complete.

To delete an existing preset, you must perform the following steps:

1. Highlight the desired preset in the list.
2. Click  .

The preset has now been deleted.

To switch to a preset, left-click the corresponding line in the presets list. The camera will then be switched to the desired position.

> **Note**
> See the section Control Using the Presets List.

Configuring Interfaces on a Multi-Monitor Computer

In the Axxon Next software package you can create several separate viewing tiles for display on additional physical monitors that are connected to a server or client. The number of separate tiles is equal to the number of connected physical monitors..

Separate tiles are created by duplicating the contents (layout) of the main tile in the created window. You can create separate tiles of the following types:

1. Tile with management functions – the functions are the same as in the main tile, but there is no control panel (upper panel) in this tile.
2. Tile with monitoring functions – there is no access to alarm and archive modes or ability to control PTZ devices; color coding for alarms is supported.

> **Note**
> Video cameras in the specified tiles are controlled independently (except for arming/disarming and alarms).

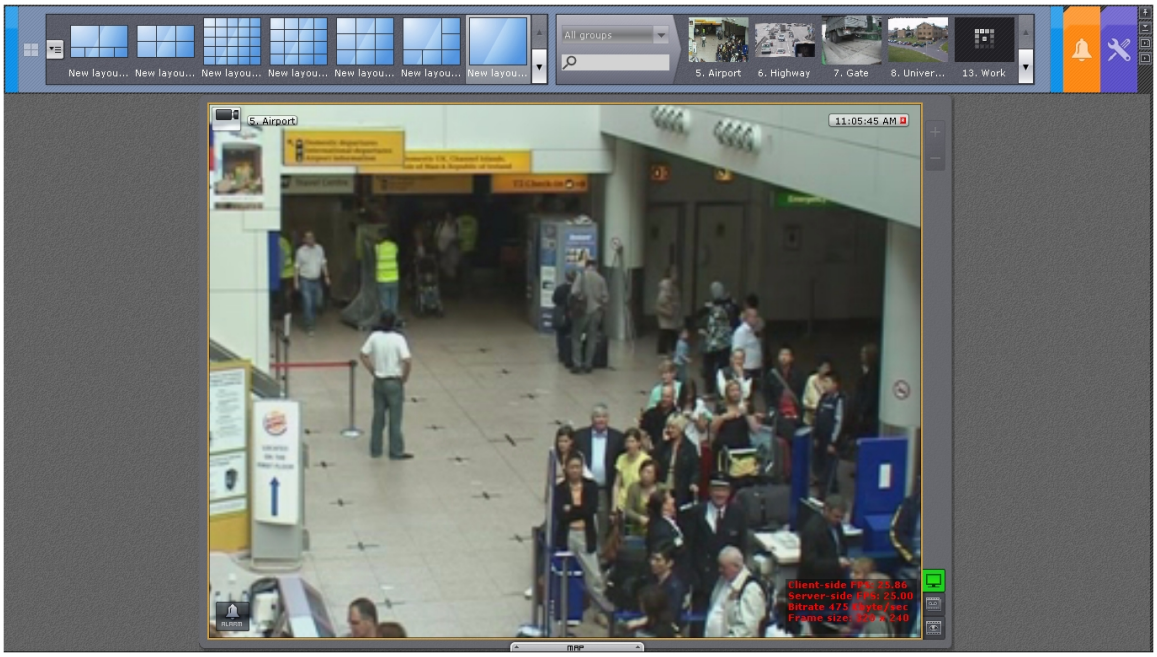
To create a tile with management functions, click the button (top); to create a tile with monitoring functions, click (bottom); these buttons are located in the right-hand part of the control panel.

> **Note**
> These buttons are inaccessible if only one physical monitor is connected.

Video Surveillance

Video Surveillance Modes

The video image from a video camera is displayed on the computer monitor through the Client's interface objects, namely the video surveillance monitor and the viewing tile.



There are three modes for working with a viewing tile:

1. Live Video mode
2. alarm video mode
3. Archive mode

4. Archive Search mode

> **Note**
> Alarm Management mode is available if an alarm has been initiated in the system.

Functions Available in All Video Surveillance Modes

The following video surveillance functions are available in all video surveillance modes:

1. Selecting a video camera.
2. Scaling the viewing tile.
3. Digitally zooming video images.
4. Processing video images.
5. Taking snapshots.
6. Changing the volume.
7. Tracking objects.
8. Displaying the current sensor status.

Selecting a video camera

To display an image in the viewing tile, select an IP camera in one of two ways:

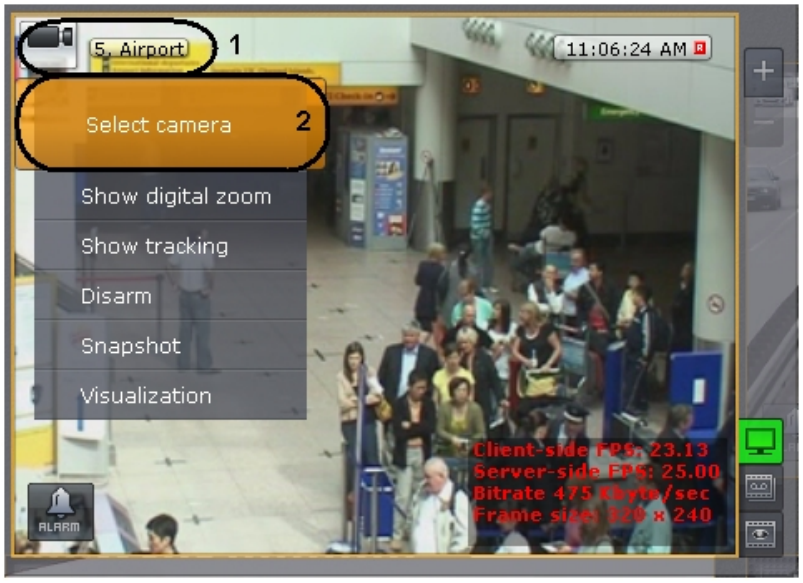
1. From the list in the context menu of the viewing tile (**1**).
2. From the list on the video camera selection panel (**2**).

> **Attention!**
> In the archive and alarm management modes, clicking an event will switch the view to the live video mode.

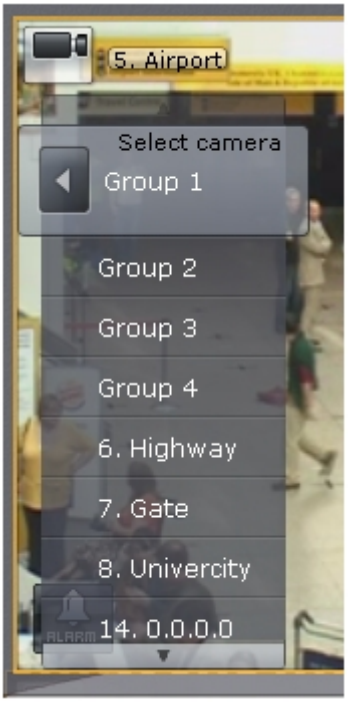
Selecting a Video Camera Using the Context Menu of the Viewing Tile

To select a video camera using the context menu of the viewing tile, you must perform the following steps:

1. Bring up the context menu in the viewing tile (**1**).
2. Choose **Camera selection** (**2**).



3. Select the necessary video camera in the displayed list using one of the following methods:
   a. If the necessary video camera is included in a group, you must first select the group (the group may also contain subgroups), then select the video camera.
   b. If the necessary video camera is not included in one of the groups, you must select the list of all video cameras that follows the list of groups.



The image from the selected video camera will now be displayed in the viewing tile.

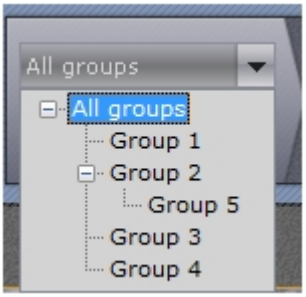
Selecting a Video Camera Using the Viewing Tile Preview Ribbon

The video camera panel is used to display a list of video cameras linked to *Axxon Next*.

> **Note**
> By default, all connected video cameras are displayed on the video camera panel (the **All groups** group).

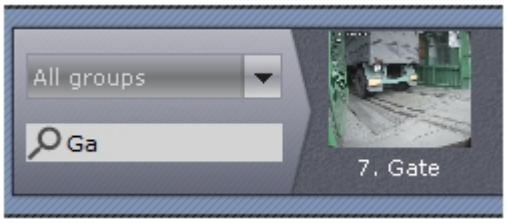
You can search for a camera either by:

1. Click the **All groups** drop-down list (**1**) and select the necessary video camera group from the displayed list.



   Once you have selected a group, the video camera panel will display only those video cameras that are included in the selected group.
2. Enter video camera's name or part of it into the search field (**2**).

The search starts automatically and all cameras with that name will be displayed in the **Video camera** panel.



> **Note**
> A video camera is displayed on the video camera panel only once. If you selected a group containing subgroups that all include a specific video camera, that video camera will be displayed on the video camera panel only once.

> **Note**
> If you selected a group containing subgroups, the video camera panel will display the video cameras included in that group as well as the cameras in all subgroups of that group.

To display the image from a selected camera in the viewing tile, perform one of the following sequences of actions:

1. Shift the given viewing tile into active mode (with a mouse click) and select the video camera from the list on the video camera panel.
2. Select the video camera from the list on the video camera panel by clicking it with the mouse and, while holding down the mouse button, move the cursor to the viewing tile and then release the mouse button.

The image from the selected video camera will then be displayed on the viewing tile.

Scaling the Viewing Tile

The scale of the viewing tile can be adjusted. You can do this by using the buttons in the upper

right-hand part of the active viewing tile:

1.  — enlarges the viewing tile;

> **Note**
>
> This button becomes inaccessible when the tile is maximized

2.  — reduces the size of the viewing tile.

> **Note**
>
> This button becomes inaccessible when the tile is minimized

> **Note**
> In Archive Search mode, you can increase the size of the viewing tile by only one level.

You can also use the mouse to scale the viewing tile. If the viewing tile is maximized to fill the entire screen, a double left-click of your mouse within the tile area will minimize the tile. Otherwise a double left-click will maximize the viewing tile to fill the entire screen.

Digitally Zooming Video Images

Digital zooming in a video image enables a gradual increase in the magnification of a video image without changing the dimensions of the viewing tile.

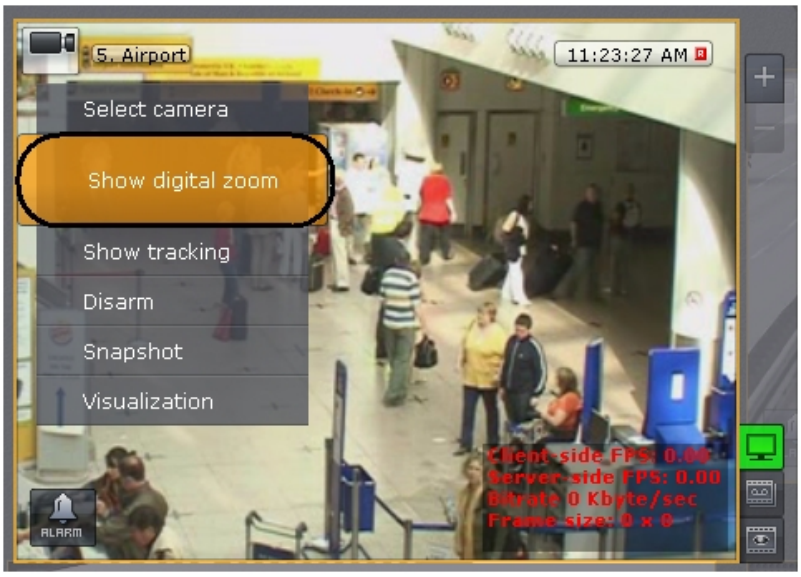
The video image can be enlarged using the following tools:

1. Digital zoom scale
2. Area selection
3. Mouse scroll wheel

Enlarging a video image using the digital zoom scale

To display the digital zoom scale on the viewing tile screen, select **Show digital zoom** in the context menu of the viewing tile.

Displaying the zoom control:

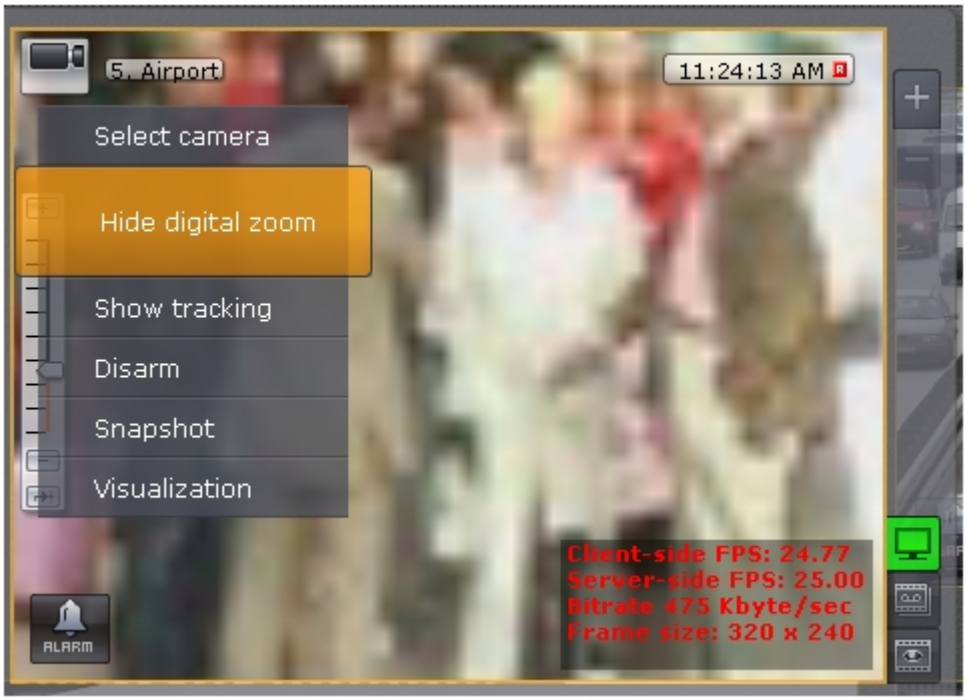


Digital zoom scale:

To enlarge a video image, left-click the slider and hold and drag the digital zoom scale up to the desired value. The maximum zoom is 16x. To return back to the original image, move the slider back to its original position.

> **Note**
> You can also use the + and − buttons to scale the video image.

To hide the digital zoom scale, select **Hide digital zoom** in the context menu of the viewing tile.



> **Note**
> If the slider remains on a single digital zoom value for more than 5 seconds, the zoom scale will be automatically hidden.

After hiding the digital zoom scale, the selected zoom level of the image will be preserved when switching between image viewing modes.

Enlarging a video image through area selection

To enlarge a video image, select the area of the image that you would like to enlarge.

You can select an area by doing the following:

1. Click and hold down the left mouse button inside the viewing tile.
2. Move the mouse cursor to the desired position.
3. Release the left mouse button.

Once you have completed the above actions, the selected area will be displayed across the entire

viewing tile.

Note

If you select an area that requires a zoom of more than 16x to display, it will be marked with a red frame. The video image will not be enlarged.

Enlarging a video image using the mouse scroll wheel

When using the mouse scroll wheel, the video image is enlarged relative to the mouse cursor. A description of this process is provided in the table below.

Action	Executed function
Mouse wheel is scrolled forward by one level	The video image is enlarged by 2x
Mouse wheel is scrolled backward by one level	The video image is reduced by 2x

Video image processing

In *Axxon Next*, the video image processing functions implemented in the viewing tile enhance the performance and convenience of using the video surveillance system.

The following video image processing functions are available from the viewing tile:

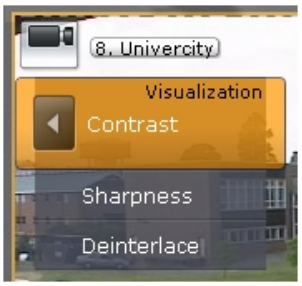
1. Contrast
2. Sharpness
3. Deinterlacing

To enable video image processing functions, use the **Visualization** option in the context menu of the viewing tile. Only one image processing function can be enabled at a time.

Changing the Contrast Level

An *Axxon Next* operator is granted access to adjust the contrast of a video image.

To adjust the contrast, select the **Contrast** option in the **Visualization** context menu.



An example of the **Contrast** function is given in the following image.

To return to the original image, reselect the **Contrast** option in the **Visualization** context menu.

Setting the Sharpness Level

An Axxon Next operator is granted access to adjust the sharpness of a video image.

To adjust the sharpness, select the **Sharpness** option in the **Visualization** context menu.

The image in the following picture shows an example of use of the **Sharpness** tool.

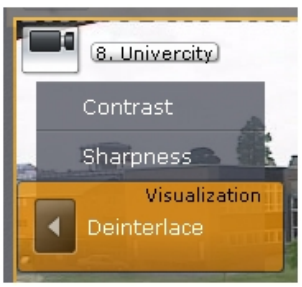
To return to the original image, use the **Sharpness** function again.

Using Deinterlacing

The **Deinterlacing** tool is used to correct tooth-type distortions (also called "combing artifacts"), which appear on the borders of video image fragments when objects move quickly relative to the background.

An example of a combing artifact is shown in the picture below.

To utilize this tool, select the **Deinterlacing** option in the **Visualization** context menu.



The image in the viewing tile will then be corrected.

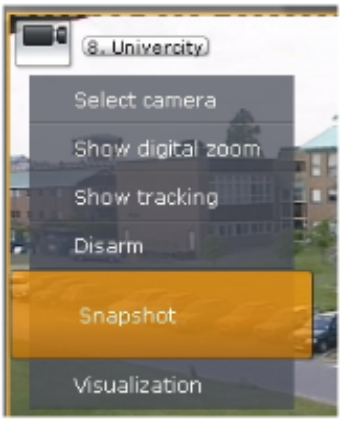
To disable **Deinterlacing**, reselect the **Deinterlacing** option.

Using the Snapshot function

An Axxon Next operator is granted access to the **Snapshot** function.

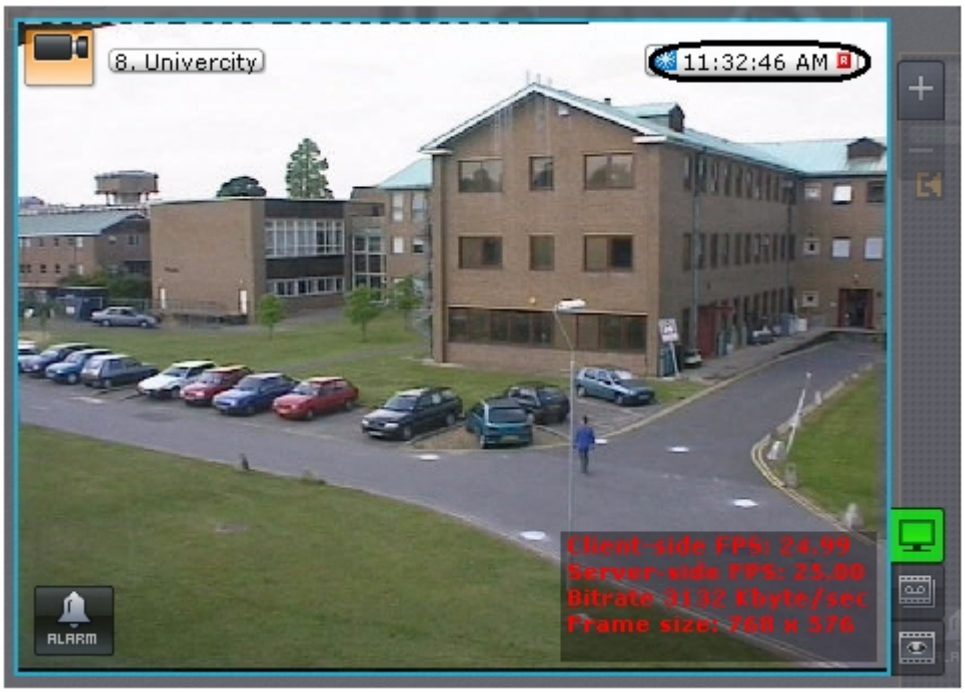
Activation of the **Snapshot** function pauses the video image displayed at the moment the function is activated. However, this does not stop the video playback process, and when this function is turned off, the user will see the video image corresponding to the current time.

To turn on the **Snapshot** function, select the **Snapshot** option in the context menu of the viewing tile or left-click the Time field (see the Time Display section).

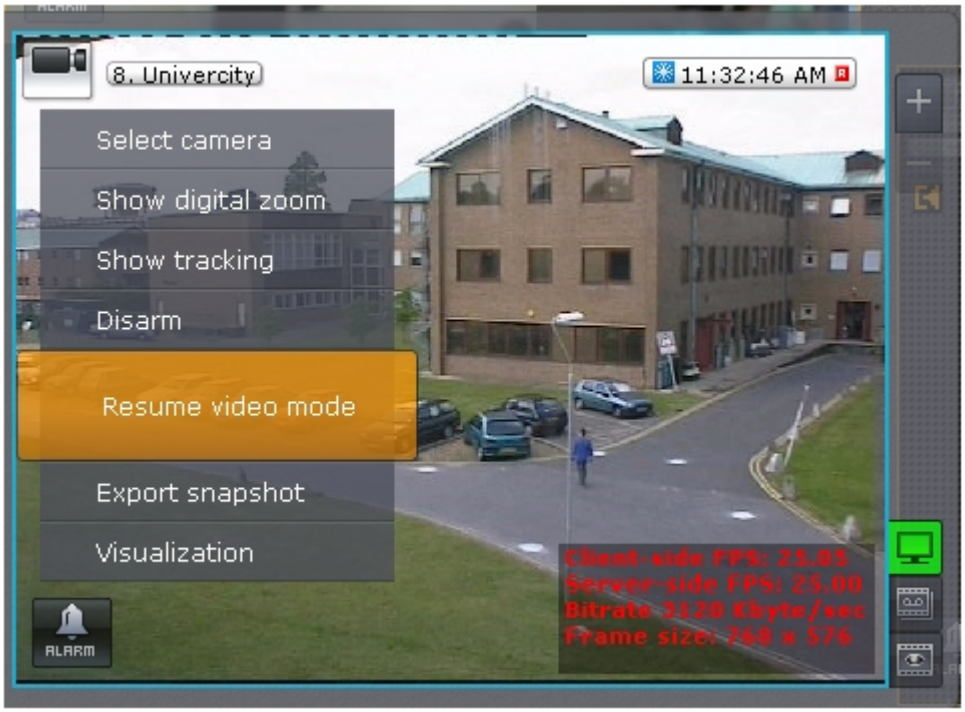


This will cause the viewing tile to be highlighted with a blue border. A **snowflake** icon will appear in the Time field, and the **Snapshot** option will be replaced with **Cancel snapshot** in the context menu of the viewing tile.

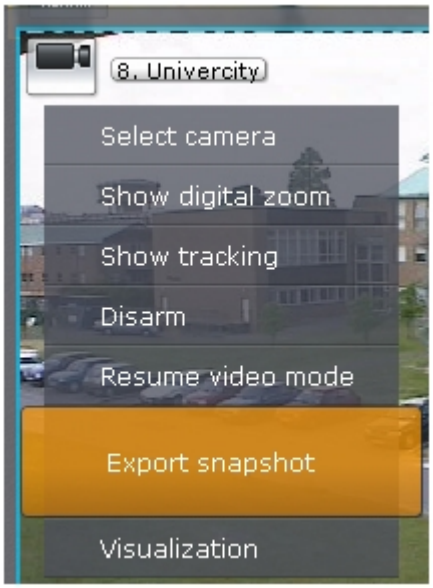
An example of using the Snapshot function Snowflake symbol:



An example of using the Snapshot function Cancel snapshot option Snapshot:



To save the snapshot, select the **Export snapshot** option in the context menu of the video camera (see the section Frame export).



To turn off the **Snapshot** function, select the **Resume video mode** option in the context menu of the viewing tile or click the time indicator again (see the section titled Time Display).

Tracking objects

Object tracking allows a user to visually track the movement of objects in a camera's field of view or in a video recording in an archive.

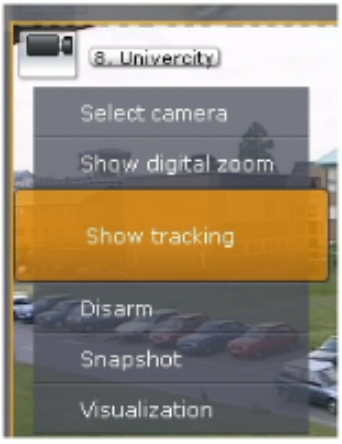
> **Attention!**
> Object tracking is possible only if a situation analysis detection unit and/or an embedded detection unit is active (see the sections Situation Analysis Detection Tools and Embedded Analytics).

Object tracking performs the following functions:

1. Recognizes the presence of a moving object and dynamically marks it with a transparent rectangle on the video image.
2. Displays the trajectory of the object's movement.

Motion is detected based on the time gradient of the video image’s difference between frames.

To enable object tracking, select **Show tracking** in the viewing tile context menu.



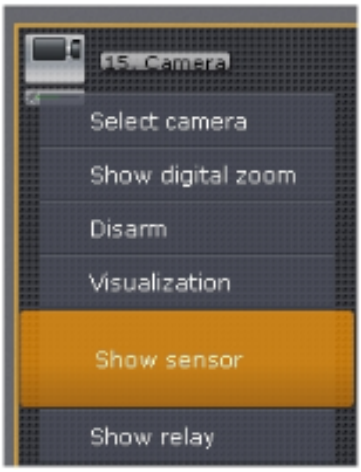
Object tracking functions will now be activated.

To disable object tracking, click **Show tracking** once again in the viewing tile context menu.

Displaying the current sensor status

To display the current status of a video camera’s sensor, select **Show sensor** in the context menu of the viewing tile.

> **Note**
> You must first activate an object to display the status of its sensor.



The current status of the sensor will now appear in the viewing tile.

> **Note**
> To hide the sensor status, select **Hide sensor** in the context menu of the viewing tile.

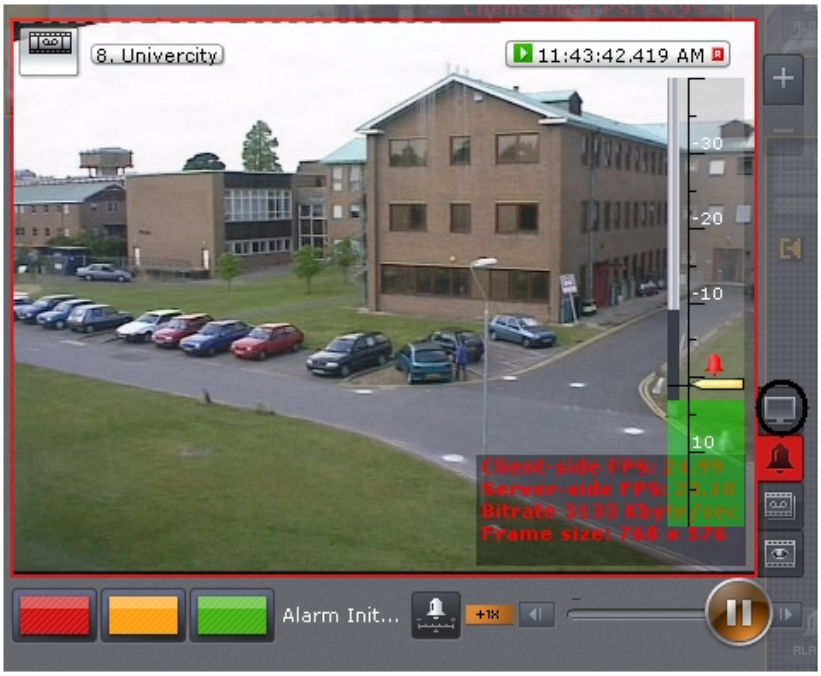
There are four possible statuses of a sensor.

Sensor status	Description
	Video camera is armed, sensor is in normal status
	Video camera is armed, sensor is in alarm status
	Video camera is disarmed, sensor is in normal status
	Video camera is disarmed, sensor is in alarm status

Real-time video surveillance

Switching to Live Video Mode

To switch the viewing tile from a different surveillance mode to archive analysis mode, switch to the tab in the lower-right corner of the tile.



The viewing tile will then appear in Live Video mode.

> **Note**
>
> The button turns green when real-time mode is enabled -> .

Video Surveillance Functions Available in Live Video Mode

In Live Video mode, the following video surveillance functions are accessible:

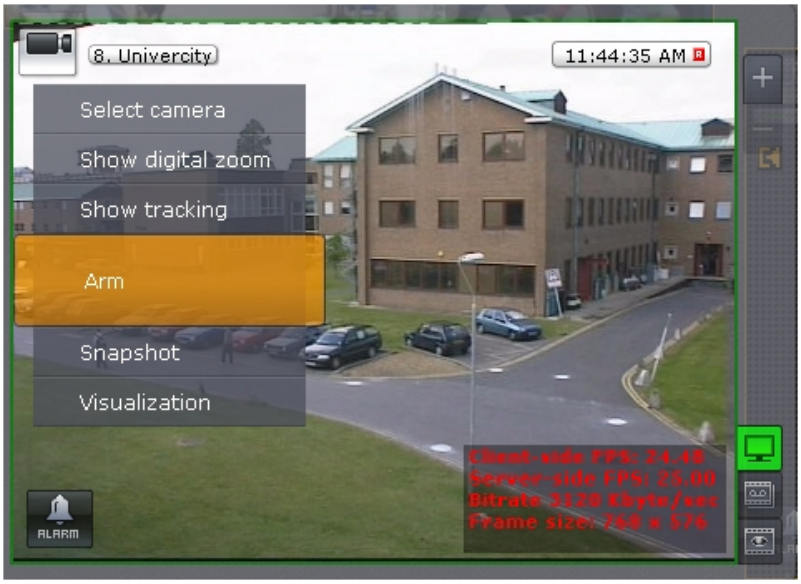
1. Tracking objects.
2. Scaling the viewing tile.
3. Digitally zooming video images.
4. Arming/disarming a video camera.
5. Processing video images.
6. Taking snapshots.
7. Controlling relays.

> **Note**
> The following functions are accessible in all video surveillance modes: scaling the viewing tile, digital zoom, video image processing, **Select video camera** functio ns in the current tile, **Snapshot** and **Object tracking**. A description of these functions is provided in the section titled Functions Available in All Video Surveillance Modes

Arming and Disarming a Video Camera

In *Axxon Next*, a video camera is armed via all the detection tools registered for that video camera.

To arm a camera , select **Arm** in the context menu of the viewing tile. If the video camera is in armed mode.



To disarm a camera , select **Disarm** in the context menu of the viewing tile. The video camera will then be disarmed.

Controlling a PTZ Camera

A PTZ video camera is controlled through the PTZ device control panel.

> **Note**
> You can use your mouse to change a camera lens' focus (see the section titled Ch anging the camera lens focus (Point&Click)).

The user gains access to this panel when the viewing tile of a video camera in Live Video mode that supports a PTZ control interface is selected.

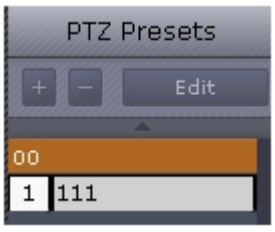
The following actions can be performed using the PTZ device control panel:

1. Use presets.
2. Modify the parameters of the iris, focus, and optical zoom.
3. Modify the horizontal and vertical tilt angle of the video camera.
4. Starting/stopping patrol mode.

> **Note**
> Setting presets is described in detail in the section The PTZ Control Panel.

Control Using the Presets List

To switch a PTZ camera to a preset, you can use the presets list. To do this, left-click the corresponding line in the given presets list.



Control Using the Dialer Panel

To switch a PTZ camera to a preset, you can use the dialer panel. To display the dialer panel, click the **Dialer** button.

To switch to a preset using the dialer panel, you must perform the following steps:

1. Using the numeric buttons (0-9), enter the number of the preset to which you want to switch.
   The dialed number is displayed in a special field.
   To delete the last digit dialed, click the C button.
   

2. Click the ↵ button to switch to the preset with the number entered. The camera will then be switched to the desired position.

Switching to a preset using the dialer panel is now complete.

> **Note**
>
> Examples of entering a number:
>
> **5**, ↵ – Switch to preset number 5;
>
> **0**, **5**, ↵ – Switch to preset number 5.
>
> **5**, **7**, ↵ – Switch to preset number 57.

Control Using a Virtual Joystick

A PTZ video camera can be controlled with a virtual joystick through the PTZ device control panel.

The virtual joystick is shown in the following figure.

Virtual joysticks are controlled as follows:

1. Click and hold down the left mouse button in the central (blue) portion of the joystick.
2. Drag the joystick in the necessary direction.

> **Note**
> You can also move the joystick by clicking and holding the left mouse button outside of the joystick border.

The turn speed depends on the tilt of the joystick: the greater the tilt, the higher the speed.

Patrolling

Patrolling is an automatic change in the position of a camera along a route defined in the camera's presets list. Patrolling is enabled through the **Patrol** button in the PTZ camera control panel.

To stop patrolling, click the **Patrol** button again.

> **Attention!**
> Manual control takes priority over automatic control. Any interference in the patrolling process cancels it.

Changing the camera lens focus (Point&Click)

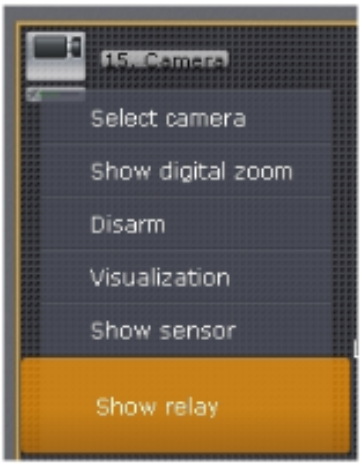
To change the focus of the camera lens, left-click anywhere within the video image in the viewing tile.

Once you have done that, the focus of the camera lens will automatically change to the selected area. The focus is changed using *Axxon Next* algorithms.

Managing Relays

To control a relay, select **Show relay** in the context menu of the viewing title.

> **Note**
> You must first activate an object before you can control its relay.



The relay control button will now be displayed.

> **Note**
> To hide the relay control button, select **Hide relay** in the context menu of the viewing tile.

When the relay control button is clicked, the relay shifts from one status to the other.

> **Note**
> If a relay is controlled by several operators simultaneously, the relay will remain activated as long as at least one operator requires it.

Button status	Button image	Relay status
Not clicked		Normal
Clicked		Activated

Video surveillance in archive mode

Switching to Archive Mode

To switch the viewing tile from a different surveillance mode to archive analysis mode, switch to the  tab in the lower-right corner of the tile.

> **Note**
> If the video camera is not linked to a video archive, this tab will be unavailable.

> **Note**
> In Live Video mode, if the viewing tile is not active, the tabs for switching to other modes are not displayed. To display the tabs, click the viewing tile by using either button of the mouse.

The viewing tile will then appear in archive mode.

Video Surveillance Functions Available in Archive Mode

In archive mode the following video surveillance functions are accessible:

1. Selecting an archive for viewing of recordings.
2. Synchronized playback of archives.
3. Compressed playback of archives.
4. Tracking objects.
5. Scaling the viewing tile.
6. Digitally zooming video images.
7. Processing video images.
8. Taking snapshots.
9. Navigating through the archive.
10. Playing back recordings.
11. Displaying why situation analysis detection units have been triggered.

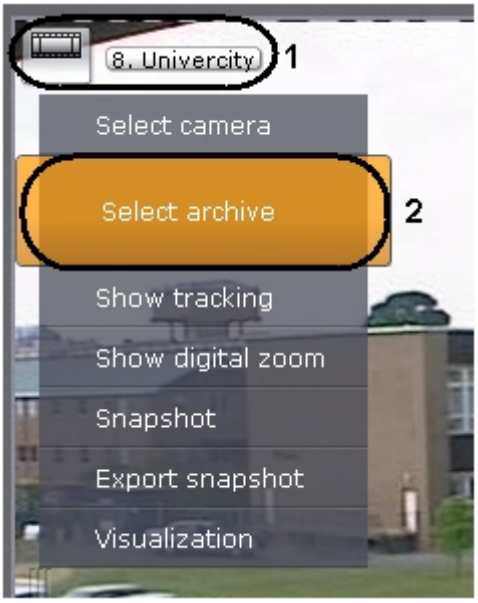
Note
The following functions are accessible in all video surveillance modes: scaling the viewing tile, digital zoom, video image processing, **Select video camera** functio ns in the current tile, **Snapshot** and **Object tracking**. A description of these functions is provided in the section titled Functions Available in All Video Surveillance Modes

Selecting an Archive

You can select an archive for display in a viewing tile by using the tile's context menu.

To select an archive, you must perform the following steps:

1. Bring up the context menu in the viewing tile (**1**).
2. Select **Archive selection** (**2**).



3. Select the desired archive in the displayed list.

Note
The selected archive is displayed in bold in the list.

The selected archive will now be displayed in the viewing tile.

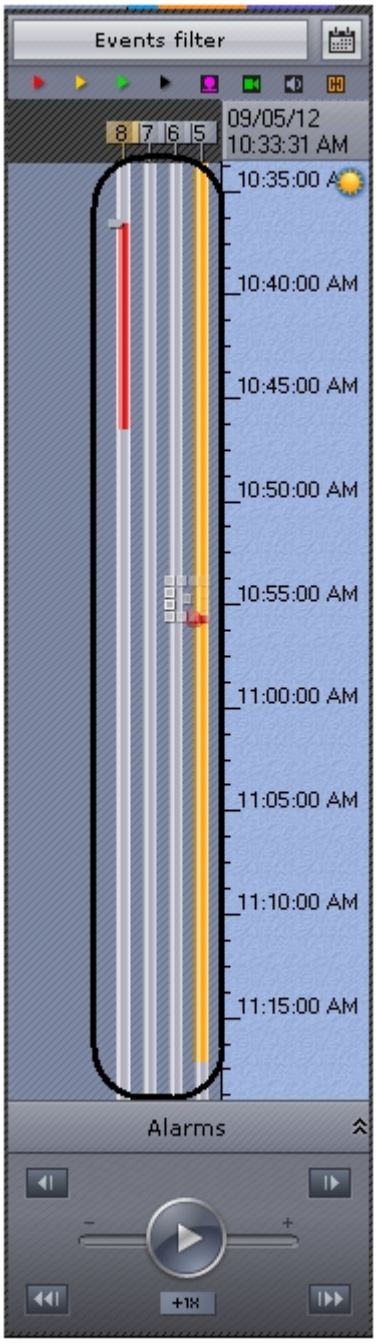
Note
If there is no recording in the selected archive, a message to that effect will appear in the viewing tile.

Synchronized playback of archives

Synchronized playback of archives lets you play back archives from several different video

cameras simultaneously.

To enable synchronized playback, switch a few video cameras into archive mode. The timeline will then display time axes for the corresponding archives.



Synchronized archive playback is controlled through the playback panel in the same way as playback for a single archive.

Compressed playback of archives (Time Compressor)

During compressed playback (Time Compressor), the viewing tile simultaneously displays tracked objects from different moments in time within the selected portion of the archive. This lets you quickly look through the archive to find important events and investigate them in more detail.

> **Note**
> Time Compressor is most useful when there are not a large number of objects constantly moving in the video camera's field of view.

Switching to Time Compressor mode

To use Time Compressor, complete the following steps:

1. On the timeline, set the indicator in the position beginning from (and to the end of) where the archive will be played using Time Compressor (see the section titled Navigating Using the Timeline).
2. On the advanced navigation panel, switch to the  tab.

The archive will now start playing in compressed mode.

> **Note**
> Only one video camera can run Time Compressor at one time. If synchronized playback is started and a video camera is switched to Time Compressor mode, playback of all other video cameras will be automatically paused.

> **Note**
>
> To return to standard archive viewing mode, go to the tab  .

Playback control

Playback control in Time Compressor mode is managed using the advanced navigation panel and the playback panel (buttons for jumping to the previous/next frame/fragment are not available in this mode).

To set the desired number of tracked objects to be simultaneously displayed, set the slider in the appropriate position (**1**). The extreme left position of the slider corresponds to two objects, and the extreme right position corresponds to six objects.

> **Note**
> This setting is useful only when there are not a large number of objects constantly moving in the video camera's field of view.

Note
Once you have configured this setting, playback begins at the beginning of the selected interval.

To stop or start playback, use the  and  buttons on the playback panel or the identical buttons on the advanced navigation panel.

To start archive playback in Time Compressor mode starting at the beginning of the selected interval, click the  button (**2**).

Switching back to the original recording of an object

To leave Time Compressor mode to go back to the original recording of an object, left-click the object.

The system will now automatically switch back to the original recording of the object in standard archive playback mode. Playback of the recording will be paused, and the beginning of the recording will correspond to the moment at which the object was selected.

> **Note**
> Once you have switched back to the original recording of the object, you can return to Time Compressor mode to the place where the switch was made. To do this, click the  tab. In this case, playback in Time Compressor mode will be paused.

Navigating in the Archive

You can navigate in the archive using the following interface elements:

1. Timeline

> **Note**
> Timeline configuration is described in detail in the section Configuring the timeline.

1. Advanced navigation panel
2. Archive position selection panel
3. Alarms list
4. Playback panel

You can also navigate through the archive by easily flipping through recordings.

Navigating Using the Timeline

> **Note**
> Use of the timeline is described in detail in the section The Timeline.

You can select recordings in the archive for playback in the viewing tile by using the timeline. To

do this, left-click the indicator (**1**) and drag it to the corresponding position on the timeline. Alternatively, you can left-click the left portion of the timeline.

> **Note**
> The position on the timeline is a graphical representation of a specific moment in time.

The frame corresponding to the selected position (moment in time) will then be displayed in the viewing tile (**2**).

If there is no recording in the selected position, the indicator will automatically move to the position corresponding to the nearest recording.

To play back the selected recording, use the playback panel (see the section titled Navigating Using the Playback Panel).

Navigation using the advanced panel

You can use the advanced navigation panel to select recordings in the archive for playback in the viewing tile. To do this, complete one of the following two actions:

1. Left-click the timeline (**1**) and hold down the button while dragging the scale to the desired position.
2. Left-click the desired moment in time on the timeline.

When the timeline scale is repositioned, the recording will play in fast motion from the current time to the selected moment.

> **Note**
> The current moment in time is determined by the cursor located in the center of the timeline (**2**). The position of the cursor relative to the timeline never changes.

Once the selected moment is reached, playback stops. The speed of playback depends on the speed of the timeline's movement.

To start archive playback click  in the middle of the timeline. To pause playback click the timeline.

You can also use the slider on the timeline to play back video footage. To flip through recordings this way you should:

1. Click and hold down the left mouse button on the timeline.
2. Move the slider to the right to fast forward video and to the left to rewind it.
3. As you move the slider, release the mouse button.

The speed of playback depends on how quickly you flip through the timeline.

To control playback, use the playback panel (see the section titled Navigating Using the Playback Panel) or the advanced navigation panel:

1. Go to the preceding frame  .
2. Go to the next frame  .
3. Go to the previous recording  .
4. Go to the next recording  .

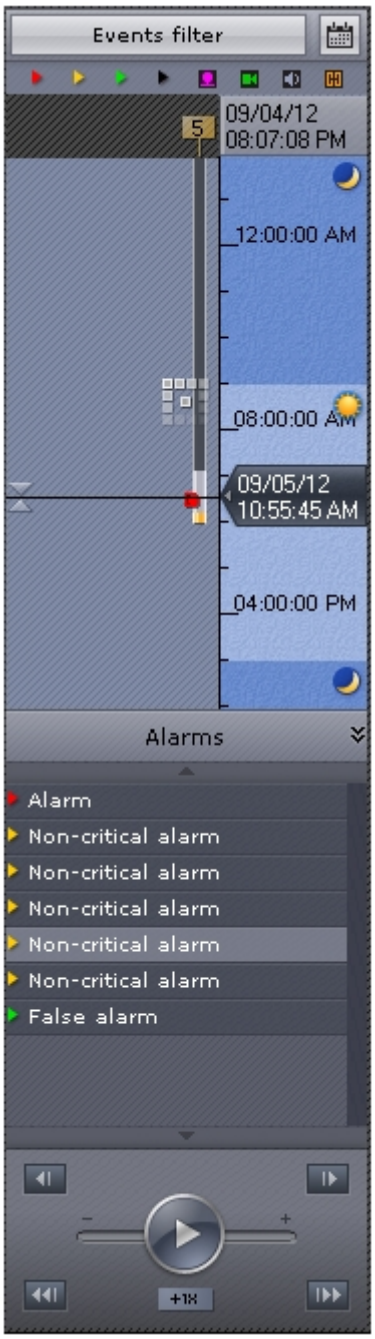
Navigating Using the Archive Position Selection Panel

You can set the time indicator in the desired position using the position selection panel. You can bring this panel up by clicking the  button in the upper right-hand corner of the archive navigation panel.

For details, see the section titled The Position Selection Panel.

Navigating Using the Alarms list

The **Alarms** list and the timeline are dynamically linked: when you select an event in the list, the timeline indicator automatically moves to the selected position.



For details, see the section titled The alarms List.

Navigating Using the Playback Panel

To navigate in the archive using the playback panel, you must first select a recording for playback.

Once a recording is selected, the following operations are accessible:

1. Play recording: 
2. Pause/Stop playback: 
3. Go to the preceding frame  .
4. Go to the next frame  .
5. Go to the previous recording  .
6. Go to the next recording  .

It is possible to change the mode (forward/reverse) and speed of playback. To do this, use the slider.

Rapid reverse playback of an entry:

Rapid forward playback of an entry:

For reverse playback of a recording, move the slider to the left of the position corresponding to zero playback speed (the center of the slider); for forward playback, move it to the right. The current playback speed is displayed under the slider. During forward playback of a recording, a + sign appears before the speed; during reverse playback, a - sign appears.

The value **0X** corresponds to zero speed, i.e., no playback; the value **1X** corresponds to the frame rate of recording.

At a speed less than 1X, playback is slower than the speed of recording; at speeds greater than 1X, it is faster.

> **Note**
> Both forward and reverse playback may be accelerated up to 16X.

Keyboard navigation

You can use keyboard shortcuts to navigate through an archive and control video playback.

Key or key combination	Resultant action during pause	Resultant action during play
Spacebar	Begins playback	Pauses playback
Ctrl+Spacebar	Uses the current position to set the export interval	Uses the current position to set the export interval

Up-Arrow	Increases playback speed by one level	Increases playback speed by one level
Down-Arrow	Decreases playback speed by one level	Decreases playback speed by one level
Left-Arrow	Moves back to the preceding key frame	-
Right-Arrow	Moves forward to the next key frame	-
Page up	Switches to the preceding recording	Switches to the preceding recording
Page down	Switches to the next recording	Switches to the next recording

Flip-through navigation of recordings

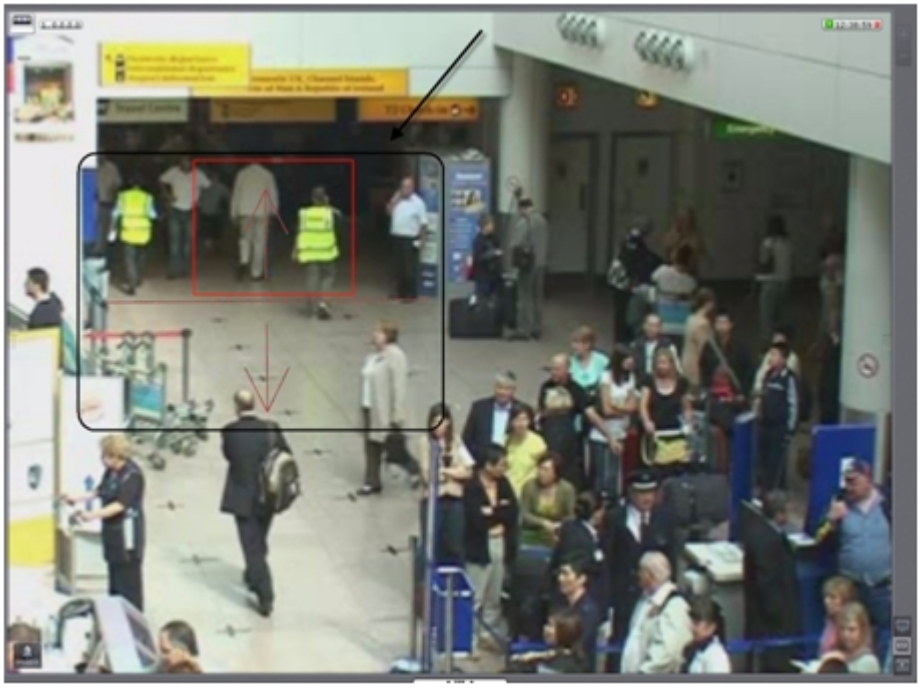
The viewing tile lets you easily flip through recordings.

Use the buttons on the sides of the viewing tile to flip through recordings. Click the button on the left side of the viewing tile to play the preceding recording (**1**), and click the button on the right side of the viewing tile to play the next recording (**2**).

If you already have a recording in playback mode when flipping to a new one, then the new recording will automatically begin playback once the flip is complete.

Displaying the causes of triggered situation analysis detection units

When positioning the archive in the range [-1 sec.; +1 sec.] from when the situation analysis detection unit was triggered, the objects that triggered the detection unit will be marked on the video frame.



Video surveillance in Alarm Management mode

Video surveillance functions available in Alarm Management mode

The following video surveillance functions are available in Alarm Management mode:

1. Scaling the viewing tile.
2. Digitally zooming video images.
3. Processing video images.
4. Taking snapshots.
5. Forwarding and reversing playback of an alarm at various speeds.
6. Evaluating alarms (assigning a status).

> **Note**
> The following functions are accessible in all video surveillance modes: scaling the viewing tile, digital zoom, video image processing, select video camera functions, snapshots, and object tracking. A description of these functions is provided in the section titled Functions Available in All Video Surveillance Modes

Initiating an Alarm

A system alarm can be initiated in one of two ways:

1. Manually (by an operator)
2. Automatically (when a detection tool is triggered is triggered)

> **Note**
> You can initiate an alarm only if the specific video camera is linked to the archive.

Manual Initiation

To initiate an alarm manually, you must perform the following steps:

1. Switch to real-time video surveillance mode (see the section Switching to Live Video Mode).

2. In the lower-left corner of the viewing tile, click the 

button.
3. An alarm will then be initiated in the system and the viewing tile will automatically switch to alarm mode for evaluation of the situation.

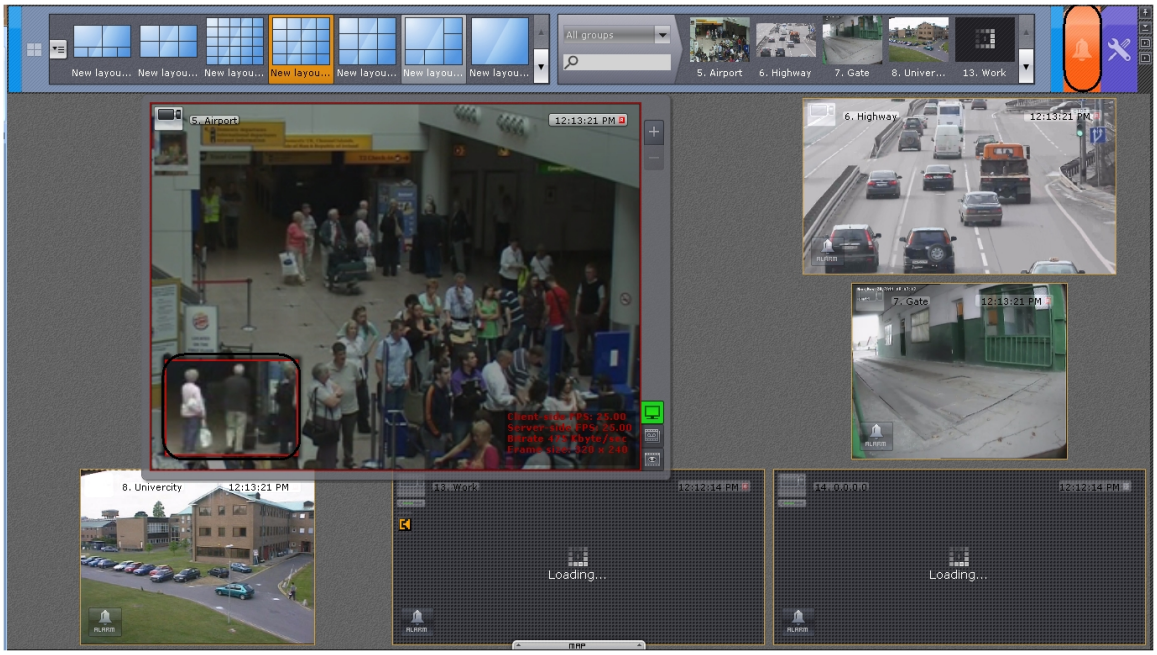
> **Note**
> When in Alarm Management mode, the user that initiated the alarm will be indicated at the bottom of the viewing tile.

Manual initiation of an alarm is now complete.

Automatic Initiation

An alarm is initiated automatically if a **Record and alarm** rule, to be executed when a detection tool is triggered is triggered, is activated (see the section titled Recording to Archive and Initiation of an Alarm).

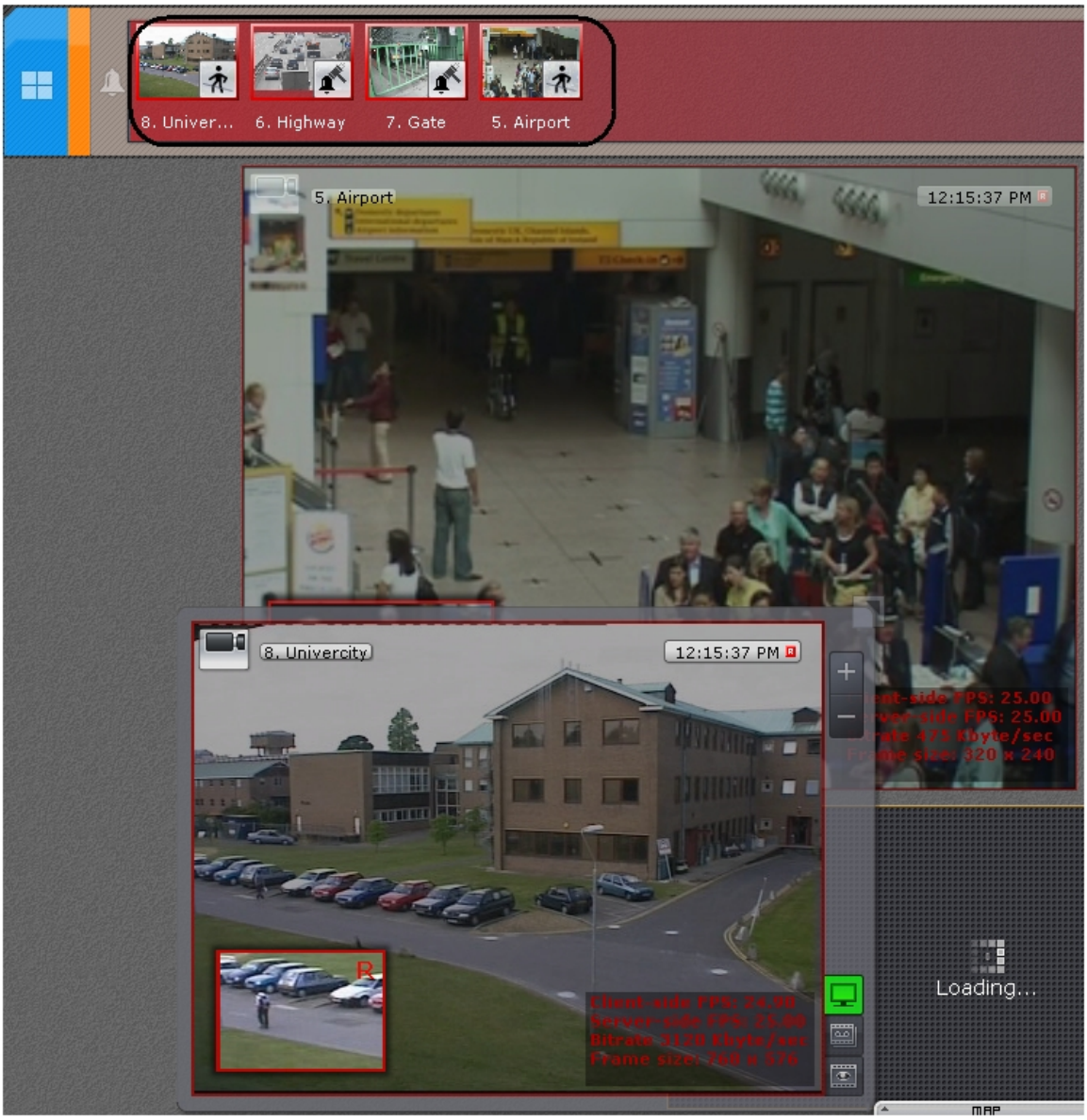
If an alarm is initiated automatically, a color-coded indicator will appear on the **Alarms** tab and the alarm preview tile will be displayed in the bottom left corner of the viewing tile (the video recording of the beginning of the alarm event plays repeatedly) while the rest of the viewing tile will be dimmed.



To evaluate the situation, go to the **Alarms** tab or left-click the alarm preview tile and then accept the event for processing (see the section titled Accepting an alarm for processing).

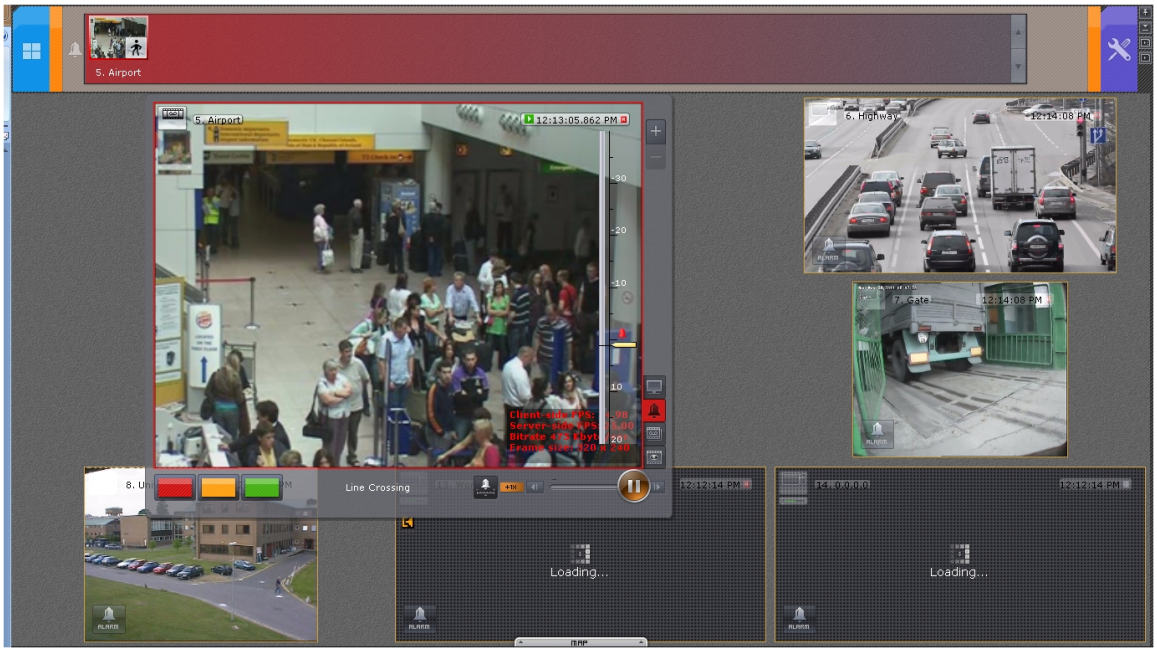
Accepting an alarm for processing

To accept an alarm for processing, go to the **Alarms** tab. All currently active alarm events are displayed on this tab. Under each alarm event you can see the name of the video camera that registered the alarm. If the alarm was initiated by a detection unit, the alarm event will be marked by the icon of the specific detection unit. To accept an alarm for processing, left-click the alarm event or the alarm preview tile.



The alarm handling tile will then appear.

> **Note**
> The Alarm Management tile will be displayed if you click the alarm preview tile.



Switch to Alarm Management mode

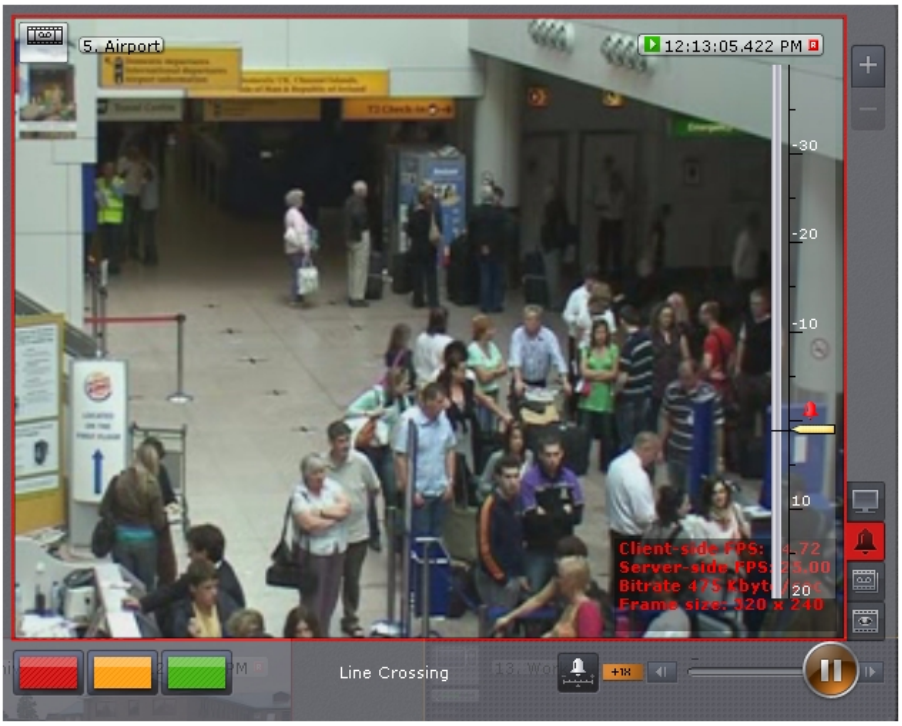
When an alarm is initiated, the system switches to alarm mode automatically at the moment the event is accepted for processing. Video surveillance functions available in Alarm Management mode To switch the viewing tile back from a different surveillance mode to Alarm Management mode, click the  button in the lower-right corner of the tile.

> **Note**
> In Live Video mode, if the viewing tile is not active, the tabs for switching to other modes are not displayed. To display the tabs, click the viewing tile by using either button of the mouse.

The viewing tile will then appear in **Alarm Management** mode.

Note

The button  becomes red, indicating Alarm Management mode:  .



Working with the Alarm Management window

Alarm Handling Tile Interface Elements

The alarm handling tile is a viewing tile which, besides the standard interface elements (context menu, time indicator, etc.), also contains elements for alarm playback and evaluation:

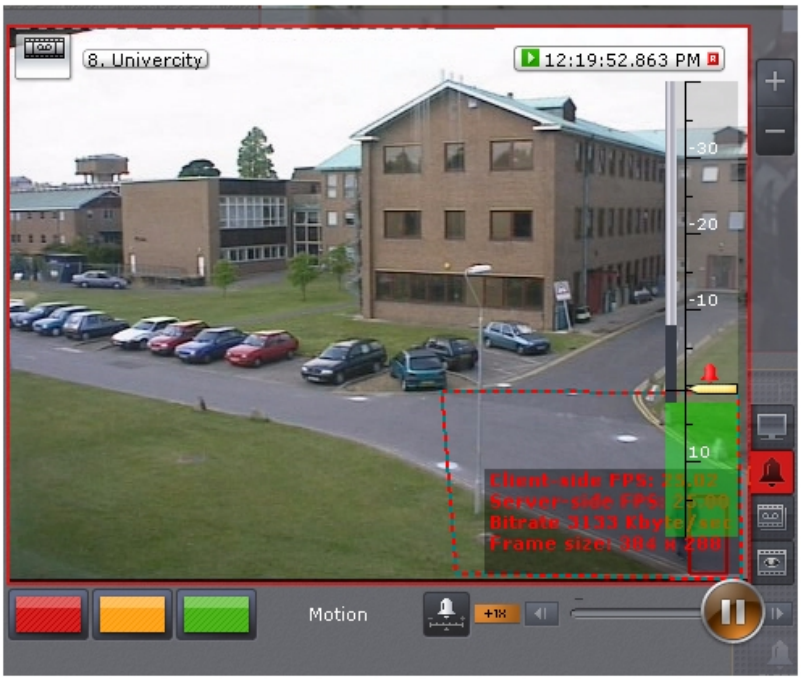
1. Playback panel
2. Timeline
3. A button for quick positioning of the timeline indicator in the position corresponding to the beginning of the alarm.

Alarm Playback

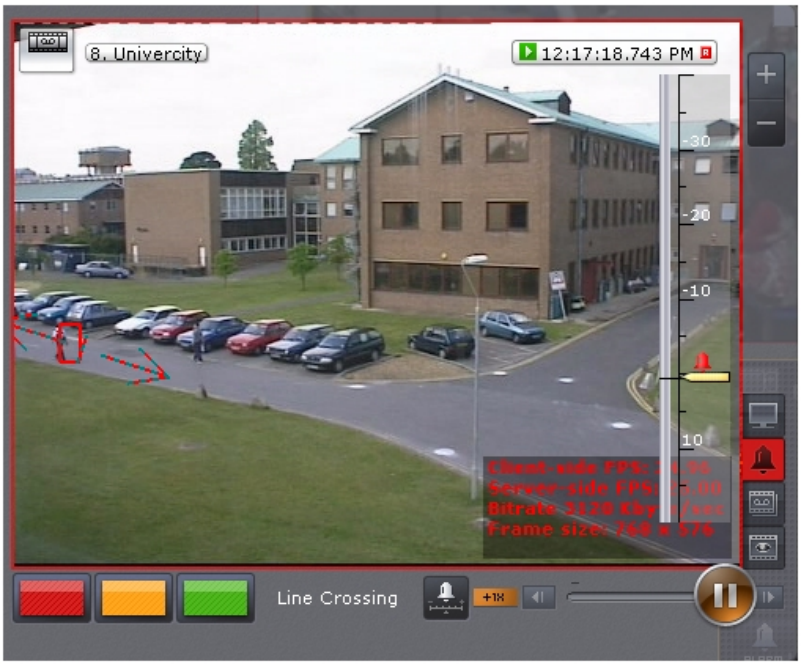
As soon as an alarm is accepted for evaluation, the alarm recording is played back automatically one time, at 1X speed. Playback is launched either from the moment of the beginning of the alarm, or from the moment corresponding to the position of the alarm flag (only when the alarm is initiated automatically; see the section Recording to Archive and Initiation of an Alarm).

If the alarm was initiated automatically, the visual element set for the detection tool which initiated the alarm will be displayed in the viewing tile: or a detection area or virtual tripwire , which triggers the detection tool when it is crossed. The object which caused the trigger will be outlined with a red frame.

Display of an Area visual element:



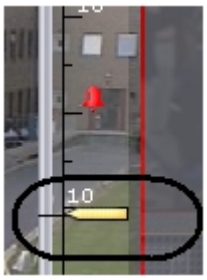
Display of a Line visual element:



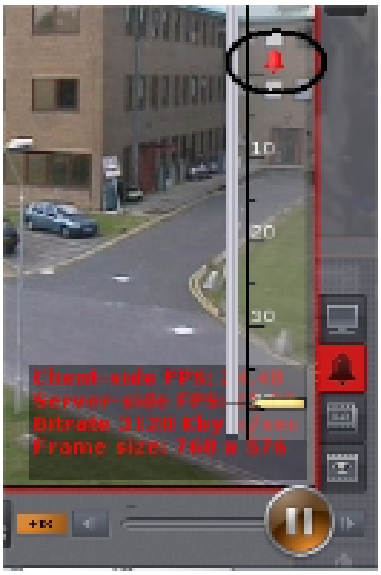
The name of the detection unit that initiated the alarm is displayed in the lower portion of the viewing tile.

To go to the desired segment of the alarm event to replay it, left-click the timeline indicator and drag it to the corresponding position.

> **Note**
> To go to the required video fragment, you can also left-click in the corresponding area of the timeline.



To switch to the previous result, click  on the playback control panel or move the timeline indicator to the following position:  .



Once a segment is selected for replay, the following operations are accessible:

1. Play recording: 
2. Pause/Stop playback: 
3. Go to the preceding frame  .
4. go to the next frame  .

It is possible to change the mode (forward/reverse) and speed of playback. To do this, use the slider.

Reverse playback of a video fragment:

Forward playback of a video fragment:

For reverse playback of a recording, move the slider to the left of the position corresponding to zero playback speed (the center of the slider); for forward playback, move it to the right. The current playback speed is displayed to the left of the slider. During forward playback of a recording, a + sign appears before the speed; during reverse playback, a - sign appears.

The value **0X** corresponds to zero speed, i.e., no playback; the value **1X** corresponds to the frame rate of recording. At a speed less than 1X, playback is slower than the speed of recording.

> **Note**
> The maximum speed of forward and reverse playback is 1x.

Processing an Alarm

To process an alarm, use the group of colored buttons in the lower left-hand corner of the Alarm Management tile. After processing of the alarm, the viewing tile on the given client automatically

switches to Live Video mode. The alarm is no longer in the **Alarms** tab.

> **Attention!**
> In the case of multi-user event processing, only the first operator to switch to alarm mode may process the alarm (if he or she has the appropriate permissions). For the rest of the operators, the Alarm Management buttons are not displayed.

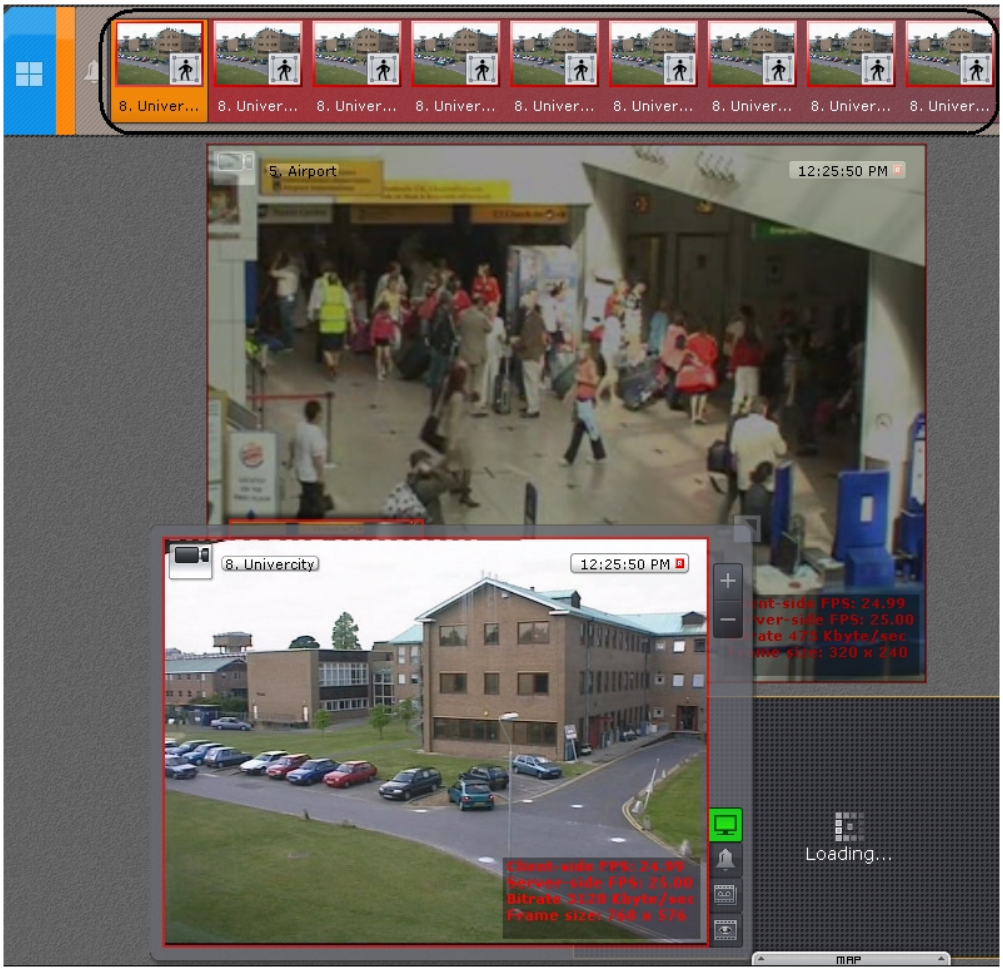
Button	Executed function
	Critical alarm
	Non-critical alarm
	False alarm

Limitations when working with alarm events in case of multi-user processing

In the case of multi-user processing, only one operator may accept an alarm for processing. Other operators may switch to alarm mode with limited functions for the purpose of playing back the alarm. This can be done in one of two ways:

1. Go to the tab of the alarm viewing tile (see the section Video surveillance in Alarm Management mode).

2. Switch to the **Alarms** tab and select the alarm from the alarms list.



In Alarm Management mode with limited functions, the Alarm Management buttons are not displayed. Instead, the name of the operator who is currently processing the alarm is displayed. The other functions of the alarm handling tile remain unchanged.

After processing of the alarm on another client, on the given client the status assigned to the alarm is displayed in place of the name of the operator.

If a user has accepted an alarm for processing and leaves Alarm Management mode (going to Live Video mode, Archive or Archive Search mode, the viewing tile for another camera, etc.), after an amount of time equal to the operator's idle time after leaving, other users will also have the opportunity to accept the alarm for processing.

If more than one alarm appears for one camera, any operator may access all alarms not yet accepted for processing.

Video surveillance in Archive Search mode

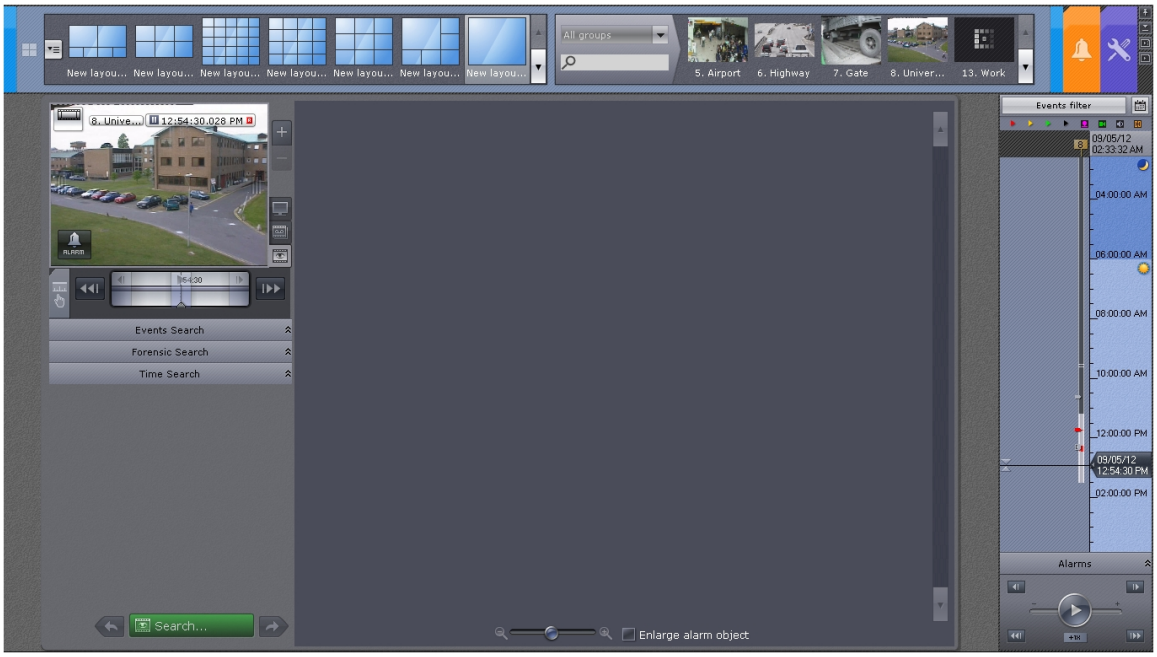
Switching to Archive Search mode

To switch the viewing tile from a different surveillance mode to archive analysis mode, switch to the  tab in the lower-right corner of the tile.

> **Note**
> If the video camera is not linked to a video archive, this tab will be unavailable.

> **Note**
> In Live Video mode, if the viewing tile is not active, the tabs for switching to other modes are not displayed. To display the tabs, click the viewing tile by using either button of the mouse.

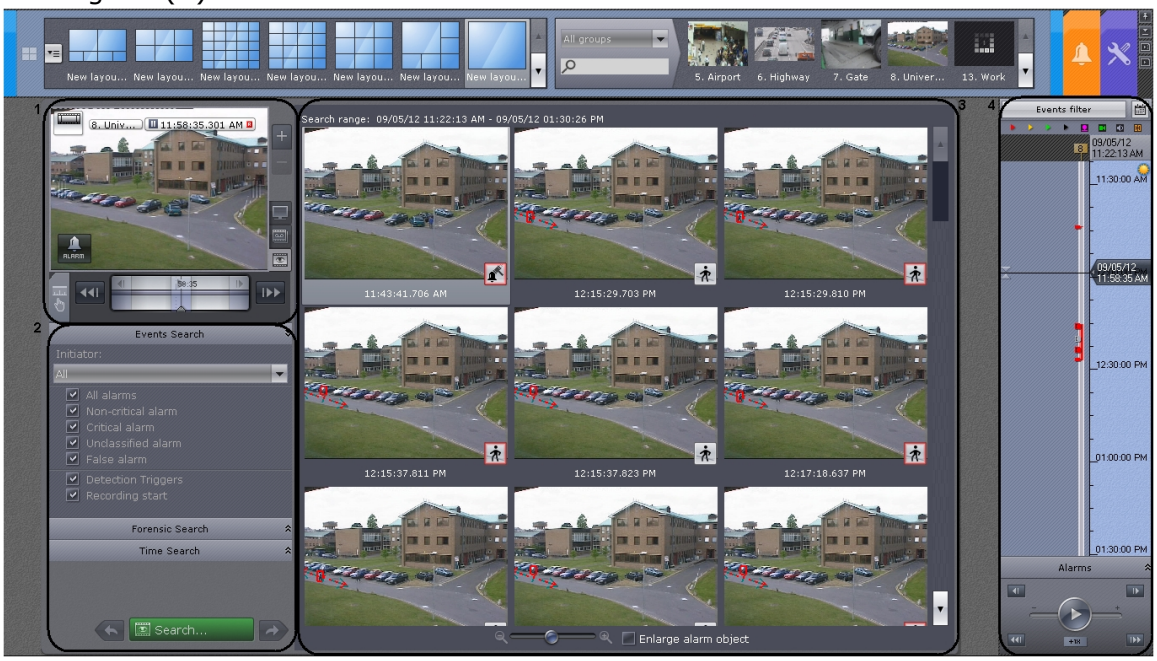
The archive analysis interface will then appear.



Archive Search mode interface

The visual layout of Archive Search mode is divided into the following 4 components:

1. Viewing tile (**1**)

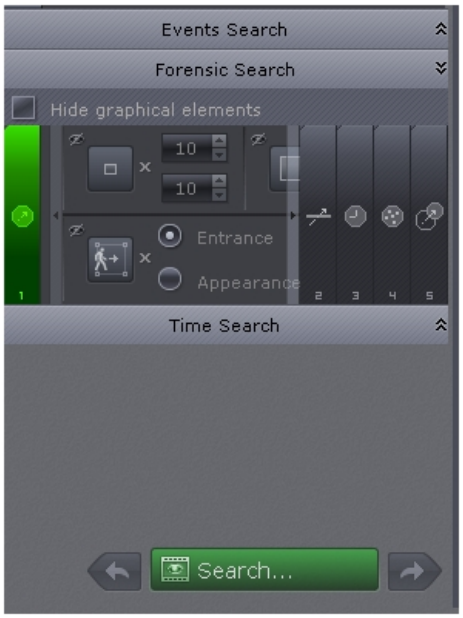


2. Search control panel (**2**)
3. Search results panel (**3**)
4. archive navigation panel (**4**)

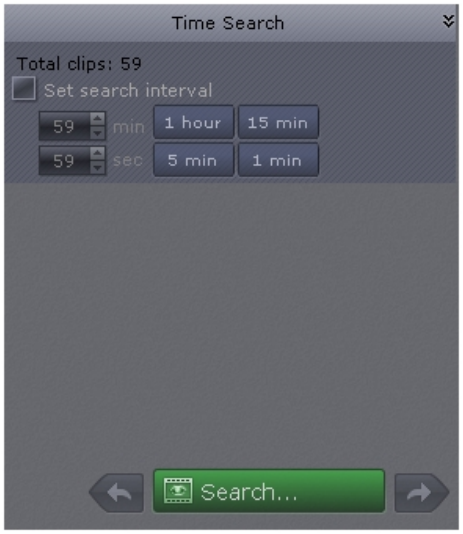
The viewing tile and archive navigation panel are described in their respective sections (see Viewing Tile и The Archive Navigation Panel).

The search control panel consists of three tabs that handle different types of searches:

1. **Events Search** (**2**).
2. **Forensic Search**.



3. Time Search.



The search results panel displays the precise moments in an archive that correspond to the defined search criteria. The precise time of each moment is displayed underneath (**1**). The specific moments correspond to the beginnings of the video fragments.

A scroll bar is located on the right side of the search results panel (**2**). Beneath is a time scale adjuster (**3**).

Video surveillance functions available in Archive Search mode

In Archive Search mode, the following video surveillance functions are available:

1. Selecting an archive for video recording analysis.
2. Tracking objects.
3. Scaling the viewing tile.
4. Digitally zooming video images.
5. Processing video images.
6. Taking snapshots.
7. Navigating through the archive.
8. Display of the causes of triggered situation analysis detection units.
9. Events search.
10. Forensic search.
11. Time search.
12. Switching between search results.
13. Playing back fragments retrieved by searches of specific moments in time.

Note

The following functions are accessible in all video surveillance modes: scaling the viewing tile, digital zoom, video image processing, **Select video camera** functio ns in the current tile, **Snapshot** and **Object tracking**. A description of these functions is provided in the section titled Functions Available in All Video Surveillance Modes.

The functions for navigating through an archive, displaying the causes of situation analysis detection unit triggering, and **Archive Selection** were inherited from archive mode; their descriptions are Video surveillance in archive mode.

Events search

This type of search lets you select events in the archive based on the type of event.

To do this, complete the following steps:

1. Define search criteria.
   a. Select an event initiator from the list (**1**).

Note
An event initiator could be an operator, a video camera sensor, or any detection unit that is activated in the system. The search results will show the moments in time containing the events that were triggered by the initiator.

   b. Select the events you need to search. Select the appropriate check boxes (see table below and **2** on the picture above).

Note
You can select an unlimited number of events.

Event	Description

All alarms	The search finds moments in the archive containing all types of alarms
Non-critical alarm	The search finds moments in the archive containing non-critical alarms
Critical alarm	The search finds moments in the archive containing critical alarms
Unclassified alarm	The search finds moments in the archive containing unclassified alarms
False alarm	The search finds moments in the archive containing false alarms
Triggering	The search finds moments when detection units were triggered
Recording start	The search finds the beginning and end of recordings from the specified video camera regardless of the initiator

2. On the timeline, specify the time interval you want to search.

> **Note**
> The time interval that is searched is determined by the time period visible on the timeline.

3. Click the **Search** button (**3**).

This starts a search in the archive based on the defined criteria. Search results are available on the search results panel.

> **Note**
> To zoom objects that caused an alarm or triggered a detection unit, select the **Expand alarm object** check box in the lower portion of the search results panel.

Forensic Search for Fragments

Forensic Search lets you search for moments in the archive using the following criteria:

1. Motion in a specific area
2. Crossing of a virtual line by an object's trajectory
3. Loitering of an object in a specific area
4. Simultaneous presence of a large number of objects in a specific area
5. Motion from one area to another

Forensic Search steps

Forensic Search is carried out in several steps:

1. Select a search criterion.

> **Note**
> In the current version of *Axxon Next*, you can search only by one criterion at a time.

2. Edit the visual element necessary to carry out the search based on the selected criterion.
3. Configure the criterion parameters.
4. Define the relevant period of time.
5. Start the search and view the results.

Steps 2 and 3 are used to refine the search query. These steps can be skipped, in which case the search will be carried out using the default parameters or previously set parameters (see the note below). For example, in the first case, using the **Motion** criterion, a search will be made for any motion in the central area of the frame with a width and height equal to 40% of the width and height of the frame, respectively (see the section titled Area), regardless of the size of the moving object, its color, or the direction and speed of its motion.

> **Note**
> The visual element necessary for searching the selected criterion and the parameters of the criterion are saved if the user switches to another search criterion, exits forensic search mode, or even restarts *Axxon Next*.

Selecting a search criterion

To select a criterion for Forensic Search, you can use one of five expanding tabs:

> **Note**
> These tabs are displayed on the **Forensic Search** tab in the search control panel.

1.  – **Motion in an area**
2.  **– Object trajectory crossing a virtual line**
3.  – **Loitering in an area**
4.  – **Multiple simultaneous objects in an area**
5.  – **Moving from area to area**

When you click a tab's icon, the tab expands and the previously expanded tab collapses. One of the tabs is always expanded; the expanded tab is colored light gray.

Editing visual elements

The visual element needed for searching a selected criterion is automatically displayed in the viewing tile. For the criteria **Motion in an area, Loitering in an area** and **Multiple simultaneous objects in an area**, the visual element **Area** is used. The visual elements **Line** an d **Two areas** are used only for configuring the criteria **Object trajectory crossing a virtual line** and **Moving from area to area**, respectively.

The visual element displayed by default must be edited to conform to the needed search query; for example, it may be necessary to increase or decrease the search area, move the virtual line, etc.

Note

You can collapse the graphical elements if they block the visual elements and prevent editing them. To hide them, select the **Hide graphical elements** check box.

Line

The visual element **Line** is needed for searching the archive by the criterion **Object trajectory crossing a virtual line**. This visual element sets a virtual line in the field of view of a video camera; instances of something crossing this line will be found in the archive.

The end points of the line are connected by a two-colored dotted line. The direction of the object's motion across the line is indicated by dotted arrows.

By default, the end points of the line have the coordinates (50%, 30%) and (50%, 70%) as percentages of the width and height of the frame, respectively.

To move the end point of a line, position the cursor on the end point and hold down the left mouse button as you move the mouse.

By default, both directions of motion across the virtual line are taken into account when searching the archive. If you do not need to search in a specific direction, click the button corresponding to that direction.

> **Attention!**
> At least one direction must be selected for the search.

> **Note**
> A disregarded direction of object motion is indicated by a dimmed arrow.

Area

The visual element **Area** is required for searching the following criteria:

1. **Motion in an area**
2. **Loitering in an area**
3. **Multiple simultaneous objects in an area**

This visual element specifies the area in a video camera's field of view that is to be analyzed when searching by the selected criterion.

The nodes of an area are connected by a two-colored dotted line.

By default, an area is defined by 4 nodes with the coordinates (30%, 30%), (70%, 30%), (70%, 70%) and (30%, 70%) as percentages of the width and height of the frame, respectively.

To edit an area, use the following actions.

Action	Result
Right-click on a line	Creates a new area node
Right-click on a created node	Deletes the area node
Position the cursor on a node and hold down the left mouse button while you move the mouse	Moves the area node

Two areas

The visual element **Two areas** is needed to search by the criterion **Motion from area to area.** T his visual element defines two areas in the video camera's field of view; instances of something moving between them (from one to the other) can be found in the archive.

The nodes of each area are connected by a two-colored dotted line. The direction of motion between the areas is indicated by a dotted arrow.

By default, each area is defined by 4 nodes. The nodes of the first area have the coordinates (20%, 40%), (40%, 40%), (40%, 60%), (20%, 60%), and those of the second have the coordinates (60%, 40%), (80%, 40%), (80%, 60%), (60%, 60%) as percentages of the width and height of the frame, respectively.

Each area can be edited the same way as the visual element **Area** (see the section titled Area).

To change the direction of motion between the areas, click the button on the direction arrow.

Configuring criteria

Configuring Forensic Search criteria consists of setting one or more parameters for a criterion.

For each parameter there is a toggle button that graphically represents its function and also allows the specific parameter to be taken into account (when the button is pressed) or disregarded (when the button is not pressed).

> **Note**
> When the mouse pointer is positioned over a button, details about the corresponding parameter are displayed.

Motion in an area

When configuring the **Motion in an area** criterion, you can set one or more of the following

parameters:

1. Minimum size of a moving object
2. Maximum size of a moving object
3. Color of a moving object
4. Direction of an object's motion
5. Minimum speed of an object
6. Maximum object speed
7. How an object appears in the area
8. How an object leaves the area

The procedures for setting the minimum and maximum size of a moving object are identical except for the need to use the  button to take into account the minimum size and the  but ton to take into account the maximum size.

The full procedure for setting the minimum (or maximum) size of an object is provided below:

1. Click the appropriate button ( or ).
2. When you do this, a visual element will appear in the viewing tile. This visual element serves two purposes; it graphically represents an object of the minimum (or maximum) size and sets this size.

3. The minimum (or maximum) size of a moving object can be set using any of the following methods:

> **Note**
> The first method lets you roughly configure the size, and the second method allows you to set the size precisely.

a. Position the cursor on a visual element node and hold down the left mouse button while moving the mouse.

b. Set the width and height of an object of the minimum (maximum) size using the ar rows in the upper and lower margins, respectively. The dimensions of a visual element in the viewing tile can be changed in a similar manner.

The minimum (maximum) size of an object is now set.

To set a color for a moving object, complete the following steps:

> **Note**
> For more effective archive searches, a color range is set rather than a specific color, which is generally influenced by lighting conditions and other environmental factors. The search checks whether an object is of any color from the given range. If so, the corresponding video recording will appear in the search results.

1. Click  .
2. A palette of shades of various saturation will then appear in the viewing tile

3. Use the palette to set the color range to be searched. The range is selected using drag and drop (click and hold either mouse button, move the mouse, then release the button).

> **Attention!**
> Any click on the palette is interpreted as the beginning of a new range; the previous range will disappear.

The color of a moving object will then be set.

By default, when searching the archive, the system searches for motion in all directions. It is possible to prevent searching for motion in one or several specific directions.

To prevent searching for motion in a certain direction, complete the following steps:

1. Click  .
2. A visual element consisting of 8 sectors corresponding to 8 directions will then appear.

3. Click with either mouse button on the direction that you do not want included in the search. The sector corresponding to that direction will then be colored green. If necessary, repeat this action for other directions. To reactivate searches for a disabled direction, click it again with either mouse button.

The required directions of an object's movement are now set.

The procedures for setting the minimum and maximum speed of a moving object are identical except for the need to use the  button to take into account the minimum speed and the  button to take into account the maximum speed.

The full procedure for setting the minimum (or maximum) speed of an object is provided below:

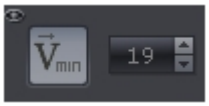
1. Click the appropriate button ( or ).
2. A bidirectional arrow now appears in the viewing tile. This visual element serves two purposes; it graphically represents an object's displacement per second (speed) and sets this specific speed.

3. The minimum (maximum) speed of a moving object can be set using any of the following methods:

> **Note**
> The first method lets you roughly configure the speed, and the second method allows you to set the speed precisely.

   a. Position the cursor on an end point of the arrow and hold down either mouse button while you move the mouse. The length of the arrow will correspond to the minimum (maximum) displacement of the object per second.

   b. Use the arrows to set the minimum (maximum) speed of the object as percentages of the frame per second. The dimensions of the arrow in the viewing tile can be changed in a similar manner.



The minimum (maximum) speed of a moving object is now set.

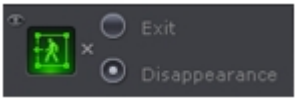
Complete the following steps to set how an object appears in the area:

1. Click .
2. Choose how an object appears in the area: enters the area (crosses the area's borderlines) or appears (doesn't cross the area's borderlines).

You have set the way an object may appear in the area.

Complete the following steps to set how an object leaves the area::

1. Click  .
2. Choose how an object leaves the area: leaves the area (crosses the area's borderlines) or disappears (doesn't cross the area's borderlines).



You have set the way an object may leave the area.

Object trajectory crossing a virtual line

When configuring the **Crossing of a virtual line by an object's trajectory** criterion, you can set one or several of the following parameters:

1. Minimum size of a moving object
2. Maximum size of a moving object
3. Color of a moving object
4. Minimum speed of an object
5. Maximum object speed

The procedures for setting parameters for the **Objective Trajectory Crossing a Virtual Line** criterion are described in the section titled Motion in an area.

Loitering of an object in an area

When configuring the **Object's Loitering in the Area** criterion, you can set one or several of the following parameters:

1. Minimum size of an object
2. Maximum size of an object
3. An object's color
4. Duration of an object's presence (search results will contain video recordings in which the object remains in the area longer than the specified duration).

The procedures for setting the first three parameters for the **Object's Loitering in an Area** criter ion are similar to those described in the section titled Motion in an area.

To set the duration for the loitering criterion, complete the following steps:

1. Click  .
2. The minutes and seconds fields used to set the duration for the loitering criterion will now become active. These values are set using the  arrows.

This completes configuration of the duration that will be interpreted as loitering in an area.

Simultaneous presence of a large number of objects in an area

When configuring the **Multiple Simultaneous Objects in the Area** criterion, you can set one or several of the following parameters:

1. Minimum size of an object
2. Maximum size of an object

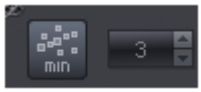
3. An object’s color
4. Minimum number of objects (search results will contain video recordings in which the number of objects in the area exceeds the specified number).

The procedures for setting the first three parameters for the **Multiple Simultaneous Objects in the Area** criterion are similar to those described in the section titled Motion in an area.

To set the minimum number of objects in an area, complete the following steps:

1. Click  .
2. The field used to set the minimum number of objects in an area will now become active.

   This value is set using the  arrows.

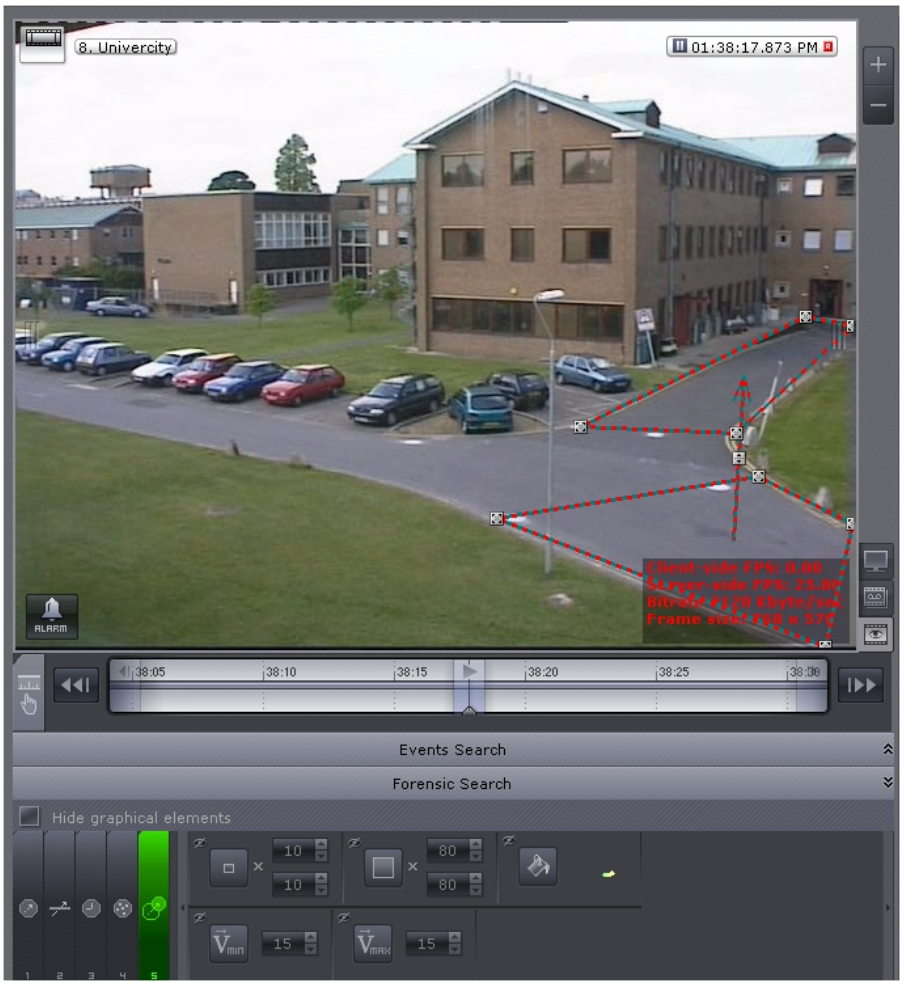
   

The minimum number of objects in an area is now set.

Motion from area to area

When configuring the **Motion from one area to another** criterion, you can set one or several of the following parameters:

1. Minimum size of an object
2. Maximum size of an object
3. An object’s color
4. Minimum speed of an object
5. Maximum object speed



The procedures for setting parameters for the **Moving from area to area** criterion are similar to those described in the section titled Motion in an area.

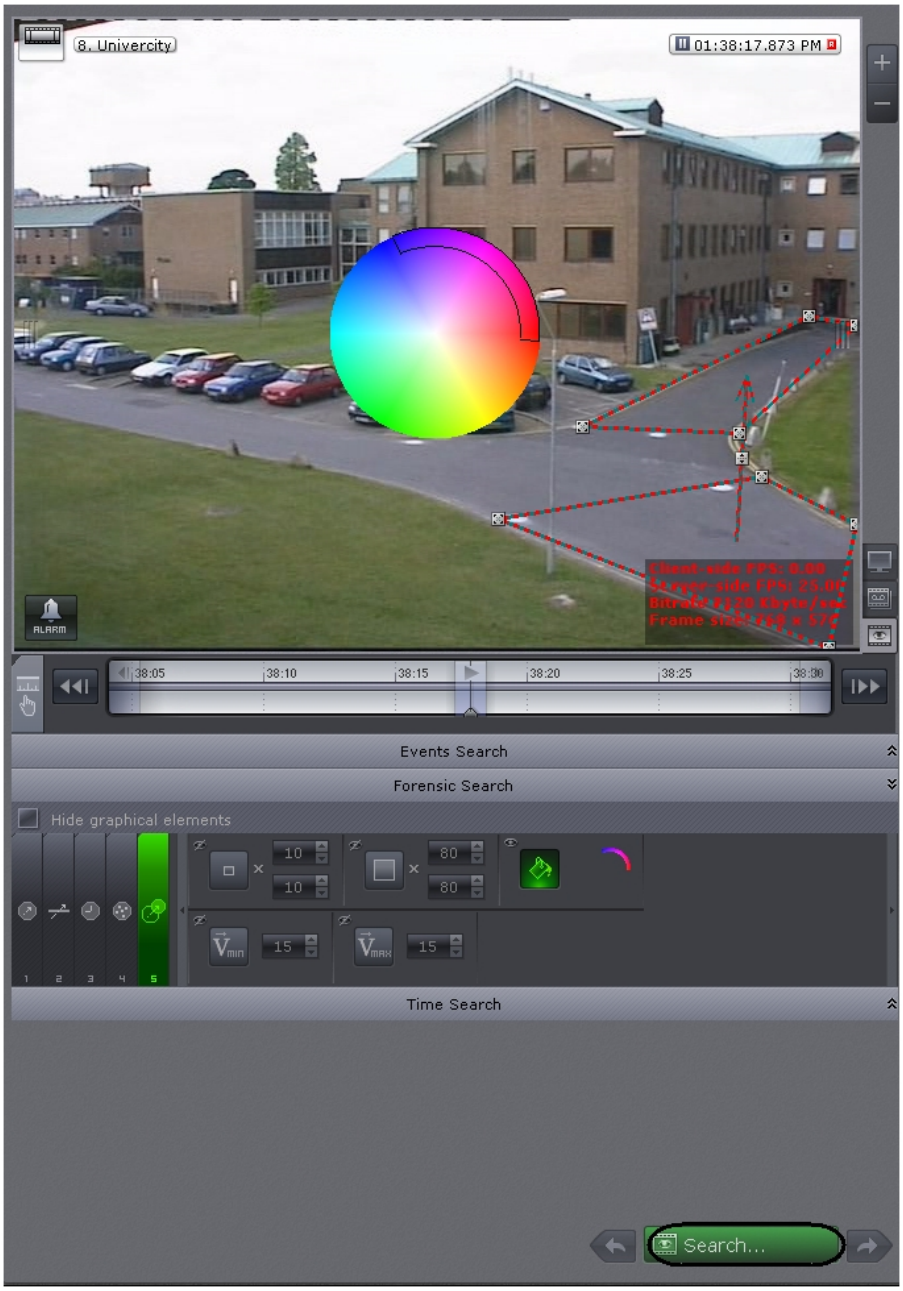
Setting the time period

Forensic Search is performed for the time period displayed on the timeline. Methods for scrolling and scaling the timeline are described in the section titled Scrolling and Zooming the Timeline.

Launching a search

To start a search, click the **Search** button in the search control panel.

> **Attention!**
> The search will be performed for the time period displayed on the timeline.



The search results panel will display the specific moments found.

Time search for video fragments

A time search lets you divide a selected portion of the archive into equally sized fragments with a certain interval between them. You can configure the interval manually or it will be determined automatically.

Time search using a defined interval

A time search using a defined interval is completed as follows:

1. Define the search interval using the quick select buttons or the up–down buttons (**1**).

> **Note**
> To use the **up-down** buttons, you must select the **Set search interval** ch eckbox

2. On the timeline, specify the time interval you want to search.

> **Note**
> The time interval that is searched is determined by the time period visible on the timeline.

3. Click the **Search** button (**2**).

This starts a search for video fragments based on the defined criteria. The search results panel displays the found moments with the defined interval between them, and the search control panel displays the number of found video fragments.

> **Note**
> Information on playback of video fragments is provided in the section titled Playback of video fragments corresponding to found moments

Time search without a defined interval

A time search without a defined interval is completed as follows:

1. Clear the **Set search interval** check box.
2. On the timeline, specify the time interval you want to search.
3. Click the **Search** button.

This starts a search for video fragments, based on the following:

1. the maximum number of moments that can be displayed on the search results panel without using the scrollbar
2. the maximum duration of the archive for the selected time interval
3. the time interval between neighboring moments (dividing the duration of the archive into the maximum number of moments)

The search results panel displays the moments with the calculated interval between them, and the search control panel displays the number of found video fragments.

> **Note**
> Information on playback of video fragments is provided in the section titled Playback of video fragments corresponding to found moments

Switching between search results

If a search was run more than once and the user did not exit Archive Search mode during that time, it is possible to switch between search results.

> **Note**
> The number of stored results is limited only by the amount of RAM in the server.

Click  on the search control panel to switch to the previous search result, and click  to switch to the next result.

Each time you switch between results, the search results panel displays the moments corresponding to the previous/next result.

Playback of video fragments corresponding to found moments

To view the video fragment corresponding to a found moment in the archive, complete the following steps:

1. Left-click the found moment on the search results panel.
2. Using the playback panel (**1**), start playback of the fragment in the viewing tile (**2**).

Note

If object tracking is activated in the viewing tile, then the properties of tracked objects (width and height as a percentage of the width or height of the frame) are displayed when viewing video fragments found through forensic search.

> **Note**
> To switch between video fragments, use the corresponding buttons on the playback panel or on the advanced navigation panel (see the sections titled Navigation using the advanced panel and Navigating Using the Playback Panel).

Audio Monitoring

General Information

Audio monitoring of a situation is carried out using the microphones that correspond to a video camera surveying the situation.

In different viewing tile modes, different audio monitoring functions are accessible:

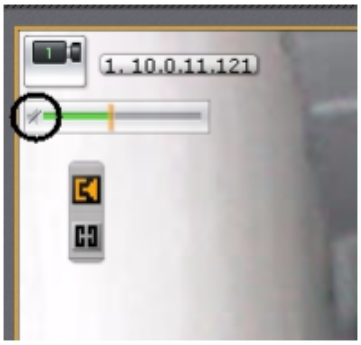
1. Live playback mode – listening to sound from a microphone in real time.
2. Archive mode, Alarm Management mode, Archive Search mode– playback of sound recorded from a microphone.

> **Note**
> In Archive mode and Archive Search mode, an audio recording can be played back only from the microphone corresponding to the currently selected video camera, and only in forward playback mode at a speed of 1x.

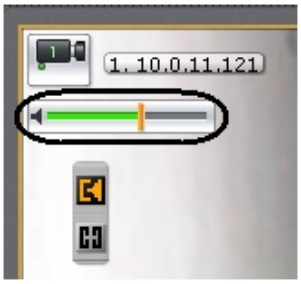
Activating audio monitoring

> **Attention!**
> The **Microphone** object must be enabled (see the section titled The Microphone Object).

To activate audio monitoring in any surveillance mode, left-click the speaker icon in the viewing tile.



The volume icon and volume adjuster now become active.



Volume control

Volume is controlled in any surveillance mode using the volume adjuster  .

> **Note**
> The volume adjuster must be active.

The far left position of the adjuster represents the minimum volume, and the far right position represents the maximum volume.

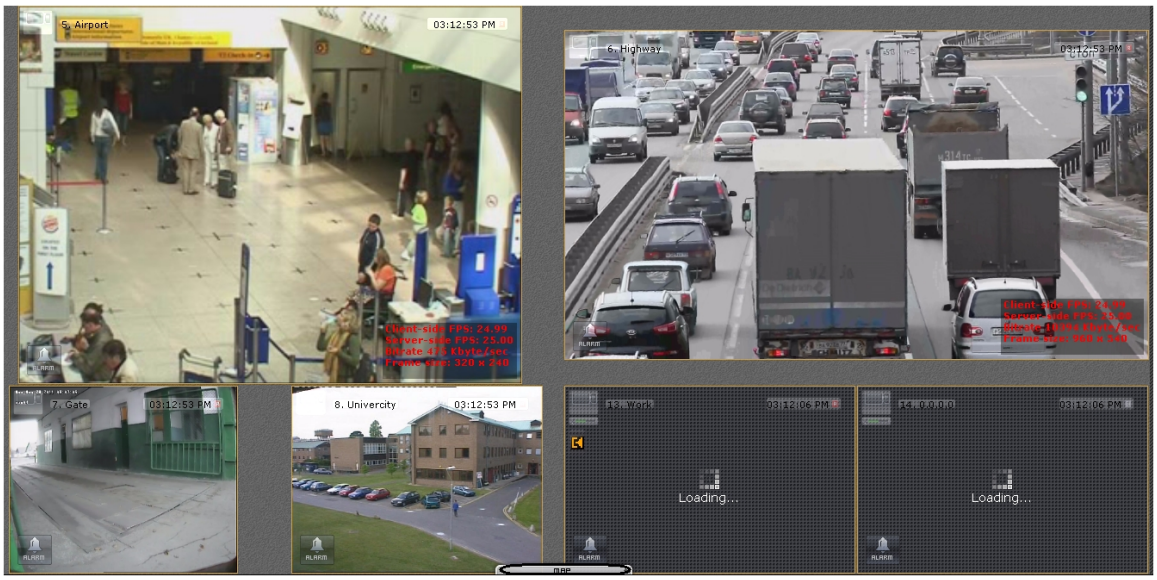
Working with the Interactive Map

> **Play corresponding video**

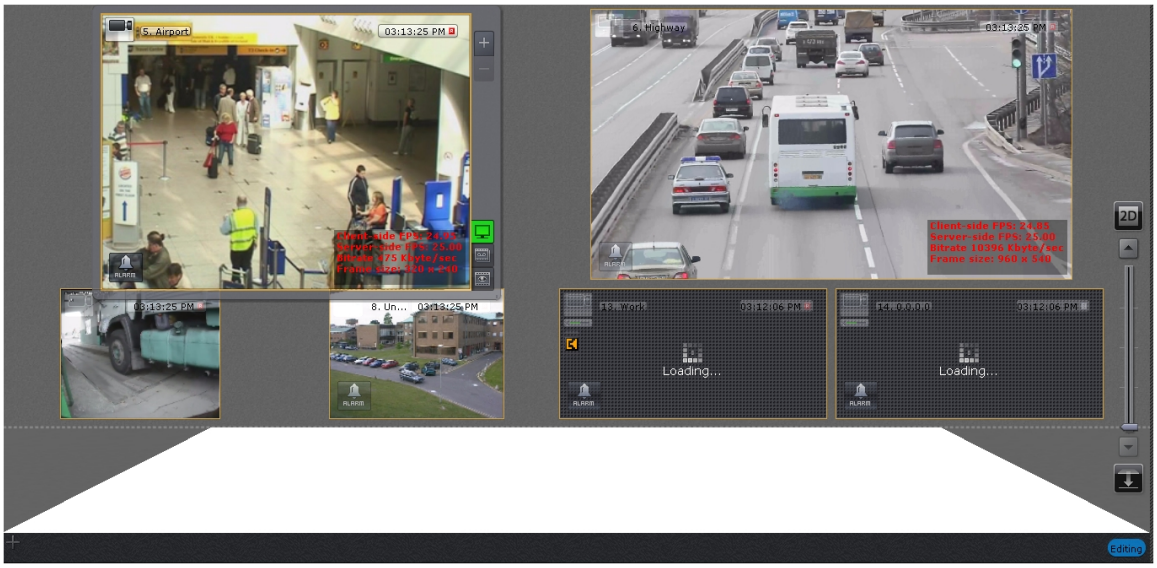
Opening and closing the map

You can switch to Map View from all modes of operation except for Archive Search.

To go to Map View, point the cursor at the pop-up **Map** button and click it.



The Map will open in a 3 D view while the current layout contracts to fit the screen area over the map.



To exit Map View click  .

Changing the map tilt

You can change the tilt of the map in any mode.

You can change the tilt of the map in one of two ways:

1. By using the slider or buttons for adjusting tilt (**1**).
2. By adjusting the border of the area of the map and the layout (**2**).

To switch to 2D map viewing mode and close the layout, select the  button.

To return to the layout, point the cursor at the pop-up **Layout** button and click it.

Switching between maps

In any mode, you can switch between the maps that have been created in the system.

To switch to another map, in the lower-left corner of the screen, select the necessary tab.

If many maps have been created, some tabs may not fit on the screen. If this happens, click the  button. In the drop-down menu that opens, select a map.

Controlling devices from the map

You can manage devices on the map (video cameras, relays) by using the context menus of the corresponding icons. You can control devices in all modes.

Commands for controlling video cameras are given in the table below.

Command (context menu item)	Condition	Icon status after the command is performed
Arm	The camera is disarmed	
Disarm	Camera armed	

Commands for controlling relays are given in the table below.

Command (context menu item)	Condition	Icon status after the command is performed
Turns the relay on	Relay in normal status	
Disable relay	Relay is activated	

Displaying device status

The icons on the map indicate the current status of the corresponding devices.

The table below possible status states of the video camera icon are described in the following list.

Map icon	Camera status
	Camera disarmed, no archive recording
	Camera disarmed, archive recording active
	Camera armed, no archive recording
	Camera armed, archive recording active
	Camera alarm, archive recording active

The table below possible status states of the relay icon are described in the following list.

Map icon	Relay status
	Relay is activated
	Relay in normal status

The table below possible status states of the sensor icon are described in the following list.

Map icon	Sensor status
	Video camera is armed, sensor is in normal status
	Video camera is armed, sensor is in alarm status
	Video camera is disarmed, sensor is in normal status

	Video camera is disarmed, sensor is in alarm status

Exporting Frames and Video Recordings

Frame export

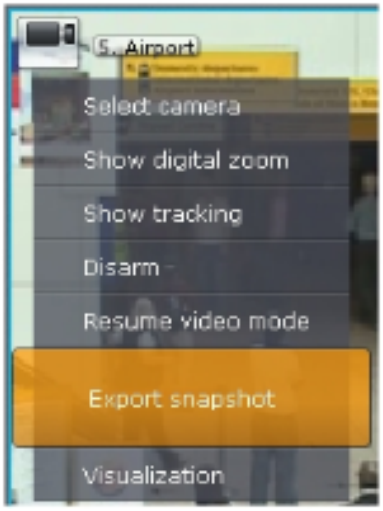
Export of frames is accessible in all viewing tile modes.

To export a video image frame, you must perform the following steps:

1. Enable the **Snapshot** function (see the section titled Using the Snapshot function).

> **Note**
> You do not need to enable the **Snapshot** function to export a frame while paused in the archive (in Alarm Management mode or archive mode).

2. Bring up the context menu in the viewing tile (**1**).
3. Select **Export snapshot** (**2**).



4. The snapshot will then be saved in .JPG format in the directory specified in the export settings (see the section titled Configuring export).

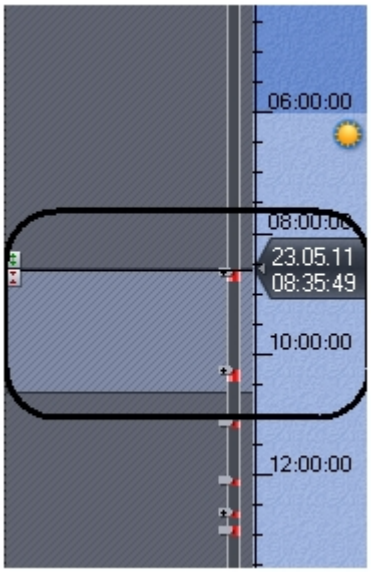
Export of the frame is now complete.

Exporting Video Recordings

Export of video recordings is accessible in the archive viewing tile mode.

To export a video recording (fragment), you must perform the following steps:

1. Switch to Archive or Archive Search mode (see the sections Switching to Archive Mode and Switching to Archive Search mode).
2. Select the video fragment that you want to export using one of the following methods:
   a. Right-click the position on the left portion of the timeline that corresponds to one of the ends of the video fragment, drag the mouse, and select the fragment on the timeline.



b. Set the required video fragment with the button:
   i. Left-click the position on the left portion of the timeline that corresponds to one of the ends of the video fragment.
   ii. Click .
   iii. Left-click the position on the left portion of the timeline that corresponds to the other end of the video fragment.
   iv. Click .

> **Note**
> To deselect the video fragment, click .

3. Bring up the context menu in the viewing tile (**1**).

4. Select **Export video** (**2**).

The highlighted recording fragment will then be saved in mkv format in the directory specified in the export settings (see the section titled Configuring export). Titles containing date and time stamp will be superimposed on video from that footage.

> **Note**
> Titles are stored in an individual video track and can be turned off in the player

Export of the video recording is now complete.

Event Control

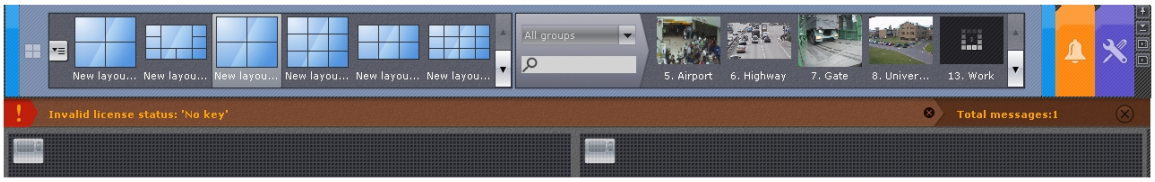
Event control in the Axxon Next software package can be conducted in three ways:

1. In Live Video mode
2. Using the system log
3. By logging events in external logs

> **Note**
> Configuration of logging to external files is carried out through the log management utility (see the section Log Management Utility).

Control in Live Video Mode

Messages about system errors which have occurred are displayed in real time on a dynamic error panel. When there are no unaccepted errors, this panel is not displayed; when there are such errors, it is displayed in Axxon Next's **Layouts** and **Alarms** tabs.



> **Note**
> This feature is configured on the **Settings** tab (see the section Configuring Display of Error Messages).

To accept an error and delete it from the error panel, click the corresponding  button.

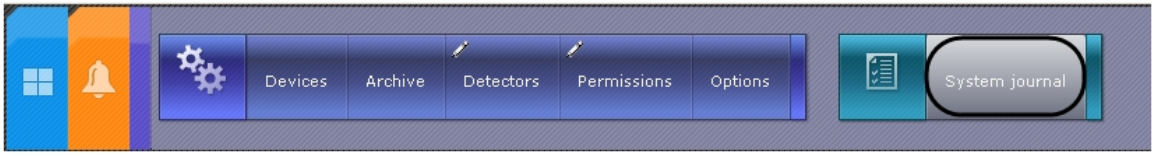
To accept all errors and close the error panel, click the button 

.

The System Log

Information about events which have occurred in the system is stored in the system log.

To access the system log, select **Settings** -> **System log** .



When you do this, a window appears which can be used to search, view, and export system log events.

Setting Event Search Filters

To view and/or export system log events, first you need to perform a search for them.

To search for system log events, you need to set one or more filters:

1. Time period during which the events were recorded.
2. Event type:
    a. Information
    b. Alarm

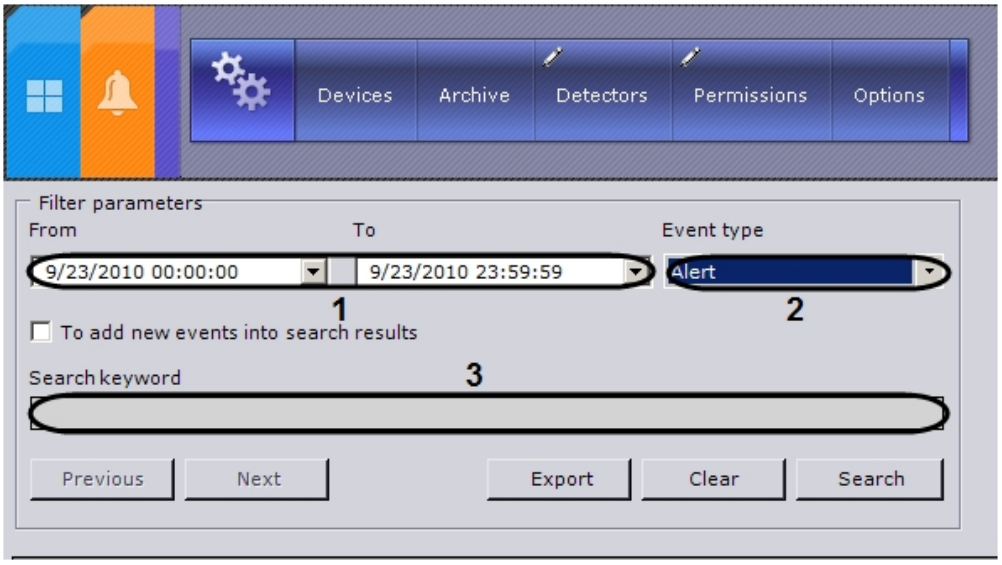
c. Error
d. Debug

3. A key phrase contained in the system event descriptions.

> **Note**
> The time period is a mandatory filter, while the event type and key phrase are optional.

Search filters can be set as follows:

1. In the **To** and **From** fields (**1**) you can enter the date and time of the beginning and end of the period during which the events you are searching for were recorded.



> **Note**
> The date format is DD-MM-YYYY and the time format is HH:MM:SS.XXX.

> **Note**
> By default, the event search period is defined as the past 24 hours.

2. Select the type of event to search for in the **Event type** list (**2**). To search for all event types, select an empty line.
3. In the **Search** field (**3**) enter a key phrase which is in the system description of the events that you want to find.

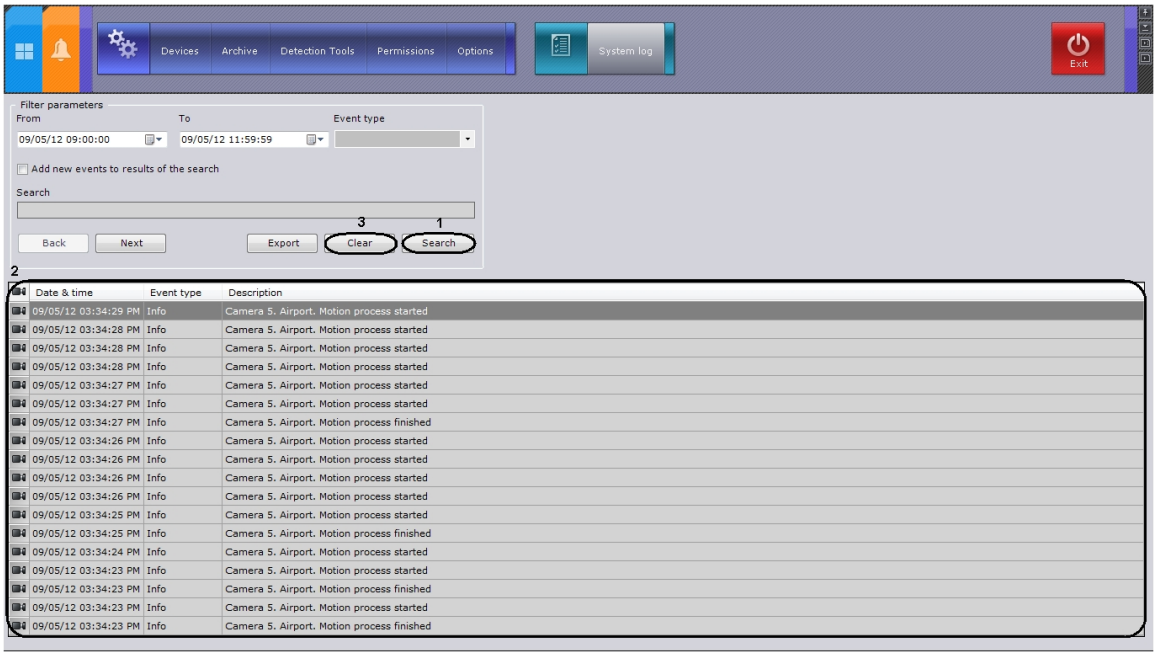
> **Note**
> For more precise searching, enter an exact phrase in the **Search keyword** field.

The event search filters have been set.

Next you must start the event search (see the section titled Event search procedure).

Event search procedure

To start a search for system log events which satisfy the filters which have been set (see the section Setting Event Search Filters), click the **Search** button (**1**).

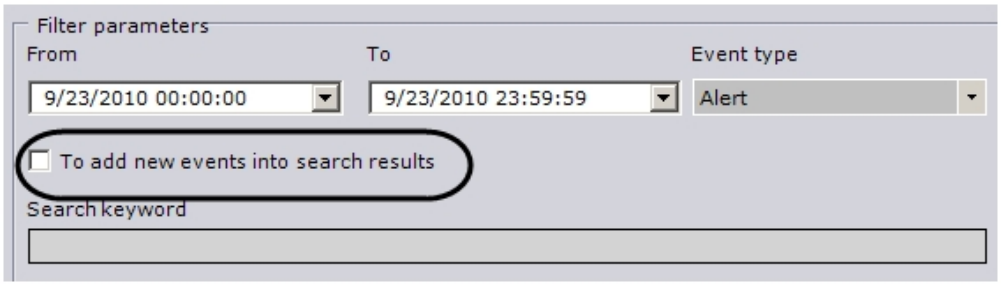


When you do that, a search results table appears (**2**).

To accept all errors and close the error panel, click the **Clear** button (**3**).

Refreshing Event Search Results

You can automatically refresh the event search results table, i.e., add events to it which happened after the search was started (see the section Event search procedure). To do this, select the **Add new events to the results of the search** check box.



Viewing Event Search Results

System log event search results are displayed in a table (**1**).

> **Note**
> Events in the table are sorted by the date they were registered, beginning with the most recent one.

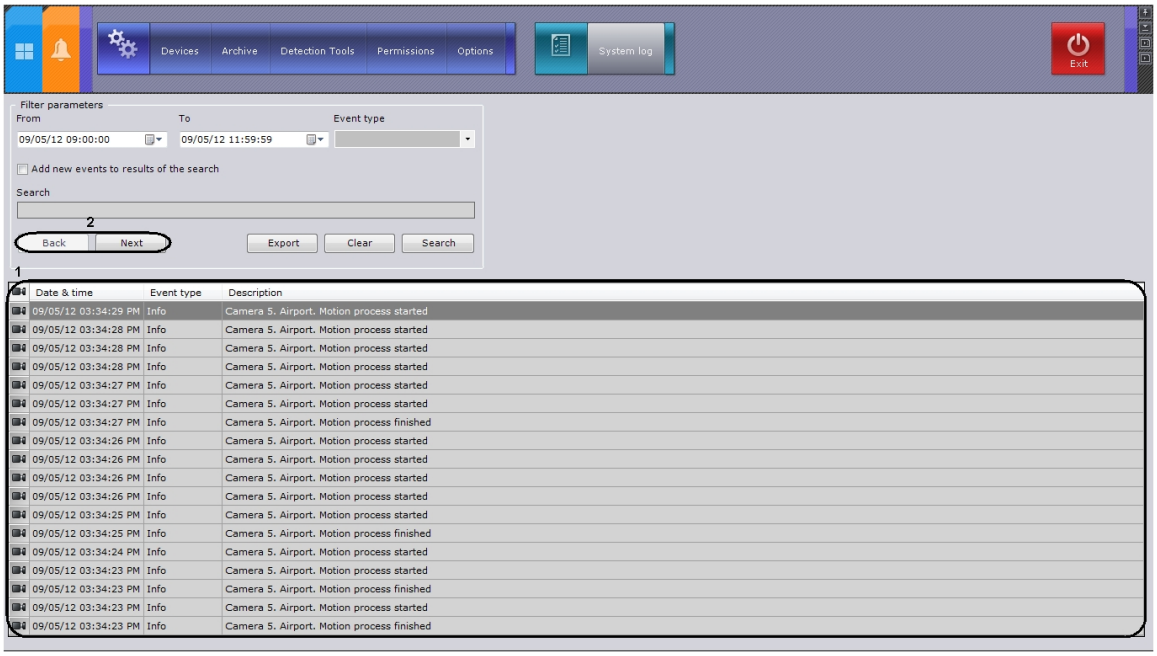


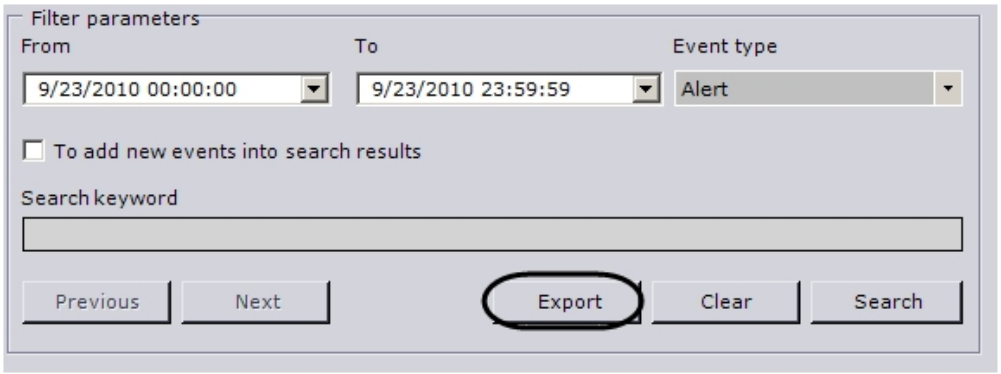
Table column	Contents of column
	Switching to archive video of specific events
Date & time	Date and time the event was recorded in the system in the format DD.MM.YYYY HH:MM:SS
Event type	Event type (information, alarm, debug, error)
Description	System description of the event

The search results table may be more than one page. To navigate through a table which is more than one page, use the following buttons (**2**):

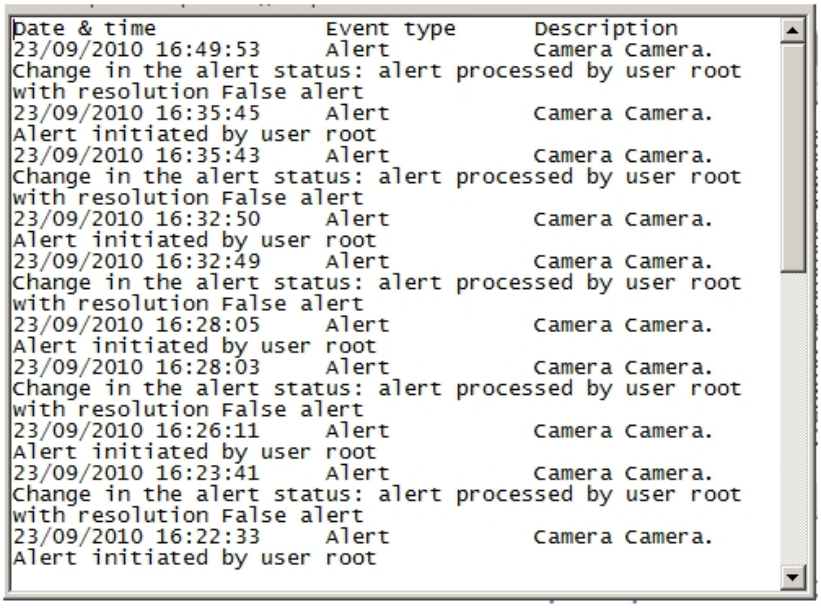
1. **Back** Goes back to the previous page of the table.
2. **Next** Goes to the next page of the table.

Exporting Event Search Results

To export the system log event search results, click the **Export** button.



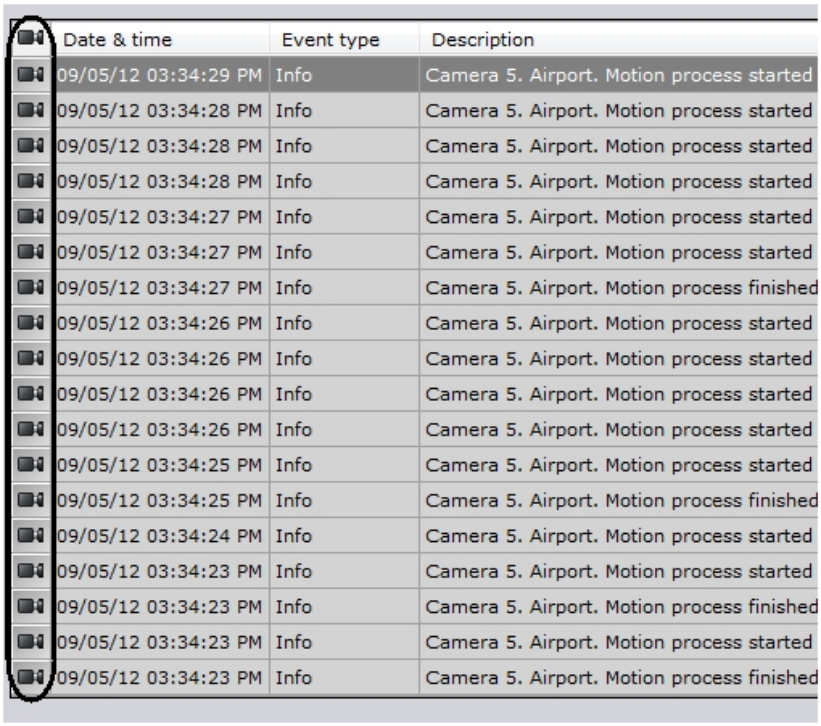
When you do this, the standard Windows “Save as” dialog box appears, using which you can save the search results as a file with a .txt (text) extension or .csv (comma-separated).



Date & time	Event type	Description
23/09/2010 16:49:53	Alert	Camera Camera. Change in the alert status: alert processed by user root with resolution False alert
23/09/2010 16:35:45	Alert	Camera Camera. Alert initiated by user root
23/09/2010 16:35:43	Alert	Camera Camera. Change in the alert status: alert processed by user root with resolution False alert
23/09/2010 16:32:50	Alert	Camera Camera. Alert initiated by user root
23/09/2010 16:32:49	Alert	Camera Camera. Change in the alert status: alert processed by user root with resolution False alert
23/09/2010 16:28:05	Alert	Camera Camera. Alert initiated by user root
23/09/2010 16:28:03	Alert	Camera Camera. Change in the alert status: alert processed by user root with resolution False alert
23/09/2010 16:26:11	Alert	Camera Camera. Alert initiated by user root
23/09/2010 16:23:41	Alert	Camera Camera. Change in the alert status: alert processed by user root with resolution False alert
23/09/2010 16:22:33	Alert	Camera Camera. Alert initiated by user root

Switching to archive video of specific events

To switch to archive video of specific events, click the  icon next to the event or double-click the relevant row.



Date & time	Event type	Description
09/05/12 03:34:29 PM	Info	Camera 5. Airport. Motion process started
09/05/12 03:34:28 PM	Info	Camera 5. Airport. Motion process started
09/05/12 03:34:28 PM	Info	Camera 5. Airport. Motion process started
09/05/12 03:34:28 PM	Info	Camera 5. Airport. Motion process started
09/05/12 03:34:27 PM	Info	Camera 5. Airport. Motion process started
09/05/12 03:34:27 PM	Info	Camera 5. Airport. Motion process started
09/05/12 03:34:27 PM	Info	Camera 5. Airport. Motion process finished
09/05/12 03:34:26 PM	Info	Camera 5. Airport. Motion process started
09/05/12 03:34:26 PM	Info	Camera 5. Airport. Motion process started
09/05/12 03:34:26 PM	Info	Camera 5. Airport. Motion process started
09/05/12 03:34:26 PM	Info	Camera 5. Airport. Motion process started
09/05/12 03:34:25 PM	Info	Camera 5. Airport. Motion process started
09/05/12 03:34:25 PM	Info	Camera 5. Airport. Motion process finished
09/05/12 03:34:24 PM	Info	Camera 5. Airport. Motion process started
09/05/12 03:34:23 PM	Info	Camera 5. Airport. Motion process started
09/05/12 03:34:23 PM	Info	Camera 5. Airport. Motion process finished
09/05/12 03:34:23 PM	Info	Camera 5. Airport. Motion process started
09/05/12 03:34:23 PM	Info	Camera 5. Airport. Motion process finished

The system will now switch to archive mode and fetch the video of the selected event.

Description of utilities

Axxon Support Tool

Purpose of the Support.exe Utility

The Support.exe utility is designed to collect information about the configuration and operating status of hardware, the Windows operating system, and the Axxon Next software. The utility generates an archive that can be used by the company’s technical support department. In case of malfunctions or errors in the Axxon Next software package, please visit our technical support

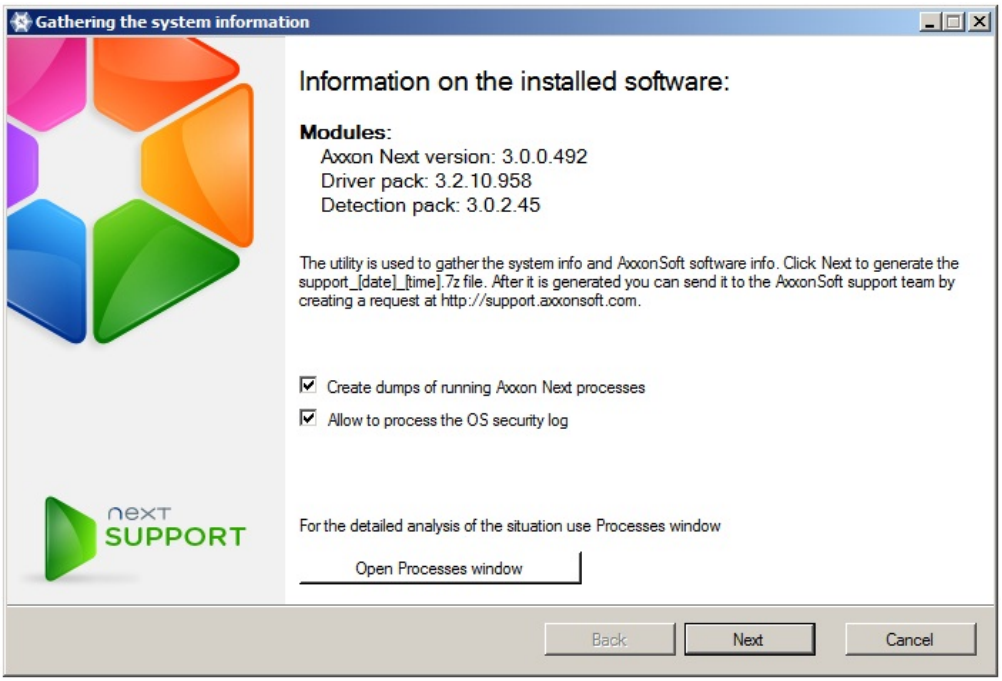
server at https://support.axxonsoft.com/ and compose a message containing a description of the problem and attach the archive that was generated by the Support.exe utility.

Launching and Closing the Utility

The Support.exe utility is launched using the **Start** menu, which is intended for launching user programs in Windows. Go to **Start All Programs Axxon Next Utilities Support Tool.**

> **Note**
>
> The Support.exe utility is located in the folder <Axxon Next installation directory>\AxxonNext\Support

The Support.exe utility dialog box will then be displayed.

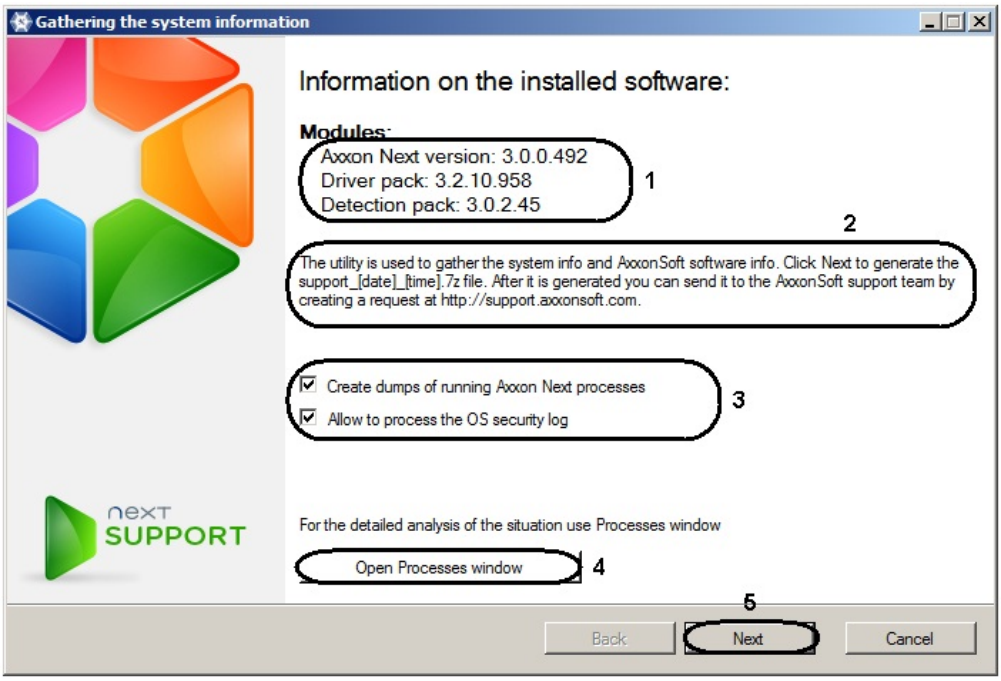


To close the Support.exe utility, click the **Cancel** button or .

Description of the Support.exe utility interface

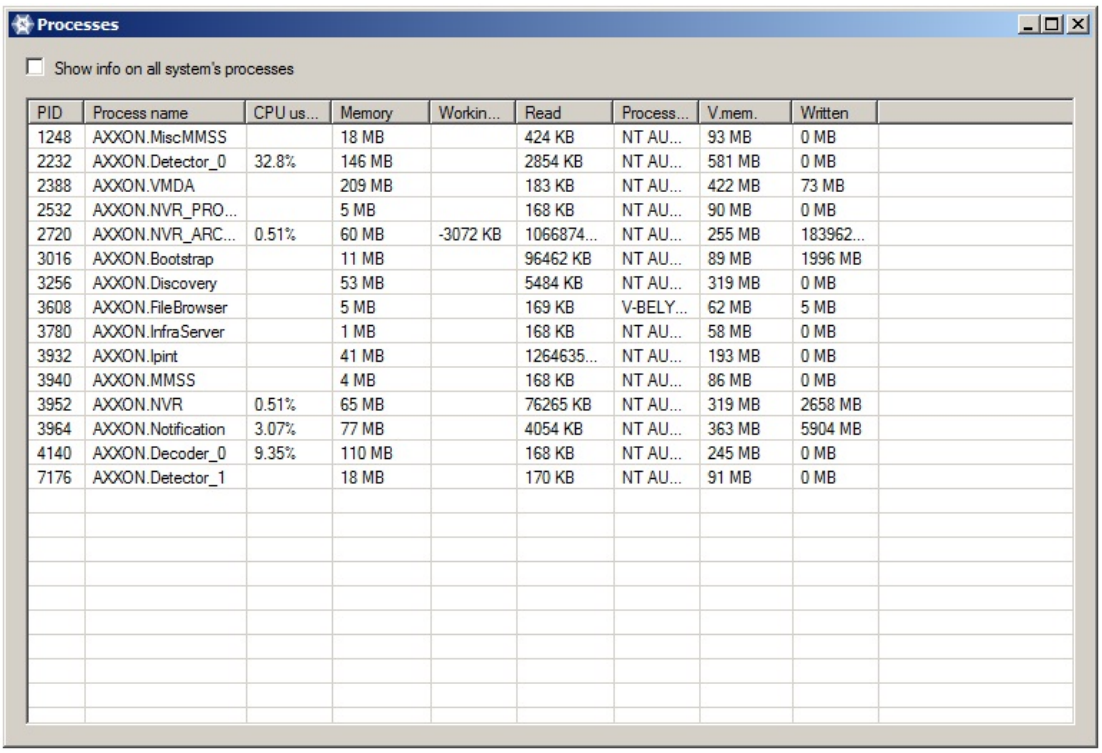
The Support.exe user interface includes the following elements:

1. Summary of installed software (**1**).
2. Short instructions on how to use the Support.exe utility (**2**).
3. Check boxes for configuring data collection (**3**).
4. A button for launching the **Processes** service, which offers an in-depth situation analysis (**4**).
5. A button for starting the information gathering process (**5**).



The Processes Service

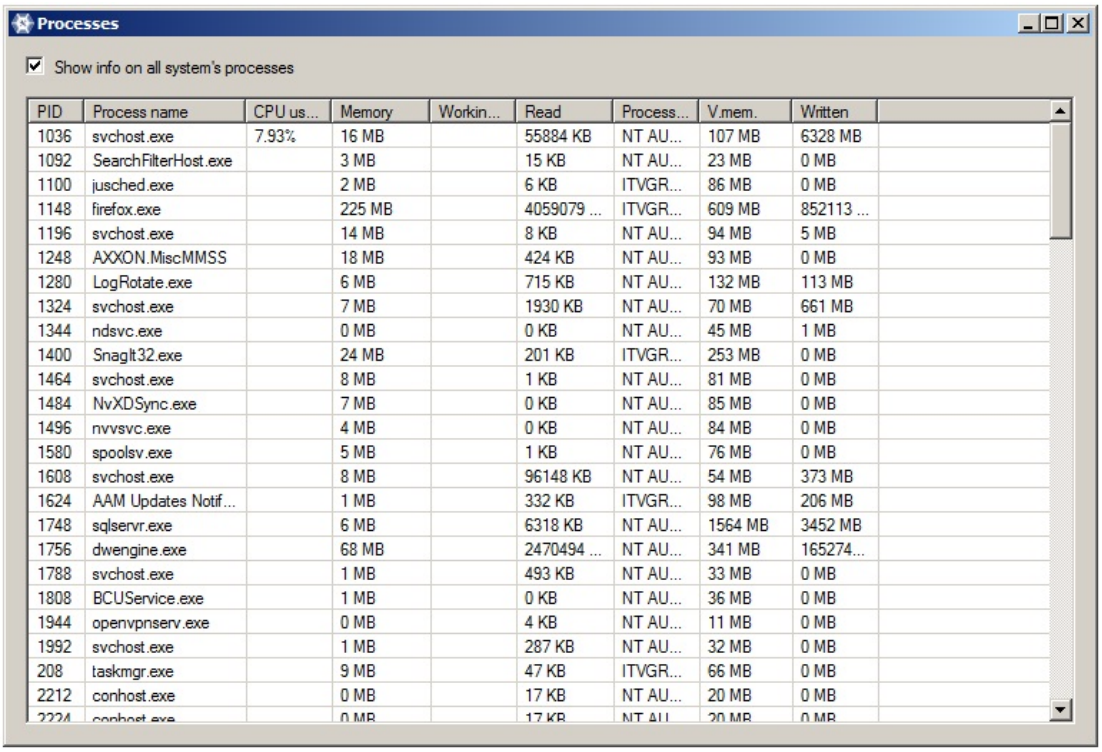
The **Processes** service is used for detailed analysis of a situation. To launch it, click the **Start the Processes service** button; the **Processes** window will then appear, displaying information about processes running on the computer initiated by the Support.exe utility.



PID	Process name	CPU us...	Memory	Workin...	Read	Process...	V.mem.	Written
1248	AXXON.MiscMMSS		18 MB		424 KB	NT AU...	93 MB	0 MB
2232	AXXON.Detector_0	32.8%	146 MB		2854 KB	NT AU...	581 MB	0 MB
2388	AXXON.VMDA		209 MB		183 KB	NT AU...	422 MB	73 MB
2532	AXXON.NVR_PRO...		5 MB		168 KB	NT AU...	90 MB	0 MB
2720	AXXON.NVR_ARC...	0.51%	60 MB	-3072 KB	1066874...	NT AU...	255 MB	183962...
3016	AXXON.Bootstrap		11 MB		96462 KB	NT AU...	89 MB	1996 MB
3256	AXXON.Discovery		53 MB		5484 KB	NT AU...	319 MB	0 MB
3608	AXXON.FileBrowser		5 MB		169 KB	V-BELY...	62 MB	5 MB
3780	AXXON.InfraServer		1 MB		168 KB	NT AU...	58 MB	0 MB
3932	AXXON.Ipint		41 MB		1264635...	NT AU...	193 MB	0 MB
3940	AXXON.MMSS		4 MB		168 KB	NT AU...	86 MB	0 MB
3952	AXXON.NVR	0.51%	65 MB		76265 KB	NT AU...	319 MB	2658 MB
3964	AXXON.Notification	3.07%	77 MB		4054 KB	NT AU...	363 MB	5904 MB
4140	AXXON.Decoder_0	9.35%	110 MB		168 KB	NT AU...	245 MB	0 MB
7176	AXXON.Detector_1		18 MB		170 KB	NT AU...	91 MB	0 MB

Note

Selecting the **Display information about all system processes** check box enables viewing of all processes running on the computer.



PID	Process name	CPU us...	Memory	Workin...	Read	Process...	V.mem.	Written
1036	svchost.exe	7.93%	16 MB		55884 KB	NT AU...	107 MB	6328 MB
1092	SearchFilterHost.exe		3 MB		15 KB	NT AU...	23 MB	0 MB
1100	jusched.exe		2 MB		6 KB	ITVGR...	86 MB	0 MB
1148	firefox.exe		225 MB		4059079 ...	ITVGR...	609 MB	852113 ...
1196	svchost.exe		14 MB		8 KB	NT AU...	94 MB	5 MB
1248	AXXON.MiscMMSS		18 MB		424 KB	NT AU...	93 MB	0 MB
1280	LogRotate.exe		6 MB		715 KB	NT AU...	132 MB	113 MB
1324	svchost.exe		7 MB		1930 KB	NT AU...	70 MB	661 MB
1344	ndsvc.exe		0 MB		0 KB	NT AU...	45 MB	1 MB
1400	SnagIt32.exe		24 MB		201 KB	ITVGR...	253 MB	0 MB
1464	svchost.exe		8 MB		1 KB	NT AU...	81 MB	0 MB
1484	NvXDSync.exe		7 MB		0 KB	NT AU...	85 MB	0 MB
1496	nvvsvc.exe		4 MB		0 KB	NT AU...	84 MB	0 MB
1580	spoolsv.exe		5 MB		1 KB	NT AU...	76 MB	0 MB
1608	svchost.exe		8 MB		96148 KB	NT AU...	54 MB	373 MB
1624	AAM Updates Notif...		1 MB		332 KB	ITVGR...	98 MB	206 MB
1748	sqlservr.exe		6 MB		6318 KB	NT AU...	1564 MB	3452 MB
1756	dwengine.exe		68 MB		2470494 ...	NT AU...	341 MB	165274...
1788	svchost.exe		1 MB		493 KB	NT AU...	33 MB	0 MB
1808	BCUService.exe		1 MB		0 KB	NT AU...	36 MB	0 MB
1944	openvpnserv.exe		0 MB		4 KB	NT AU...	11 MB	0 MB
1992	svchost.exe		1 MB		287 KB	NT AU...	32 MB	0 MB
208	taskmgr.exe		9 MB		47 KB	ITVGR...	66 MB	0 MB
2212	conhost.exe		0 MB		17 KB	NT AU...	20 MB	0 MB

Click the button to close the **Processes** window.

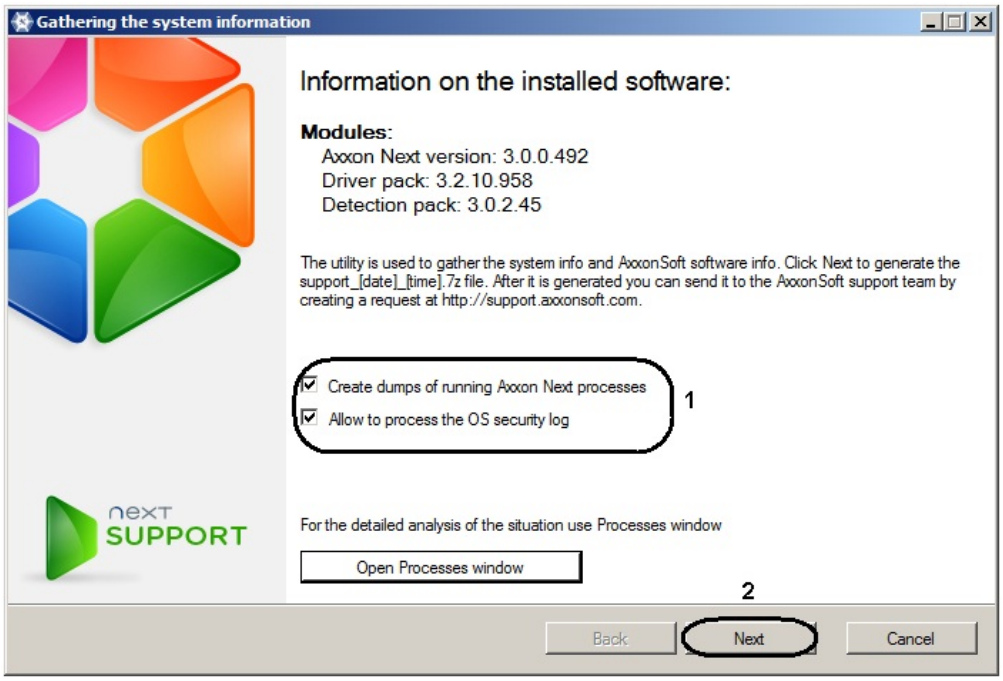
Collecting Data on the Configuration of Servers and Clients Using the Support

To collect data using the Support.exe utility, perform the following:

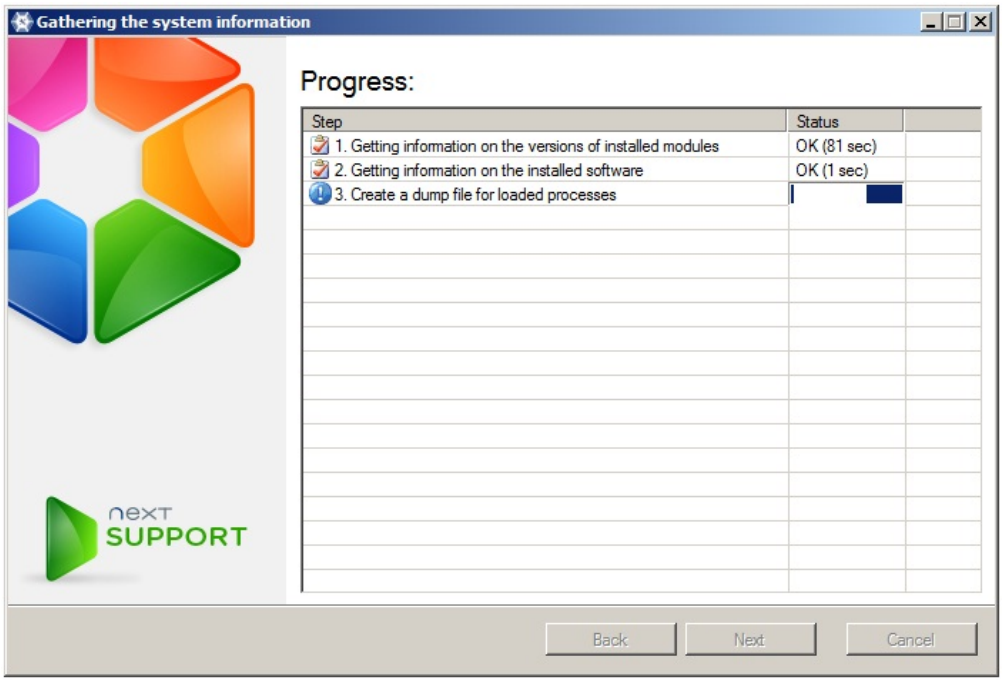
1. Launch the Support.exe utility (see the section Launching and Closing the Utility).
2. Select check boxes as necessary to collect information about the system (**1**).

> **Note**
>
> Selecting the **Allow collection of OS security log** option enables information on the Windows security system to be included in the report generated by the utility

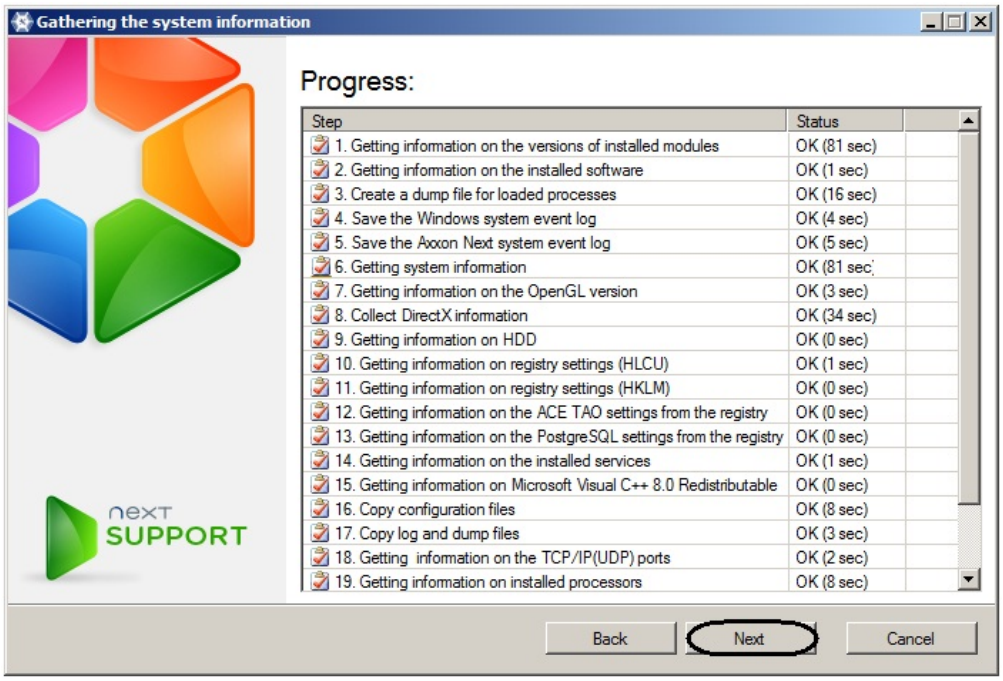
3. Click the **Next** button (**2**).



The data collection process will begin. The table that displays the progress of data collection includes two columns: **Step** and **Status**. In the **Step** column, a brief description of the stage of information collection is displayed. In the **Status** column, a progress indicator and the time spent on executing the stage are displayed.

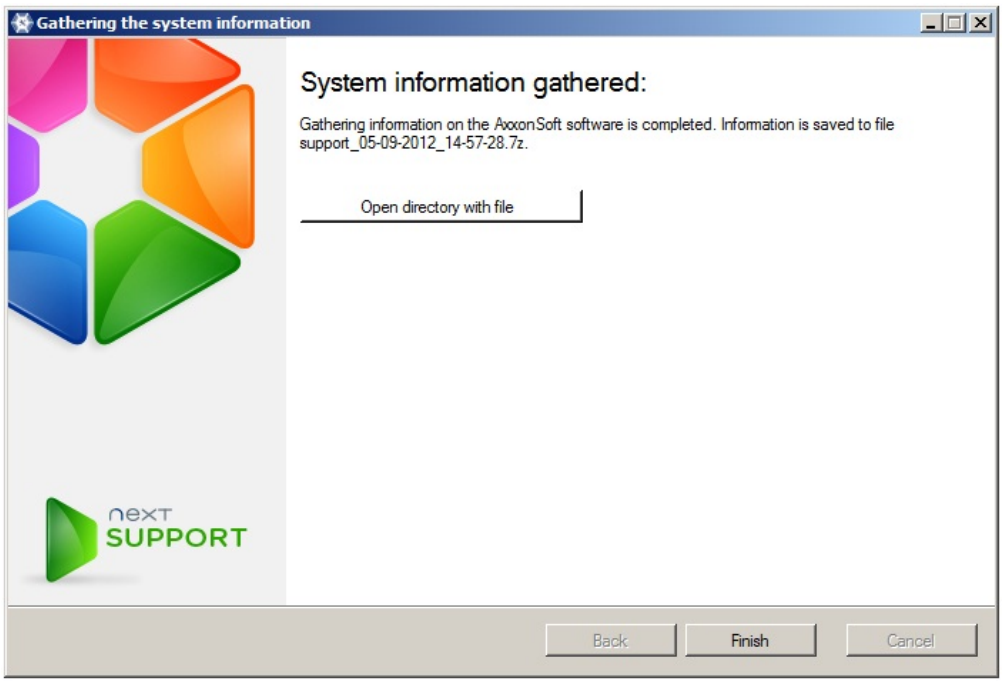


4. When information collection is complete, click the **Next** button.



5. A window containing information about the generated archive **support_[date]_[time].7z** will then appear. You can access the folder containing this archive by clicking the **Open directory with file** button.

> **Note**
>
> The archive is located in the folder <System disk>:\Documents and Settings\<Current User>\My Documents if you're using Windows XP, or in the folder <System disk>:\Users\<Current User>\Documents if you're using Windows Vista



6. Send an email with the attached **support_[date]_[time].7z archive** to the ITV technical support department.

Log Management Utility

By default, information about all system events is recorded in the Axxon Next system log, which is stored in a local database of the server. It is possible to record information about desired events in external logs, which are log files stored in local directories of a server. Log data is archived at set intervals and moved to the log archive. Configuration of these capabilities is carried out through the log management utility.

Axxon Next component	Log storage directory
Server	`<Axxon Next installation folder *Axxon Next*>\logs`
Client	`<Letter of system disk>:\Users\<User>\Appdata\Local\Axxon Soft\AxxonNext\logs (for Windows 7 and Windows Vista)` <Letter of system disk>:\ <Letter of system disk>:\Documents and Settings\User\Local Settings\Application Data\AxxonSoft\AxxonNext\Logs (for Windows XP)

The log management utility is used to configure the following parameters:

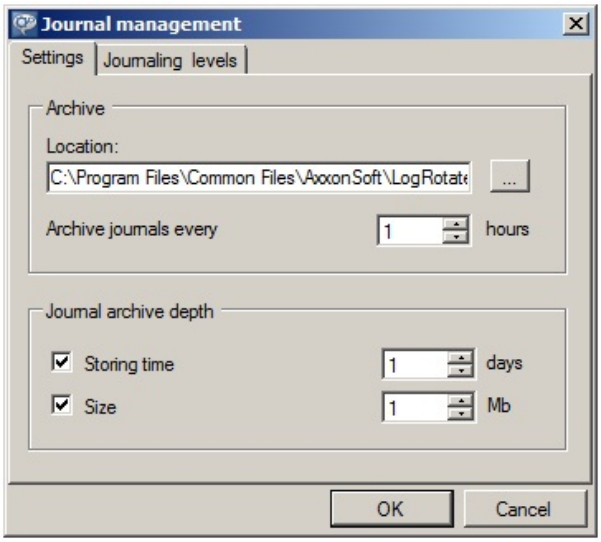
1. Parameters for the archive of external logs containing information about system events.
2. Loging levels for the Axxon Next client and server.

Starting and closing the utility

The log management utility can be launched using the **Start** menu, which is intended for launching user programs in Windows. **Start All Programs Axxon Next Utilities Logs Archiving**

> **Note**
>
> The log management utility is located in the folder <System disk>:\Program Files\Common Files\AxxonSoft\LogRotate

The log management utility dialog box will then appear.



To close the log management utility, click the **Cancel** button or (accessible in both tabs of the utility).

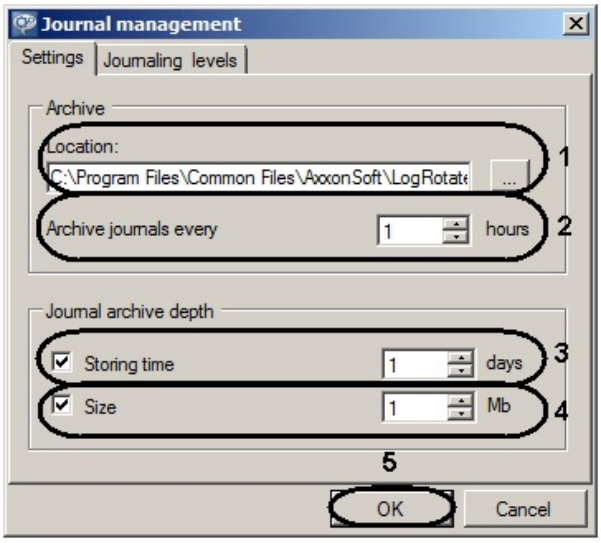
Configuring a Log Archive

Configuring a log archive is carried out in the Settings tab of the log management utility.

To configure a log archive, you must perform the following steps:

1. In the **Archive location** field (**1**), enter the complete path to the directory to which the event logs should be moved after archiving.

> **Note**
>
> To set the path using standard Windows methods, click



2. In the **Archive logs every...hours** field (**2**), enter the interval for event log archiving, in hours.
3. In the **Log restrictions** group, set the following parameters:
   a. In the **Retention period** field (**3**), indicate the maximum retention time in days of a log in the archive, after which the log is deleted.
   b. In the **Size** field (**4**), indicate the maximum size of the archive, above which the oldest logs are deleted from the archive.

> **Note**
>
> Archive disk space restrictions take priority over log retention time restrictions. For example, the oldest logs will be automatically deleted even if their retention time has not expired, if the archive size has exceeded the maximum value

> **Note**
>
> If it is not necessary to impose any limitations on log retention period and/or size, clear the corresponding check boxes in the **Log restrictions** (**3**-**4**)

4. Click **OK** (**5**) to save changes.

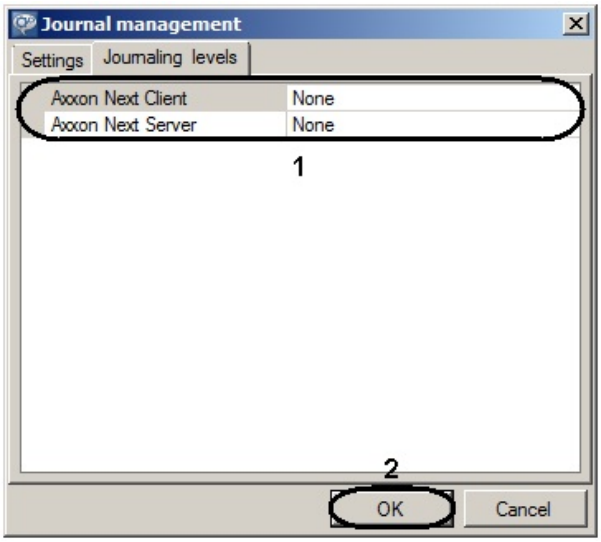
Configuration of the log archive is now complete.

Configuring Loging Levels

Loging levels differ in the list of events to be recorded in external logs, as well as the level of event specification (low, medium, high). Configuration of levels is carried out in the **Loging levels** tab of the log management utility.

To configure the loging level, you must perform the following steps:

1. Select the desired loging level of the client (Axxon Next Client) and the server (Axxon Next Server) (**1**).



> **Note**
>
> If you change the logging level of a Server, the server will be restarted

Loging level	Loging level description
None	Event loging disabled
Error	Low specification level – only system errors are logged
Warning	Low level of detail - only system warnings and system errors are logged
Info	Low level of detail - logs informational messages, system warnings, and system errors

Debug	Medium level of detail - logs debugging events, informational messages, system warnings, and system errors
Trace	High specification level – all system events are logged

2. Click **OK** (**2**) to save changes.

Configuration of loging levels is complete.

Appendices

Appendix 1. Glossary

Active viewing tile - viewing tile currently in use by the user.

AWS (automated workstation) – security system user workstation, a minimally equipped personal computer with Axxon Next software installed.

Archive – all audio/video files stored on a hard disk that can be played and exported to supported formats.

Default archive of a video camera – the archive to which images from a given video camera are recorded during user-initiated alarms.

Audio detection tool – a detection tool is triggered used to analyze the audio signal from a microphone.

Audio recording – 1. the process of recording a digitized audio signal on a hard disk.
2. audio data stored in a specific format on a hard disk.

The audio subsystem encompasses all the tools that provide for the collection of audio data, its processing, and its storage on media.

Video detection tool – a detection tool is triggered used to analyze the video image from a video camera.

Video recording – 1. the process of recording a digitized video signal on a hard disk.
2. video information stored in a specific format on a hard disk.

Video camera – 1. source of a video signal.
2. a system object displaying the properties of an installed video camera and controlling its operation.

The video subsystem encompasses all the tools that provide for the acquisition of video data, its processing, and its storage on media.

Timeline – an interface object used to search for video recordings and navigate an archive.

Sensor – 1. a physical device intended for receiving information on the status of an object.
2. a system object that displays the properties of an installed sensor.

Situation analysis detection – a detection tool is triggered used to analyze the situation in a camera's field of view according to set criteria.

Audio signal detection– a detection tool is triggered which is triggered by an increase in the signal/noise ratio above a set level.

Loss of quality detection– a detection tool is triggered which is triggered by a loss of quality in the video image from a camera.

Position change detection– a detection tool is triggered by a substantial change in the background of a video image indicating a change in the position of the camera in space.

Object disappearance detection– a detection tool is triggered by the disappearance of an object in a set area of a video camera's field of view.

Abandoned object detection– a detection tool is triggered when an object remains motionless in a detection zone for a prolonged period.

No Signal detection– a detection tool is triggered that is triggered by the absence of an audio signal from an audio device.

Line Crossing detection– a detection tool is triggered which is triggered when the trajectory of an object crosses a virtual line in a video camera's field of view.

Object appearance detection– a detection tool is triggered by the appearance of an object in a set area of a video camera's field of view.

Stopping detection– a detection tool is triggered by the cessation of motion in a set area of a video camera's field of view.

Noise detection– a detection tool which is triggered by an decrease in the signal/noise ratio below a set level.

Axxon Domain – a selected group of computers on which the server configuration of the *Axxon Next* software package is installed. Linking the servers in a group makes it possible to set up interaction between them, thus organizing a distributed system.

Detection zone – the area of a video image processed by a detection tool is triggered.

Interface cable - cable used to connect two or more devices together for data transfer.

Interface object - a system object used for interaction between the user and software (data input/output).

Client - designation for a personal computer on which Axxon Next software is installed (or will be installed) as a **Client**. Designation for the graphical shell of the *Axxon Next* software package.

Slideshow – automatic switching of user layouts, or of viewing tiles in a single layout if working with standard layouts.

Licensing - regulating and setting the terms for usage of AxxonSoft software modules.

Detection zone – 1. the area of a video image processed by a detection tool is triggered.
2. a tool which allows the user to mark out an area of the video image which is not to be processed by a detection tool is triggered.

Microphone – 1. a source of audio signals.
2. a system object used to manage the parameters of audio signal reception.

Video surveillance monitor – an interface object used to manage the user interfaces of the Axxon Next software, e.g., layouts, viewing tiles, various panels and context menus, etc.

Viewing tile - interface object displaying the video stream coming from a certain video camera and enabling control of that video camera.

Dial panel – panel (part of the PTZ control panel) used to dial a preset.

Archive navigation panel – all interface objects used to work with an archive, e.g., timeline, list of alarm events, etc.

Control panel – panel made up of tabs accessible to the user, used to navigate from one group of interface objects to another.

Playback control panel – panel containing buttons to control playback of video recordings: Play, Pause, Go to next video recording, etc.

PTZ control panel – all interface objects used to control a certain PTZ device.

Layout control ribbon – panel containing tools to create, edit, and manage layouts.

PTZ device – a system object displaying the properties of an installed PTZ camera device.

> **Note**
>
> Also used to designate a physical device

The PTZ subsystem encompasses all the tools that provide for remote control of a PTZ device and the lens of a video camera.

The analytics subsystem encompasses all the tools that provide for automatic analysis of incoming video and audio data.

The Forensic Search in archive subsystem is a set of tools for searching video recordings in the archive by using video image metadata.

The relay subsystem encompasses all the tools that provide for the triggering of an execution device connected to the embedded relay port of a video camera or IP server when a detection tool is triggered (including one which processes the embedded sensor of a video camera or IP server) is triggered.

The notification subsystem encompasses all the tools that provide for notification of the user about events which have occurred in the system.

Event registration subsystem – all the tools that provide for the collection of data about system events, processing, and its storage on media.

Pre-alarm recording is the period of pre-event recording that will be added to the beginning of an alarm event recording.

Preset – preprogrammed positioning of a PTZ device.

Software package – all software and hardware tools used together to build a security system.

Software module – a program or functionally complete component of a program used to perform a specific functional task (perform a user function).

Layout – preserved positioning of viewing tiles relative to each other.

Distributed system – a group consisting of several interacting Axxon Next servers (up to four) and clients (unlimited number). Axxon Next servers are linked within an Axxon Domain.

Relay – 1 a physical device/electromechanical switch.
2. a system object that displays the properties of an installed relay.

Server – designation for a personal computer on which the **Server** configuration of Axxon Next software is installed (or will be installed).

Security system – a set of devices used for video surveillance, audio surveillance, and object recognition, all controlled by the Axxon Next software system.

The system log is a log containing system information on events, including system error entries.

Object tracking – a function which allows an operator to visually track the movement of objects in a camera's field of view.

Alarm flag – the flag symbol designating either the moment an alarm event began or a certain moment before the beginning of an alarm event.

Color coding - software-based graphical notification to a security system operator about the current status or operating mode of system objects (equipment, software modules).

Appendix 2. Known issues in the Axxon Next Software Package

Possible Errors During Installation

On page:
• Error starting NGP Host Service • Errors Connecting to the Postgres Database

Error starting NGP Host Service

If port 49999 is busy during installation of Axxon Next (for example, because of nethost.exe processes that have not been unloaded since removal of the previous version), an error message regarding the launch of NGP Host Service appears.

To continue installation, free up port **49999** and try again.

Errors Connecting to the Postgres Database

After installation of the Postgres database, the Axxon Next installer may quit prematurely. This situation may be associated with the inability of the installer to connect to the Postgres database, if the firewall is enabled. To prevent this, disable your firewall during installation.

Possible Errors During Start-Up

Launching the Axxon Next software program with client logging enabled can take a long time when the *ESET NOD32 Antivirus 4* **Real-time file system protection** mode is on.

To solve this problem, add the Axxon Next installation folder and the folder with the client logs (<Letter of system disk>:\Users\<User>\Appdata\Local\AxxonSoft\AxxonNext\logs) to the list of exceptions in ESET NOD32 Antivirus 4.

Possible Errors During Operation

On page:
• All video cameras or archives stop working once the license maximum is reached • Error creating new archives even when license restriction on total size is observed • Error creating archives larger than 2 TB • Performance of Axxon Next when working with NetLimiter 2

All video cameras or archives stop working once the license maximum is reached

If the activation key allows the use of a smaller number of video cameras than the amount used at the moment on the system, all of the video cameras will cease to function with the system. To resume operation, remove the objects corresponding to the excess number of video cameras and restart the server.

> **Note**
>
> Restart the Server through the Start menu as follows:
>
> 1. All Programs -> Axxon Next -> Shut Down Server
> 2. All Programs -> Axxon Next -> Start Server

Similarly, if an activation key allows using archives with a total size of an amount less than the current one, you are advised to correct the archive size to the required amount and then restart the server.

Error creating new archives even when license restriction on total size is observed

If the user creates archives at the same time (in other words, without applying changes) while deleting some existing archives, creation of archives may be forbidden even if the total archive size does not exceed the amount of the license restriction.

> **Note**
>
> This happens because when verifying the license restrictions, the size of created archives is calculated based on the total size the last time when changes were applied

To regain the ability to create new archives in such situations, the user must first delete unnecessary archives and apply changes.

Error creating archives larger than 2 TB

At present, Axxon Next may experience difficulties when trying to create an archive larger than 2 TB on a system that has a large number of video cameras (more than 20).

If you encounter such an error, you are advised to split the **logical disk** into multiple **partitions** t hat are less than 2 TB each and to place the archive on them.

Performance of Axxon Next when working with NetLimiter 2

If *NetLimiter 2* is installed in the system, there may be a significantly increased load on the processor when working with *Axxon Next*.

This problem is resolved by removing *NetLimiter 2.*

Appendix 3. Assigning of the domain takes place when the Axxon Next server is installed

The Windows OS will create two accounts when the Axxon Next software package is installed using a **Client and Server** type of configuration.

1. AxxonFileBrowser – an account with administrator rights which is used by the Axxon Next file browser.

> **Note**
>
> The file browser helps to navigate through the Server's file system (such as when choosing disks for log volumes)

   The account can also be used for configuring access rights to the hard disk.

2. Axxonpostgres – an account under which the log data database service is started.

> **Note**
>
> A log database (Postgres) is used for storing system events