nVision 11

axence®

User manual

axence®

Axence nVision Help

Total Network Visualization and Management

Axence nVision gives you everything you need to manage your network in an efficient and effective manner.
The application consists of 6 modules, which offer: proactive network monitoring and visualization, hardware and software inventory, user monitoring, remote technical support, data leakage prevention and users activity monitoring.

Axence nVision Help

Contents

Part

1 Introduction

1.1 Axence nVision modules

Axence nVision® – network, application and employee monitoring, hardware and software inventory

NOTE! In version 11 of nVision, the rights included in user roles (User, HelpDesk Employee and Administrator) have been restructured into a new system of rights. Please read the chapter which describes these changes in detail.

Axence nVision® consists of 5 functional modules that can be installed in any combinations and managed from one console.

Proactive network monitoring and visualization	 **Network**	The Network module monitors mail servers and Web addresses, TCP/IP and Windows services, application status and operation, and switches and routers (port mapping, network traffic, SNMP monitoring). The network is automatically detected and presented on interactive maps.
Hardware and software inventory	 **Inventory**	The Inventory module automatically collects the information about hardware and software of Windows machines. It enables auditing and the verification of license usage and offers information about program installation or configuration change.
Advanced user monitoring	 **Users**	The Users module monitors and reports the activity of users working on Windows machines: the actual activity (work) time, application usage, visited web pages and network transfer.
Remote technical support for users	 **HelpDesk**	The HelpDesk module enables a quick technical support for users by means of remote access to the workstations. It helps to solve the reported problems in a quick and effective manner.
Protection against data leaks by port blocking	 **DataGuard**	The DataGuard module manages the access rights for all I/O ports and physical devices utilized by the users to copy files from a company machine or to run external software.

Visualization and better time management	 **SmartTime**	The SmartTime module monitors and reports the activity of users working on machines. It enables the data collected at the web browser level to be visualized and displayed. It allows for better management of work time and enables the superiors to view the activity of their subordinates.
Alerting and events		You can define a wide range of events when an alert should be raised. Events may be defined based on any monitored parameter and service: computer or service down, page content changed, e-mail server problems, MS SQL server parameters out of range, and much more. Each event may trigger one or more of the notification and corrective actions, such as desktop notification, e-mail, SMS or ICQ message. Alerts are stored in the event log, so you can analyze them later.

1.2 Axence nVision versions

A list of nVision versions, together with functions and improvements they introduce, can be found on the changelog website.

1.3 Functionality of modules

The table below compares the functionality of nVision modules. All modules may be ordered independently.

Functionality	Network	Inventory	Users	HelpDesk	DataGuard	SmartTime
Network discovery and visualization						
nVision server: network scanning and monitoring, detection of devices and TCP/IP services, remote access with browser and automatic backup	✓	✓	✓	✓	✓	✓
nVision Console: interactive network maps, user maps, departments, smart maps, pop-up menu with definable own tools	✓	✓	✓	✓	✓	✓
nVision Console: simultaneous work of multiple administrators, management of user rights, admin access log	✓	✓	✓	✓	✓	✓
Network monitoring						

Functionality	Network	Inventory	Users	HelpDesk	DataGuard	SmartTime
TCP/IP services: response time and correctness, packets received/lost statistics (PING, SMB, HTTP, POP3, SNMP, IMAP, SQL, etc.)	✓	✓	✓	✓	✓	✓
WMI counters: CPU load, memory usage, disk usage, network traffic, etc.	✓	–	–	–	–	–
Windows actions: service status change (start, stop, restart), event log entries	✓	–	–	–	–	–
SNMP v1/2/3 counters (network traffic, temperature, humidity, power supply voltage, toner level, etc.)	✓	–	–	–	–	–
Support for syslog messages	✓	–	–	–	–	–
SNMP traps	✓	–	–	–	–	–
Routers and switches: port mapping and network traffic monitoring	✓	–	–	–	–	–
File distribution with use of WMI	✓	–	–	–	–	–
MIB file compiler	✓	–	–	–	–	–
Alerts and reports						
Event/action alerts (e.g. when important parameters fall outside of the user-defined range)	✓	✓	✓	✓	✓	✓
Notifications (on desktop, by e-mail, by SMS) and repair actions (program launch, computer restart, etc.)	✓	✓	✓	✓	✓	✓
Reports (for user, group, device, network maps or entire atlas)	✓	✓	✓	✓	✓	✓
Everyday report on employee productivity	–	–	–	–	–	✓
Hardware and software inventory						
List of applications and Windows updates on single workstation (based on system registry and disk scan)	–	✓	–	–	–	–
Software serial numbers (keys)	–	✓	–	–	–	–

Functionality	Network	Inventory	Users	HelpDesk	DataGuard	SmartTime
Information on executable files and register entries on a workstation	–	✓	–	–	–	–
Information on multimedia files (mp3, avi, etc.) and zip archives and their metadata (file title and author, contents of zip file)	–	✓	–	–	–	–
Overview of workstation hardware	–	✓	–	–	–	–
Details of workstation hardware configurations (model, motherboard, CPU, memory, disk drives, adapters, etc.)	–	✓	–	–	–	–
System info (startup commands, user accounts, shared folders, SMART details, windows task scheduler monitoring, etc.)	–	✓	–	–	–	–
Hardware and software inventory audit	–	✓	–	–	–	–
Possibility to distribute and uninstall software by MSI packages	–	✓	–	–	–	–
Management of installations/uninstallations of the MSI package manager-based software	–	✓	–	–	–	–
Software template database	–	✓	–	–	–	–
License management	–	✓	–	–	–	–
Hardware and software change history	–	✓	–	–	–	–
Assets: IT assets register database (defining own fixed asset types, their attributes and values, attachments, data import from CSV file)	–	✓	–	–	–	–
Alerts: software installation, change in hardware and system resources	–	✓	–	–	–	–
Offline inventory scanner	–	✓	–	–	–	–
Scanning and printing barcodes and QR codes	–	✓	–	–	–	–
Android application enabling inventory taking with use of barcodes (for archiving and comparing fixed asset audits)	–	✓	–	–	–	–

Functionality	Network	Inventory	Users	HelpDesk	DataGuard	SmartTime
Scanning user files and ability to preview them	–	✓	–	–	–	–
User activity monitoring and visualization						
User activity overview	–	–	✓	–	–	–
Detailed work time (activity/break start and end time)	–	–	✓	–	–	✓
Used applications (actively and non-actively, i.e. the total time of application running, the time of actual use by a user and the information on processes with enhanced permissions)	–	–	✓	–	–	✓
Blocking of launched applications	–	–	✓	–	–	–
Visited web pages (number of page visits, with headers and duration of visits)	–	–	✓	–	–	✓
Blocking web pages	–	–	✓	–	–	–
Printouts: Audit (per printer, user, computer), printing costs	–	–	✓	–	–	–
Sent and received e-mails (headers)	–	–	✓	–	–	–
Bandwidth usage: user-generated network traffic (incoming and outgoing, local and in the Internet)	–	–	✓	–	–	–
Static remote view of user desktop (without access)	–	–	✓	✓	–	✓
Screenshots (user work history “screen by screen”)	–	–	✓	–	–	–
Activity data available from the web browser	–	–	–	–	–	✓
Determination of the productivity level and application category	–	–	–	–	–	✓
Access of superiors to their subordinates’ data	–	–	–	–	–	✓
Insight into their own activity data by users	–	–	–	–	–	✓

Functionality	Network	Inventory	Users	HelpDesk	DataGuard	SmartTime
Help for network users						
Trouble ticket database in the web browser	–	–	–	✓	–	–
Creating and managing trouble tickets (assigning to administrators with e-mail notification)	–	–	–	✓	–	–
Comments, attachments and screenshots in the trouble tickets	–	–	–	✓	–	–
Internal instant messenger (chat)	–	–	–	✓	–	–
Messages sent to users/machines with available mandatory receipt confirmation	–	–	–	✓	–	–
Static remote view of user desktop (without access)	–	–	✓	✓	–	–
Remote access to machines (an employee and administrator can see the same window) with possible request for consent from the user and optional mouse/keyboard blocking	–	–	–	✓	–	–
File distribution and running tasks (if a computer is turned off when the distribution is started, it will be performed after the machine is turned on)	–	–	–	✓	–	–
Integration of the user database with Active Directory	–	–	–	✓	✓	–
Assigning HelpDesk employees to tickets' categories	–	–	–	✓	–	–
Processing tickets from e-mail messages	–	–	–	✓	–	–
Knowledge base	–	–	–	✓	–	–
Remote command execution (ability to send command lines to workstations)	–	–	–	✓	–	–
SLA metrics, i.e. support of the guaranteed service level agreements.	–	–	–	✓	–	–
Defining ticket visibility rules based on the applicant's category and group	–	–	–	✓	–	–
Device/data media access control						

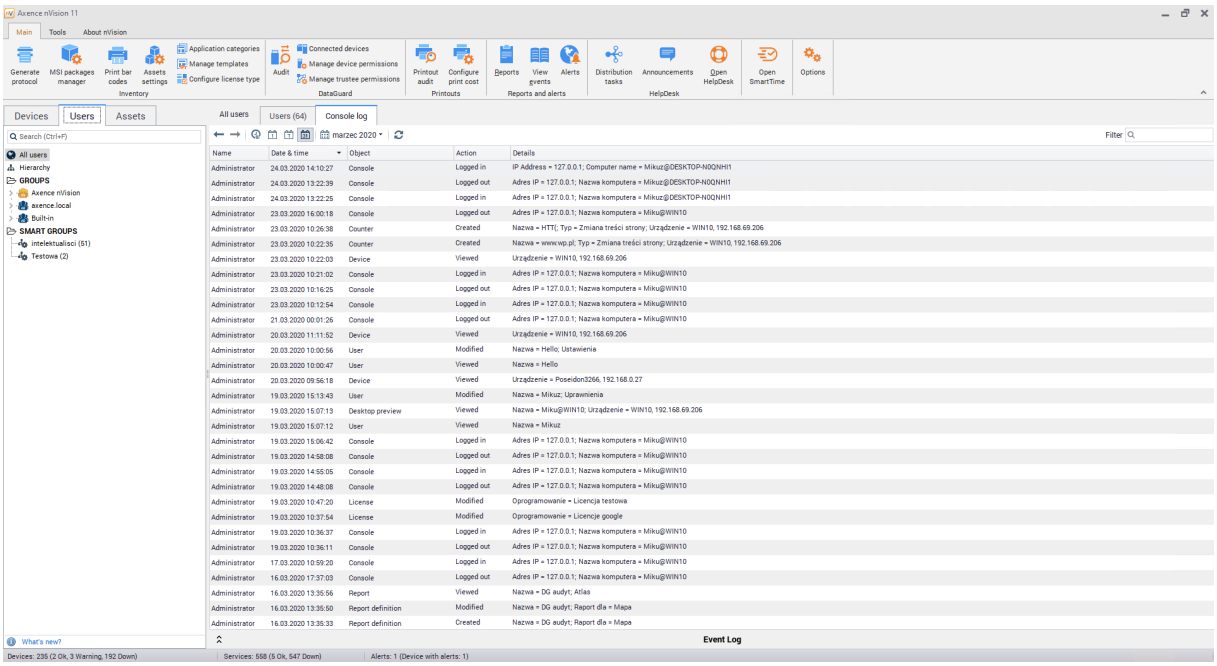
Functionality	Network	Inventory	Users	HelpDesk	DataGuard	SmartTime
Devices currently connected to computers	–	–	–	–	✓	–
List of all devices connected to computers in the network	–	–	–	–	✓	–
Audit (history) of connections and operations on mobile storage devices and network shares	–	–	–	–	✓	–
Management of access rights (writing, launching, reading) for devices, computers and users (e.g. authorization of company encrypted flash memory drives, and blocking of employees' private drives)	–	–	–	–	✓	–
Central configuration by setting policies for the entire network, for selected network maps and for Active Directory groups and users	–	–	–	–	✓	–
Integration of user and group database with Active Directory	–	–	–	✓	✓	✓
Alerts: portable device connected/disconnected, file operation on a portable device	–	–	–	–	✓	–
Monitoring the operations of files in directories on the system drive	–	–	–	–	✓	–
Miscellaneous						
Protection of Agent against deleting	–	✓	✓	✓	✓	✓
Axence netTools	✓	✓	✓	✓	✓	✓
Windows Agent	–	✓	✓	✓	✓	✓
Agent and offline scanner for Linux Ubuntu/OS X	–	✓	–	–	–	–
Agent for Android	–	✓	–	–	–	–

1.4 Administrator Access Log

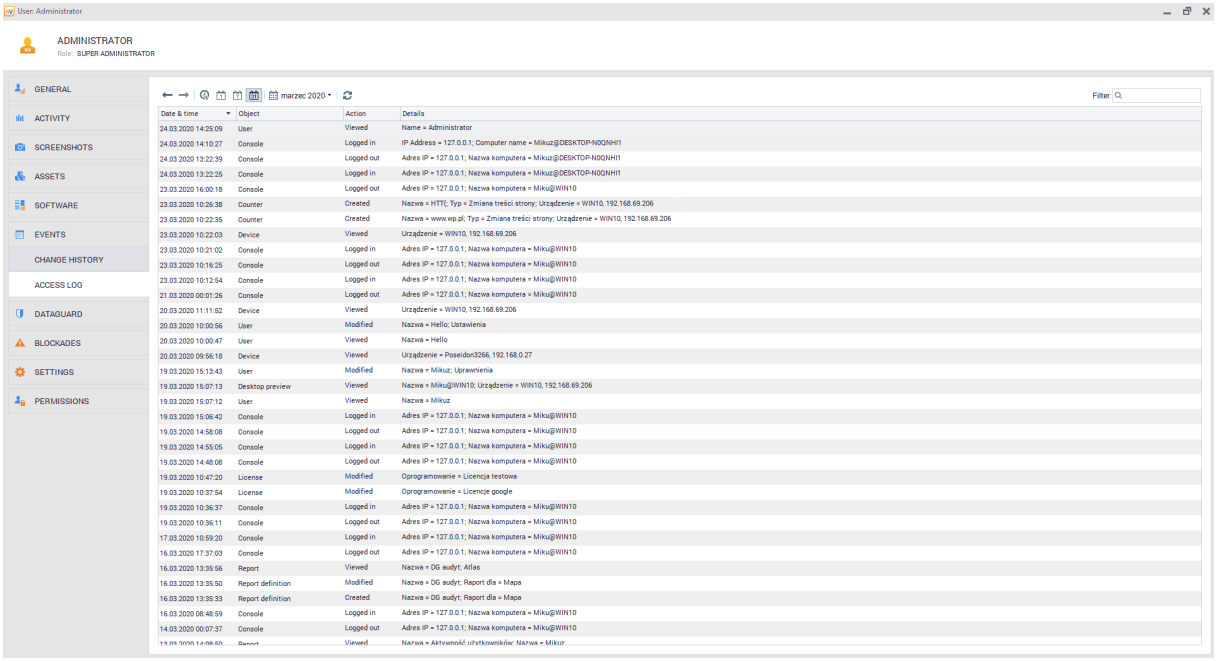
nVision allows the Administrator Access Log to be viewed.

To navigate to the Access Log, select the **Users** tab from the map panel, and click the **Access Log** tab. Information on actions taken by all Administrators including the date and exact time can be viewed here.

The clock and calendar icons allow information from the last hour/day/week/month to be viewed. The calendar icon allows information from a specific day to be viewed.



To display the **Access Log** for a specific Administrator, double left-click their account name, navigate to the **Events** tab, and then open the **Access Log** tab.



1.5 Axence account

1.5.1 Description

To improve the comfort of our Users, along with the Axence nVision® update to version 7.5, we have introduced the Axence Account, enabling you to manage licenses.

- Starting from version 7.5, Axence nVision® license has no license key in the form of .ALS file (old keys are valid only for older versions, e.g. 7.1, 6, etc.).
- At the moment **the license has the form of an activation code** which is manually pasted into the programme or downloaded from the Axence Account. (How to activate the full version of Axence nVision® ? 16)
- The activation code generated by Axence is automatically sent directly to the assigned Axence Account user (in the case of the first purchase, the administrator also receives licensing information by e-mail).

- **Who should have an Axence Account set up?**

Each license is associated with an Axence Account which should be created for a specified user, preferably the administrator, who will be responsible for Axence nVision® within a given company. (Enter Axence Account >>) Thus, Axence nVision® will automatically download all updates or license changes.

- **Who can set up an Axence Account?**

The Account may be created by the user on their own or by Axence (at the user's request).

- **What data are necessary to create an Axence Account?**

The following information is necessary to set up an Axence Account:

- full name of the administrator (or another specified user who will be responsible for Axence nVision® within the company/ institution),
- an e-mail address,
- name of the company/institution which owns the license.
- If a user already has an Axence Account set up, this information will allow them to be found in the user database and to merge their account with the new license.

- **Do I have to have an Axence Account for trial licenses?**

Yes, the requirement to create the Axence Account applies to all types of licenses: trial, time-limited and time-unlimited ones.

- **If you already are our Customer**:

We have already created an Axence Account for you and we have generated the license for version 7.5. Please check your mailbox and proceed according to the received instructions. If you have received no information, please contact our Sales Department at: sales@axence.net.

Each license change, including expansion of the license, change of the Maintenance Agreement period, or extension of the license validity period, is performed with the use of the Axence Account, and the Customer does not receive any additional/ new code. The automatically modified license is sent to Axence nVision®.

1.5.2 Registration

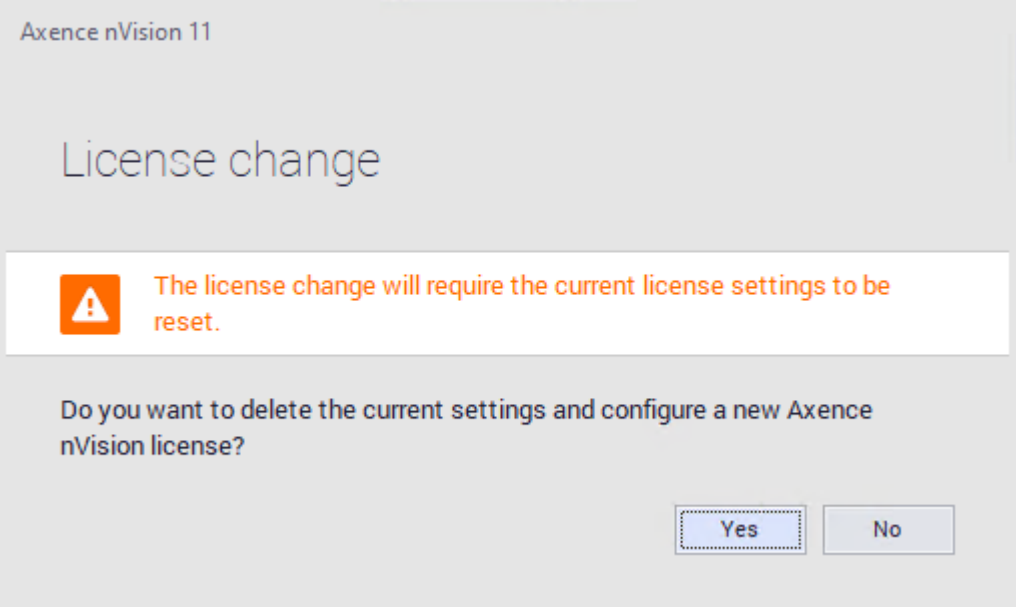
In nVision 7.5, integration with Axence Account was introduced. The account facilitates purchase and the easy management of licenses – both the free ones and the paid licenses for Axence nVision®.

Axence accounts are being set automatically on the e-mail address from the order form. For accounts set automatically, an email with a link to reset the password is sent.

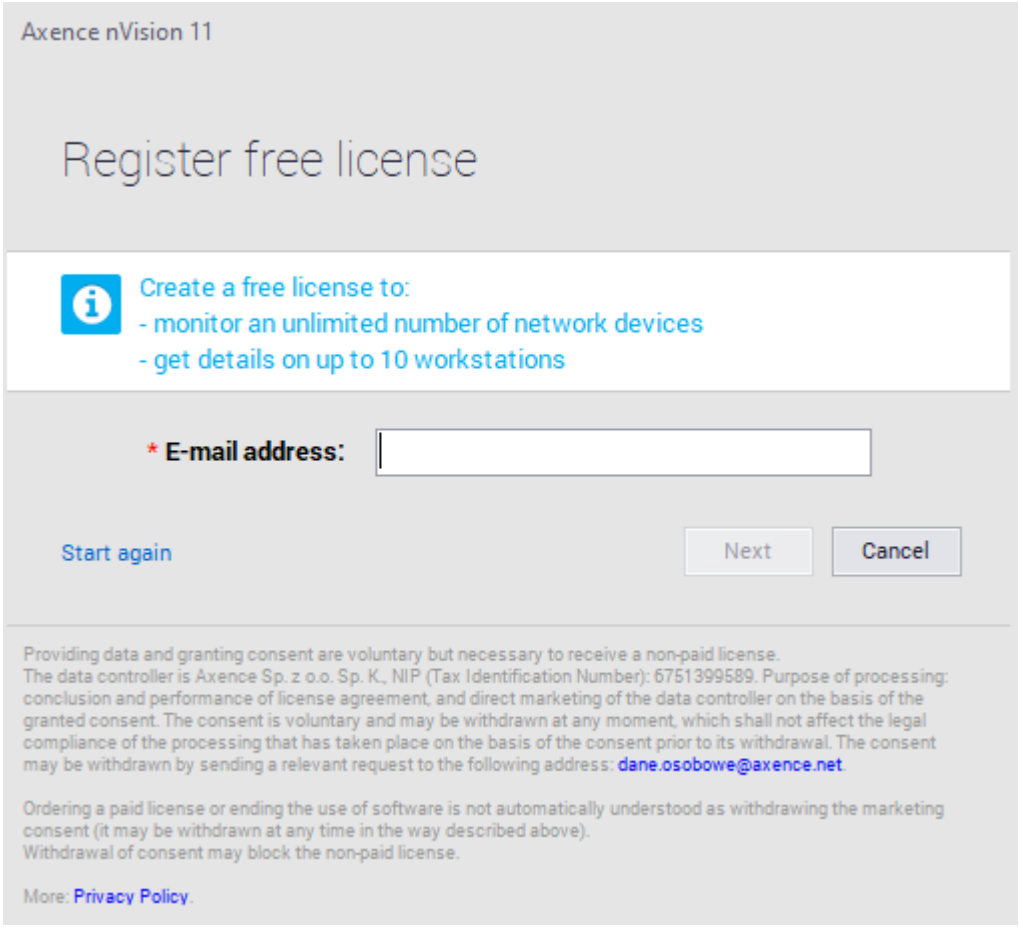
Axence Account can be registered:

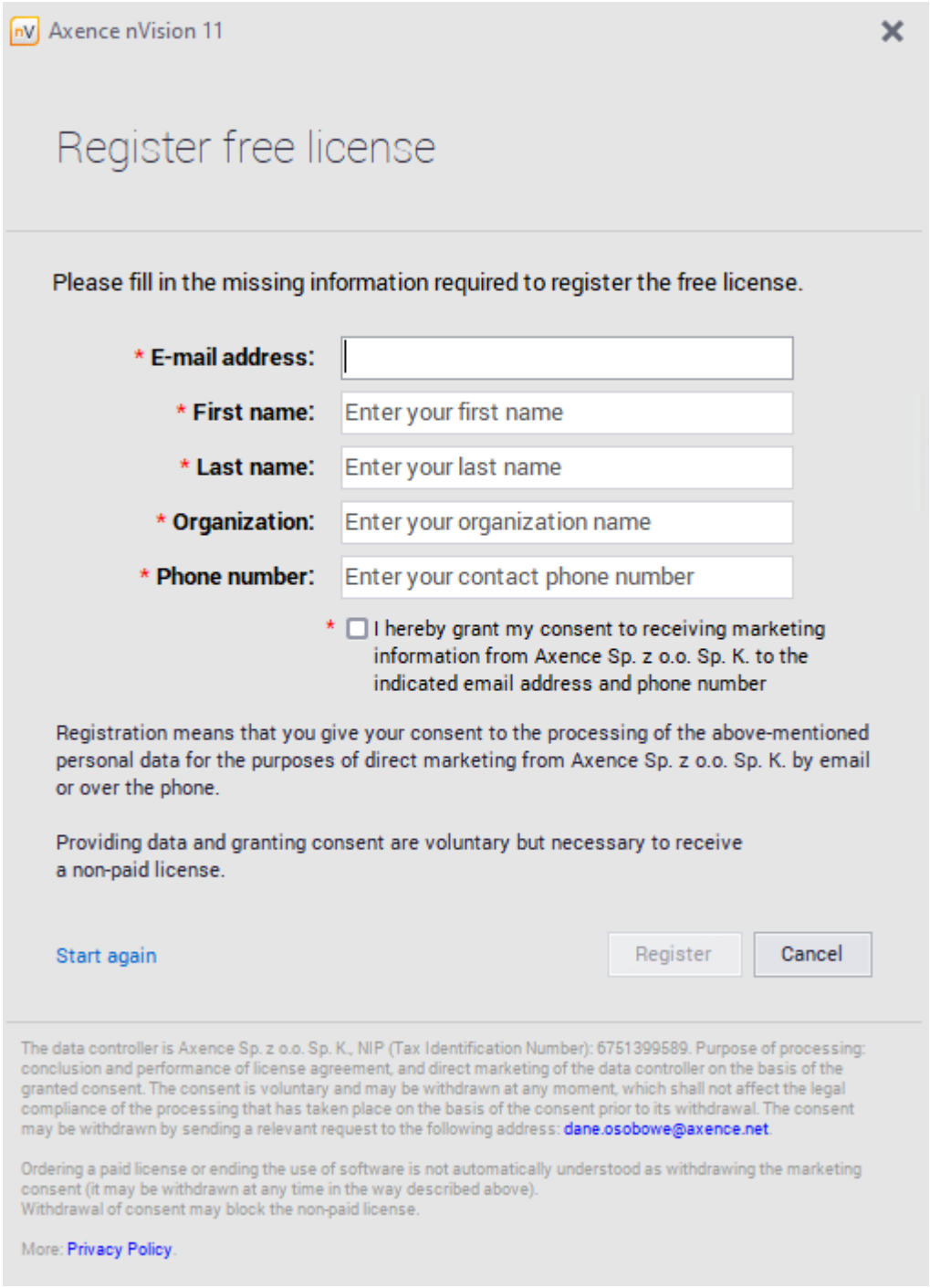
- during Axence nVision® installation - **click here to display the step-by-step instruction** (Internet access is required);

1. In the license-selection window, click the **I want to get free license for Axence nVision®** option, then click **Next** button:



2. Fill the e-mail address field, and then fill the form:



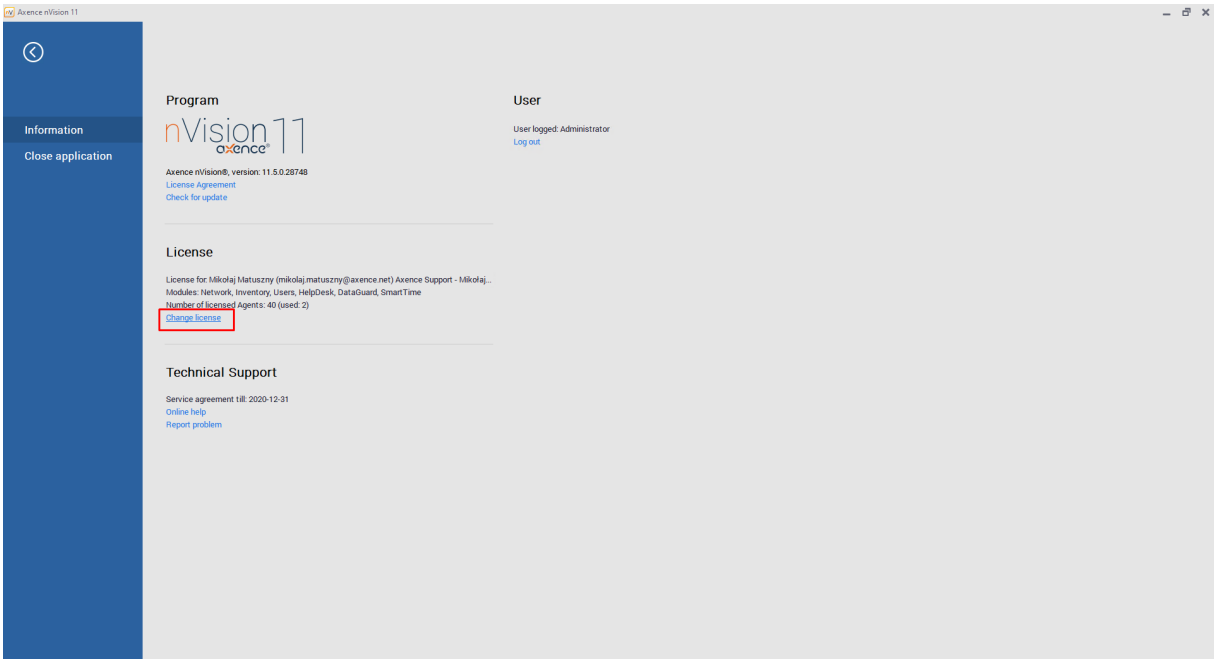


- with the use of a web browser at https://account.axence.net/.

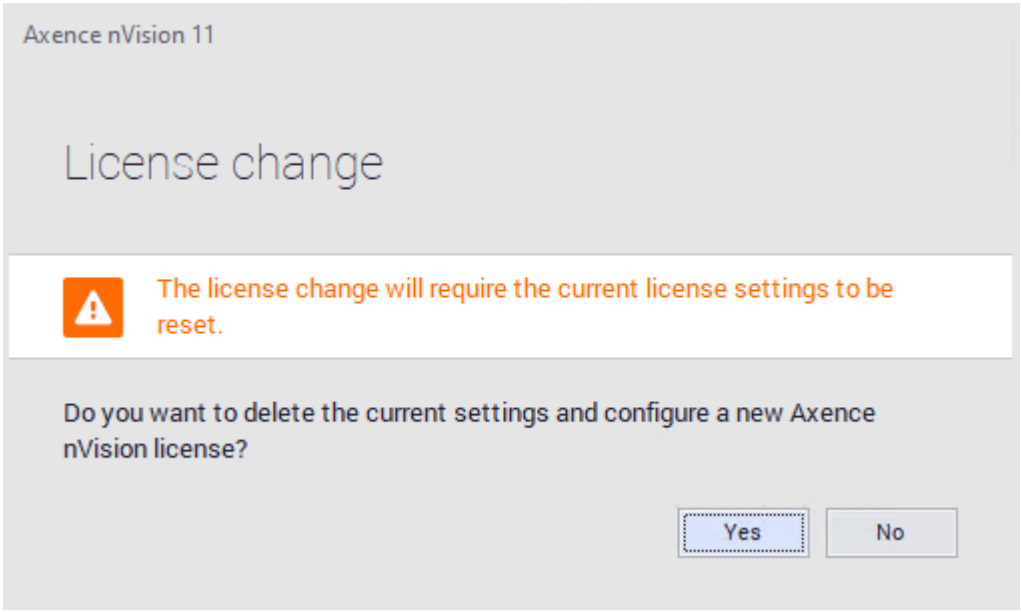
1.5.3 Log in

To log in to an Axence account, select the **Axence nVision** tab in the upper left corner of the window,

and then click **Change license** button in the **License** section.



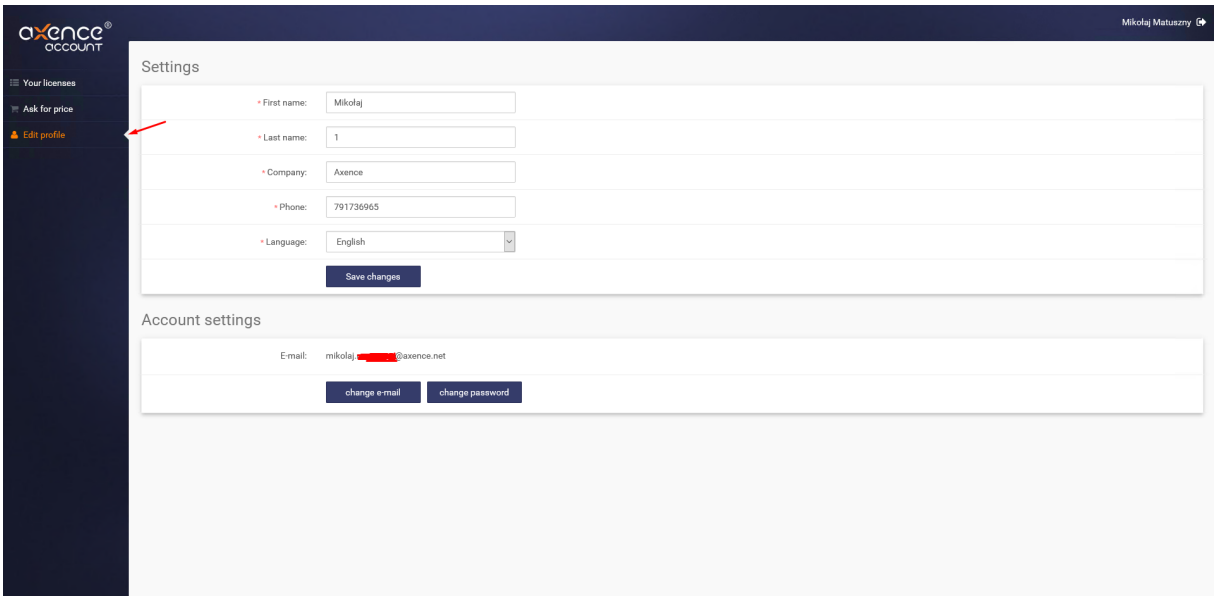
The following window will be displayed:



By clicking on **Yes** button, you will remove the currently installed license key, and the Axence account login window will be displayed *(data gathered in monitoring and nVision's configuration will be kept)*. Then enter the e-mail address and password of the registered account associated with the license.

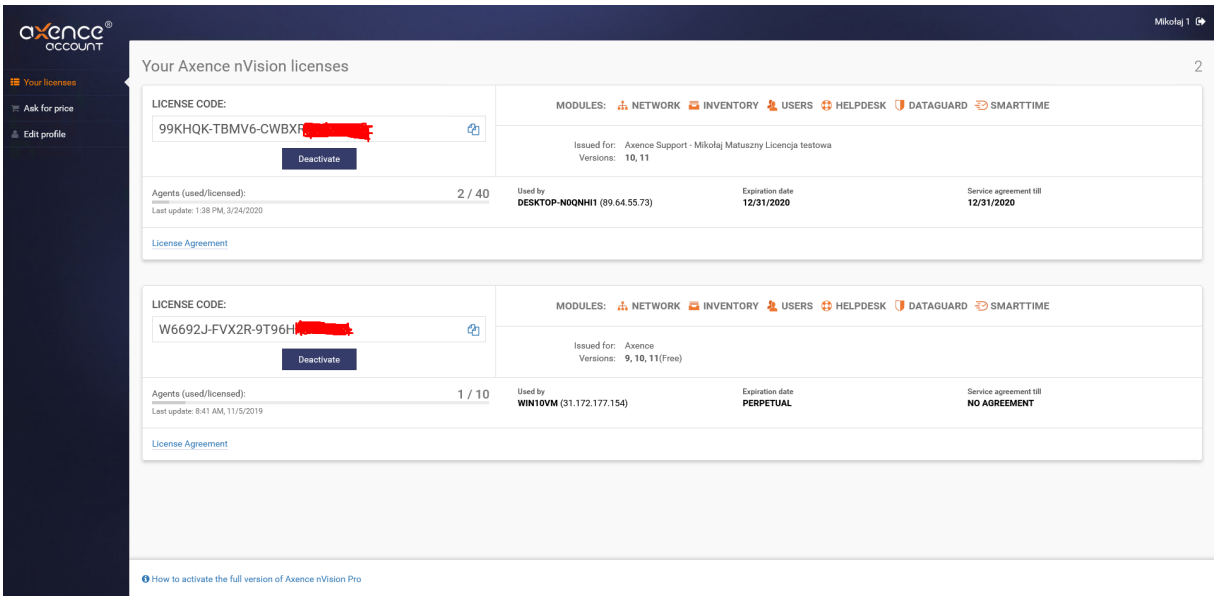
1.5.4 Language management

In order to change language, go to **Edit profile** settings after logging in:



1.5.5 Manage Axence account

To manage an Axence account, log in at: https://account.axence.net.



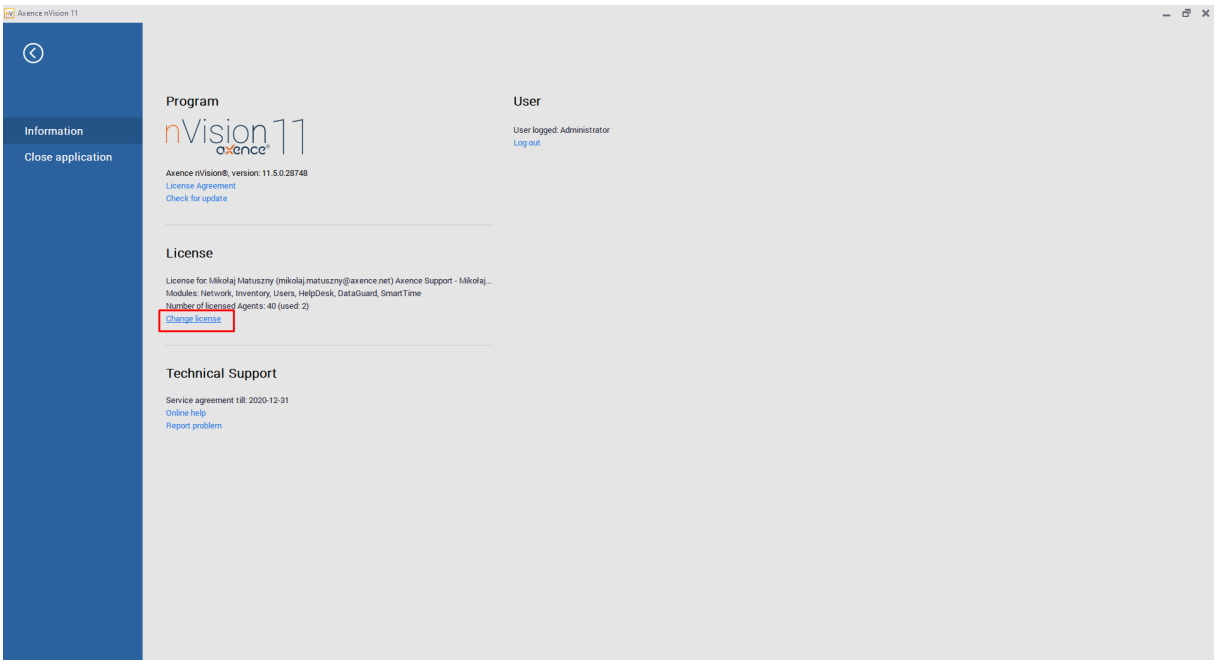
The main page of Axence account includes an administration panel in the left part of the window. The panel offers links to the following sub-pages:

Menu	Description
Your licenses	Enables details on purchased licenses to be viewed.
Request a quote	Enables contact with the Axence's Commercial Department for a quote.

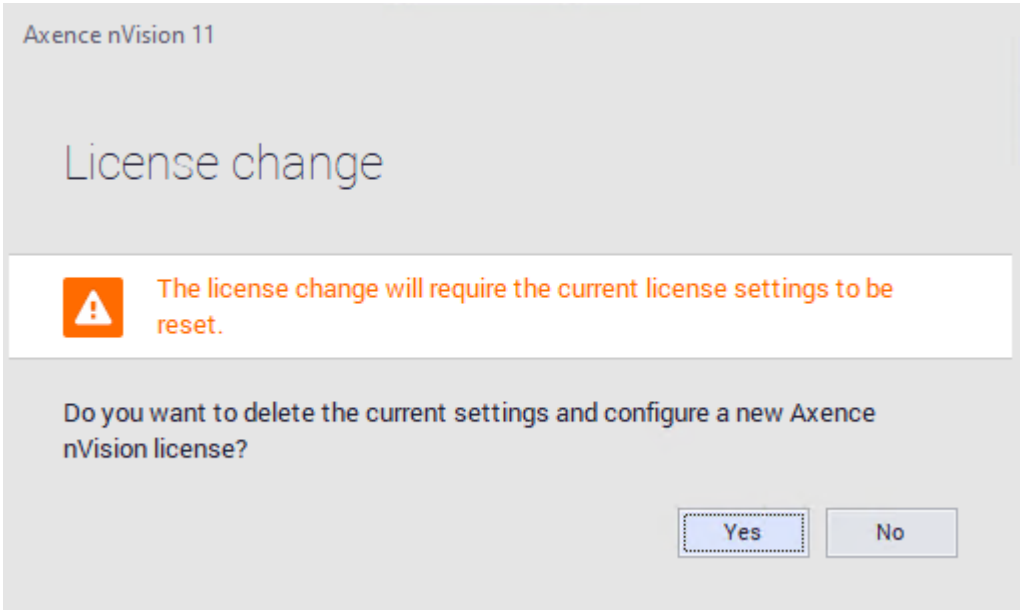
Edit profile	Enables the basic account information to be viewed and edited.
We are currently working on	Shows a list of functions on which programming work is currently in progress.

1.5.6 Activation

Details of used license are displayed after clicking **Axence nVision** in the window's ribbon.

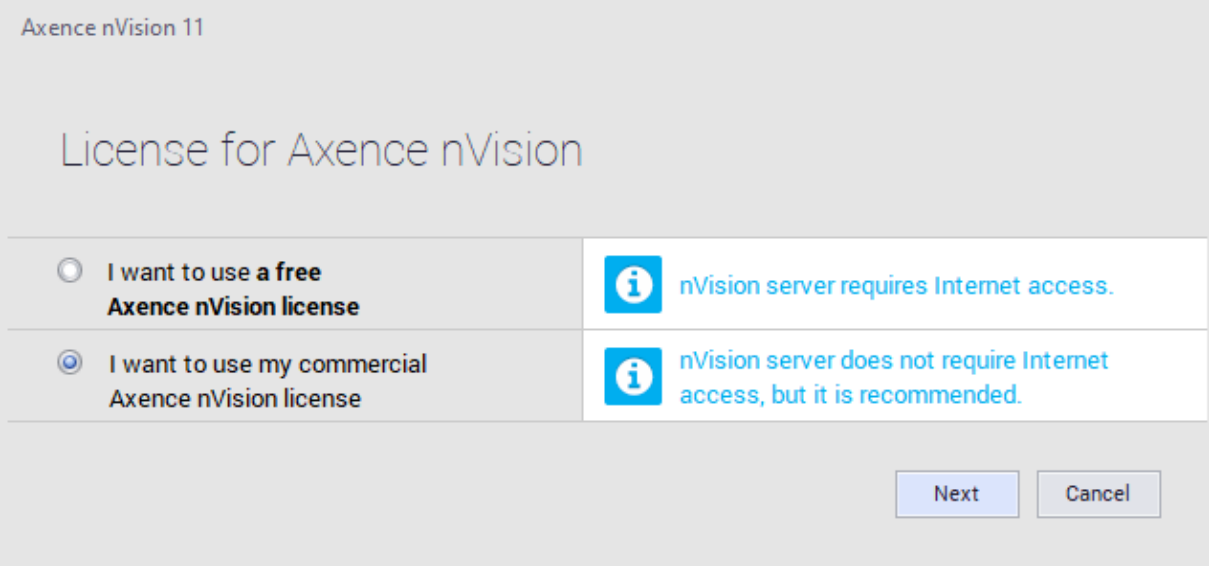


In order to enter the license key, click **Change license**. The following window will be displayed:



By clicking on **Yes** button, you will remove the currently installed license key, and the Axence account login window will be displayed *(data gathered in monitoring and nVision's configuration will be kept)*.

In the license-selection window, click the **I want to use my own Axence nVision® license** option, then click the **Next** button:



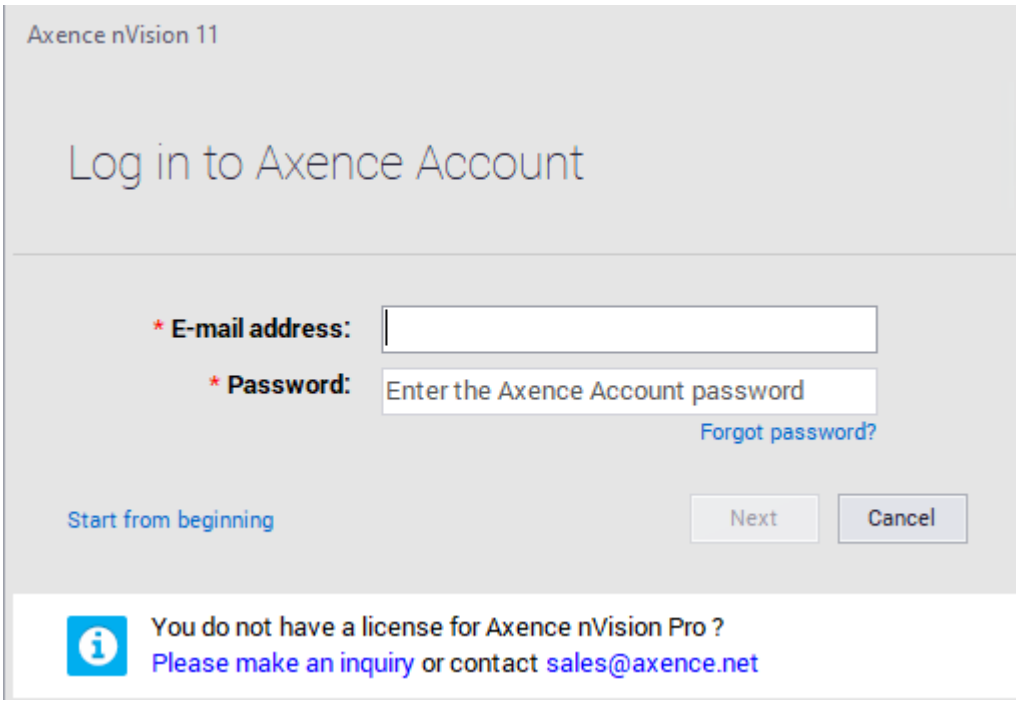
Free version activation:

In order to activate free license, you have to select **I want to get free license for Axence nVision®** option, even if the free license has been created before.

If there is no active Internet connection (**Axence nVision** service cannot connect to the activation server), follow the onscreen instructions:

Online activation

1. Enter the e-mail address and password of the registered Axence account associated with the license. Click the **Next** button:



2. In the **Enter license** window, type or paste the license key copied from e-mail or Axence Account webpage.
3. After clicking the **Enter license** button, nVision is activated.

⊞Offline activation

Follow the onscreen instructions.

1. On the machine with Internet access, visit the following webpage: https://account.axence.net/#/offline.
2. Fill in the offline-license generating form:

   Computer's name: *(any computer name)*

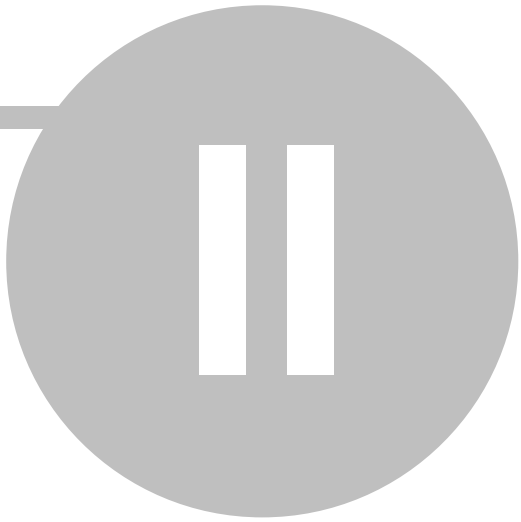
   License key: *(the license-key copied from You're the webpage*

   https://account.axence.net/licenses e.g.: 4B4MC9-MG4PQ-XYZXY-XYZXY)

   Machine key: *(12-alphanumeric key copied from **Enter license** window in step 1).*

3. In the offline-license generating form, click the **Download the offline license** button, then **Save the file**.
4. Save and copy the offline-license **AxenceOfflineKey.txt** file on hard drive on nVision Server machine, click the **Import license** button and select the file. Click **Enter license** button.

Part



2 Requirements and configuration

2.1 System requirements

Operating system (with up to date Service Pack installed)	nVision Server*	nVision Console	nVision Agent
Windows XP	✗	✓**	✓**
Windows Server 2003	✗	✓**	✓**
Windows Vista	✗	✓**	✓**
Windows Server 2008	✗	✓	✓
Windows 7	✓	✓	✓
Windows Server 2008 R2	✓	✓	✓
Windows 8	✓	✓	✓
Windows Server 2012	✓	✓	✓
Windows 8.1	✓	✓	✓
Windows Server 2012 R2	✓	✓	✓
Windows 10	✓	✓	✓
Windows Server 2016	✓	✓	✓***
Windows Server 2019	✓	✓	✓***

**In production environment, the nVision Server should be installed on server editions of Microsoft Windows system due to hosting limitations included in EULA of Microsoft Windows system client editions.*

***Installation is possible, but the software is no longer supported for this system version.*
Please remember that in case of any technical problems, we might not be able to find a solution. We highly recommend to update to a newer Windows operating system (supported by the manufacturer). https://support.microsoft.com/en-us/help/22882/windows-vista-end-of-support

****On this version of Windows system, with SecureBoot enabled, the network filtering, e-mail monitoring and DataGuard may not work.*

The nVision Server must operate at a static IP address.

nVision server:

- double core CPU,
- 4 GB RAM,
- 10 GB of free disk space,
- Windows Server operating system, version: 2008 R2 or newer.

Recommended for monitoring more than 1000 Agents:

- nVision on a dedicated physical machine (not virtual),
- 64-bit operating system,
- quad core processor,
- minimum 8GB RAM (for each additional 1000 Agents further 8GB RAM),
- fast hard disk.

Required CPU speed and memory usage are related to the number of monitored devices and the scope of monitoring.

*In order to achieve the best possible performance, the nVision server installation on fast **SSD disks** is recommended.*

For more information on required configuration of large nets (more than 250 Agents), see chapter nVision performance 47

nVision Console:

- double core CPU,
- 2 GB RAM,
- 400 MB of free disk space,
- Windows XP or newer,
- nVision Server connected to LAN, TCP port 4436,
- for proper generation of reports, Internet Explorer 8.0 or newer is required (the latest available version is recommended).

nVision Agent:

- single core CPU,
- 128 MB RAM,
- 100 MB of free disk space,
- Windows XP or newer,
- nVision Server connected to TCP port 4436.

To guarantee the correct operation of nVision Server, nVision Consoles, nVision Agents and net-Tools, add the installation folder

(e.g.: "C:\Program Files (x86)\Axence") to the list of exclusions of the anti-virus software on each machine – examples:

- Eset Antivirus
- Kaspersky Antivirus 2018
- AVG Antivirus.

When the exclusion is added, restart the configured machines.

Browsers monitored by nVision:

- Internet Explorer,
- Microsoft Edge,
- Mozilla Firefox,
- Google Chrome.

2.2 Ports

To enable communication between the Agents and nVision, it is necessary to open specific ports on the devices with Agents and on the device with nVision running. Agents and nVision automatically open the required ports in Windows Firewall. However, if any other firewall is present, these ports must be opened manually. These ports must also be open on the router, if the Agents work outside of the local network containing the nVision machine.

Ports open on the device with nVision

TCP port	Description
4434	diagnostic information
4436	Communication with Agents (permanent connection).
8080*	WebAccess – access to nVision via web browser. * Configurable value. Can be changed in nVision: **Tools / Options / Services Configuration / Web Access**.

Ports open on the remote devices

If the ports on the device with the Agent are closed, the Agent will continue to collect monitored data and send them to nVision; however, some operations made in nVision will not have an immediate effect in the Agent.

TCP port	Description
4433	I diagnostic information.
135.139, 445, 593	WMI, including the monitoring of Windows counters (Monitoring and managing Windows with WMI 29). Important: Windows counters can also be monitored by Agents (see Monitoring Windows services 64).

Additionally, when monitoring TCP/IP services, the respective ports on the remote device, depending on the monitored service e.g. TCP 80 for HTTP, must be open.

For more information about the remote access and permanent connection between the Agent and nVision, see the chapter Remote access 446.

For more information about configuring Agents on mobile machines, see the chapter Configuration of Agents installed on mobile machines 578.

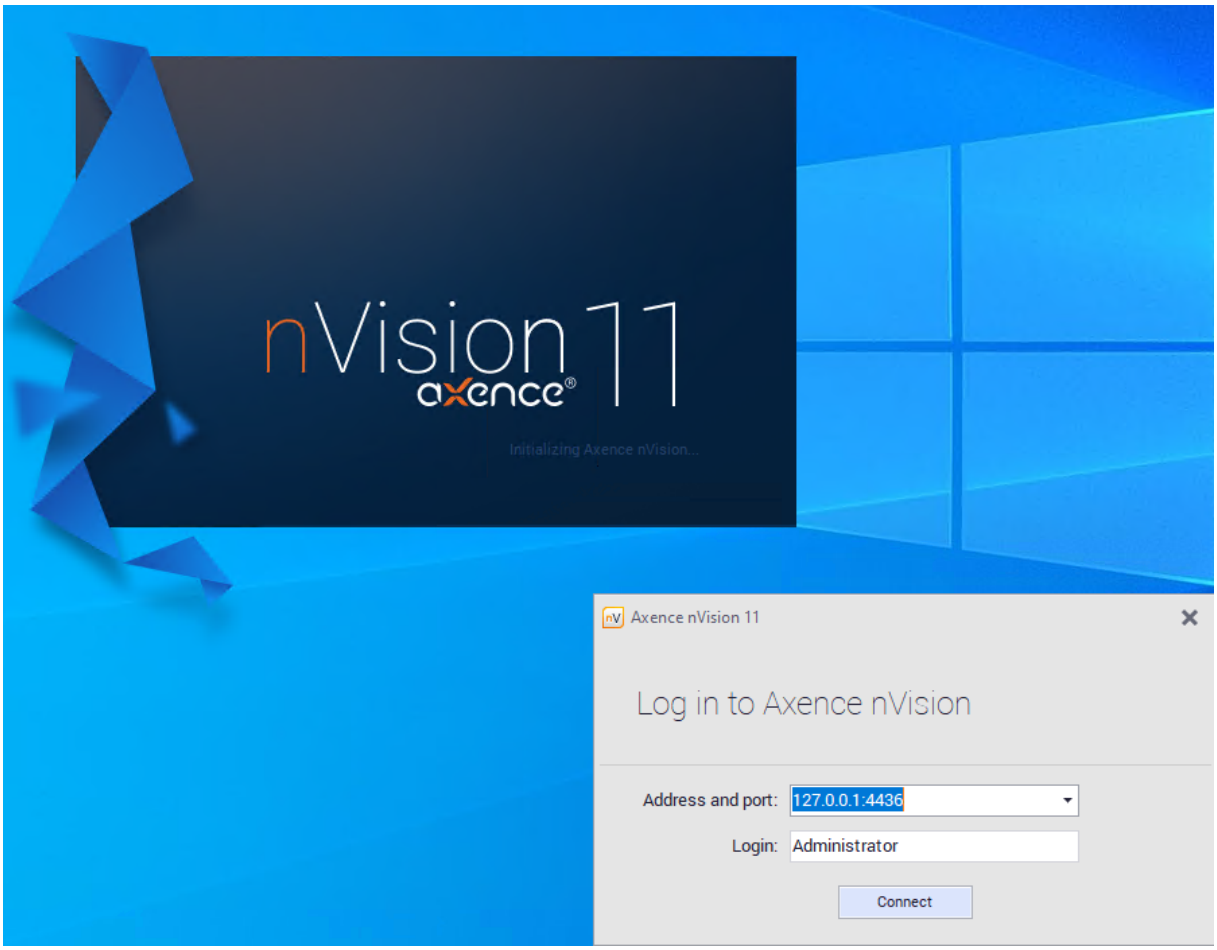
2.3 Remote nVision Console

Version 7 of nVision introduced the option to separate the installation of nVision Console from the nVision Server. The installation of a remote Console allows for the simultaneous work of several Administrators with the software.

To install only the nVision management console, **use the same setup file as in the case of the basic Server installation**. The setup will allow the choice of the components which are to be installed – select option “**Install only the management console**”.

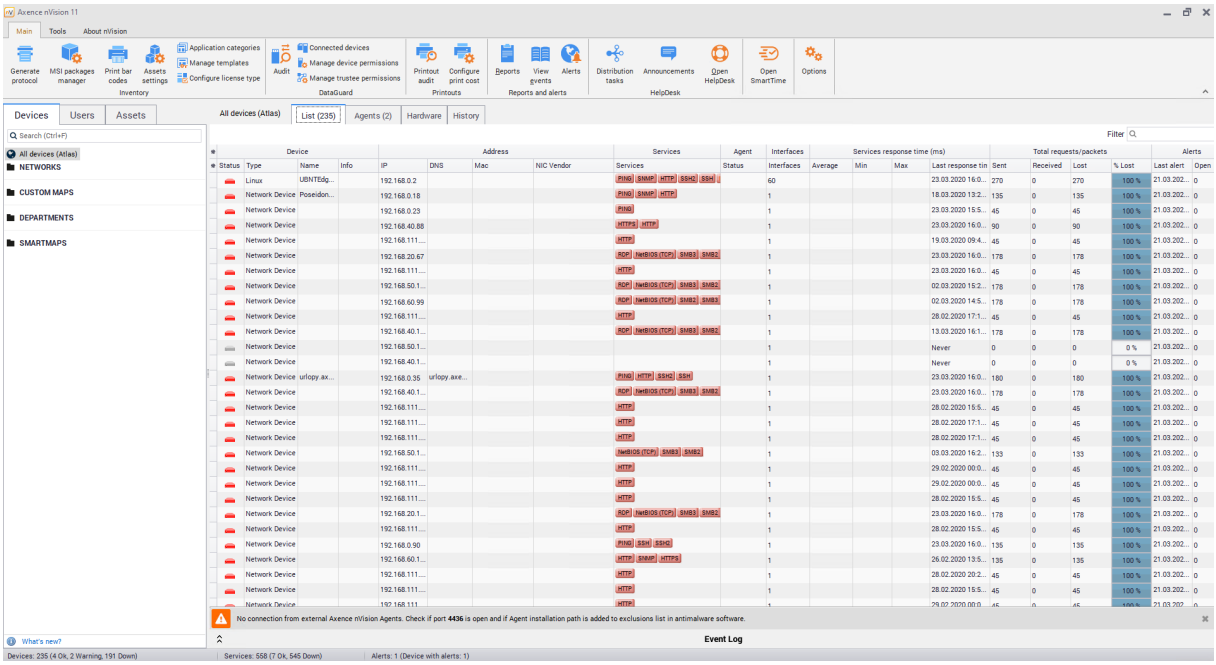
When the Console is installed and the nVision installation folder is added to the scanned exclusions of the anti-virus software, the software can be run.

In the login dialog box, enter the login and password of the nVision Administrator, the IP address and the port of the remote computer where nVision Server is installed:



2.4 Window layout

The nVision window layout is intuitive and easy to use.



Menu bar
The nVision functions are grouped into in 3 tabs on the menu bar:

⊞ “About nVision” tab

This tab presents information about nVision version, logged in user, entered license and service contract termination date.

⊞ “Main” tab

Group	Functions	Description
Inventory	**Generate protocol**	Allows to generate asset transfer protocols. 222
	Asset settings	Asset settings management ustawieniami zasobów. 200
	Application categories	Categories creation and management. 240
	Print bar codes	Manage printouts of bar codes for assets.
	Configure license type	Allows to configure additional fields 260 for all licenses.
	Manage templates	Allows to manage software templates synchronized with the A
	MSI packages manager	Allows to manage software installation via MSI packages. 437
DataGuard	**Audit**	Allows the review of the history of connections and file operations on external media.
	Connected devices	Presents a list of devices connected to hosts with Agents.
	Manage devices	Allows the configuration of access rights to devices connected to Agents 301.
	Manage trustees	Allows the configuration of access rights to media for users 306.
Printouts	**Printout audit**	Allows a list of printouts performed by users 172 to be displayed.
	Configure Printing costs	Allows the configuration of Printing costs 173.
Reports and alerts	**Reports**	Allows the preparation of templates and generation of reports 492.
	Event log	Displays all generated alerts 557.

	Alerts	Configuration of alerts for Atlas 524.
HelpDesk	**Open HelpDesk**	Opens the Helpdesk web interface 352.
	Distribution tasks	Allows files to be uploaded and executed remotely on Agents 437.
	Messages	Allows for easy provision of information 435 to users with an installed Agent.
	Configuration	Opens the Helpdesk settings 336 window.
SmartTime	**Opens SmartTime web interface.**	
Settings	**Opens nVision main settings.**	

"Tools" tab

Group	Functions	Description
Devices and users	Add user	Creates a new user account.
	Add group	Creates a new group.
	Add device	Allows an icon to be added for a new device (e.g. the one undetectable by ping scanning).
	Show duplicated devices	Presents a list of devices with duplicated IP/MAC addresses or DNS names.
	Create counter for devices	Allows the creation of performance counter on multiple devices 67.
Tools	Run netTools	Runs netTools.
	Discover new network	Runs the network discovery wizard 55.
	Distribute file with WMI	Opens the distribution with WMI menu
SNMP and Syslog	SNMP trap server	Server configuration and review of collected SNMP traps 74.
	Syslog server	Server configuration and review of collected Syslog messages 77.
	MIB compiler	Allows MIB files to be imported 73.
Agents	Install nVision Agent	Allows the preparation of the Agent installer file in the form of MSI package 113.
	Uninstall nVision Agent	Allows for the remote uninstallation of Agents that connect with the Server.
	Import inventory scans	Allows for the inventory of computers without installed Agents.

	Propagate new Atlas address	Enables Agents to be prepared for moving nVision server installation to another machine 581.
	Manage your Agent profiles	Management of Agent configuration 117.
	Inventory scanner executable file	Allows the inventory scanner file to be saved.
Options	Options	Allows the nVision operation options 304 to be changed.
	Atlas properties	Basic Atlas properties (visualization style, ignored devices, etc.)
	Filters for smart maps	Allows the creation of smart maps 106 that group devices complying with specific conditions.
	Filters for smart groups	Allows the creation of smart groups that group user accounts complying with specific conditions.
	Manage	Configuration of: events 529 and actions 543, alerts, icon visualization styles, additional tools, login credentials and departments 104.

Atlas panel

The Atlas panel is located in the left part of the window and divided into two tabs: **Devices, Users and Assets.**

The **Devices** tab presents a list of all devices grouped as maps. To find out more about maps, see the chapter Atlases, maps and hosts 86.
After selecting devices in the tree, the list is presented in the central view.

The **Users** tab presents the nVision user accounts and their groups. Both the accounts and groups are carriers of monitoring and blockade settings.
See the monitoring 31 and locking settings 35.

The **Assets** tab presents a list of all assets created in the program. It also gives you the ability to create application templates and check what programs are installed. Detailed information is presented in the dedicated chapter. 182

2.5 Configuration

2.5.1 Basic configuration

Planning the monitoring

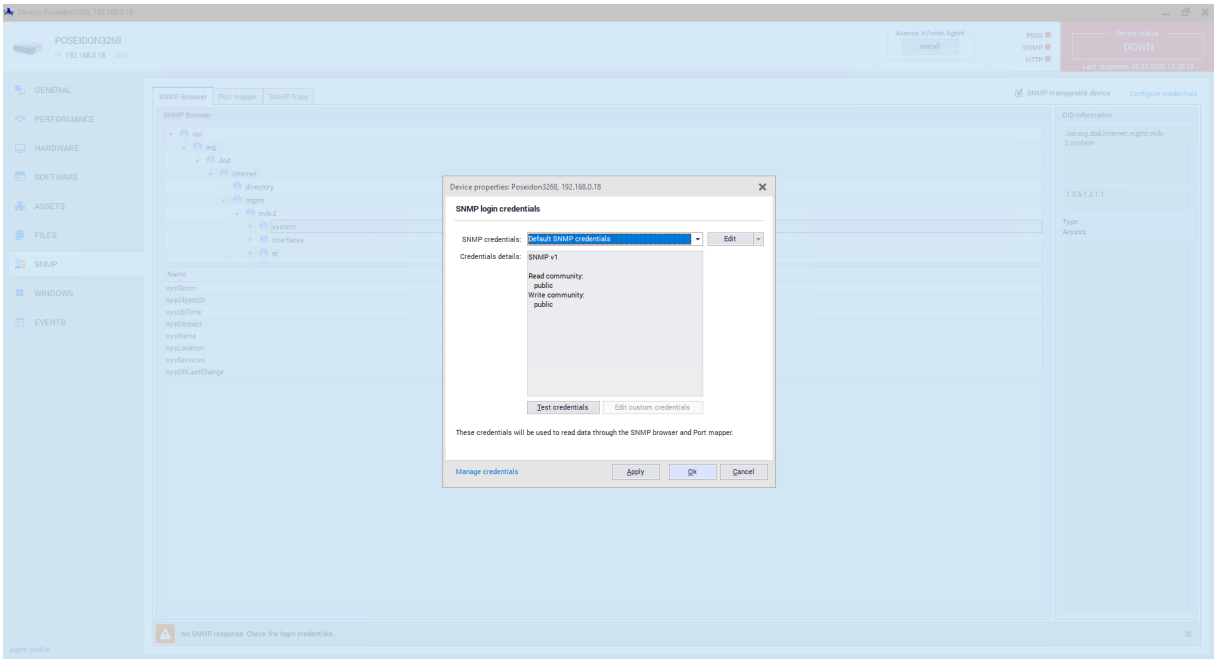
To successfully monitor all devices in your network you must perform several steps even before you start the nVision network scanner. This is a list of all steps you need to take to be able to fully utilize all nVision features:

Properly configure SNMP devices

To successfully monitor all devices in your network you must perform several steps even before you start the nVision network scanner. First of all you have to properly configure SNMP devices (the most important is setting the proper IP address and SNMP community). For more information about SNMP device configuration you should refer to the appropriate device documentation.

Configuring credentials

To monitor SNMP, you also need to provide the SNMP community. You can specify the community in the **Host info** window on the SNMP tab.



Requirements for monitoring SNMP devices

Monitoring	Protocols used	Requirements
SNMP performance counters Ports and interfaces on switches and routers Network traffic	SNMP	• Login credentials properly set • Host configured as SNMP manageable • At least one interface checked as supporting SNMP. • SNMP properly configured on the remote host. • Availability of specific SNMP OIDs and tables on the remote host.

Additionally to the above requirements, the firewall on the remote host must be properly configured. The following table lists the ports that must be open:

Protocol or monitor	Required open ports
SNMP	UDP 161,162

Enable WMI on all Windows machines

Enabling WMI is described in detail in the Monitoring and managing Windows with WMI 29 topic. In order for the WMI to operate correctly, the login credentials (i.e. Windows credentials on the specific station) should be properly configured.

Install nVision Agents

Possible methods of installing Agents are described in detail in section Installing and uninstalling Agents 113.

Open specific ports on the computer running nVision and on remote computers

Agents and nVision automatically open the required ports in Windows Firewall. However, if any other firewall is present, these ports must be opened manually.

The ports are listed in the topic Ports 22.

Related topics

Requirements

Remote access

Installing and uninstalling Agents

Agent settings 117

2.5.2 Monitoring and managing Windows with WMI

Enabling monitoring of Windows counters

WMI (used by WinTools, resource information selection and Windows performance counters monitoring) is fully enabled on Windows 2003 Server. But you need to perform several operations if you would like to get information from Windows XP Professional, Vista and Windows 7 computers. To speed up the whole operation, we prepared a program (WMIEnable.exe, available from the nVision installation folder) which automatically performs all necessary operations. To enable WMI, just run this program on the remote machine. You can run it from the login script, thus enabling WMI on all Windows XP, Vista and Windows 7 machines in your network at once. **If you are using any third party firewall on the remote host, then you also need to open the following ports on your own: TCP 135, 139, 445, 593.**

To be able to use WinTools or read resources from Windows, keep in mind that the remote system must have exactly the same login credentials (user name and password) as the user logged in on the computer running netTools and nVision. This is due to the limitations of the Home edition.

WMIEnable

This program enables WMI on the Windows XP Professional and Vista computers. This is exact list of operations performed by this program:

1. DCOM is enabled by setting registry key

   ```
   [HKEY_LOCAL_MACHINE\Software\Microsoft\OLE\EnableDCOM]
   ```

   value to **"Y"**.

2. Remote UAC on Windows Vista is enabled by setting registry key

   ```
   [HKLM\SOFTWARE\Microsoft\Windows\CurrentVersion\Policies\system\LocalAccount TokenFilterPolicy]
   ```

   value to **1**.

3. The WMI ports **(TCP 135, 139, 445, 593)** are opened on the Windows firewall by performing the following command:

   ```
   netsh firewall set service RemoteAdmin
   ```

4. Access to WMI on Windows Vista is enabled by adding a firewall exception for **Windows Management Instrumentation (WMI)**.

5. Authorization model is set to "Local user authorize as themselves" by setting registry key

   ```
   [HKEY_LOCAL_MACHINE\System\CurrentControlSet\Control\Lsa\forceguest]
   ```

   value to **0**.

In almost all cases the system restart is not necessary and WMI will be enabled right after the program execution, but you can also force Windows system restart after the above parameters are set by running the program with the **/restart** parameter. The program will not restart the system if it is not able to change system settings.

If the WMI is still not working

If you have run the WMIEnable program and WMI is still not working, then verify the following:

1. Enter **Local Security Settings** (**secpol.msc /s**) and select **Local Policies -> User Rights Assignement -> Access this computer from network**. Check if all necessary users/groups are added here. At least the Administrators group or Administrator should be present.

2. Enter **Group Policy** (**gpedit.msc**) and select **Windows Settings -> Security Settings -> Local Policies -> Security Options -> Network access: Sharing and security model for local accounts**. Set this option to **Classic – local user authorize as themselves**.

3. Check if WMI is operational by running the **wbemtest** command. WMI is running if this program can run properly.
4. Check if the following services are running:
   COM+ Event System
   Remote Access Auto Connection Manager
   Remote Access Connection Manager
   Remote Procedure Call (RPC)
   Remote Procedure Call (RPC) Locator
   Remote Registry
   Server
   Windows Management Instrumentation
   Windows Management Instrumentation Driver Extensions
   WMI Performance Adapter
   Workstation

Memory leaks with outdated Rpcrt4.dll

If monitoring Windows counters, please make sure that you have the latest Rpcrt4.dll installed. All previous versions cause serious memory leaks in the system, which can lead to a system crash. This problem is described by Microsoft at http://support.microsoft.com/?kbid=911262.

Your Rpcrt4.dll should have the following version (or higher):

System	Version	File size
Windows 2003	5.2.3790.2900	643.072
Windows XP	5.1.2600.2810	582.144

Problem of RPC calls and high-numbered ports

By default, a RPC call uses ports from the one-time use range (1024-5000) during assigning ports to RPC application for listening in the TCP end point. Such behavior may limit access to these ports, and cause trouble in operating with nVision Agents. Information on how to configure a RPC call to use secure ports and facilitate port protection can be found at http://support.microsoft.com/kb/908472.

Connecting between different operating systems

You cannot connect to a computer that is running a Starter, Basic, or Home Windows edition.

More information:
http://msdn.microsoft.com/en-us/library/windows/desktop/aa389284%28v=vs.85%29.aspx#failure_to_connect

2.5.3 Monitoring and blockades

2.5.3.1 Monitoring settings

Unlike in nVision 9 (where settings were saved as a set of rules, i.e. in Agent profiles), the latest version of Axence nVision 10 configures the user monitoring and website and application blocking settings on user groups.

It is properties where the Administrator should configure the monitoring options as user accounts inherit their settings. Of course, each user account may be assigned to more than one group. If this is the case, the effective monitoring settings are applied in accordance with the principles described below.

The basic carriers of monitoring settings in the latest version of nVision are: Atlas, User groups, and user account.

Atlas – default settings

Atlas is the primary object in nVision that contains the essential, global monitoring settings. It means that the user account which does not belong to any of the groups will adopt monitoring settings that are assigned to the Atlas.

Possible configurations:

- Monitoring

Setting	Possible values	Default value
Bandwidth usage	**monitor**/don't monitor	monitor
Visited web pages	**monitor**/don't monitor	monitor
Application usage	**monitor**/don't monitor	monitor
Work time	**monitor**/don't monitor	monitor
Printouts	**monitor**/don't monitor	monitor
E-mails	monitor/**don't monitor**	don't monitor
Send activity over time	monitor/**don't monitor**	don't monitor
Activity breaks	**monitor**/don't monitor	monitor
Save breaks above "X" minutes	minutes	5 minutes
Monitoring time	At any time / between / except (hours, days of the week)	at any time

- Remote access

Setting	Possible values	Default value
Enable desktop preview	**enable**/don't enable	enable
Enable remote access	**enable**/don't enable	enable
Show notification	**don't notify**/notify	don't notify
Ask for user consent	don't ask/**ask**	ask
Enable if user does not respond	**enable**/don't enable	enable

- Displaying Agent

Setting	Possible values	Default value
Show Agent icon	**show**/don't show	show
After logging in show information about Agent	**show**/don't show	show
Show information about user activity overview	**show**/don't show	show

By default, the Atlas contains the set of monitoring settings so that each new user is covered by the maximally restrictive monitoring.

User groups

User groups may contain any number of user accounts and sub-groups. If a user group is not a sub-group, then its parent object, from which it inherits settings, is the Atlas.

In the configuration of group (or sub-group) settings, you can only define the settings that are less restrictive exceptions than the parent settings (of the Atlas or group which contains the specific sub-group). For example, the printout monitoring is enabled at the Atlas level. So, at the group level, you can only disable printout monitoring.
This approach allows a certain user group to be excluded from monitoring.

Possible exception configurations at the group level:

- Monitoring

Setting	Possible values
Bandwidth usage	don't monitor
Visited web pages	don't monitor
Application usage	don't monitor
Work time	don't monitor
Printouts	don't monitor
E-mails	don't monitor
Send activity over time	don't monitor
Activity breaks	don't monitor
Monitoring time	The monitoring time can only be set in the Atlas or individually for each user.

- Remote access

Setting	Possible values
Enable desktop preview	don't enable
Enable remote access	don't enable
Show notification	notify
Ask for user consent	ask

Setting	Possible values
Enable if user does not respond	don't enable

- Displaying Agent

Setting	Possible values
Show Agent icon	don't show
After logging in show information about Agent	don't show
Show information about user activity overview	don't show

By default, no group contains any exceptions from the parent settings (Atlas).

The exceptions defined for a group are also propagated to all its sub-groups. In no way you can "exclude" a group from the propagation of settings or exceptions from the parent entities.

The exceptions defined for a group affect the settings of all users who belong to it (except for those who have individual settings defined). If a user is in more than one group, all exceptions from all these groups apply to them.

User

The user account can be subject to monitoring settings which are the result of Atlas and group settings, or may use the individual monitoring settings.
The monitoring and usage blockade settings can be configured in the **User info** window that is displayed after double-clicking on the user account name.

The **individual settings** allow the configuration of individual monitoring settings that will apply only to the user account for which they are set, regardless of the global settings and group exceptions.

The **resulting setting** is the global Atlas settings after considering the exceptions from all groups to which the specific user account belongs. If the user account belongs to several groups for which different settings of the same monitoring parameter are configured, the result will be the application of the less restrictive setting (e.g. don't monitor the application usage).

For each of the settings the Administrator can choose the application of the resulting or individual setting (e.g. the resulting setting will be the working time setting and that assigned individually will be the application usage setting).

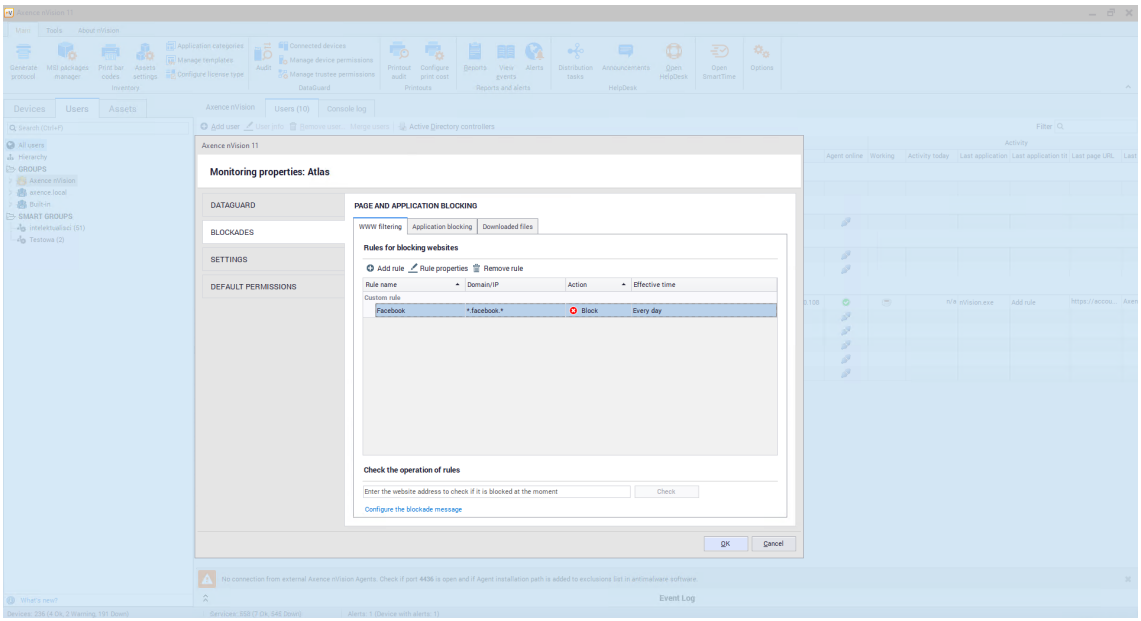
The introduction of the new model of monitoring settings allows the application of the intuitive way of aggregating settings which results from the fact that the specific user account belongs to multiple groups (the account will be covered by all exceptions from the groups it belongs to).

A completely new approach to the management of monitoring settings indicates that group settings cannot be used to increase the rights, but only to limit them. This allows the use of the good practice of using Axence nVision 10 – building transparent network monitoring rules.

For example: enabling the work time and application usage monitoring on a global level, and then disabling this setting by way of exceptions at the user group level.

2.5.3.2 Blocking settings

The basic carriers of blocking settings in the latest version of nVision are: Atlas, User groups, and user account.
Unlike the monitoring settings (which have a predefined list of possible settings), the blocking settings are based on defining as many blocking rules as you like.
The Atlas does not contain any default blocking settings unless they have been created as a result of the data migration from nVision 9.



Blocking websites

In nVision 10, the default website blocking action: “Block all websites except for the following ones” has been removed. If the Administrator has not configured any website blocking rules, access to all websites is still possible (nVision behaves as if the default action was always set to “Enable for all websites except for the following ones”). In practice, this means that the website which does not match any of the defined rules is not blocked.

In the program, you can define as many website blocking rules as you like.

Each rule contains its own name, type of action, domain (or IP address) and effective validity time.

- The rule’s action is one of the two options: “Allow” or “Block”.
- Domain (or IP address) is a pattern to which the visited websites will be matched.
  In the pattern, you can use the “*****” which indicates matching of any string.
- The effective validity time is a time pattern in which you can specify the days of the week or hours within the day.
  If the validity time has been defined, the rule is ignored outside this time.

If the visited website matches more than one rule, then:

- If all of these rules have the “Block” action set, the website is blocked.
- If at least one of these rules has the “Allow” action set, the website is not blocked.

If the website being visited does not match any rule, it is also not blocked.

Blocking applications

Similarly to website blocking, you can define as many application blocking rules as you like in nVision.

Each rule contains its own name, name of executable file to be blocked and effective validity time.

- For the application blocking rules, you cannot define the “Allow” action (each of these rules always comes with the “Block” action).
- You can also use the “*” in the pattern of the name of the executable file to be blocked.

If the application being run does not match any rule, it is not blocked.

Blocking downloaded file extensions

Similarly to website blocking, you can define as many downloaded file extension blocking rules as you like.

Each rule contains its own name and file extension to be blocked.

- For the downloaded file extension blocking rules, you cannot define the “Allow” action (each of these rules always comes with the “Block” action).
- You cannot also use the “*” in the pattern of file extension to be blocked.
- The downloaded file extension blocking rules do not have the effective validity times (they are valid all the time).

If the extension of the file to be downloaded does not match any rule, it is not blocked.

Inheriting blocking settings

Atlas

Atlas is the primary object in nVision 10 that contains the essential, global blocking settings. It means that the user account which does not belong to any of the groups will adopt monitoring settings that are assigned to the Atlas.
Atlas does not inherit settings from any other entity.
The Atlas does not contain any default blocking settings unless they have been created as a result of the data migration from nVision 9.

User groups

Each user group contains all blocking rules of the Atlas and parent groups it belongs to.
At the group level, you cannot modify in any way the rules inherited from the Atlas or parent groups. You also cannot remove them or exclude from inheritance.

At the group level, you can define as many individual rules to be added to the set of inherited rules as you like.
The individual rules defined in a group are inherited by all descendant groups assigned to it.

User
The user account uses the rules inherited from groups (and the Atlas) and the individual rules.
For a single user you can disable inheriting the blocking rules from the Atlas and groups.

If the user has the rule inheritance function **enabled**, the summary collection of the following is applicable to them:

- rules inherited from the Atlas (if the user is not assigned to any group),
- rules inherited from all the groups the user is assigned to,
- individual rules defined at the level of this user.

If the user account is assigned to several groups for which different blocking rules are configured, the resulting blocking rules will be applied.

If the user has the rule inheritance **disabled**, only the individual rules are applicable to them.

Summary

- If any website was blocked globally, you can define the group of users who will have access to it.
- If any website was not blocked globally, you can define the group of users for whom it will be blocked.
- If a user is assigned to a group that has the “Allow” rule set for any website, you cannot override it by the “Block” rule and assign the user to another group.
- The “White List” function (“Block all websites except for the following ones”) can still be executed by means of the “Block” rule for the “*” domain.
- If any application or downloaded file extension was blocked globally, you cannot unlock them at the group level.
- If any application or downloaded file extension was not blocked globally, you can define the group of users for whom these entities will be blocked.
- At the user setting level, you can always define an individual set of rules, regardless of the inheritance mechanism operation.

2.5.4 Settings migration (nVision 9 to 10)

2.5.4.1 User accounts

As a result of the data migration from nVision 9 to user accounts synchronized with Active Directory, the activity will be copied from device icons in the older version of the program.

For each Windows local account from nVision 9 Agent which someone logged in to at least once, a user account will be created in nVision 10.

In version 11 of nVision, the rights included in user roles (User, HelpDesk Employee and Administrator) have been restructured into a new system of rights. Please read the chapter 137 which describes these changes in detail.

2.5.4.2 Monitoring settings

The monitoring settings available in Agent profiles in nVision 9 were moved to users and groups in the new version of nVision 10.

Default settings

The default settings are settings that were migrated from nVision 9 and assigned to the Atlas.
Determination of the default monitoring settings in nVision 10 comes down to the aggregation of all settings in the Agent profile from nVision 9 that were used by at least one user account, whereas:

- if the selected option was monitored in at least one Agent profile in nVision 9, it is monitored in the default settings after data migration to nVision 10,
- if activity over time was being sent in at least one profile, it is sent in the default settings after migration,
- if breaks in activity were detected in at least one profile, they are also detected after migration,
- the migrated break time in the default settings is the minimum time selected from all existing Agent profiles,
- the monitoring time range in the default settings is the sum of all the time ranges in existing Agent profiles:
  - if time ranges do not overlap, a new range is determined during data migration, starting at the earliest and ending at the latest time from all existing profiles (e.g. the ranges of 8:00 - 12:00 and 15:00 - 18:00 will be migrated to the range of 8:00 - 18:00),
  - special case: if the continuous monitoring time was set for at least one profile, the default setting after migration will also be continuous monitoring,
- if any profile in nVision 9 allowed desktop preview, remote access or bypassing the user's approval for remote access, they will also be allowed in the migrated default settings,
- if any profile in nVision 9 allowed the Agent icon to be displayed, it will also be allowed in the default settings.

Group settings

In the migration process, user groups are created, and they are the carrier of monitoring settings from the existing Agent profiles. Each group contains monitoring settings such that the user belonging to this group is covered by the same monitoring settings as those in the Agent profile in nVision 9.
During data migration, the parent group "Monitoring" is created and includes 3 built-in subgroups:

- Groups from profiles,
- Groups from maps,
- Groups from devices.

The parent group and the built-in subgroups do not contain any built-in settings.

In the built-in subgroups, the user groups will be created and take the names after:

- monitoring profiles used in nVision 9,
- maps if they used individual settings in nVision 9,
- devices if they used individual settings (i.e. did not use the Agent profile or map settings).

Then, the accounts of users that were working on devices in the relevant profiles in nVision 9 will be added to the groups.

Additional information:

- The monitoring time range at the profile (group) level is not migrated. You may not establish these ranges at the group level in version 10 of the program. All time ranges from all profiles are aggregated into a single global range in the settings.
- None of the users receives individual settings in the migration process.
- As a result of the migration, the effective rights of the user working on more than one computer may be increased. For example, if the user was working on a computer with **enabled** monitoring and on another one where it was **disabled** in nVision 9, after migration the user **will not** be monitored on both computers (because the "Don't monitor" exception will apply to the user on both computers).
- The monitoring and blocking settings in nVision were connected with the device icon and the map on which the device was located. Thus, it was possible to define different security policies for new users (depending on the computer location). In nVision 10, there is a single set of default rights for each new user, therefore the Administrator has to manually create groups with rights and assign new users to them each time.

2.5.4.3 Blocking settings

Blocking websites

Default settings

The default settings are settings that were migrated from nVision 9 and assigned to the Atlas. Determination of the default website blocking settings in nVision 10 comes down to the aggregation of all "Block" rules in the Agent profile from nVision 9. Thus, a default set containing all website blocking rules is created.

Group settings

In the migration process, user groups are created, and they are the carrier of website blocking settings.

During data migration, the parent group "Filtering" is created and includes 3 built-in subgroups:

- Groups from profiles,
- Groups from maps,
- Groups from devices.

The parent group and the built-in subgroups do not contain any built-in settings.

In the built-in subgroups, the user groups will be created and take the names after:

- monitoring profiles used in nVision 9,
- maps if they used individual settings in nVision 9,
- devices if they used individual settings (i.e. did not use the Agent profile or map settings).

Then, the accounts of users that were working on devices in the relevant profiles in nVision 9 will be added to the groups.

Method for transferring settings:

- For the Atlas and each of the networks and Agents using the individual website blocking rules, the groups of blocking settings are created and placed in the parent group “Filtering”. Users are assigned to the groups (similarly to the transfer of monitoring settings).
- Each group of website blocking settings contains all the filtering rules that were previously assigned to the profile. These rules are set as individual rules for each of the groups.
- For each “Block” rule from the default settings which does not interfere with any individual group rule, the opposite “Allow” rule is created and assigned as an individual rule of the group. This action unlocks the websites that have not been locked so far, but could be locked as a result of the migration.
- After the transfer of settings, the removal of redundant rules in the default settings is performed: the “Block” rules that are included in other rules are removed (e.g. the rule for the “*.pl” domain contains the rule for the “domain.pl” website).

Additional information:

- In the migration process, none of the users receives individual website filtering rules.
- As a result of migration, the user that was working on more than one computer may have less websites blocked.
- If the global settings block the “*” domain and the individual group settings block the “domain.pl” domain only, the “Allow” rule will not be created for the “*” domain at the group level because this would make the “domain.pl” blocking rule ineffective. For this reason, after migration, some of the groups may potentially block more websites than the corresponding profiles in version 9 of the program.

⊞ Blocking applications

Default settings

The default settings for blocking application execution are created by aggregating all existing blocking rules from all profiles (similarly to the default website blocking rules).

Group settings

During data migration, the parent group “Blocking” is created and includes 3 built-in subgroups:

- Groups from profiles,
- Groups from maps,
- Groups from devices.

The parent group and the built-in subgroups do not contain any built-in settings.

In the built-in subgroups, the user groups will be created and take the names after:

- monitoring profiles used in nVision 9,
- maps if they used individual settings in nVision 9,
- devices if they used individual settings (i.e. did not use the Agent profile or map settings).

Then, the accounts of users that were working on devices in the relevant profiles in nVision 9 will be added to the groups.

However, these settings will always be ineffective because the default settings will always be as restrictive or even more so. The purpose of this migration is only to find out what these profiles previously contained.

Blocking downloaded file extensions

Default settings
The default settings for blocking downloaded file extensions are created by aggregating all existing rules from all profiles (similarly to the default website blocking rules).

Group settings
Similarly to the migration of the application blocking rules, the settings in profiles are transferred to the corresponding subgroups that were previously created in the parent group “Filtering”. These settings are also ineffective and retained for information purposes only.

Additional information:

- The port blocking settings are not migrated to the user as they are interrelated with the device settings in nVision 10.
- Settings from all application blocking profiles and downloaded file extension blocking profiles are merged into one item of the default settings and apply to all users after migration. If you were using various profiles on multiple devices, the manual adjustment of the program configuration will be required after the migration process.

2.5.4.4 Blockade notifications

In nVision 10, for each of the following 4 types of blocking notifications, you can configure **exactly one version** of:

- notification of blocking a website,
- notification of blocking an application,
- notification of blocking a file,
- notification of blocking ports.

Therefore, during the migration process, the number of unique blockade notifications in version 9 will be checked, and the most numerous notification (for each of the 4 types listed above) will be copied to the new version of the system.

To configure blockade notifications:

1. On the ribbon, select the **Tools and Options** page, and then click **Options**.
2. Select the **Messages and blockades** tab.

2.5.4.5 Screenshots

The screenshots taken at the device level in version 9 of the program will be transferred to the user for whom they were taken.
The device level screenshot collection setting is not migrated. After the migration process, this setting must be enabled manually at the level of each of the users for whom screenshots are to be saved.
By assumption, the screenshot mechanism is temporary and enabled periodically, hence its settings are not migrated.

2.5.4.6 DataGuard settings

Default rights
As a result of the migration of settings from nVision 9, a set of default rights is created by aggregating the rights that have been granted so far to the Agents and to the superior entity of

Active Directory (the highest level of “AD trustees”) so that it will include the maximally restrictive set of rights. As a result of the aggregation, more restrictive are:

- blocking the carrier,
- enabling the audit of file operations on the carrier.

Setting the maximally restrictive set of rights as the “Default rights” is necessary to ensure the continuity of data protection against data leaks for each new user directly after the migration.

Transferring DataGuard settings:

- The parent group “DataGuard Rules” with no defined custom settings will be created.
- The DataGuard rights assigned to the Atlas in nVision 9 are compared to the default rights in nVision 10. Then, the “Group from Atlas” is created as a subgroup of the “DataGuard Rules” parent group where any rights different from the default rights are assigned. The rights with the same values as those that previously existed in the Atlas are assigned to this group. The assigned rights are the individual rights for this group.
- For each map a group named “Group from map X” is created. It is a subgroup of the Atlas group or the superior map from the previous version of the program. Any rights different from the rights of the superior map group or the Atlas group are assigned to this group as individual rights.
- For each Agent that was using the individual DataGuard rights, the “Group from device X” is created where users working on this Agent in nVision 9 are assigned.
- The account of each non-domain user is placed in groups corresponding to the Agents they were working on. If a user was working on more than one computer, they will be assigned to all groups corresponding to the Agents they were working on.

The result of the migration is the representation of rights resulting from the structure of Atlas, maps and Agents in nVision 9 by means of a diagram of user groups which is simplified as much as possible. The final structure of nVision 10 only includes the groups that change the rights in any way. The DataGuard rights of domain users are not changed.

Additional information:

- After the migration to nVision 10, more restrictions may be imposed on each new user, even if they are created on an Agent that previously had no blockades in the DataGuard module.
- As the superior entity of “Active Directory” that aggregated rights for all users from AD is deleted, all settings which were defined in it will be lost. The remaining rights of groups and users from Active Directory are in no way modified during the migration process.
- As a result of the migration, it may turn out that users from Active Directory receive higher restrictions. This may be the case when the data carrier in nVision 9 was blocked at the Atlas level and a user from Active Directory had access to it as the additional rule providing access to this carrier was defined in the superior entity of “Active Directory”.
- Program in version 10 irretrievably loses the ability to define DataGuard rules at the host level. Thus, it is no longer possible to block and audit users on indicated devices only. Each user always has the same set of rules regardless of the computer they are currently logged on to.

2.5.4.7 Alerts and reports

Alerts

Alerts are in no way processed during the migration. Like in nVision 9, you can also configure alerts at the device icon level in nVision 10. Alerts created in nVision 9 will be transferred in the same form to device objects in the new version.

Reports

As a result of the data migration to nVision 10, the reports with information on user activity from specific maps or on indicated devices will be lost. Templates for these reports will still be available in the system, but a report generated by means of them will be empty. This is due to the fact that the user activity segments were moved to the section of reports generated for groups.

Therefore, before the migration process is started, the required reports for maps and devices using the existing templates should be drawn up, and then the report templates in the context of groups after the migration should be reconstructed manually.

2.5.4.8 Downgrade to nVision 9

Running the Axence nVision 10 installer will automatically backup the nVision 9 database. The backup copy contains program settings as well as data collected in monitoring.

To restore the data from nVision 9:

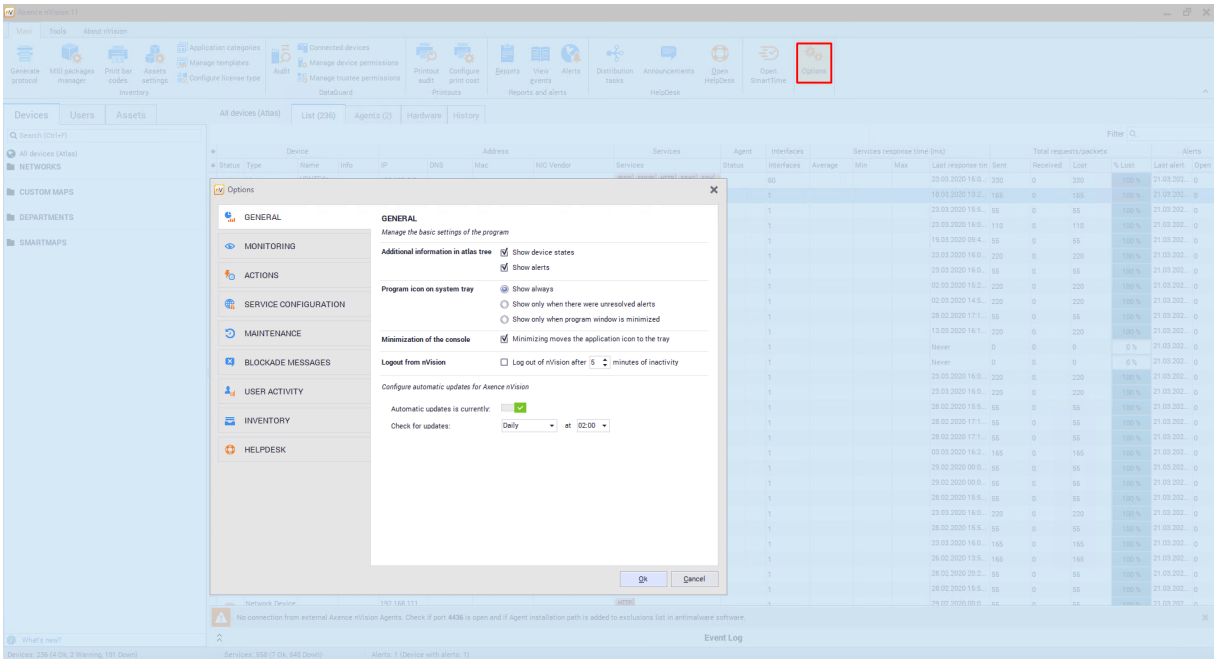
- If the installation of nVision 10 (or the migration process) is not successful and the Server does not start in the new version, the Agents will not be upgraded. If this is the case:
  - stop the “Axence nVision” service,
  - delete the **nVision.exe** file from the program installation path on the server,
  - download the nVision 9 installer (https://cdn.axence.net/nVision9.zip),
  - install the program,
  - restore the database backup copy by launching the **DBRestore** tool (by default: C:\Program Files (x86)\Axence\nVision\Backups).

- If upgrade to nVision 10 is successful and the program starts, the Agents that connected to the server will be automatically upgraded to the latest version.
  In this situation, to make a full downgrade to nVision 9:
  - uninstall Agents (e.g. by running the relevant command from the context menu in the nVision console 10),
  - disable the nVision console,
  - stop the “Axence nVision” service,
  - delete the **nVision.exe** file from the program installation path on the server,
  - download the nVision 9 installer (https://cdn.axence.net/nVision9.zip),
  - install the program,
  - restore the database backup copy by launching the **DBRestore** tool (by default: C:\Program Files (x86)\Axence\nVision\Backups),
  - re-install Agents from the installer copied from the folder specified after clicking in the nVision console: [menu] **Agents / Install nVision Agents**.

2.5.5 Main program settings

To change program options:

1. On the ribbon, select the **Main** page, and then click **Options**.
2. Select the desired tab.
3. Edit properties according to the description below.



Tab	Options	Description
General	**Additional information in the tree**	Additional icons that are displayed in the map tree, next to the map name. Possible settings: • host states, • alerts, • both or nothing.
	Program icon on system tray	• always, • only on unresolved alerts, • only when minimized.
	Minimize console	Determines whether minimization moves the application icon to the tray.
	Log out of nVision	Logging out of nVision after the inactivity time as set in this option.
	Automatic updates	At this tab, you can enable automatic updates and change interval of checking for new versions of nVision.
Monitoring	**Services**	The list of TCP services that will be scanned on each host by Axence nVision®. If you would like any service to be discovered automatically by nVision, you have to add this service to this list.

Tab	Options	Description
	Discover services on every interface	Check this option to scan for services on all the host addresses/interfaces. If unchecked, services will be scanned on the primary address only.
	Resolve addresses every X minutes	Time interval according to which nVision resolves IP addresses =>DNS.
	Maximum concurrent incoming Agent connections	This parameter determines how many Agents can send information at the same time, e.g. about user activity. Note: use lower values if you encounter too high bandwidth usage.
Actions	Some actions require being setup to function correctly, for example sending an ICQ message requires a UIN/password to login to the ICQ server. For a description of each action setup refer to Setting up actions topic 553.	
Setting up services	Web Access can be enabled in this tab. If you want to learn more about Web Access, see How to get access to nVision via Web browser? 482 and How to create Web Access user accounts? 483. In this tab, you can also change API server settings for access from mobile applications. If you want to learn more, see Mobile application topic.	
	WebAccess console	Define the port number for access via Web browser 482.
	HelpDesk	Define the port number for the port on which HelpDesk will be running. To enable encrypted communication in HelpDesk, you must install a certificate for the domain 330.
	SmartTime	Define the port number for the port on which SmartTime will be running.
	API Server	Define the port number for the Mobile Fixed Assets application for Android.
Maintenance	**Clean-up all data in database**	Set the number of days after which the old data (of specific type) are removed from the database.
	Backup	Automatic backup profiles are managed in this tab. To learn more, see Automatic backup 562. In addition to program setup, backup also includes the data collected in network monitoring, inventory data and HelpDesk module data.

Tab	Options	Description
	Restart nVision if not responding for X minutes	Axence nVision® is a very stable program, but we understand that it may be used to monitor critical assets. Therefore, it has a failover feature that will automatically restart the program in case of any problems to ensure continuous network monitoring. Check this option and set the time in minutes if you want Axence nVision® to restart if not responding.
Blockade messages	In this tab, you can setup your own messages that will be displayed in the case of an attempt to: • access a blocked website, • run a blocked application, • make an operation on external carrier in DataGuard, • download a file with locked extension by the browser.	
User activity	**Applications**	Defines groups of applications. You can create, edit and delete groups. The name of the application's executable file is compared to the name of file run by the process user. They are used in the user activity monitoring module (Users).
	Local networks	Defines addressing of local networks. A list of proxy ports separated with commas. They are used in the user activity monitoring module (Users) for monitoring of bandwidth usage and appropriate classification of network traffic (LAN/Internet traffic).
	Protocol patterns	Defines groups of protocol patterns – they are used in the user activity monitoring module (Users) for monitoring of bandwidth usage. You can create, edit and delete groups. The packet will be included in the selected group if it meets at least one of the criteria: application's executable file name or ports on which it is running.
	Domains	Defines groups of visited webpages. You can create, edit and delete groups.
Inventory	This tab presents a list of directories that are **not scanned** during inventory monitoring. You can create, edit and delete entries. In this tab, you can also create the categories of file extensions that will be detected by Agents.	
HelpDesk	This tab enables the management of HelpDesk's core settings 336 and tickets processing 338 options.	

Tab	Options	Description
		Remember to configure also the HelpDesk port in the **Remote Web access** tab of nVision.

2.5.6 Information for advanced users

The following functions are recommended for advanced users only.

Agent service calls from the browser

In all of the following calls substitute `*_IP` with the IP address of the machine on which the nVision Server or Agent is installed.

1. Checking information on the active Server:

   `http://SERVERS_IP:4434`

2. Checking information on the active Agent (checking the Machine GUID):

   `http://AGENTS_IP:4433`

3. Checking information of the active Atlases:

   `http://AGENTS_IP:4433/atlases`

4. Downloading Agent setup file:

   `http://SERVERS_IP:4436/nVAgentInstall.exe`

5. Downloading Remote Console setup file:

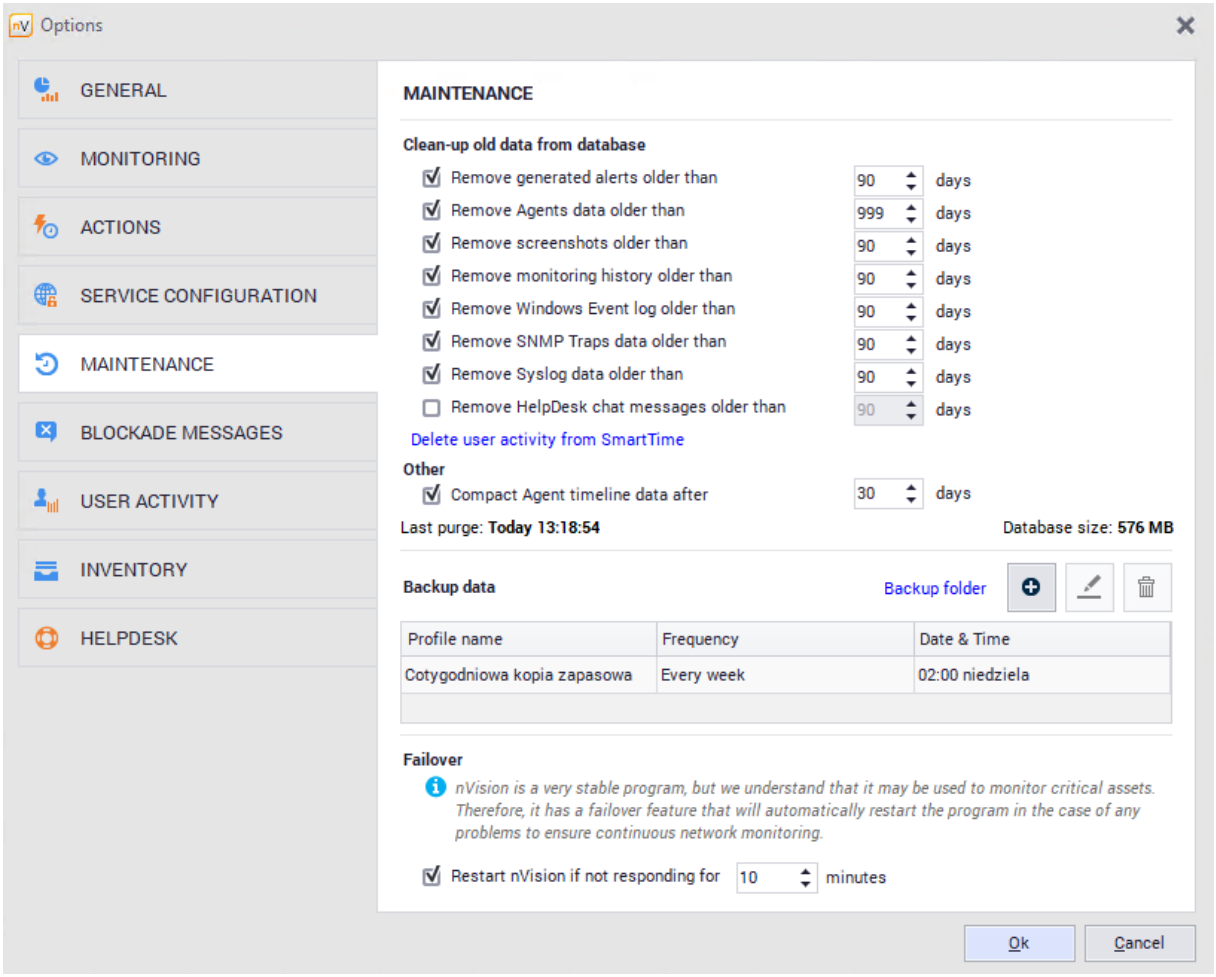
   `http://SERVERS_IP:4436/nVisionSetup.exe`

2.6 nVision performance

In case of a large number of Agents that send their data to nVision, perform the following actions to obtain high performance.

More than 250 Agents

1. Navigate to the main program configuration and click the **Maintenance** tab.
2. Enable the **Compact Agent timeline data after** option.



More than 1000 Agents

1. Navigate to the **Settings** window for the Atlas or group or to the **User info** window.
2. In the **Settings** window, change the **Send timelines data** to **Don't monitor**.

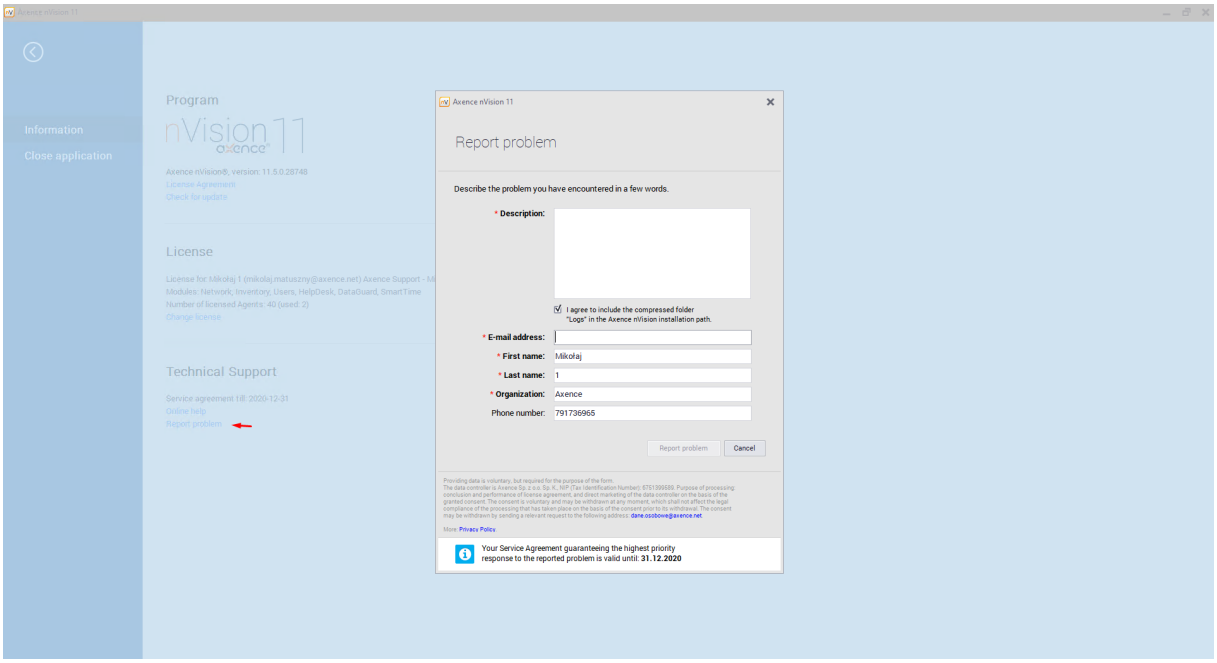
2.7 "Report a problem" function

Axence nVision® 10 offers simplified problem reporting, available by using the **Axence nVision / Report a problem** option in the menu bar. The purpose of the function is provide the Administrator with an easy way to report any observed issues or faults in the software operation.

In order for the function to work, the machine needs to have an active connection with the installed Axence nVision® Server with the Internet.

To report a problem:

1. Click the **About nVision** page in the menu bar and then the **Report a problem** link.
2. In the new **Report a problem** dialog box, fill in a brief form:



3. Checking the **I agree to attach the compressed "Logs" folder from Axence nVision® installation path** field will add an attachment with a cleaned and compressed (2MB) archive of the nVision Server log folder (by default: C:\Program Files (x86)\Axence\nVision\Logs). Sending the software runtime logs facilitates the problem analysis and shortens the report processing time.
4. When the **Report a problem** button is clicked, the message is sent to: pomoc@axence.net.

   The first response from a Technical Support Employee is sent within a few hours and not later than on the next working day (in the case of problems requiring a thorough log analysis, the time can be longer).

   The administrator can check the ticket status by logging into https://service.axence.net/hc/en-us/requests portal with the e-mail address given in the **Report a problem** form. The link for the password setup is sent automatically to the specified e-mail address after the ticket is created. The password can also be reset manually with use of the form available at: https://axence.zendesk.com/auth/v2/login/password_reset.

2.8 GSM device configuration

nVision enables an admin alert notification to be defined by means of SMS messages.

Sending notifications via SMS is a convenient way of informing in case of occurrence of predefined events 529, such as significant change in the website content (attack suspected), files copied to the mobile device, or hardware resources changed. Messages can be sent via mobile phones connected via USB, COM and cable driver and the GSM modem (usually also connected via USB). It is easy, because many operators provide long-term SIM cards.

Important: operators do not guarantee immediate delivery of SMS. In the case of critical notifications do not rely on SMS text messages or e-mails.

Tested devices

The following common telephones and modems were tested for cooperation with the software:

- Falcom: Twist, Swift, Samba 55, Samba 75,
- iTegno: WM1080A, WM1080A1I, WM1080A1E, 3000, 3232E, 3232I, 3898,
- Multitech: MTCBA-G-UF1, MTCBA-G-UF2,
- Nokia: N30, N32, 6100, 6210, 6220, 6310, 6310i, 6820 (Bluetooth), 8910,
- Siemens: TC35, TC35i, TC45, TC65, MC35, MC35i, MC45, MC55, MC65, MC75, A65, AC75, AC45, C35, C45, M35, M45, S35,
- SIMCOM: SIM100S, SIM100T,
- Sony Ericsson: T310, T610, T630, T68, T68i, K310, K320, K500, K510, K600, K700, K750i, K800i, V800, W300, W550, W600, W700, W800i, W810, W900, Z1010, GC75, GC79, GC83, GC85, GC89,
- Teltonika: T-ModemUSB, T-ModemCOM,
- Wavecom: Fastrack M1206B, Fastrack M1306B, Integra, WMOi3.

In addition to the models listed above, all USB modems should function properly.

Note: GSM device needs to be configured using software provided by its manufacturer (especially SIM-card's PIN needs to be entered).

If you want to learn more about notification actions, go to Defining action properties 546 topic.

Part

3 Network discovery and monitoring

3.1 Introduction

Requirements and planning

Please read the Requirements and configuration 20 topics before you start monitoring your network. These topics describe how to configure hosts and nVision to get all the information you need.

Discovering the network

nVision has a built-in very advanced automatic network scanner allowing you to not only discover all hosts in your network, but also it can discover all routers and go through them to scan all neighboring networks. It discovers all hosts and services running on them, like: HTTP, FTP, mail, database servers, etc.

You can add as many networks to the Atlas as you need. When adding a network, it will be scanned for hosts so first you have to go through the network discovery wizard to define scanning options.

When the discovery process is finished, the program will create a network map or a set of maps for all discovered IP networks. The networks will be created as a tree. This tree shows network dependencies between them.

For more information about network discovery refer to Discovering the network 53 topic.

Monitoring hosts

nVision can monitor network services, system and SNMP counters. It not only monitors them, but also logs all the information and allows viewing historical data for reporting purposes.

For more information about network monitoring refer to Monitoring 58 topic.

Host status

Host status in nVision is such an important idea that we dedicated it separate topic for it: Host status concept 52. You should definitely read it to fully understand how nVision presents host status.

3.2 Host status concept

Host status as calculated value

Unlike in other similar products, host status in nVision can be changed by events. You can define conditions when a host is considered to have a status <Unknown>, <Up>, <Down> or <Warning>. Of course, host status changes also automatically to reflect the status of services.

Automatic host status changes

Host status is initially set to <Unknown>. It changes when nVision starts to monitor services. After the first service is determined to be running, status changes to <Up>. The status is <Warning> when one or more services are down, but there is still at least one responding service. The host status changes to <Down> when every service is down i.e. not responding.

Host status changed by event

It is very important to understand that nVision also determines the host status according to currently raised events. For this purpose you can define the **Change host status to** field of each event. When an event for a host is raised, then host status may change according to the host status value defined in this event.

There are three host status values that you can define in this field: <No change>, <Warning> and <Down>. Status <Down> has the biggest priority, which means that if there is at least one event raised with such status, then the host status also becomes <Down> (no matter the status of services). If there are several events with <Warning> and <Down> status raised, then the host status will also be <Down>. If there are only a few events raised with <Warning> status, then the host status becomes <Warning> (unless it is already <Down> due to all services being down - then the status remains <Down>).

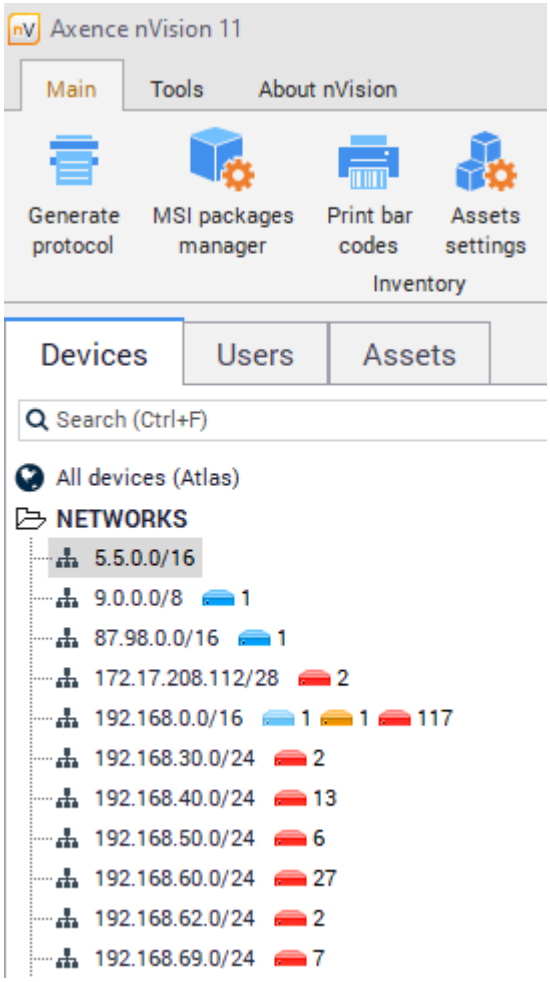
3.3 Discovering the network

3.3.1 Discovering the network

You can add as many networks to the Atlas as you need. When adding a network, it will be scanned for hosts so first you have to go through the network discovery wizard to define scanning options.

1. Click the **Discover new network** option (on the **Tools** tab).
   The Scan network wizard will open. This wizard will help you to scan your network, discover all hosts and create maps of your network.
2. Follow the screens of the wizard. For a description of all options available in it, refer to Network discovery wizard 55 topic.

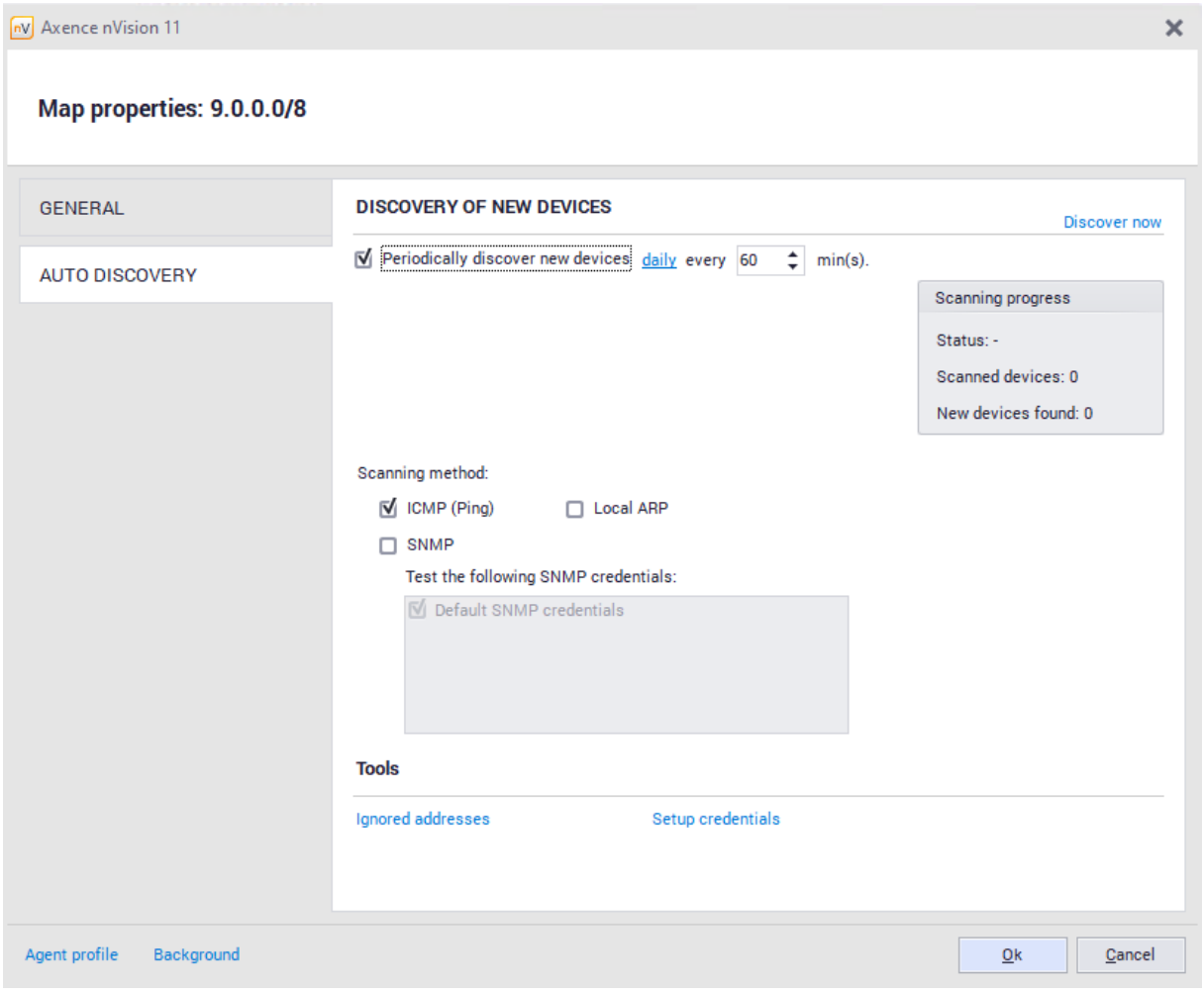
When the discovery process is finished, the program will create a network map or a set of maps for the discovered network. The networks will be created as a tree. This tree shows network dependencies between them - the networks created as children are networks connected to the parent map. Let's see the following example:



As you can see, the network 192.168.0.0 is a child of the network 172.17.208.112. It means that those networks are connected through a router. nVision discovers all routers and connected networks, which allows you to see the network logical structure.

nVision can also discover hosts automatically by selecting the **Discover a new host** option from the map context menu. This process can be carried out periodically.

1. Select the map on which you want to enable the automatic discovery.
2. Open the **Map properties** window and select the **Automatic discovery** tab, which allows the discovery process to be configured and started. This tab also shows the current status and progress on the status bar.
3. Select the **Periodically discover new hosts** option.
4. Configure the frequency and time of discovery.
5. You can also start the discovery by clicking the **Discover now** button.



3.3.2 Network discovery wizard

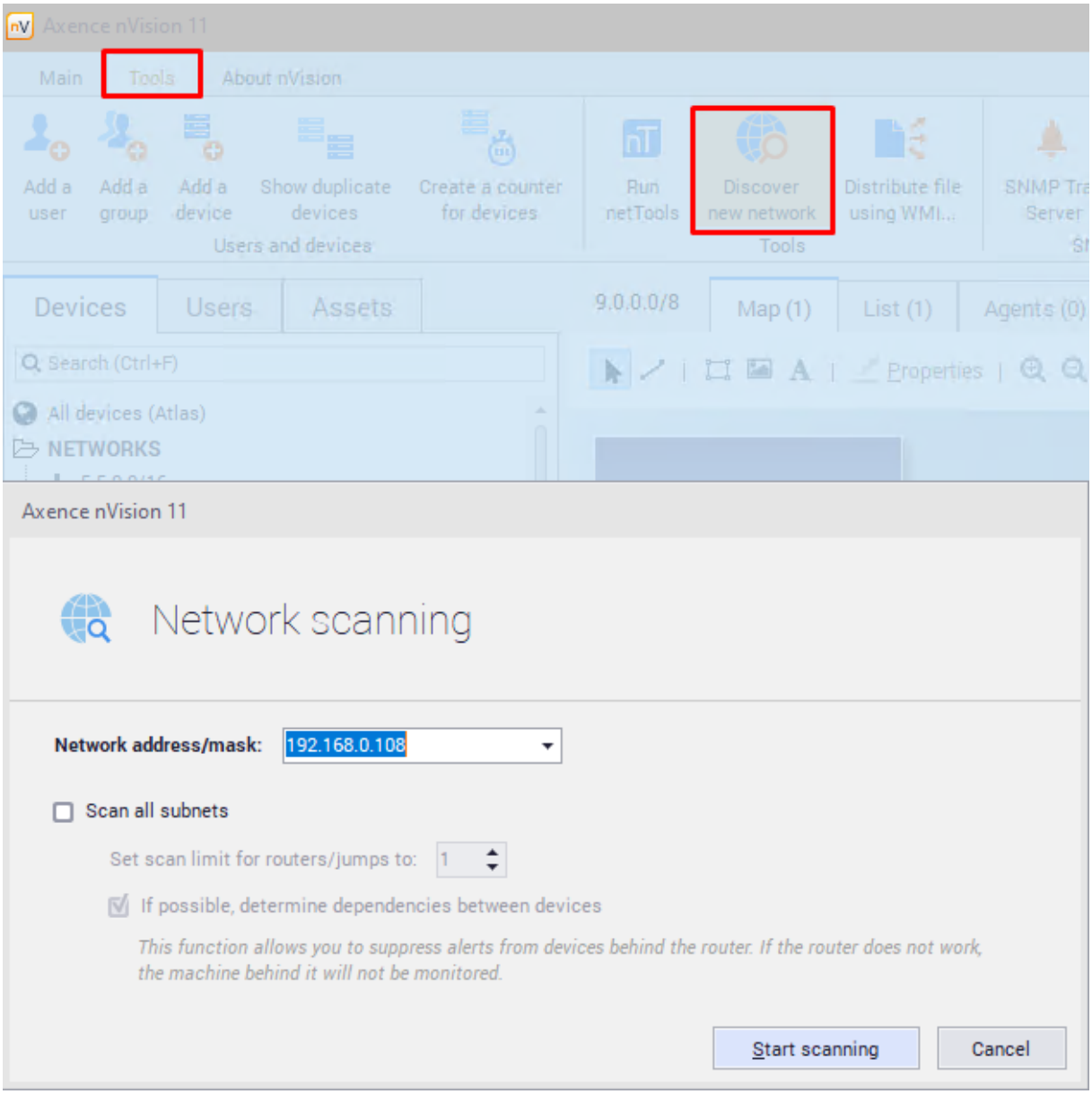
The network discovery wizard helps you to define all options required to properly scan a new network. This wizard opens when you want to add a new network or when you are creating a new Atlas.

New network scan options

They allow you to define which network will be scanned and how.

Property	Description
Address	Enter the IP/DNS address of the host located in the network you want to scan. The program automatically enters the local address, which you can leave unchanged if you want to scan your local network.
Mask	The network mask. In most cases you need not to change this field which defaults to “255.255.255.0”. If changed it can result in a very long discovery time.

Property	Description
Scan all subnets	Check if you have a router in your network and also want to scan neighboring networks behind this router. nVision can scan not only the network you entered, but it can also go “through” routers in this network and scan all connected networks. This function works if the router is SNMP manageable and you will provide (or already provided) the SNMP community. The program will read the routing table from the router and try to scan all networks connected to this router.
Set scan limit for routers/jumps to	Allows you to limit the number or hops (routers) while scanning.
If possible, determine dependencies between devices	This feature allows for the limiting of the alerts from devices behind the router. If the router is inactive, the devices behind it will not be monitored.



Click **Scan**. This will start the discovery process. You will be able to see the discovery progress. You can stop the network discovery anytime. If you stop it before it finishes scanning the network, you will still be able to add the networks and hosts discovered so far.

When the discovery process is finished, you will see a message specifying the number of hosts/networks discovered. Click the **OK** button to close the scanner window and add all discovered hosts and networks to the Atlas.

3.3.3 Adding a new host

For instructions on how to add a new host, refer to Managing hosts 100 topic.

3.4 Monitoring

3.4.1 Introduction to monitoring

What can be monitored?

nVision can monitor the following:

- **Host status**
  This is monitored for every host and it allows you to get reports about each host availability over time.
- **Services**
  - Availability: in case the service stops responding nVision will present such information on the map and can raise an alert.
  - Performance: response time and percent of packets lost. You can monitor any TCP/UDP service. There is a large predefined list of available services including MS SQL Server, Oracle, Notes/Domino, etc.
- **Mail and web servers**
  Specific service tests: nVision has several built-in probes that can check the performance of several high level features of service. It includes probes such as:
  - Web page load time – measures the time of loading a specific web page.
  - Web page contents change – checks for any change of web page contents.
  - POP3 Login time – measures the time it takes to successfully login to a POP3 server.
  - SMTP send time – measures the time it takes to successfully send an e-mail with an SMTP server.
- **Routers and switches (MRTG)**
  - Network interfaces: status and in/out network traffic.
  - Switch ports: the information about every port status, MAC and IP of computers connected to any port and their total network in/out traffic.
  - Host network traffic: the network traffic generated by a network device (monitoring RMON with SNMP)
- **Performance counters**
  - SNMP: you can monitor any SNMP counter that returns numeric values.
  - Windows: nVision allows monitoring Windows counters, which helps to monitor system performance itself and also the performance of applications running on it. So you can monitor counters of such services like MS SQL Server, Exchange server, etc.

Visualization

nVision has the ability to present all the monitored parameters (both for services and counters) on clear charts. Not only you get the reports of the values over time, but you can watch them in real-time also.

Monitoring time

When you setup the monitoring time in the host properties, it does not mean that the services and counters will be monitored exactly every such period. When nVision has to monitor a large network with many hosts, the monitoring interval may increase because nVision can send only a specific number of requests per second. Consequently, host monitoring time is just the shortest time that can be used for monitoring services and counters. In case of several number of hosts this time may increase significantly.

How monitoring data is handled

nVision collects all monitoring data in the program's memory first. This information is gathered in the form of consecutive probes stored at the time of each poll. You can see all of those probes on the 15-minute chart only. After all gathered data exceeds the limit of allocated memory then the oldest probe is removed every time a new one is added.

Monitoring information is saved to the database in 1-minute averages. Therefore, when viewing performance charts for long intervals you can see those data with a 1-minute resolution at best. nVision does not save all probe values because the program is designed to monitor large networks. In such networks with many hosts, the amount of data gathered every day is significant and it would be not possible to process it in reasonable time. It would also fill up even a very large hard drive very fast.

3.4.2 Concepts

Service scanner and monitor

After discovering all hosts in your network, nVision scans for services running on them. It scans only a sub range of all available services. To read how to select services to be scanned, refer to Program Options 43 topic.

Service scanner not only checks if a service port is open. It also sends a specific request and checks if a response matches predefined criteria. If so, the service is being added to the host and nVision starts to monitor it.

The service monitor uses a similar mechanism as the service scanner: it sends specific requests to the TCP/UDP port (service) and logs the response time and percent of requests (packets) lost. It also checks if the received response matches specific criteria.

Counter monitor

You can also monitor several types of counters with nVision. The table below lists available counters:

Counter type	Description
Host status	Indicates host status for every minute. Allows reporting of hosts availability.
SNMP	SNMP counters are provided by SNMP protocol available on routers and most servers. They allow the information such as

Counter type	Description
	network transfer, number of users, CPU utilization, etc. to be monitored.
Windows	nVision can monitor all Windows counters including those provided by non-system applications like MS SQL Server or Exchange Server.
Page load time	Measures the loading time of a specific web page.
Page content change	Indicates selected web page changes.
POP3 login time	Checks the time to login to the POP3 server.
SMTP send time	Measures the time required to send an e-mail.

Host status

Unlike in other similar products, host status in nVision is a calculated value, not a hard coded one. So you can define conditions when a host is considered to have status <Up>, <Down> and <Warning>. For more information about host status refer to Host status concept 52 topic.

3.4.3 Monitoring services

3.4.3.1 Service discovery and monitoring

How services are detected and monitored

nVision monitors UDP/TCP services based on a predefined set of rules. It not only checks if the specific port is open, but sends a request and waits for a response. Then, the response is examined to meet specific criteria. Only those services where a response is valid are considered as properly functioning services. The same mechanism is used to discover services running on hosts. It ensures that services are not mistakenly discovered when any service is running on the port supposed to be for another one. For example if FTP would be running on port 80, nVision will not discover service HTTP, as the response is not valid as an HTTP response.

Service down

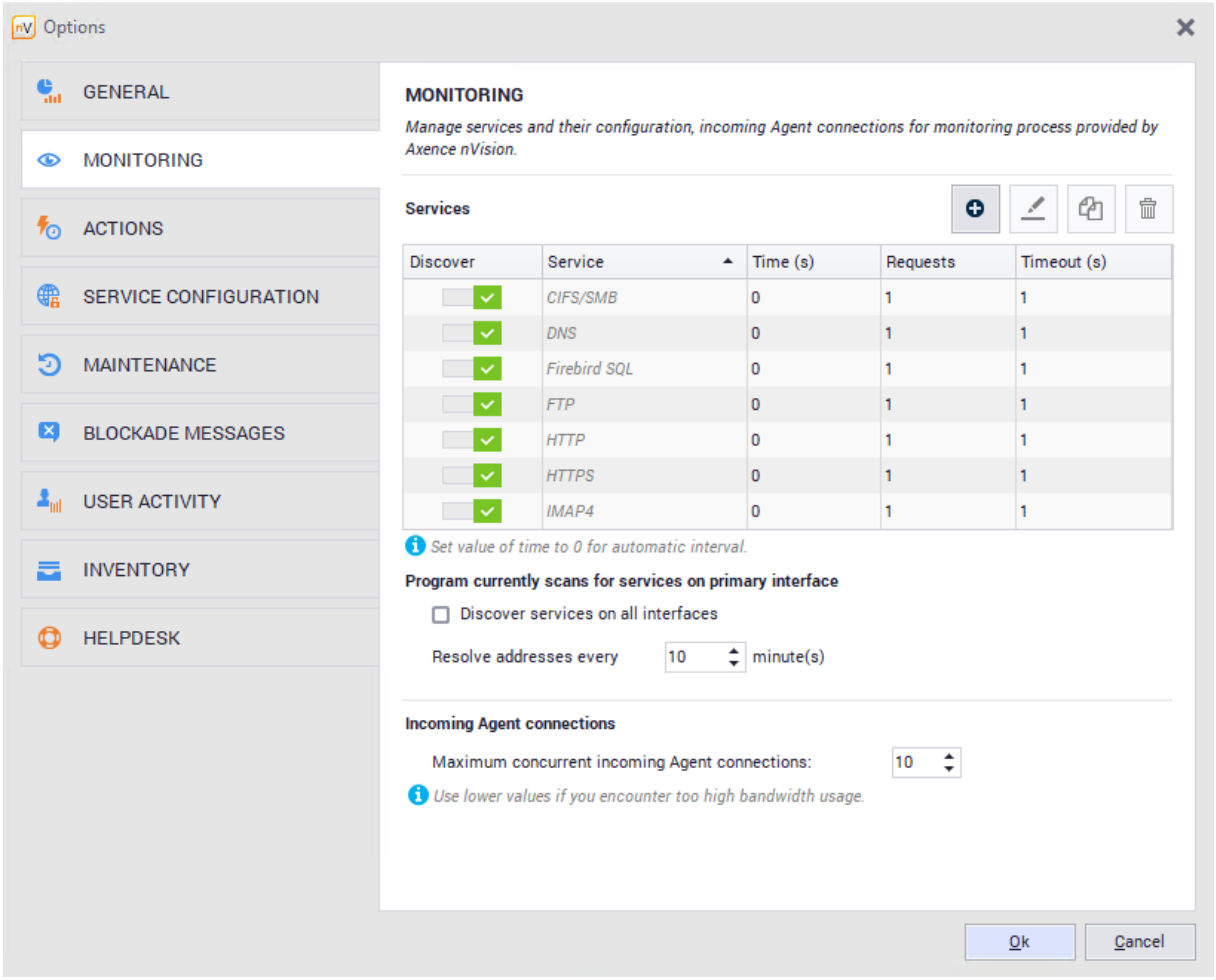
After a service stops responding, then it gets the status <Down>. You can see that as a red colorized icon in the service grid (available on the **Services** tab in the **Host Info** window).

Leading service

There is always one **leading** service for each host. This service is indicated by bold font in the service grid located in the **Host info** window. The **leading** service is the most important service of the host. Its response time can be presented on the host icon.

How to monitor hosts and services?

After discovering hosts in your network, nVision automatically scans for the most important services running on them. So, there is no need to take any further actions in addition to discovering the network to begin monitoring of hosts and their services. However, you can add a new service manually or by calling the service discovery tool.



Adding services

To add a new service to the default list of monitored services:

1. Go to nVision settings located on main toolbar. Navigate to the **Monitoring** tab.
2. If you want to add a service, click the add button and select the service that is to be monitored from the list. To manage the service definitions, click the **Manage services** button.

Services on hosts

A list of monitored services including charts that represent the response time and percent of packets/requests lost is available in the Host status 86 window.

For more information about services refer to Managing hosts 100 topic.

3.4.3.2 Managing monitored services

This topic provides more information on how to manage service monitoring.

Opening host info window in the Services tab

With this window you can list, modify, create and remove monitored services. It not only lists all Services, but also presents charts, where you can review the service response time value over time. Charts can present the service monitoring information in real-time.

1. Double-click the host icon or select **Host info** from its context menu.
2. Select **Performance / Services** tab.

Adding a new service to the monitor or modifying existing one

1. Open **Host info** window on the **Performance / Services** tab.
2. Click the add icon (located on the right-bottom side of the services grid) to add a new service or select the existing service and click the edit icon to modify service properties.
   The **Service properties** window will open.
3. Now you have to configure the options. This is described in detail in the following table.

Property	Description
Service to monitor	
Name	Select the service you want to monitor. This field cannot be changed when editing the existing service. To start monitoring another service, you have to create it.
On interface/IP	Select the address on which this service will be monitored.
Monitoring parameters	
Monitoring time	After selecting **Auto**, nVision will control the monitoring interval to ensure frequent polls (based on the number of monitored hosts). If you want to set this to any specific value, then select **Set** and enter this value in the edit box.
Requests	This is the number of requests sent on each poll. For all TCP services this value should be set to 1, as the protocol has its own mechanism to prevent lost requests (TCP services have their own mechanism to repeat lost requests, so it usually does not make sense to enter a higher value). For ICMP and UDP based services, you should set it

Property	Description
	to 2-3 to ensure that one incidentally lost packet will not trigger false alerts.
Timeout	The time to wait for a response. If not received by that time, a request is considered lost. For ICMP and UDP services value of 1000 - 2000 ms will be usually sufficient. For TCP services, because of their nature, you should enter much higher values of 15 000 - 30 000 ms.

Deleting a service

1. Open **Host info** window on the **Performance / Services** tab.
2. Select a service to delete.
3. Click the dustbin icon to delete the service.

Rediscovering host services

1. Open **Host info** window on the **Performance / Services** tab.
2. Click the **Discover again** option.
   nVision will start scanning for new services on all interfaces/addresses of the host. When finished, new services will be added to the list and monitoring of the new services will start.

Selecting a leading service

For information about the leading service refer to the Monitoring services 60 topic.

1. Open **Host info** window on the **Performance / Services** tab.
2. Select a service and select **Set as leading** from its context menu.
   The leading service is indicated by bold font.

3.4.3.3 Setting-up alert for services

If you would like to be notified when any service experiences any problems then you need to create an alert. This topic describes all the necessary steps that are required to do that.

1. Click the **Alerts** icon located on the **Main** page ribbon to open the alerts window.
2. Click the **Add alert** icon located on the main toolbar to create a new alert.
   The alert properties window will open. With this window you will create an event that will trigger the alert and add actions to be executed when the alert is raised.

3. Click the **New** button located on the right side of the event combo box. This will allow you to create an event.
   For services you should select the **Service down** or the **Service performance** event type. Create an event according to the information in the Event properties 532 topic.
4. Click the add icon and define the action to be executed when an alert is raised. You can select any existing action or also create a new action. To create a new action, click the New button located on the right side of the action combo box. Create an action according to the information in the Action properties 546 topic.

3.4.3.4 Monitoring Windows services

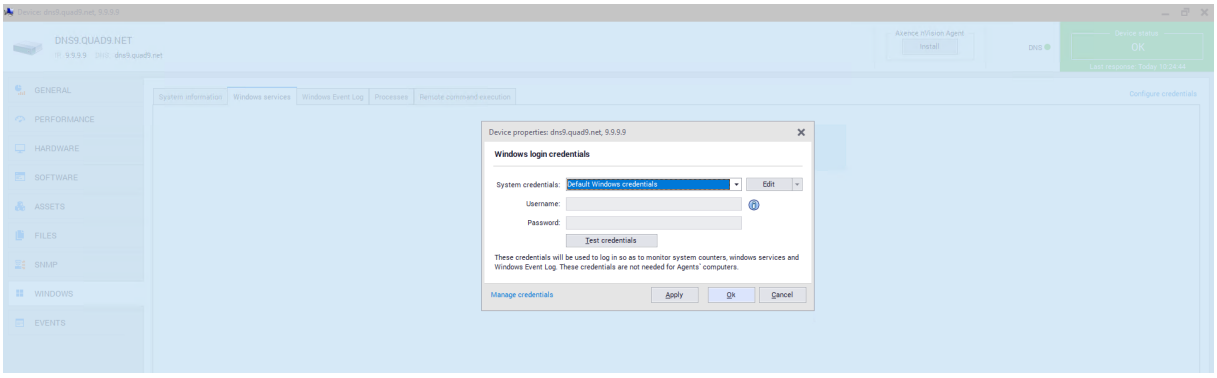
nVision can monitor Windows services. In case of any problem with any service (i.e. service going down) you can configure an alert action that may start or restart the service. Service monitoring is performed with WMI or by Agents.

In order to monitor by WMI, you have to properly configure credentials in the host properties window. Also WMI has to be enabled on the remote host. Please refer to Requirements and configuration 27 topic for more information.

To monitor Windows services without opening remote access to WMI, install Agents 113.

To turn Windows service monitoring on:

1. Open the Host properties window 86.
2. Select the **Windows** tab.
3. Navigate to the **Windows services** window, click the **Configure login credentials** link and enter the details of the administrator account on the remote host.



3.4.4 Monitoring device and system performance

3.4.4.1 Performance counters and host status

nVision can monitor several types of performance counters and host status.

Host status

This is a built in counter which monitors and logs the host status. This counter is logged every minute so you could track host availability over time.

Windows and SNMP counters

nVision can monitor Windows counters using WMI or Agents. The counters can be used to monitor Windows system performance, application performance (MS Exchange, IIS, SQL etc.), switches and routers (network traffic, errors, etc.), etc.

Specific service test (mail and web server monitoring)

This is a group of counters designed to monitor mail and web servers. For more information please refer to the Monitoring mail and web server 68 topic.

3.4.4.2 Counter types

There are several general groups of counters. The following list describes the Host availability and Counter groups. For more information about the Specific service test group, please refer to the Monitoring mail and web server 68 topic.

Host availability	
Host status	This counter stores the host status for reporting purposes. It is a built-in counter and cannot be removed.
Counters	
SNMP counter	You can measure any SNMP counter with a numeric value format. The program may also read the whole table column and log min/max/avg/sum of its cell values.
Windows counter	You can measure any Windows counter with numeric value format. Windows provides system and application counters. So it allows monitoring the system itself as well as programs like SQL Server or Exchange Server.

Host specific counters

Some events have all the information required to check them already defined, including host address. Such events are called host specific. In general, all events of the **Specific service test** type are host specific.

3.4.4.3 Managing performance counters

This topic provides more information on how to manage performance counters.

Opening Host info window on the Performance counters tab

With this window you can list, modify, create and remove counters. It not only lists all counters, but also presents charts where you can review the counter value over time.

1. Double-click the host icon or select the **Host info** from its context menu.

2. Select the **Performance / Performance counters** tab.

Creating a new counter or modifying an existing one

1. Open the **Host info** window on the **Performance / Performance counters** tab.
2. Click the add icon located on the right-bottom side of the counter grid to add a new counter or select the existing counter and click the edit icon to modify its properties.
   The **Counter properties** window will open.
3. If you are creating a new counter, then select the counter type on the list and click the **Next** button. To find out about counter types, refer to the Counter types 65 topic.
4. Configure the counter options (depending on the counter type you selected). This is described in details in the Defining counter properties 67 topic.
5. Click the **Finish** button.

Deleting a counter

1. Open the **Host info** window on the **Performance / Performance counters** tab.
2. Select a counter to delete.
3. Click the delete icon to delete the counter.

3.4.4.4 Setting-up alert for performance counter

This topic describes how to setup an alert to be triggered when a performance counter value goes out of range. For example, let's assume you would like to create an alert, which will notify you when a mail queue on any of your MS Exchange servers is too big. You will need such a counter on every host running Exchange server and the event defined to trigger an alert. nVision provides a tool to easily define an alert and automatically create the necessary counters on each host running MS Exchange.

1. Click the **Alerts** icon located on the **Main** page ribbon to open the alerts window.
2. Click the **Add alert** icon located on the main toolbar to create a new alert.
   The alert properties window will open. With this window you will create an event that will trigger the alert and add actions to be executed when the alert is raised.
3. Click the **New** button located on the right side of the event combo box. This will allow you to create an event.
   For counters you should select one of the **Specific service tests** or **Counters** event type. Create an event according to the information in the Event properties 532 topic.
4. Click the add icon and define the action to be executed when an alert is raised. You can select any existing action or also create a new action. To create a new action, click the **New** button located on the right side of the action combo box.

   Create an action according to the information in the Action properties 546 topic.

3.4.4.5 Creating a counter on many hosts at once

In many cases it is necessary to create the same counter on several hosts. You can do that using the automatic counter creation mechanism. It allows creating the same Windows or SNMP counter on many hosts.
It can also create it only on those hosts that support such counter by testing if it is present on the remote machine.

1. Select **Create a counter for a group of hosts** from the **Tools and options** page on the ribbon. The **Counter definition wizard** will open.
2. Select **Windows** or **SNMP**.
3. Select the counter and enter monitoring time.
4. Select **All** to create the counter on all hosts or select **Selected** to select hosts. Select hosts in the grid using Ctrl + Click and Shift + Click.
5. Check **Create only if the host supports the counter** if you want nVision to verify if the counter is present on the remote host before creating it. With this tool you can quickly create many counters only on hosts that have this counter.

3.4.4.6 Defining counter properties

This topic describes properties of different counter types from the **Counters** group.

Windows threshold

Property	Description
Name	The name that will be displayed on the list.
Counter	The counter to be monitored. To choose the counter, click the ... icon and select the appropriate class, counter and instance. You may need to setup credentials first so nVision could connect with the remote host and read the counter list.
Monitoring interval	After selecting **Auto**, nVision will control the monitoring interval to ensure frequent polls (based on the number of monitored hosts). If you want to set this to any specific value, then select **Set** and enter this value in the edit box.

Notes

- nVision will try to login to the remote host using the credentials defined in host properties.
- Windows counters are not monitored if the host is <Down>.

SNMP threshold

Property	Description
Name	The name that will be displayed on the list.
Choose SNMP counter	The counter to be monitored. To choose the counter, click the ... icon and select the appropriate SNMP counter. It is possible to read the whole table column and log min/max/avg/sum of its cell values. You may need to setup the SNMP read community first so nVision could connect with the remote host and read the counter list.
Enter SNMP counter OID	The counter to be monitored. When entering OID manually, you are responsible to provide a correct value. If this OID is not valid then the counter will not read any value.
Absolute	The program will store the value that has been read.
Average per second, unit	Based on the consecutive counter values, nVision will calculate the rate per second and store this value. This is a good option if you monitor the number of bytes sent/received and you want to monitor bandwidth usage. You can also select the units in which this value will be stored.
Monitoring interval	After selecting **Auto**, nVision will control the monitoring interval to ensure frequent polls (based on the number of monitored hosts). If you want to set this to any specific value, then select **Set** and enter this value in the edit box.

Notes

- nVision will try to login to the remote host using the credentials defined in host properties.
- Windows counters are not monitored if the host is <Down>.

3.4.5 Monitoring mail and web server

3.4.5.1 Mail and web server monitoring counters

nVision has several special counters designed to monitor mail and web servers. These counters not only connect to the server, but also perform some test to ensure proper server operation: test the page load time and content, list incoming e-mails and try to send a test e-mail. To perform such test operations, you have to create the appropriate counter on the **Performance counters** tab in the **Host info** window. For more information about counter (test) types and operations performed, refer to the Counter types 69 topic. For information about creating counters refer to the Managing performance counters 65 topic.

3.4.5.2 Counter types

The following list describes only Specific service test group responsible for mail and web server testing. For information about other groups (Host availability and Counters) please refer to the Monitoring device and system performance 64 topic.

Specific service test	
Web page load time	Measures specific web page load time.
Web page content change	Checks for any accidental changes to the specific web page content.
POP3 login time	Measures the time required to login to the mail server.
Send mail time	Measures the time required to send an e-mail message.
Test HTTPS connection	Tests HTTPS connection; it is possible to use a client certificate.

Host specific counters

Some events have all the information required to check them already defined, including host address. Such events are called host specific. In general, all events of the **Specific service test** type are host specific.

3.4.5.3 Defining counter properties

This topic describes defining properties of different counter types from the **Specific service test** group.

⊞Web page load time

This counter measures specific web page load time.

Property	Description
Page URL	The page address of the page to be checked
Monitoring interval	After selecting **Auto**, nVision will control the monitoring interval to ensure frequent polls (based on the number of monitored hosts). If you want to set this to any specific value, then select **Set** and enter this value in the edit box.

⊞Web page content change

This counter indicates percentage changes to your web page content.

Property	Description
Page URL	The page address of the page to be checked
Monitoring interval	After selecting **Auto**, nVision will control the monitoring interval to ensure frequent polls (based on the number of monitored hosts). If you want to set this to any specific value, then select **Set** and enter this value in the edit box.

POP3 login time

This counter measures the time required to login to the mail server and check the list of available mails.

Property	Description
POP3 server address	The address of the mail server.
Username	The username required to login.
Password	The password required to login.
Monitoring interval	After selecting **Auto**, nVision will control the monitoring interval to ensure frequent polls (based on the number of monitored hosts). If you want to set this to any specific value, then select **Set** and enter this value in the edit box.

Send mail time

This counter measures the time required to send an e-mail message.

Property	Description
SMTP server address	The address of the mail server.
Authorization required	Check this field if your SMTP server requires authorization to allow sending e-mail.
Username	The username required to login.
Password	The password required to login.

Property	Description
Send e-mail message to	The e-mail address where the message will be sent. The time of sending this message will be measured.
Reply address	If this address is not set properly or blank most mail servers will reject an e-mail. Enter the e-mail address, which you know will be accepted by the mail server (your e-mail address most likely).
Monitoring interval	After selecting **Auto**, nVision will control the monitoring interval to ensure frequent polls (based on the number of monitored hosts). If you want to set this to any specific value, then select **Set** and enter this value in the edit box.

3.4.6 Monitoring routers and switches

3.4.6.1 SNMP monitoring

With nVision you can monitor the following information with SNMP:

- **Interfaces**: status and current network traffic. You can also configure monitoring of network in/out traffic on every interface. Such information is available then on the **Performance counters** tab and you may see charts presenting the traffic.
- **Switch ports**: nVision automatically reads SNMP information related to switch ports if possible. When such information is available, then you will see a **Port mapper** tab in the **Host info** window. This tab shows the information about every port status, MAC and IP of computers connected to any port and their total/current network in/out traffic.
- **Network traffic**: some switches and routers collect the information about the network traffic generated by each device. This information is available with RMON tables. nVision automates the process of monitoring the network traffic generated by a specific host.

This helps to extensively monitor your network infrastructure, status of your switches, routers and network traffic.

3.4.6.2 Monitoring switch ports

nVision automatically reads port information for every SNMP-manageable switch. This information is presented in graphical form in the **Host info / SNMP / Port mapper** window. The following table lists the meaning of every image:

Icon	Description
	The port is active, but nothing is connected to it.
	The port is active with plug connected.

Icon	Description
	The port is inactive (disabled) and nothing is connected to it.
	The port is inactive (disabled) with plug connected.

The tab may not be available in the beginning (after the network is scanned). It will show automatically only when nVision reads the SNMP information from the “dot1dBasePortTable” table (OID: 1.3.6.1.2.1.17.1.4), which may take some time. If the tab is not shown for a long time, please make sure that SNMP on this host is available and you properly configured the SNMP community in the host properties.

To enable port mapping on a switch:

1. Navigate to the **Host info** window.
2. In the **General** tab, check **Enable monitoring** field (services, counters, SNMP, port mapping, Windows).
3. In the **SNMP / SNMP browser** tab, check the **SNMP manageable device** field and click the **Configure login credentials –** link, and then configure a correct SNMP community (set in the device management panel). Make sure the login credentials are correct by clicking the **Test login data** button (the test should terminate with “SNMP community test successful” message).

The port mapping tab should appear in the **Device information** window.

If the above settings are configured correctly and the mapper port tab is still not generated, make sure the table “dot1dBasePortTable” is available at the given device (by reading its contents in the “SNMP” tab according to the tree specified in the link below).

http://tools.cisco.com/Support/SNMP/do/BrowseOID.do?local=en&translate=Translate&objectInput=1.3.6.1.2.1.17.1.4#oidContent

3.4.6.3 Monitoring node network traffic

Some switches and routers collect the information about the network traffic generated by each device. This information is available with RMON SNMP tables. nVision automates the process of monitoring the network traffic generated by a specific host.

Monitoring host network traffic

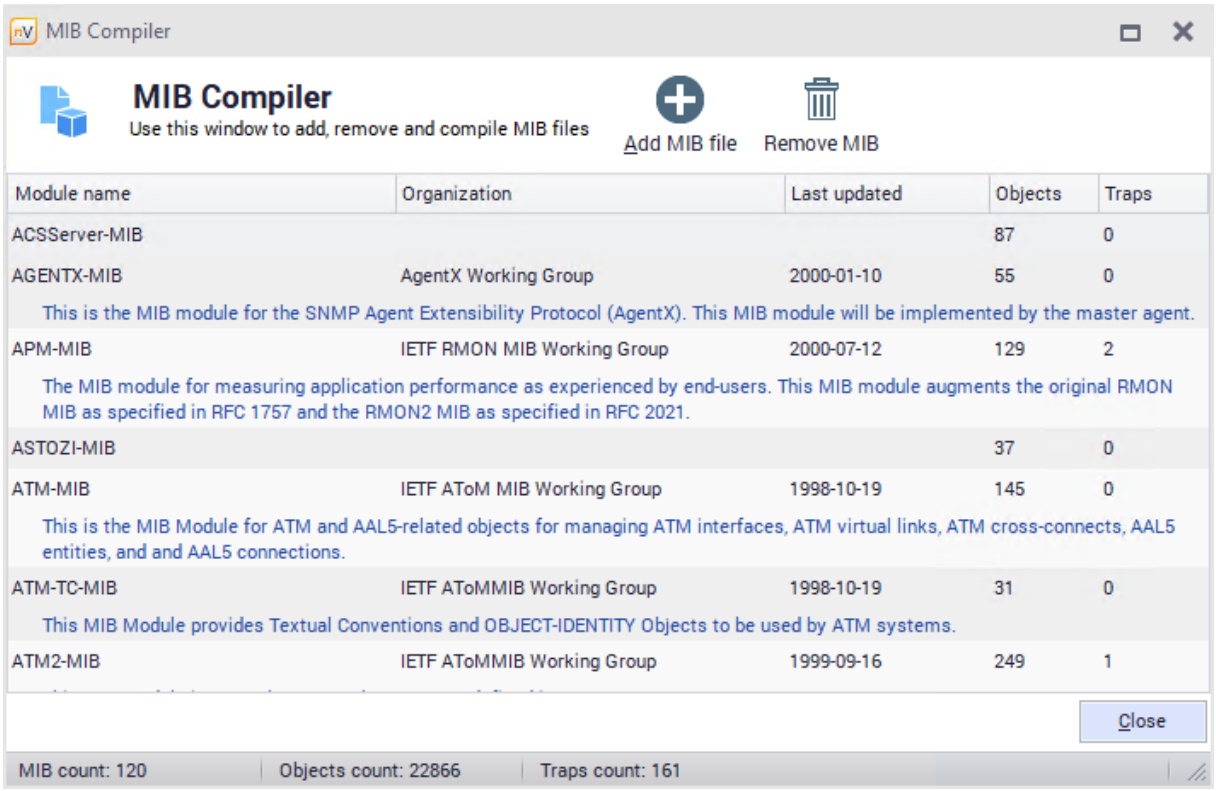
1. Open **Host info** window.
2. Navigate to the **Port mapper** tab. If such tab is not available, it means that there is no such information for this device. Please refer to the 71 Monitoring switch ports 71 topic for more information.
3. Select the grid row which lists the information for the host, which you would like to monitor. Select **Monitor host network traffic** from the context menu.
   This will create two SNMP monitoring counters (for incoming and outgoing traffic). These counters will be available on the **Performance counters** tab.

3.4.7 MIB file compiling

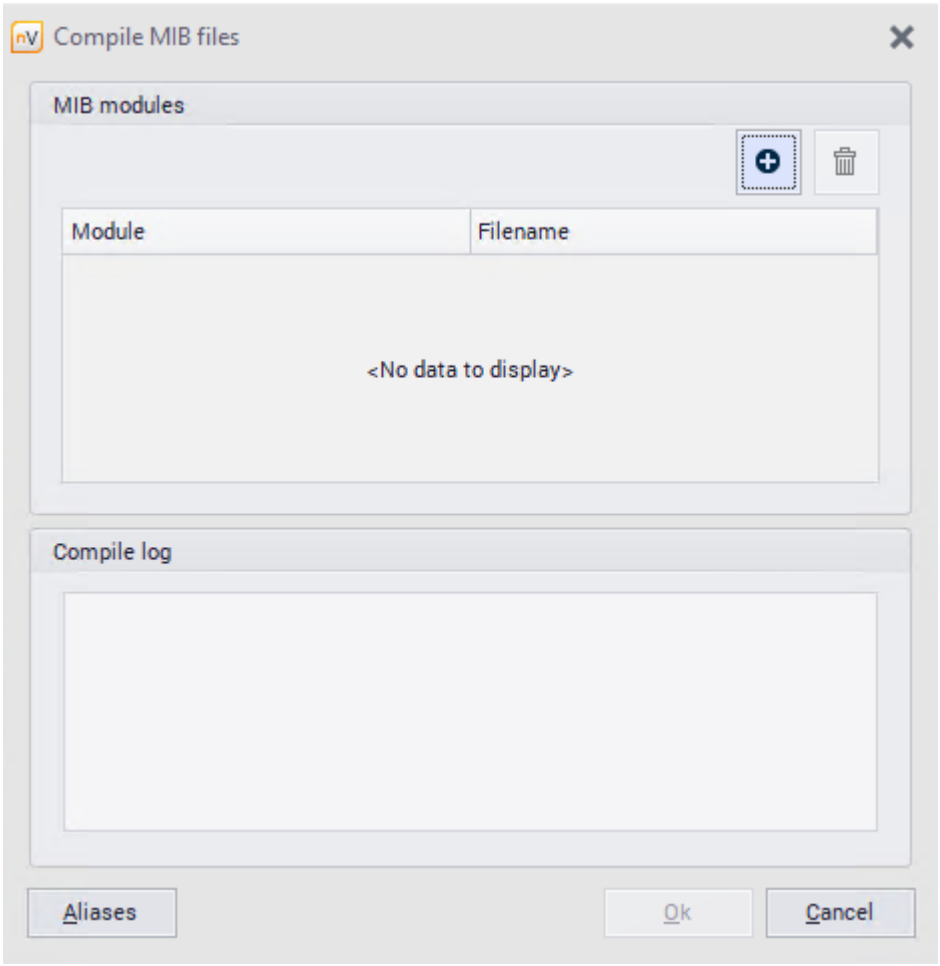
MIB compiler enables you to add new, remove and compile MIB files, which facilitates gathering SNMP information from all network devices: switches, routers, printers, VoIP devices etc. The program can now effectively monitor thousands of different SNMP devices.

To use MIB compiler:

- Select **MIB compiler** from the **Tools** tab on the ribbon. A MIB compiler window will open.



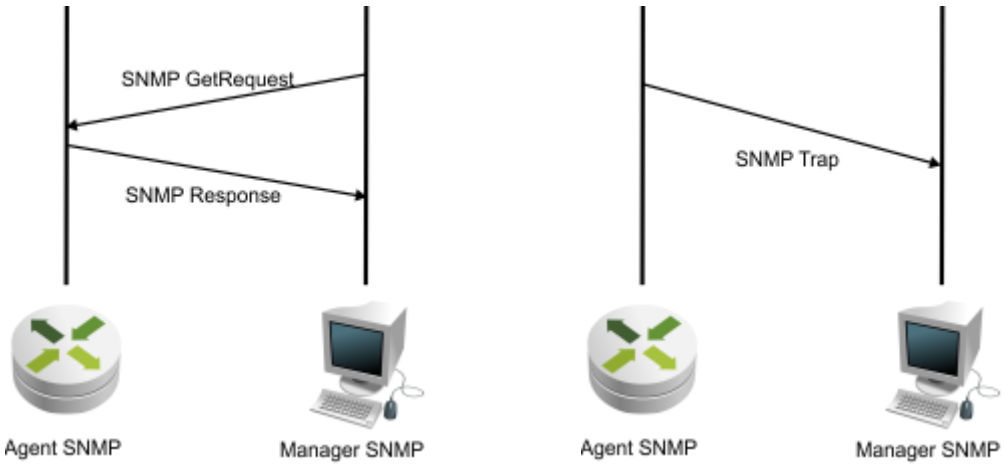
1. If you want to add a new file, click the add button.
2. Add a MIB module by clicking the add button and selecting a file from its localization. Compile log is shown after compilation.



3. You can also define aliases in the Aliases editor (the **Atlases** button).

3.4.8 SNMP traps

The SNMP Trap allows SNMP Agents to report the change of its status to the manager, if a specified event takes place. The following diagram presents the differences between a contact established by a manager (on the left) and Trap message sent by the Agent (on the right).

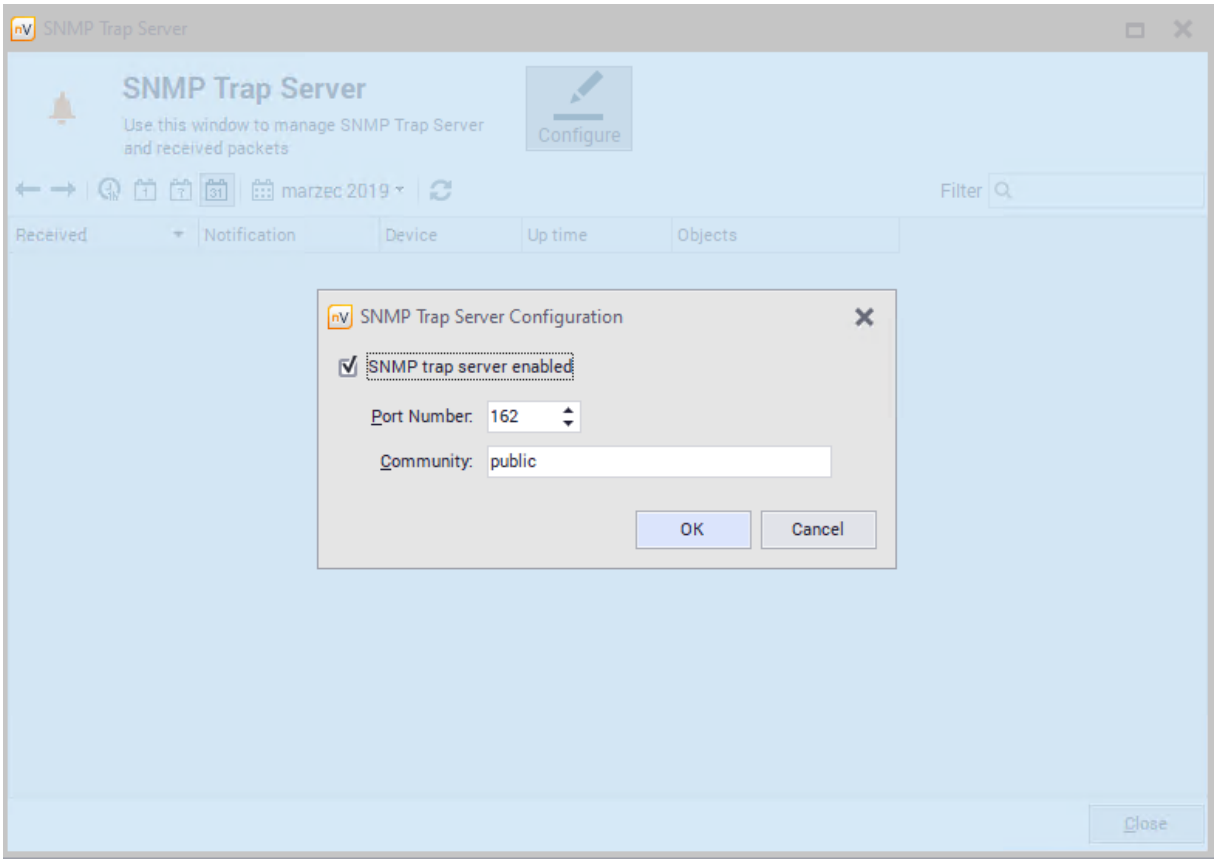


SNMP Trap Server

To manage the SNMP Trap server:

1. Select **SNMP Trap Server** from the **Tools** tab on the ribbon.
2. Traps detected by the server are displayed in the SNMP Trap Server window. You can choose the period of the displayed data (hour, day, week, month).

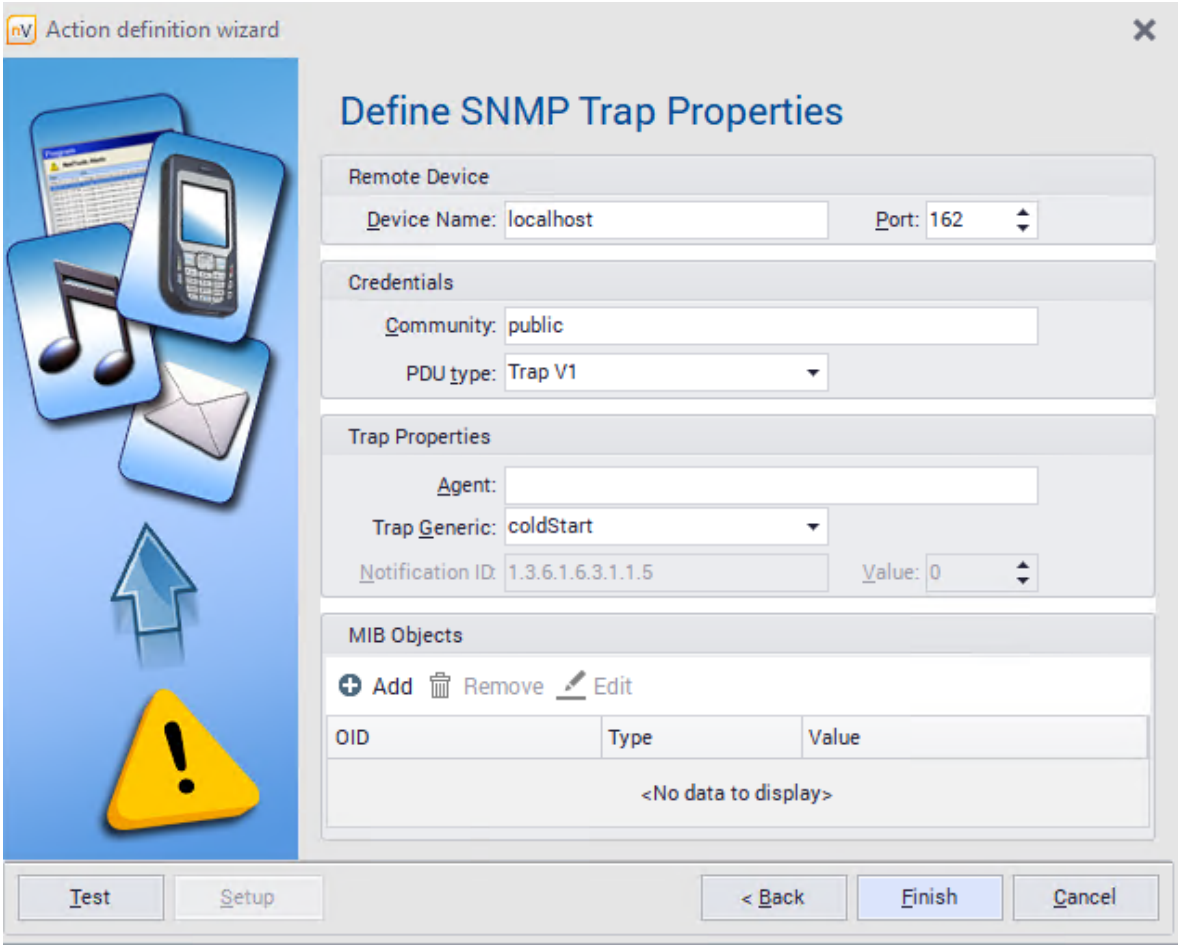
3. To configure the server, click the **Configure** button in the top part of the window.
4. Set the listening port and access policy options. Mark the **Server autostart** field, if it should be launched automatically on application startup.



SNMP Trap as action

To define the SNMP Trap as an action:

1. Select **Manage actions** from the **Tools** tab on the ribbon.
2. In the Action Definition Wizard window, enter the action name and select **Send SNMP Trap**.
3. Fill out the fields **Host name**, **Port**, **Community** and **PDU type**.



4. The **Notification ID** field is required if enterpriseSpecific is selected as **Service type**.
5. According to the specification of the SNMP Trap, it is possible to specify the SNMP Agent address if different than the address of the sending device, and MIB object with additional notification details.

Related topics

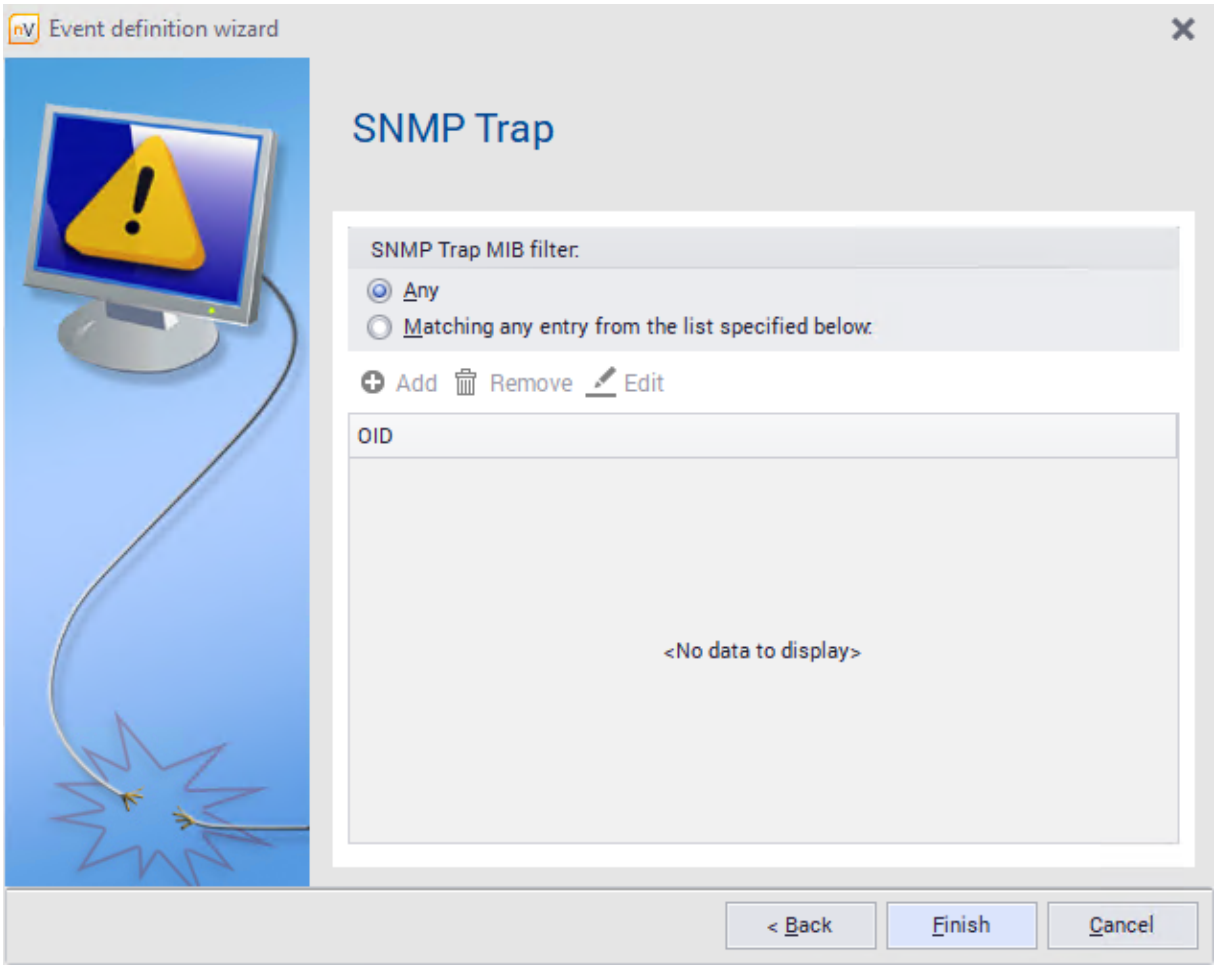
Alerting

Actions 543

SNMP Trap as event

To define the **SNMP Trap** event:

1. Select **Manage events** from the **Tools and options** tab on the ribbon.
2. Enter the event name and select the event type **Other / SNMP Trap**. Select **Next**.
3. In the Event definition wizard set the **MIB Filter**. If the second option is chosen, OIDs of MIB objects to be included in the defined event.



Related topics

Alerting

Events 529

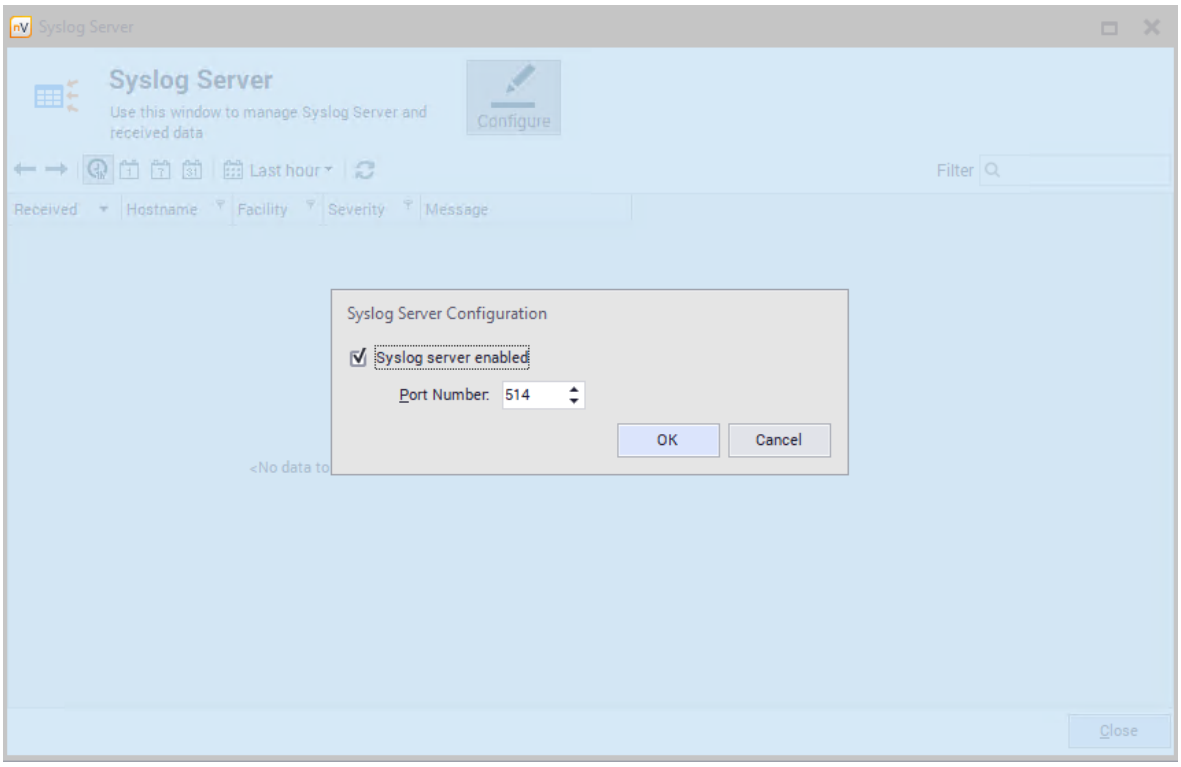
3.4.9 Syslog server

Syslog server

To manage the Syslog server:

1. Select **Syslog server** from the **Tools** tab on the ribbon.
2. Messages detected by the server are displayed in the Syslog Server window. You can choose the period of the displayed data (hour, day, week, month).
3. To configure the server, click the **Configure** button in the top part of the window.

4. Set the listening port. Mark the **Server autostart** field, if it should be launched automatically on application startup.

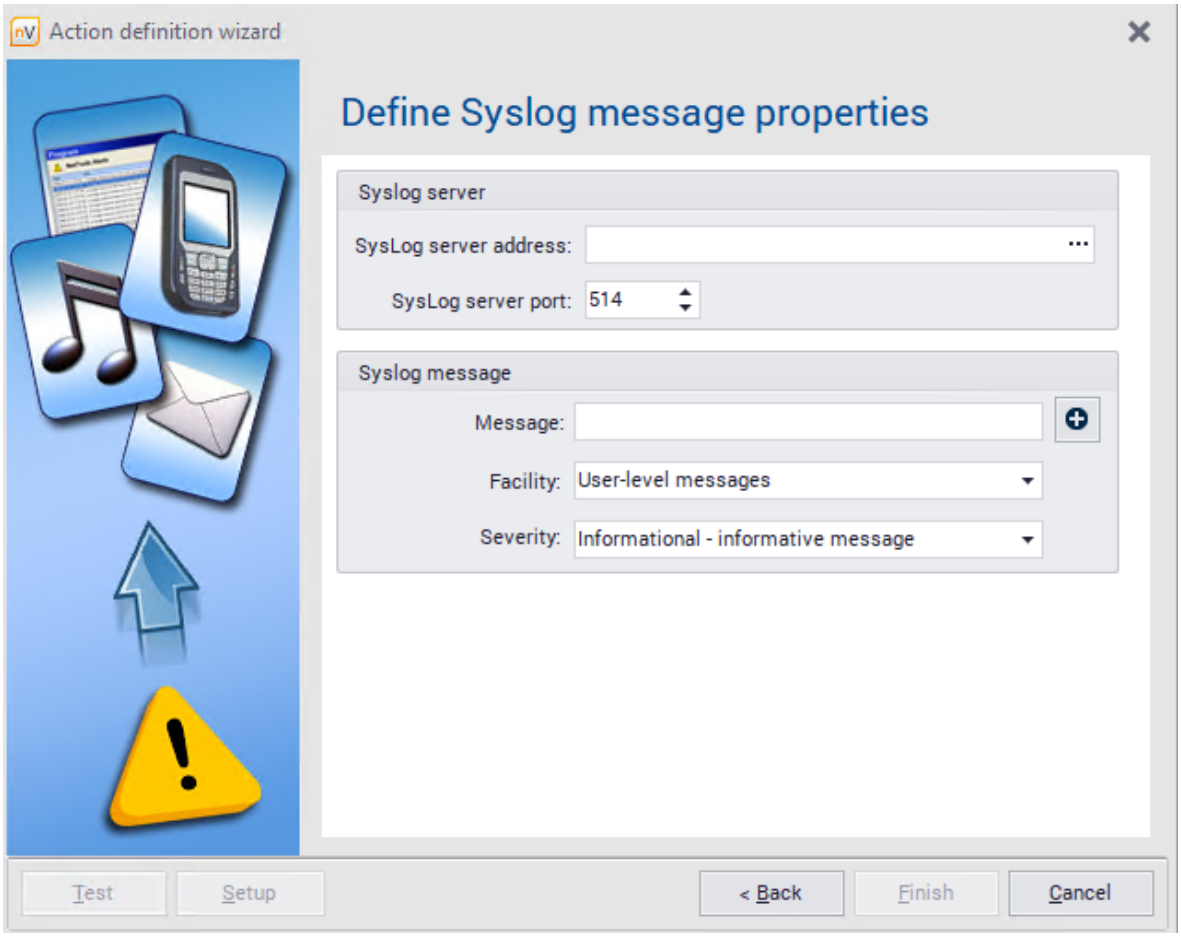


5. In the administration panel of a particular device, give the address and port of the Syslog server to which messages will be sent. It is the address of the nVision server and the port configured in 4.

SysLog message as action

To define the SysLog message as an action:

1. Select **Manage actions** from the **Tools and options** tab on the ribbon.
2. In the Action Definition Wizard window, enter the action name and select **Send SysLog message**.
3. Fill out the **Address** and **Server port** fields and the Syslog message to be sent.



Related topics

Alerting

Actions 543

SysLog message as event

To define the **SysLog message** event:

1. Select **Manage events** from the **Tools and options** tab on the ribbon.
2. Enter the event name and select the event type **Other / SysLog message**. Select **Next**.
3. In the Event definition wizard window, set the **SysLog keywords filter**. The event may consider **Any** Syslog messages or those matching to the keywords. If the second option is chosen, **Add** keywords to be included in the defined event.

Related topics

Alerting

Events 529

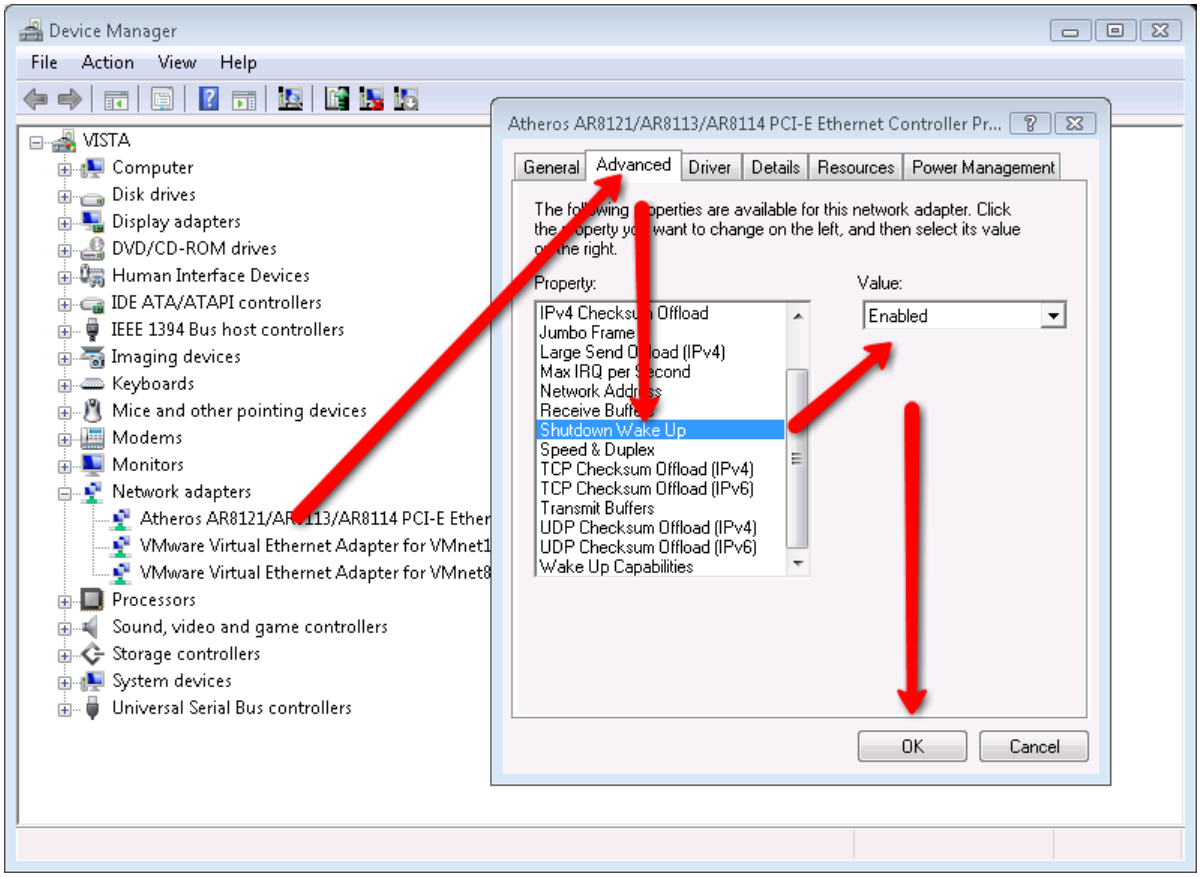
3.4.10 Wake On LAN

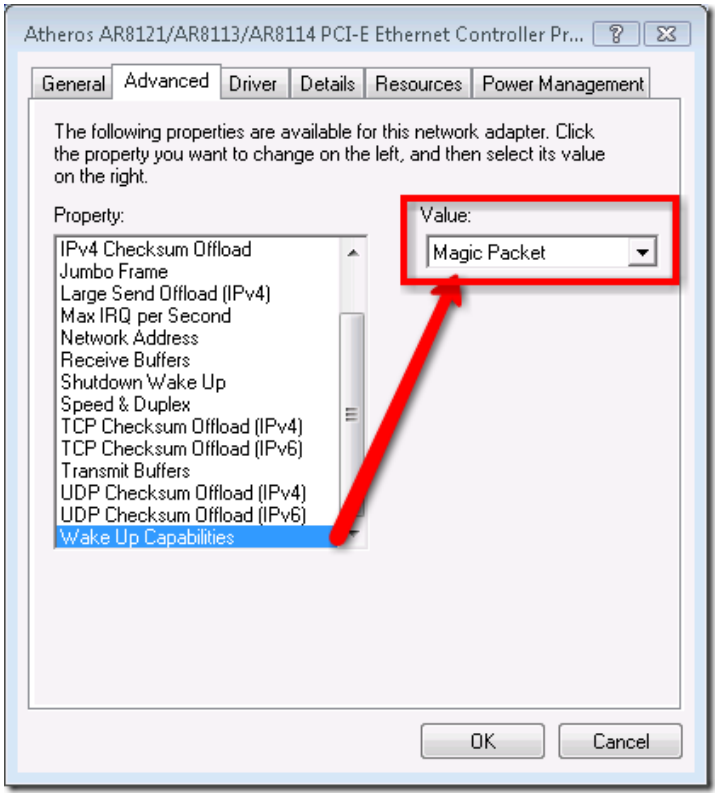
The Wake On LAN feature allows machines to be turned on remotely. It is available, if the MAC address of the machine to be turned on or woken up is known (in case of an error, the relevant message is displayed). Apart from this, the machine must be preconfigured (as described below) and, if the machine will be woken up from outside of LAN, port redirection must be set up in the router.

Configuration of the device to be woken up

The settings depend on a specific device. Examples of requirements and settings:

1. To enable Wake On LAN feature, an ATX power adapter, at least 1A, +5Vsb is necessary.
2. BIOS settings:
   in Power (Management) or Advanced tab, enable Wake On LAN – the option can have different names, e.g. Wake On LAN, MAC Resume From S3/S4, MACPME Power Up Control, Power On By Onboard LAN, Power Up By Onboard LAN, Resume by LAN, Resume By WOL, Resume on LAN, Resume on LAN/PME#, Wake on LAN from S5, Wake Up On LAN, WakeUp by Onboard LAN or WOL (PME#) From Soft-Off.
3. Network adapter settings:
   a. Navigate to the network adapter settings in Windows / Control Panel / Device Manager.
   b. Set the options in the Energy Management tab to enable the waking up of the machine (option names depend on the network adapter, e.g. “Allow the device to wake the machine from sleep mode”).
   c. Enable waking and Wake On LAN in the Advanced tab – option names can differ depending on the network adapter. Examples of settings are presented below:

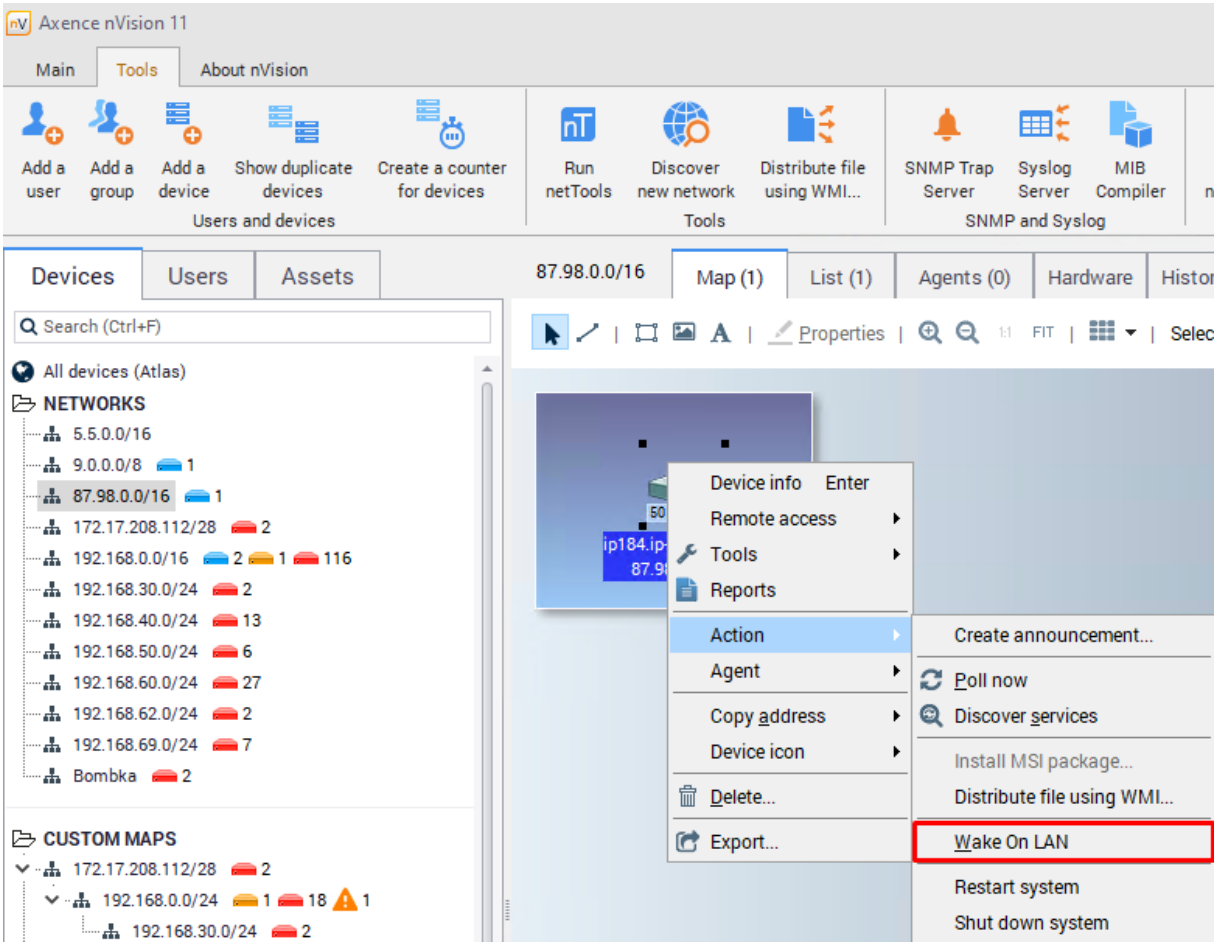




Waking up of the device

To wake up the monitored device, perform one of the following steps:

1. In the map or device view in the main nVision window, right click the device and select **Wake On LAN**.



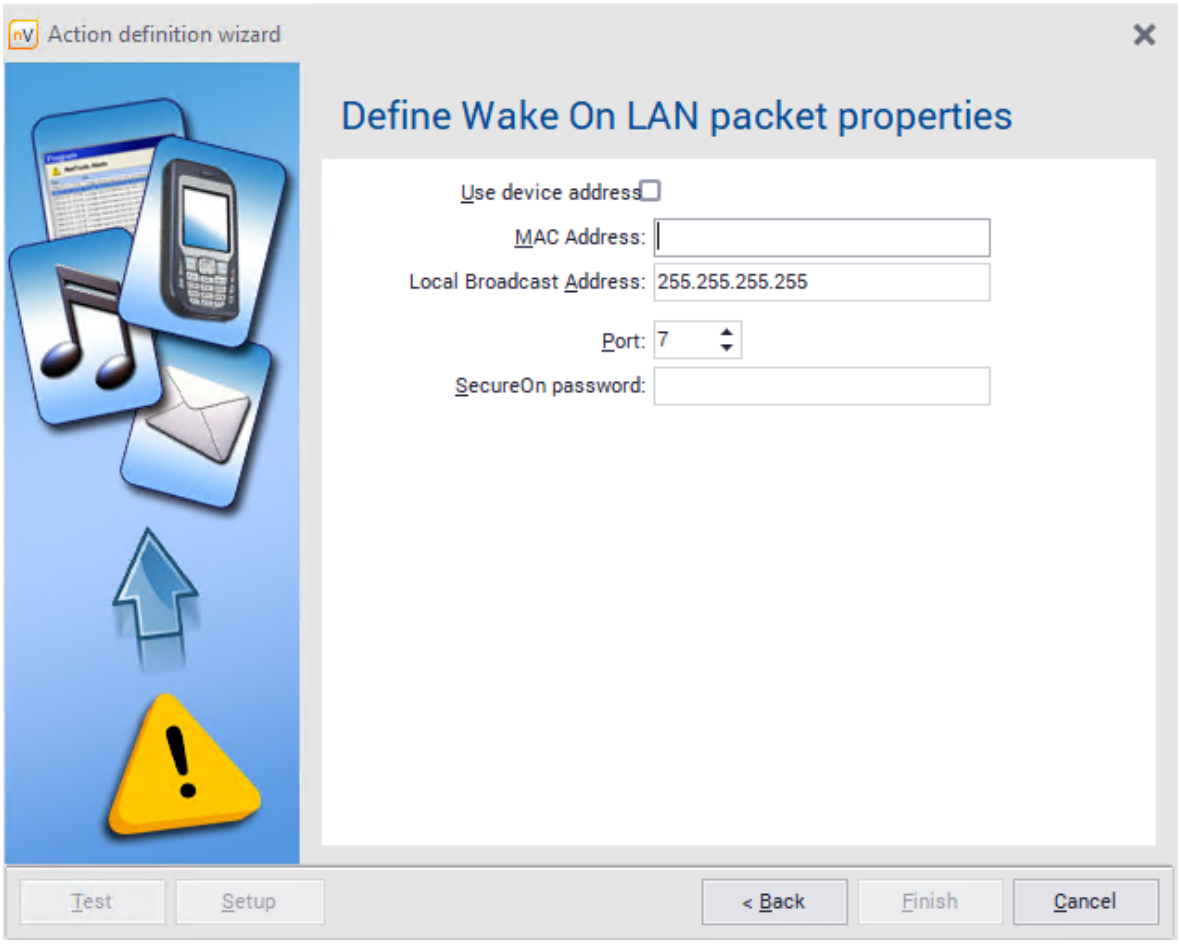
2. In the device info window, **General** tab, right click the interface where the packet should be sent to, and select **Wake On LAN**.

Wake On LAN as action

To define Wake On LAN as action:

1. Select **Manage actions** from the **Tools and options** tab on the ribbon.
2. In the Action Definition Wizard window, enter the action name and select the **Send Wake On LAN packet** type.
3. If you want to use the address of the host where the action is being defined, mark **Use host address** field and go to item 5. Otherwise, it is necessary to define the host (item 4).

4. Specify the MAC address of the device and one of the following target addresses for the Wake On LAN packet:
   a. broadcast address: 255.255.255.255 (if the device is within the same LAN),
   b. broadcast address of the subnet (if the device is in another LAN – e.g. 192.168.0.255 for subnet 192.168.0.1 with mask 255.255.255.0),
   c. IP address of the router configured for packet redirection (if the device is located outside of LAN).
5. It is not necessary to specify SecureOn password; however, some network adapters may require it. The password format is six bytes in hexadecimal notation: AA:BB:CC:DD:EE:FF.



Part

4 Atlases, maps and hosts

4.1 Introduction

Atlas

The atlas is a set of maps holding monitored hosts along with defined alerts, events, visualization styles etc.

Atlas tree

The atlas tree lists all available maps. There are several map types, described in detail in the Map types 89 topic. The atlas tree is designed to allow you to select the map, which is presented on the right side of the window, and set map properties, etc. You can change the order of maps in the tree (refer to the Managing Maps 91 topic for more information).

Maps

The map is a graphical representation of your network or a part of it. It holds the hosts for visualization. There are several types of maps. For more information please refer to the Map types 89 topic.

Styles

All map objects (except text) use the style mechanism. Style determines how the object is presented. For example it defines colors, fonts, frames, etc. To change the object appearance you have to select its style while defining object properties. For more information about styles, refer to Styles 101 and Maps 89 topics.

Hosts

A host is a representation of any physical device present in your network. It can have several IPs and nVision can monitor all services running on this host on any of its addresses. It means that multi-IP hosts like routers or web servers can be represented in nVision as one icon (object) and all of its interfaces, addresses and services will be monitored.

4.2 Host info window

To see host info, double-click the host icon or select **Host info** from its context menu.

General

The tab presents:

- basic information about the host being monitored: host name, importance, department, type,
- the **Monitor if this host is up:** field allows setting the “parent” host (a host will not be monitored and alerts will not be raised if the “parent” host is down),
- additional information in **info 1 / info 2** fields: downloaded by the Agent from the description of the machine and domain being monitored,
- additional fields for notes,
- list of all addresses and interfaces available on a given machine.

Performance

Services

nVision can monitor ICMP, TCP and UDP services. You can see all monitored services listed in the grid available in the Services tab. The information about response time and requests sent/received is presented for each service. After you select one or more services, you will see the chart showing response time and % of requests/packets lost (only if one service is selected). You can see historical data in several time periods (e.g. the last 15 minutes, 1 hour, 1 day, 1 week, 1 month and a whole year). To select the appropriate period, just select the corresponding icon on the chart toolbar. To scroll the chart backward and forward, use the arrow icons located on the chart toolbar. For more information about services refer to the Monitoring services 60 chapter.

Performance counters

nVision can monitor several types of performance counters (for the complete list of available counters refer to the Counter types 65 topic). You can see all monitored counters listed in the grid available in the **Performance counters** tab. The information about last and minimum/maximum/average value is presented for each counter (except the Host status counter which does not have min/max/avg values). After you select a counter, you will see the chart showing its value. You can see historical data in several time periods (e.g. the last 15 minutes, 1 hour, 1 day, 1 week, 1 month and a whole year). To scroll the chart backward and forward, use the arrow icons located on the chart toolbar. For information about counters refer to the Monitoring performance 64 chapter.

Bandwidth usage

This tab shows the bandwidth usage by processes that are grouped according to the settings in the nVision's options 43. To monitor the bandwidth usage, it is necessary to install an Agent and enable this option in the Agent settings 117.

Inventory

Hardware

This tab contains the information about hardware configuration of the machine monitored by the Agent, a list of connected devices and the history of connections and file operations 318 on external data media.

Software

This tab shows a list of all applications installed on computers. For more information, see the Hardware and software inventory topic.

Fixed assets

This tab shows a list of assets for a given host. It also allows detected events to be managed. For more information, see the Fixed assets topic.

User files

Shows a list of files in the specified format scanned by the Agent according to the settings in the Agent profile 117.

File manager

Allows data to be transferred between the local computer (nVision server) and the workstation being managed.

History

This tab shows the history of changes in hardware configuration and programs installed on the host. It also displays the information about IP address from which the Agent has connected to the nVision server. If this is a public address, you can double-click the row to open a new browser window with the web page that presents the estimated address geolocation.

SNMP

SNMP browser

If the host is SNMP manageable, you will see a SNMP tab with a SNMP browser. In order for the data to be read, configure the SNMP community data after clicking the **Configure credentials** link on this tab.

Port mapper

The port mapper tab shows a list of all devices connected to the switch port. It is available only when nVision is able to read the appropriate SNMP information 71 from the host (which is available mostly on switches).

SNMP traps

The SNMP Traps tab presents the list of all generated SNMP traps 74.

Windows

System information

Information about the operating system collected in the Inventory module.

Windows services

Shows a list of Windows services monitored on a given host 64.
In order to monitor by WMI, you have to properly configure credentials in the host properties window. Also WMI has to be enabled on the remote host. Please refer to Requirements and configuration 27 topic for more information.

To monitor Windows services without opening remote access to WMI, install Agents 113.

Windows event log

Shows a list of events saved in the Windows Log, monitored according to the specific criteria on a given host.
In order to monitor by WMI, you have to properly configure credentials in the host properties window. Also WMI has to be enabled on the remote host. For more information refer to the Requirements and configuration 27 topic. To monitor Windows services without opening remote access to WMI, install Agents.

Processes

Shows a list of processes currently running on a given host.

Remote commands execution

Allows a command line to be run remotely on the host. This function can apply to several machines at the same time.

Events

Event log

This is a list of all raised alerts on the host along with the action execution log for every alert. You can view alerts sorted by several fields and also filter them to see only alerts that are interesting to you. Click the **Configure device alerts** link to create individual alerts 524.

Syslog

The Syslog tab presents the list of all generated Syslog messages 77.

4.3 Maps

4.3.1 Overview

The map is a graphical representation of your network or a part of it. The map can contain icons, links between them and three types of static objects available for your convenience: shape, picture and text. The full list of map objects is described in the Map objects 90 topic.

There are three map types: network, routing and custom - described in the Map types 89 topic.

Styles

All map objects (except text) use the style mechanism. Style determines how the object is presented. For example it defines colors, fonts, frames, etc. To change the object appearance you have to select its style while defining object properties.

All new objects are created with default style. Default style means that the object will use the default map style. The default map style can be set to any specific style or to atlas default style. Atlas always has a default style selected. When you start the program for the first time, all objects will use those atlas default styles. You can adjust styles later. To read more about styles, refer to the Managing styles 103 topic.

4.3.2 Map types

There are three map types in nVision. This topic describes each of them and discusses their characteristics.

Map type	Description	Allowed operations
Network	The map created by the program as a representation of the discovered IP network.	• Renaming is allowed, but even when renamed, the map still represents the same network.

Map type	Description	Allowed operations
	nVision can periodically rescan such network and add new hosts.	• Delete – when the network map is deleted it also deletes all hosts belonging to this network. • All other operations are allowed without limitations.
Custom	This is map created by the user. It can consist of any hosts copied or moved from any other map.	• All operations are allowed without limitations.
Smart map 106	A smart map groups devices, which meet the specified conditions at a given moment. Smart maps are based on user-defined filters – **the map is generated dynamically**.	• You can change the map name, but even after such a change the map shows the same network. • You cannot remove or arrange device icons. What happens at each stage?

4.3.3 Map objects

The map can contain icons, links between them and three types of static objects available for your convenience: shape, picture and text. Here is a full list of map objects:

Map objects	Description
Icons	Hosts are represented by icons. The icon represents the status of the host - refer to the topic Host visualization 98 for more information about host visualization.
Link	Icons can be linked together to show logical or physical connections between hosts.
Shape	Background object used to group icons.
Picture	Similar to the shape, but a specific image file is used as content.
Text	Text which you can place anywhere on the map.

Object precedence

Objects on the map have a precedence. It means that some objects are always painted over others. For example, icons are always painted over any other object type. However, you can change the precedence of objects of one type. You can bring objects to the front or send them to the back which changes the way the overlapping objects are painted.

4.3.4 Managing maps

This topic discusses all aspects related to managing maps.

Creating new map

1. In the Atlas tree, select the map or folder under which you want to create a new map. You can select Custom group.
2. Select **New / Map** from the context menu.

Note

- New maps can be created only in the Custom maps group.

Editing map properties

1. Select the map.
2. Select **Properties** from the context menu.
3. Set map properties according to the description in the table below.
4. You can also open the alert management window for this map - just click on the link under the **Alerting policy** label available at the bottom of the window.

Property	Description
Name	Map name
Network	This is the network which is visualized by the network map (look at Map types 89 topic to see what is network map). This is a read-only field.
Default map styles – determine how maps and hosts will be visualized. Refer to the Styles 101 topic for more information about styles.	
Host visualization	Default icon visualization style.
Shape style	Default shape style.
Line style	Default line style.

Removing the map

1. Select the map.
2. Select **Remove** from the context menu.

4.3.5 Working with maps

This topic describes all tools required to work with a map.

Tools

The tools are available on the map toolbar located usually at the left side of the map window (the map toolbar may be moved to any map edge). The tools allow you to select objects on the map, link icons and create background objects like shapes, pictures and texts.

Tool – selection

Selection is the default tool. It allows you to select objects on a map, drag them, arrange them and perform specific actions like opening the host status window or properties window.

To use the selection tool, click the  icon in the map toolbar. This tool will be active until you select any other tool.

Tool – linking icons

The linking icons tool allows you to link icons together – i.e. draw graphical connections between host icons on the map.

1. To use the linking icons tool, click the  icon in the map toolbar. This tool will be active until you select any other tool.
2. To link two icons, just click them in succession, i.e.:
   - Click one of the icons you want to link. The link line will appear indicating that now you have to click the next icon to link.
   - Click the next icon. The link will be created between those two icons.
3. Now, you can repeat steps 2-3 to link another icon pair.

Tool – creating shapes

This tool allows creating different shapes on the map (background graphical objects – rectangles, ellipses, etc.).

1. Click the  tool icon in the map toolbar. This tool will be active until you create a shape. Then the active tool will change back to selection.
2. Click and hold the left mouse button in the place where you want to have the top-left corner of the shape and drag the cursor to the place where the bottom-right corner should be. Release the button.

Tool – creating pictures

This tool allows creating pictures on the map. After creating a picture, you have to set it up by selecting the graphics file to be shown.

1. Click the  tool icon in the map toolbar. This tool will be active until you create a picture. Then the active tool will change back to selection.

2. Click and hold the left mouse button in the place where you want to have the picture's top-left corner and drag the cursor to the place where bottom-right corner should be. Release the button.
3. The picture properties window will show. You have to select the image file now and set options 95 to properly create the picture.

Tool – creating texts

This tool allows creating texts on the map. After creating a text, you have to set it up by selecting the font and entering the text to be shown.

1. Click the A tool icon in the map toolbar. This tool will be active until you create a text. Then the active tool will change back to selection.
2. Click the place where you want to have the text.
3. The text properties window will show. You have to enter the text now and set options 95 to properly create the text.

Working with map objects

Copying objects to other map

1. Select the object or objects.
2. Select **Copy To...** from the context menu.
   The map selection window will open.
3. Select the map to which the selected object(s) will be copied.

Deleting objects

1. Select the object or objects.
2. Select **Delete** from the context menu.

Changing the order of objects (bring to front / send back)

You can change the order of objects of the same type – the way they are painted and how they overlap. The precedence of different type objects is fixed (refer to the Map objects 90 topic for more information).

- To show the object above any other object, select **Position / Bring to front** from the object context menu.
- To put the object under all other objects, select **Position / Send back** from the object context menu.

Other operations

Automatic map arrangement

There are two ways to arrange your map automatically: using the map arrangement function and using the map layout assistant.

Arrange all

This function is best for a network or custom map, especially if hosts are not linked together. It just places icons in several rows.

1. Click the  icon located in the map toolbar and select **Arrange all** from the menu.
2. Select how you would like to arrange the map and click OK.

By selecting **Connections from port mapper** option, the icons will be linked automatically with switches they are connected with (in order to enable this function, the monitoring switch ports 71 must be enabled at switch icon's properties).

Arrange linked hosts

To arrange a routing map (or any other map where all hosts are linked) properly, the icons may not be just placed in rows since such arrangement will produce unreadable map with all icon links crossing each other. Thus, you need to use the Arrange linked hosts option, which will arrange the whole map to avoid crossings and make the whole map readable as much as possible.

1. Click the arrow at the  icon located in the map toolbar and select **Arrange linked hosts** from the menu.
2. The option will be turned on and arranging the map will begin. You can interact with the arrangement process to adjust it to your needs. You can move icons and add/remove links between them.

Zoom – changing a map scale

You can adjust the scale in which the map is presented. The default scale is 100% and you can set this scale anytime by the clicking **1:1** icon.

Zoom in

To enlarge the map, click the  icon.

Zoom out

To reduce the map, click the  icon.

Zoom to fit

To have the map scale adjusted automatically so it adapts to the map size, click the **FIT** icon. nVision will try to show the whole map at the biggest possible scale.

Locking the map

If the map arrangement is finished and you want to make sure that something will not be changed by mistake, you can lock the map by clicking the **Edit map** switch in the upper right corner of the window. Objects cannot be moved or resized on the locked map, but you can still edit host properties.

4.3.6 Static map objects – properties

This topic discusses modifying static map object properties. For more information about map objects refer to the Map objects 90 topic and for the information about creating objects refer to Working with the map topic.

Link

Icons can be linked together to show logical or physical connections between hosts.

1. Double-click the link or select **Properties** from its context menu.
2. Set the properties according to the description in the table below.

Property	Description
Caption	The caption to be shown over the link line.
Style	The style with which the link will be painted. Refer to Styles 101 topic for more information about styles.

Shape

Background object used to group icons.

1. Double-click the shape or select **Properties** from its context menu.
2. Set the properties according to the description in the table below.

Property	Description
Text	The text to be shown on the shape.
Style	The style with which the shape will be painted. Refer to Styles 101 topic for more information about styles.

Picture

Similar to the shape, but a specific image file is used as content.

1. Double-click the picture or select **Properties** from its context menu.
2. Set the properties according to the description in the table below.

Property	Description
File name	The image file name. Enter it or select by clicking the ... icon.
Show	Determines the way the picture is sized:

Property	Description
	• Normal – no image sizing, but when you try to down-size it, only a part of the image will be shown (if the image is bigger than the picture size it will be clipped). • Stretch – the image will be sized to match the size of the picture object. • Tile – the image will be tiled to fill the picture object rectangle.
Actual size (1:1)	Image fully shown with no sizing available.
Keep aspect ratio	When sizing, keep image aspect ratio (proportions) unchanged.
Transparent	If the image has any transparency layer - use it.
Opacity	Sets the opacity of the image.

Text

Text which you can place anywhere on the map.

1. Double-click the text or select **Properties** from its context menu.
2. Set the properties according to the description in the table below.

Property	Description
Text	The text on the map.
Font name	Font of the text.
Size	Font size.
Font color	Color of the text.
Angle	Angle of the text.
Shadow	The text shadow.

Background

1. Select **Background** from the map context menu.
2. Select the background type and set its properties according to the description in the table below.

Property	Description
Gradient	Select beginning and ending colors and a direction of filling.
Solid color	Select a color.
Map	Select the map to be shown as a background.
Texture	Select the texture.
Picture	Enter the image file name or select by clicking the ... icon. Set the show mode: • Normal – image shown in the top-left corner. • Center – image centered on the map. • Stretch – the image will be sized to match the size of the map. • Tile – the image will be tiled to fill the map.

4.4 Hosts

4.4.1 Overview

Hosts are visualized on the maps as icons. The same host can be shown as an icon on an unlimited number of maps.

Host properties and info

There are two main windows related to the host: host properties and host info. You can setup the host properties, monitoring and alerting options with host properties window. The host info window presents all the information gathered by the monitor. You will see SNMP information (for SNMP manageable hosts), services and counters performance information, and charts.

Finding the device

You can easily find the device with the search engine located on the main toolbar in the right hand section of the main nVision window and in the **Device Information** window. A list of properties which are taken into account during searching can be found below:

- Name
- IP, DNS, and MAC addresses of each interface
- Info1 and Info2.

When you keep entering characters in the search box, the results that contain the entered string are filtered out.

To find a device where at least one of the above fields contains:

- a string ending with the entered characters – should finish with a | ,
  e.g.:
  54|
- a string starting with the entered characters – should be preceded with a | ,
  e.g.:
  |AABBCC
- the exactly the entered string – should start and finish with a |,
  e.g.:
  |office-pc|.

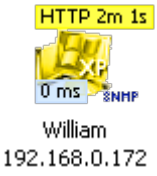
Important: DNS identification is turned on only if IP - DNS lookup gives the same result in both directions.

4.4.2 Host visualization

There is a wealth of information regarding the host status presented along with the host icon. That information helps to quickly check the whole network status and find problematic hosts.

Sample host icon

The host icon presents a wide range of information right on the map – displayed in these examples:



- Host type Windows XP
- Leading service (usually PING) response time is 10ms
- Host status <Warning> (yellow icon) because service HTTP has been down for 4min 1s
- This is SNMP manageable host

- Host type Linux server
- Host status <Down> (red icon) since 1 day 2h
- There are 3 currently open (unresolved) alerts.

Visualization options

The following table lists all possible information that can be presented graphically along with the host icon.

Name		Description
Icon with a caption, host status: Up		The base form of the icon. It shows the type of the host and the name or address of the host in the caption.
Host status: Down		The icon is colorized in red and the duration of the down status is written at the top of the icon. For more information about host status refer to Events 529 topic.
Host status: Warning		The icon is colorized in yellow. It means that at least one service does not respond or a warning alert was raised on the host. For more information about host status refer to Events 529 topic.
Host status: Archived		The icon is greyed out. It means that the given device Agent data were archived. For more information, see Agent Archiving 116 chapter.
Non responding service(s)		The name of the problematic service with the duration of the problem is written on the icon.
Response time of selected service		Last or average response time of the selected service is placed at the bottom of the icon. Usually it shows the average PING response time. Its background changes its color according to the service performance.
Alerts		This icon, located at the right side of the host icon, indicates non acknowledged alerts raised on the host.
SNMP manageability		This icon, located at the right side of the host icon, indicates that the host is SNMP manageable.
Performance chart		You can see up to 6 performance bars that show service response times or any counter.

4.4.3 Managing hosts

This topic discusses various aspects of managing the host and its services.

Setting host properties

1. Select **Host info** from icon context menu.
2. Set host properties according to the description available in the Host properties 86 topic.

Adding a host

1. Select **Add host** from the **Tools** tab on the ribbon.
2. Enter the host DNS name or IP address and the mask.
3. You can also setup host type and importance options.

Deleting a host icon

1. Select **Delete** from the icon context menu.
2. Confirm delete. When deleting the last host icon in the specific host, the whole host will be removed along with all its data. So you can safely remove icons from custom maps, even if icons of those same hosts are still located on other network maps.

Displaying host info window

1. Select **Host info** from the icon context menu or double-click the icon.
2. View the host info window – the description of the information presented in this window is located in the Host info window 86 topic.
3. You can leave this window on the desktop and still work with the program. The information presented in the window will be automatically refreshed to reflect changes and the host status.
4. You can open an unlimited number of host info windows.

Managing host services & counters

Managing services

For information about services refer to the Monitoring services 60 chapter.

Managing performance counters

For information about counters refer to the Monitoring device and system performance 64 chapter.

4.5 Styles

4.5.1 Overview

Styles define the map visualization. This topic discusses default styles and setting styles for specific objects. To read about creating and editing styles, refer to the Managing styles 103 topic.

Default styles

Atlas default styles

Atlas default styles are defined in the Atlas properties. Those styles define the default styles, which are used by all new and existing objects that have their style defined to <default> (however, the map holding those objects can override Atlas styles). When a map is created, its styles and styles of all objects it contains are set to <default>, thus the atlas styles will be applied. Of course, when you change Atlas default styles, it changes the appearance of such maps and objects.

To change the default Atlas styles, do it in the Atlas properties window.

Map default styles

A map has its own default styles, similar to the Atlas's. With those styles you can override global styles to more specific ones. You can also use <default> as the map default style. Then the style defined in the Atlas properties will be used.

The <default> style in that case means that the map is using the style defined in the Atlas properties. You can consider it as a reference to the Atlas style. Therefore, the <default> style cannot be edited or deleted, because it is only a reference.

Map object styles

Host visualization style

With host visualization style you define how the host is presented on the map. You can decide which information is displayed along with the icon: down time, information about non-responding services, last response time, SNMP and alert indicators, etc.

Shape style

Shape style fully defines the appearance of the shape (background map object): frame, colors, etc.

Link style

Link style defines graphical properties of links between icons.

4.5.2 Defining styles

This topic describes the properties of different style types. For information about creating, editing and removing styles, refer to the Managing styles 103 topic.

Host visualization style

With host visualization style you define how the host is presented on the map. Here is the list of this style properties with the description.

Property	Description
Name	Name of the style.
When changing state blink for	The duration of icon blinking after a host status change. Blinking helps to easily locate the hosts that changed status.
Icon Caption	Defines the text of the icon caption.
Transparent caption	The icon caption will be transparent if this option is checked.
Host and services down time	If checked then in case of host down you will see the duration of down time. If the host is up, but some services are not responding, you will see the information about down services with the duration of down time.
Leading service response time	This property defines if the specific service last response time should be shown in the icon.
SNMP manageability	If the host is SNMP manageable the SNMP icon will be shown at the bottom-right side.
Alert warning	If the host has unacknowledged alerts, the  icon along with the number of open alerts will be shown at the right side.
Agent installed	If the Agent is installed on the host, the  icon will be shown at the right side.

Shape style

Shape style fully defines the appearance of the shape (background map object): frame, colors, etc.

Property	Description
Style name	Name of the style.
Shape type	Type of the shape. Currently there are 4 types available: rectangle, rounded rectangle, ellipse and star.

Property	Description
Font name	The font name of the shape caption.
Font color and size	Color and size of the caption font.
Background	• Solid – shape background is painted with the selected color. • Gradient – paints gradient background with the defined colors and direction.
Frame	• Color – frame color. • Size - width of the frame.
Opacity	Defines transparency of the shape.
Shadow	Defines the size of the shadow.

Line style

Line style defines graphical properties of links between icons.

Property	Description
Style name	Name of the style.
Thickness	Width of the link line.
Color	Line color.
Type	• Simple – straight line. • Polyline – broken line.
Font name	Name of the font.
Font size and color	Size and color of the font.
Show caption on line	If marked, caption is shown on the line.

4.5.3 Managing styles

All map objects (except text) use the style mechanism. Style determines how the object is presented. For example, it defines colors, fonts, frames, etc. To change the object appearance, you have to select its style while defining object properties.

Style management window

1. Select **Manage styles** from the **Tools** tab on the ribbon.
2. Select the style type to manage (i.e. host, shape or link) in the navigation bar located on the right side of the window.

Creating new style

1. Open the style management window.
2. Click the  icon.
3. Define the style according to the information available in the Defining styles topic.

Editing the style

1. Open the style management window.
2. Select the style to edit and click the  icon.
3. Change the style properties according to the information available in the Defining styles topic.

Removing styles

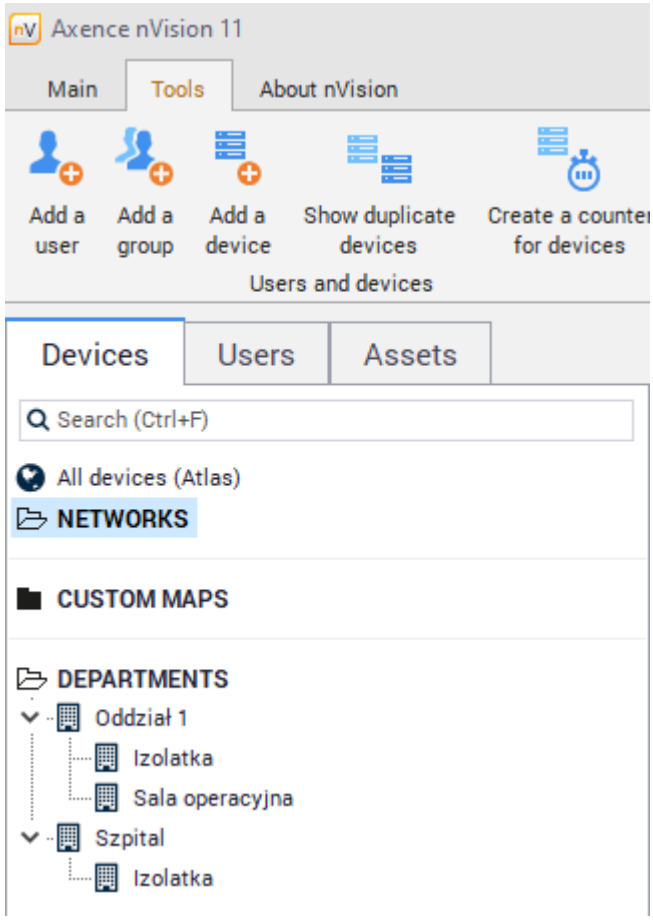
1. Open the style management window.
2. Select the style to edit and click the  icon.

4.6 Departments

4.6.1 Overview

Departments allow the reflection of the real structure of a monitored computer group in nVision. Therefore, it allows for easier browsing, management and the creation of reports related to selected devices.

The department list is displayed in the left part of the application window, below the networks and user maps. It has a hierarchical structure, which allows the relationship of the dependency of organizational units (parent/subsidiary department) to be represented. An example hierarchy is presented in the image below.



Related topics

Creating a department structure 105

Adding devices to departments

Reports 106

SmartMaps 106

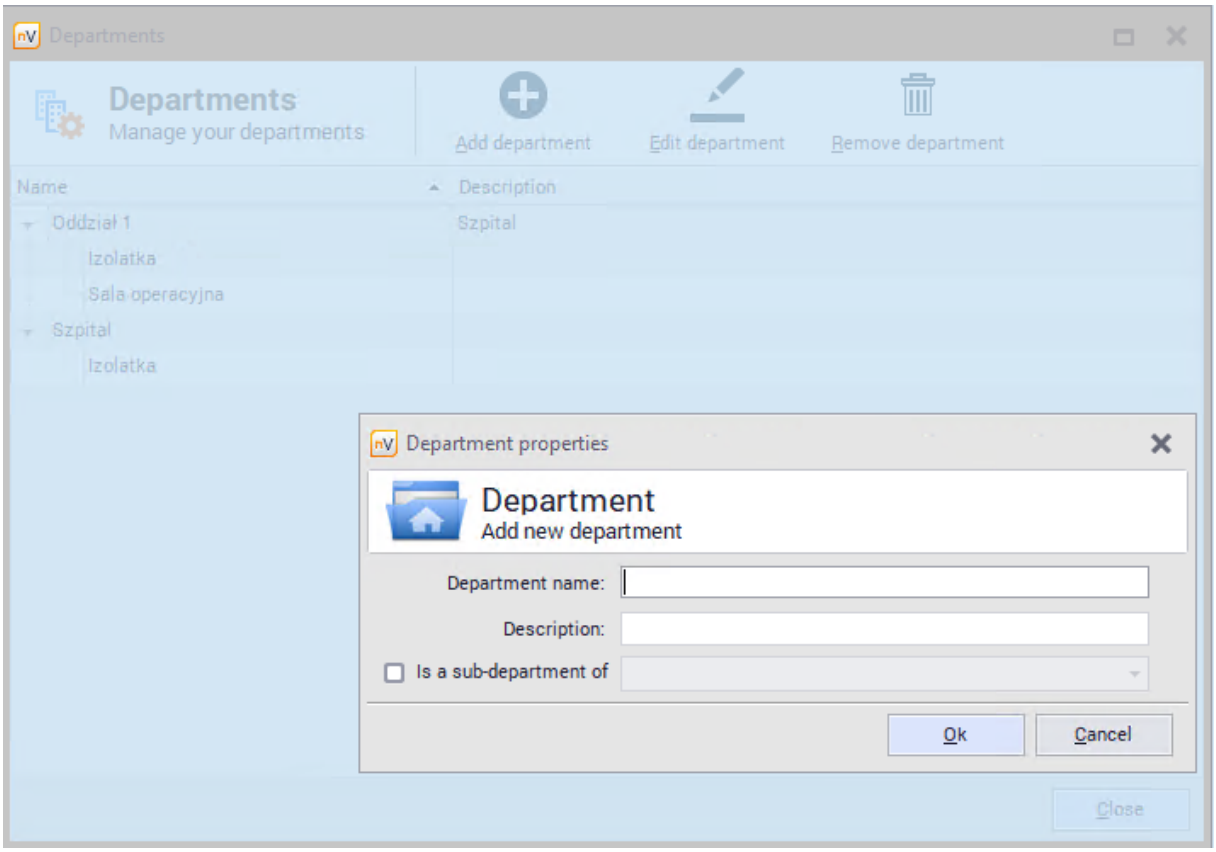
4.6.2 Creating a department structure

When creating the department hierarchy, start from the most general units and go towards the lowest sub-departments in the hierarchy. Branches enable to graphically determine the relationships only. In terms of operation, they are “at the same level”. Such a procedure will facilitate the creation process, as it will not be necessary to go back to sub-department properties to supplement information.

To create a department structure:

Select the **Manage departments** option from the **Tools** tab. The department window will open, displaying all the departments defined for the atlas.

1. To create a new department, click the **Add department** button. In the department property dialog, enter the name of the created department and an optional description. If it is a sub-department, mark an appropriate field and select a parent department.



2. Confirm the entered changes and the created department will appear in the list. Repeat the above procedure, until all departments are created.

3. If it is necessary to make corrections, click the **Edit department** button.

4.6.3 Adding devices to departments

To put a device into a previously created department:

1. Navigate to the **Device info** window, **General** tab.
2. Expand the menu at the **Department** field and select a department from the list. Click **OK** and close the window.

4.6.4 Reports

It is possible to generate reports for selected departments. To create such a report, right click the department for which the report will be created, and select the **Reports** option. You can also select the specific departments directly in the report generation window.

To learn more about the report creation, see Reports 492 section.

4.7 SmartMaps

4.7.1 Overview

Smart maps differ from the traditional ones due to their dynamic operation. Smart maps include devices which meet the specified conditions at the given moment. It is possible to set the refresh frequency for the map and for the set of conditions (i.e. filter) to be checked.

The operation of smart maps is based on user-defined filters. To enable the proper operation of the smart map, associate it with an appropriate filter.

Related topics

Filters 107

Creating a filter

Creating a SmartMap

Departments 104

4.7.2 Filters

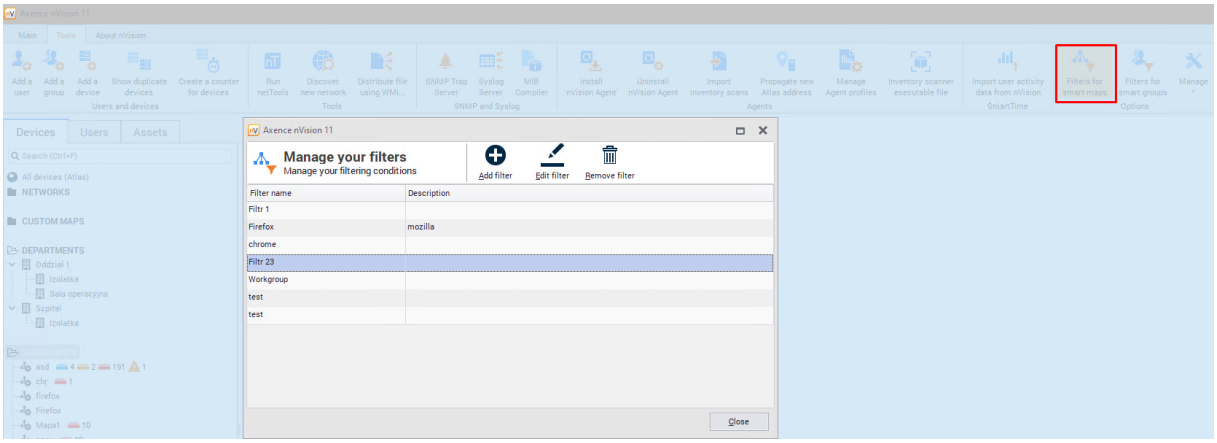
The following table presents the conditions, which can be used for filter creation:

Group	Conditions
Host properties	• Name • Info1/Info2 • Device type • Server / Router • Importance • Status
Monitoring services	• Service installed (e.g. SMTP) • Working/not working
Monitoring counters	• Counter installed (e.g. CPU)
Alerts	• Open alerts exist
Agents	• Agent installed • Agent working/not working • Agent version is outdated
Departments	• Department name • Device without assigned department
Software inventory	• Installed application exists • The given application is not installed

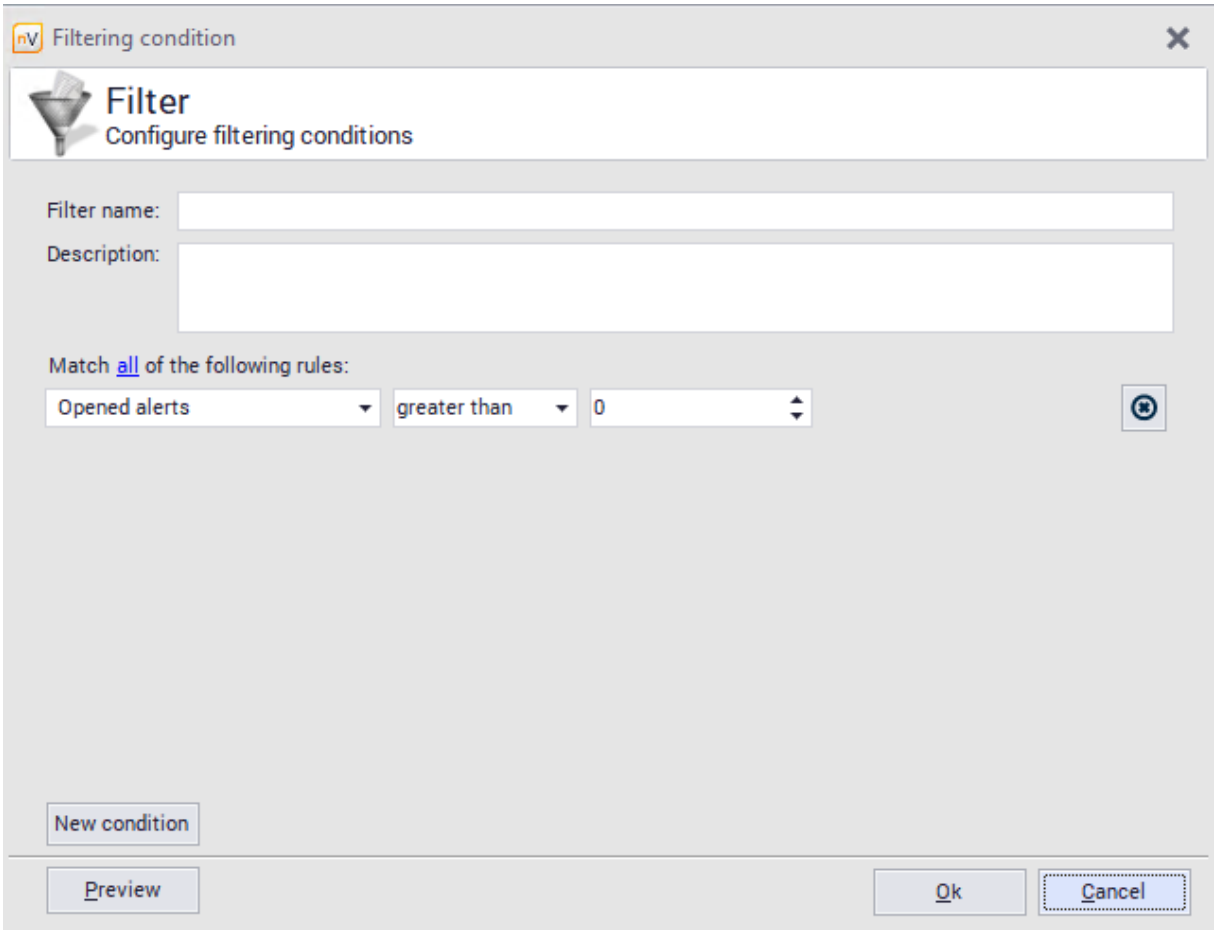
4.7.3 Creating a filter

To create a filter:

1. Select **Filters for smart maps** from the **Tools** page on the ribbon. In the Managing filters window, click the **Add filter** button.



2. In the Filter conditions dialog, enter **Filter name** and **Description**. Then set the filter conditions. To add another condition, click the **New condition** button. To use an alternative instead of the sum of conditions, click the word all – to change it to at least one of. An example of a filter with conditions is presented in the image below.

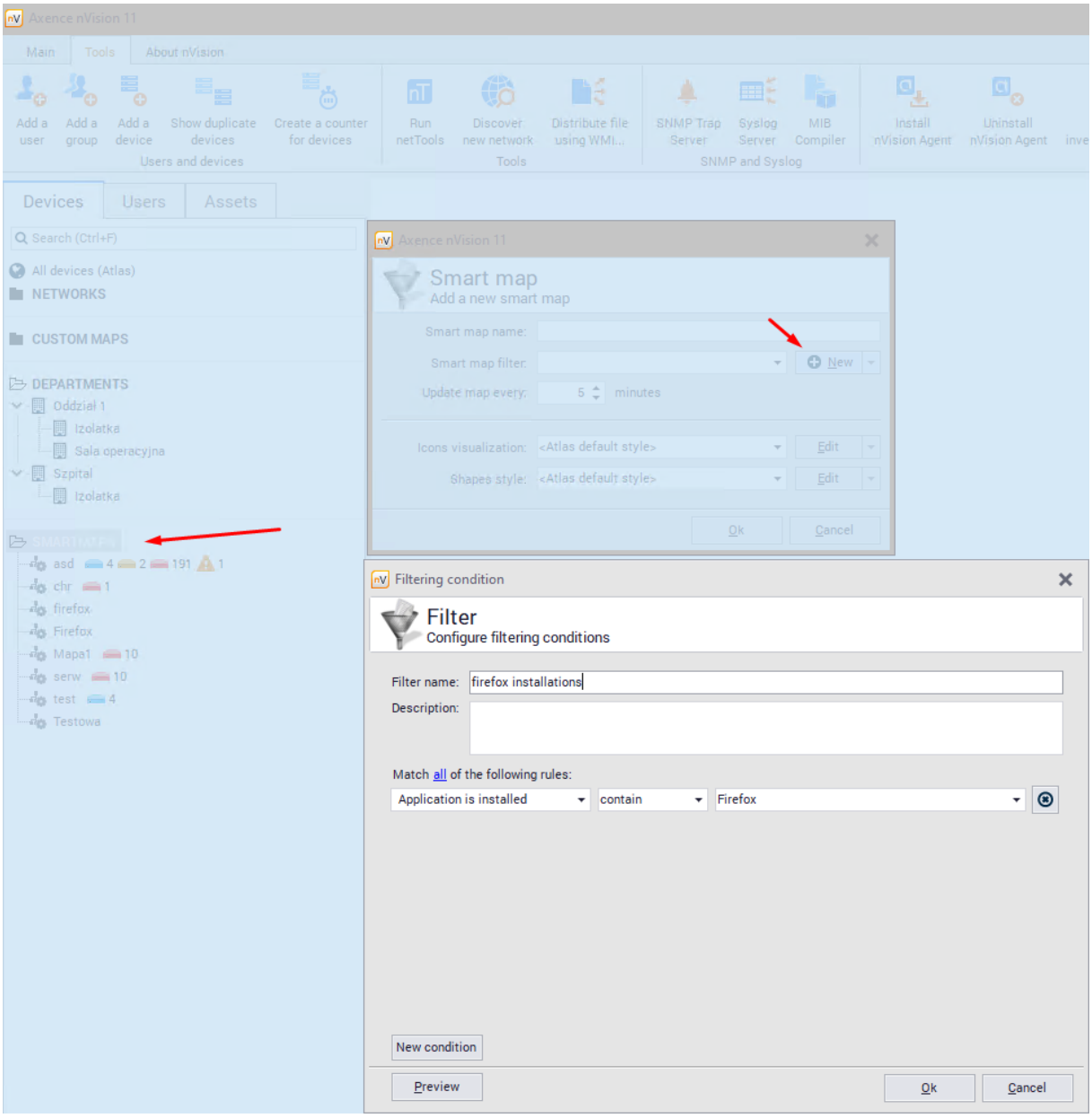


3. To view the list of devices meeting the defined conditions, click the **Preview** button. When the changes are accepted, the newly created filter will appear in the filter list.

4.7.4 Creating a SmartMap

To create a smart map:

1. Right click the **SmartMaps** in the list in the left part of the nVision window. Select the option **New / Smart map**.
2. In the smart map properties window, enter the **Name** and select a **Filter** from the list which will be associated with the created map. If such a filter has not been created yet, expand the menu at the **Edit** button, select the **Create new** option and proceed according to the Creating filter 108 description.
3. Set the map refresh time and visualization styles. In the case of smart maps it is not possible to set the graphical elements manually – smart maps are created automatically.



Part V

5 nVision Agent

5.1 Introduction

Agents are programs running on monitored hosts. They are necessary for:

- User activity monitoring,
- Hardware and software inventory,
- DataGuard protection and
- HelpDesk (some features).

5.2 Basic information about Agents

Security

All information sent by the Agent is secured with TLS 1.2. The database is also password protected. To ensure that only one nVision instance can communicate with the Agent, set the Agent password in nVision.

Agent-generated network traffic

All data are compressed before sending and uncompressed after reaching nVision. Agents send small packages every few hours (this parameter can be set in nVision). Daily traffic generated by a single Agent is approx. 100 kB. The first package sent after Agent installation can be bigger (up to approx. 500 kB). The Agent is updated automatically when a new nVision installation is detected. This operation can increase the network traffic (it is necessary to send the Agent's installation file). To prevent the network from being significantly burdened, the number of connections between Agents and nVision can be limited to a single connection (Agents will be updated one after the other).

Resources

An Agent stores approx. 30 - 50 MB of data. CPU usage should be very low (0 - 5%), up to 15% for short periods. One module, which can cause a significant CPU load is the monitoring of data sent by the users. It is caused by a Windows mechanism, which can appear on older systems, sending large amounts of data (e.g. database servers). Disabling network traffic monitoring in the profile of an Agent installed on such a computer is recommended.

Features

Files executable by Agents must be added to the exception list of the anti-virus software and DEP list in Windows. The nVision Agent has the function of e-mail monitoring and website blocking. These functions use TCP/IP stack integration and are disabled by default. This results from the fact that anti-virus software does not allow for correct integration and can lead to connection loss.

5.3 Installing and uninstalling Agents

5.3.1 Overview

The Agent can be installed in several ways. Select the one which is most appropriate to your needs:

- Installation by means of Active Directory (GPO) with the use of MSI installer 113,
- Remote installation with the use of the anti-virus software management console 115,
- Manual installation 115.

Installing a new version of the Agent

The Agent has an automatic update mechanism. It checks for a new Agent version every time it connects with nVision. If a new Agent version is available (after you install a new nVision version), the Agent will download it and restart automatically.

Agent archiving

For more information on how to uninstall Agent and release its license without losing the user activity data, see Agent archiving 116 chapter.

Uninstalling Agents

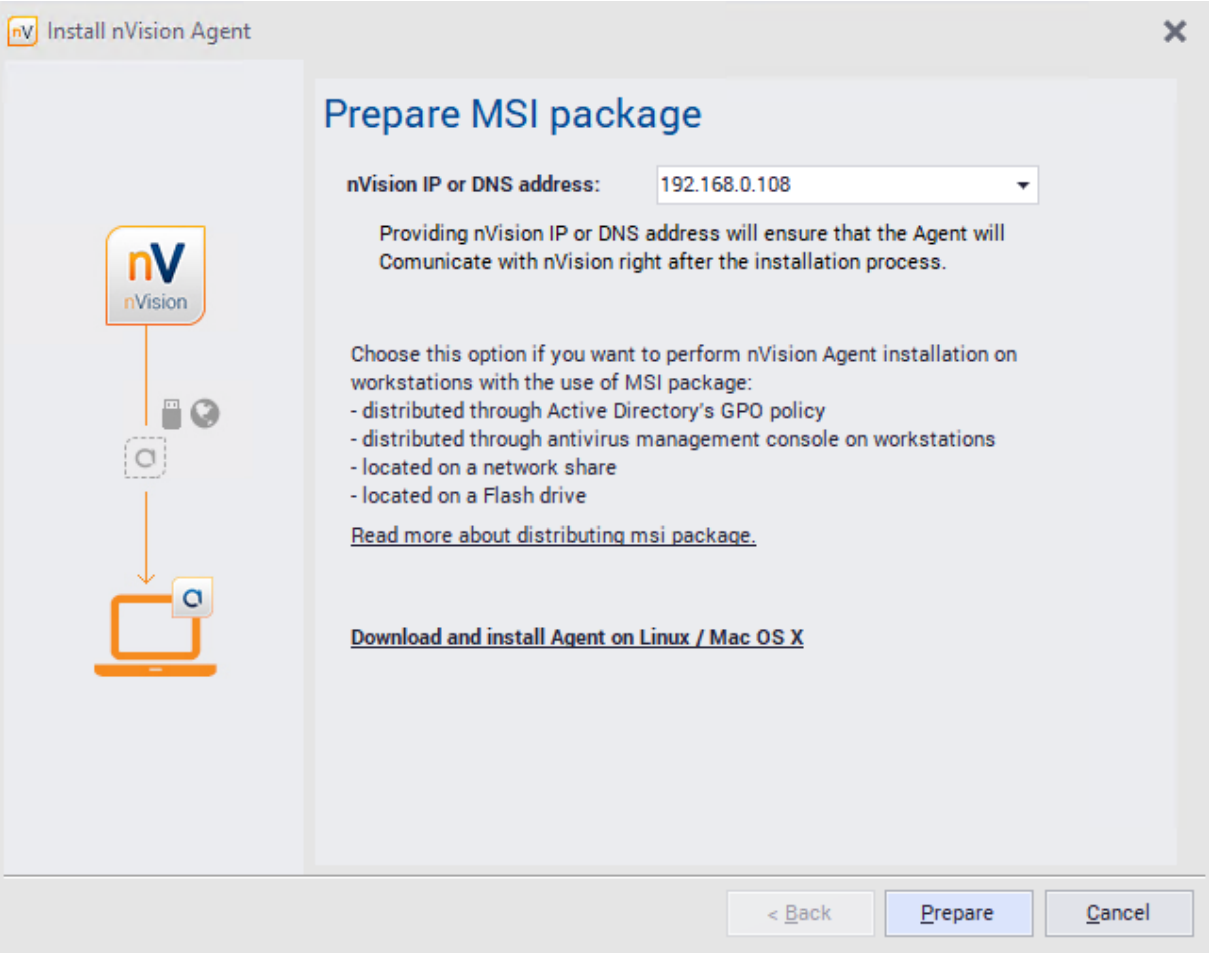
Refer to Uninstalling Agents 116 topic.

5.3.2 Installation by means of Active Directory (GPO) with the use of MSI installer

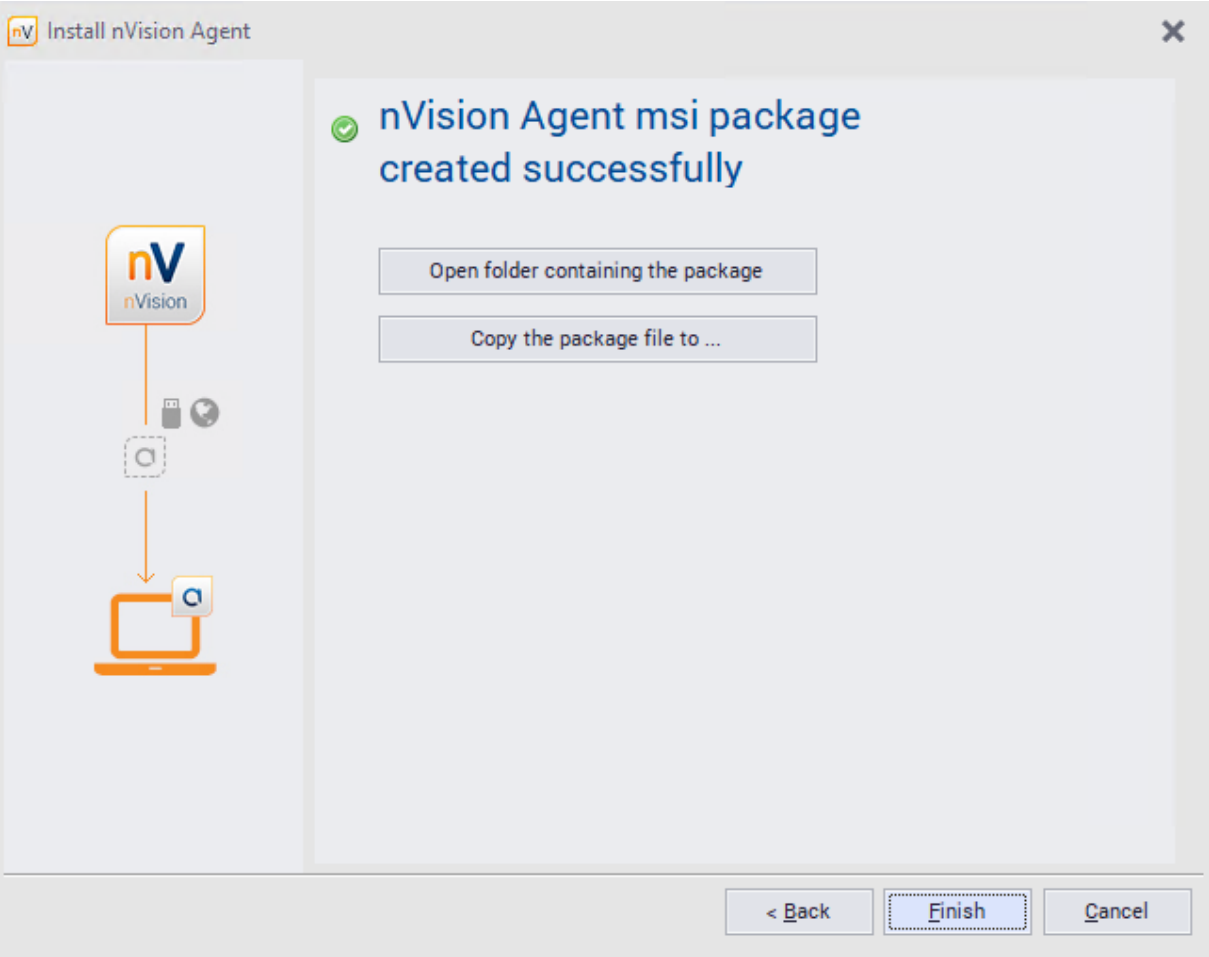
MSI Agent installation package

The following chapter describes how to prepare an MSI Agent installation package. It can be used both for installation through Active Directory and for manual installation on selected computers. In such cases please remember that MSI installation is performed in the non-interactive mode. To install the Agent service, the installation requires local computer administrator rights.

1. Select **Install nVision Agent on Tools tab**



2. Give the IP address where the Agent will send its data to. By default, this is the address of the computer where nVision runs. However, if the Agent is installed on a computer working outside the company and the Agent will send the data through the Internet, enter here the public IP address or the DNS name of the router where the TCP 4434 port will be redirected to the nVision machine. The entered address is permanently stored in the MSI package built on the next step. To change the address, you need to rebuild the package.
3. Click one of the buttons, respectively, to open the folder with the prepared MSI installation package or to copy it to the specified folder.



Related topics

Agent installation with use of Active Directory 571

5.3.3 Remote installation with the use of the anti-virus software management console

The generated Agent installation package can also be distributed with the use of remote anti-virus software management consoles. Please refer to your software developer's guides in order to remotely install nVision Agent.

5.3.4 Manual installation

In order to install Agents manually, perform one of the following:

- Copy nvagentinstall.exe file on flash memory drive or network resource (this file is located in the “Agents” subdirectory of the nVision directory). Execute the file on each computer where you want to install the Agent.
- You may also prepare an MSI installation package and execute it on each computer or distribute by means of Active Directory GPO (details in the Installation by means of Active Directory (GPO) with the use of MSI installer 113 chapter).

5.3.5 Agent archiving

The Agent archiving tool allows to disable Agents on devices, which should not be monitored, without the loss of data collected by the Agents. Archiving of Agent data has the following results:

- Agent is uninstalled and its license is **released**,
- user activity data are **saved**,
- inventory and assets data are **deleted**,
- service and counter monitoring is **disabled**.

Archiving of Agent data

To archive Agent data:

1. In nVision, right click the icon of device with Agent.
2. Choose **Agent / Archive**. Click **OK**.
3. After archiving the Agent is presented with “Archived” status.

5.3.6 Uninstalling Agents

To uninstall Agents remotely, select the **Agent / Uninstall...** option from the context menu of each host. Uninstallation is performed without the use of WMI, so Agents will be uninstalled whether WMI is or is not enabled on the host. Agents will be uninstalled automatically after starting up and connecting to the console.

You can also uninstall the Agent manually by executing the file unins000.exe located in the Agent folder.

5.4 Agent configuration

5.4.1 Agent password

Agent in Axence nVision® is password protected from being uninstalled by the user (even that with the administrator rights in Windows).

The password that protects the Agent from being uninstalled is simultaneously the password of the **Administrator** account built into nVision (the basic account with **Administrator** login – its name is bold in the view of the **Users** 340 window). The Agent is automatically password protected after the installation, upon the first successful connection to the nVision Server.

Agent’s password in Axence nVision® 8 and older versions.

To change the Agent password in the Atlas:

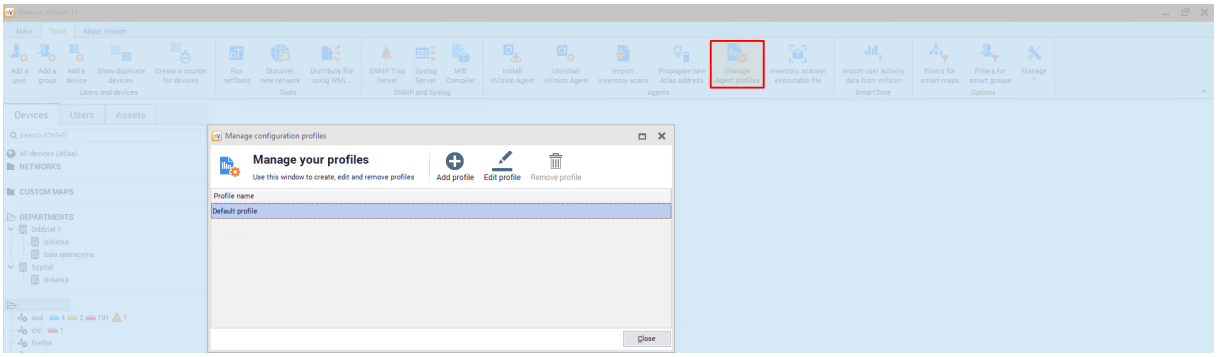
1. Choose **Atlas / Properties**.
2. In the Atlas properties window, click the **Agent password** button.

3. Enter old and new passwords, then press **OK**.

5.4.2 Profile management

If many Agent profiles are defined, it is recommended to use the profile management tool for profile creation and editing. For this purpose:

1. Select the **Manage your Agent profiles** option on the ribbon (in the **Tools and options** page). The **Manage configuration profiles** window will open.



2. The defined profiles are displayed in the list. To **Add**, **Edit** or **Remove profile**, use the appropriate button.
3. If a new profile is to be created, click the **Add profile** button and in the displayed **Agent configuration** window enter the name of the created profile and set its properties. The properties are described in the Agent settings 117 section.

5.4.3 Agent settings

The data collected by the Agent and its behavior depend on:

- Agent profile configuration,
- Agent configuration for selected group or user.

The individual settings are described in detail in the following subsections.

5.4.3.1 Agent profile settings

In order to change the Agent's profile, select the **Manage your Agent profiles** option on the ribbon (in the **Tools** page).

Agent profile settings are divided into 2 tabs:

General

General settings allow to:

- enable scanning user files by extensions.
  The legality of the files kept by the user may constitute a problem. Therefore, nVision allows files with an extension suggesting the involvement of copyrights to be monitored. It is possible to add and remove the files from the list of monitored user files. In particular, to add the most common multimedia file extensions to the list, click the **Add multimedia extensions** button. To monitor a different file type, enter their extension in the list (comma separated),

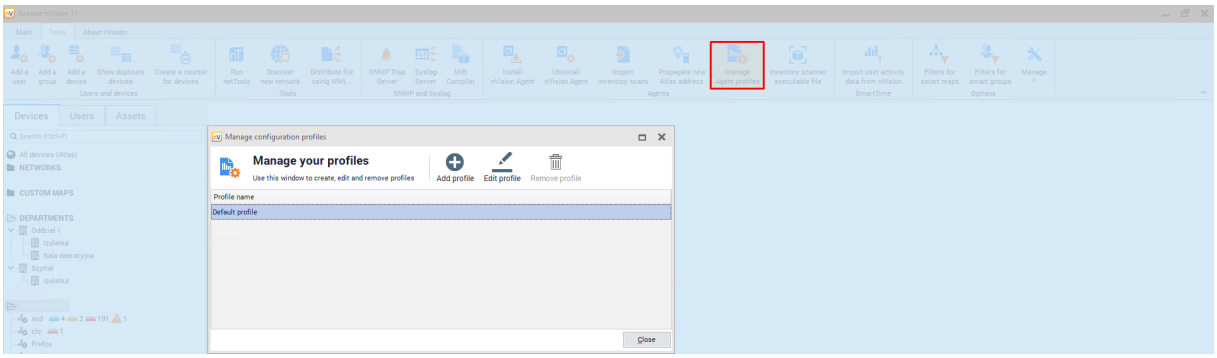
- define the TCP ports on which traffic in applications is to be blocked by the Agent.

Compatibility

- Monitoring bandwidth usage
  Allows the monitoring of total inbound and outbound transfers, with a division into local and Web transfer, and the bandwidth usage by browsers, e-mail client, etc.
- Application blocking integration

  Allows the Agent to block the applications defined in nVision configuration.
- DataGuard integration
  If data protection is enabled, data media used by the user are monitored and access rights management is enabled.
- Integration with TCP/IP stack
  If this option is unchecked, blocking websites and monitoring e-mail headers is impossible. **If there are problems with specific applications or access to web pages (e.g. internet banking websites) after the integration is enabled on the computer with Agent, add the process names of these applications or domains to the exception list.**
- Monitor SSL/TLS traffic

  This option allows monitoring e-mail headers even where such correspondence is encrypted.

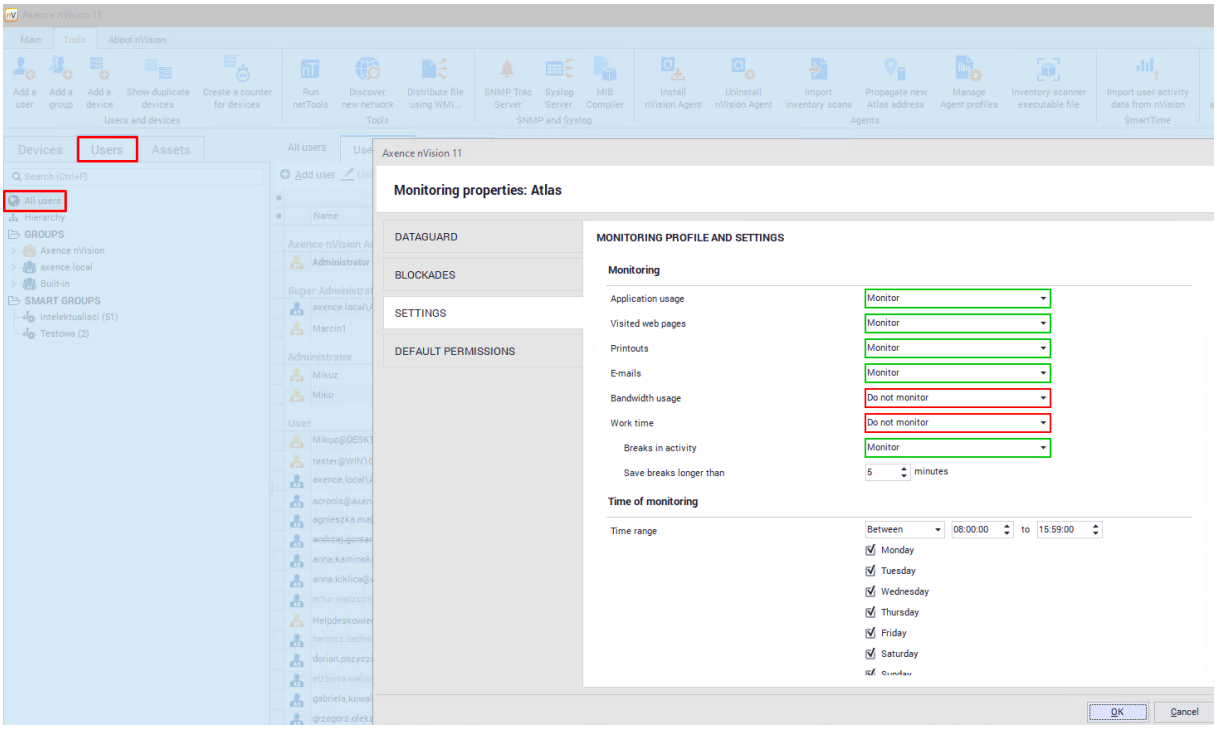


5.4.3.2 Monitoring and visibility settings

The second part of Agent configuration is Agent monitoring and visibility settings.

These settings can be defined for the Atlas (all users), user groups and individuals. They can be found in different locations:

1. The **Users / Atlas info / Settings** window:



The **Group information / Settings** window.

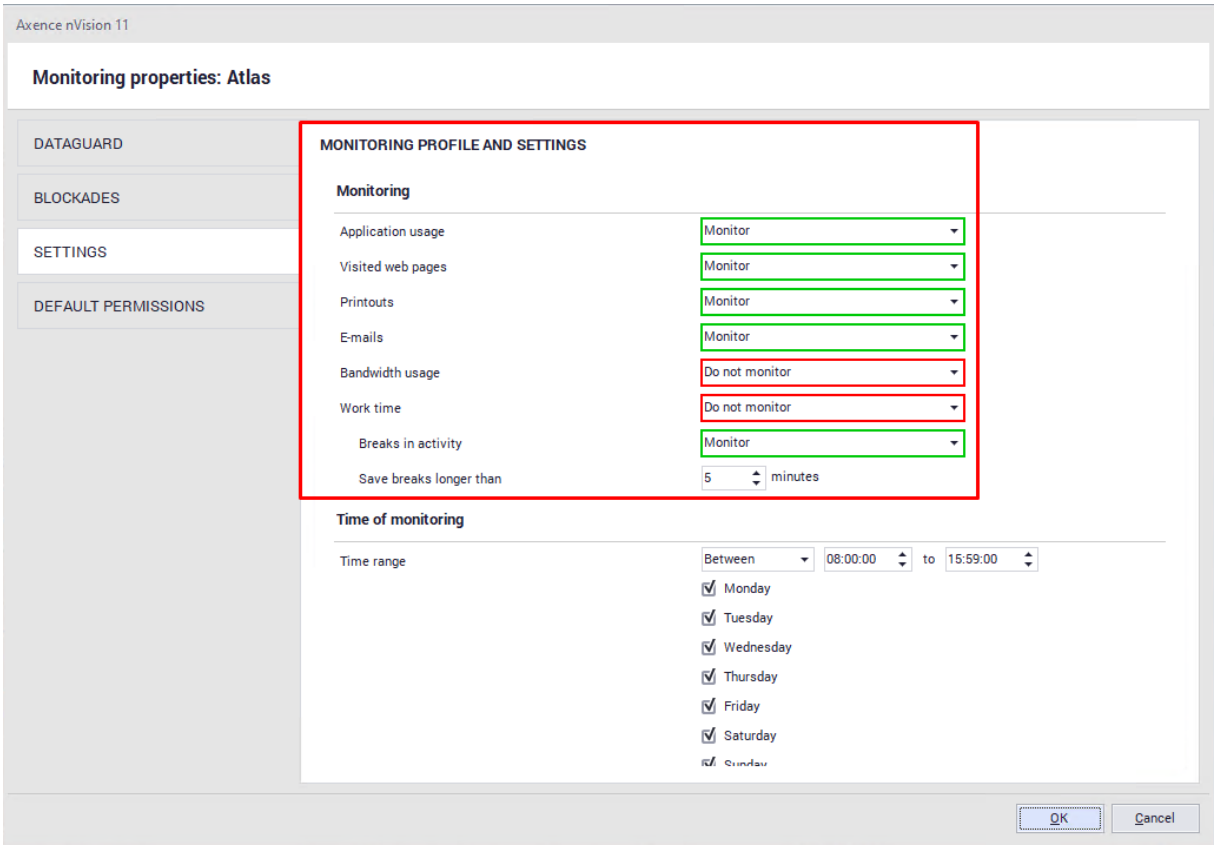
2. The **Group information / Settings** window.

Atlas is the “general” setting, which by default is inherited by groups and users. However, this behavior can be changed for individual units by navigating to the above-mentioned setting windows.

The settings include a few sections:

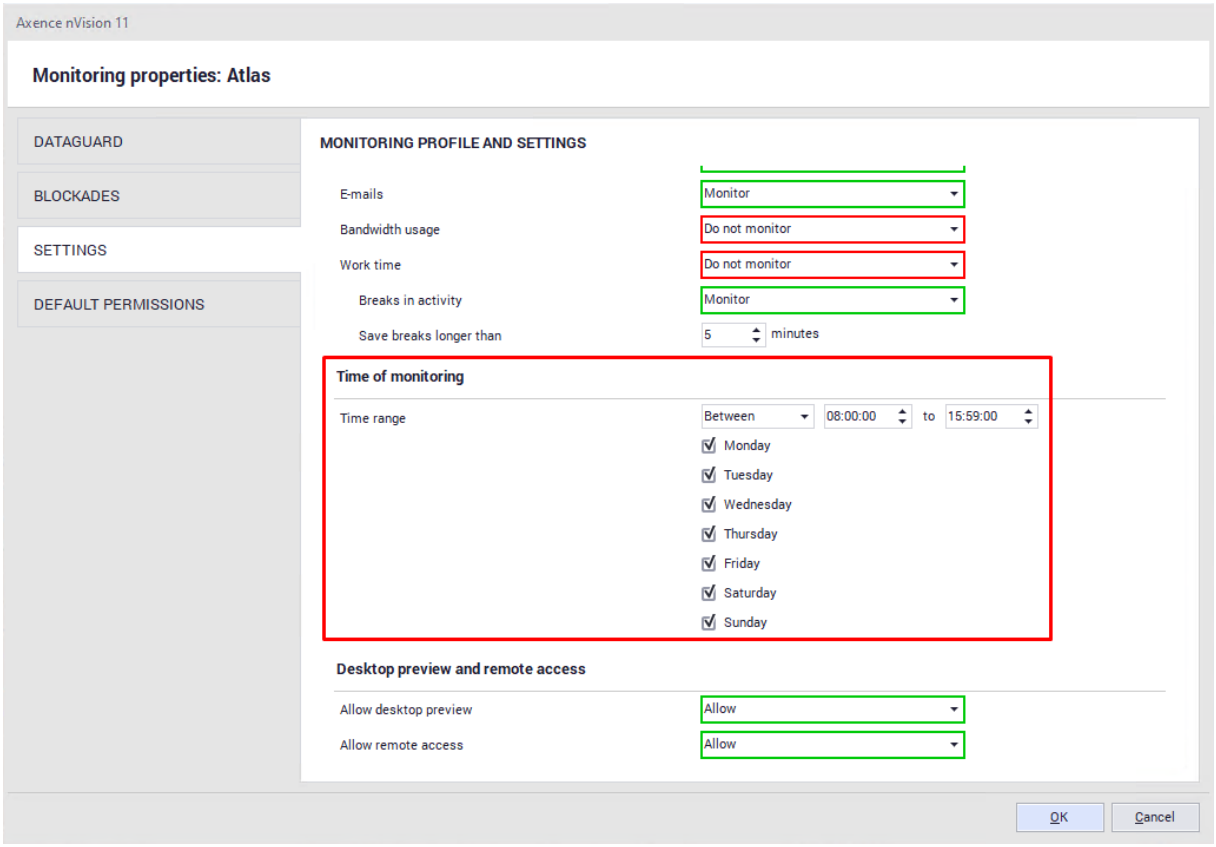
- **Monitoring**

The Administrator can specify what information is to be collected by the Agent. In addition, it can be determined here whether or not the breaks in activity (i.e. the time when the user does not type any characters from the keyboard or does not use the mouse) are to be monitored.



Monitoring time

This section defines the time periods during which the Agent should monitor the user activity.



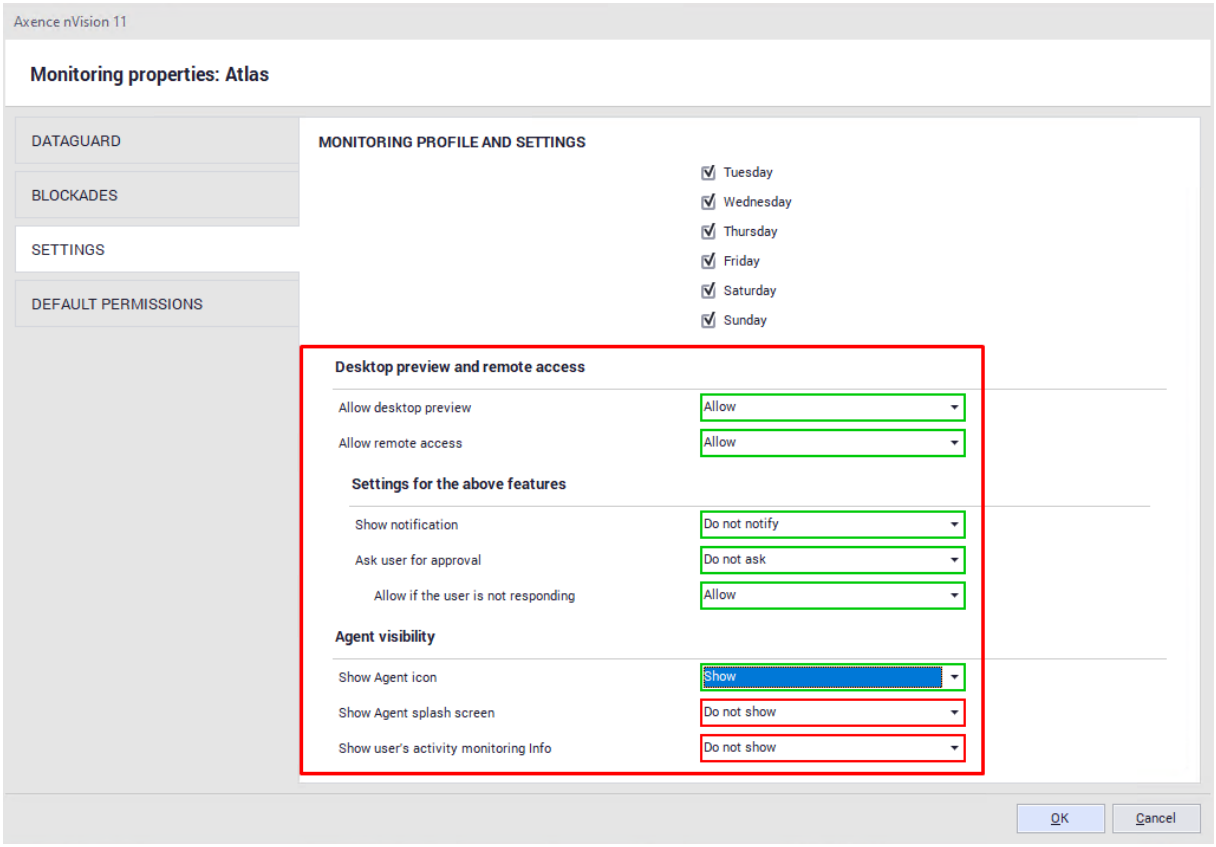
Desktop preview and remote access

The settings in this section allow you to define whether or not:

- remote access or desktop preview is allowed,
- the user must agree for taking over control of their machine,
- the user is informed when control of their machine is taken over.

- **Agent visibility**

The last section determines the visibility of the Agent and its icon on the taskbar.



5.4.4 Web filtering profile

The Agent profile allows selected websites to be blocked. To ensure proper blocking, it is necessary to check the **Turn on TCP/IP stack integration** option in the **Compatibility** tab. To learn more, see the I cannot block websites 122 section.

Website blocking is performed in a manner independent of the application or port. Websites are recognized on the basis of the request prefix. Blocking is executed on the level of:

- IP address,
- exact domain (on http level),
- regular expressions for the domain (also on http level).

Adding filtering rules is described in section How to block access to selected websites? 169.

5.4.5 Integration with TCP/IP stack

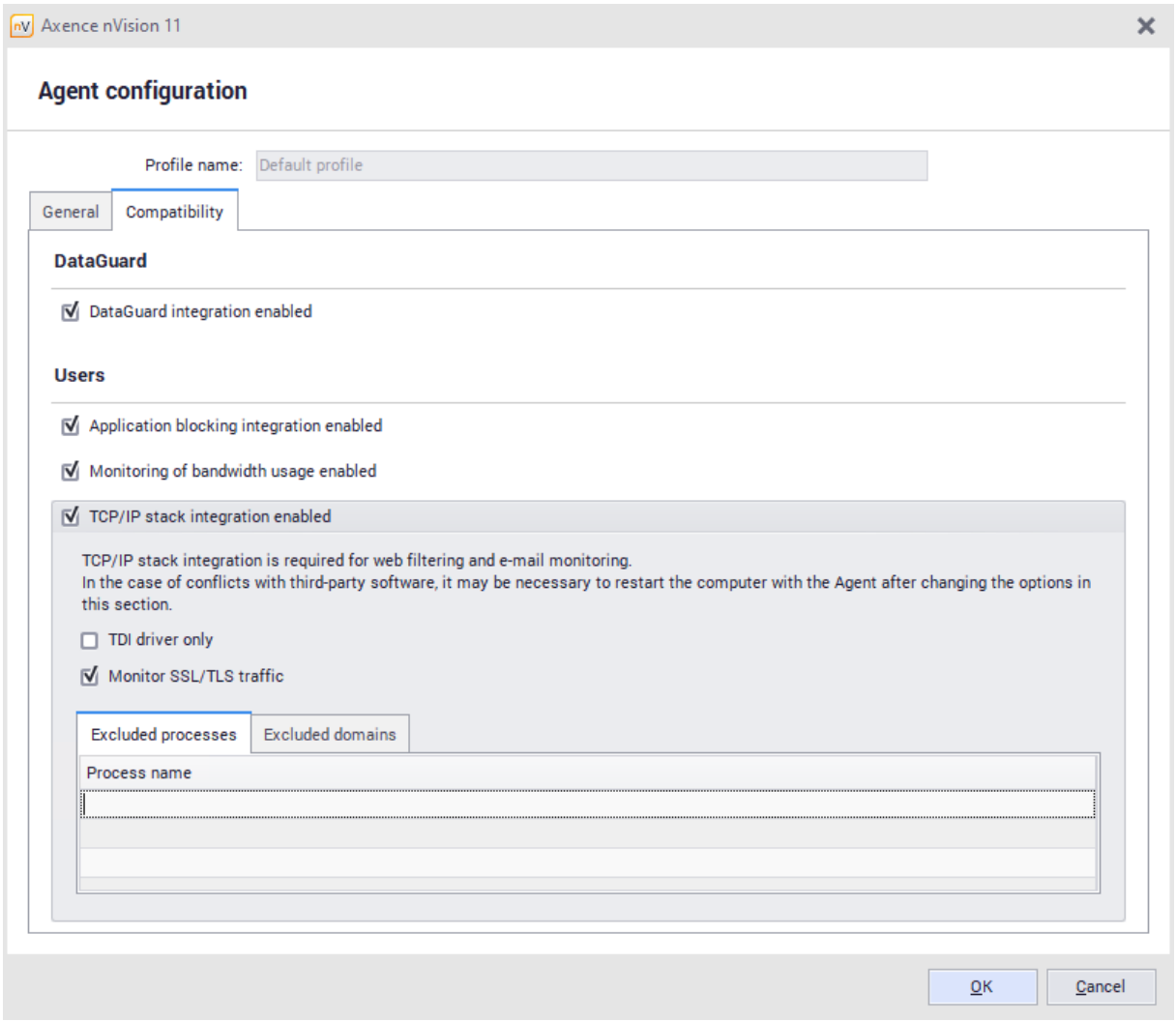
Monitoring e-mails and blocking websites is only possible for machines with the installed Agent and enabled integration with the TCP/IP stack. To learn more on Agent installation, see the Installing and uninstalling Agents 113 section.

The following protocols are supported at the moment: HTTP, HTTPS, SMTP:25, SMTP:587, SMTP via SSL, POP3 via SSL and POP3:110. The following protocols are not supported at the moment: IMAP, MAPI.

Enable integration with TCP/IP stack

If the Agent is installed, the reason for the problems with monitoring e-mails and blocking websites may be a disabled integration with the TCP/IP stack. By default, this integration is disabled due to the necessity of earlier tests, mostly in the scope of cooperation with anti-virus software. To enable TCP/IP stack integration:

1. Select the **Managing Agent profiles** option in the menu bar (in the **Tools and options** page).
2. Create a new profile or select the profile used by Agents, and then click the **Edit profile** button.
3. In the profile configuration, check the **Turn on TCP/IP stack integration** option in the **Compatibility** tab.



4. **On the tested computers, add all contents of the directory `c:\Program Files\Axence\nVision Agent 2\` including subfolders to the exception list of anti-virus software.**
5. Restart the computers.

6. If no negative symptoms, e.g. network loss, occur during the next few system restarts, it means that TCP/IP stack integration can be toggled on for the remaining machines.

5.5 Inventory agent for Linux & OS X

Agent for Linux & OS X collects data about device's hardware configuration and installed software and sends them to the nVision Server.

Agent collects inventory data and sends them every 12 hours, however you can change this interval at configuration files and then restart the Agent.

In order to install Agent:

1. Save Agent installer script-file for correct OS-architecture and save it in *C:\Program Files (x86)\Axence\nVision\Agents* folder:

OSX:

```
http://cdn.axence.net/linux/osx_agent.run
```

Linux 32-bit:

```
http://cdn.axence.net/linux/linux_agent32bit.run
```

Linux 64-bit:

```
http://cdn.axence.net/linux/linux_agent64bit.run
```

2. Copy Agents installer script-file to Linux/OS X.

3. The administrator rights (*root*) are required for installation.

   Before you install Agent 2.0, please uninstall version Agent 1.0.

   You have to add `chmod + x` *execute permissions for Agent's installer script file.*

   Run following command in the operating system console/terminal:

```
> sudo ./*installer_name*.run
```

When the Agent is installed on a clean system, the installer script may ask the user to enter the nVision Server's IP address. If this is the case, enter IP address of the machine on which the nVision Server is installed (without port).

When the installation is completed, **Agent does not start automatically**. You have to launch Agent manually by executing the command to run the ***nvAgent*** service.

The easiest way to start the service is executing the following command:

```
> /etc/init.d/nvAgent start
```

Please keep in mind that you have to execute the command with root's permissions.

Agent's service state

Lot of Linux distributions have the ***service*** tool. This tool's task is to start, stop and restart any service. If you installed this tool in your OS, you can use it to check information about service state:

```
> service nvAgent
Usage: {start|stop|status|restart}
```

The ***nvAgent*** service has four modes:

- ***start*** – starts the service,
- ***stop*** – stops the service,
- ***status*** – checks whether the service is running and displays the info about the service state,
- ***restart*** – stops the service, next starts the service again.

Agent uninstalling

Uninstalling Agent 1.0

In order to uninstall Agent 1.0, delete the ***/usr/bin/nVAgent*** file and the ***/var/nVAgent*** folder.

Uninstalling Agent 2.0

In order to uninstall Agent, type the following command at OS-console/terminal (you will be asked for root's password):

```
> sudo ./*installer_name*.run /uninstall
```

Silent installation

Entering nVision server's IP address on a large number of machines may be onerous, therefore the option of setting up nVision's IP at the level of installer parameters has been introduced. To do this, use the following command:

```
> sudo ./*installer_name*.run $nVision_Server_IP
```

If no Agent was installed on the machine, then the configuration will be created, and the user will not be asked to enter the nVision server's IP address.

More information, folders-hierarchy

Agent's software is being installed at the /opt/Axence folder. With the Agent files, the following components are being installed as required:

- node.js interpreter: */opt/Axence/node*,
- perl5 interpreter: */opt/Axence/perl5*,
- FusionInventory library: */opt/Axence/fusioninventory*,
- forever daemon: */opt/Axence/forever*.

Agent's installation path: ***/opt/Axence/Axence-agent***.

Agent's logs path: ***/opt/Axence/Axence-agent/logs***.

Agent configuration files

Agent has two configuration files:

1. /opt/Axence/Axence-agent/agent.config

which is responsible for the configuration:

- Axence nVision Server IP address,
- port at which the Server listens,
- time interval of checking Agent's updates,
- time interval of scanning hardware and software.

The example ***agent.config*** file is shown below:

```
{
```

```
 "nVisionServer": "127.0.0.1",
 "nVisionPort": 4436,
 "updateCheckInterval": 43200000,
 "inventoryInterval": 3600000
}
```

2. /opt/Axence/Axence-agent/common.app.config

which stores:

- FusionInventory installation path,
- Perl interpreter installation path,
- Forever daemon installation path,
- path to the file with device's UUID.

The example ***common.app.config*** file is shown below:

```
{
 "fusionInventoryBin":
"/opt/Axence/fusioninventory/bin/fusioninventory-agent",
 "perlBin": "/opt/Axence/perl5/bin/perl",
 "foreverBin": "/opt/Axence/forever/bin/forever",
 "agentUuidFile": "/opt/Axence/Axence-agent/agent.uuid"
}
```

Please keep in mind that after any change in Agent configuration files, you have to restart the Agent service.

5.6 Installation of Inventory Agent for Android

Agent for Android collects data about device's hardware configuration and installed software and sends them to the nVision Server.

At present, the application cannot be downloaded from Google Play yet, therefore you should copy the installation file **nVAgentInstall.apk** onto your mobile device (e.g. by means of e-mail or link to the website) and install the application on your own.

Agent's files are located in nVision's installation path, in the **Agents** subfolder (default: **C:\Program Files\Axence\nVision\Agents**). Agent's installer can be also downloaded from nVision Server:

```
http://SERVER_IP:4436/nVAgentInstall.apk
```

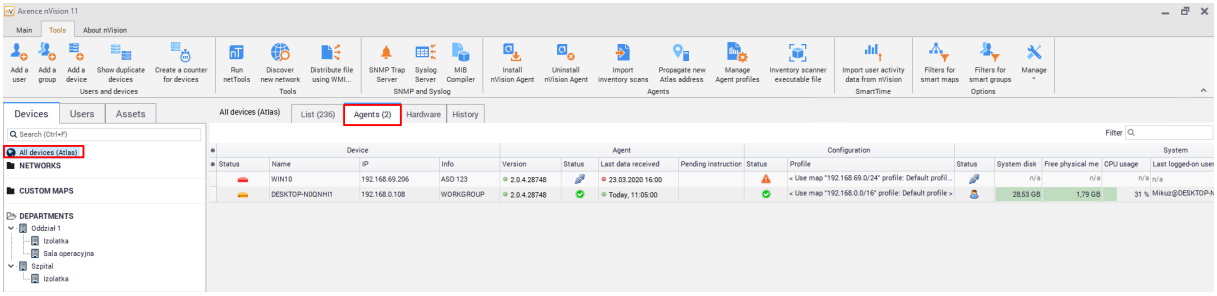
In order to install Agent:

1. Copy Agent file **nVAgentInstall.apk** to the mobile device (e.g. via e-mail or www page link).
2. Install the application. **Note**: to make the installation possible, it is necessary to toggle on the option allowing for the installation of applications outside of the official Google store. Access to this setting can be achieved by pressing and holding the Menu button, and then selecting Settings, Applications, and checking Unknown sources.
3. On the Start window, enter the address of the computer running nVision, along with the port 4436 and set a new password required to change application settings later on. (If you are working outside of the corporate WiFi network, it may be necessary to make appropriate port forwarding on your router.)
4. *Advanced settings*: to change settings, select from the context menu (press the Menu button) “Advanced Settings”, and then enter the password you created when you first run the application.

5.7 “Agents” view

The “Agents” view in the main nVision window presents the following information:

- host status,
- host name,
- Agent version,
- Agent online (yes/no),
- last connection time,
- last data received,
- pending instructions (Agent uninstallation, Atlas address change, host data reset),
- status,
- configuration,
- screenshots,
- free disc space,
- free physical memory,
- CPU usage (average for the last minute),
- last logged-on user,
- bandwidth data (last hour)
- and other.



Part VI

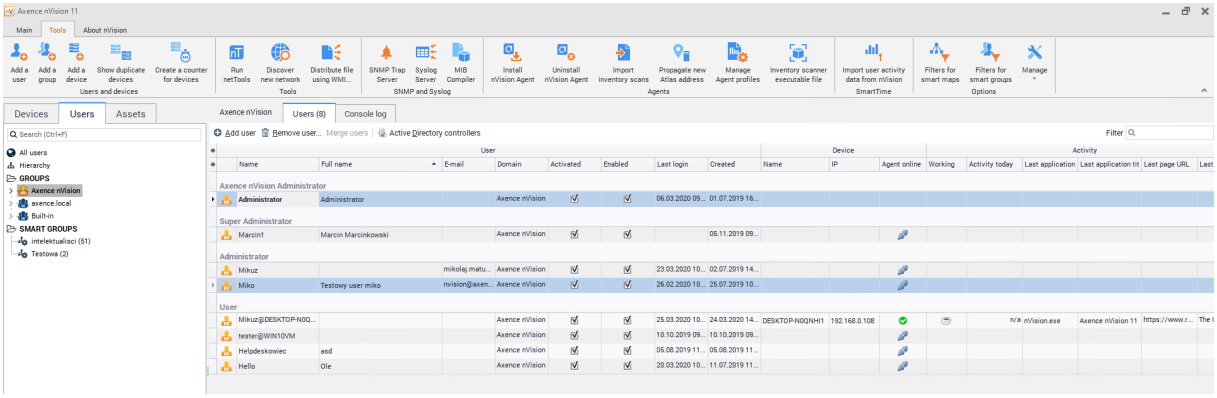
6 Users in nVision

6.1 General information

User accounts in nVision can be created in a few ways:

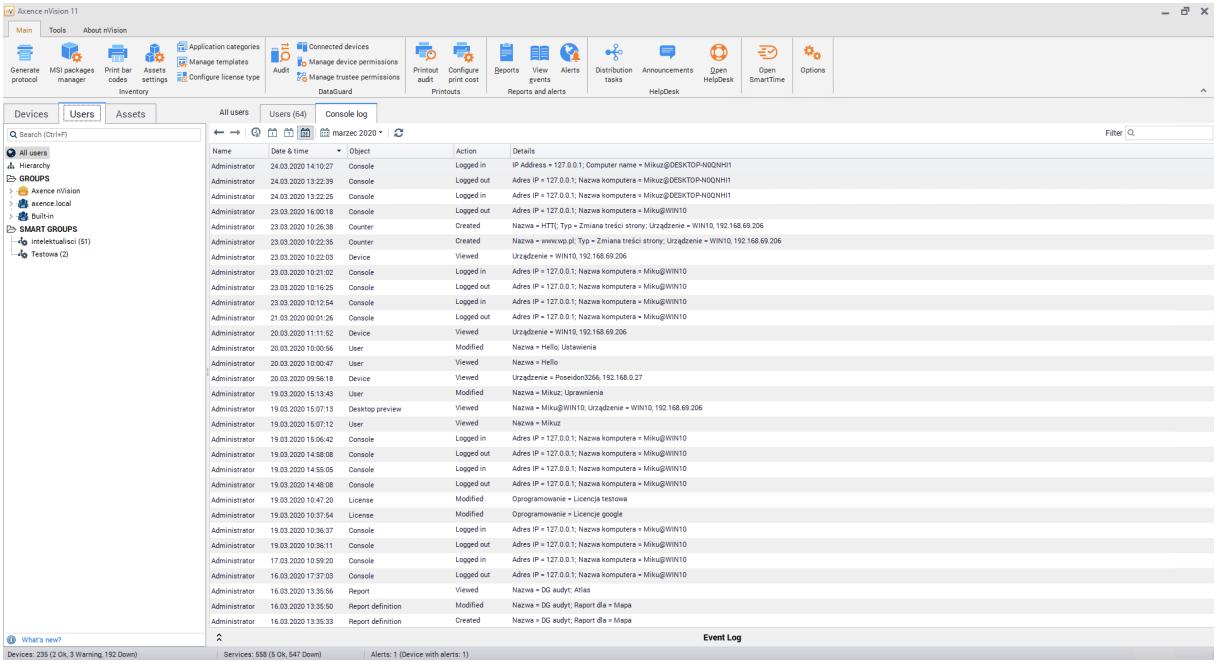
- manually via the Administrator in nVision (all types) – in the **Users** tab, after clicking the **Add user** button,
- via the Administrator by downloading the account list from Active Directory controller – in the **Users** tab, after clicking the **Active Directory controllers** button and configuring the domain controller,
- independently by the users (only the “User” type) in the HelpDesk web interface, without additional account activation, with activation via e-mail, or with manual activation via the Administrator,
- logging in to the Windows account should result in the creation of nVision account for this user (unless an account with such a SID already exists in nVision). Each Windows local account should have a unique SID.

The list of all users is available in the **Main / Users** tab. The list is divided into sections corresponding to the individual roles in nVision:



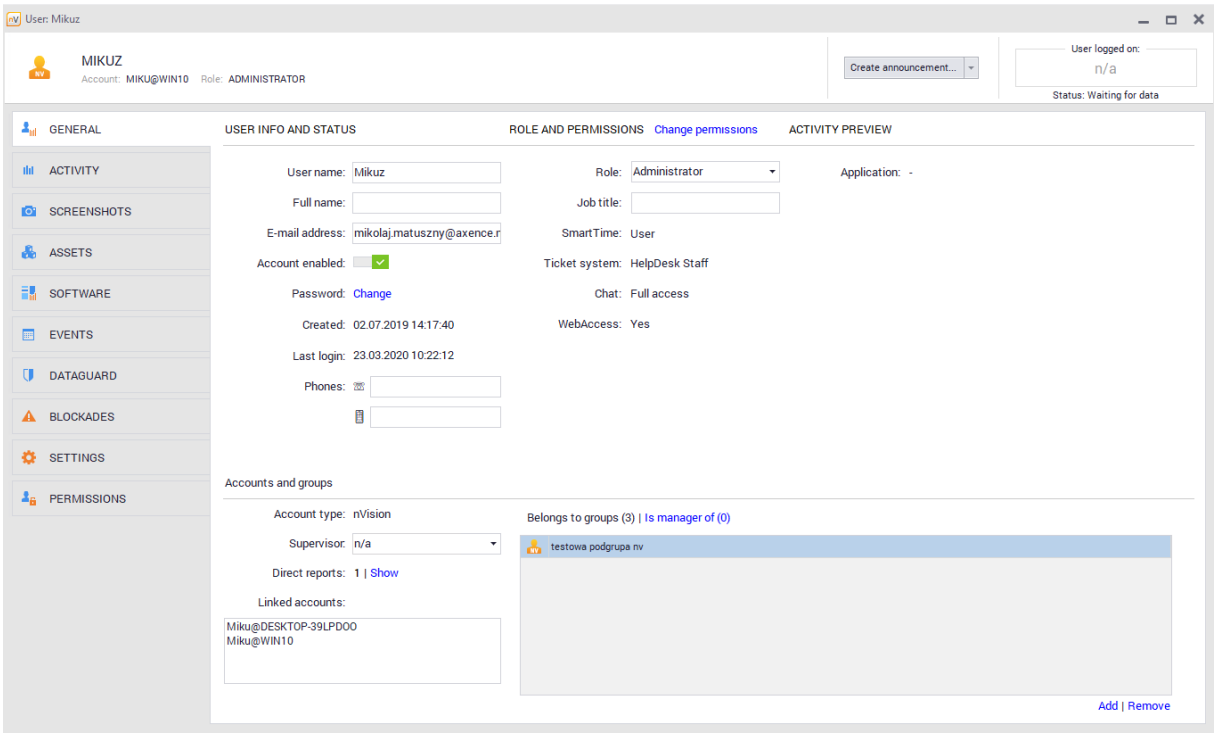
6.2 Access log

The access log is located in the **Main / Users / Access Log** tab. It stores any operations taken by the Administrator with regard to user accounts (e.g. creation of an account, modification of settings).



6.3 User information screen

After selection of user from the list, you can navigate to the user information screen.



This program area provides basic information about the selected person. The following account attributes can be identified:

- User – the name under which the user can log in to the nVision console and to the HelpDesk module,

- Full name,
- E-mail address,
- Desk (and mobile) phone number,
- Role – user roles are described in chapter Types of user roles.
- Title,
- Group membership – allows to view the groups which the selected user is a member of,
- Superior – user that is higher in the hierarchy than the currently selected person. A person who has subordinates will have access to the activity data for each of their subordinates in the SmartTime module,
- Attachments – additional attachments related to the selected user.

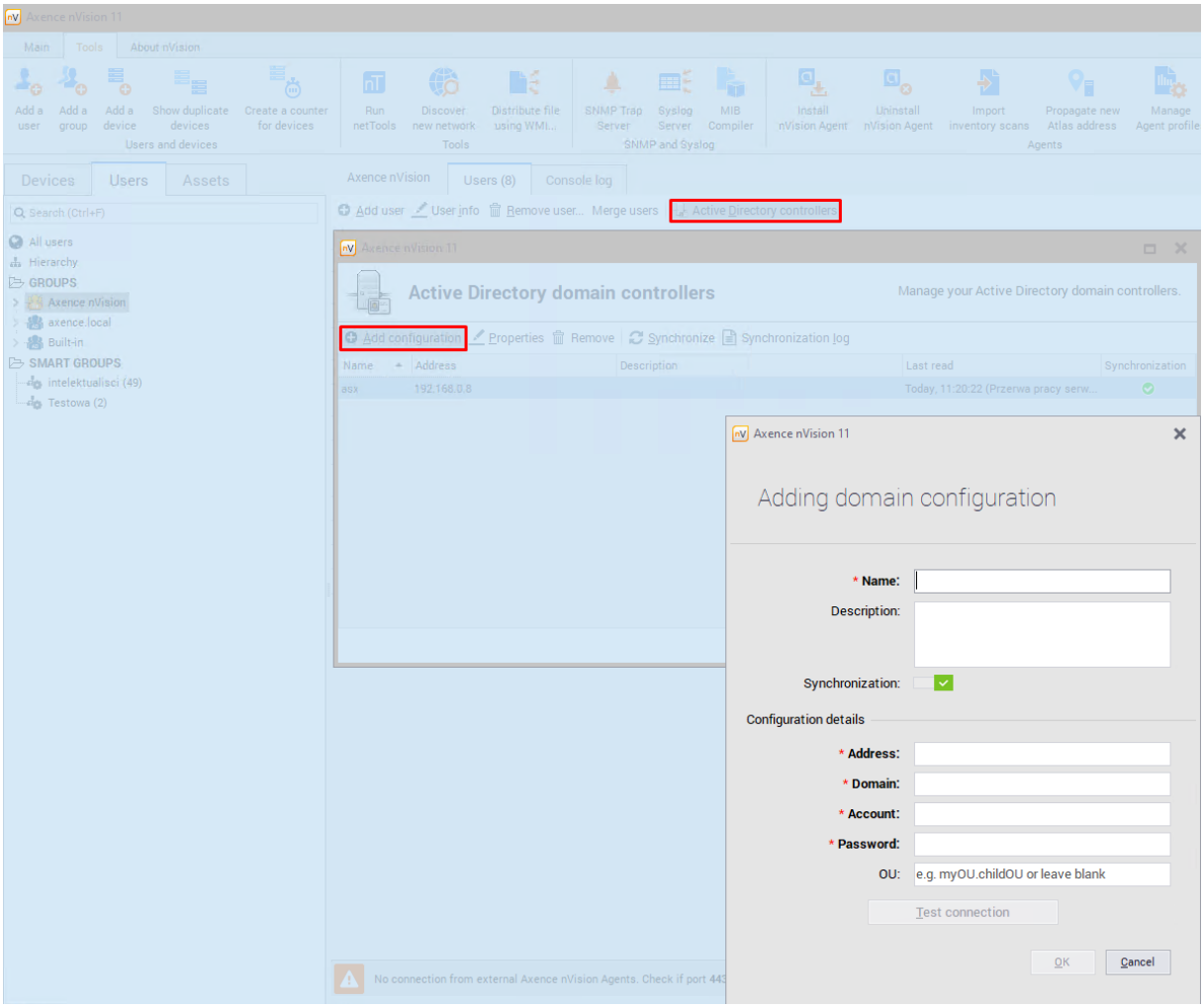
In addition, the user information screen provides information about user rights in various areas of the program. For accounts created in nVision, you may modify all the above-mentioned attributes.

6.4 Synchronization with Active Directory

It is possible to synchronize users existing in Active Directory with the nVision database. **However, it should be borne in mind that this synchronization is performed in one way only, which means that nVision reads data from Active Directory, but cannot make any changes. This means that most of the fields in the user information screen will not be available for editing.**

Adding domain controller

To make the synchronization between Active Directory and nVision, add the domain controller. To do this, navigate to the **Main / Users / Active Directory Controllers** tab. Then click the **Add configuration** button and define the required parameters:

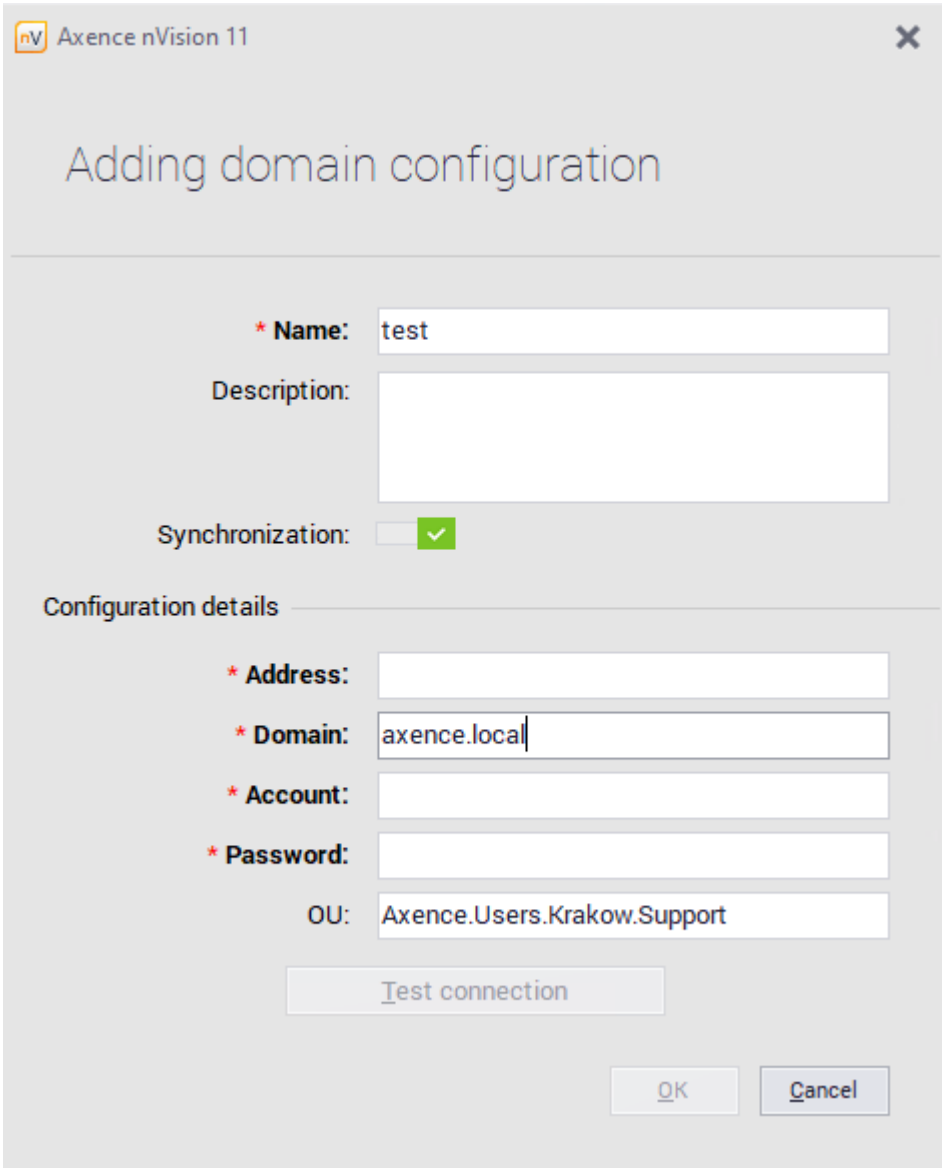


If the data entered are correct, all users and groups created in Active Directory will be read.

Synchronization of selected organizational units (OUs)

In the configuration of domain controller, you can specify OUs with which the list of user accounts is to be synchronized. Specify OUs in the following form: MainOUName.SubOUName.

For example, when “Axence.Users.Krakow.Support” is entered in the “OU” field, then only the users from the Organizational Unit ‘Support’ in the Krakow branch of Axence will be taken from the entire forest.local domain:



Synchronization log

The synchronization log provides information on communication between nVision and Active Directory. This feature may be helpful if you encounter errors related to the synchronization.

Synchronized user attributes

Attribute in Active Directory	Name in nVision
displayName	First name + last name

Attribute in Active Directory	Name in nVision
primaryGroupId	Belongs to group
manager	Superior
Managed by (group setting)	Group manager
title	Title
telephoneNumber	Phone number
mobile	Mobile phone number
mail	E-mail address

6.5 User roles and rights management

6.5.1 Types of user roles

In version 11 of the program, the rights granted to users have been reorganized. The new system of rights identifies three global user roles:

- **super administrator,**
- **administrator,**
- **user.**

The “HelpDesk employee” role which entitles the user to process tickets in the HelpDesk module was moved to the **User information / Rights / HelpDesk** screen.

The individual roles are described in detail below, and the process of granting access rights to specific modules is described in section Management of access to program functions 146.

Super administrator

A person having the super administrator rights:

- Can manage the entire program and the **rights of other administrators**,
- Can manage the rights of any other administrators and super administrators (except for the built-in administrator account). Can create, edit and delete other administrators and super administrators. In particular, they can also edit all properties of their own accounts,
- Has always unlimited access to all system functions. Their access to modules, maps or users cannot be disabled,

User with the super administrator role may be deprived of access to chats to hide their accounts on the contact list.

⊞ Administrator

A person having the administrator rights:

- Cannot grant or take back the administrator or super administrator roles,
- Cannot edit the login, first and last name, e-mail address, password, role and rights in other administrator and super administrators accounts. Cannot also activate/deactivate or delete them,
- Can change their own login, first and last name, e-mail address and password. Cannot change their own roles or rights. Cannot also activate/deactivate or delete their own accounts,
- Can edit the properties of users they have access to (login, first and last name, e-mail address, password, etc.). Cannot change their roles or rights,
- Can have access to the nVision administration console and the selected configuration settings of individual modules,

Can be granted the HelpDesk and SmartTime administrator role (the prerequisite is to have access to the relevant modules).

⊞ User

User is a person that does not configure technical aspects of the program, but only uses it within the rights assigned to them:

- Cannot be granted access to the nVision administration console or the module configuration options,
- Cannot play the HelpDesk or SmartTime administrator role,
- **Can play the HelpDesk support employee role**,

Can be granted access to WebAccess.

6.5.2 Available permissions

This chapter describes the rights that may be granted to users under each of the roles.

Module/functionality	Right	Value	Description
nVision administration console	Access to the nVision desktop console	Yes/No	User can log in to the nVision administration console.
	Access to the management of Agent visibility settings	Yes/No	User may manage the settings of the Agent icon visibility and the Agent screen visibility after logging in.
	Access to the Agent menu	Yes/No	User has access to the menu where they can execute remote commands on a machine with Agent (including disabling or uninstalling the Agent itself).
	Access to the WebAccess console	Yes/No	User can log in to the nVision's remote WebAccess interface. If user is not the administrator, this option allows to define maps and branches on which the user will be able to open the map view, view the device information and enable remote access.
	Access to maps and branches	Access to all or selected objects	**Access to all:** user can see the selected maps and branches. They have access to creating, editing and deleting them. **Access to selected:** user can see the selected maps and branches only. They cannot create new objects (or delete the existing ones). They can edit only those maps and branches they have access to. They cannot also create sub-branches in the branches managed by them.

Module/functionality	Right	Value	Description
	Access to users and groups	Access to all or selected objects	**Access to all:** user can see all users and groups and have access to creating, editing and deleting them. **Access to selected:** user can see the selected users and groups only. They cannot create new users and groups, or delete the existing ones. They can edit only those they have access to. They cannot also create sub-groups in the groups managed by them. They cannot change the users' (and groups') membership of groups other than those they have access to. They cannot delete or add any user (or group) to a group not managed by them.
Network	Access to the management of the Network module functions	Yes/No	This right allows access to the Network module components via the nVision administration console. If user does not have access to the administration console, this setting is ineffective.
Inventory	Access to the management of the Inventory module functions	Yes/No	This right allows access to the Inventory module components via the nVision administration console. If user does not have access to the administration console, this setting is ineffective. *** Further options are only available when access to the module management is enabled.**
	Access to the management of settings in Agent profiles *	Yes/No	User can manage the Agent profiles and edit settings from the Inventory module in them.
	Access to the file manager *	Yes/No	User can use the file manager function. This setting is shared with the HelpDesk module (the function is available in both modules).

Module/functionality	Right	Value	Description
	Access to the MSI package manager *	Yes/No	User can use the MSI package manager function.
Users	Access to the management of the Users module functions	Yes/No	This right allows access to the Users module components via the nVision administration console and enables to grant the administrator rights in the SmartTime interface. *** Further options are only available when access to the module management is enabled.**
	Access to the management of settings in Agent profiles *	Yes/No	User can manage the Agent profiles and edit settings from the Users module in them.
	Access to the management of desktop preview settings *	Yes/No	User can manage the desktop preview settings for the users they have access to. This setting is shared with the HelpDesk module (the function is available in both modules).
	Access to the management of monitoring settings *	Yes/No	User can manage the monitoring settings for the users they have access to. This setting is shared with the SmartTime module (the function is available in both modules).
	Access to the management of blocking settings *	Yes/No	User can manage the blocking settings for the users they have access to.
DataGuard	Access to the management of the DataGuard module functions	Yes/No	This right allows access to the DataGuard module components via the nVision administration console (in Delphi). If user does

Module/functionality	Right	Value	Description
			not have access to the console, this setting is ineffective.
	Access to the management of settings in Agent profiles (yes/no)	Yes/No	User can manage the Agent profiles and edit settings from the DataGuard module in them.
HelpDesk	Access to the management of the HelpDesk module functions	Yes/No	This right allows access to the HelpDesk module components via the nVision administration console and enables to grant the administrator rights in the ticket system. *** Further options are only available when access to the module management is enabled.**
	Access to the management of access settings *	Yes/No	User can manage the remote access settings for the users they have access to.
	Access to the management of desktop preview settings *	Yes/No	User can manage the desktop preview settings for the users they have access to. This setting is shared with the Users module (the function is available in both modules).
	Access to the file manager *	Yes/No	User can use the file manager function. This setting is shared with the Inventory module (the function is available in both modules).
	Access to remote management tools *	Yes/No	User can use the remote command execution, HelpDesk distribution task and process management functions.

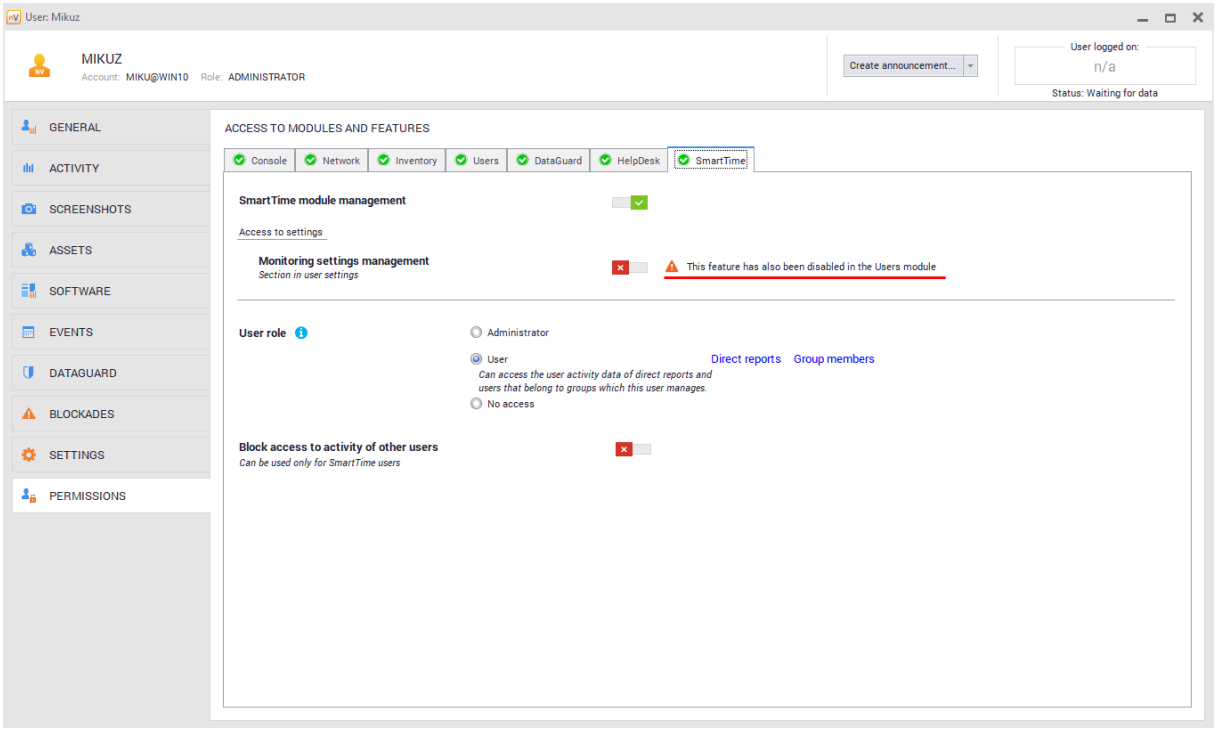
Module/functionality	Right	Value	Description
	Level of rights in the ticket system	Administrator	This right is available to users that have access to the management of the HelpDesk module functions. Users with the administrator role have access to technical settings of the HelpDesk.
		HelpDesk employee	Users with this role can perform operations related to ticket processing in the HelpDesk module. They can also plan their absences.
		User	User with the user role can only create new tickets and view those for which they are observers.
	Level of rights in the Chat system	Full access	User can log in to the chat and make full use of its features.
		Access to technical support only	This right is only available if user has the “user” role in the ticket system. User can log in to the chat, but may use a limited number of its features. On the contact list, they can only see the users with the “administrator” or “HelpDesk employee” role in the HelpDesk, and can chat with them only. They can only be seen on the contact list by the users with the “administrator” or “HelpDesk employee” role.
		No access	User cannot log in to the chat (when they try to log in, the message on lack of permissions is displayed). They cannot see the “Open chat” option in the Agent.

Module/functionality	Right	Value	Description
			A person with this right is also not shown on anybody's contact list and cannot be chatted with.
SmartTime	Access to the management of the SmartTime module functions	Yes/No	This right allows access to the SmartTime module components via the nVision administration console and enables to grant the administrator rights in the web interface. *** Further options are only available when access to the module management is enabled**
	Access to the management of monitoring settings *	Yes/No	User can manage the monitoring settings for the users they have access to. This setting is shared with the Users module (the function is available in both modules).
	Level of rights in the web interface *	Administrator	This right is only available when someone has full access to the management of users and access to the management of the SmartTime module functions. A person with this role can manage all technical settings on side of the SmartTime. They can also see the activity data of all users.
		User	User has always access to their data. If they are set as group managers and have access to the group data enabled, they can manage the settings of their groups and see the activity data of their members.

Module/functionality	Right	Value	Description
			They can see the activity data of all their subordinates in the hierarchy.
		No access	User cannot log in to the SmartTime interface (when they try to log in, the message on lack of permissions is displayed). They cannot see SmartTime links in any other part of the program. They are still shown as users in SmartTime and their data can be viewed by their superiors and the administrator.
	Block access to data of any other users	Yes/No	This setting is only available if the user's level of rights in the SmartTime web interface is set as "user". This option blocks the activity visibility for any other users and overwrites any rights resulting from the groups and from the hierarchy.

6.5.3 Interrelated permissions

When assigning rights to users, some settings are interrelated with one another in various modules. Enabling or disabling such a setting in one module will result in switching it to the same position in the interrelated module. A change in setting that is interrelated with other module will display the relevant message:



The table below presents the settings interrelated with one another in various modules: These settings are described in detail in chapter Available rights.

Interrelated modules	Right
Inventory & HelpDesk	Access to file manager functions.
Users & HelpDesk	Management of remote access settings.
Users & SmartTime	Management of monitoring settings.
HelpDesk & Users	Management of desktop preview settings.

6.5.4 Assigning permissions to user

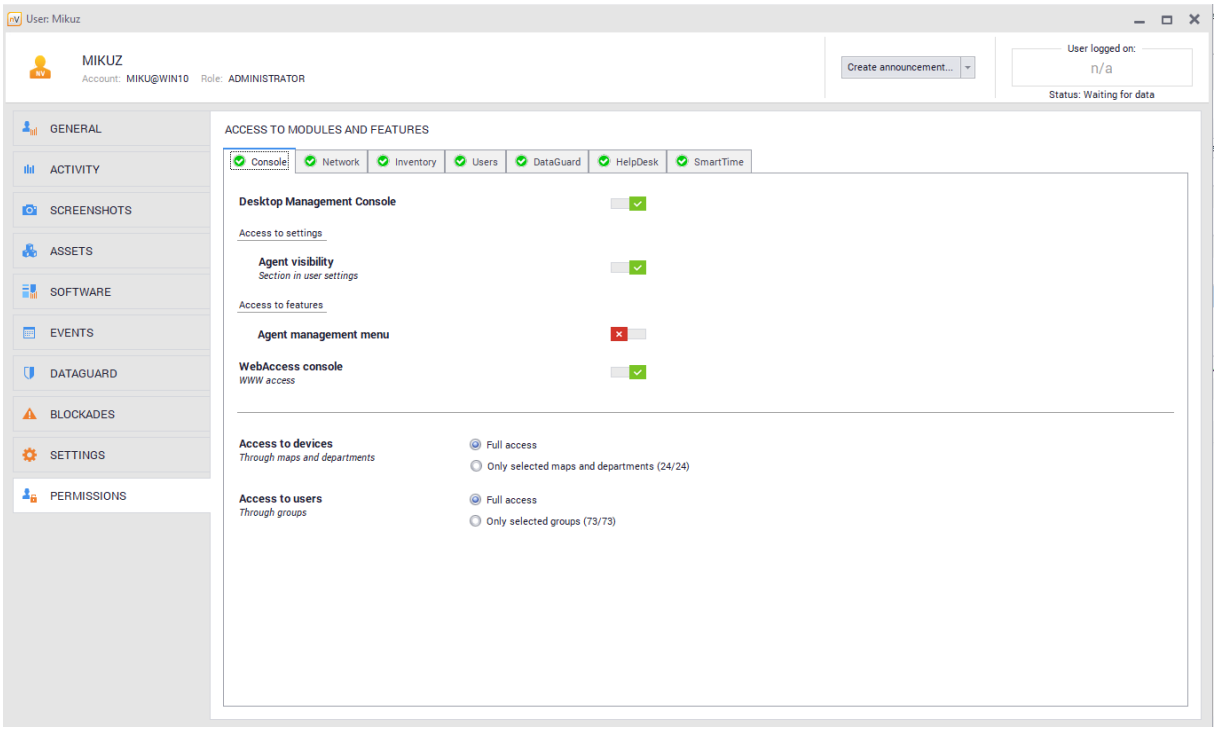
To manage rights of a specific user, you must log in to the built-in administrator account or to an account with the super administrator role.

A person with the super administrator role has always **unlimited access** to all functions of the program. Their access to modules, maps or users cannot be disabled selectively.

Note: The module access rights for the built-in Axence nVision Administrator account (i.e. the administrator whose account was created when you started nVision for the first time) cannot be changed.

Modification of user with "Administrator" role

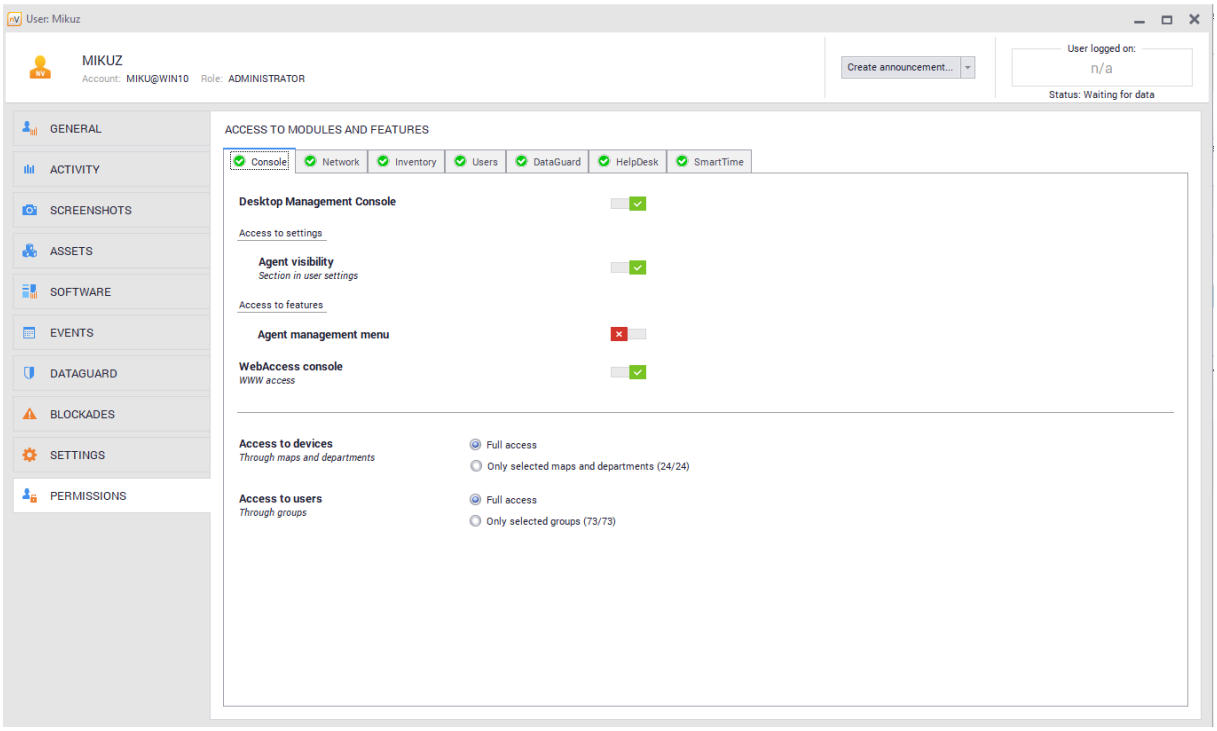
To modify the rights, navigate to the **User information** screen, and then to the **Permissions** tab:



For users with the “administrator” role, it is possible to modify any rights described in chapter Available rights.

Modification of user with "User" role

To modify the rights, navigate to the **User information** screen, and then to the **Permissions** tab.



For accounts with the “user” role, it is possible to modify the following rights:

nVision Administration Console

- Access to the WebAccess console: **YES/NO**
- Access to maps and branches (only available if access to the WebAccess console is enabled).

HelpDesk module

Level of rights in the HelpDesk ticket system:

- HelpDesk employee,
- user.

Access to Chat:

- full access,
- access to technical support only (only available if the person in the ticket system has the “user” role),
- no access.

SmartTime module

Level of rights in the web interface:

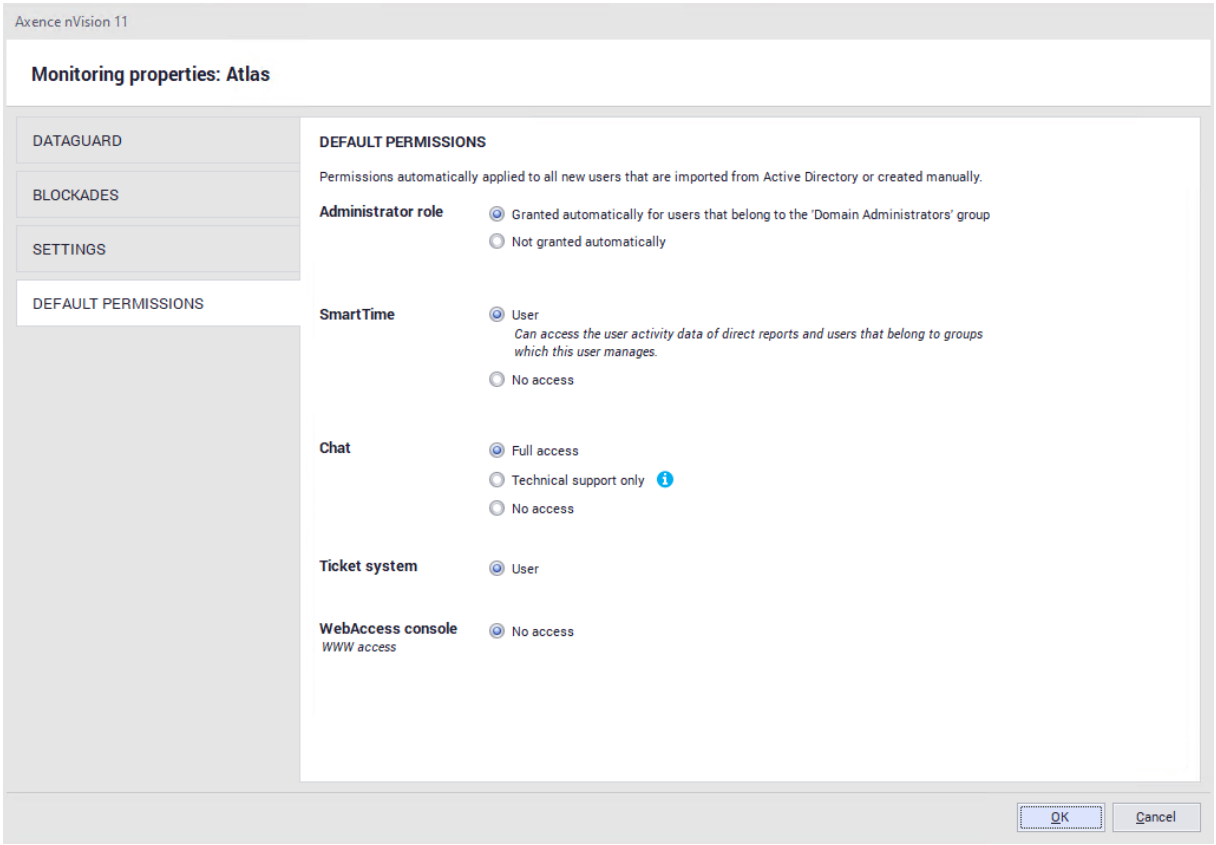
- user,
- no access.

Block access to data of any other users: **YES/NO**

All settings are described in chapter Available rights.

6.5.5 Default user permissions

It is possible to define the **default rights to be assigned to the newly created users and the users imported from Active Directory**. To do this, navigate to the **Users** tab, and then to the **Atlas information / Default rights** screen:



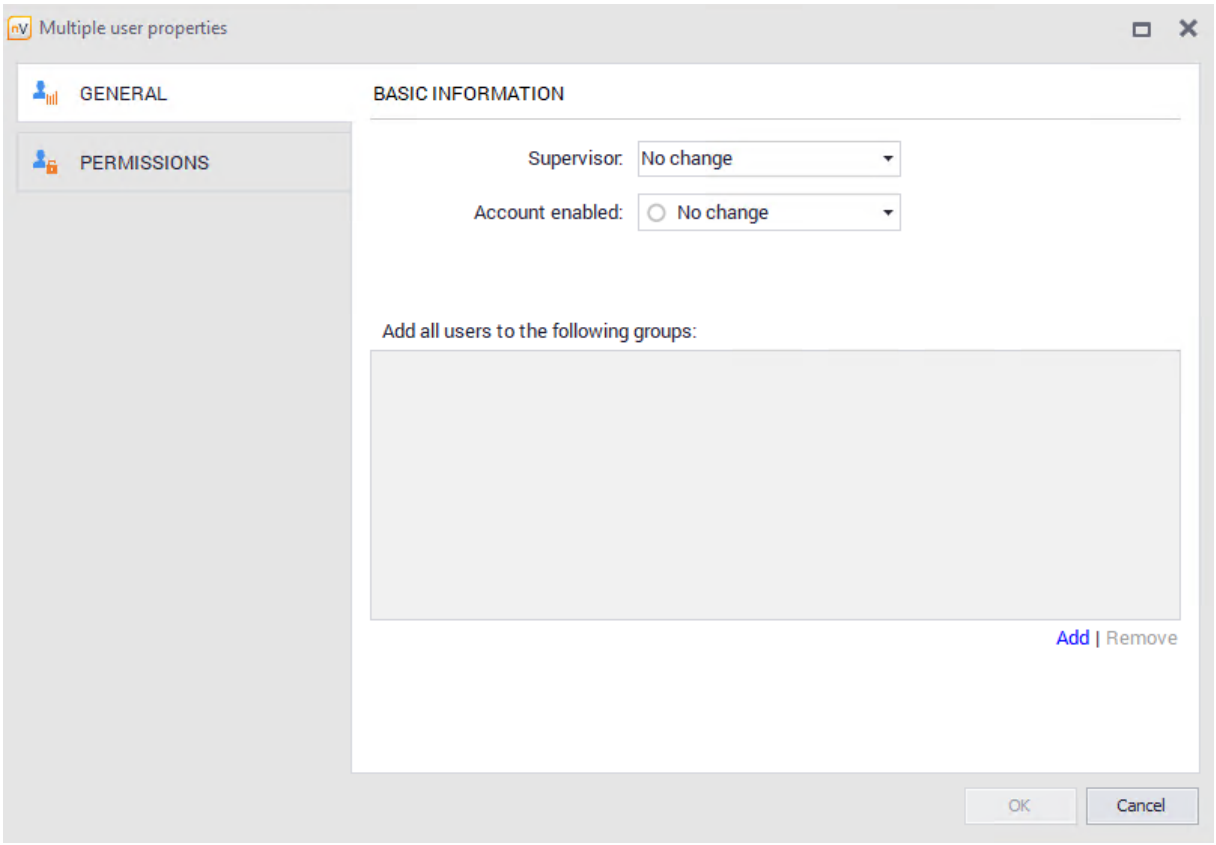
6.5.6 Assigning permissions in bulk

To facilitate the configuration of rights for a significant number of users, you can use the option of assigning rights in bulk.

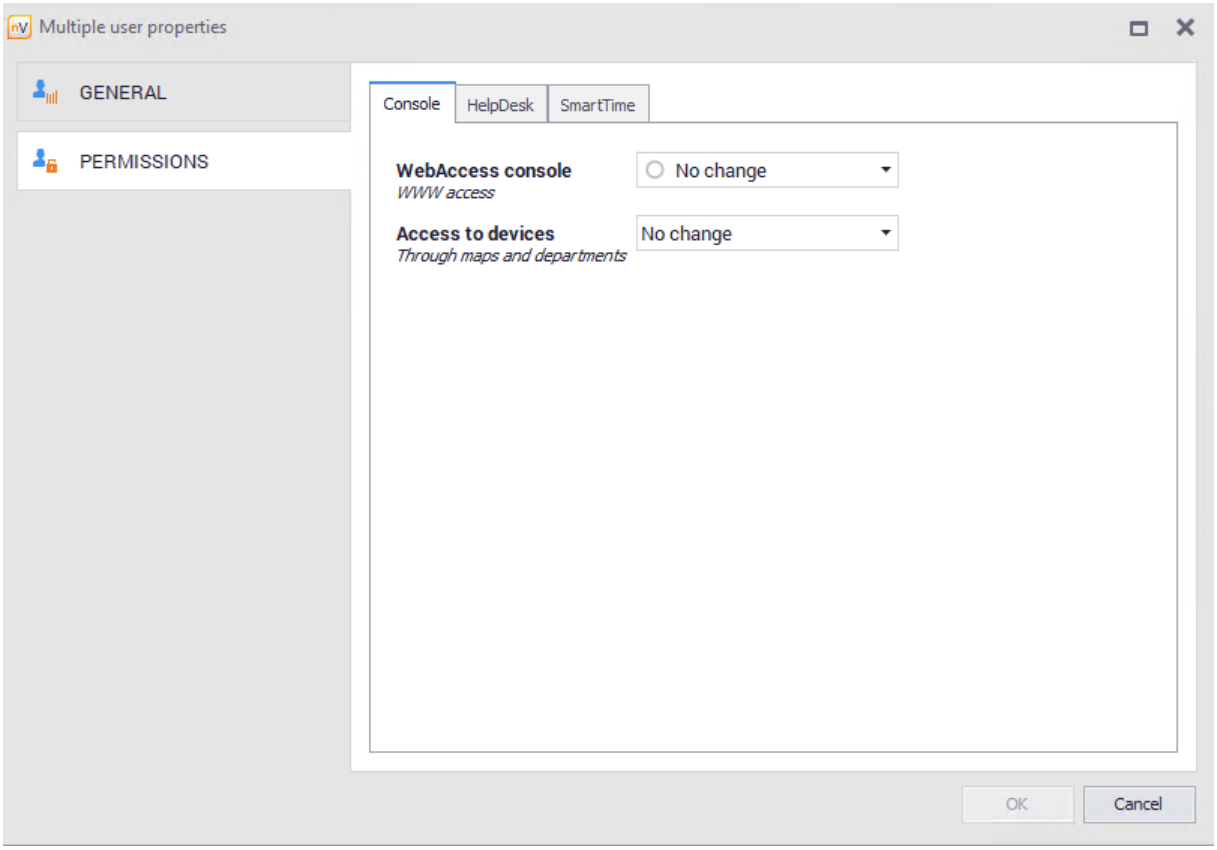
After you select a greater number of users by **right-clicking**, navigate to the **Properties** of selected accounts.

The **General** tab enables to define a superior for selected users, enable or disable them, and add selected persons to or delete from the group.

Note: Accounts imported from Active Directory do not allow the superior, group or account activity to be changed.



By using the **Permissions** tab, you can assign rights to selected parts of the program in bulk:



6.5.7 Migration of permissions from version 10

Below is described the way of migrating user rights for individual roles:

Role "User" in nVision 10

User is always migrated with the following settings:

- Role: “user”
- nVision administration console
  - o Access to the WebAccess console: “no”
  - o Access to maps and branches: “no”

HelpDesk module

- Level of rights in the HelpDesk ticket system: “user”,

- Level of rights in the Chat system: “full access”,

SmartTime module

- Level of rights in the web interface: “user”,

Block access to data of any other users: “no”.

Role "HelpDesk employee" in nVision 10

HelpDesk employee is always migrated with the following settings:

- Role: “user”.

nVision Administration Console

- Access to the WebAccess console: “yes”,
- Access to maps and branches: the same settings as in the WebAccess configuration window in nVision 10.

HelpDesk module

- Level of rights in the HelpDesk ticket system: “HelpDesk employee”,
- Level of rights in the Chat system: “full access”,

SmartTime module

- Level of rights in the web interface: “user”,

Block access to data of any other users: “no”.

Role "Administrator" in nVision 10

If user had the “Management of administrator rights” option enabled, they are always migrated as “super administrator” with the chat option enabled regardless of any other settings.

Otherwise, user is migrated to the normal administrator role and their settings are migrated as follows:

nVision Administration Console

o Access to the nVision desktop console: “yes”,

o Access to the management of Agent visibility settings:

- The same value as the “Management of the user monitoring and blocking settings” right in nVision 10,

o Access to the Agent menu:

- The same value as the “Allow for access to the Agent menu” in nVision 10,

o Access to the WebAccess console: “yes”,

o Access to maps and branches:

- If user had prior access to all objects, then “full access” is assigned. Otherwise, they only retain the objects they had access to in nVision 10,

o Access to users and groups:

- If user had prior access to all objects, then “full access” is assigned. Otherwise, they only retain the objects they had access to in nVision 10,

Network

o Access to the management of the Network module functions:

- The same value as the “Network” checkbox in the “Rights to the nVision modules” in version 10.

Inventory

o Access to the management of the Inventory module functions:

- The same value as the “Inventory” checkbox in the “Rights to the nVision modules” in version 10,

o Access to the management of settings in Agent profiles:

- If the “Inventory” checkbox in nVision 10 was set to “No”, this right is always migrated as “No”,
- Otherwise, this right has the same value as the “Management of Agent profiles” checkbox in nVision 10,

o Access to the file manager:

- If both the “Inventory” and the “HelpDesk” checkboxes in version 10 are set to “No”, this right is always migrated as “No”,
- Otherwise, the same value as the “Allow to use the file manager” checkbox in nVision 10.

o Access to the MSI package manager:

- If the “Inventory” checkbox in nVision 10 was set to “No”, this right is always migrated as “No”,
- Otherwise, this right has the same value as the “Allow to use the MSI package manager” checkbox in nVision 10.

Users

o Access to the management of the Users module functions:

- The same value as the “Users” checkbox in the “Rights to the nVision modules” in version 10,

o Access to the management of settings in Agent profiles:

- If the “Users” checkbox in nVision 10 was set to “No”, this right is always migrated as “No”,

- Otherwise, this right has the same value as the “Management of Agent profiles” checkbox in nVision 10,

o Access to the management of desktop preview settings:

- If both the “Users” and the “HelpDesk” checkboxes in version 10 are set to “No”, this right is always migrated as “No”,
- Otherwise, this right has the same value as the “Management of the user monitoring and blocking settings” checkbox in nVision 10,

o Access to the management of monitoring settings,

o Access to the management of blocking settings:

- If the “Users” checkbox in nVision 10 was set to “No”, both rights are always migrated as “No”,
- Otherwise, both rights have the same value as the “Management of the user monitoring and blocking settings” checkbox in nVision 10.

DataGuard

o Access to the management of the DataGuard module functions:

- The same value as the “DataGuard” checkbox in the “Rights to the nVision modules” in version 10,

o Access to the management of settings in Agent profiles:

- If the “DataGuard” checkbox in nVision 10 was set to “No”, this right is always migrated as “No”,
- Otherwise, this right has the same value as the “Management of Agent profiles” checkbox in nVision 10.

HelpDesk

o Access to the management of the HelpDesk module functions:

- The same value as the “HelpDesk” checkbox in the “Rights to the nVision modules” in version 10,

o Access to the management of remote access settings:

- If the “HelpDesk” checkbox in nVision 10 was set to “No”, the rights are always migrated as “No”,
- Otherwise, this right has the same value as the “Management of the user monitoring and blocking settings” checkbox in nVision 10,

o Access to the management of desktop preview settings:

- If both the “Users” and the “HelpDesk” checkboxes in version 10 are set to “No”, this right is always migrated as “No”,
- Otherwise, this right has the same value as the “Management of the user monitoring and blocking settings” checkbox in nVision 10,

o Access to the file manager:

- If both the “Inventory” and the “HelpDesk” checkboxes in version 10 are set to “No”, this right is always migrated as “No”,
- Otherwise, the same value as the “Allow to use the file manager” checkbox in nVision 10,

o Access to remote management tools:

- If the “HelpDesk” checkbox in nVision 10 was set to “No”, the rights are always migrated as “No”,
- Otherwise, this right has the same value as the “Allow to use the remote management tools” checkbox in nVision 10,

o Level of rights in the ticket system:

- If the “HelpDesk” checkbox in nVision 10 was set to “Yes”, user is assigned the “administrator” role. Otherwise, they are assigned the “user” role.

o Level of rights in the Chat system: always “full access”.

SmartTime

o Access to the management of the Business View module functions:

- If user had the “Users” checkbox in the “Rights to the nVision modules” in nVision 10 and access to all users and groups, they are assigned the right to manage the Business View module,
- In any other case, this setting is migrated as “No”,

o Access to the management of monitoring settings:

- If user was assigned the right to manage the Business View module, this right has the same value as the “Management of the user monitoring and blocking settings” checkbox in nVision 10,
- Otherwise, this setting is migrated as “No”,

o Level of rights in the web interface:

- If user was assigned the right to manage the Business View module, they are assigned the “administrator” role. Otherwise, they are assigned the “user” role.

o Block access to data of any other users: always “No”.

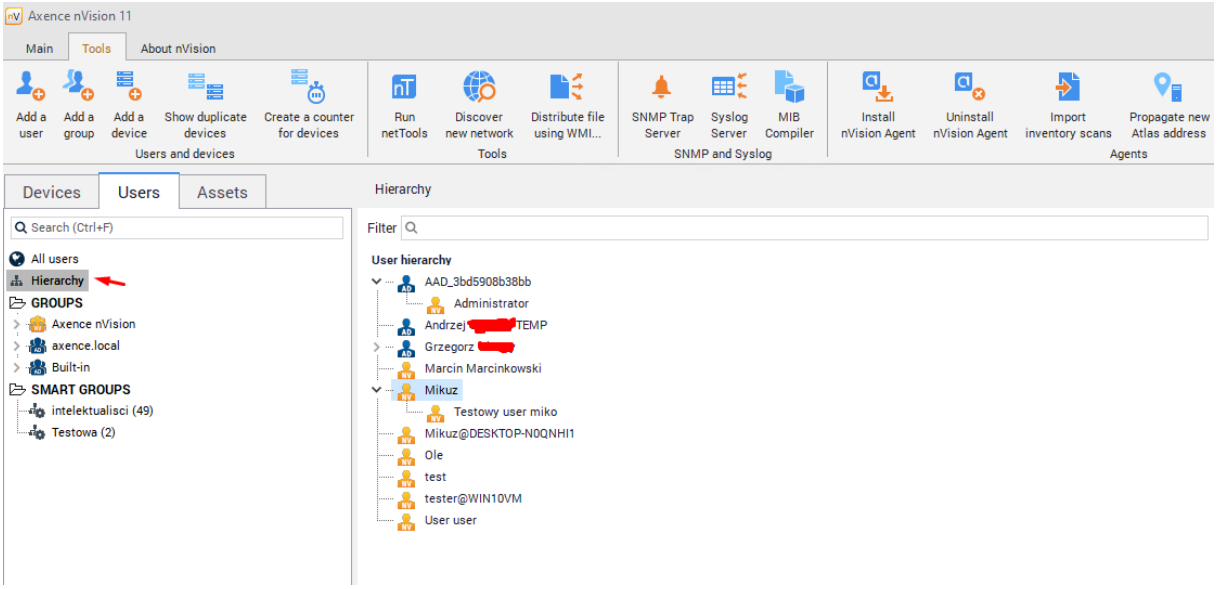
6.6 Hierarchy of users

The hierarchy of users was introduced in version 11 of nVision. It enables to determine the relationships among users.

Each user has the “superior” field, which may be left blank or contain exactly one user. The hierarchy of users is built only based on the relationships contained in this field. Any users that do not have a superior are located on the root level, but there is no relationship among them in the hierarchy.

This feature is closely related to the SmartTime module where a user that is higher in the hierarchy (superior) may have access to specific activities of a user that is lower in the hierarchy (subordinate). For more information about this relationship, refer to SmartTime chapter.

To view the hierarchy of users, click the **Hierarchy** button in the **Main / Users** tab:

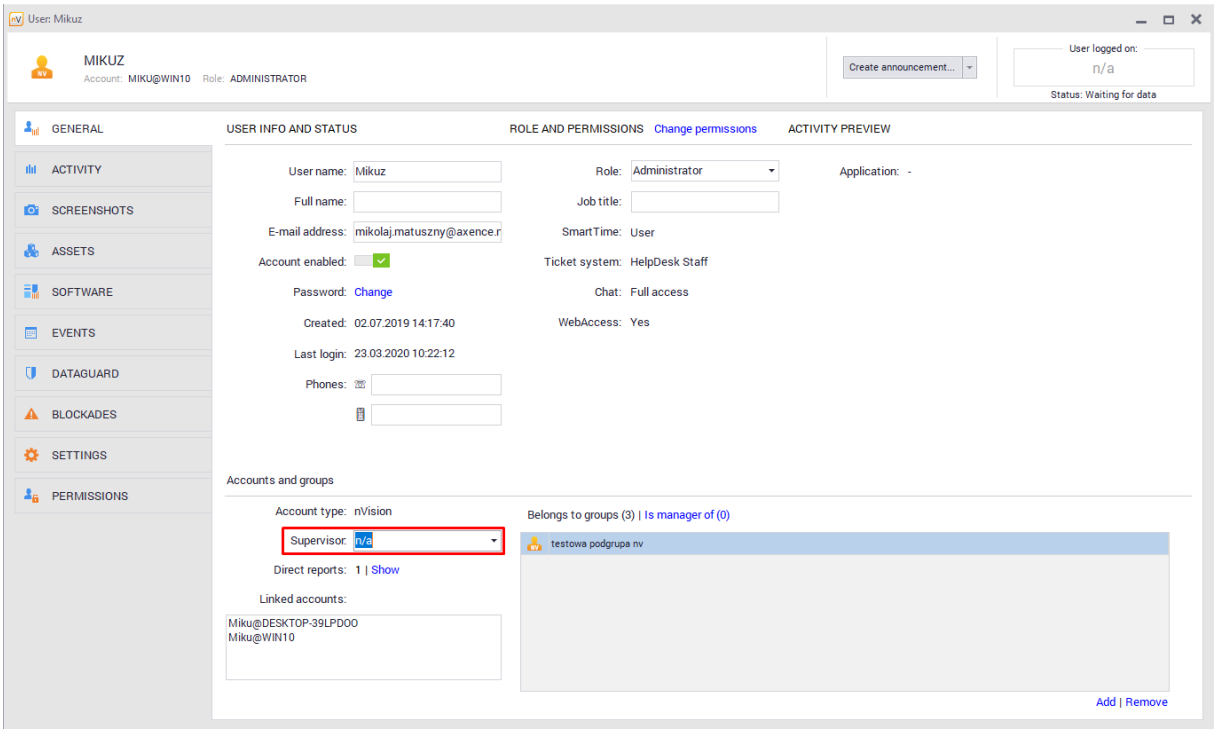


Creating a hierarchy

The hierarchy of users can be created in two ways:

The first one is to **drag and drop users in the hierarchy view**. Please note that you cannot change the superiors/subordinates of the users downloaded from Active Directory.

The second way is to define the superior in the user information screen. To do this, navigate to this screen for the selected user and modify the “superior” field:



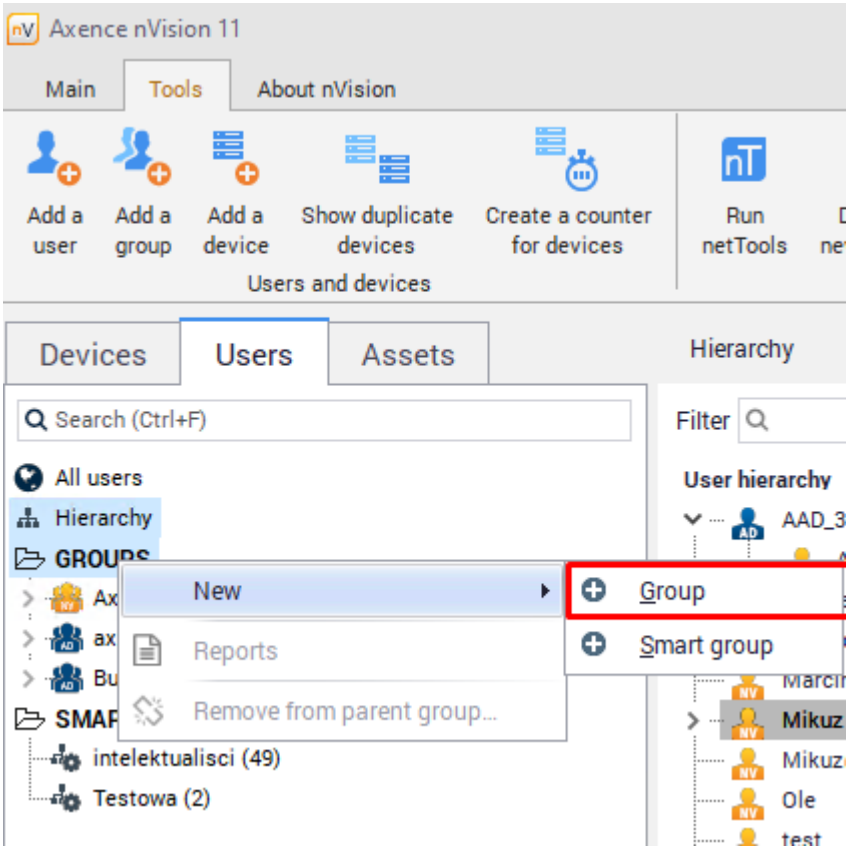
6.7 User groups

6.7.1 User groups

Groups allow to entering a greater number of users into a single organizational unit. This may prove useful when you want to assign access to a corporate pendrive or block access to web pages for greater group of users.

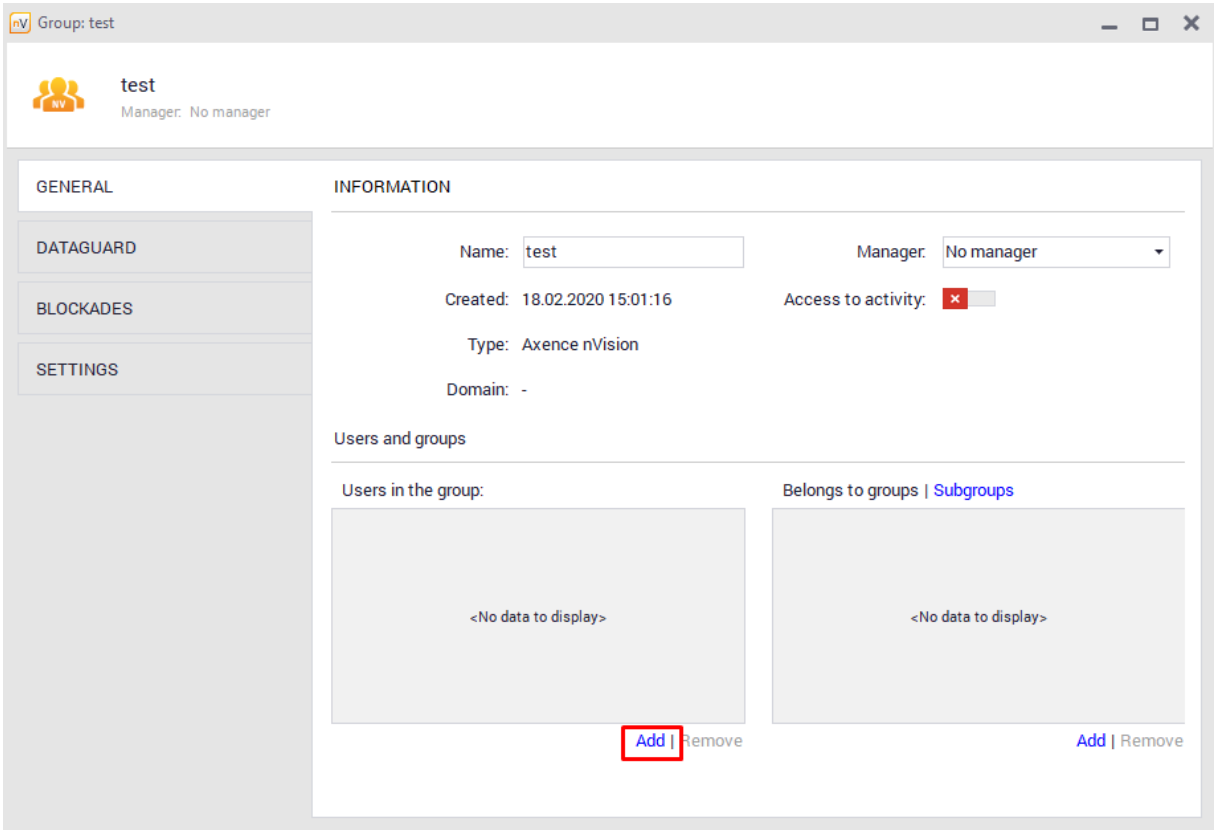
Adding a group

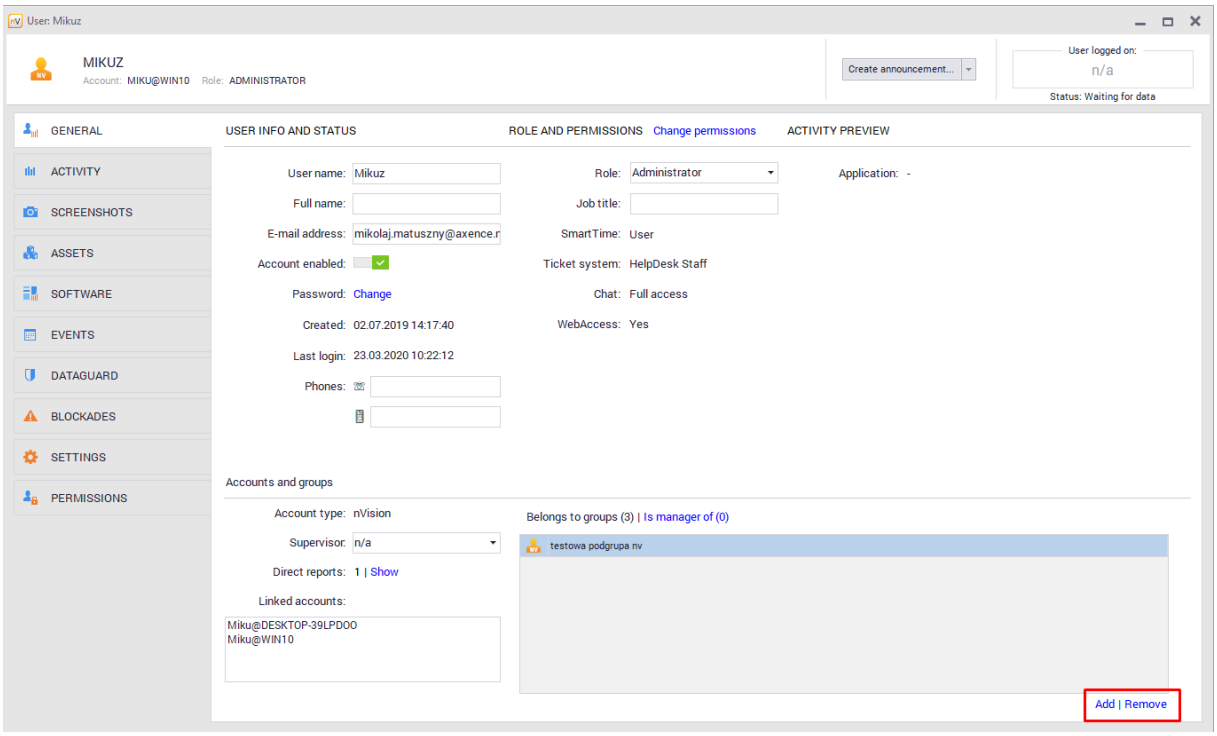
To add a group, right-click the **Groups** button, and then select **New / Group** from the context menu.



Adding users to a group

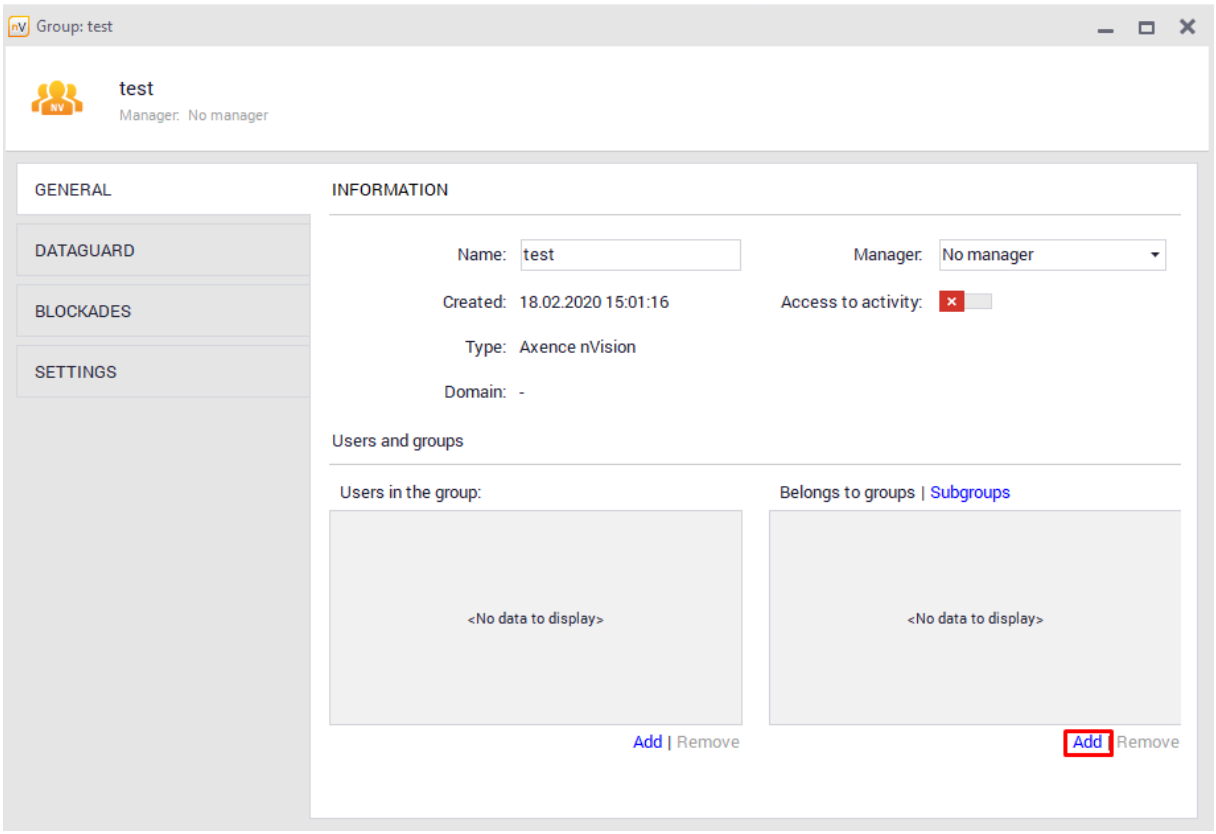
Users can be added to groups in the group property screen for the given group or directly in the user information screen for the selected user.





Subgroups

Subgroups are lower in the hierarchy than the selected group. They allow inheriting settings from the parent group and modifying selected settings. A subgroup can be defined in the group property screen.



Group settings

When in the group property screen, you can modify the following attributes:

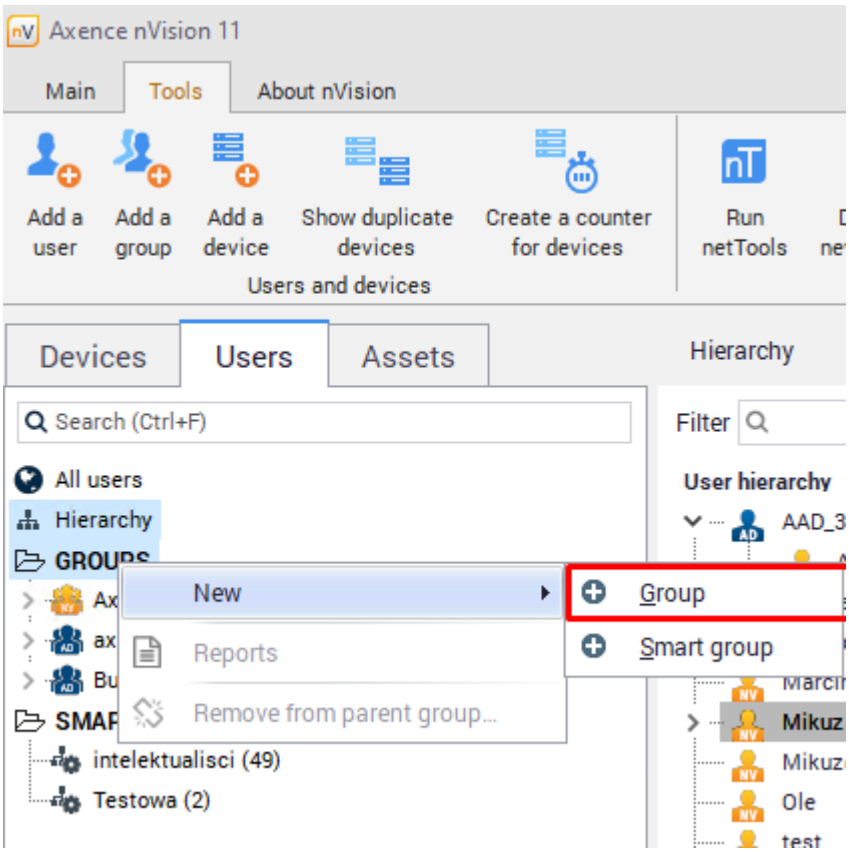
- Group name,
- Group manager – this feature is connected with the SmartTime module. Group manager has access to their own data as well as data of the entire group and individual members. This user can also edit the group productivity exceptions. If they edit productivity exceptions for such a group, they can see the global list of applications, their productivities and categories, however they cannot edit these items. For more information, refer to this chapter,
- Group members,
- Subgroups,
- DataGuard module settings,
- Filtering websites, blocking applications and downloaded files,
- Monitoring, remote desktop and Agent visibility settings.

6.7.2 Smart groups

Smart groups differ from normal groups of users in that they are created dynamically. To create a smart group requires the definition of certain conditions to be met by users to be added to this group.

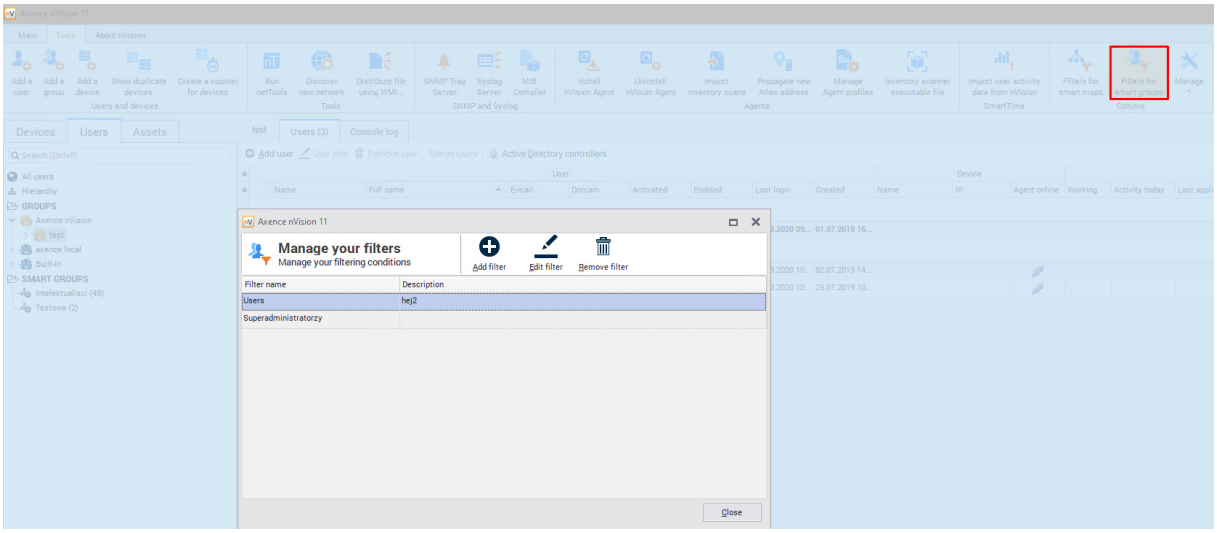
Creating a smart group

To add a smart group, right-click the **Groups** button, and then select **New / Smart group** from the context menu.



Creating a smart group filter

The next step is to create a filter. To do this, select **Filters for smart groups** on **Tools** tab or click **Add** near filter field while creating Smart Group



With the above filter in place, users with the “super administrator” role whose names begin with “A” will be added to the smart group.

Refresh time

The last step is to define the interval for checking the conditions defined in filters. The default setting is 5 minutes.

Part VII

7 Users module

7.1 Introduction

Axence nVision® is equipped with an Agent designed to monitor user activity on Windows workstations. It collects the following information:

- Activity/inactivity time. Inactivity (break) is the time, when the user does not press any keys and does not move the mouse.
- Application usage time. This is grouped for easier analysis of the user activity.
- Visited web pages. The Agent analyzes low level network information to get this list.
- Hardware and software inventory (see the 'Hardware and software inventory' chapter).
- Data on sent e-mail messages.
- Printing information.

The Agent automatically sends the information about user activity every 1 hour. The hardware inventory is scanned every 24 hours.

User activity monitoring requirements

In order to collect user activity information, you have to install the nVision Agent on the remote host (which will also enable nVision to collect the inventory). You also have to open TCP port 4434 on the computer running nVision. Please refer to Requirements and configuration 27 topic for more information.

Please note, that all the communication between Agents and nVision requires authorization and no data may be communicated if the Agents and nVision are properly configured.

User activity information

1. Open the **User info** window.
2. Go to the **User activity** tab.
3. Select the page you would like to see:
    - Summary,
    - Work time,
    - Applications,
    - Websites,
    - Printouts,
    - E-mails,
    - Bandwidth usage.
4. Select the time period of the presented data.

It is possible to view data concerning all users who were using this computer by expanding the **Users** menu in the upper part of the window.

Computers with DHCP assigned address

When a computer has a new IP address assigned by DHCP, then it will be updated in the nVision database upon a connection between the Agent and nVision. Therefore, you do not have to do that manually.

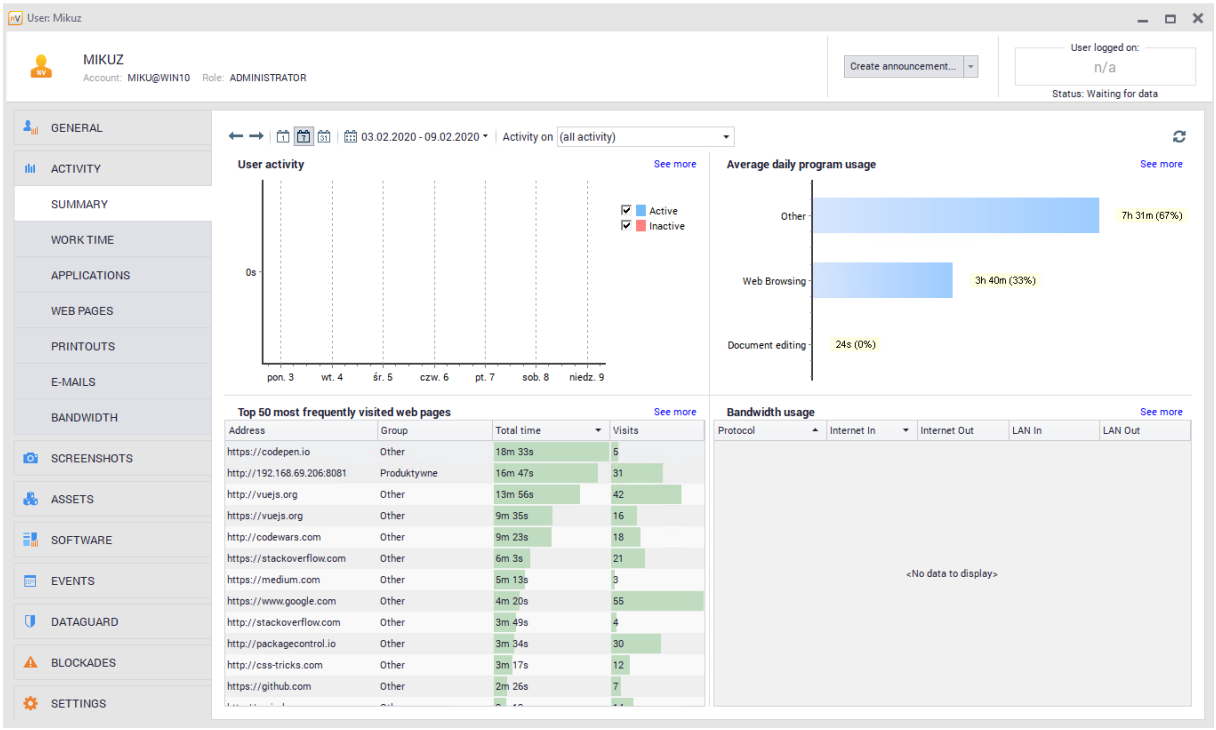
7.2 Overview

To view general information about user activity, go to the **User info** window, **User activity / Summary** tab.

Also, find out about the monitoring settings 31 model.

This tab shows information about:

- user activity (active/inactive time),
- average daily program usage by groups configured in nVision options 43,
- top 50 most frequently visited web pages,
- bandwidth usage in the local network and the Web, with a division into inbound and outbound traffic.



More details about network traffic can be found in the **Bandwidth usage** tab.

7.3 Blocking access to selected applications

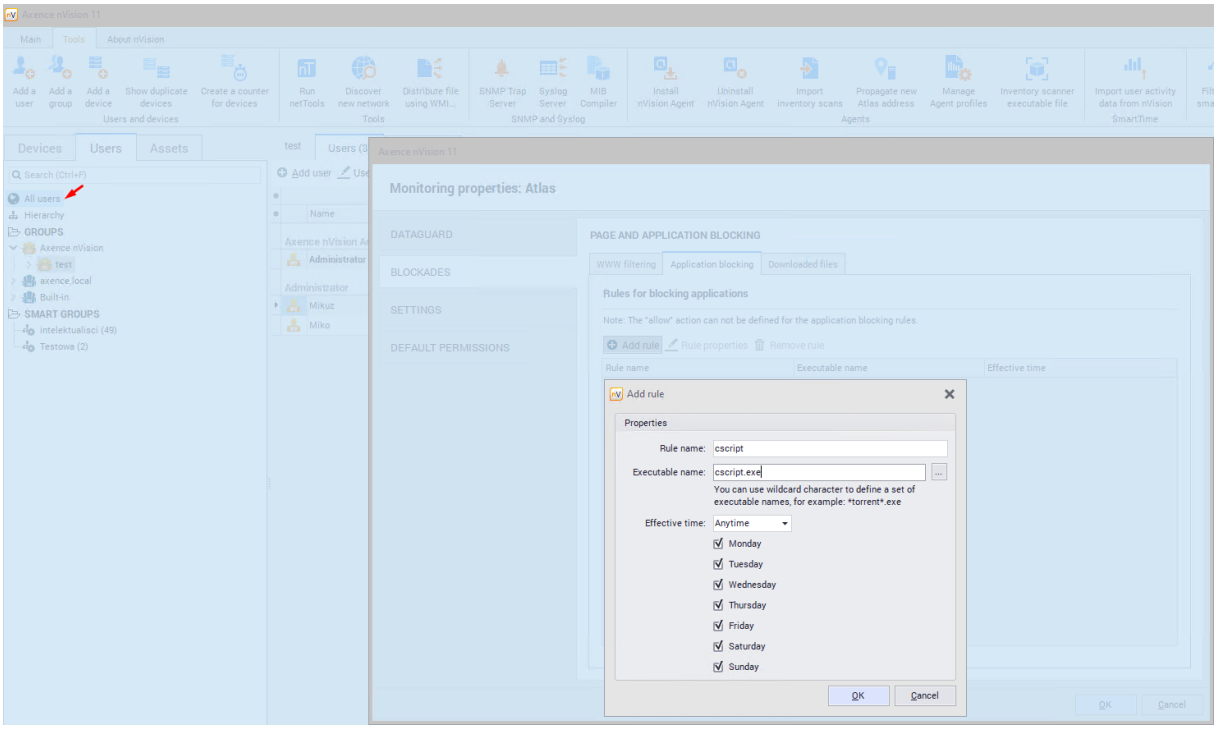
Applications can be blocked for a workstation with an installed nVision Agent by the proper configuration of the Agent. By default, all applications can be executed.

The model blocking settings are presented in the Blocking settings 35 chapter.

Blocking applications

To block an application:

1. Navigate to the **Atlas information**, **Group information** or **User information** window. Switch to the **Blockades** tab.
2. Open the **Blocking applications** page.
3. Click the **Add rule** button.
4. Enter the rule name, executable file name and effective time. Click **OK**.

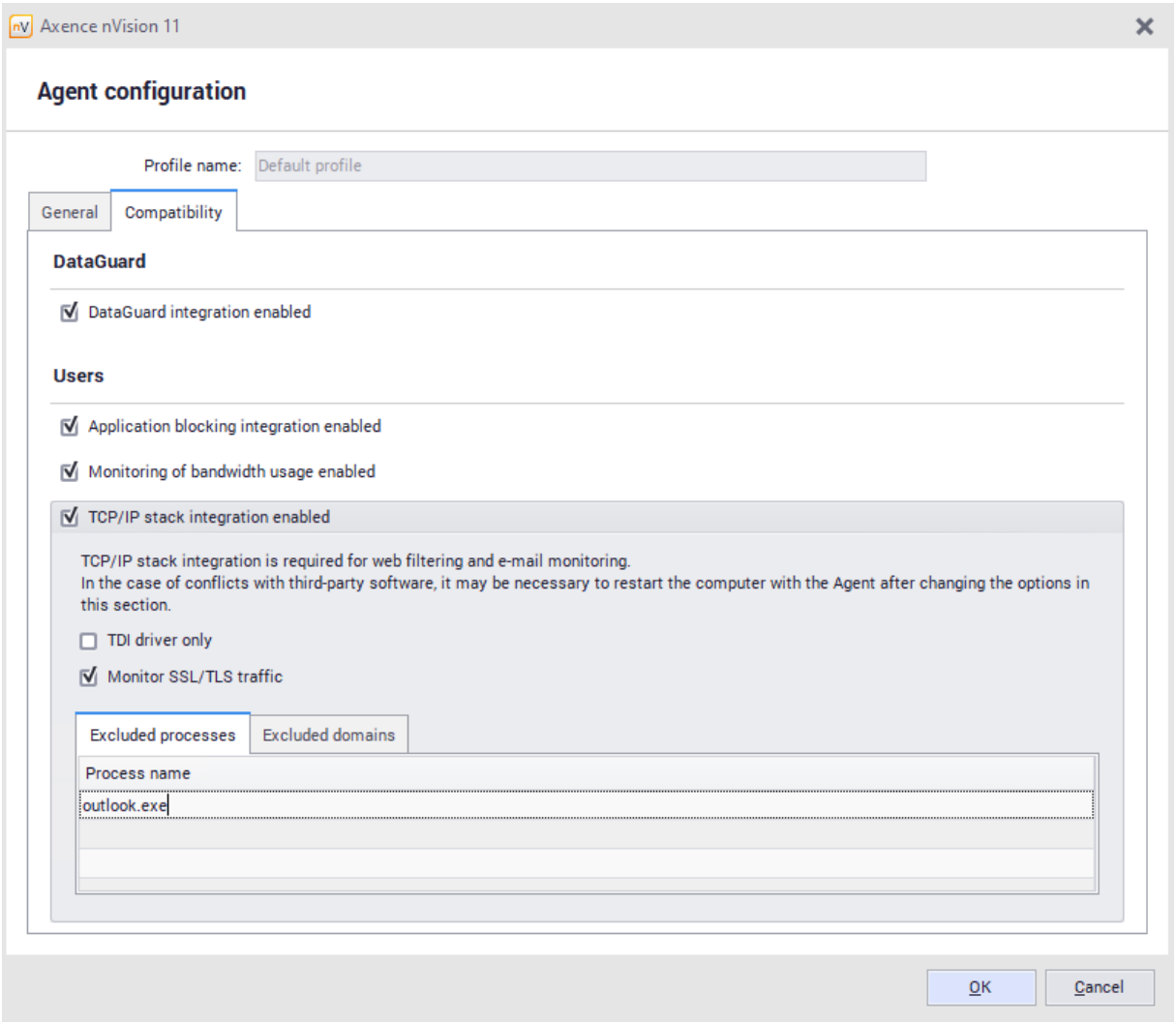


In the nVision options 43, you can configure the text of the notification to be shown to users when they make an attempt to start a blocked application.

Excluding processes from blocking rules in the Agent profile

To exclude processes for all the devices used, you must properly configure the Agent profile.

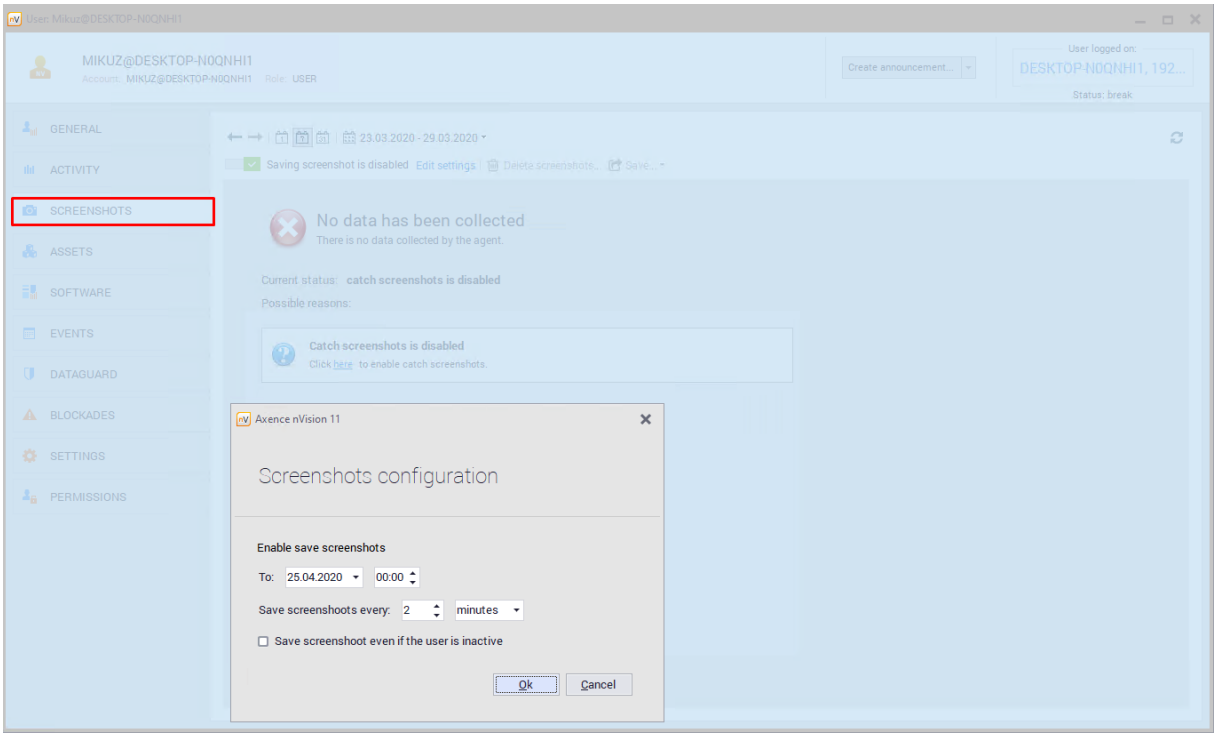
1. Navigate to the **Tools and options** tab, and then to the **Manage Agent profiles** menu.
2. Select the Agent profile to be edited or create a new one that will suit your needs.
3. In the **Edit** window, navigate to the **Compatibility** tab, and then to the **Excluded processes** tab.
4. Add the processes to be blocked and confirm with **OK**.



7.4 Screenshots

Saving screenshots is disabled by default. If you want to save screenshots cyclically:

1. Go to the **Screenshots** tab in the **User info** window.
2. If there is no data collected and the Agent is installed, **Enable screenshots saving**.



3. Set how often and until when you want the screenshots to be taken.
4. Wait for Agent to send data or refresh .
5. You can view screenshots and save them as *.jpeg files.

7.5 E-mails

If you want to monitor e-mails, enable this option in Agent settings (see Agent settings 117).

If you encounter any problems with monitoring e-mails, refer to I cannot block websites and monitor e-mails 122 topic.

Monitoring e-mails is only possible for machines with the installed Agent and enabled integration with the TCP/IP stack.

The following protocols are supported at the moment:

- *SMTP:25,*
- *SMTP:587,*
- *SMTP via SSL,*
- *POP3 via SSL,*
- *POP3:110.*

The following protocols are not supported at the moment: IMAP, MAPI.

Important: Monitoring covers inbound and outbound mail. Sender, recipient, subject and size are recorded. Mail content is not monitored.

7.5.1 Blocking access to selected websites

Websites can be blocked for a workstation with an installed nVision Agent by means of Agent profiles. By default, all websites can be accessed. To enable blocking, toggle on the integration with TCP/IP stack in the **Compatibility and performance** tab. To learn how to do this, see the chapter I cannot block websites 122.

The following protocols are supported at the moment: HTTP, HTTPS, SMTP:25, SMTP:587, SMTP via SSL, POP3 via SSL and POP3:110. The following protocols are not supported at the moment: IMAP, MAPI.

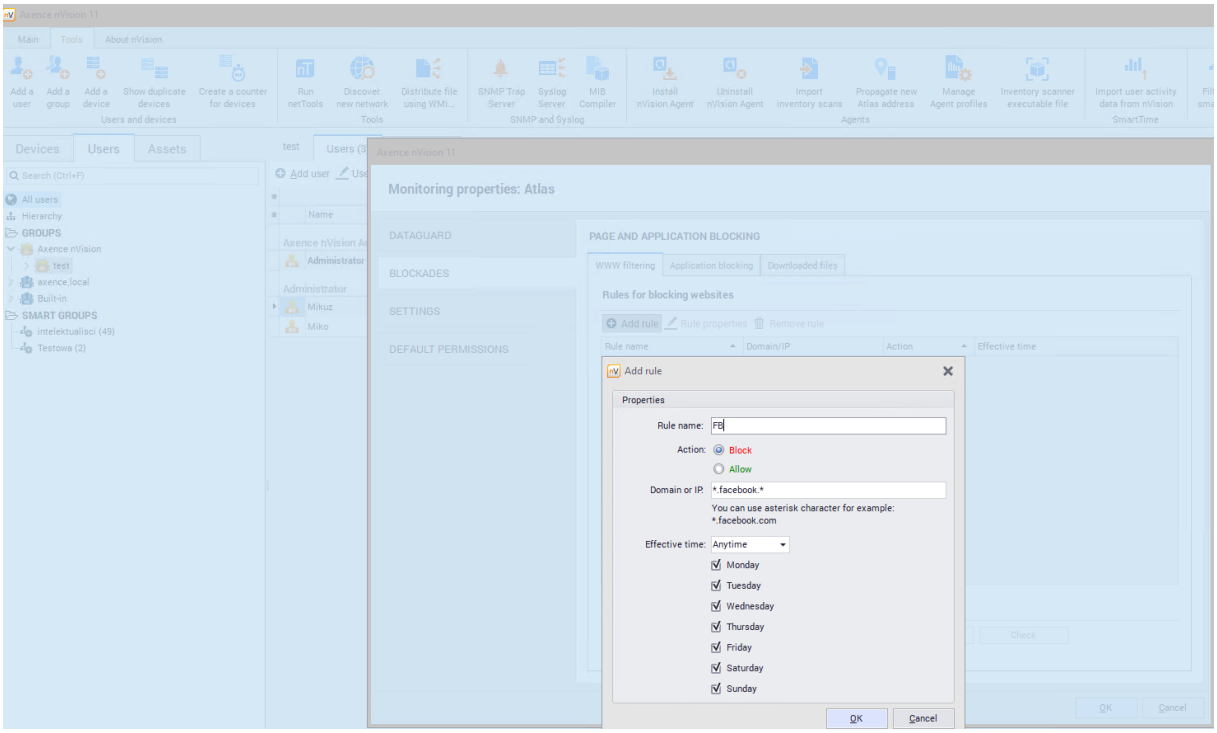
Blocking access to websites

The model blocking settings are presented in the Blocking settings 35 chapter.

To block access to a website:

1. Navigate to the **Atlas information**, **Group information** or **User information** window. Switch to the **Blockades** tab.
2. Select the **Web filtering** page.
3. Click the **Add rule** button.
4. Enter the rule name, select the **Block** action and enter an IP address or domain to be blocked. An example of the rule is shown on the image below.

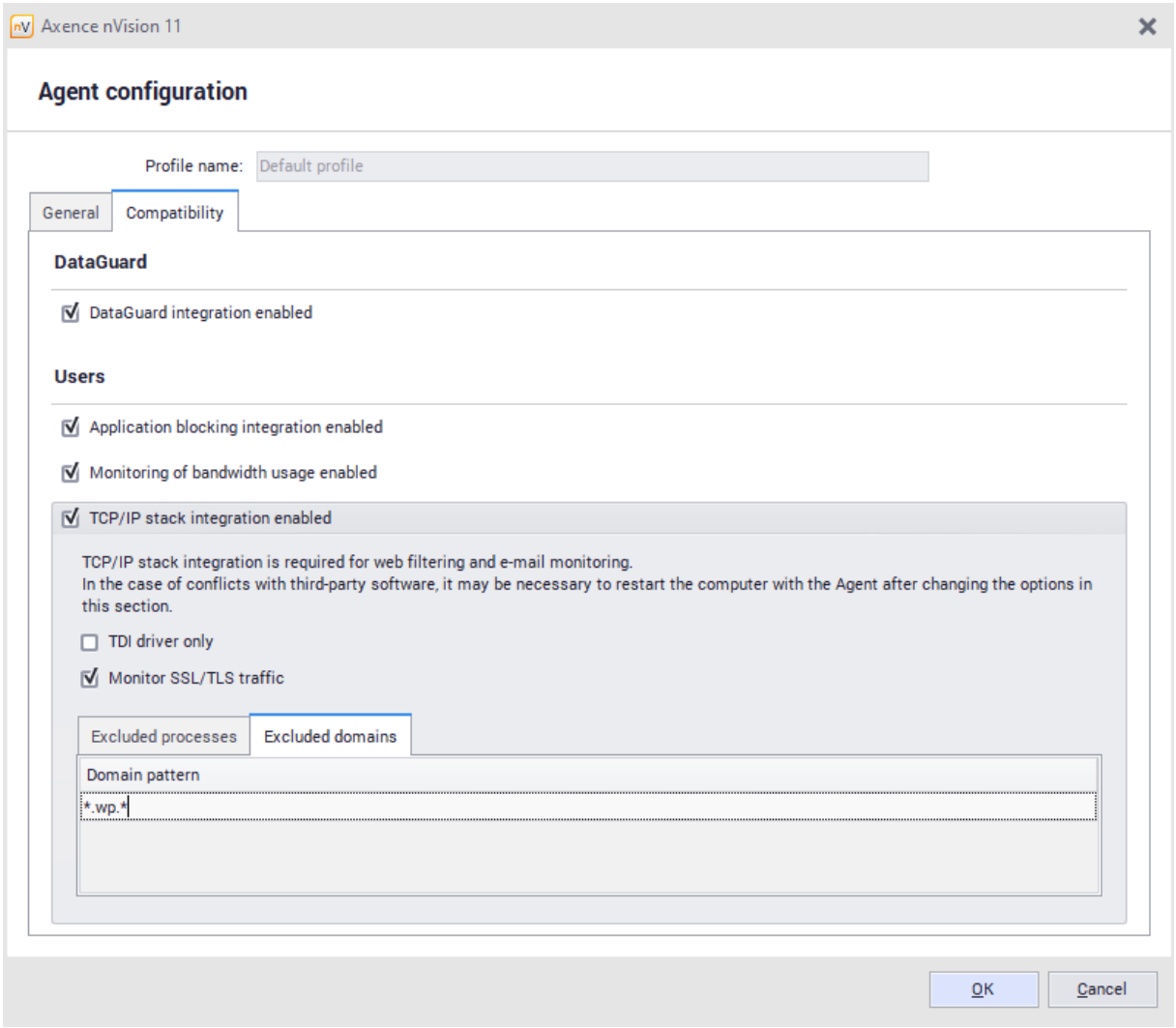
   In the nVision options 43, you can configure the text of the notification to be shown to users when they visit a blocked website.



Excluding domains from blocking rules in the Agent profile

To exclude domains for all the devices used, you must properly configure the Agent profile.

1. Navigate to the **Tools and options** tab, and then to the **Manage Agent profiles** menu.
2. Select the Agent profile to be edited or create a new one that will suit your needs.
3. In the **Edit** window, navigate to the **Compatibility** tab, and then to the **Excluded domains** tab.
4. Add a domain to be blocked and confirm with **OK**.



Time window

It is possible to set the time window (hours and days) when the given website will be blocked. For example, you can block access on business days during working hours. Thus, outside of the time window devoted to work, the user will be able to access the blocked website.

Problems

If any problems with blocking websites occur, see the chapter I cannot block websites 122 to find a solution.

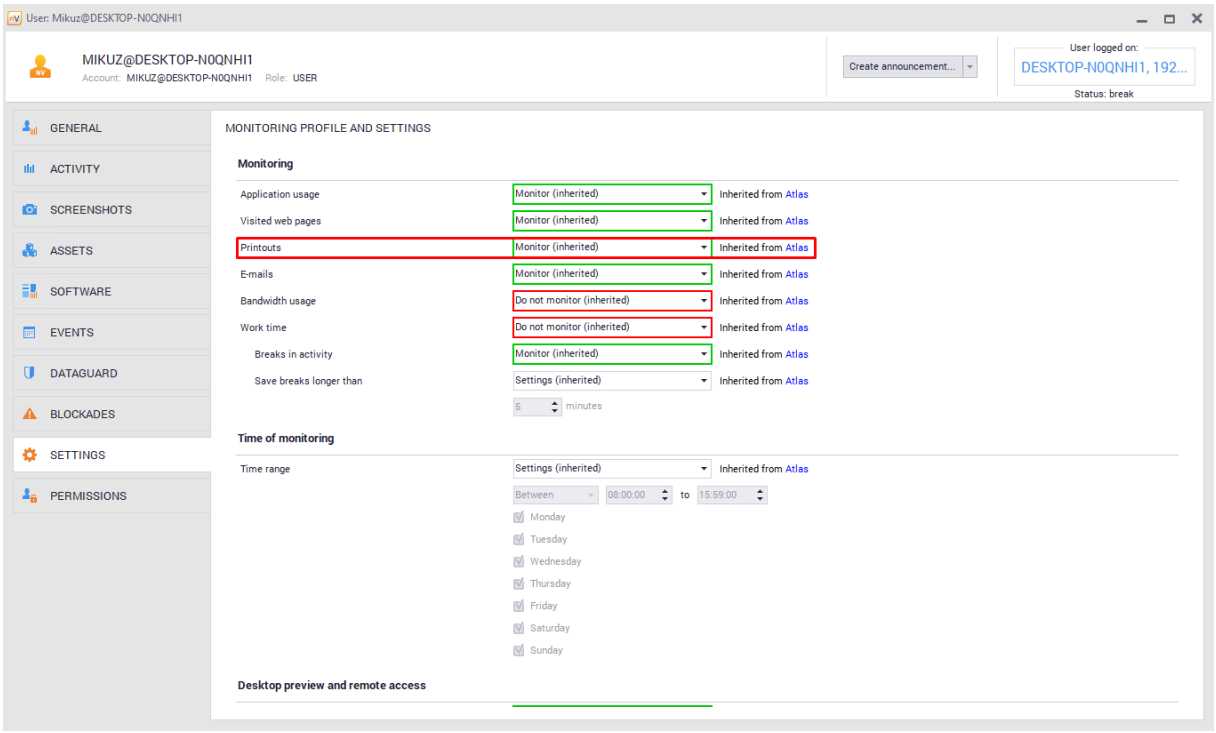
7.6 Printouts

7.6.1 Printout monitoring

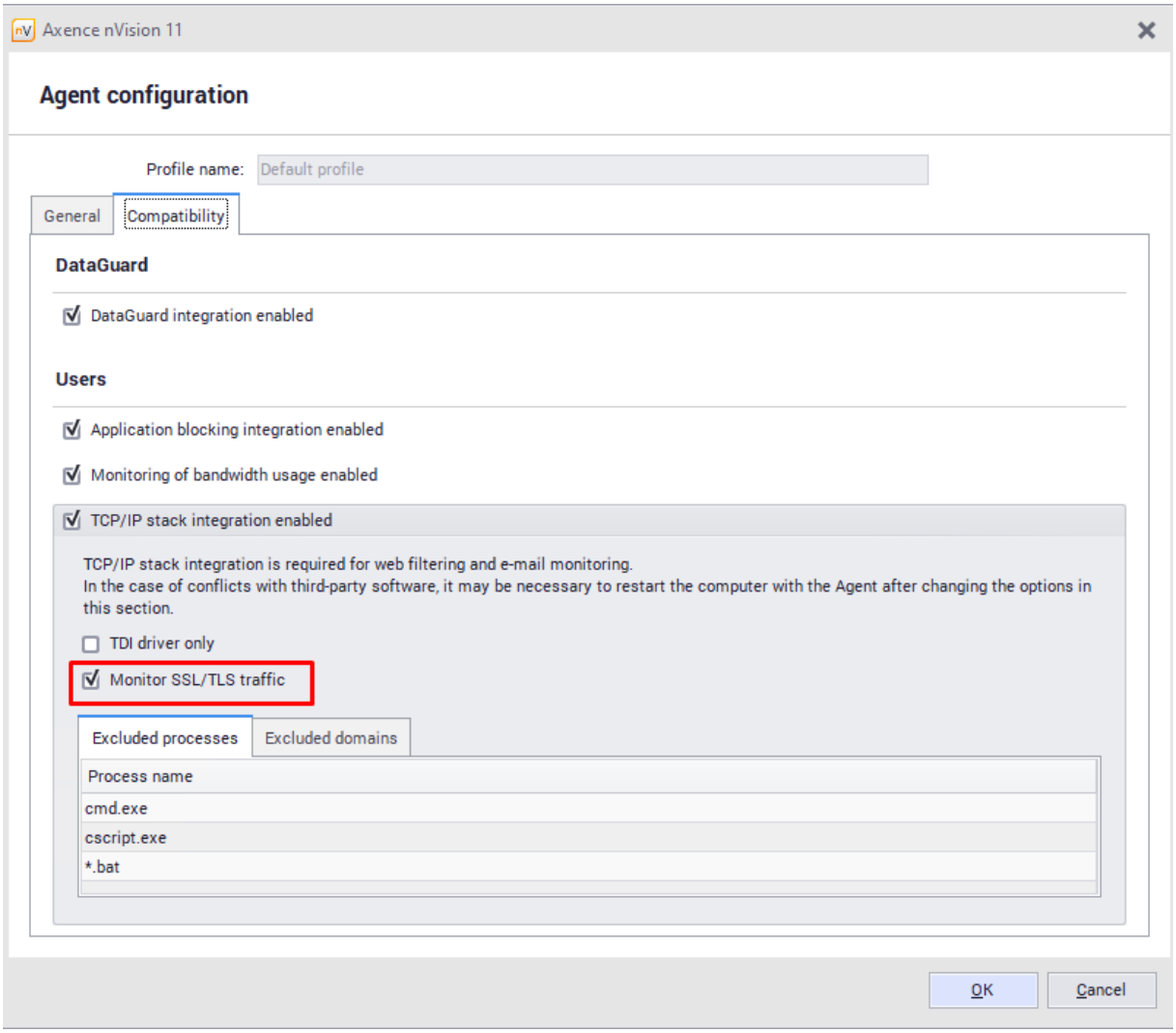
It is possible to monitor printing on machines with installed Agents (if the appropriate option in the monitoring settings 31 is marked).

To enable printout monitoring:

1. Navigate to the Settings window for the Atlas or group or to the User info window.
2. Go to the **Settings** tab.
3. In the **Printouts** option, select **Monitor**.



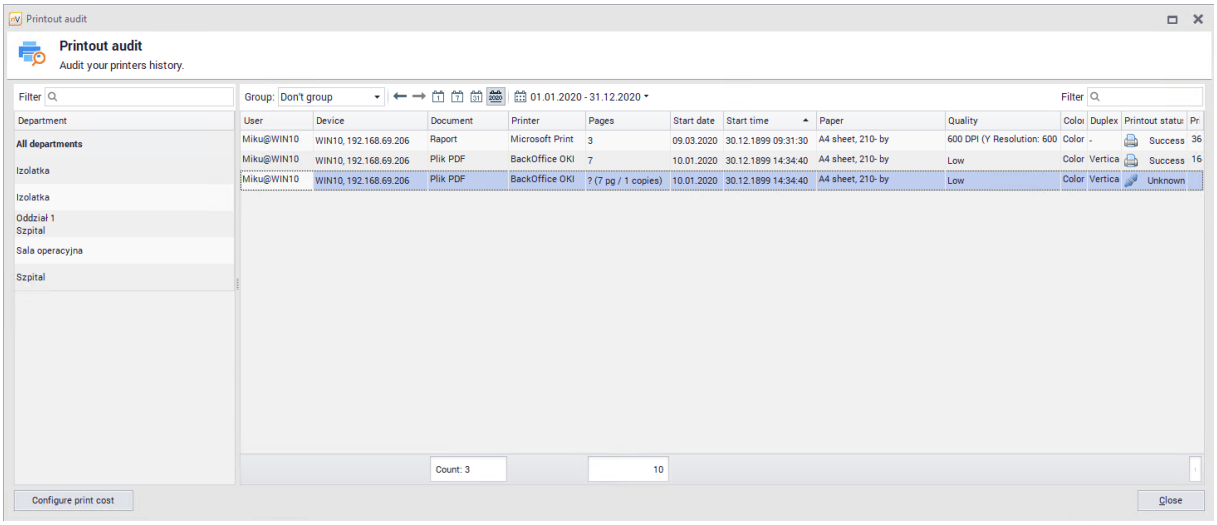
If the mail server uses SSL/TLS encryption, you need to select the relevant option in the Agent profile to monitor correspondence:



7.6.2 Printout audit

The printout audit window allows the printing history in selected periods to be viewed (day, week, month or year). Data are sorted in chronological order. To facilitate searching for necessary information, grouping options are available – by users, devices and printers.

To perform a printout audit, click **Printout audit** on the ribbon (in the **Main** page). The **Printout audit** window will open.



If the printout data are not collected, even though the computers with Agents have the printout monitoring options checked, see the section Users' printouts are not monitored 579.

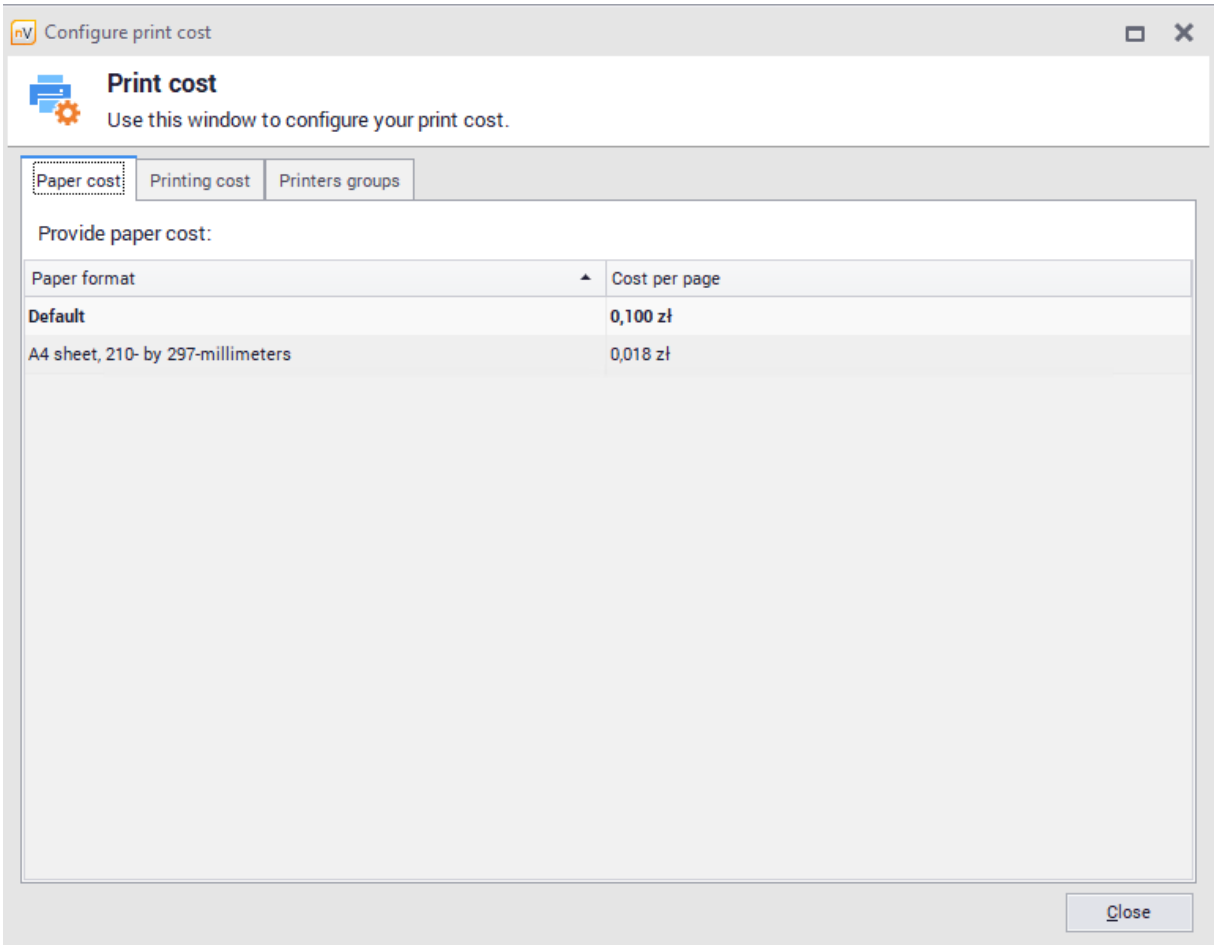
7.6.3 Printing costs

Printout monitoring allows the costs borne in relation to document printing to be discovered. To ensure the proper cost assessment, configure the expenses, including the costs of paper and printing on specific printers.

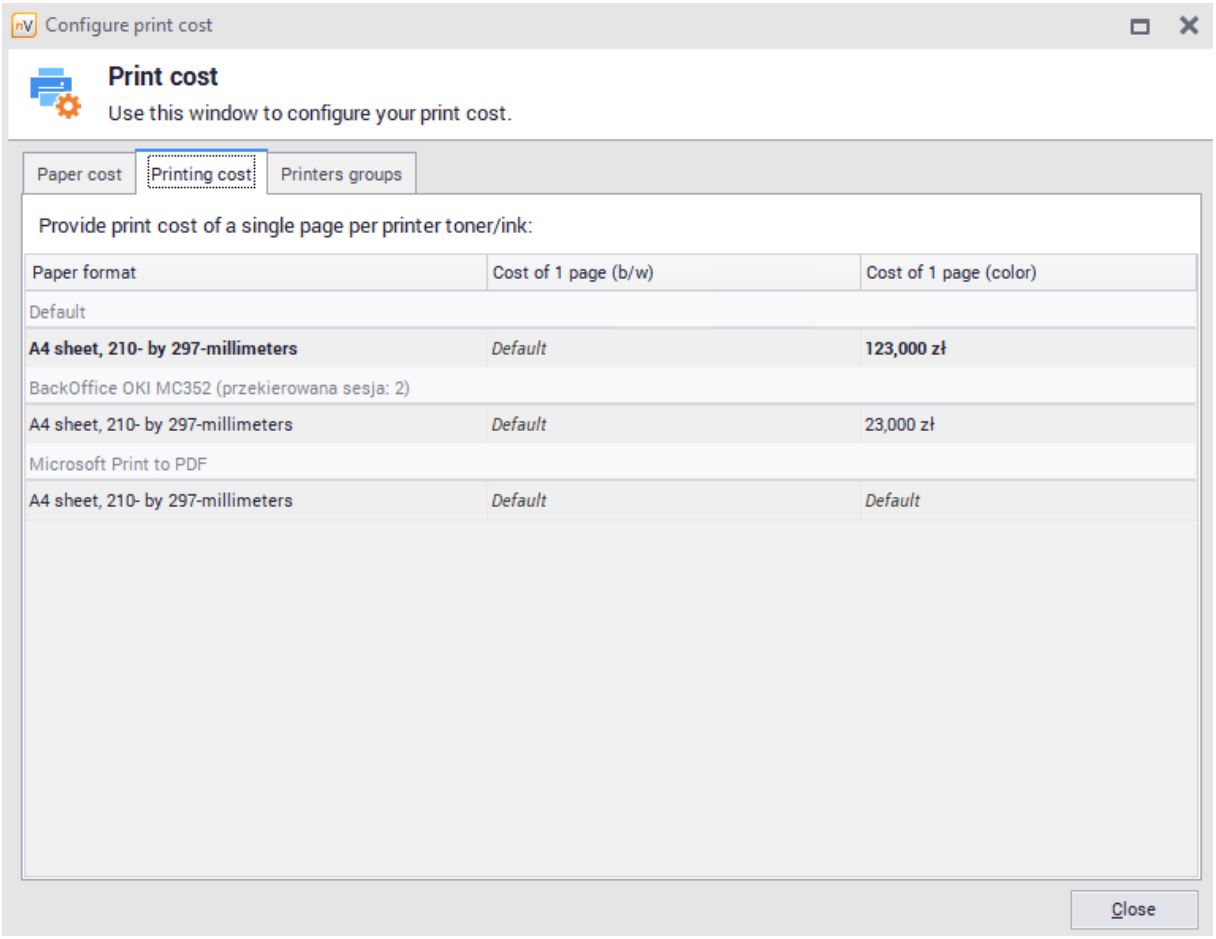
Configuration

To configure the printing costs:

1. Select **Configure printing costs** in the menu bar (in the **Main** page). You can also do this from the level of the **Printout audit** window by means of the appropriate button. In both cases the **Configure print cost** window will open.
2. In the **Paper cost** tab specify the costs for paper formats (A3, A4, A5, envelope). The cost specified in the **Default** cell will be used for all formats for which the specific cost is not determined.



3. In the **Printing cost** tab specify the printing costs for specific printers. You can also specify different costs for black and white and color printouts or use default values. If the printer does not have a color mode, right-click to mark the appropriate option.



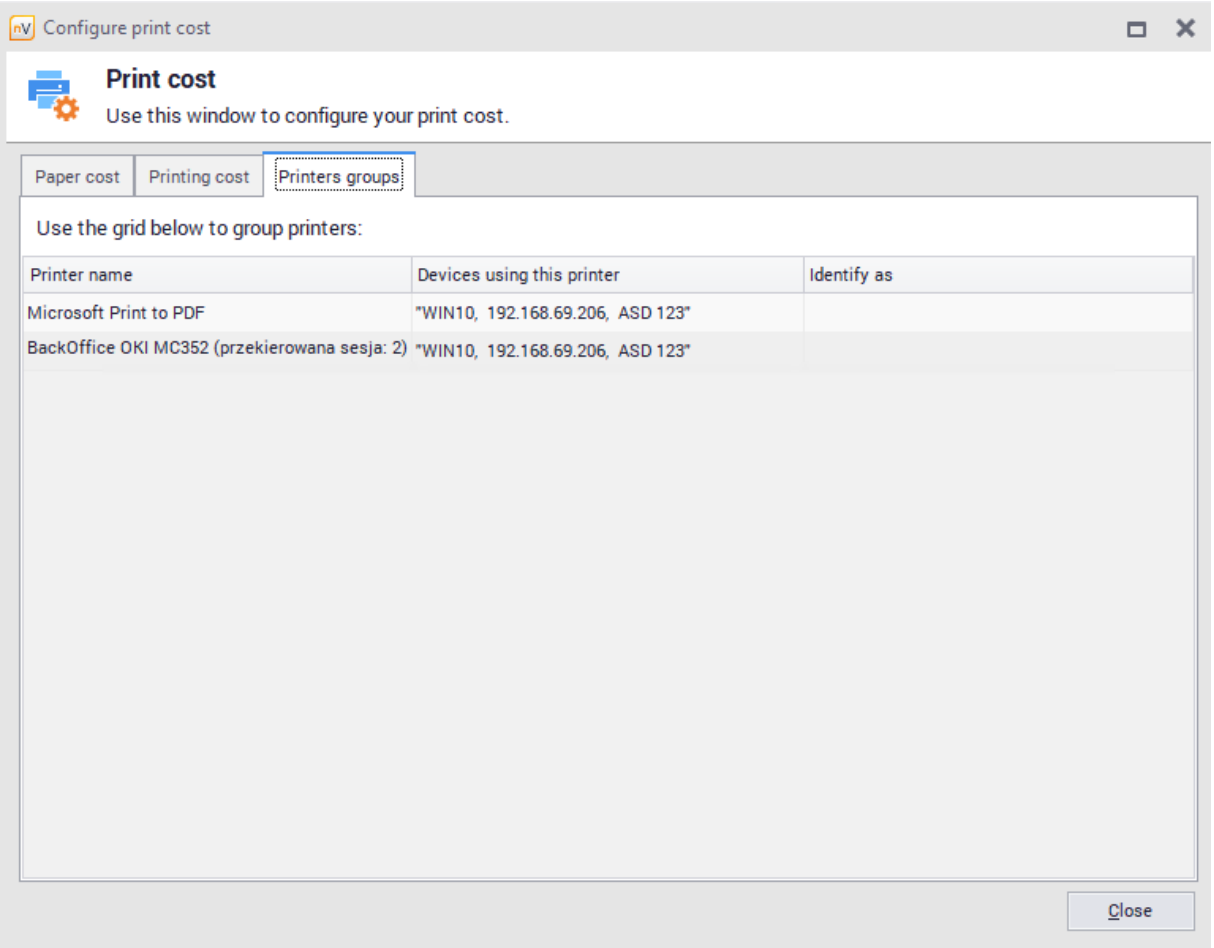
4. To retrieve the default value of a field in both tabs, right click the field and select the option **Set cell value as default**.

Printing cost audit

Printing costs are displayed in the last column of the **Printout audit** window. At the bottom, the total printing cost for the given period is also specified.

7.6.4 Printer grouping

To reduce the number of entries and to avoid reporting printing costs for repeating devices, it is possible to group printers. The function is available in the **Printers groups** tab (the **Configure printing costs** window).



The printer grouping tab contains a list of printers with information about the machines which were performing printing on these devices. Printouts identified as other assume their printing costs, but in all other presentations (printout audit, reports) are still considered as independent printers.

Practical information

While grouping printers, note the entries referring to the same device which has different names on a given machine, as well as devices used by multiple users. Also select one entry which will be used as the basis for the creation of the given printer group, because nVision blocks the ability to create cyclical associations.

To remove the association for a given printer, right click to expand the menu for the given entry and select the option **Clear 'identify as'**.

Part VIII

8 Inventory module

8.1 Introduction

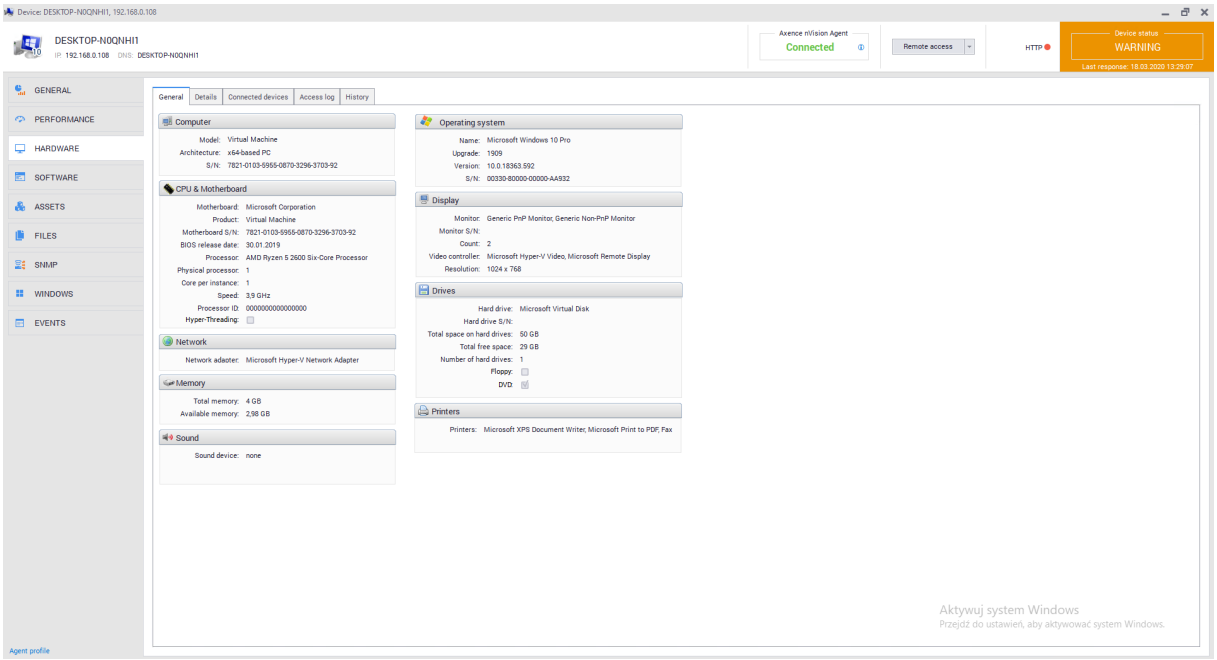
8.1.1 General information

The **Inventory** module automatically collects information about the hardware configuration of each computer and the software installed on it. 'Collect' task is performed by the nVision Agent once a day for each computer. Automatic download of hardware configuration and installed software data requires installation of the nVision Agent on selected hosts.

To enhance data synchronization for a selected device, select **Agent / Collect inventory** from the context menu of the selected device. You can also perform an inventory for the entire map (all computers) by selecting **Inventory** option from the context menu in the map tree. Please note that synchronization time for map data depends on the number of devices.

Device Information

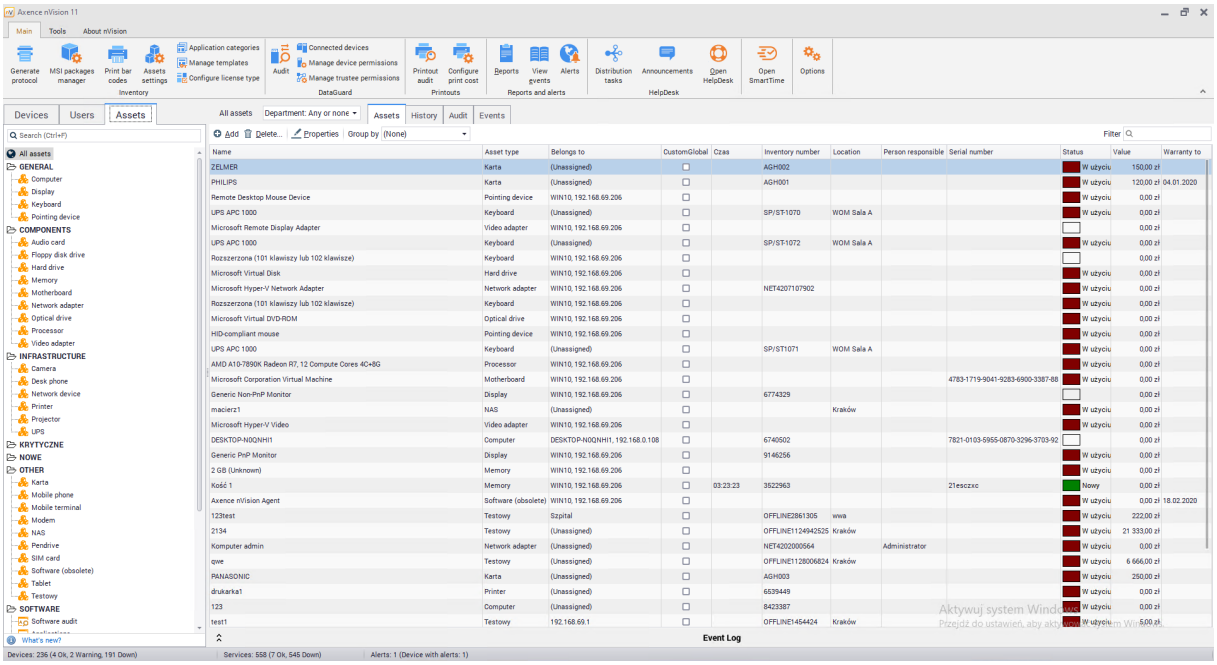
Information about resources, software and hardware can be found in tabs located in **Device Information** window. Please note, this data may not be available immediately after scanning the network. They will appear automatically as soon as the Agents finish scanning the computers and send the data:



Assets

Starting from nVision 11.5, the phrase of **a 'fixed asset' has been replaced by the phrase of a 'asset'**.

Assets can be assigned to departments or users. Assets assigned to users are described in the user assets 224 chapter. The list of all assets will be displayed after clicking the **Assets** tab in the main console window:



See "Assets" 182 chapter to view new features.

Software

The software section can be accessed by clicking **Asset** tab in the main window pane and consists of three sections:

- Software audit - displays list of detected applications, enables audit snapshot,
- Applications - displays list of applications which installations can **be detected by the Agent.** Application installations can be assigned to users,
- Licenses - allows to view, modify and add licenses. Licence can be bound with multiple applications and users.

History

Axence nVision stores the history of all assets statuses and actions performed on the asset. This information is presented in a list, including date, time and information about the user who performed the action. More information is described in the * hyperlink * chapter.

nVision agent inventory process

Automatic hardware and software inventory process requires installed nVision Agent on given computer. The administrator can specify which information is to be read by the Agent. The configuration window has been described here 202.

More information about nVision Agent installation is described in the Installing and Uninstalling Agents 113 chapter.

Manual inventory process

Hardware and software inventory process can also be performed agent-less. To do this, use the inventory scanner described in Inventory Scanner 292 chapter.

8.1.2 First steps

When starting work with the Inventory module, the Administrator should perform a few basic steps that will allow to customize the module. These steps may include the following:

1. Specification of resources, which must be automatically detected on computers with Agent installed, described in the Asset autodetection 202 chapter .
2. Add resource and folders types that will group these types. The activities are described in the Asset types 203 and Asset types folders 209 chapters.
3. Adding additional fields, statuses and activity templates available from the Asset settings 200 window.
4. Adding documents 186 and associating them with resources or licenses 267.
5. Adding licenses for the audited applications and determining the associated applications 262.

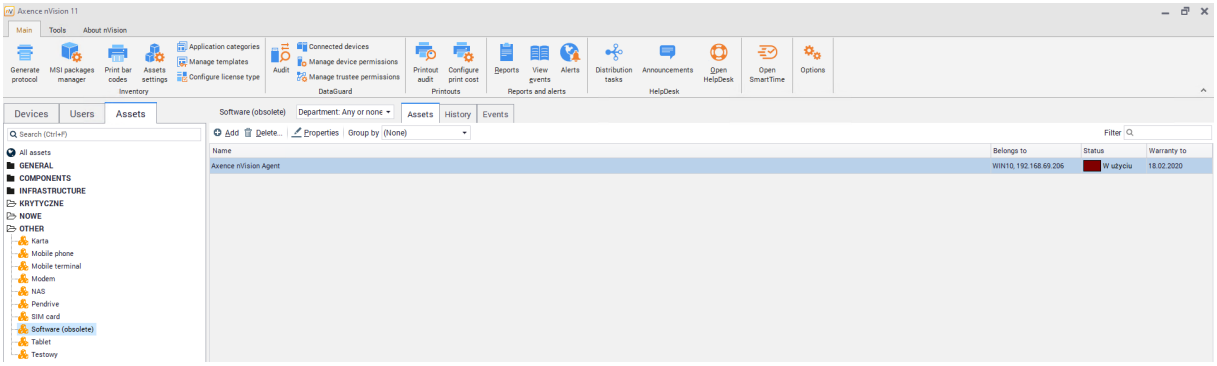
6. Modifying the method of assigning licenses and change of related settings (assigning users to the application, changing the assigned serial numbers). To know how to assign a license, read the licensing methods 274 chapter.

8.1.3 Migration from previous versions

Assets Types

All types of assets (formerly: types of fixed assets) that were created by the user in the previous version of the module will be moved to the built-in folder "Other" types after migration.

The "Software" type will receive "(obsolete)" and will be placed in the "Other" folder:



Additional fields

The value of the "old" **Responsible person** field will be moved as a global field called **Responsible person** (obsolete).

Statuses

If the field "in service" was checked (regardless of the value of the field "in warehouse") the asset will receive the status "In repair".

If the "in warehouse" field was checked without "in service" marked field, the asset will receive the status "In working condition".

Other assets will receive "In Use" status.

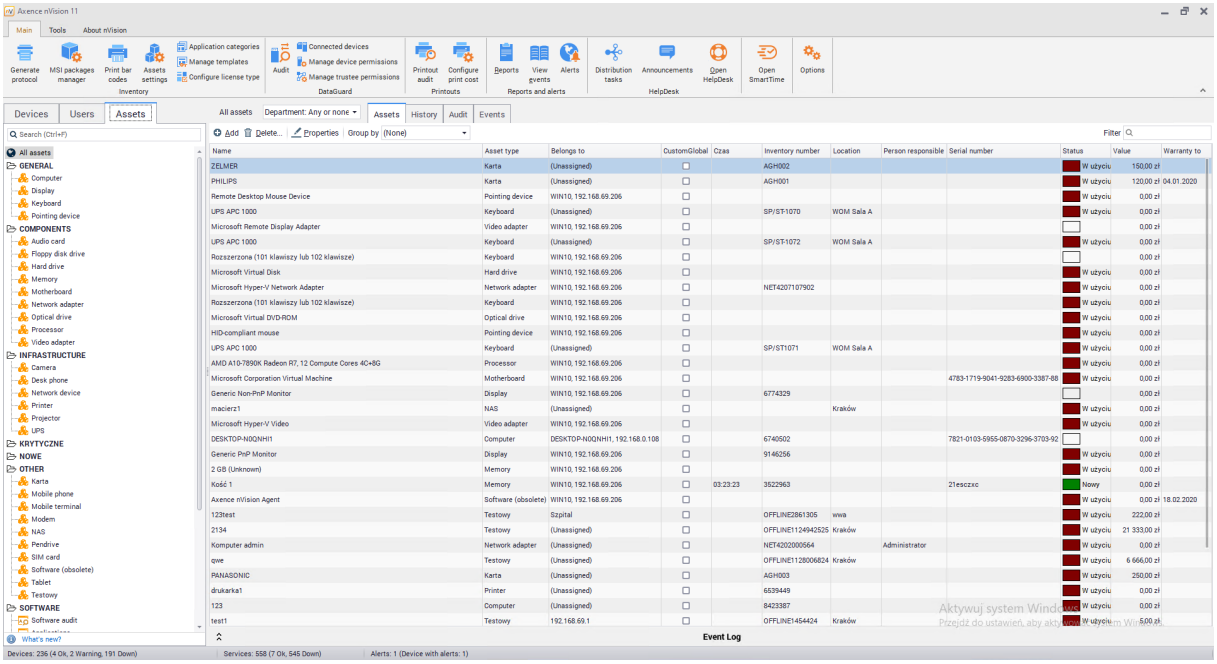
Documents

All current attachments are converted during migration into documents of the "Other" type. Document name will be amended with file name.

8.2 Assets

8.2.1 Assets tab

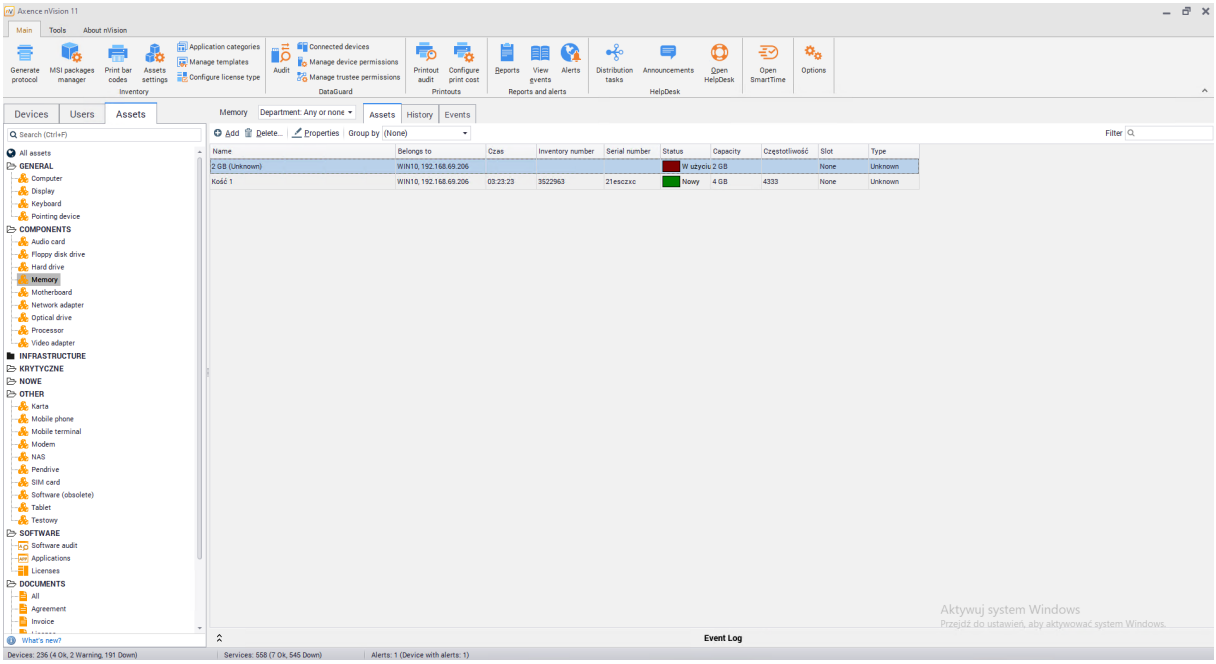
In nVision 11.5 a "**assets**" tab has been added that allows displaying assets saved in the database. To access it, go to the **Main tab** and then select **Assets:**



The list of folders with their assigned types, list of applications and licenses as well as the document section divided into categories will be displayed on the left side of the screen The administrator can create their own folders and categories of documents. These settings are described in the chapters resource type folders 209 and document types 217.

Assets

There are several ways to present resource data. Click on all assets to display a list of all collected assets. By selecting an asset type from the list, a list of all assets of this type of asset will be displayed. The table presenting data on a given type of resource will also contain data from additional and global fields, but only if a value has been entered. The following screenshot presents the table for the "Memory" type with the "Frequency" as additional field and the "Time" as global field:

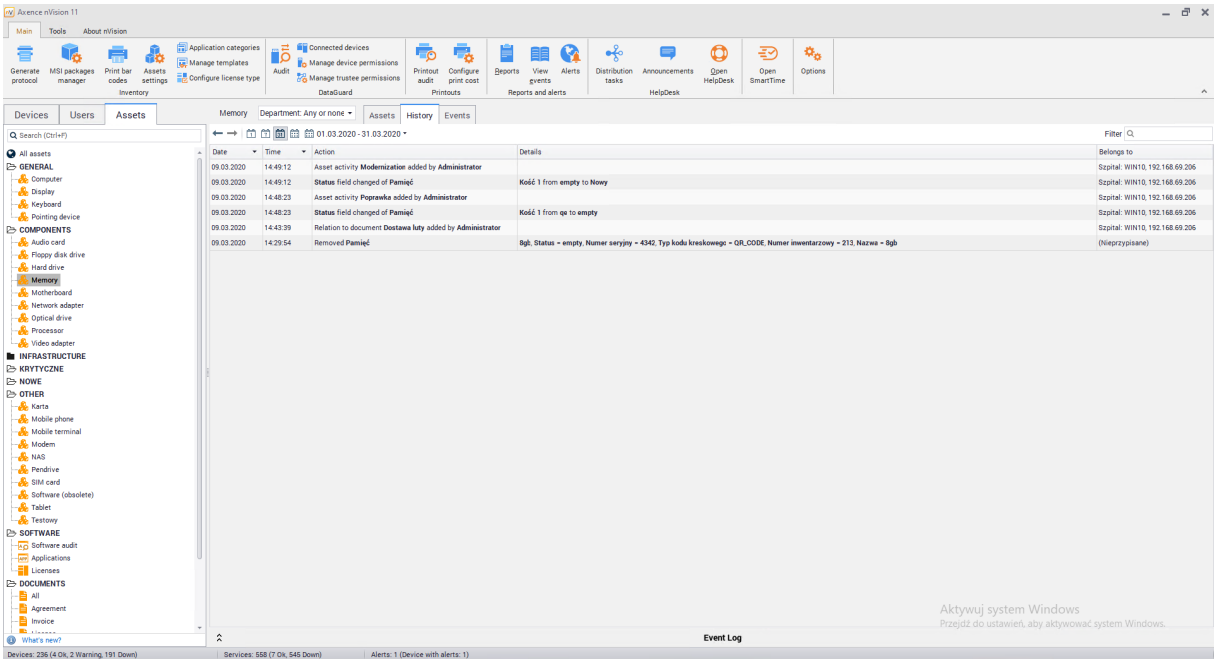


You can filter the list, edit the asset, delete it or add a new asset by using the buttons at the top of the window. The process of adding a new resource is described in a separate chapter 220.

A few additional tabs are visible above the asset table. They include:

- History

Shows the history of operations performed on the selected asset type. See history 193 chapter for more information about data stored in History.



- Events

Shows events history that have been registered for the selected asset type. Here, the Administrator can accept, ignore or delete events. More information about events can be found in alerts 522 chapter.

Software

By selecting an item in the software section (the list on the left of the screen), a list of all applications detected by Agents will be displayed. Detection and configuration of software inventory is described in this chapter. 236

Documents

By selecting an item in the documents section (the list on the left of the screen), a list of documents of the selected category along with the established relations to assets will be displayed. **"All"** position displays all documents added to nVision. Use the buttons above the table to add, delete, edit or open the selected document.

More information about documents can be found in documents 186 and document types 217 chapters.

8.2.2 Assets properties

8.2.2.1 General

In nVision 11.5 the phrase of a **'fixed asset' has been replaced by the phrase of a 'asset'**. Anything that Administrator would like to catalogue can be called 'asset'. Example of asets may include: printers, computers, IP phones, and all types of equipment or licenses that have been purchased by the organization.

The asset properties window has been includes several tabs

- General,
- Documents,
- Actions,
- History,

- Alerts,
- User Access.

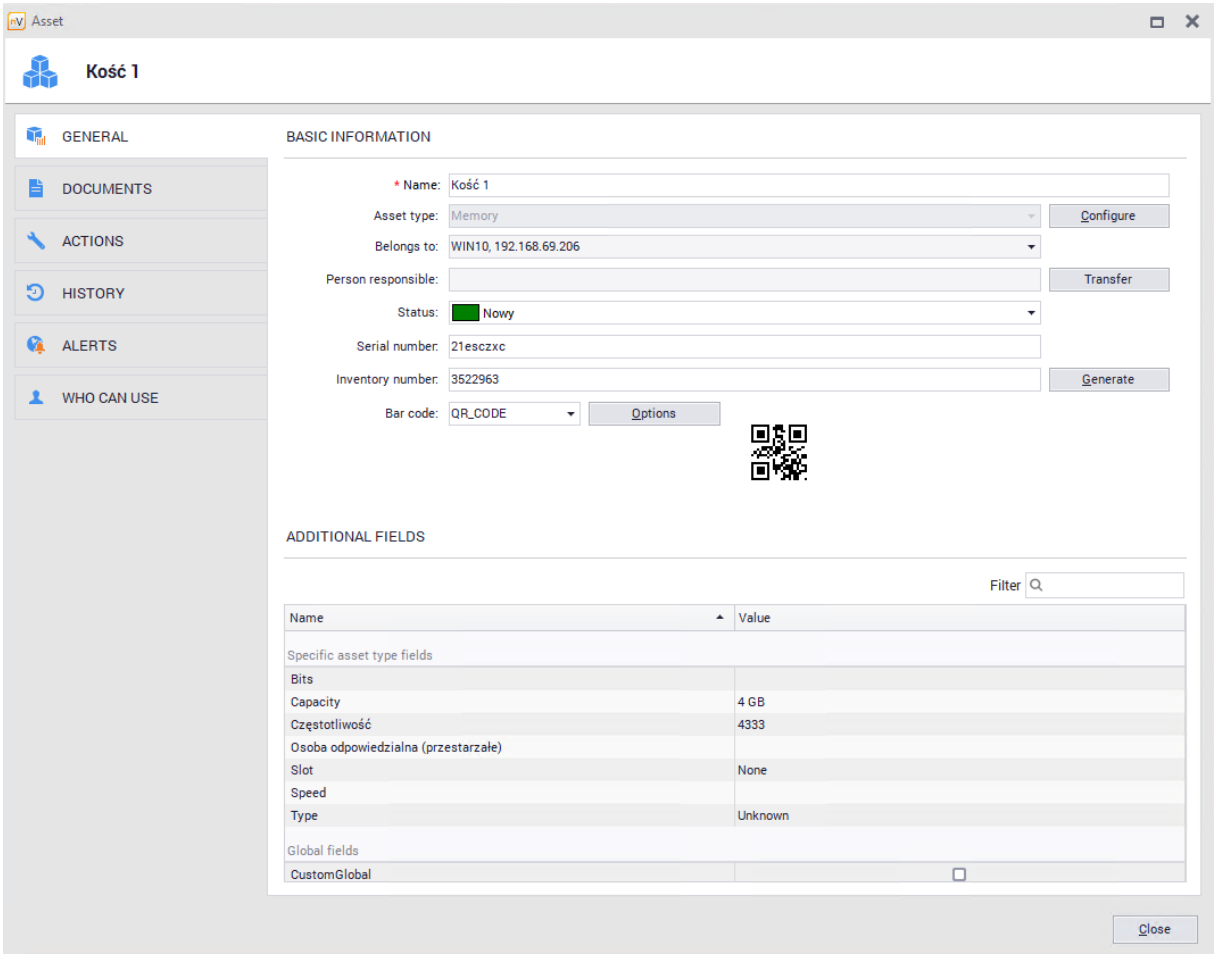
The following items will be visible in the **General** tab:

Basic information

- Name - name assigned to the asset,
- Asset type - information about asset type. Configuration of types is described in asset types 203 chapter,
- Belongs to ... - a branch or device associated with the asset,
- Responsible person - nVision user assigned to the asset,
- Status - current status of the asset is marked with color. The status can be changed manually or by adding a change action. More information about statuses can be found in asset status 214 chapter
- Inventory number,
- Serial number,
- Barcode.

Additional fields

- Global fields - a field available in each type of asset. See global fields 210 chapter for more information
- Additional fields - a field available only in the selected asset type, defined at the moment of creating or editing the type. For more information see asset types 203 chapter

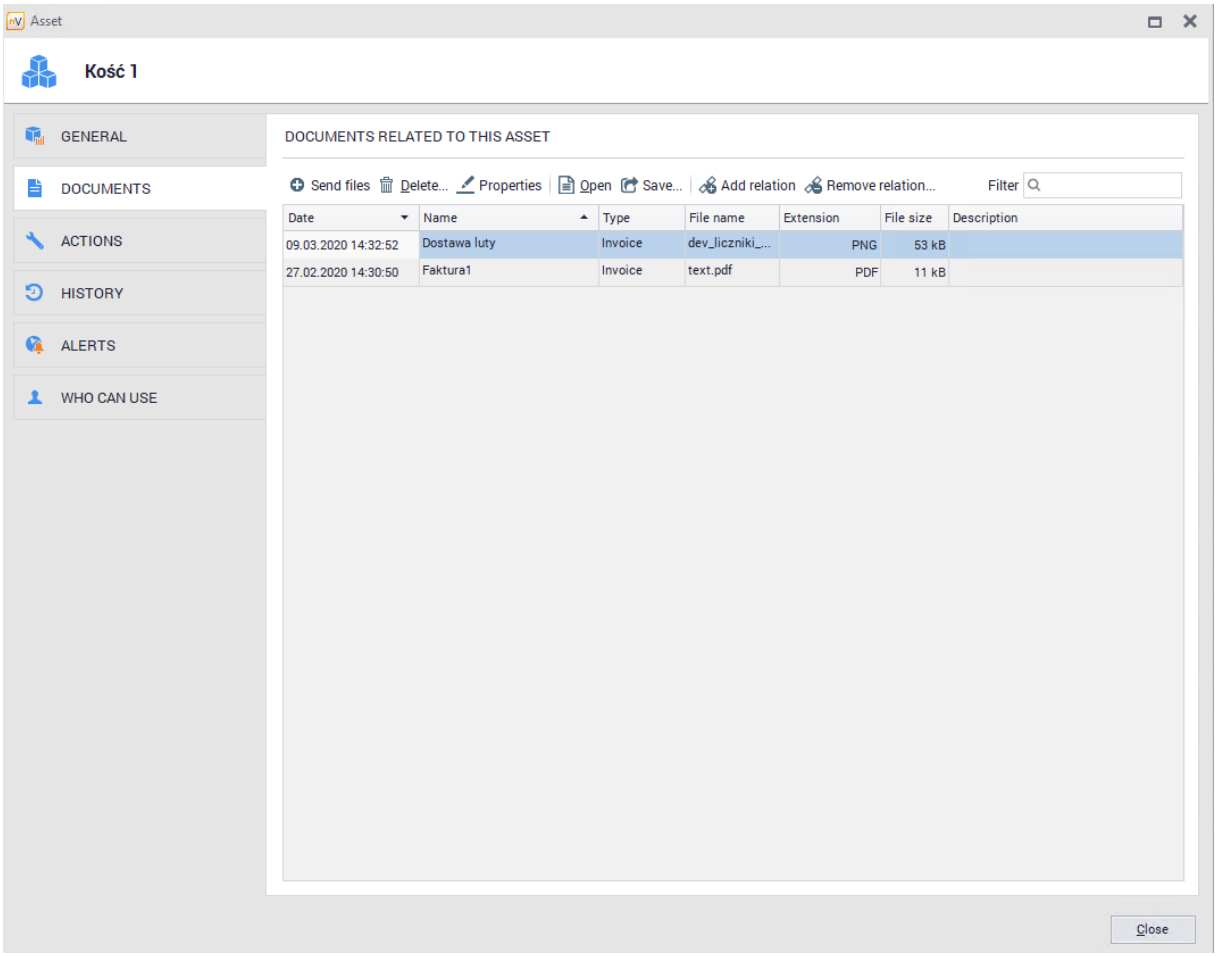


Information about the assets that user can use will also be displayed in the user information window. More information available in user assets 224 chapter.

8.2.2.2 Documents

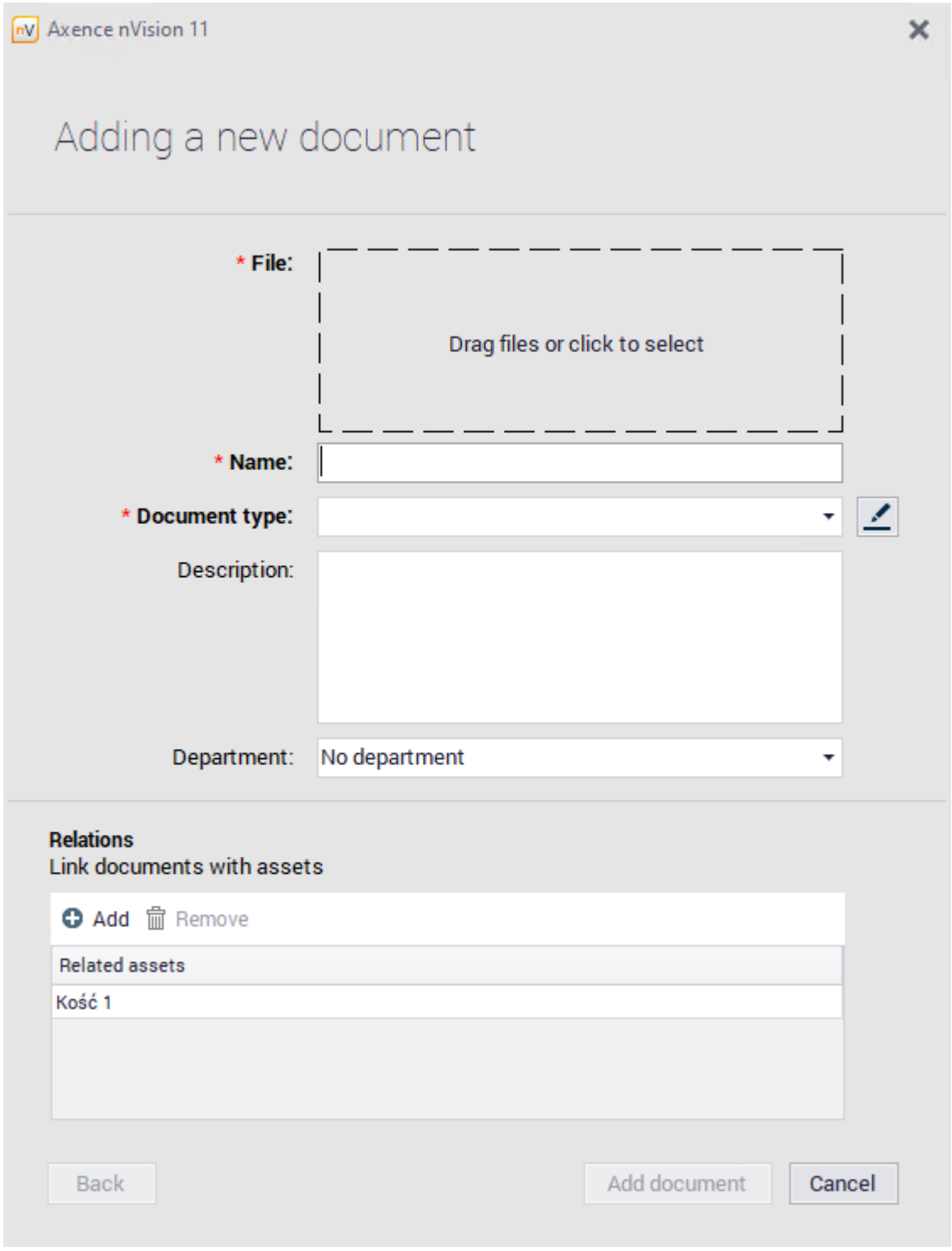
The **Documents** tab allows you to add, display and delete documents related to the selected asset.

The documents associated with the selected asset will be visible in the table:



Adding new document

To add new document simply click the send files option. The window for adding a new document will be displayed:



Window is divided into two sections - document information section and document relations with assets.

Document information

The required fields are marked with ' * '.

- File - select or drag a file to the selected place,
- Name - the name of the document visible in nVision,
- Document type - select one item from the list - adding new document types is described document categories 217 chapter
- Description - additional text fields describing the document,
- Chapter - additional field to specify a branch.

Relations

To associate a document with an asset, click the **Add button** and select assets from the list

Document removal

To remove the document, click **Delete** button.

Please note that deleting a document from a selected asset results in complete removal of this document from nVision. A deleted document that was associated with other assets will no longer be visible in the nVision console, and the relation will be deleted.

Document edition

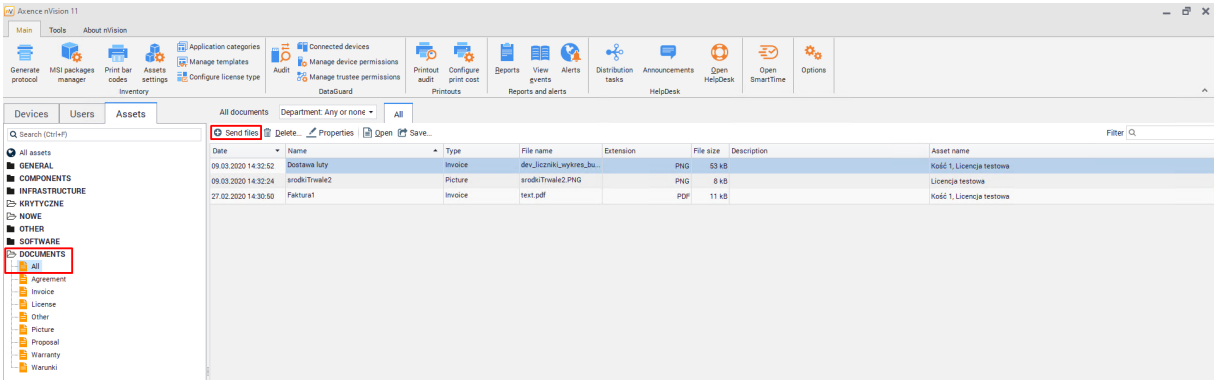
Added documents can be edited by double-clicking on the selected item or by clicking the **Properties** button.

Adding and deleting relations

To add or remove an asset link to a document, use the **Add Relation** and **Delete Relation** buttons. Then select an item from the list.

Alternative process for adding documents

You can also add **Documents** by using the "**Assets**" tab displayed in the main nVision window. At the bottom of the list in the documents section, click first the document type then the **Send files** button located at top window pane. A window for adding a new document will be opened:



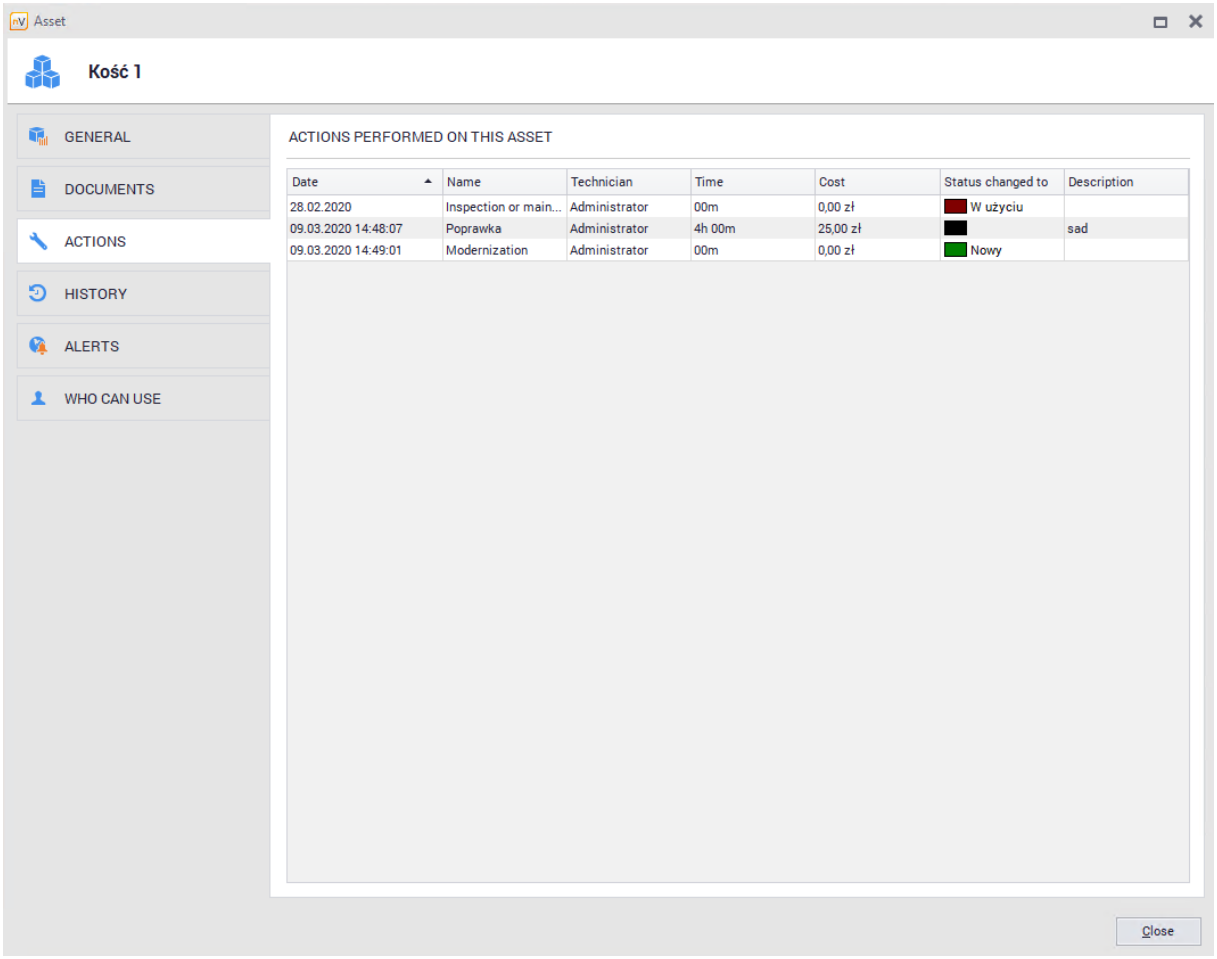
Saving and opening of added document

Documents can be opened from nVision and saved if necessary. To perform such actions, use the **Open** or **Save** buttons.

8.2.2.3 Actions

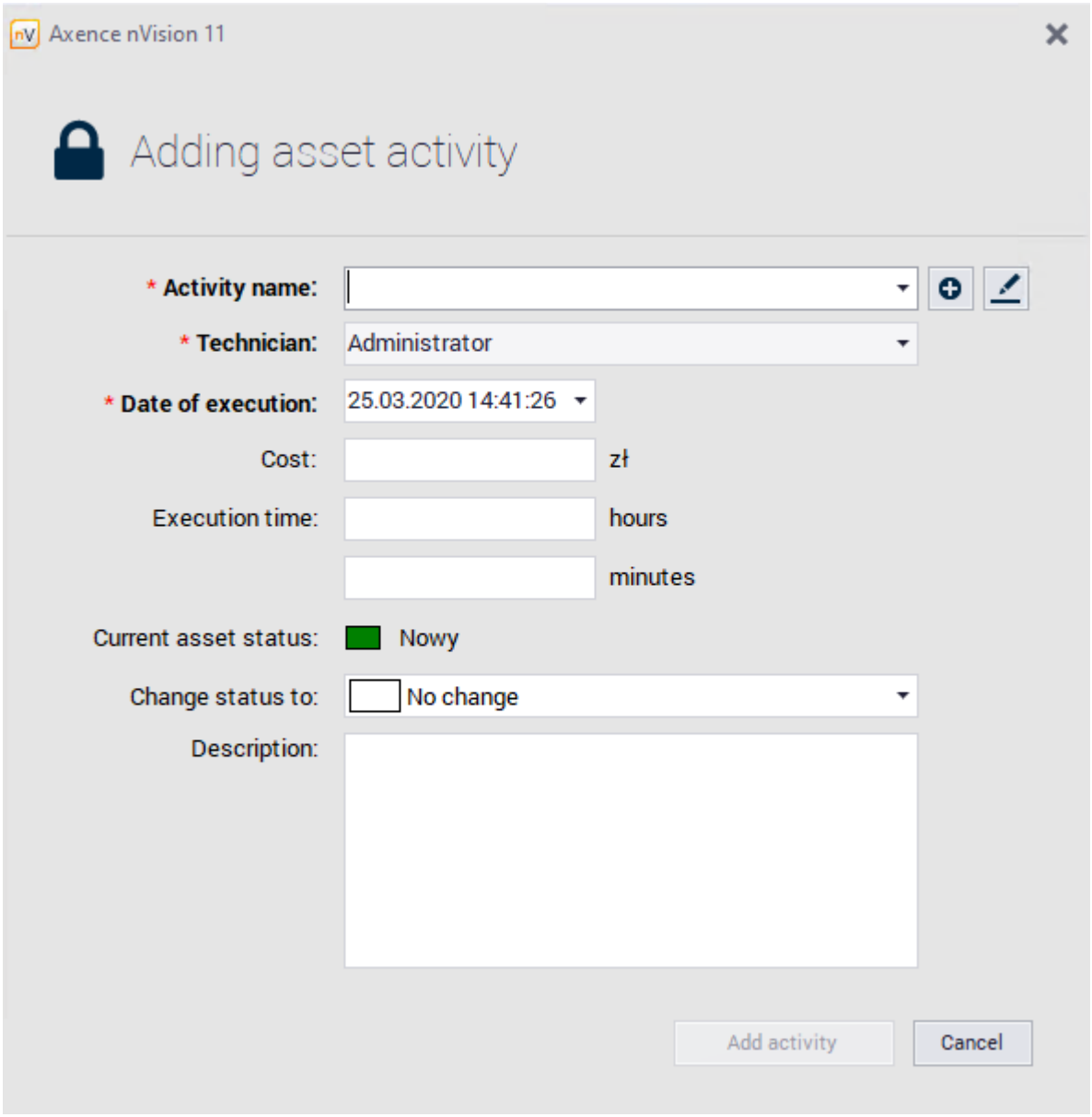
The **Action** tab allows you to add, display and remove activities performed on the selected asset. This allows to precisely describe the cost and activities carried out on individual assets.

Actions associated with the selected asset will be visible in the table:



Adding new action

To add a new action, select the **Add action** option. The window for adding a new action will be displayed:



Required fields are marked with ' * '.

- Name - name of the activity selected from the list of activity templates. Clicking the button will open the window where new activity template cam be add,
- Technician - select the user responsible for the selected activity,
- Date of Execution - required field with 'date' format,
- Execution time - select set hours or minutes for action execution

- Cost - additional information field,
- Change status to - status that will be set after adding the activity (multiple option to choose),
- Description - additional text field

Removing actions

Select the action to be removed and press **Remove** button.

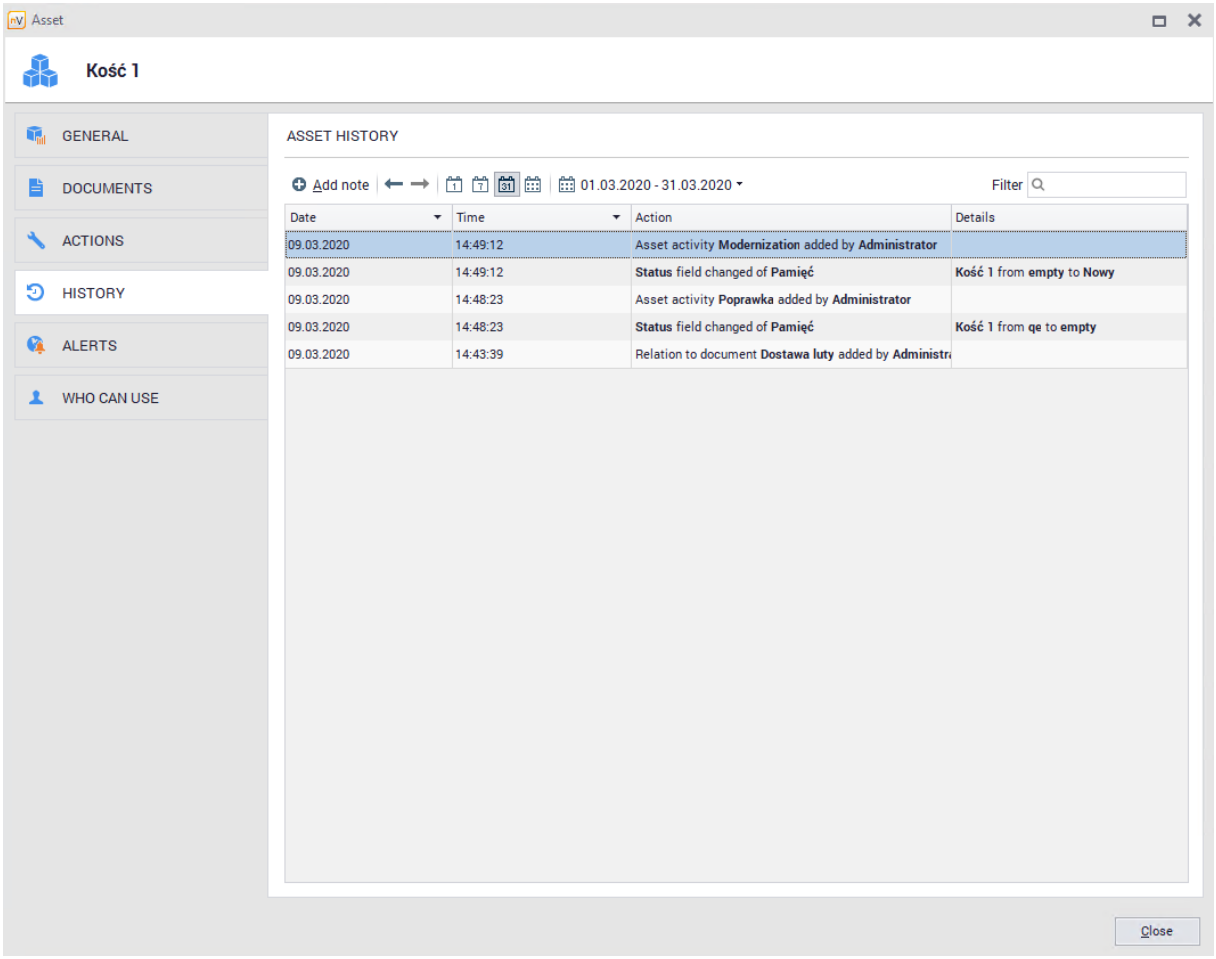
Editing actions

Added activities can be edited by double clicking on selected position and/or by clicking **Properties** button.

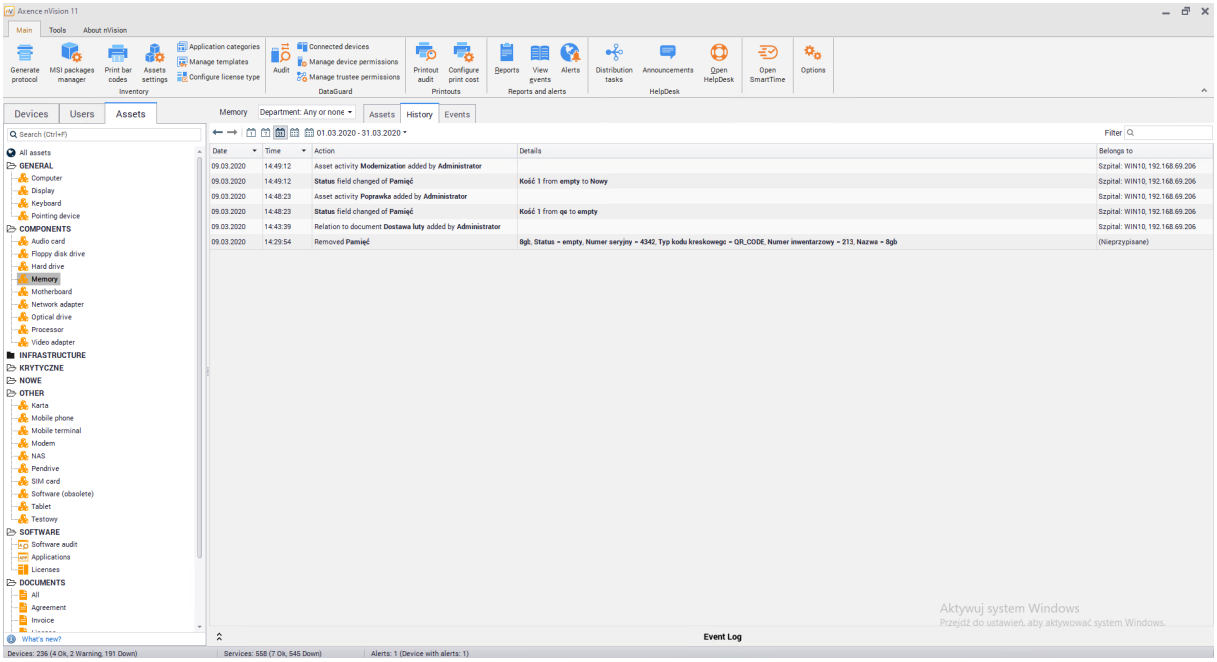
General activity configuration is described in the asset actions 213 chapter.

8.2.2.4 History

The **History** tab in the asset properties window allows you to see a list of all changes made to the selected asset. The entries will include the date, description and person who made the change:



To view the history of changes for all assets, go to the **Assets** tab located in the main window and then select **All assets / History**:



8.2.2.5 Alerts

Asset alerts can be created for individual assets or for a selected type of assets. Alerts allow to configure notification for the Administrator when certain conditions are met.

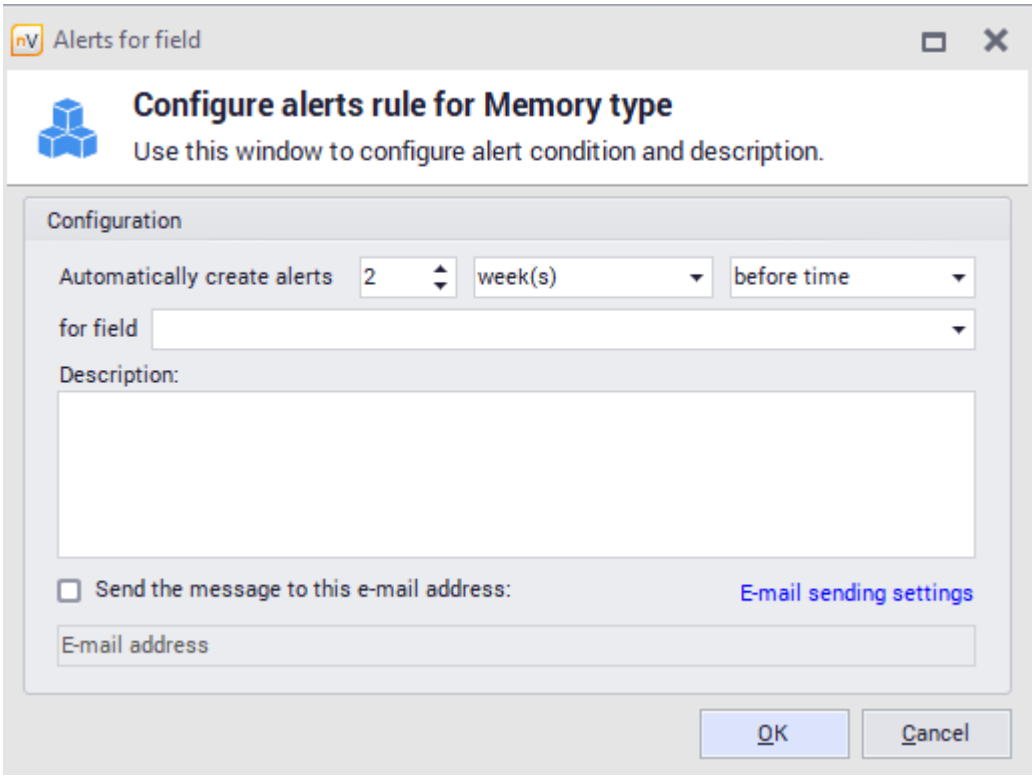
Alert for selected asset type

To create alert for selected asset type:

1. Open the resource editing window, go to the **Alerts tab.**

2. Click **Add button**, then select **Add alert for type** option.

3. In the **Alert rules configuration window** select event(field) for which you want to create the alert and set the date the alert is to be created. Enter alert description and click **OK**. Optionally you can also set the e-mail to get reminder messages.



A different method of adding alerts for selected asset types is described in asset types 203 chapter.

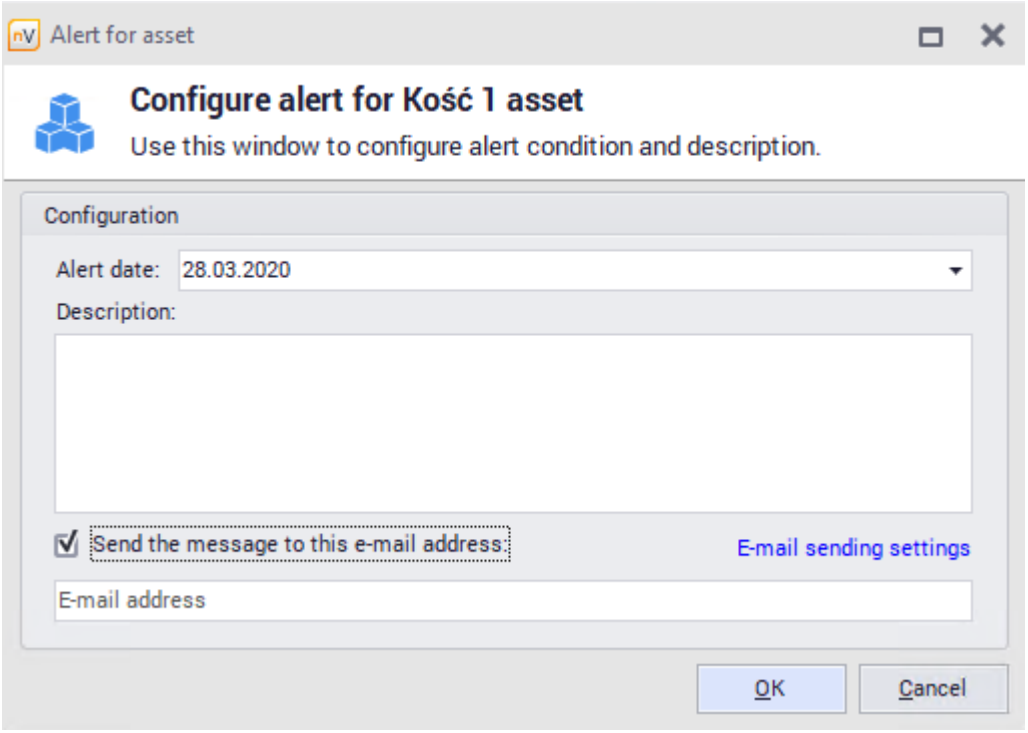
Alert for selected asset

To create alert for selected asset:

4. Open the resource editing window, go to the **Alerts tab**.

5. Click **Add button**, then select **Add alert for this asset** option.

6. In the **Alert rules configuration window** select event(field) for which you want to create the alert and set the date the alert is to be created. Enter alert description and click **OK**. Optionally you can also set the e-mail to get reminder messages.



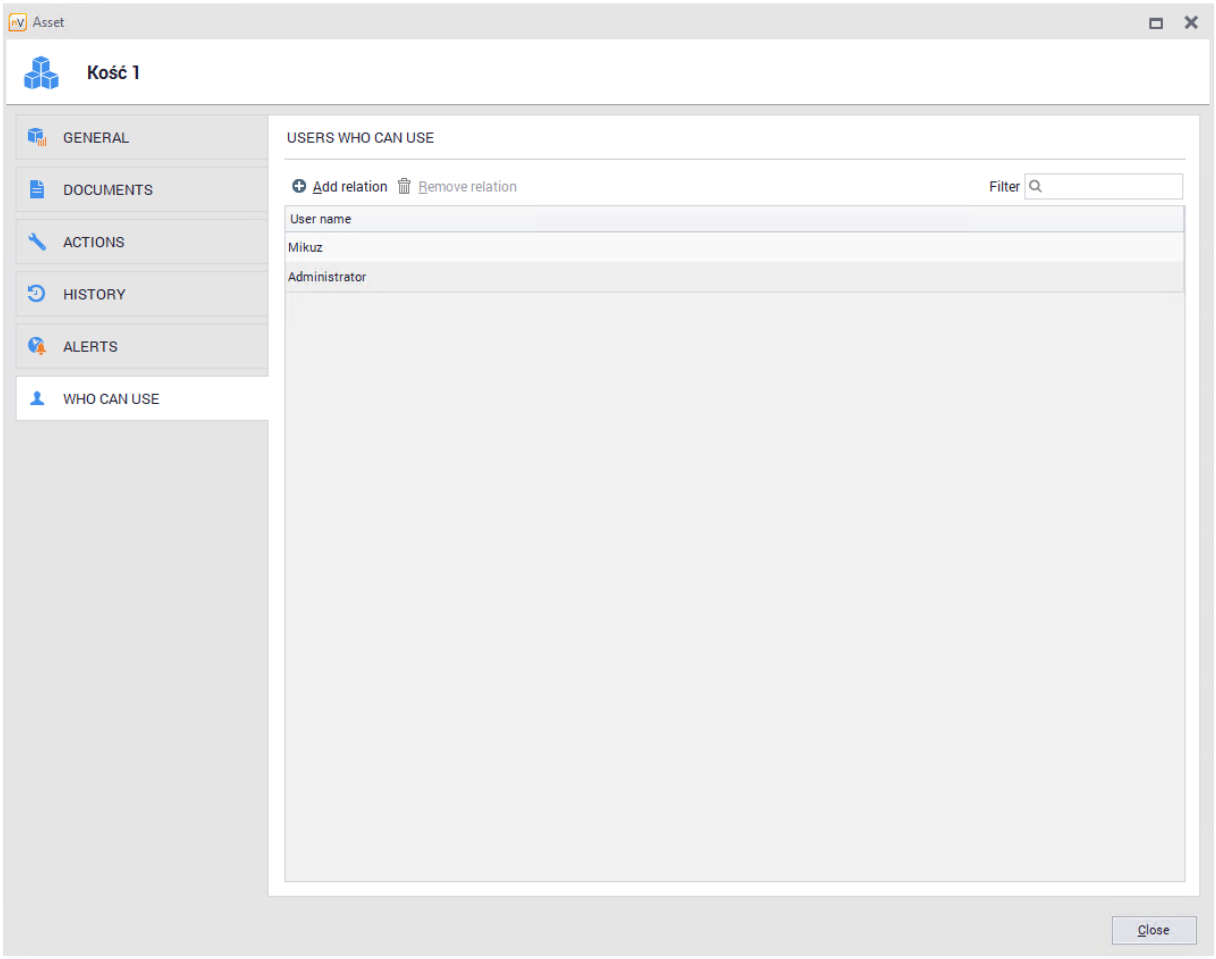
To know more about alerts, see alerting 522 chapter.

8.2.2.6 Who Can Use

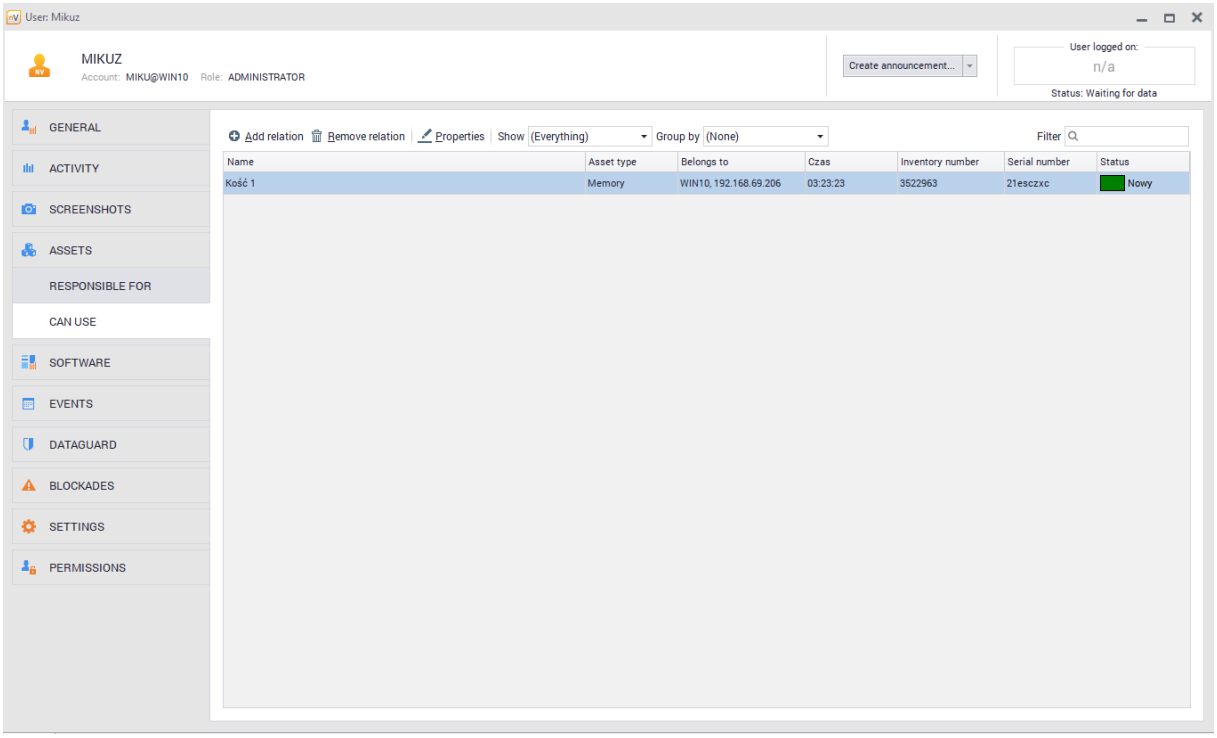
The **Who Can Use** tab presents information about users who have access to the selected asset, but are not necessarily responsible for it. Each asset can have any number of users who use it.

Relation is only auxiliary - it does not grant any access or permissions for users set to use the asset.

To add an authorized user to the asset, use the **Add Relation** button and select users from the list:



Information about resources that the user can use will be displayed in the user information window after switching to the **Assets / Can Use tab**:



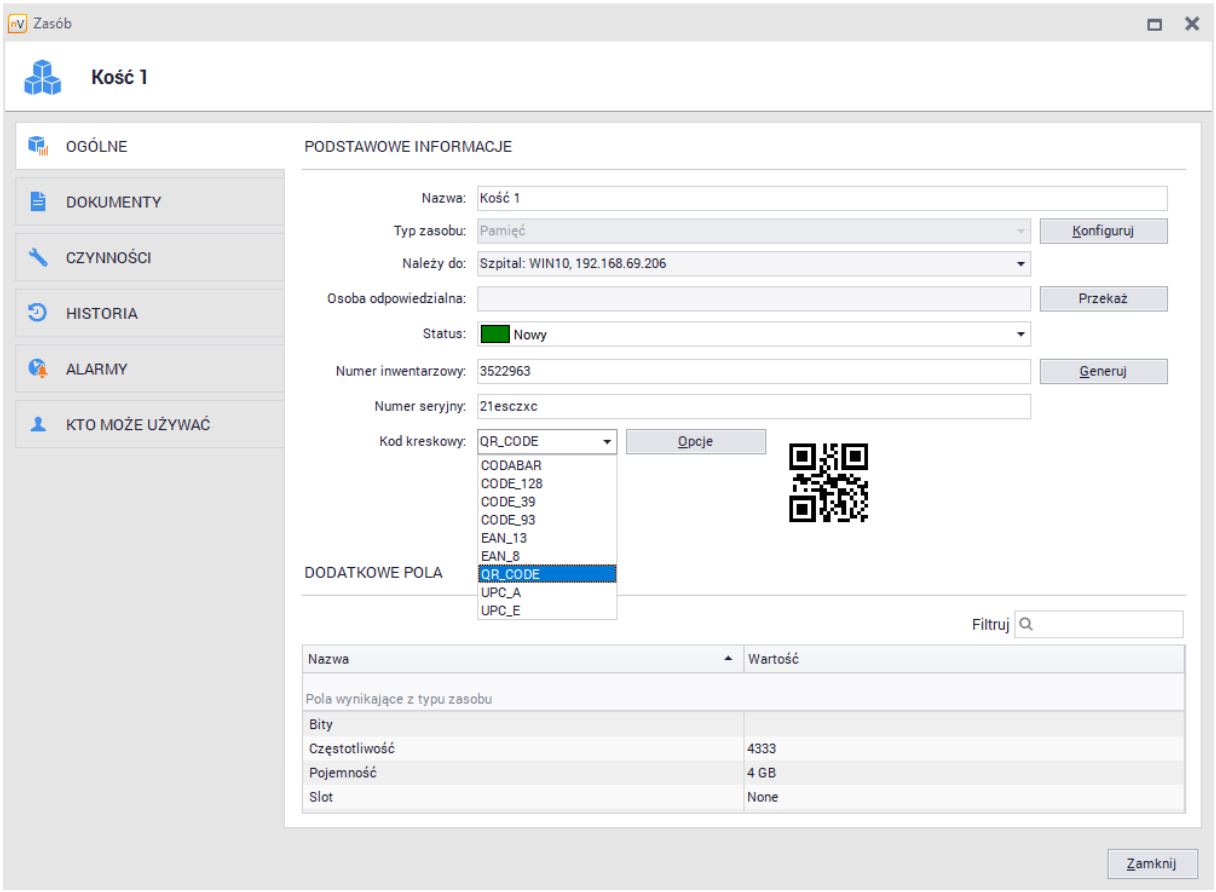
8.2.2.7 Barcodes

Barcodes can be assigned to individual resources in nVision. The resources from nVision can be associated with real devices by sticking labels with a barcode on them. The identifier encoded in the bar code also means the (unique) inventory number of the asset. If the devices already have their unique barcode identifiers, it is possible to update the inventory number via the mobile application.

To learn more about printing labels, see label printing. To learn more about installing and using the mobile application, see the mobile application.

Basic information

Each resource has an inventory number field. It can be entered manually or generated by clicking the Generate button. By default, such a number consists of 7 digits, is presented in the form of a QR Code barcode and is unique. The 7-digit number can be represented as any of the supported types of bar code formats (one-dimensional: CODABAR, COD 39, CODE 93, CODE 128, EAN 8, EAN 13, UPC A, UPC E; two-dimensional: QR CODE).

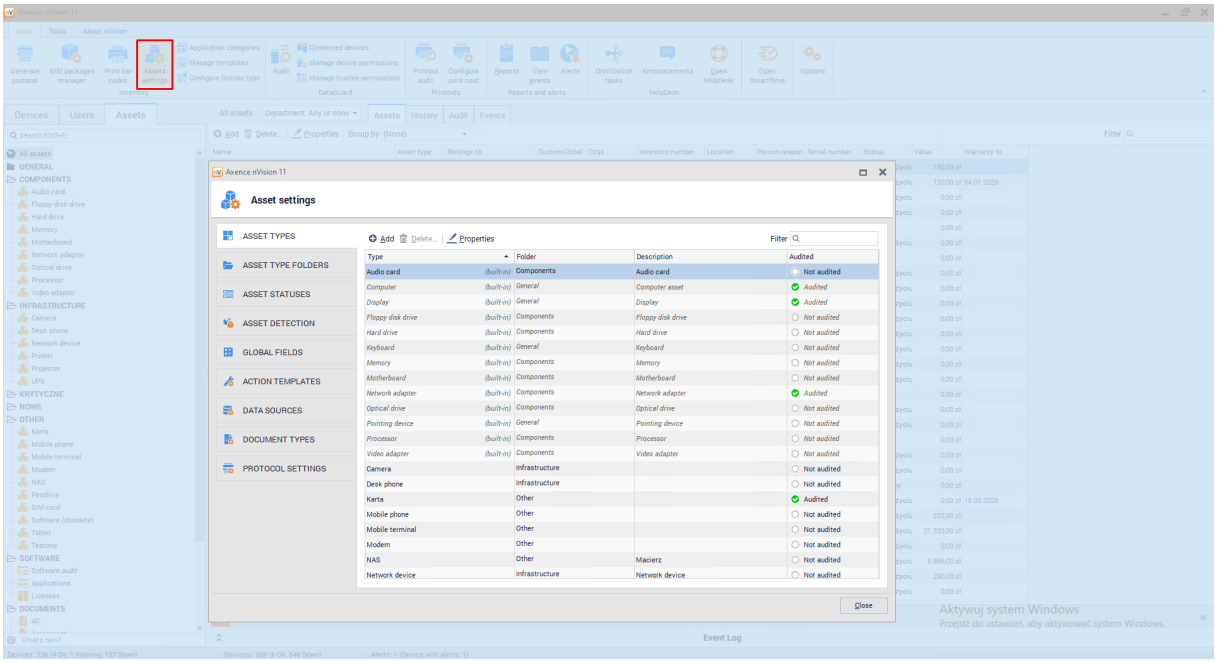


8.2.3 Assets settings

8.2.3.1 Basic information

The asset settings window allows the Administrator to configure asset properties according to his needs.

To display the asset settings window click **Asset settings** button located on **Main** ribbon.



The settings window has been divided into several tabs:

- Asset Types,
- Asset Types Folders,
- Asset Status,
- Asset Detection,
- Global fields,
- Activity templates,
- Data sources,
- Document Types,
- Document Types

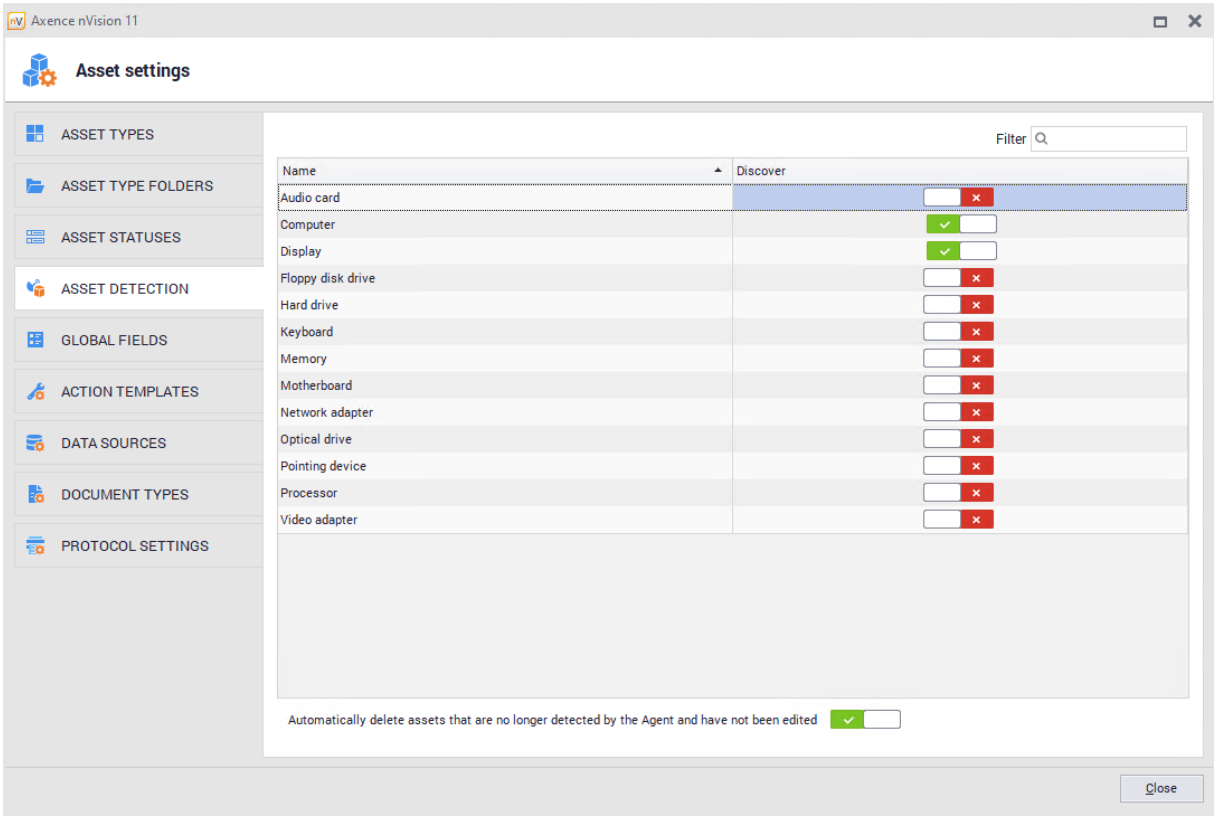
Each tab is described in detail in following chapters.

8.2.3.2 Asset detection

The Asset Detection tab allows to specify what resources will be automatically created based on the data collected by the Agent.

Automatic asset adding

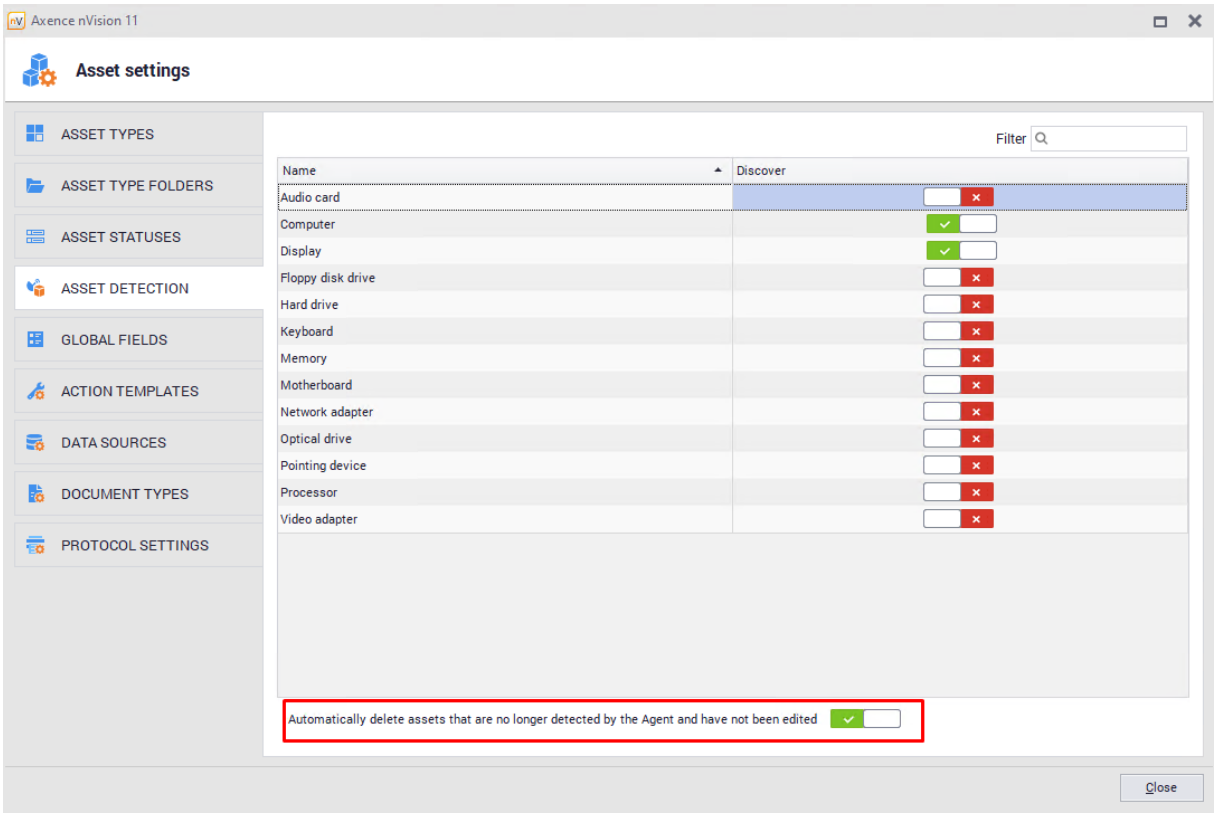
Go to **Asset Settings** window, then open the **Asset Detection** tab. Here you can specify automatic detection only for the types of assets visible in the list in this window. Positions in this list cannot be edited:



By default, "Computer" and "Display" assets are automatically detected. To enable automatic detection for the selected type simply switch the button in the **discover** column by the selected position.

Automatic asset removal

For automatic asset removal simply click the switch placed at the bottom of the asset discovery tab:



If the automatically detected resource becomes invisible to the Agent, then:

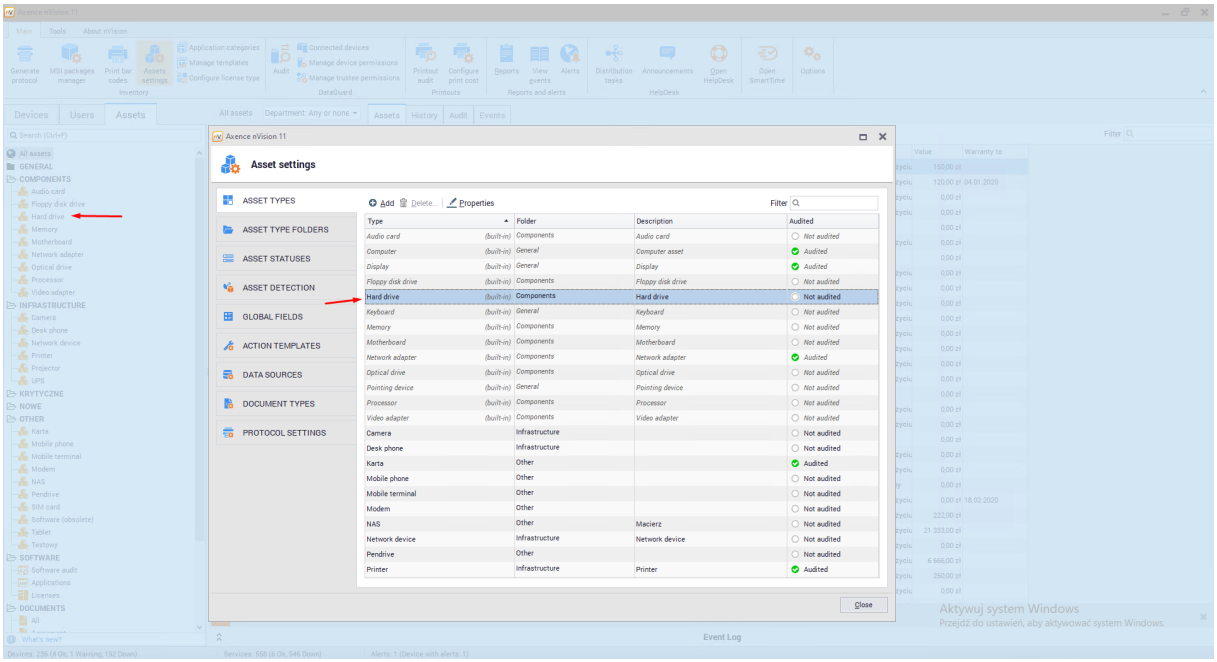
- if the **switch is on**, then asset **remains unchanged**. It is default setting for new nVision installations.
- if the **switch is off**, then **asset will be removed** provided it has not been edited by Administrator.

Removing device(host) does not remove the assets which have been automatically created by Agent if the switch was off.

8.2.3.3 Asset types

Asset Types tab is available in the **Asset Settings** window, which allows you to display the resource types from existing database and define new types. Types help for better categorization of individual resources.

The Administrator can add, edit and delete asset types, with the exception of built-in types that have the additional security settings described in this chapter. The data is shown in table:



Each asset type is placed in one folder. **The Assets tab**, available from the main program window allows you to display the folders and their associated types.

Built-in asset types

nVision contains a list of built-in assets types, which include the following:

- Basic (folder):
  - Computer,
  - Display,
  - Keyboard,
  - Pointing device.
- Components (folder):
  - Hard drive,
  - Memory,
  - Optical Drive,
  - Motherboard,
  - Processor,

    - Network adapter,
    - Video adapter,
    - Audio card,
    - Floppy disk drive,
- Infrastructure devices (folder):
    - Printer,
    - Network device,
    - Desk phone,
    - Camera,
    - UPS,
    - Projector,
- Mobile devices (folder)
    - Mobile phone,
    - Tablet,
    - SIM Card,
    - Modem,
    - Pendrive,
    - Mobile terminal
- Other (folder):
    - Car,
    - Software (obsolete).

For built-in asset types:

- You cannot change the name or delete the built-in type.
- You cannot change the built-in folder.
- You can add additional fields for the built-in type, but you cannot delete fields that already exist

Each asset type has the following properties:

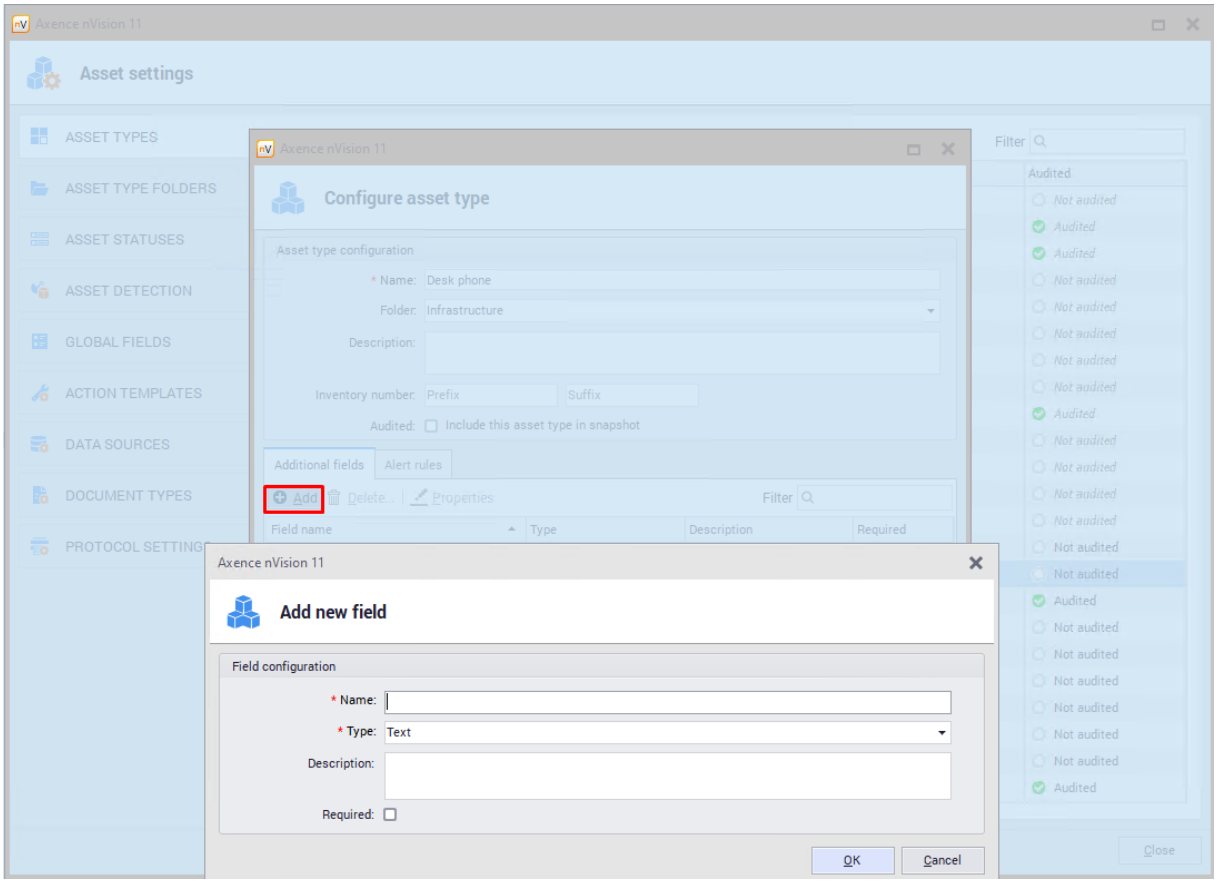
- Name - type name,
- Folder - folder where type is stored
- Inventory number - sets prefix and suffix for selected type
- Audited - mark to set, if the assets of particular type should be stored in audit archive

By double-clicking the asset type in the table, you can view its properties. Alternatively, you can use the Properties button.

Properties window presents the properties of the selected item together with **Additional fields** and **Alert rules** tabs.

Additional fields

Additional fields allow the Administrator to add field, which will be filled only with type for which it has been configured:



You can add global fields that will be visible and can be filled for each resource. **Global fields** are described in the next chapter.

Alert rules

Asset alerts can be created for individual assets or for a selected type of assets. Alerts allow to configure notification for the Administrator when certain conditions are met.

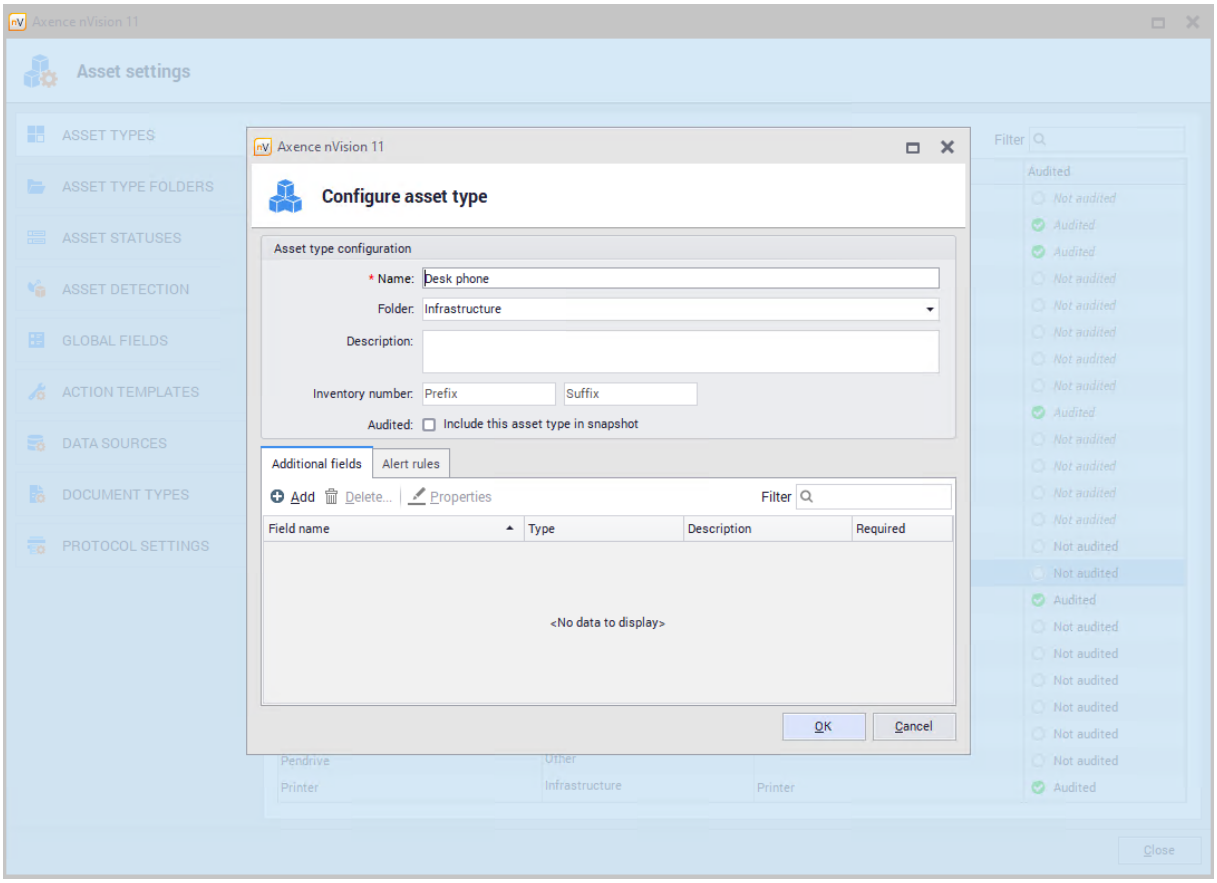
The **Asset rule** tab allows you to add an alert for a selected resource type.

To add an alert:

- Go to **Alert rules** tab and click **Add.**
- In the **Alert rules configuration window** select event(field) for which you want to create the alert and set the date the alert is to be created.

Adding new asset type

To add a new asset type, go to the **Asset Types** tab in the **Asset Settings** window and click the **Add button**. The new asset type wizard will appear:



Then fill the configuration fields. The required fields are "Name" and "Folder". You can also add additional fields for the asset type you are creating. Once the configuration, is complete, confirm the settings by pressing **OK.**

In the "Folder" field it is only possible to select an item from the list of available folders. For more information about folders, see folder types 209 chapter.

Removing asset type

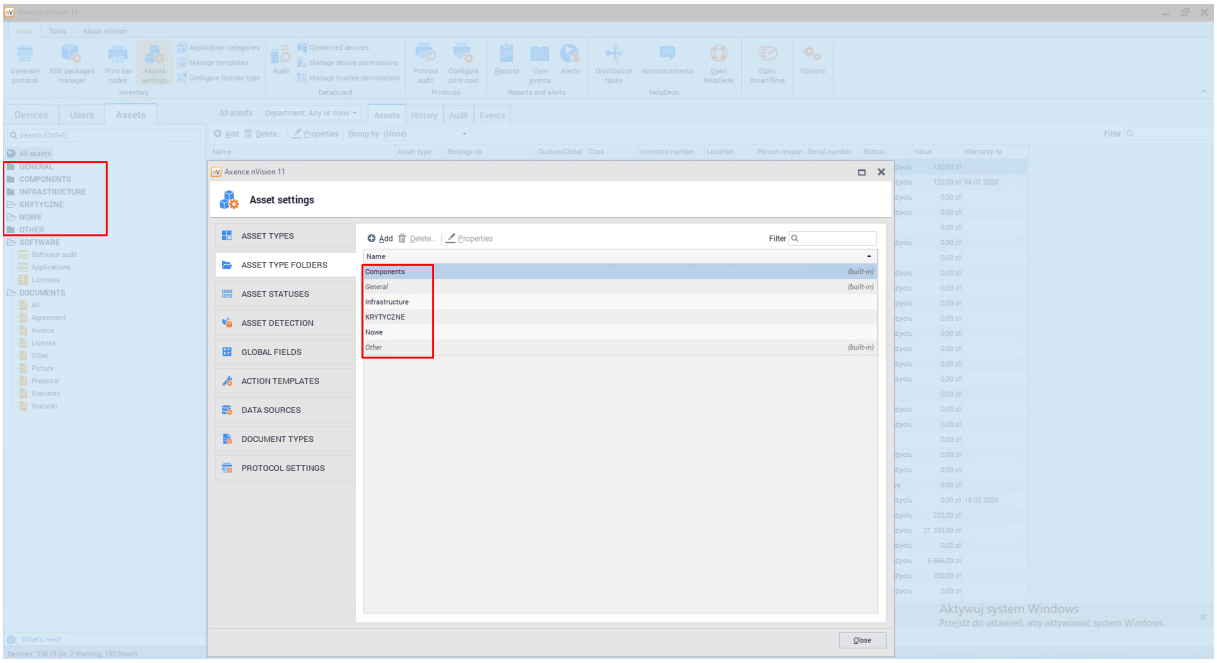
To delete an existing (non-built-in) asset type, go to the **Asset Types** tab in the **Asset Settings** window and click the **Delete** button.

If the selected type is in use, removing it will also delete all assets of this type.

8.2.3.4 Asset type folders

Asset type folders allow the Administrator to assign types to organizational units. The **Assets** tab, available from the main program window, allows you to display the folders and their types.

It is possible to display and modify the list of available folders. To do so, go to **Asset settings** window and then to the **Asset Type Folder** tab, you can display and modify the list of available folders:



Adding new asset folder

To add a folder, go to the **Asset Settings** window and then to the **Asset Type Folders tab**. Click the **Add** button, then enter the name of the new folder.

Adding an asset type to a selected folder is described in the asset types 203 chapter.

Removing new asset folder

To delete a folder, go to the **Asset Settings** window and then **Asset Type Folders** tab. After clicking **Delete**, the selected item will be deleted. After deleting the folder, all asset types present in this folder will be moved to the **"Other"** folder.

Built-in folders

nVision offers several built-in folders for asset types::

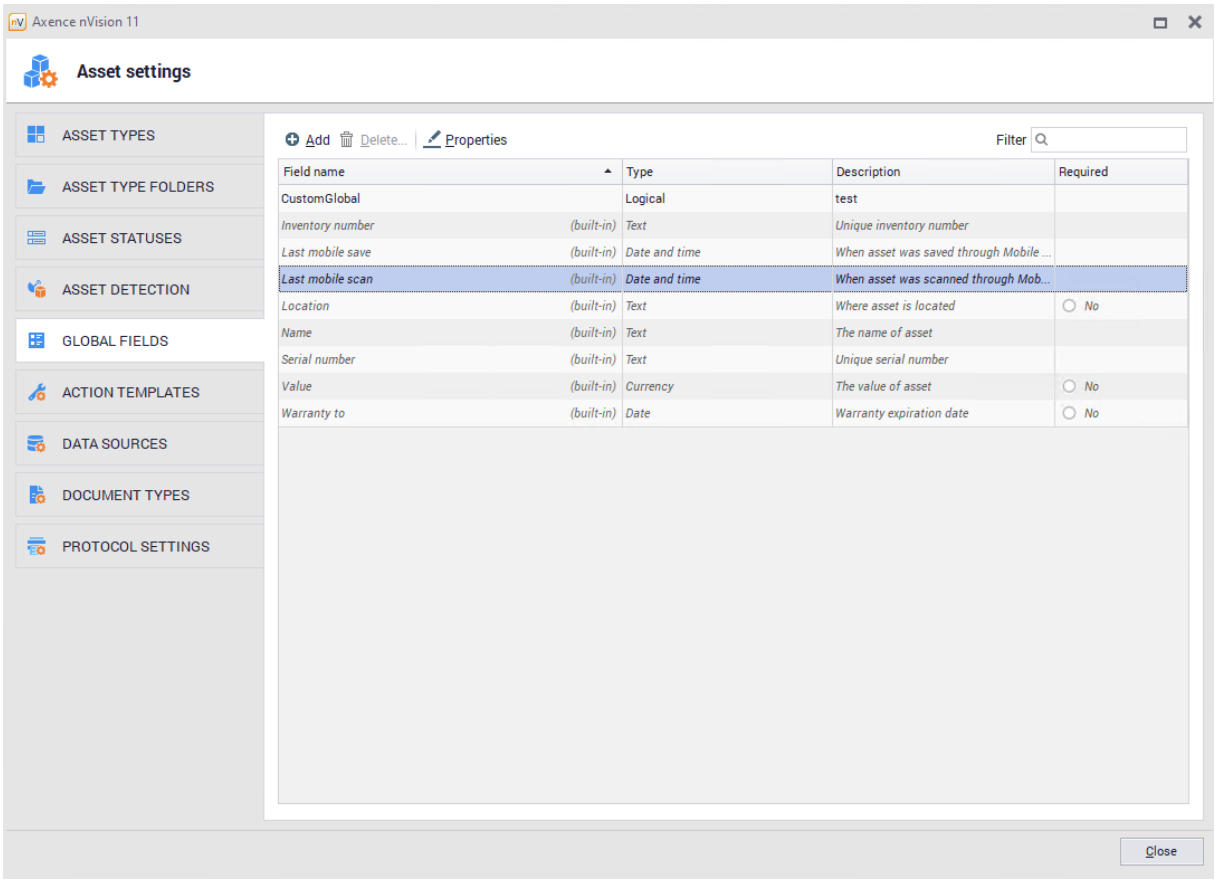
- Basic (built-in),

- Components (built-in),
- Infrastructure devices,
- Mobile devices,
- Other (built-in).

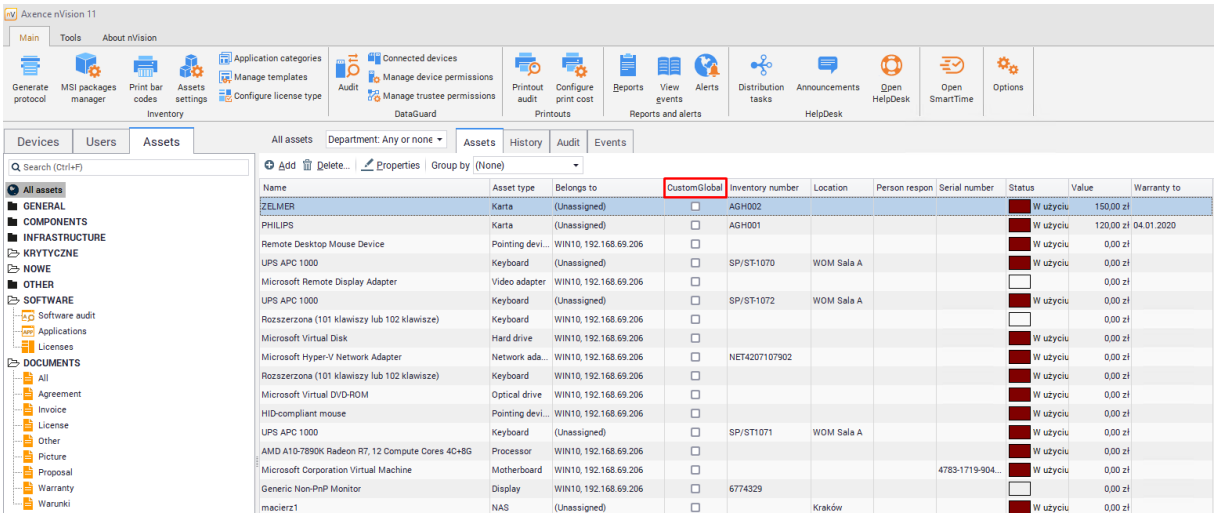
Folders marked as built-in cannot be deleted or edited.

8.2.3.5 Global fields

Global Fields tab in the **Asset Settings** window allows the Administrator to add additional fields to all types of assets. The Administrator can create his own global fields that will store data of the selected type. Global fields must have unique names. All created global fields are presented in tabular form:

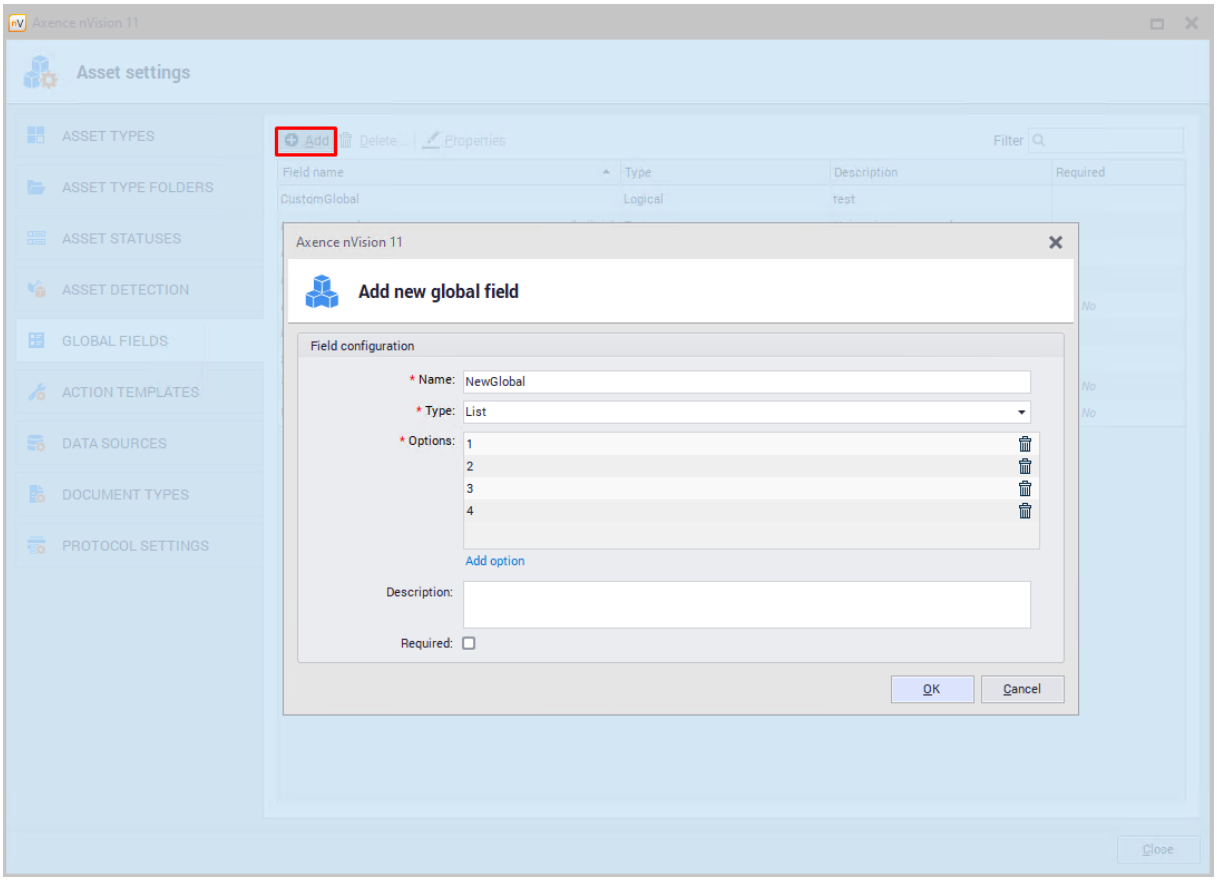


Global fields allow you to add additional information about the resource and extend the possibilities of selecting assets from the list. For example: after adding the 'CustomGlobal' global field, an additional column will be created with the value set to this field. By clicking the filter icon in this column you can filter lists in every column:



Adding global field

To add a global field, go to the **Asset settings / Global fields** window and click **Add**. The new global field configuration window will open:



Once the fields are filled, confirm the configuration with the **OK** button.

Removing global field

To delete a global field, go to the **Asset settings / Global fields** window and select **Delete**. **Deleting a global field will affect all the values it posses being lost on all assets**.

Built-in global fields

nVision offers several built-in global fields:

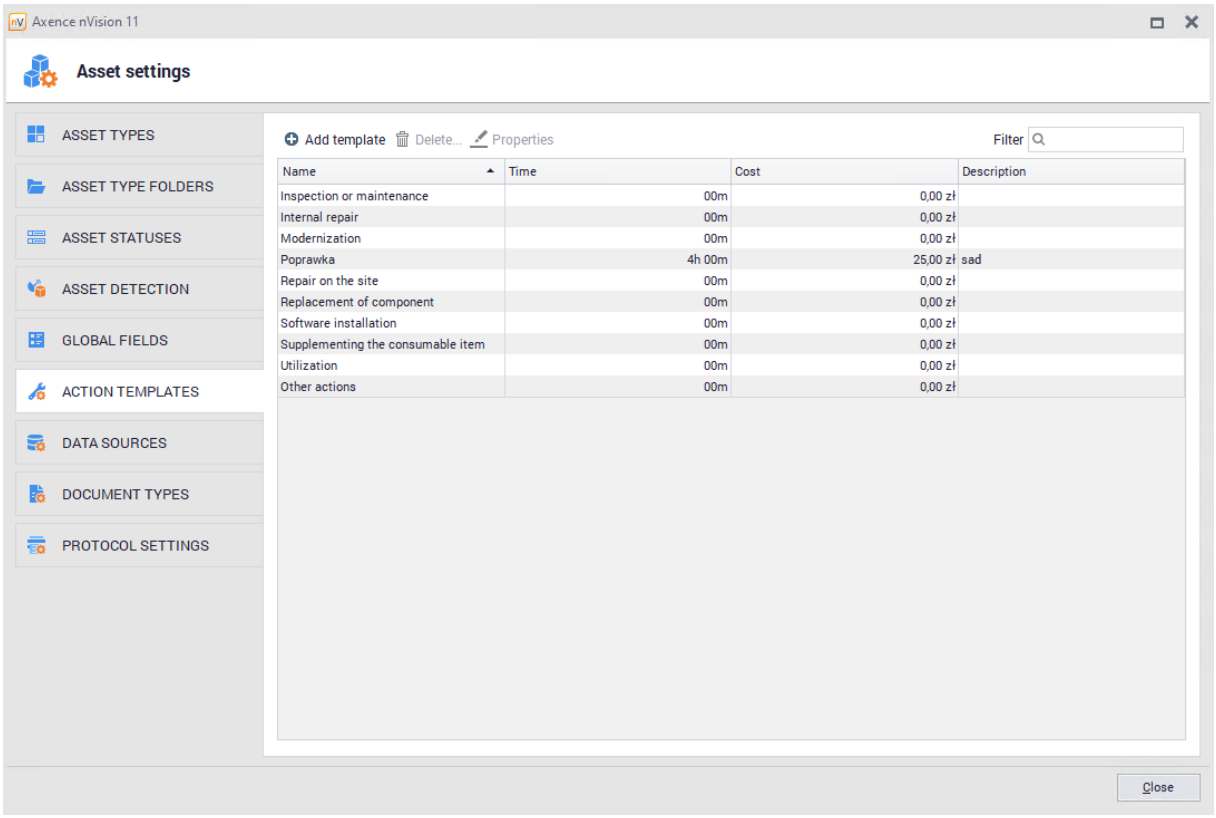
- Warranty to,
- Location,

- Name,
- Inventory number,
- Serial number,
- Last mobile save,
- Last mobile scan,
- Value.

Global fields marked as built-in cannot be deleted or edited.

8.2.3.6 Action templates

The functionality of adding activities for an asset allows you to add, display and delete activities performed on a selected asset. You can precisely describe the cost and activities carried out on individual assets. Task templates allow the Administrator to define a series of actions that can be performed on an asset. Using templates, assigning activities to a resource takes a few seconds and gives the possibility of fast edition (e.g. cost) at the time of adding.



Adding new action

To add a new action, go to the **Asset Settings** and select **Action Templates**. Click **Add template** button, the window for adding new asset action template will open.

"Name" is the only required field. The Administrator can add costs or date of performance information. "**Change status to**" field will allow you to automatically change the asset status after adding the selected action to the asset

Adding actions to an asset is described asset actions 190 chapter.

Built-in actions

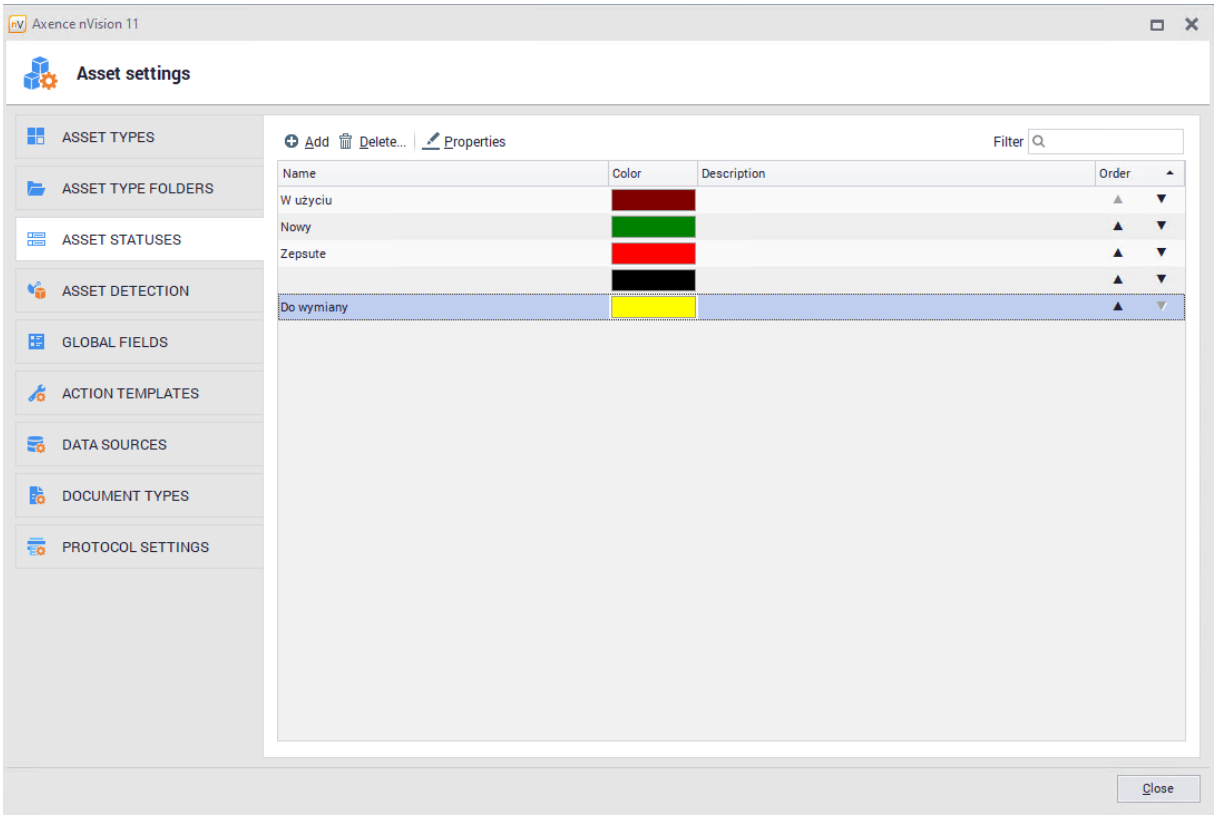
nVision offers several built-in action types::

- Upgrade,
- Internal repair,
- External repair,
- Maintenance,
- Software installation,
- Component replacement,
- Resupplementation,
- Utilization,
- Other action.

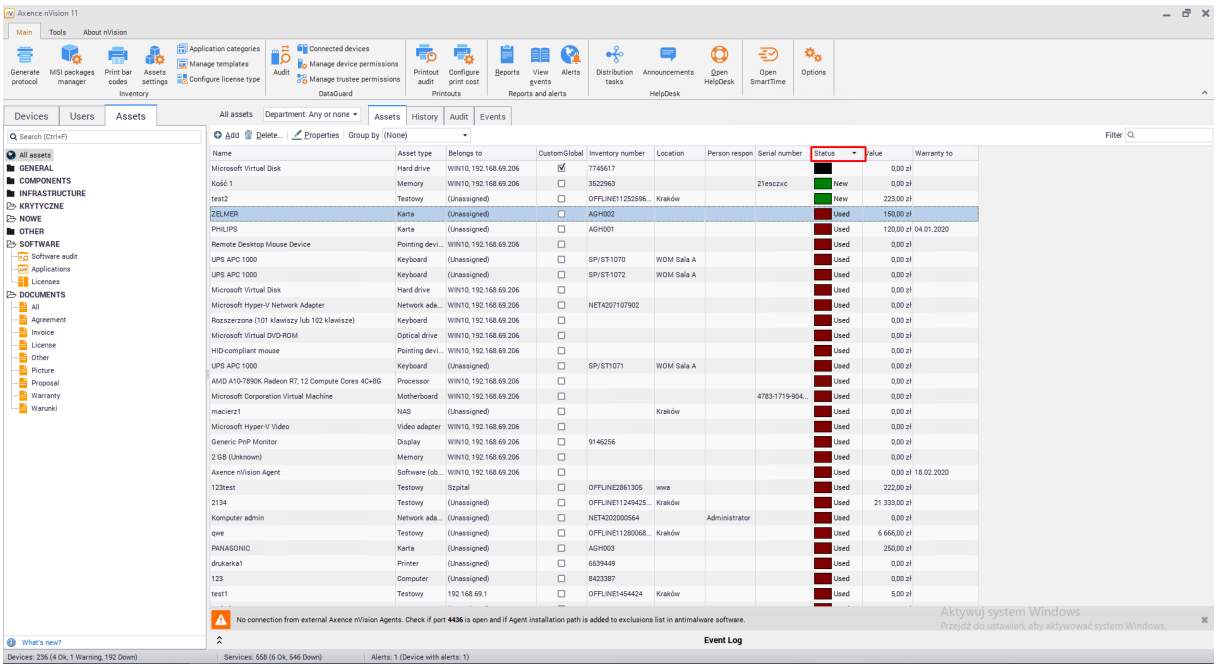
The Administrator can edit and remove items from the list of built-in actions (excluding the "Other action" item).

8.2.3.7 Asset statuses

Asset statuses tab allows adding additional asset distinction and categorization. Each asset must always have exactly one status set. The list of available statuses is available in the **Asset settings / Asset statuses** tab:



All statuses are presented on the asset lists so that it is possible to filter and sort by status (according to the order of statuses in the list):



Adding new asset status

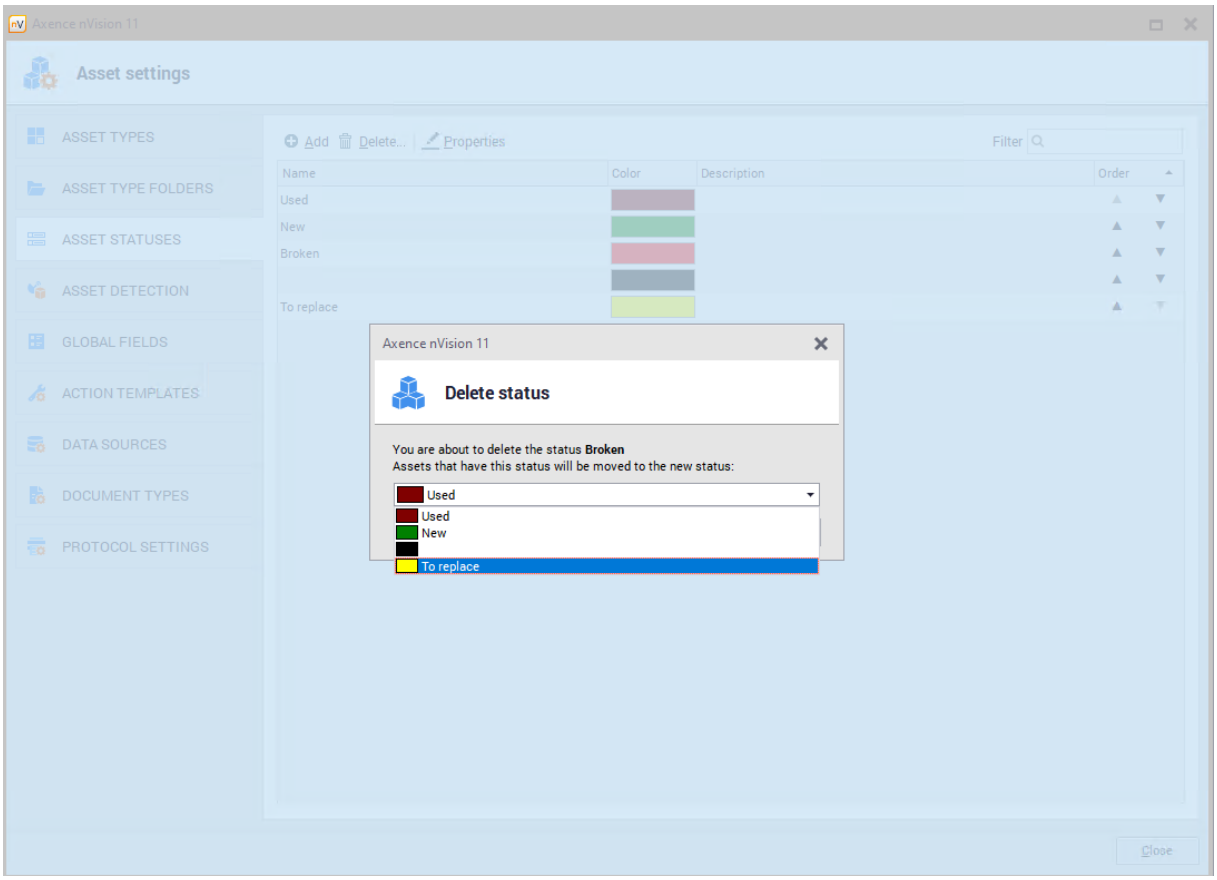
To add a new status, go to the Asset settings and select Asset statuses. After clicking the Add button, the window for adding a new status will open.

Fields "Name" and "Color" are required. The Administrator can include additional information and determine whether the status should be the default for new resources.

Adding status to a n asset is described in the asset status 214 chapter.

Removing asset status

To remove status, go to the **Asset Settings** window and select **Asset Statuses**. Status can be deleted by selecting it from the list and clicking **Delete** button. You must indicate a new status for assets that currently use the removed status.



Built-in statuses

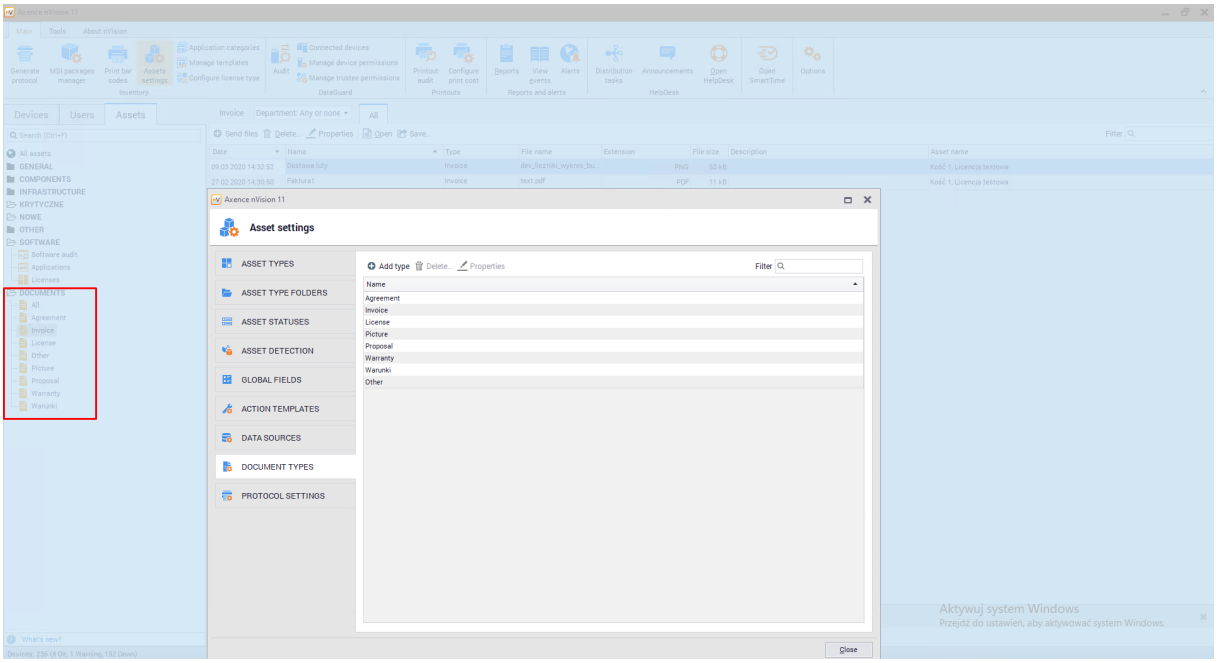
nVision offers several built-in status types:

- New (default for new resources);
- In use;
- In storage - operational;
- In storage - broken;
- In repair;
- To be disposed;
- Sold;
- Disposed;
- Lost.

8.2.3.8 Document types

Document types tab allows you to link an attachment (file) to an asset. The administrator can add, edit or delete document types.

Document types allow for more precise categorization of documents added to the program's database. You can also display documents by type from the **Asset** window in the main program console:



Adding new document type

To add a new document type, go to the **Asset Settings** and select **Document Types**. Click the **Add type** button, the window for adding a new type will open.

Types can be assigned to documents while documents are added or edited. These operations are described in documents 186 chapter.

Removing document types

To delete a document type, go to the **Asset Settings** window and select **Document Types**. Click **Delete** button to remove the selected item. Documents which type has been deleted will be assigned to the "Other" type.

Built-in document types

nVision offers several built-in document types:

- Invoice,
- Contract,
- Request,
- License,
- Warranty,
- Picture,
- Other (special type which cannot be edited or removed).

8.2.3.9 Protocol settings

nVision 11.5 introduces new functionality of generating asset transfer protocols. This chapter describes information about global protocol configuration.

To see the features, go to the **Asset Settings** window and click **Protocol Settings tab.** The Administrator can set certain properties for each protocol.

Configuration tab is divided into three (3) sections:

- **Company information**

1. Logo

You can add a logo that will be added to the protocol header. To add logo, click  button and select graphic file. To remove the logo, click  button.

2. Address

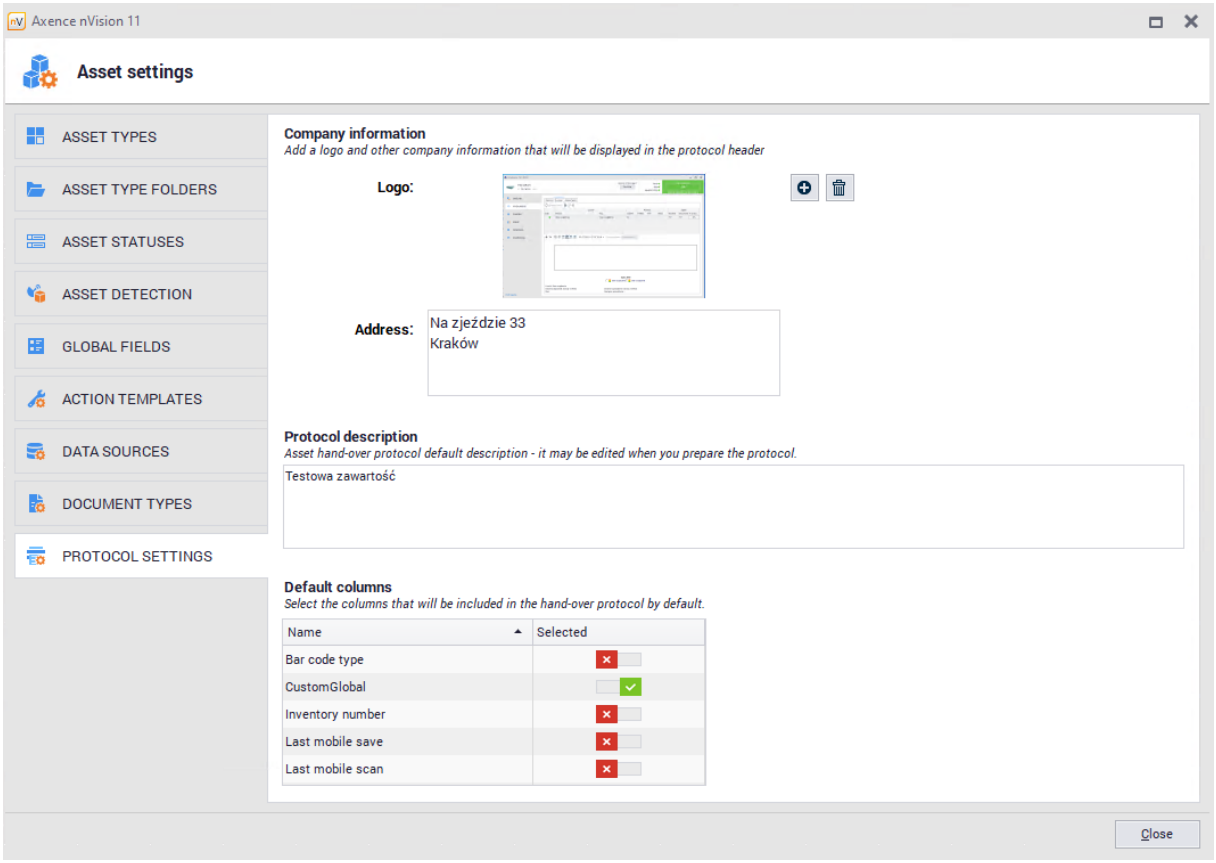
To add an address to the protocol header, fill in this text box.

- **Default protocol content**

This field shows default content which can be added to generated protocols. You can edit this content at the stage of generating the protocol.

- **Default columns**

You can select columns from the defined global fields, which by default will be included into the protocol. Visibility of columns can be modified at the stage of generating the protocol.



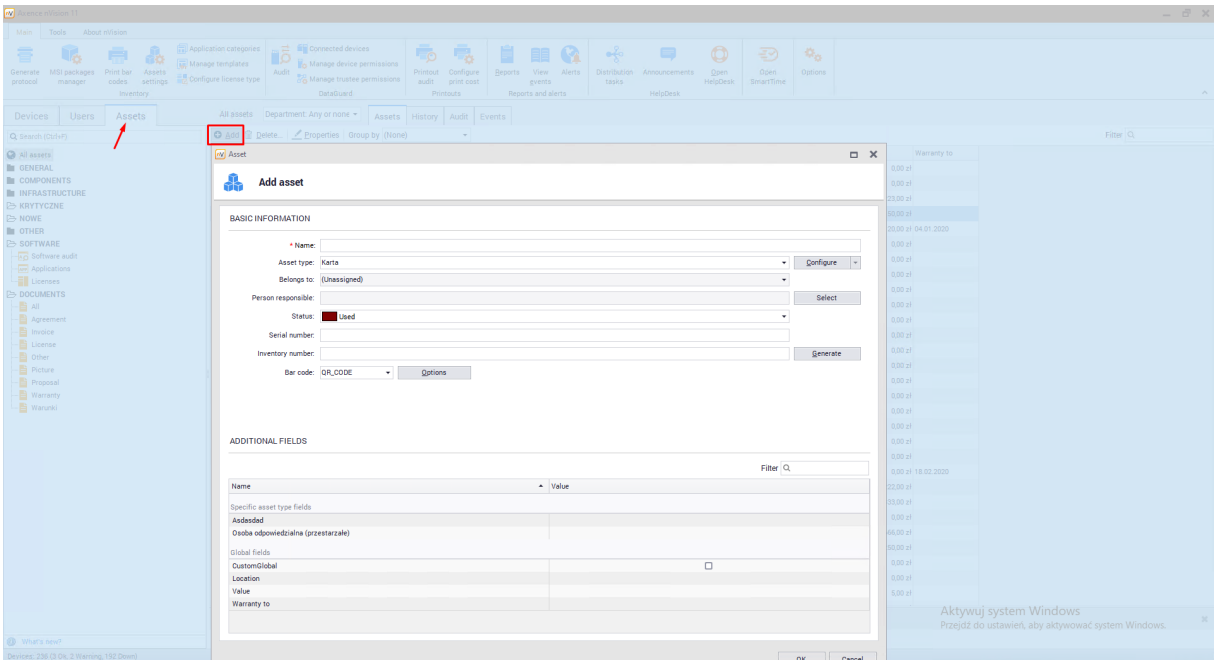
The protocol generation process is described in the protocols 222 chapter.

8.2.4 Asset creation and modification

Assets in nVision can be created automatically using data from the Agent or manually. The configuration and removal of automatic asset detection is described in the chapter asset autodetection. 202

Adding new asset

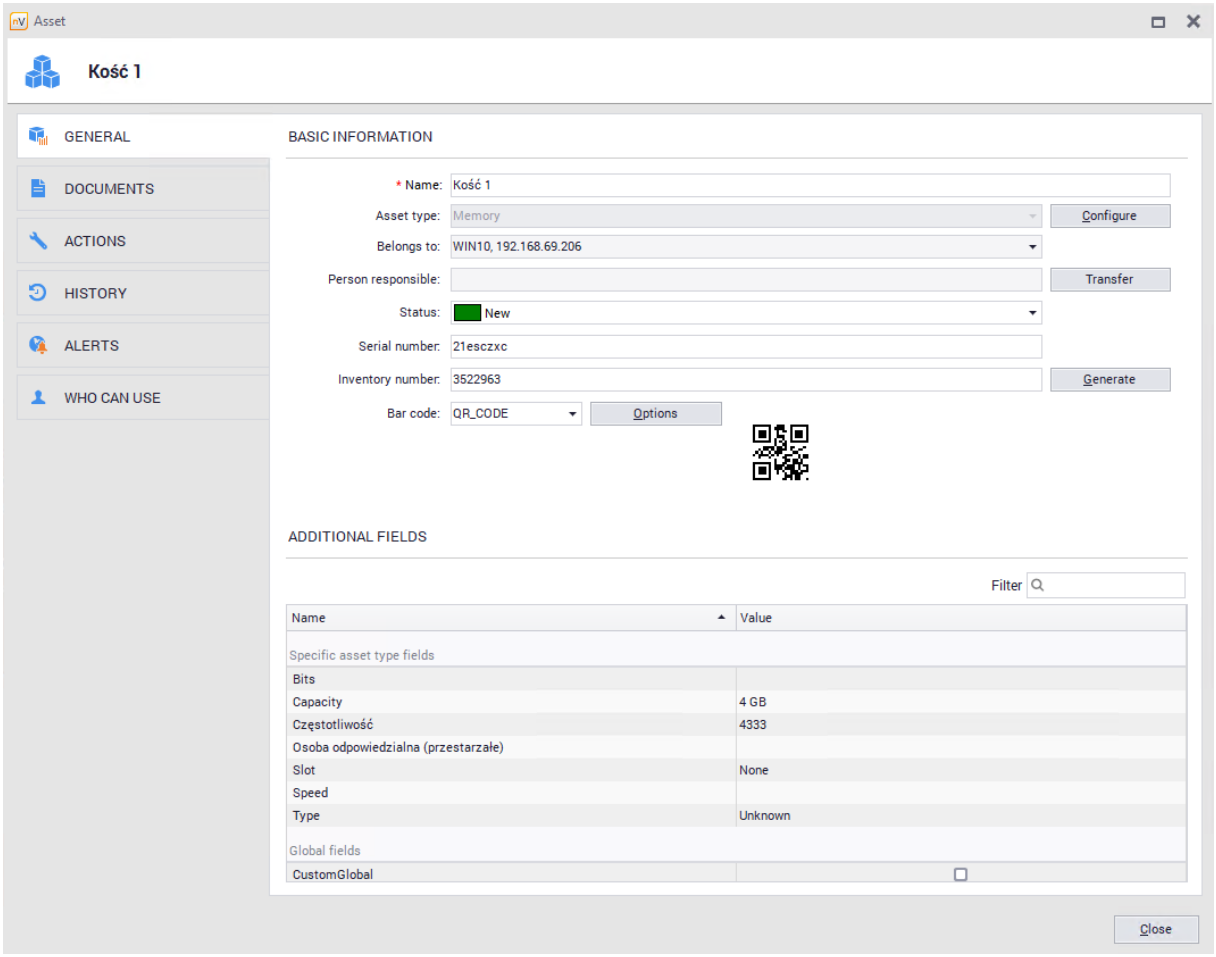
To add a new asset, go to the **Assets tab** accessible from the main program window. To add a new asset, select the **Add** option from the toolbar above the assets table or select **Add** from the context menu. The window for adding a new resource will open:



The next steps include completing the individual fields that specify assets properties. The available fields are explained in the asset properties 184 chapter.

Asset modification

To change the asset properties, go to the **Assets** tab available from the main program window. Find the asset on the list, go to the properties window, select appropriate button or double-clicking on the selected item. The asset editing window will open:



Available modifications and explanations are described in the asset properties 184 chapter.

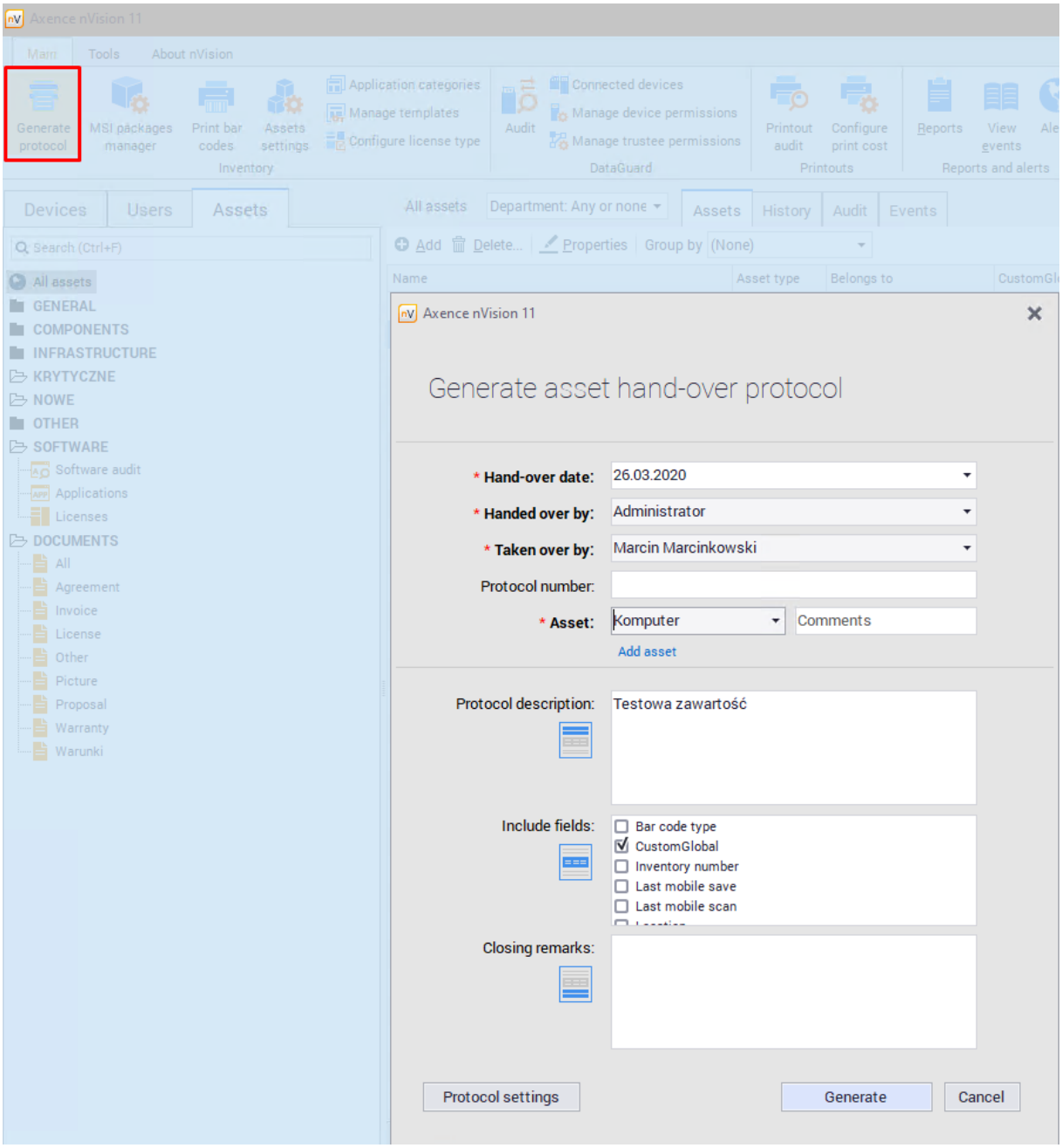
Asset removal

To remove a resource, go to the **Assets** tab available from the main program window. Find the asset in the list, click the **Delete** button or select the option from the context menu.

8.2.5 Generate protocol

nVision 11.5 introduces new functionality of generating asset hand-over protocols.

The window for generating the equipment transfer protocol will be opened after clicking the **Generate protocol** button accessible from the main toolbar:



This window can also be accessed when the user responsible for the asset is replaced.

Protocol configuration

General settings for all transfer protocols are described in asset protol settings 222 chapter.

In the protocol generation window, the Administrator can modify data such as:

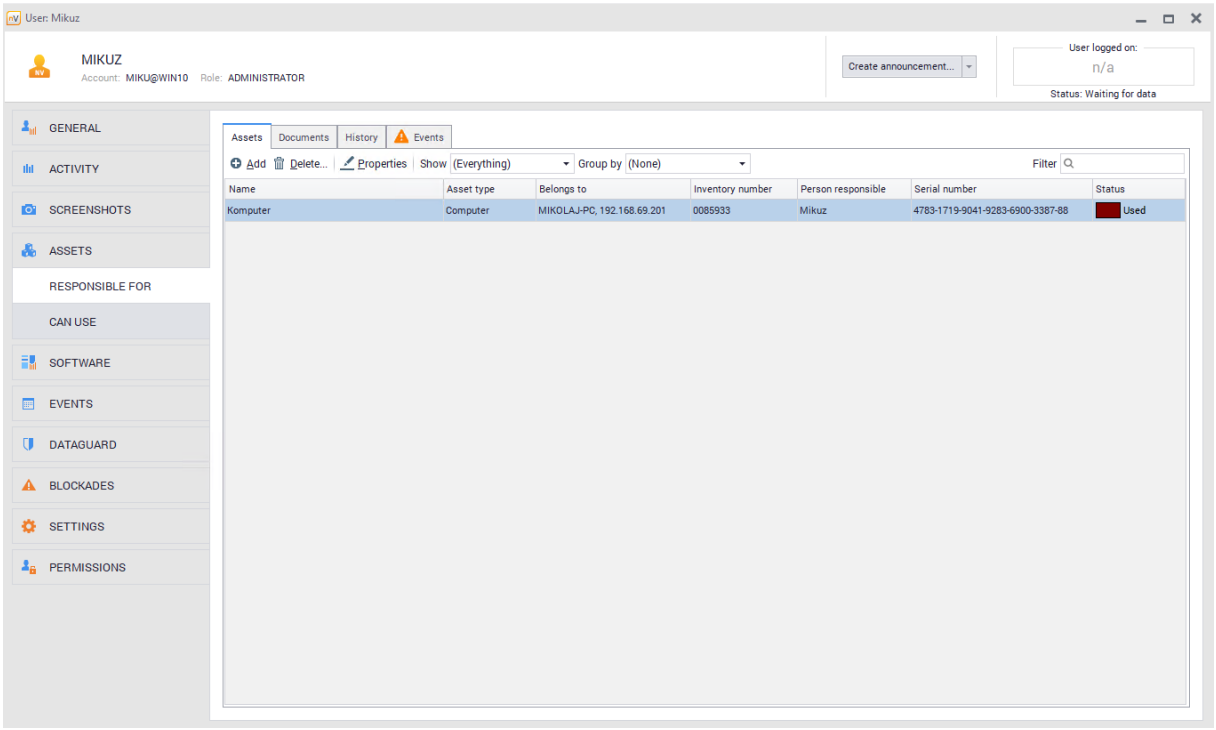
- Protocol number,
- Hand-over date,
- Handed over by,
- Taken over by,
- Asset,
- Protocol content,
- Include fields,
- Closing remarks.

Documets can be exported to DOCX and PDF format.

8.2.6 User information

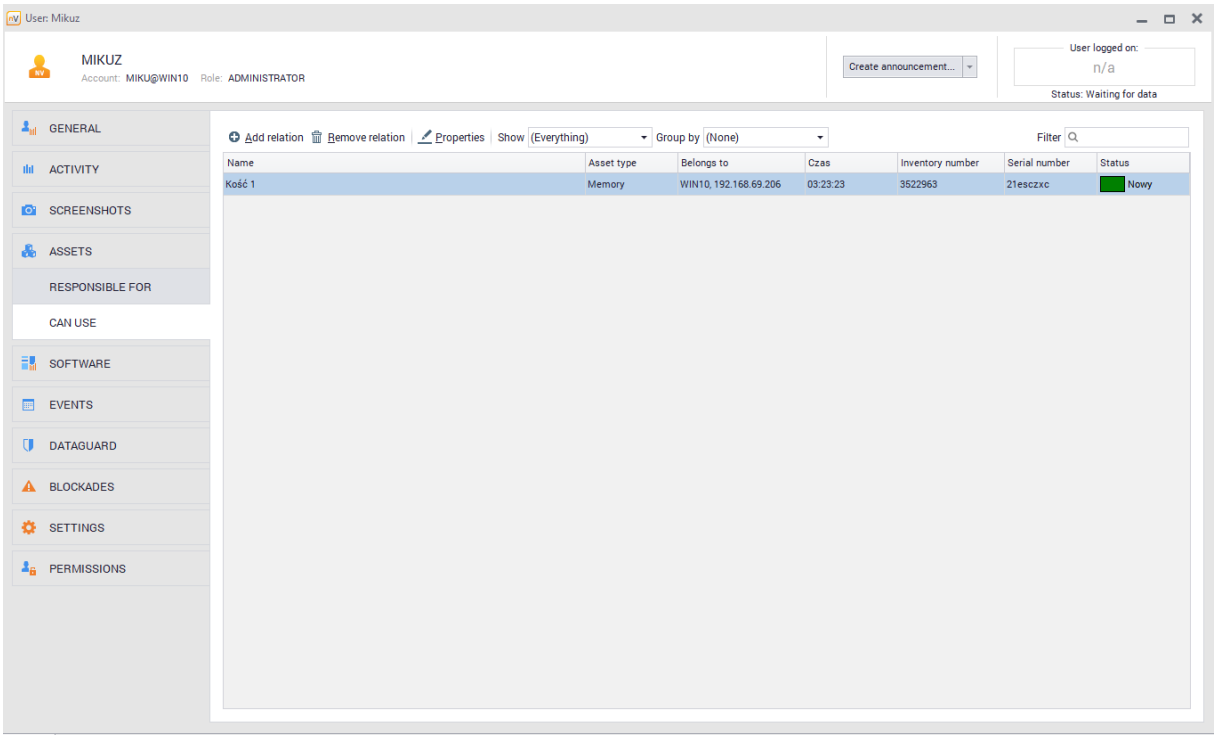
To view all assets assigned to the selected user, go to the **User Information** window and then go to the **Assets** tab.

In the **Responsible for** tab you can find information about the assets in which the selected user has been designated as the person responsible for the asset:



Defining the person responsible for the asset is possible at the time of editing or creating the asset.

In the Can use tab you can find information about assets that can be used by selected user:

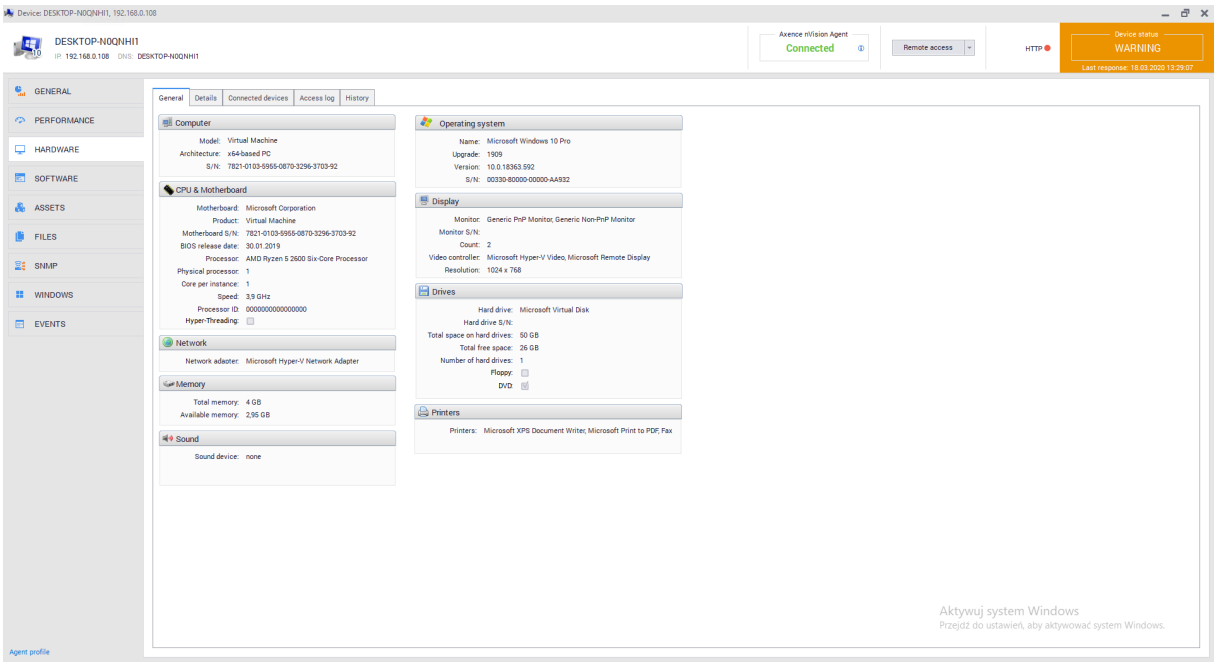


Setting the access to assets for particular users is available during asset edition 197.

8.3 Hardware

8.3.1 Introduction

Equipment inventory allows you to control the number and type of devices in monitored networks. nVision provides detailed information about all components of the device and all devices connected to it. You need to install the nVision Agent on every computer to be monitored.

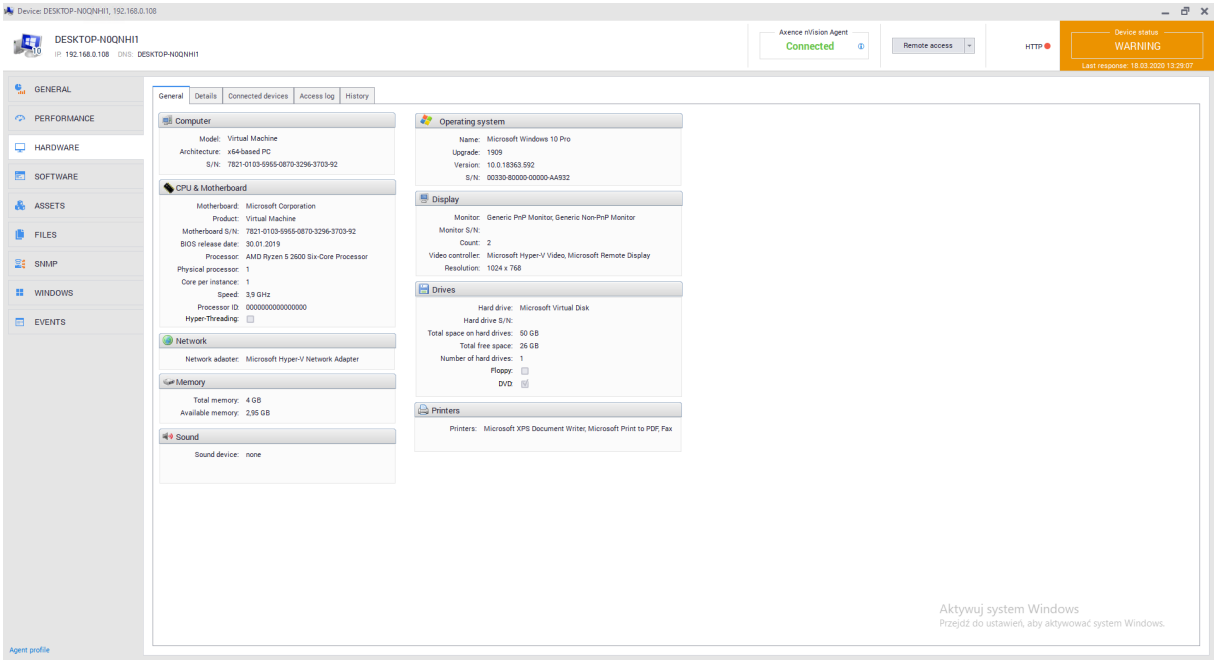


Scanning hardware information function is always **enabled**. In the device information window, after navigating to the **Hardware** tab, you can view the current hardware configuration of the device

Inventory of hardware and software can also be performed without installing Agents. To do this, simply use the inventory scanner described in the Inventory scanner 292 chapter.

8.3.2 Monitored data

The collected device data can be viewed in the **Device Information** window after going to the **Hardware** tab. Due to the large amount of information collected, data has been divided into three tabs: **General, Details and History.** Fields **Connected devices** and **Access log** are a part of Data Guard module.



General view

The general view shows the most important information about the equipment associated with the device. In particular - selected information about the computer, processor, memory, operating system, display and more.

It is not possible to manually amend the missing data.

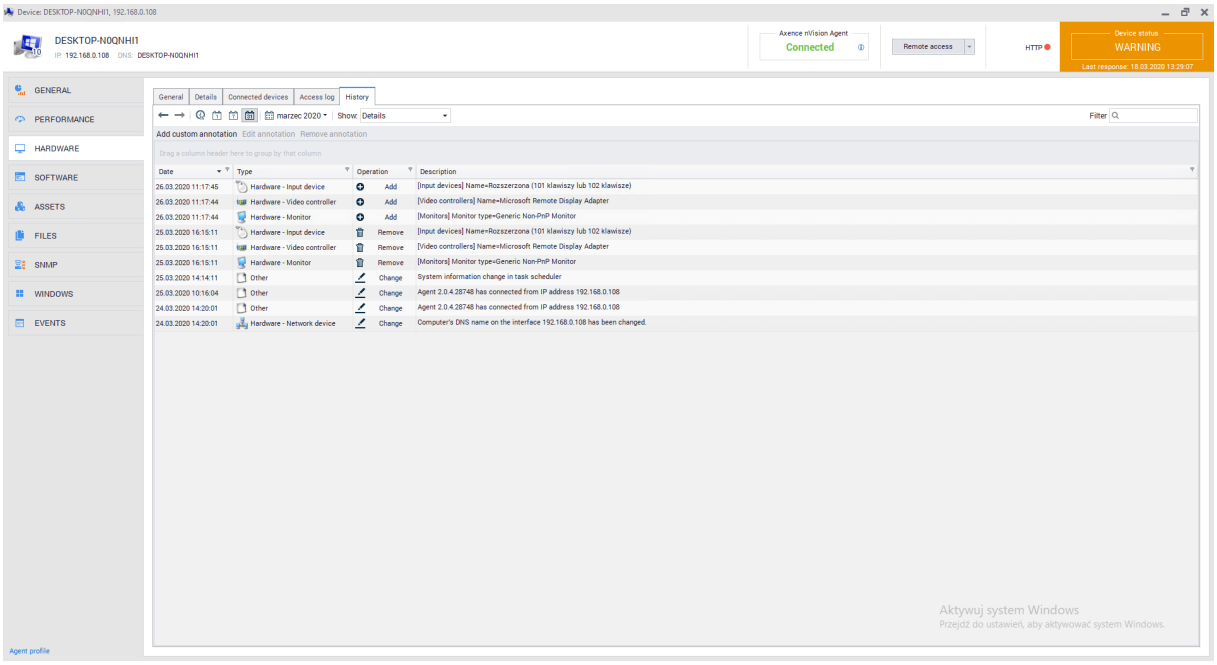
Detailed view

To access the information about the hardware on the monitored computer, go to the **Details** tab. You can view data divided into categories:

- Operating system
- Computer
- CPU & Motherboard
- BIOS
- Proccessors
- Memory
- Floppy drives
- Hard drives
- Optical drives
- Logical drives
- Monitors
- Video controllers
- Input devices
- Sound devices
- Network devices
- Printers
- Ports

History

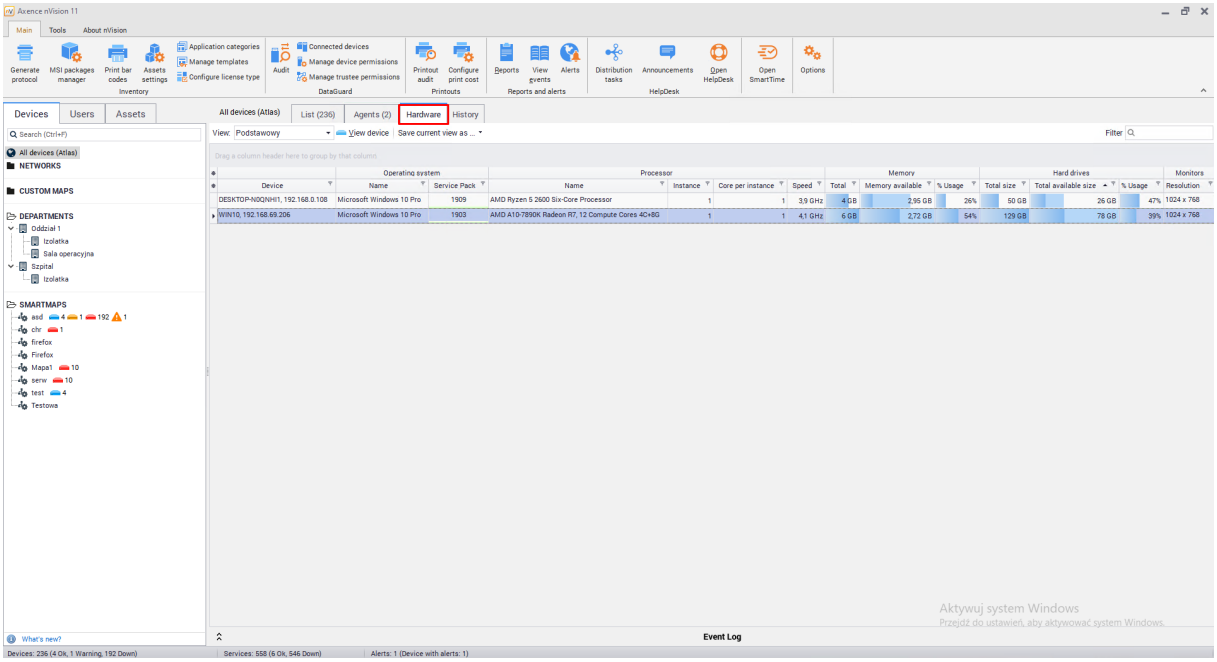
The **History** tab gives access to a list of all hardware modifications made on the selected device:



The history of all modified devices with installed Agent is described in the History 229 chapter.

8.3.3 Hardware audit

To go to the **Hardware** inventory audit, go to the Devices tab available from the main program window, and then select the **Hardware** tab above the list of devices:



Here you can view all hardware data gathered by Agents installed on monitored computers and hardware scans that have been imported into the program. For ease of use, the option of grouping data using views is enabled. You can use one of the existing views (e.g. All columns, Basic, Multimedia) or create your own.

Creating custom view

To create your own view, select the columns that you want to add and follow with the steps as below:

1. Select the **All columns** view from the list of available views.

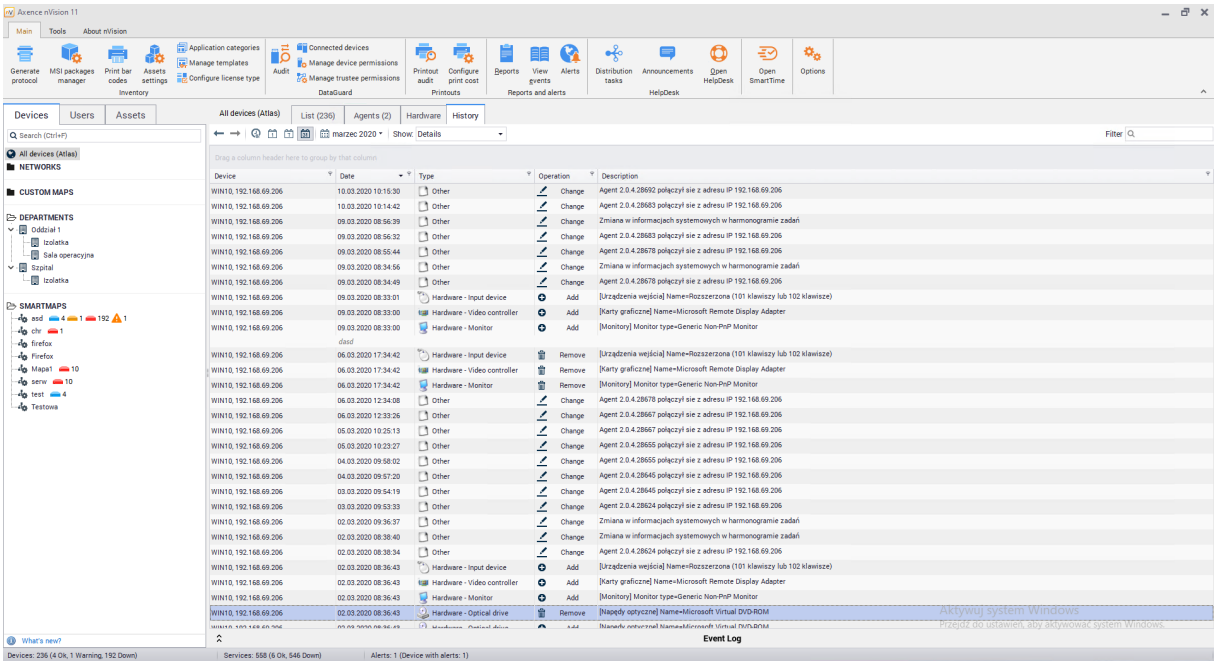
2. Click on one of the buttons * located in the upper left corner of the table. The upper one contains the list of column groups (listed in the Monitorowane dane 231 chapter), and the lower one lists all columns that can be displayed. Select the columns you want to display.

3. To save the created view, click the **Save current view as** button and enter a unique view name. From now on you can select the created view from the list.

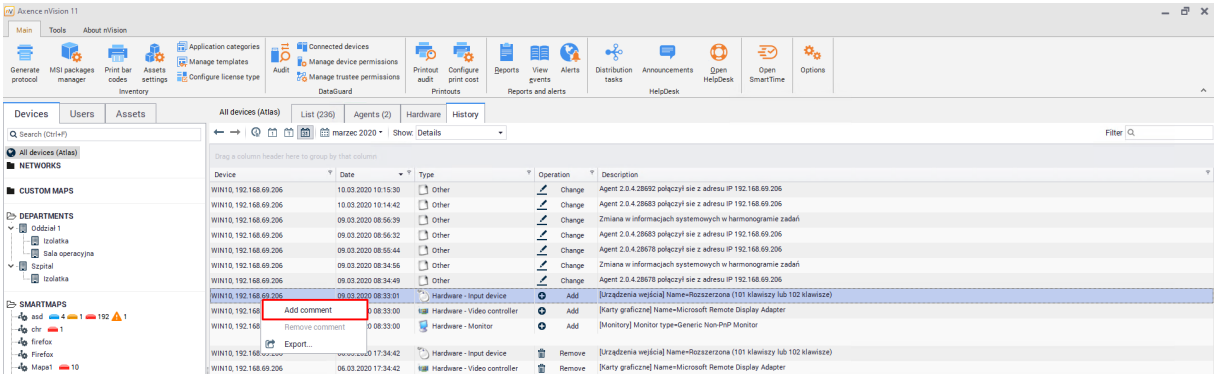
8.3.4 History

The **History** tab allows to view changes in hardware and software in a selected period of time for all monitored devices belonging to a given Atlas.

To view the history of hardware changes, go to **Devices** tab available from the main program window, then select the **History** tab above the list of devices:



For convenient history view, you can group information relative to one of the columns by dragging its header to the blue field above the list. You can also add notes (after clicking the **Add own annotation** button) and comments to selected entries (right mouse button on the selected entry / **Add comment**).

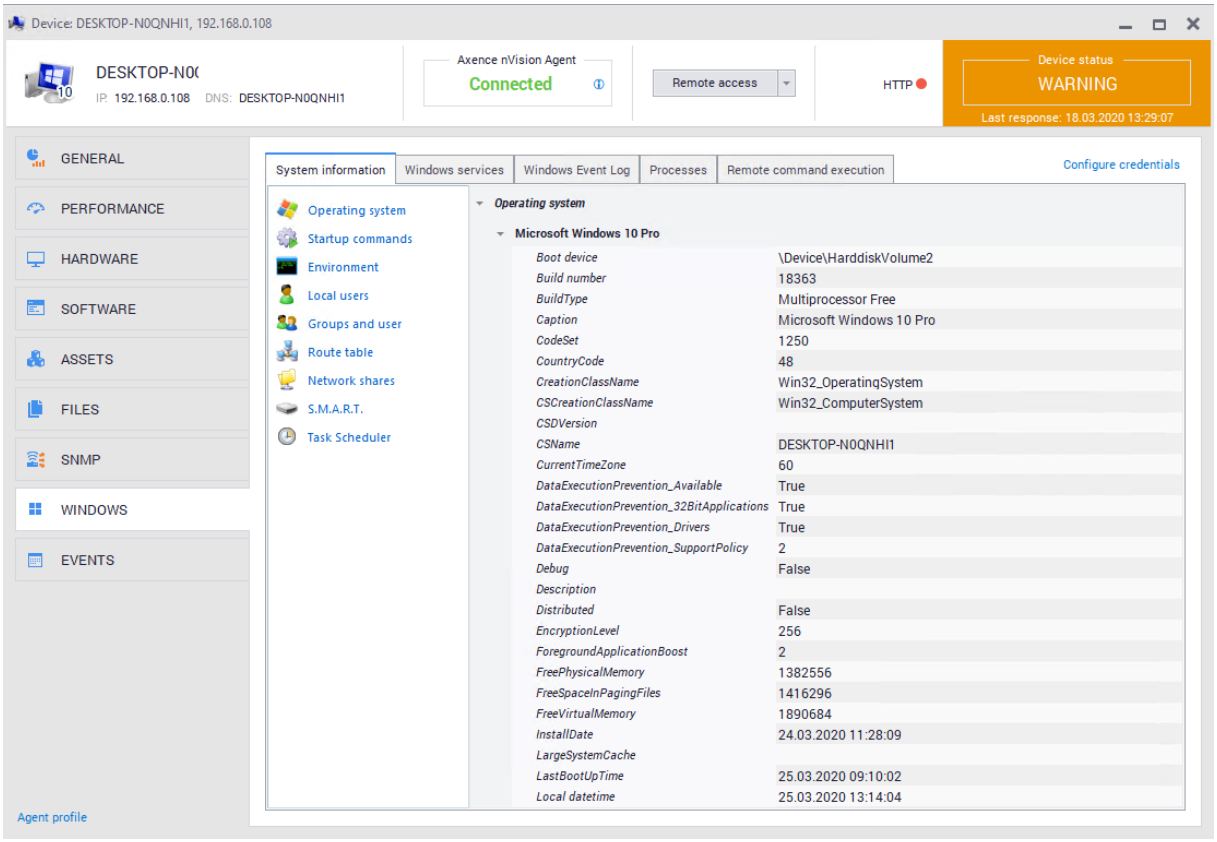


8.4 System Information

8.4.1 Introduction

System information are collected by the nVision Agent. To gather this data, you must install Agents on all computers that you want to monitor.

To go to the system information window, select the device and go to the **Device Information** window. Then select the **Windows** tab.



In this section you can find System Information, Windows Services and Windows Event Log tabs. The Processes and Remote Command Execution tabs are associated with the HelpDesk module, while the other belong to Inventory module.

8.4.2 Monitored data

Table shows the system data that can be monitored

Data	Description
Operating system	Detailed information about the operating system, including name, manufacturer, version, serial number and other.
Startup commands	List of startup commands including name, command, user and location of executed files
Environment	Information about environment variables.
Local users	Data on local users includes the account name, information related to the password (whether it is mandatory or has expired), account status (enabled/ disabled) and other.
Groups and users	Information about user groups with description
Routing table	The computer's routing table.
Network shares	Information about resources, disks and shared folders.
S.M.A.R.T.	Information collected using the S.M.A.R.T system. To change the drive for information display, select it from the menu at the top of the window. To learn more about the S.M.A.R.T. system, see S.M.A.R.T. 235 chapter
Task scheduler	Presents information about running Windows applications along with the schedule dates, last launches and the result of the last launch

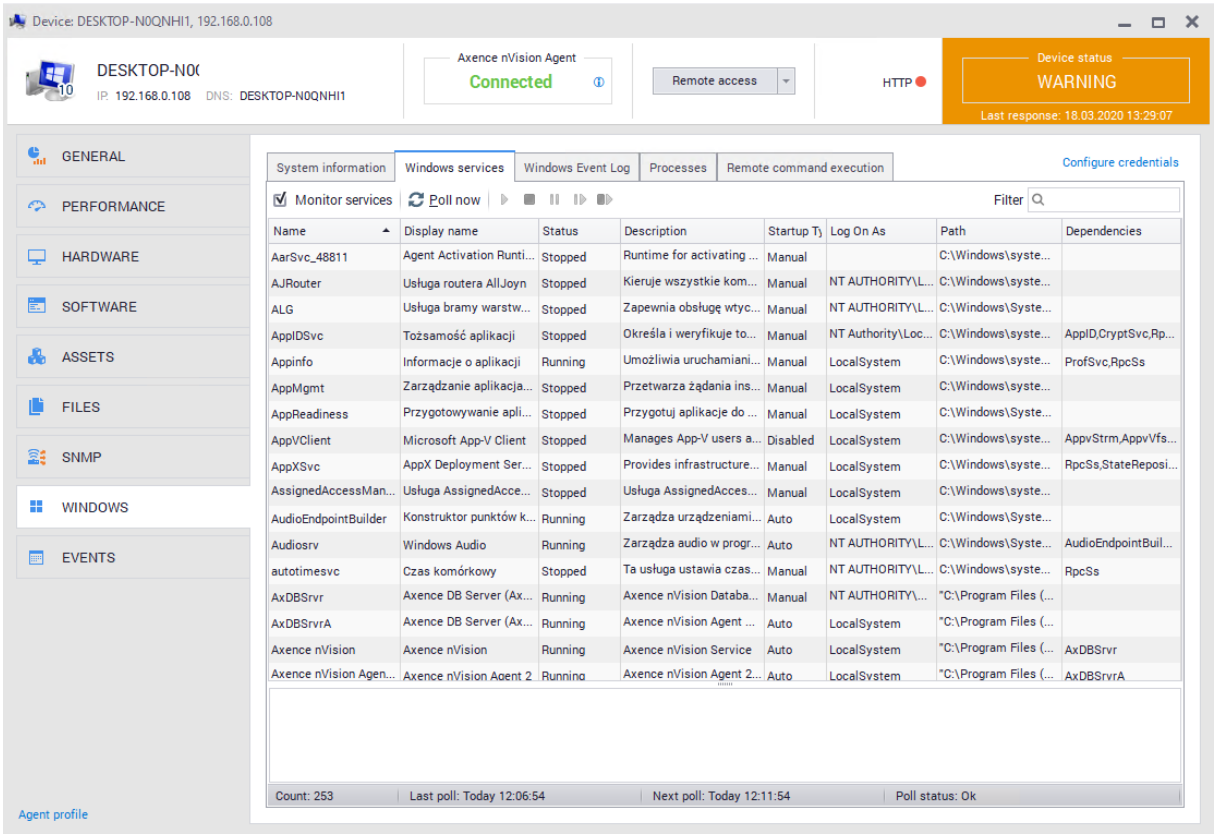
8.4.3 Windows services

The Inventory module includes a feature that allows you to monitor Windows services.

Windows Services tab displays all services associated with the device. By checking the **Monitor services** box, you can enable the visibility of this list.

This view allows you to get detailed information about individual items in the table.

Windows service tab gives you the option to start, pause, stop or resume the service. Such actions can be performed using the buttons available on the bar above the list or in the context menu of a given service (right click of the mouse).



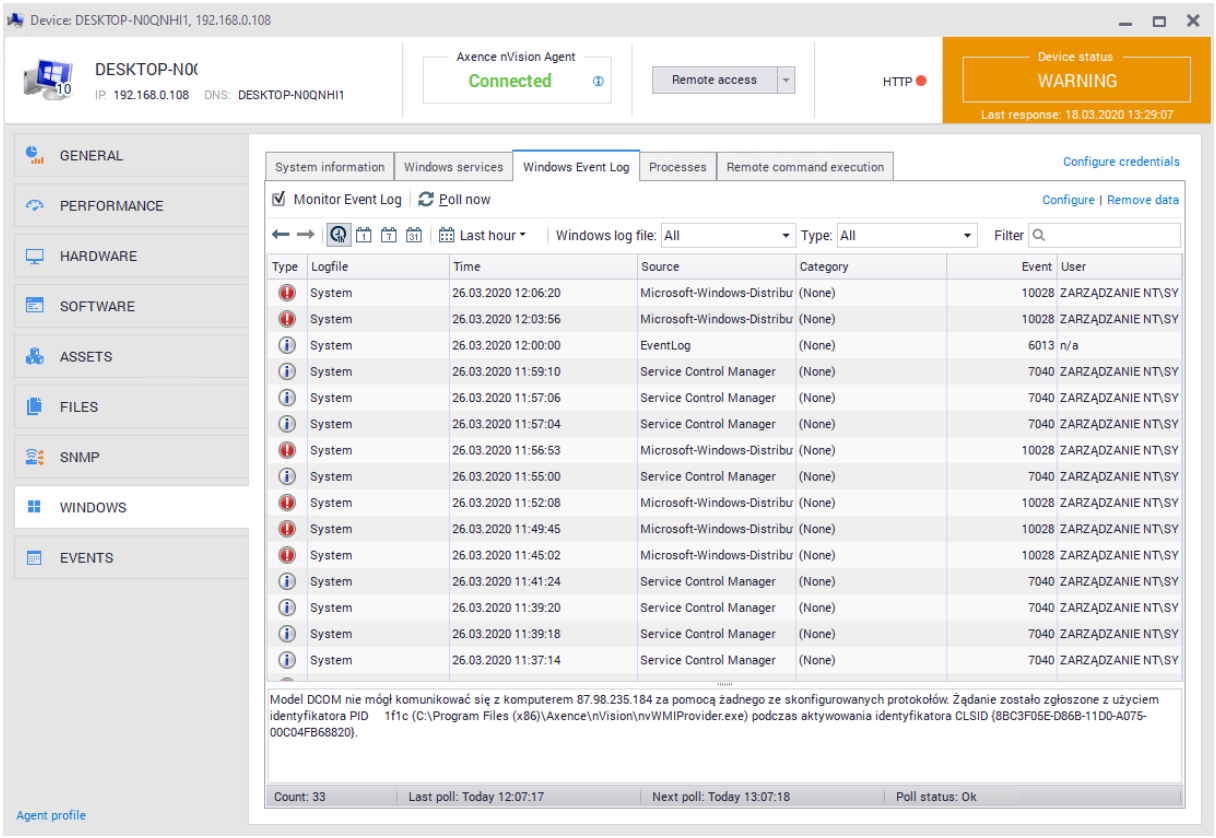
To force checking the current services status, use the **Poll now** button .

8.4.4 Windows processes

HelpDesk module allows you to view the system processes with management options. More information is available in the following chapter. 443

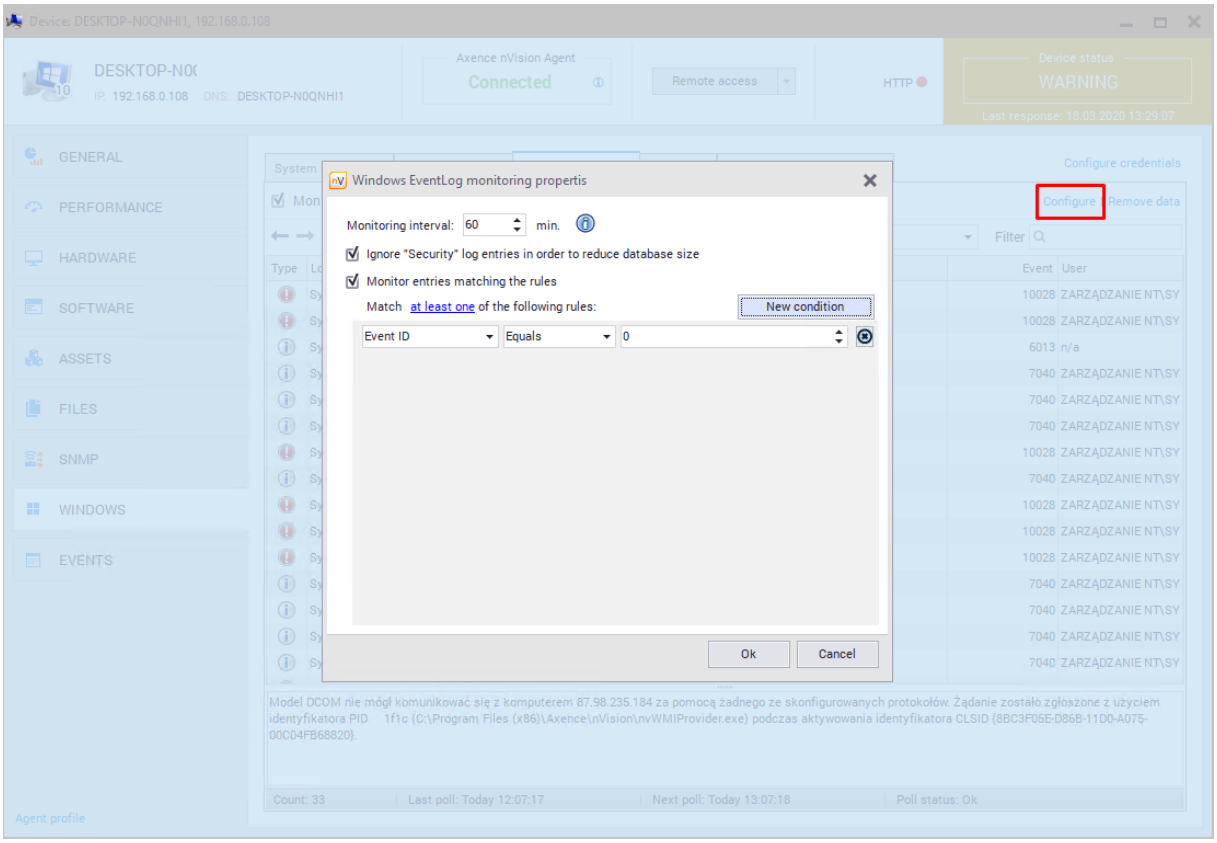
8.4.5 Windows Event Log

The Inventory module allows you to monitor Windows event log.



To run the event log monitoring, go to **Device Information / Windows**, then select **Windows Event Log** tab and choose **Monitor event log** option.
WARNING! Enabling event log synchronization for a large number of devices can significantly load the network and increase the size of the database.

By default, nVision updates the event log every hour. Using the **Configure** option, you can modify both the monitoring interval and specify additional rules. Setting a low monitoring interval may result in high network load. The default Windows Event Log monitoring filter does not collect user login information.



To force immediate event log synchronization, click **Poll now** button.

8.4.6 Remote command execution

Remote command execution is a part of the HelpDesk module. See chapter remote cmd 444 for more information.

8.4.7 S.M.A.R.T.

S.M.A.R.T. (ang. Self-Monitoring, Analysis and Reporting Technology) is a system for monitoring and notification of hard disk operation errors to increase the security of stored data. The use of this system allows to anticipate and prevent impending failures (e.g. by monitoring the temperature overheating risks).

S.M.A.R.T. monitors many parameters of the hard disk by constant access to a device status. Monitoring includes:

- number of start / stop cycles (Start / Stop Count),
- disk temperature (Celcius),
- frequency of errors during reading process (Read Error Rate),

- the number of reallocated sectors (Reallocated Sector Count),
- the number of attempts to start the disk axis (Spin Retry Count).

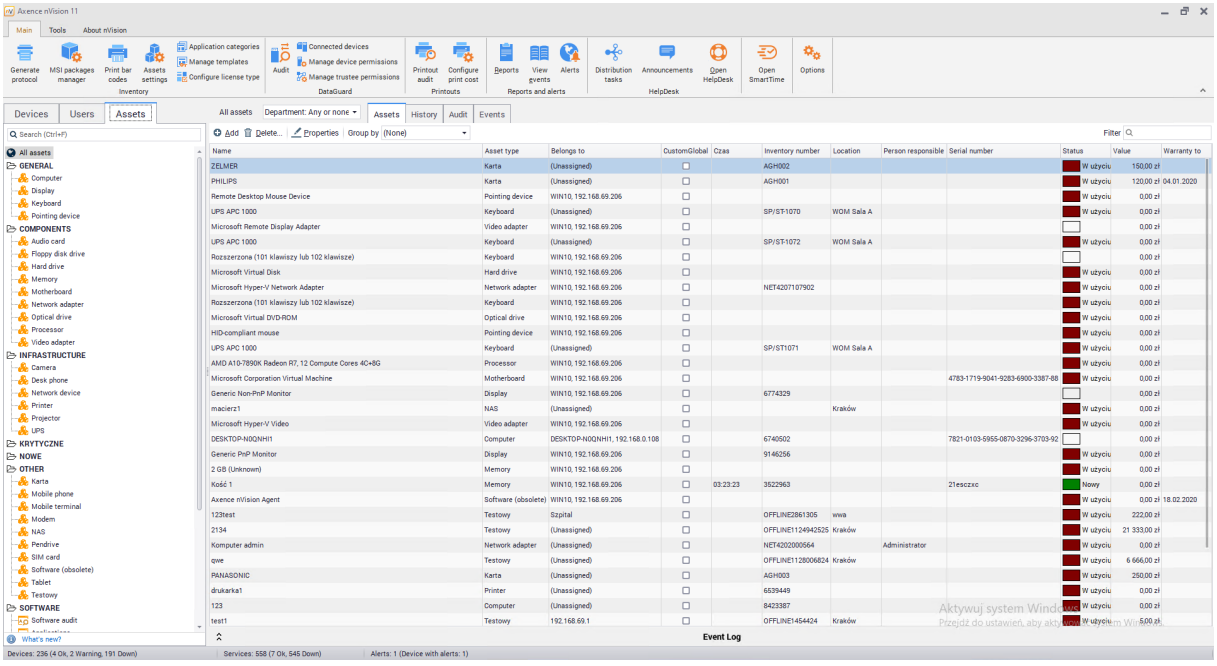
Error analysis, based on the prediction of disk damage based on constantly monitored parameters (attributes), allows for earlier notice about potential problems.

8.5 Software

8.5.1 General information

Software inventory function enables control over applications installed on the computers of monitored users. It allows to control the legality of programs and multimedia files, in line with licenses management. In order to collect information about installed programs, you must install the nVision Agent on each of the computers to be monitored.

In nVision 11.5 an "assets" tab has been added, allowing to display resources, applications, licenses and documents saved in the database. To access it, select the **Main** tab and then select **Assets**:



The list of folders with their assigned types, the list of applications and licenses, and the document section divided into categories will be displayed on the left side of the screen. The administrator can create his own folders and document categories. These settings are described in the foldery typów zasobów 209 and typy dokumentów 217 chapters.

This chapter focuses on software. The remaining segments of the **Assets** tab are described in the **Assets** chapter.

Software

The software section consists of three sections:

- Software audit - displays list of detected applications, enables audit snapshot
- Applications - displays list of applications which installations can **be detected by the Agent**,
- Licenses - allows to view, modify and add licenses.

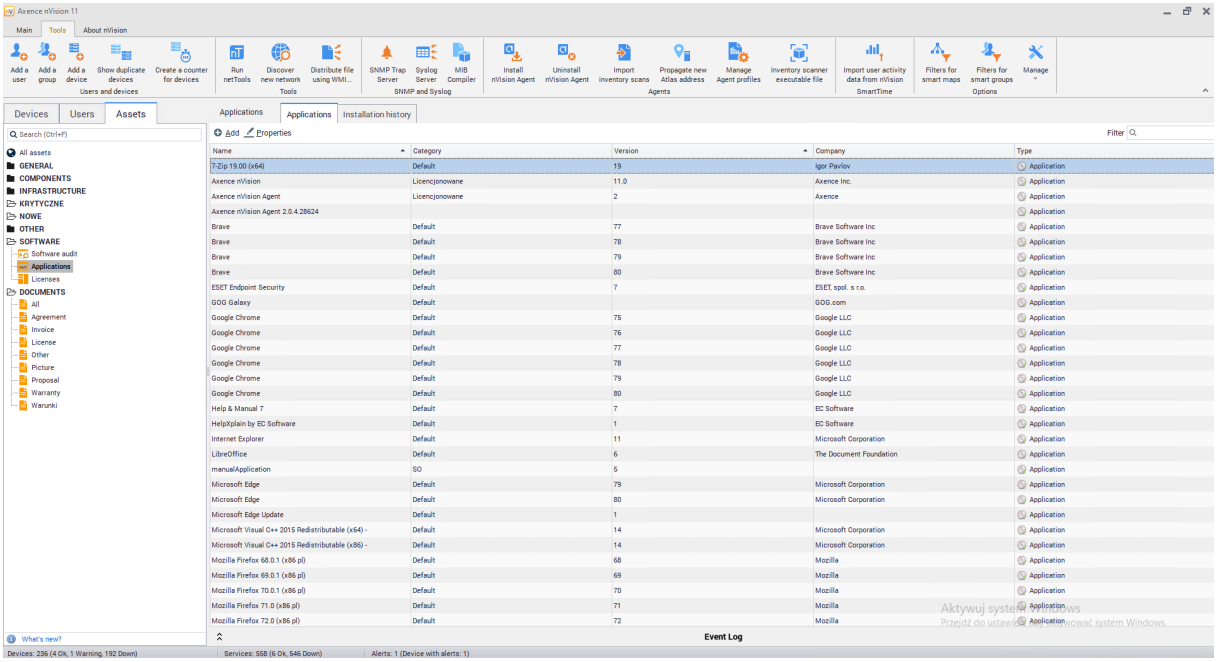
Each of items shown above is described in the following chapters.

In nVision 11.5, programs and software templates have been combined into one object called the 'application'. This allows more application management more powerful and intuitive. Also, the possibility of various settlements of license usage (e.g. per user) has been introduced. To assign a license to an application, the application must be marked as audited.

8.5.2 Detection and application properties

8.5.2.1 Applications

To display the list of applications, select the **Assets** tab visible in the main program window, and then scroll down for **Applications** in the **Software** section:



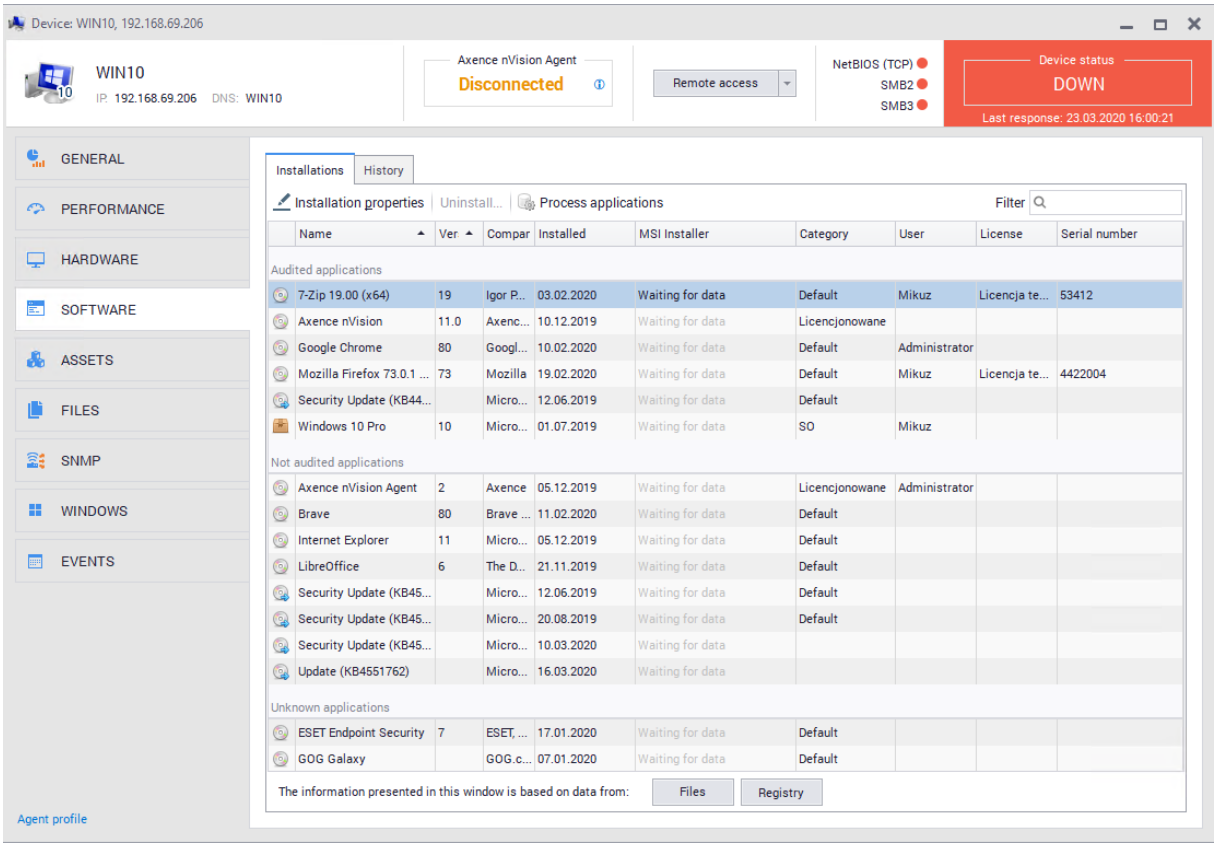
The displayed list contains applications that:

- have been detected on the host with installed Agent and have been assigned to the embedded application patterns,
- have been manually added by the Administrator,
- were detected on the host with the installed Agent through a system registry scan and a pattern was created for them.

Patterns based on which application installations are detected are described in detail in the App template 243 chapter.

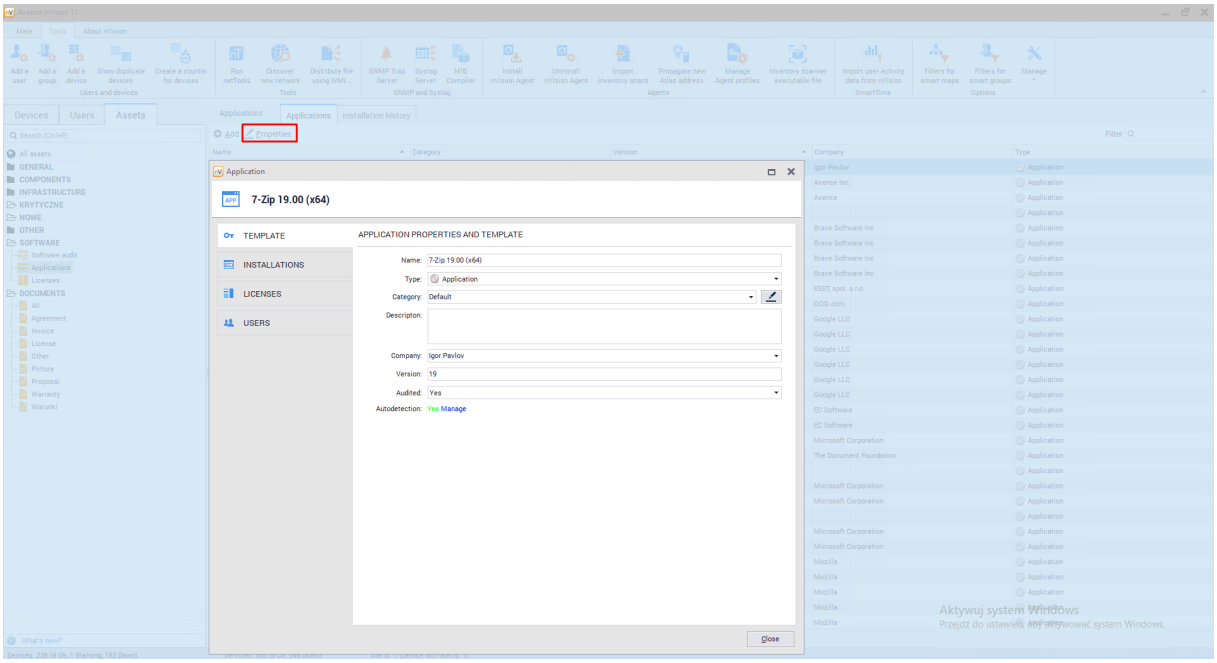
Applications on the selected host

Going to the **Device Information** window and then to the **Software / Installations** tab you can see the list of applications installed on the selected host:



Application properties

To go to the application properties, double-click on the item in the list or click the **Properties** button above the list:



Properties window will be opened. The individual elements shown here are described in the following chapters.

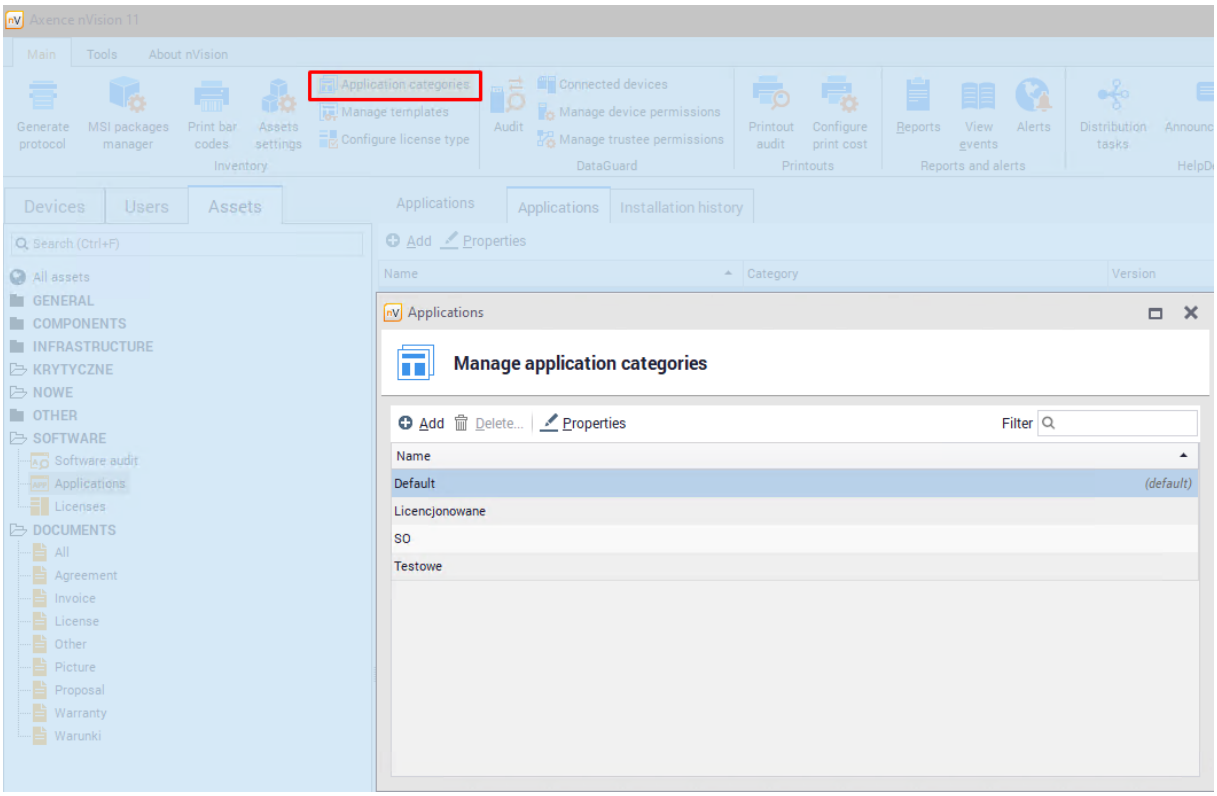
An important parameter of the application is the "Audited" field - if the application is audited, it is possible to assign a license to it.

8.5.2.2 Application categories

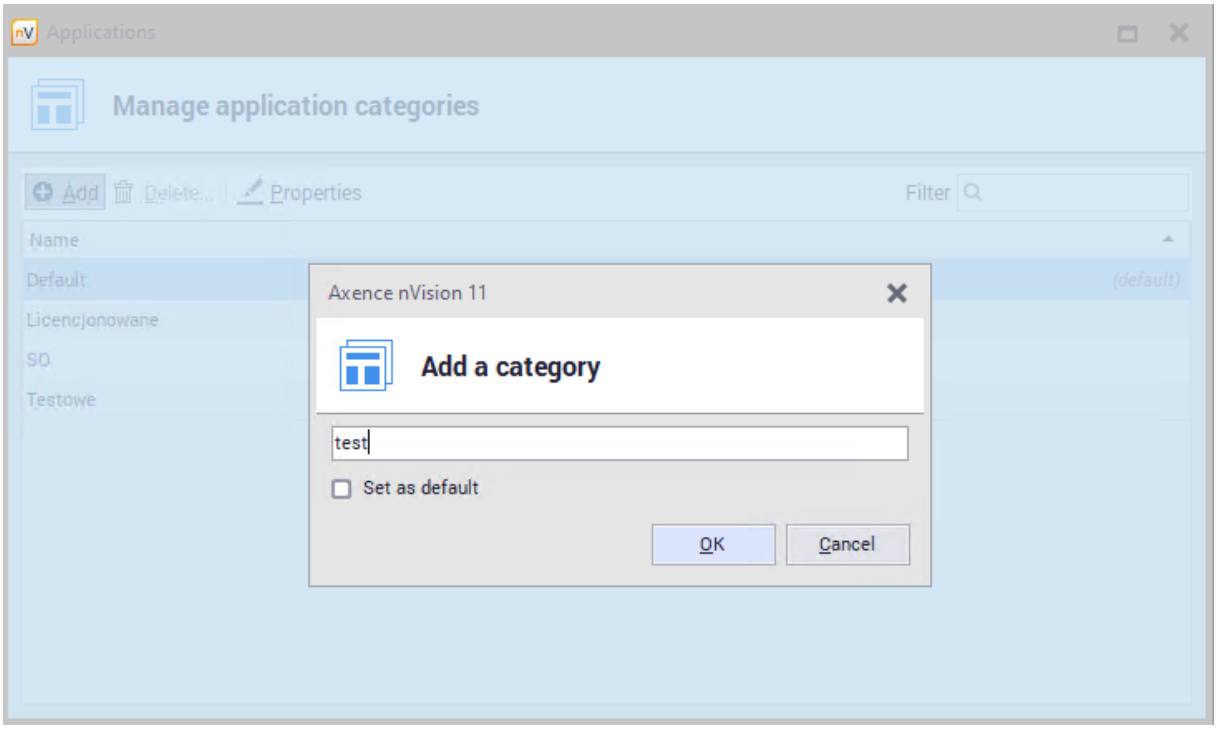
The Administrator has the option of assigning the application to categories that can be created and edited if need to. The categories allow to create your own way of organizing applications displayed in the program. Initially, the program contains only one "Default" category.

Creating new category

To create a new category, click the **Application categories** button on the main toolbar of the program. A list of categories will appear:



To create a new category, click the **Add** button and enter the name of the new category. While creating a category, you can specify a default category. This means that for **newly detected applications**, the selected category will be used as the default. A maximum of one category can be specified as default.

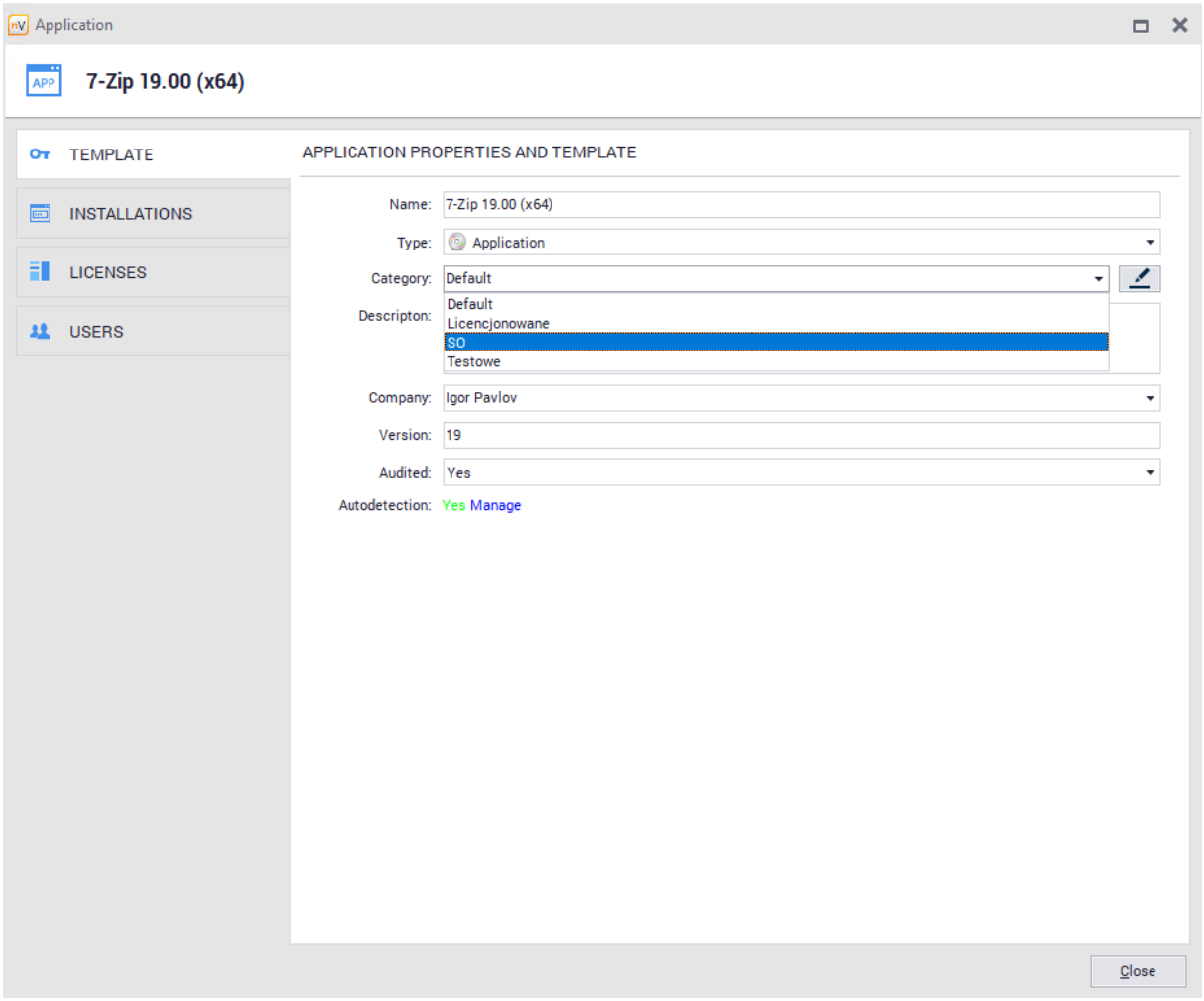


Removing category

To delete a category, go to the **Application Categories** window from the main toolbar, select the category on the list and click **Delete**. All applications that were in this category will be moved to the default category.

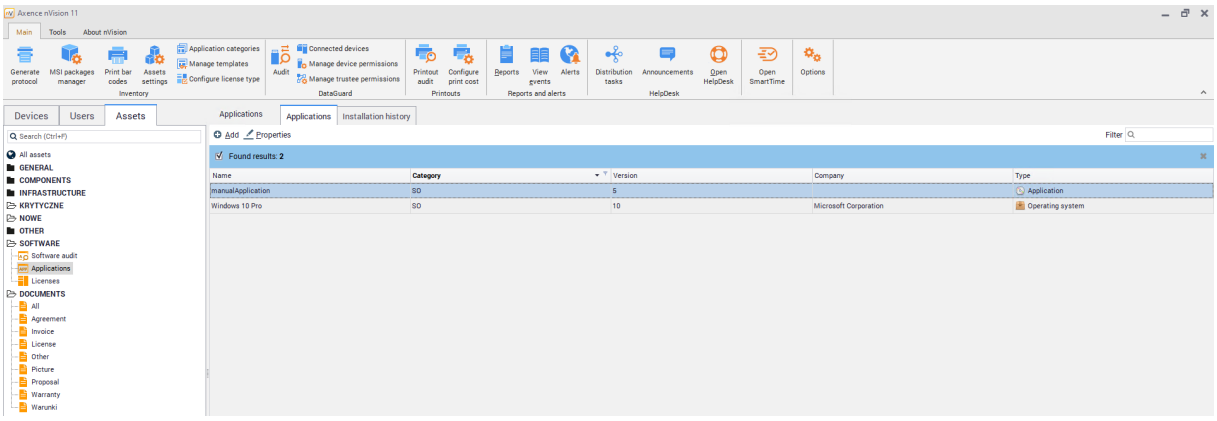
Assigning application to category

To assign an application to a category, select the appropriate item when creating or editing the application:



Category use case

Categories can support other administrative activities eg. present applications belonging to the selected category. Such information can be displayed in the **Assets** tab available from the main program window:



8.5.2.3 Application templates

Application templates are used to identify the installation of various types of applications. Patterns are divided into two types - created locally and synchronized with the Axence pattern database. Together with the nVision program, approx. 600 manually created patterns are provided to recognize the most-used applications.

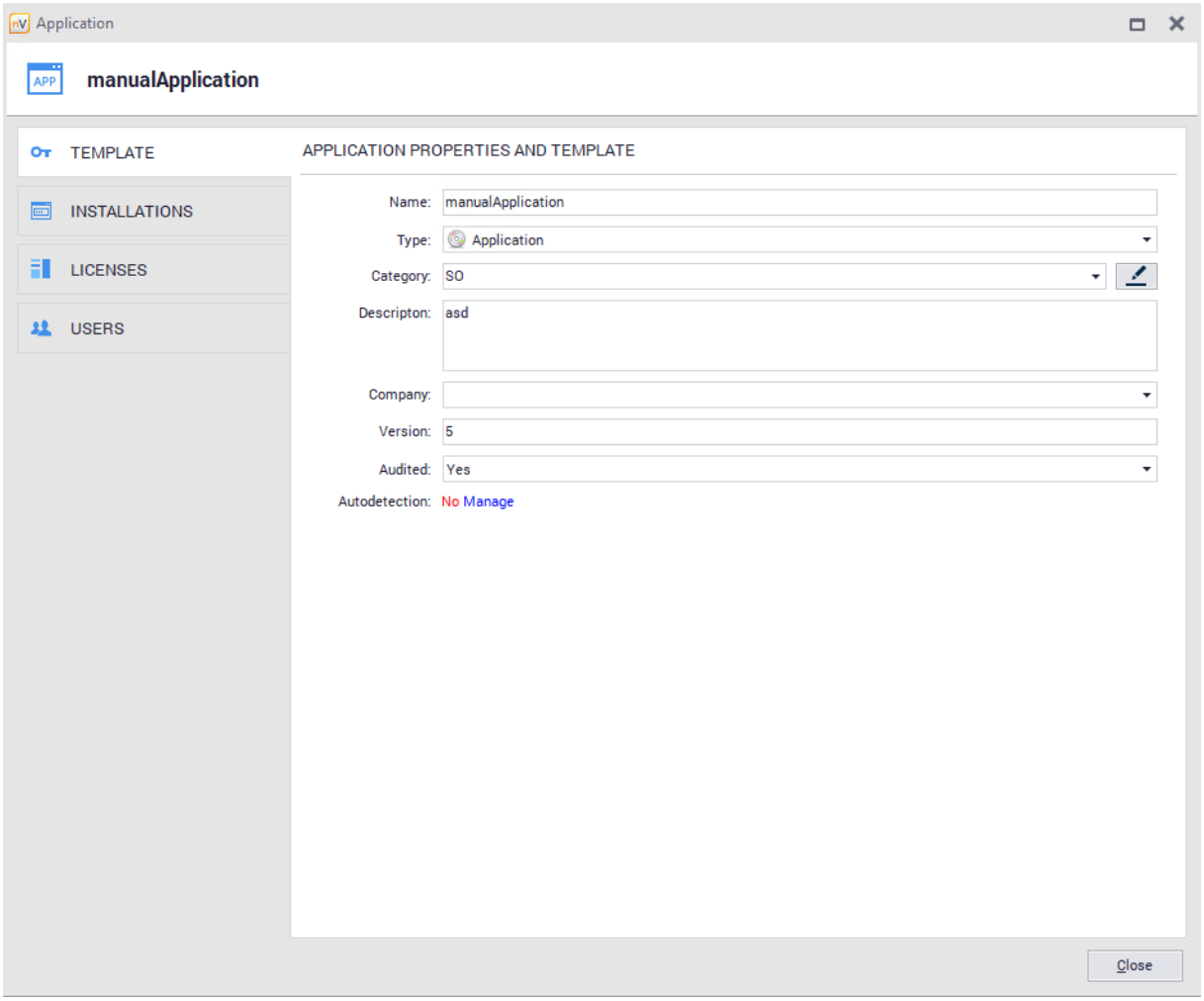
nVision distinguishes the following types of patterns:

- Applications and operating systems
- Security updates,
- Drivers,
- Operating Systems.

In the further part of the chapter, all four as above are to be understood as applications.

Application pattern

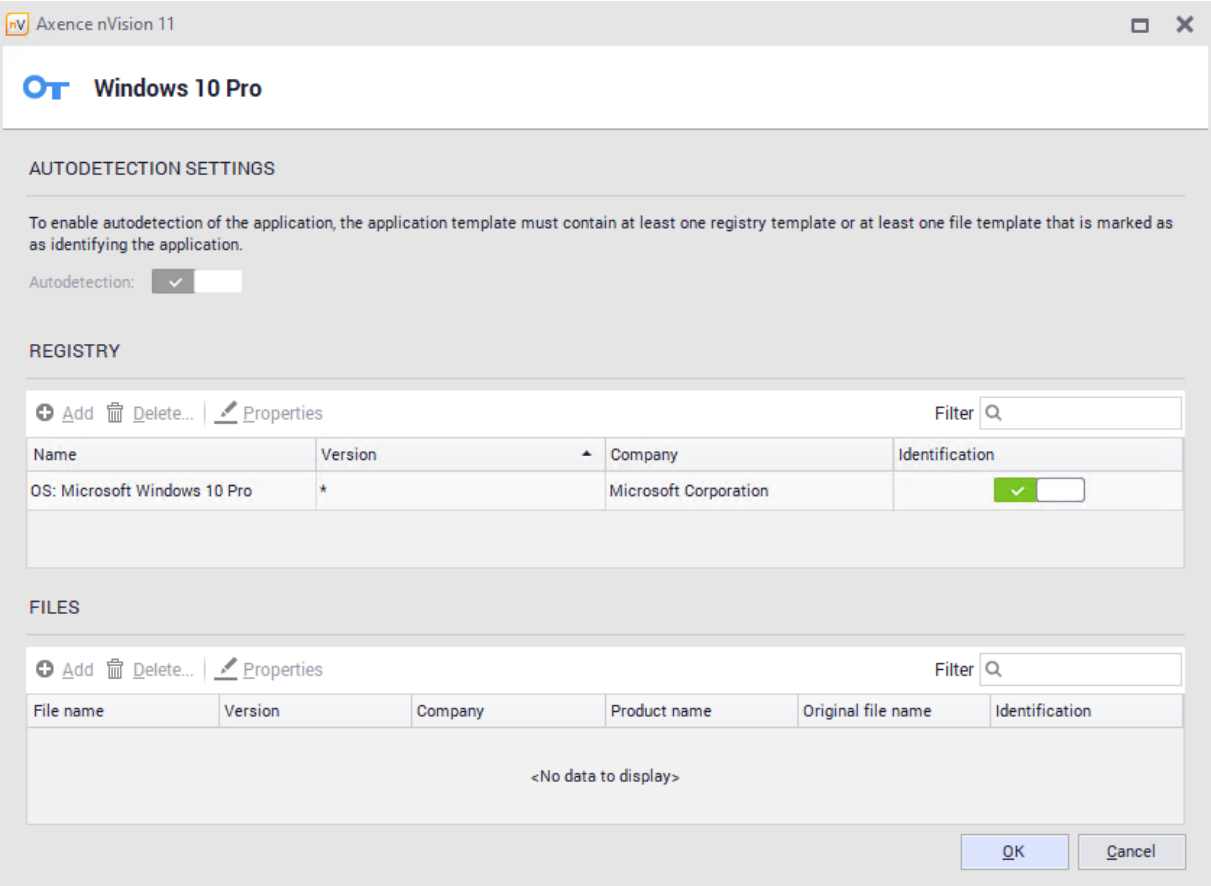
By going to the **Assets** tab visible in the main program window, and then double-clicking on any item on the **Application** list in the **Software section**, you can edit the application. The first available tab is pattern that defines basic information about the application:



Application has following attributes:

- Name,
- Type,
- Category,
- Description (optional),
- Company (optional),
- Version (optional),
- Audited,
- Autodetection.

After clicking the **Manage** button next to the **Autodetection** item, the automatic installation detection settings window will open. To enable automatic application detection, its pattern must contain at least one registry or file entry that is marked as identifying:



Autodetection of installalled applications

The registry entries are checked first. If there the application already **has an entry in the registry**, it is considered to **be installed on the computer**. If the entry is not present, the files marked in the patterns as identifying are searched (most often it is the * .exe file that allows program run). If found, the application is considered to be on the computer. Otherwise (no registry entries and identification files) the application will not be detected.

Patterns synchronized with Axence database

The templates included in nVision were created manually based on the programs most frequently used by users. More information on managing embedded patterns is described in thebuiltin templates 246 chapter.

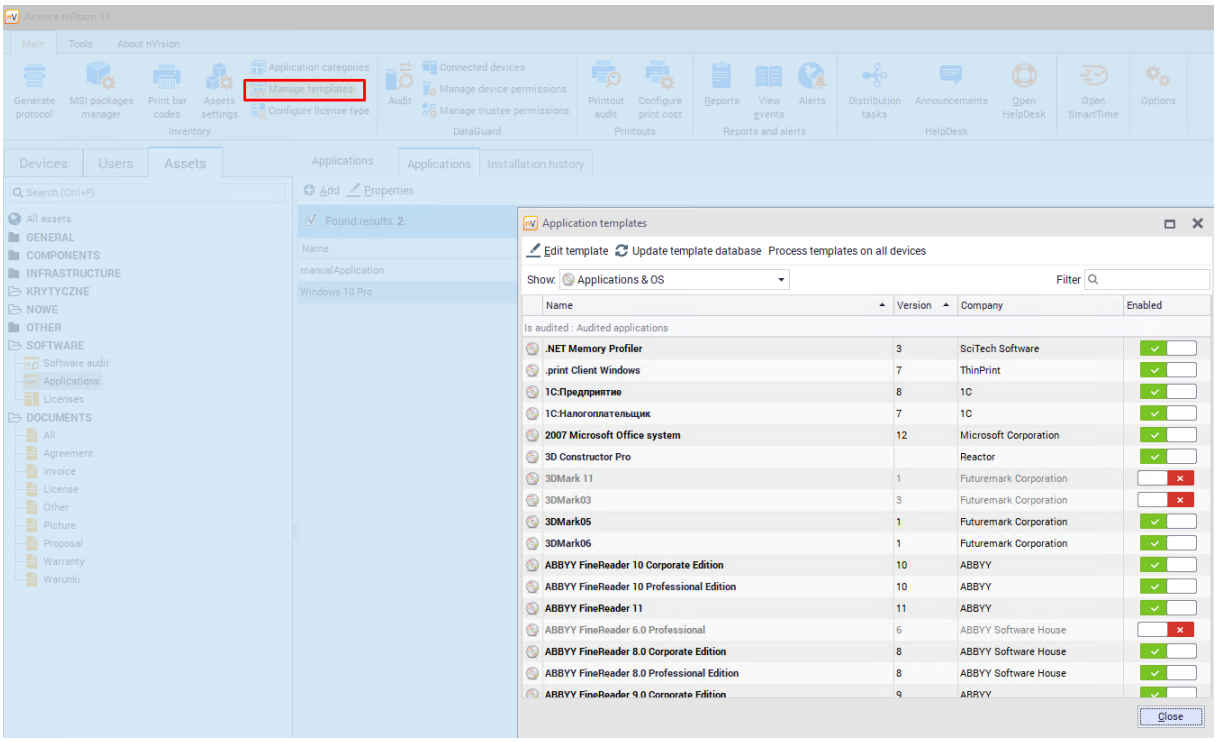
Patterns created automatically

Other templates are created automatically by nVision based on entries in the registers of monitored computers. Applications detected with this method are displayed in the list of detected and unknown applications where type of license is unknown to them.

These patterns can be edited, updated with license type, files associated with the application or files identifying it. If the Administrator is aware of an application from the list of detected and unknown, then it is recommended to edit its template.

8.5.2.4 Built-in templates managment

To go to the built-in templates management window, select **Manage templates** from the main toolbar:



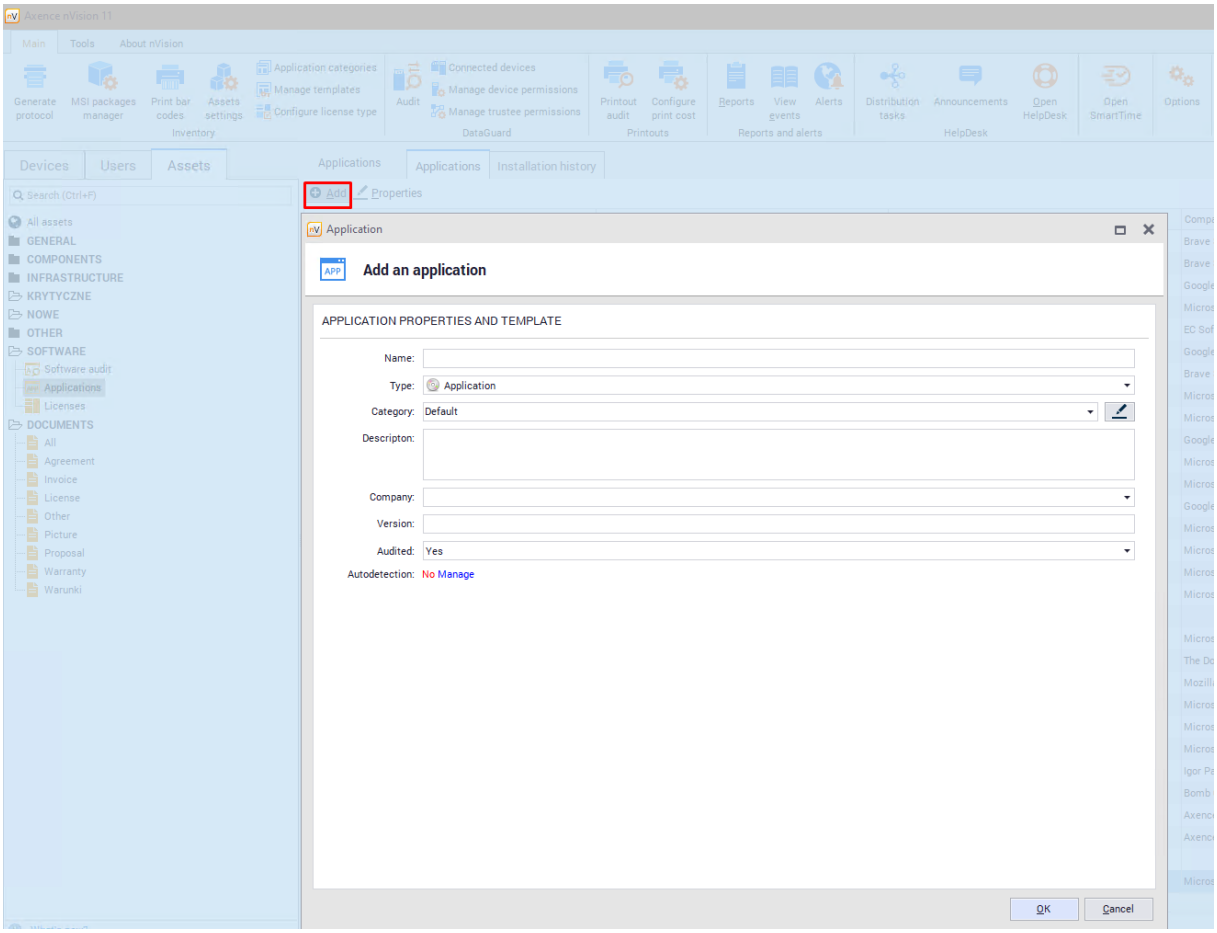
Patterns visible on the list have been synchronized with the Axence database and only the category to which they belong can be modified. Administrator has the ability to disable selected items using the context menu or by switch located on the right side of the window.

Patterns database update

Click **Update template database** button and nVision will download the latest available templates from the Axence server and add them to nVision.

8.5.2.5 Adding new application

To add a new application, go to the **Assets** tab visible in the main program window, scroll down for **Applications** in the **Software** section. Above the list of applications, locate and click the **Add** button. The window for adding a new application will open



In the next step, enter the values for the required fields such as "Name", "Type" and "Category". The remaining fields are optional.

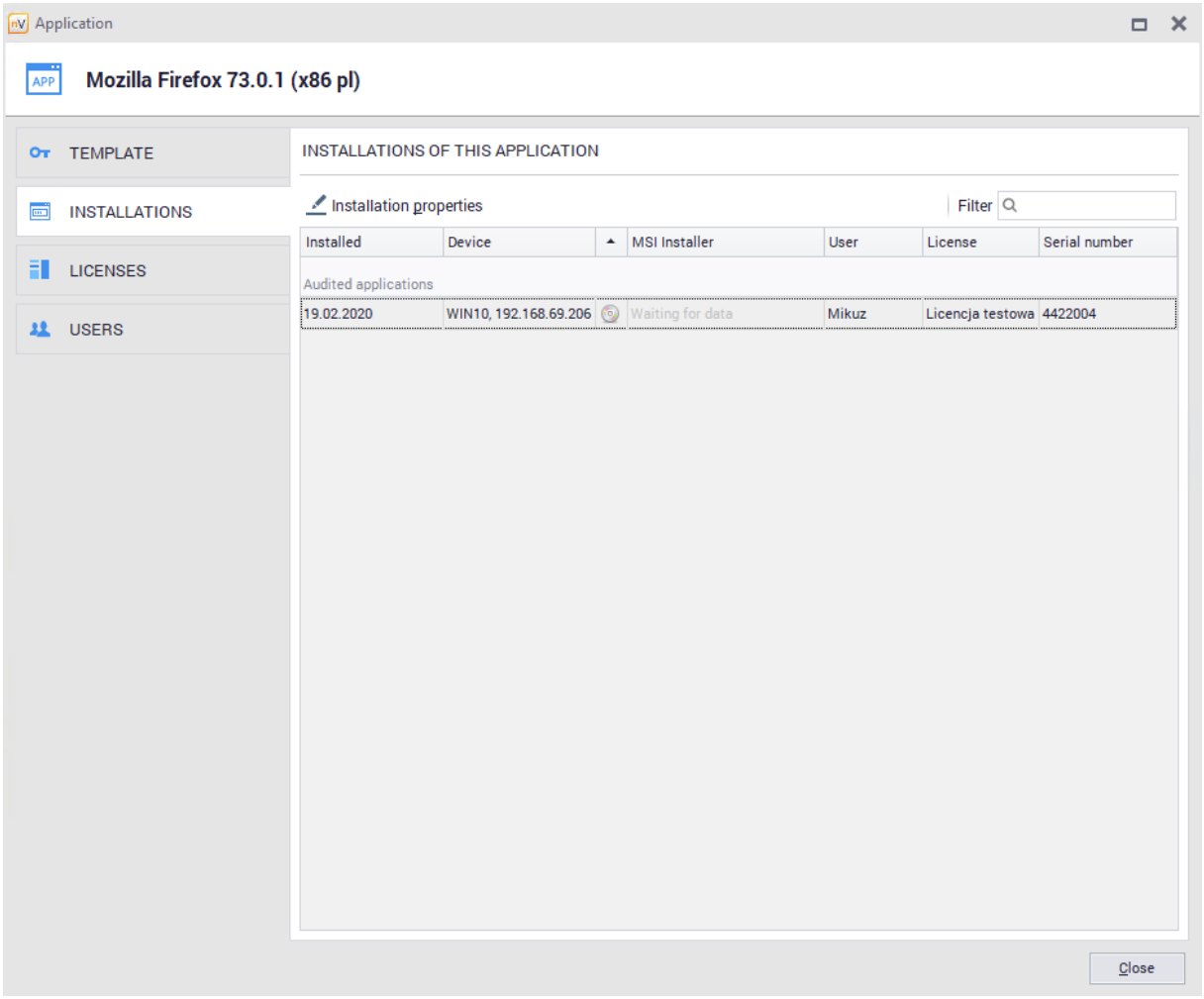
The option of automatic application discovery has been described in app template 243 chapter.

8.5.2.6 Application installations

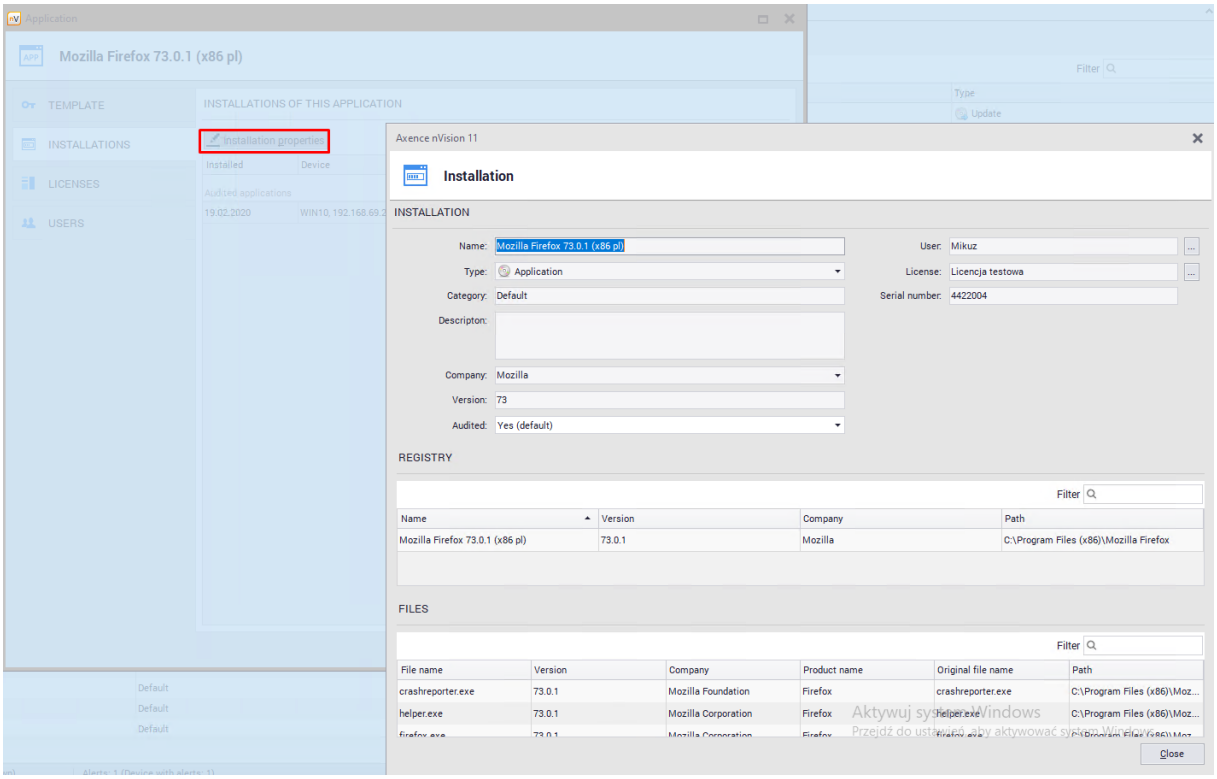
Installations are instances of applications that have been automatically detected on computers with installed Agents. You cannot manually add or remove installations. Installations can also be assigned to users and licenses.

If you need to edit the application, go to the **Assets** tab visible in the main program window and double-click on any item on the **Application** list in the **Software** section, .

The **Installations** tab allows you to see a list of devices on which the installation of the selected application has been detected:

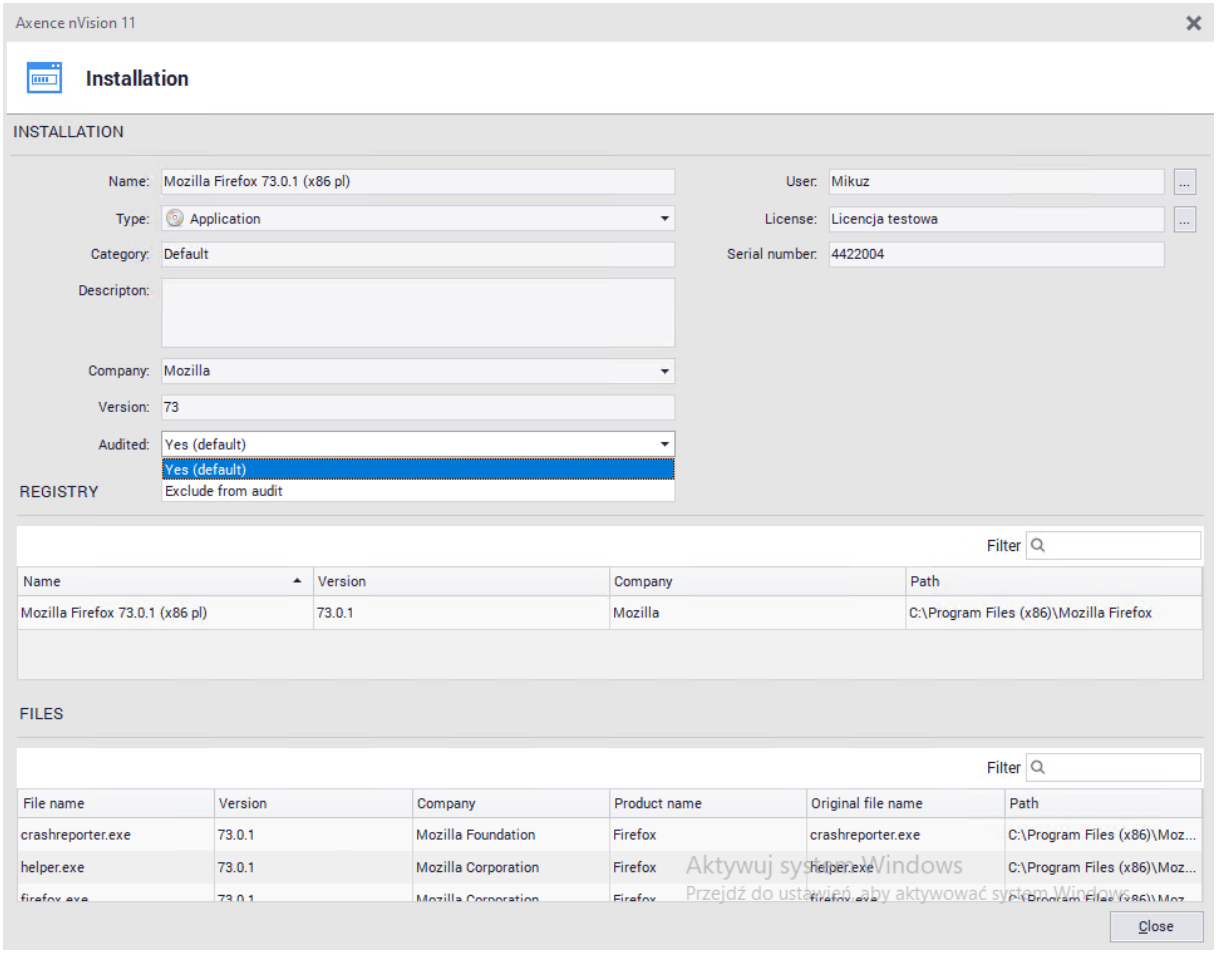


Double-clicking an item on the installation list or selecting Properties option allows you to view detailed information about the selected installation:



In the installation properties window you can assign user and license. This will impact the licensing methods 274 on certain configurations.

If the application is audited, it is possible to exclude its selected installation from the audit. To achieve this, change the value of the **Audited field** in the installation properties window:

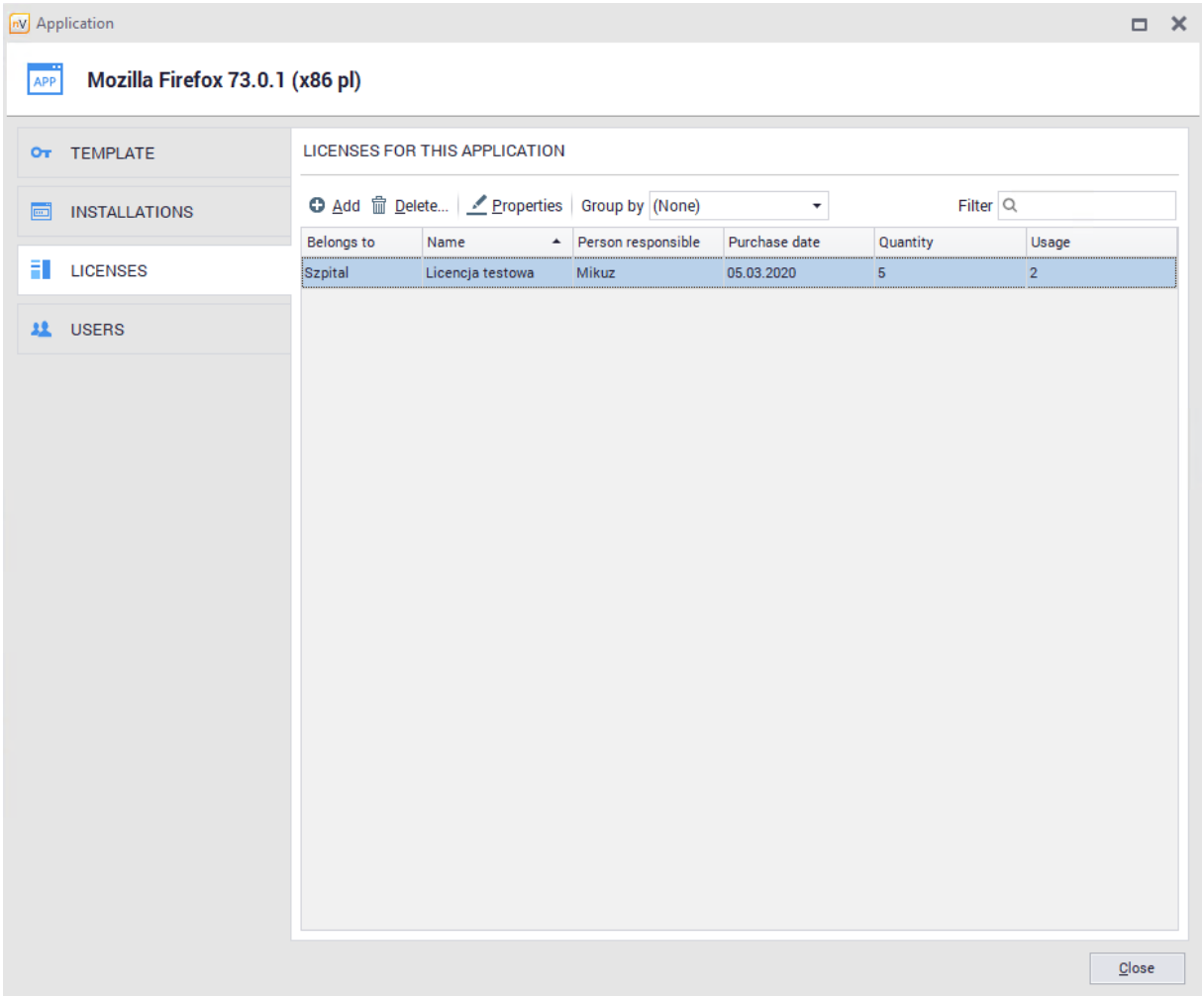


8.5.2.7 Licenses and users

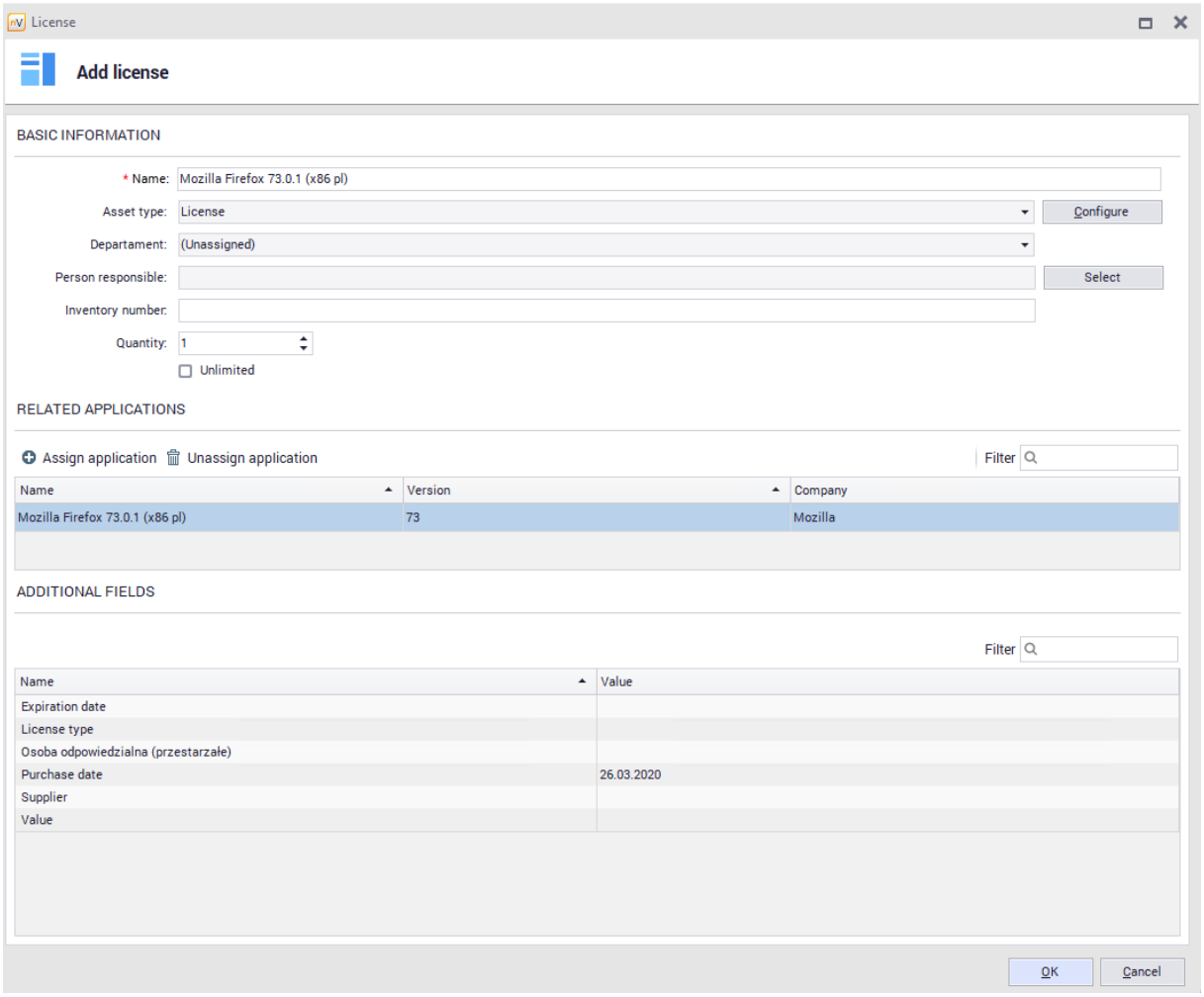
To edit applications, go to the **Assets** tab visible in the main program window, then double-click on any item on the **Applications** list in the **Software** section.

Licenses

Licenses tab allows to display a list associated with selected application:



To add a new license associated with the selected application, click the **Add** button and fill in the required fields:

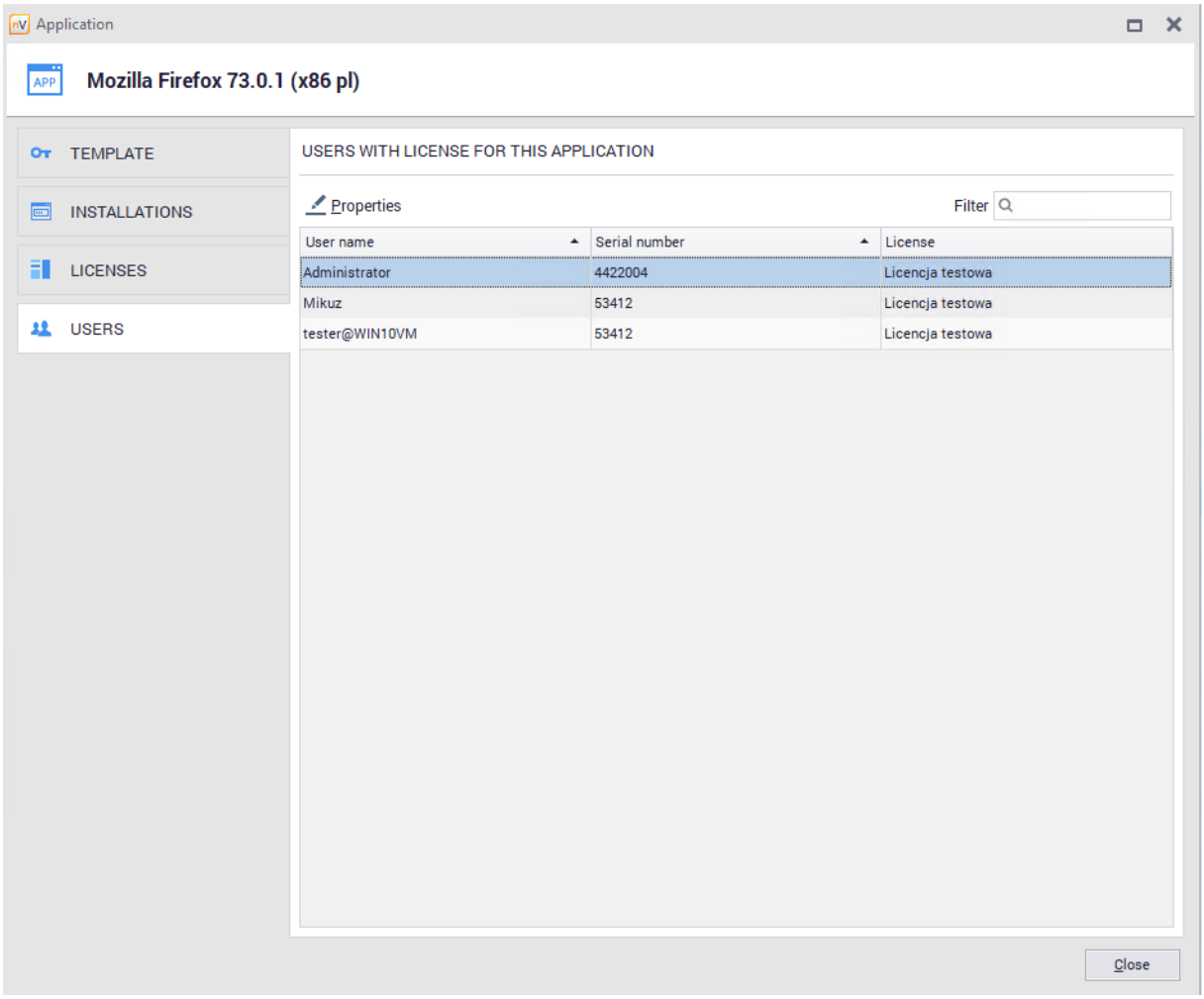


Creating new licenses is described in add license 258 chapter.

Existing licenses can be associated with any applications. This process has been described in general information 262 chapter.

Users

Licenses tab allows to display users assigned to the license **associated with the application**:

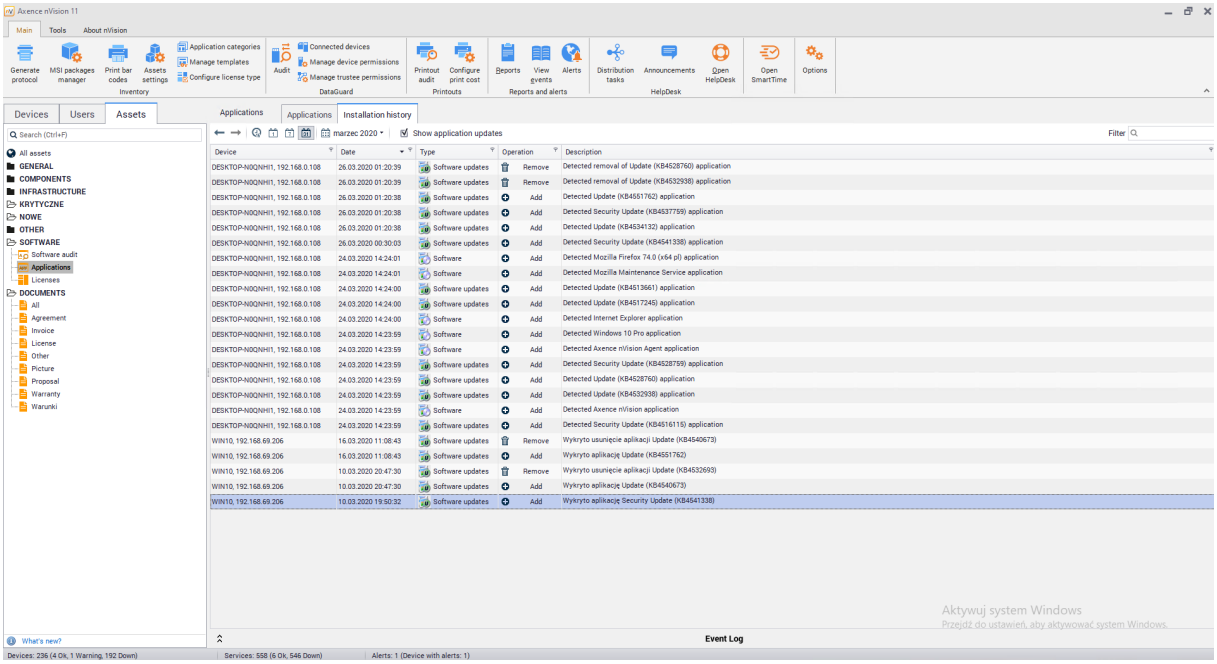


Process of associating users with licenses is described in license users 269 chapter.

8.5.2.8 Installation History

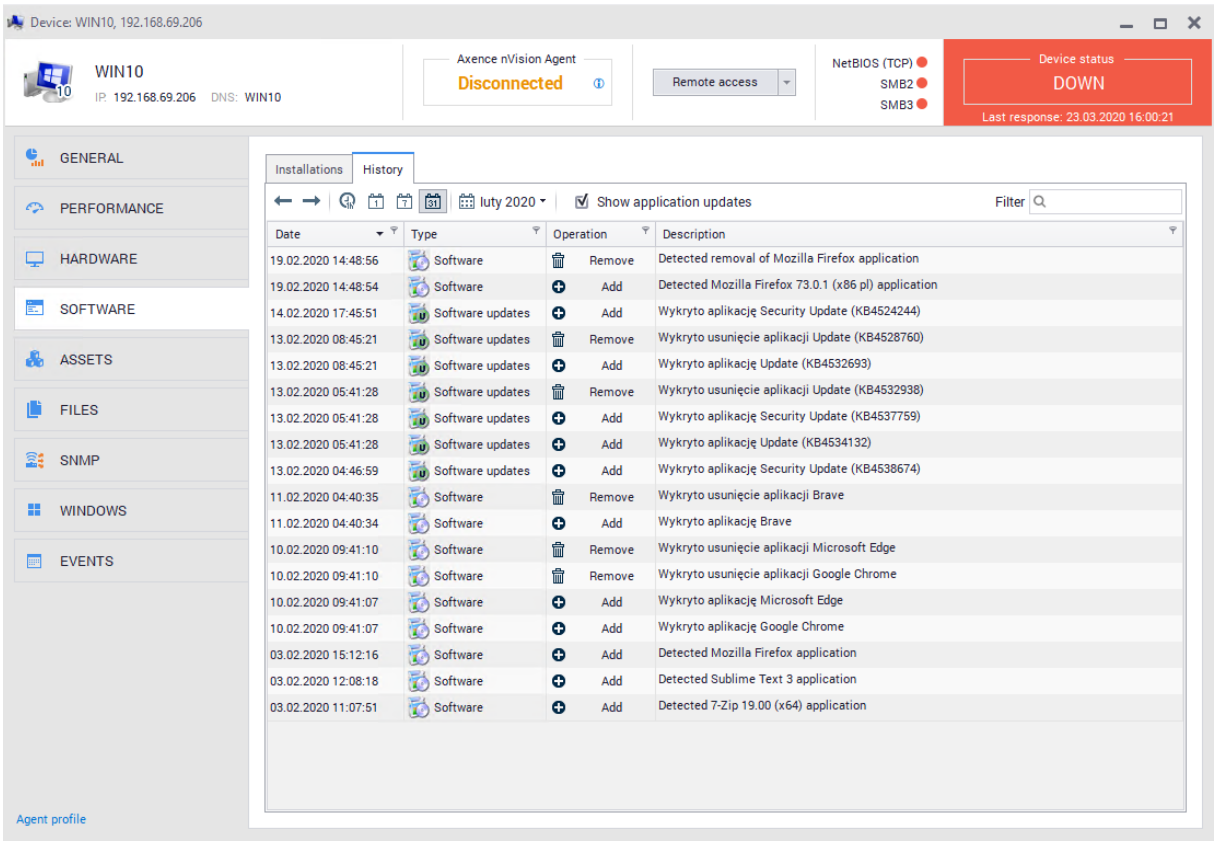
The installation history feature allows you to collect information about removed and installed applications on computers with the Agent installed.

To go to the installation history, select the **Assets** tab in the main program window, then scroll down for **Applications** in the **Software** section. The installation history of all applications will be displayed above the application list:



Installation history of selected host

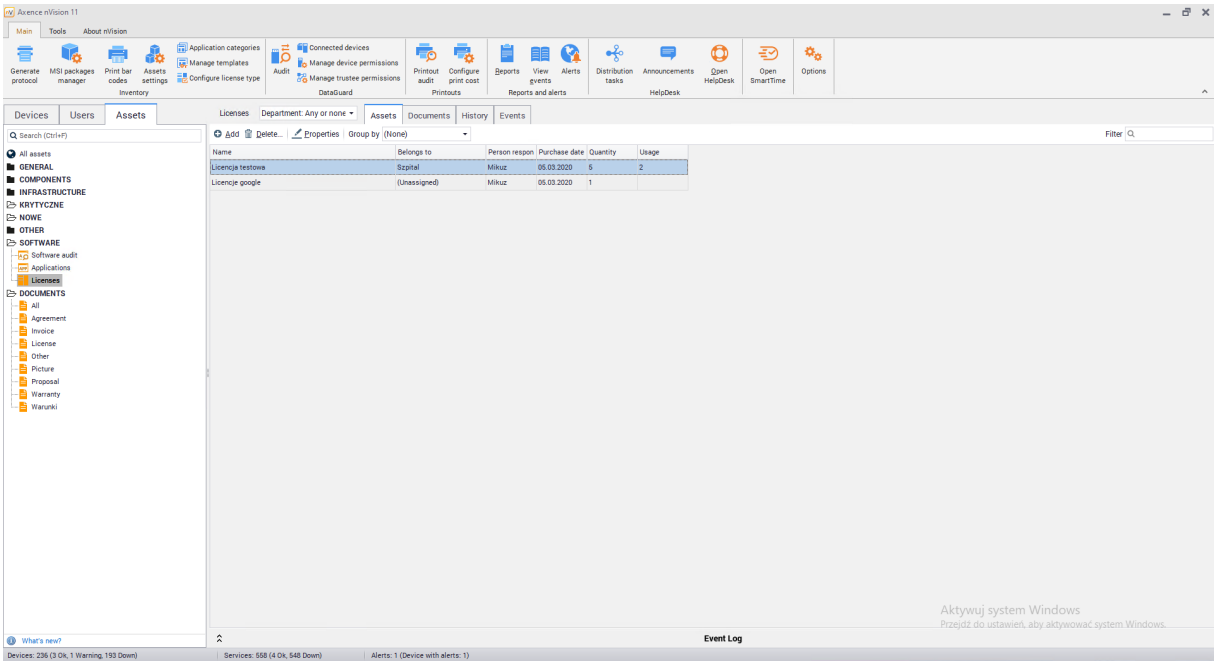
Go to the Device Information window, select **Software / History** tab to see the **installation history** of the selected host:



8.5.3 License management

8.5.3.1 Licenses list

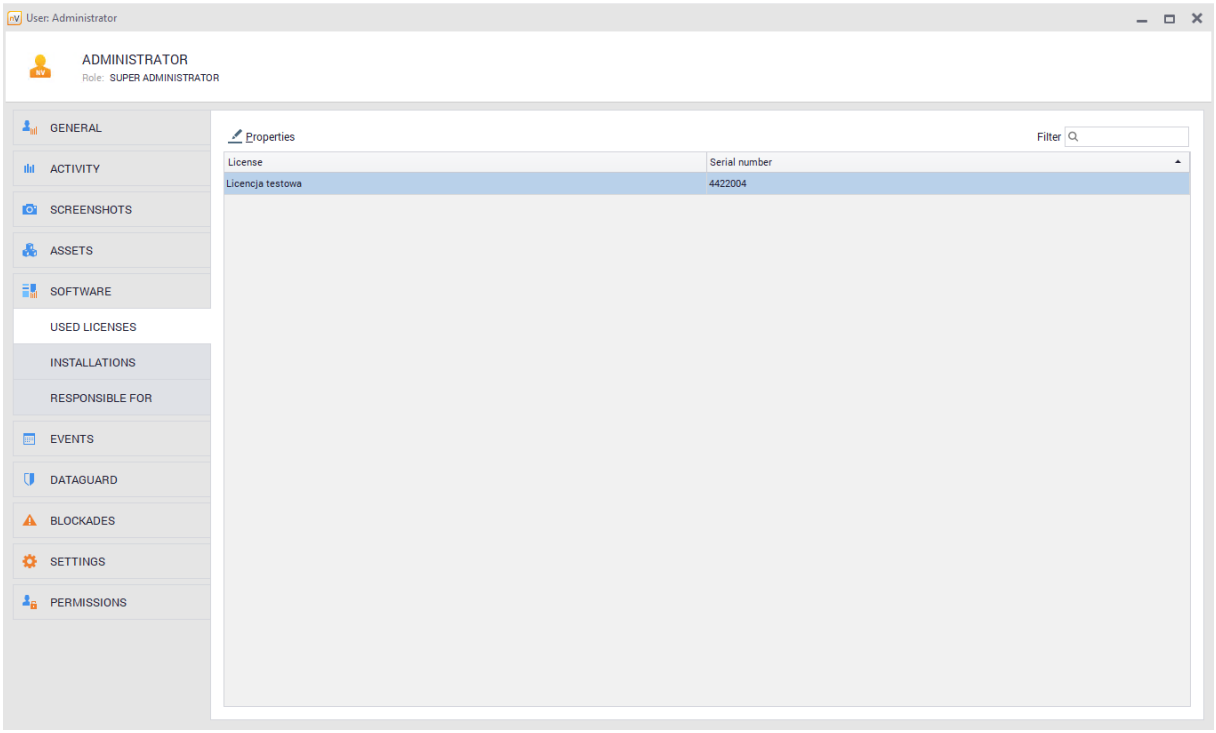
To display licenses list, go to the **Assets** tab in the main program window, and then scroll down for **Licenses** in the **Software** section. List displayed all licenses added to nVision:



Licenses are always created manually by the Administrator. Licenses can be associated with users or installations of selected applications. **Licenses can only be assigned to audited applications.**

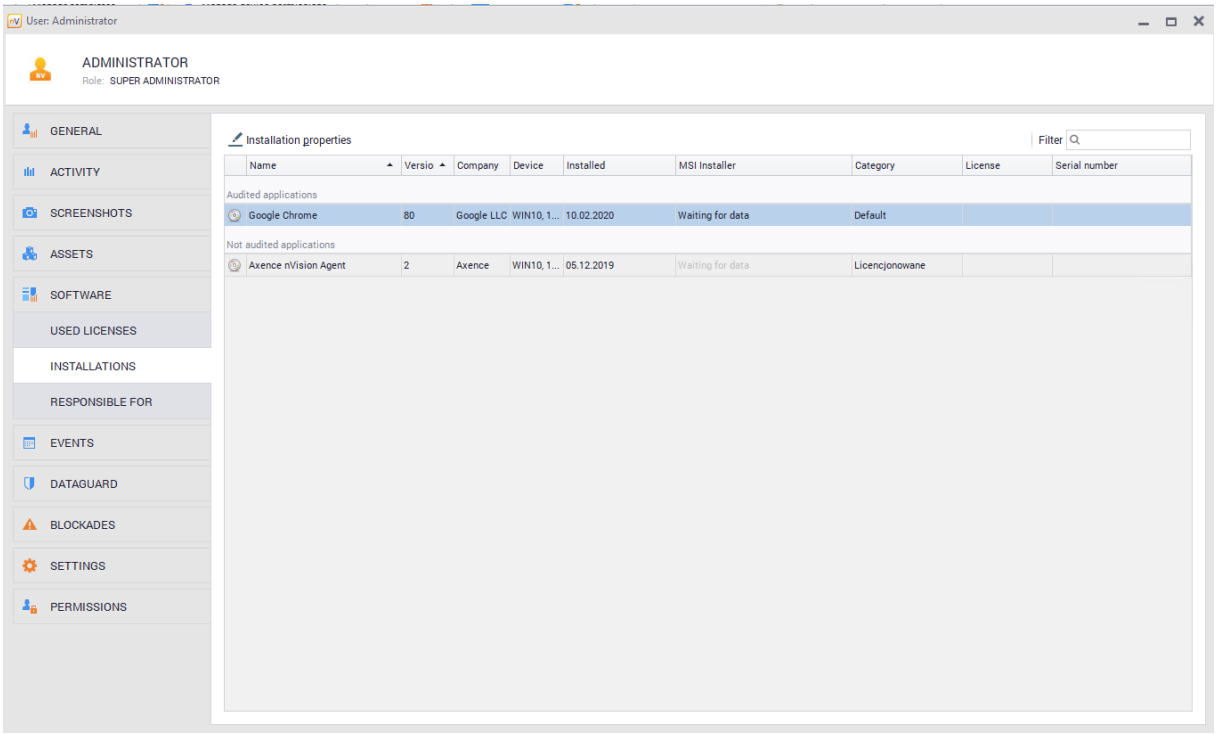
Licenses assigned to user

To view the licenses assigned to user, go to the user information window and select the **Software / Licenses Used** tab:



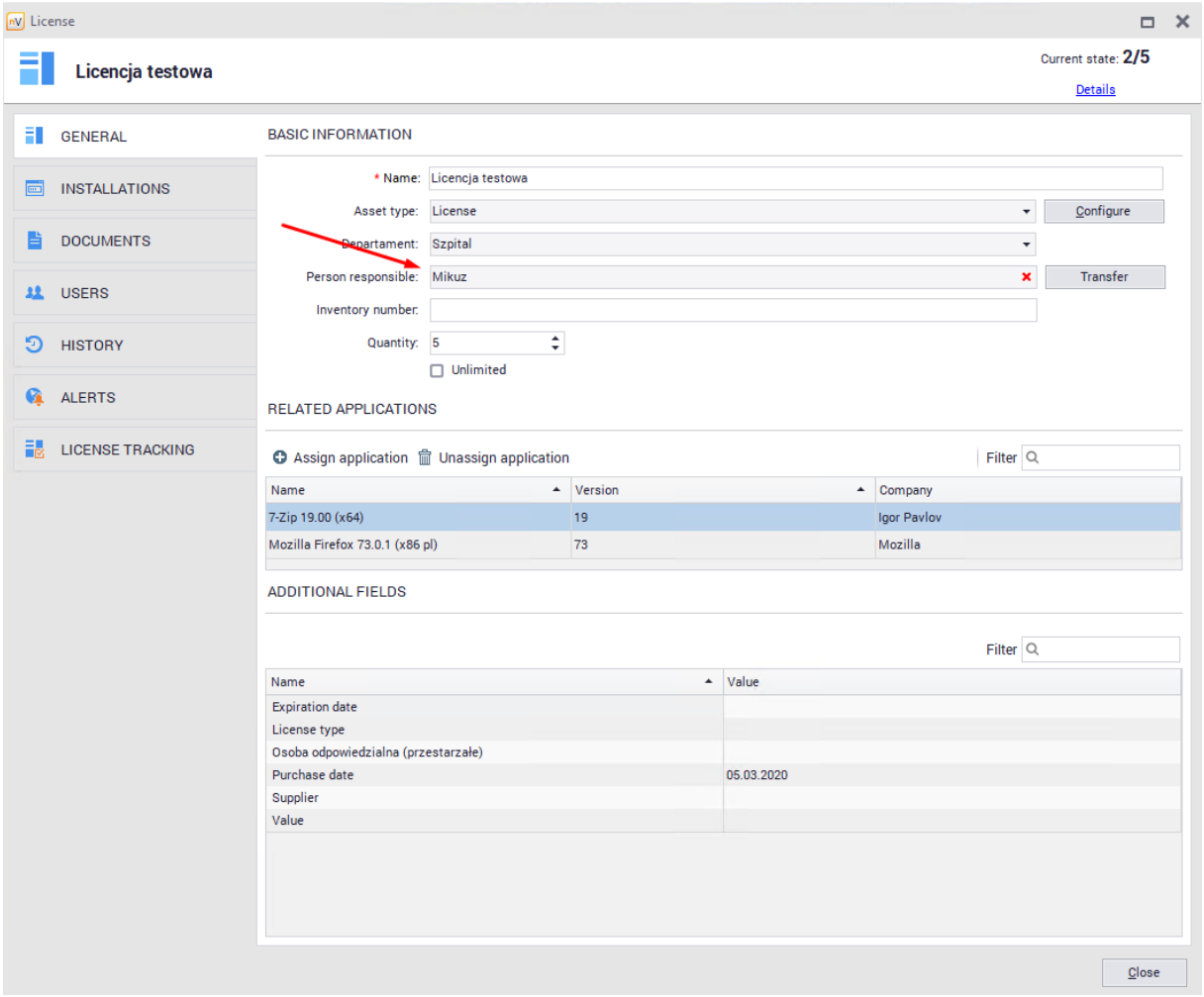
Application installations assigned to user

To view the application installations assigned to the user, go to user information window and then select the **Software / Installations** tab

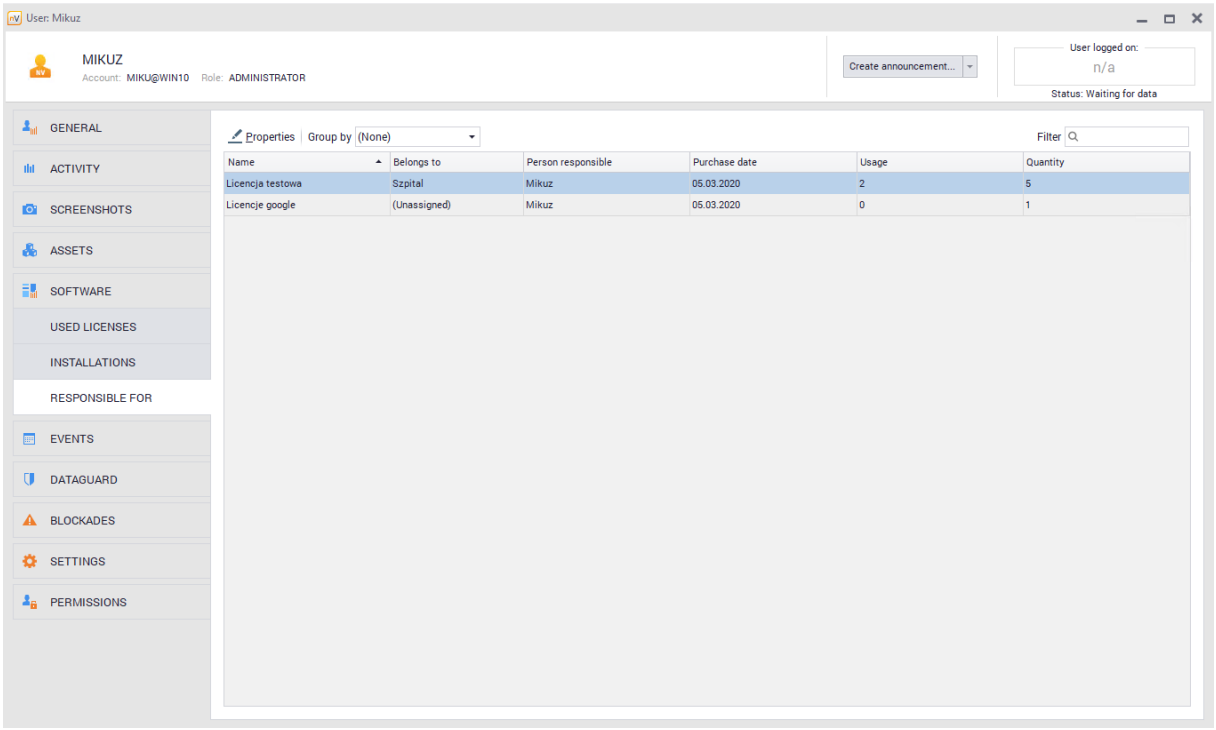


License responsibility

In the license properties window you can specify the person responsible for the selected license:

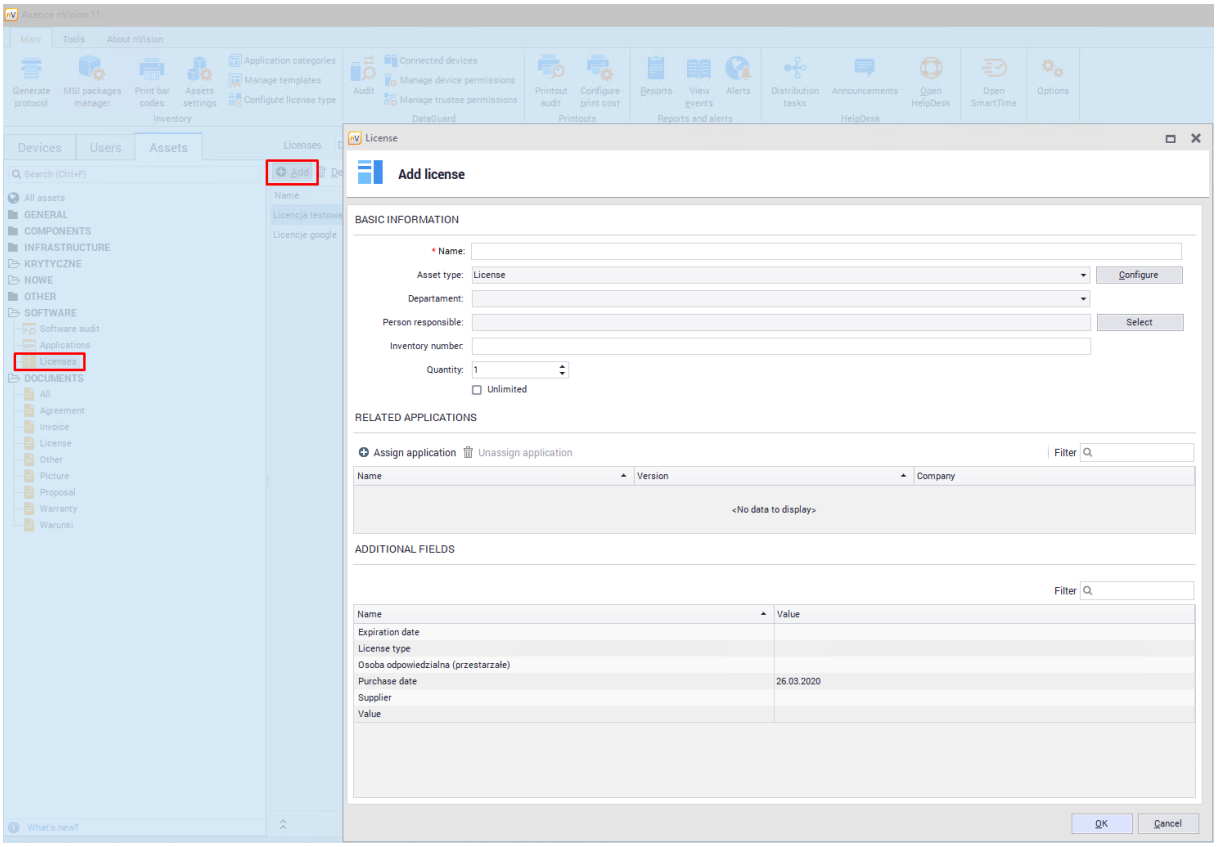


To view the licenses for which the user is responsible, go to user information window and then select the **Software / Responsible** tab:



8.5.3.2 Adding new license

To add a new license, go to the **Assets tab** in the main program window and then scroll down for **Licenses** in the **Software** section. Above the license list, click the **Add** button. The window for adding a new license will open:



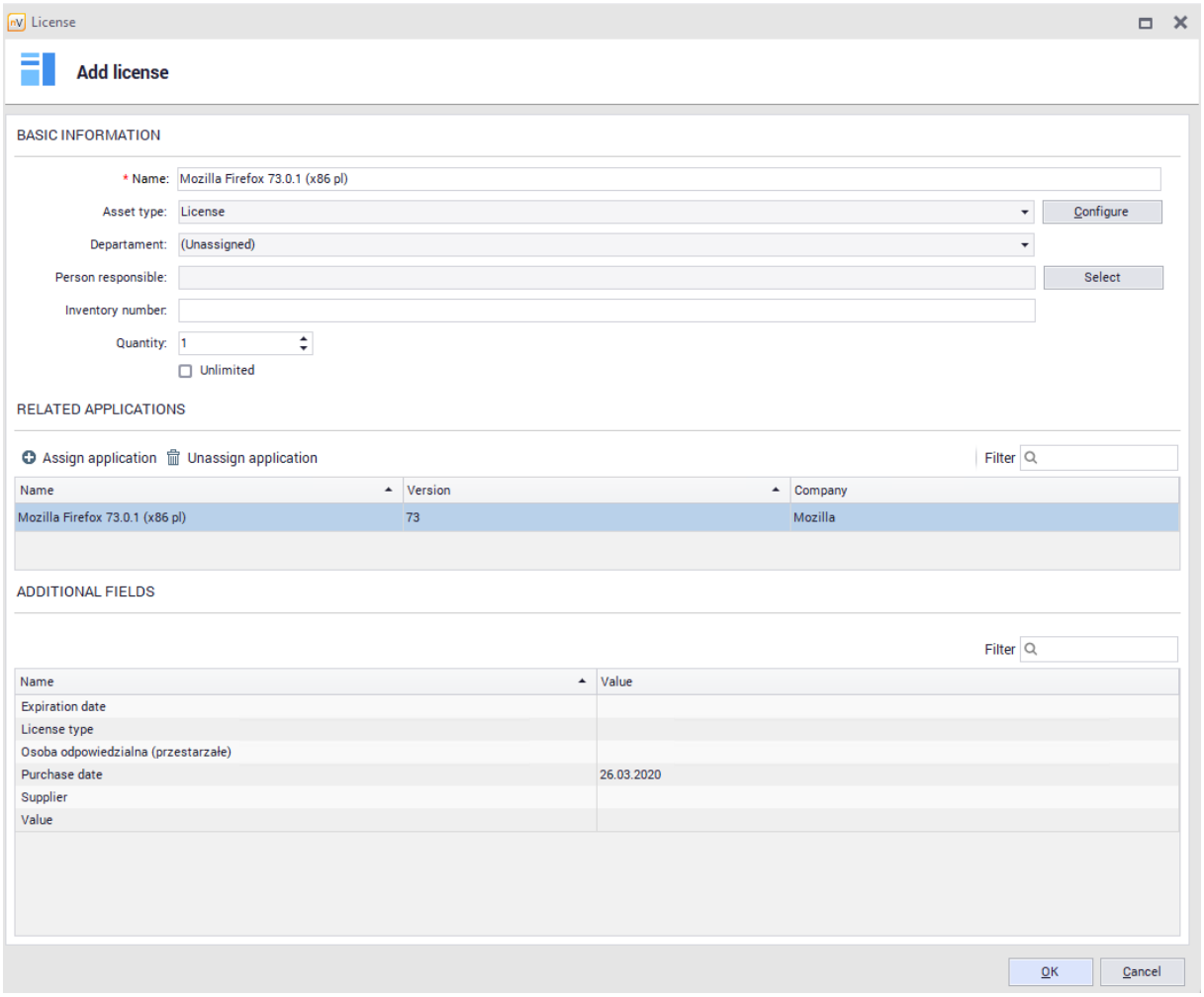
Standard description fields include:

- Name,
- Department (optional),
- Person responsible (optional),
- Inventory number (optional),
- Related applications (you can only assign license to audited applications),
- Quantity.

Additional license configuration options are described in the following chapter.

Alternative license add process

You can add a license directly from the application edition window - select an item from the list of applications, go to its properties window, select the **Licenses** tab. In the upper part of the window you will see the **Add** button, which will open the window for adding licenses:

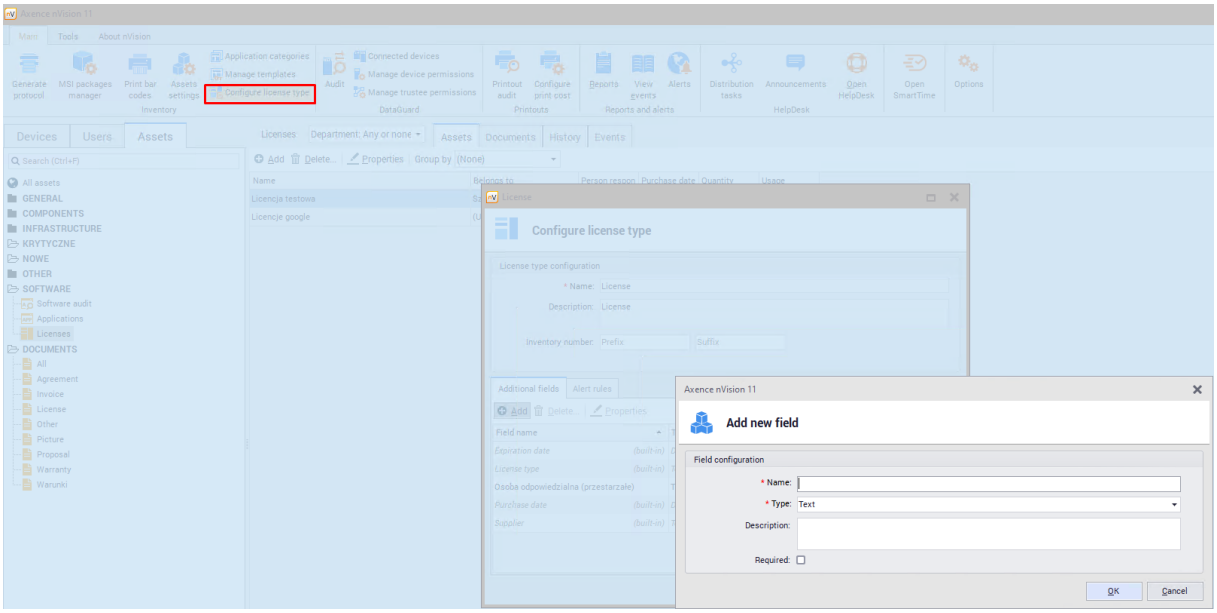


License created with this process will be automatically bound with application, to which it's been added.

8.5.3.3 License additional fields

Additional fields for licenses

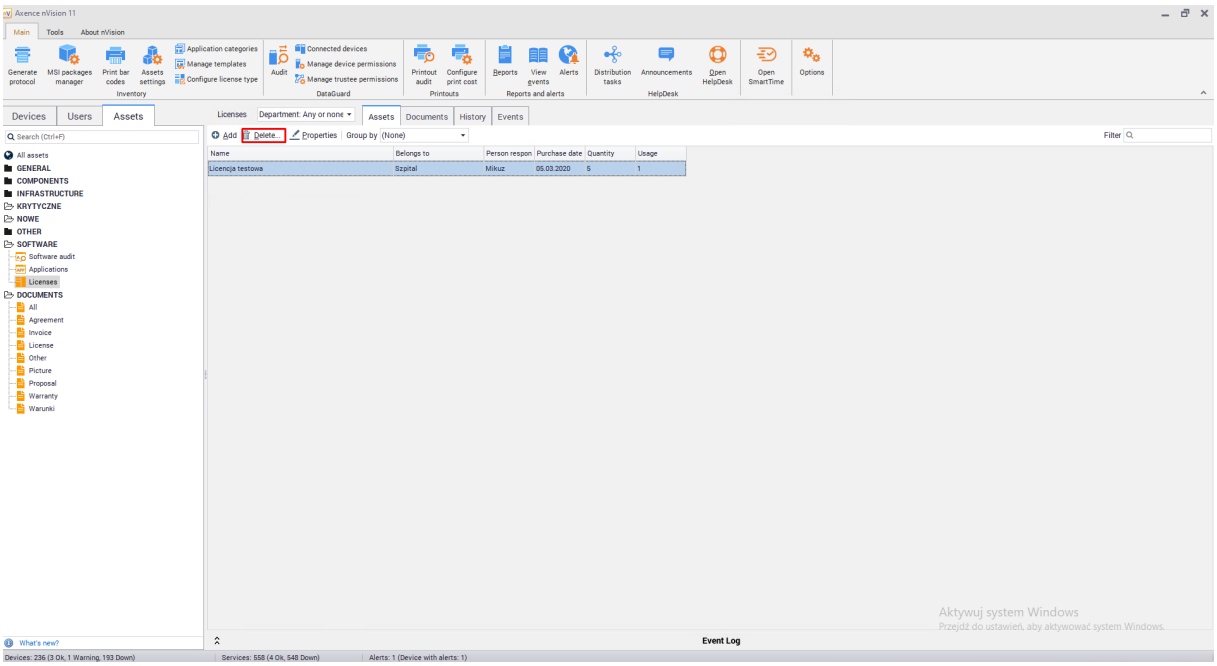
To add an additional field for all licenses, select **Configure license type** on the main toolbar. This will open the configuration window where additional fields can be added:



You cannot add additional fields for single licenses.

8.5.3.4 License removal

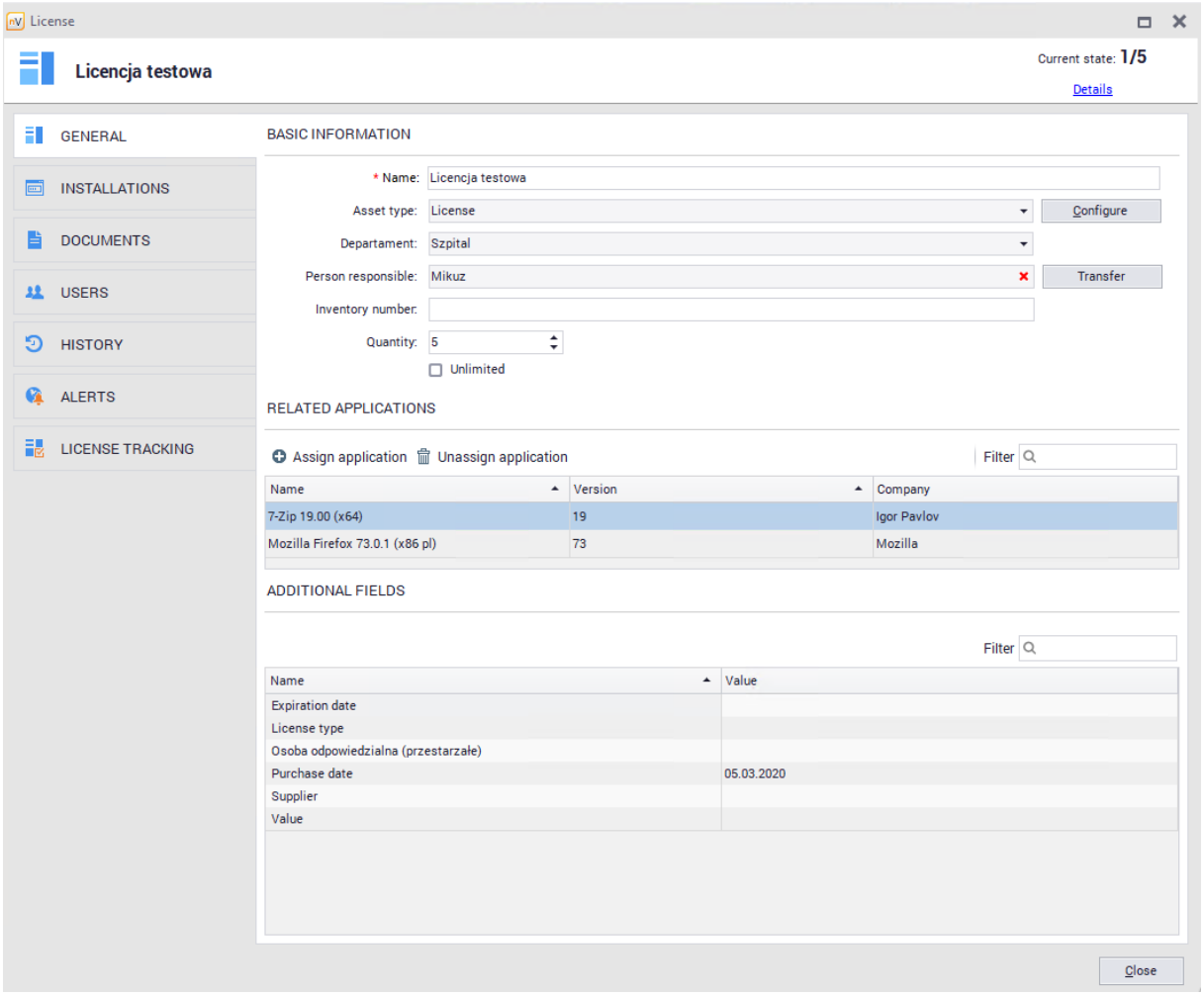
To remove a license, go to the **Assets** tab in the main program window, and then scroll down for **Licenses** in the **Software** section. After selecting the item to be deleted, click the **Delete** button above the license list:



Removing the license will result in deleting all assignments to other objects. If installations or users were assigned to the license, these associations will be removed.

Removing assigned applications

Removing the application associated with the license will result in **removal from the license properties** of the installation and other entries related to the application. To remove an associated application, remove the selected item from the list of related applications in the license properties window:

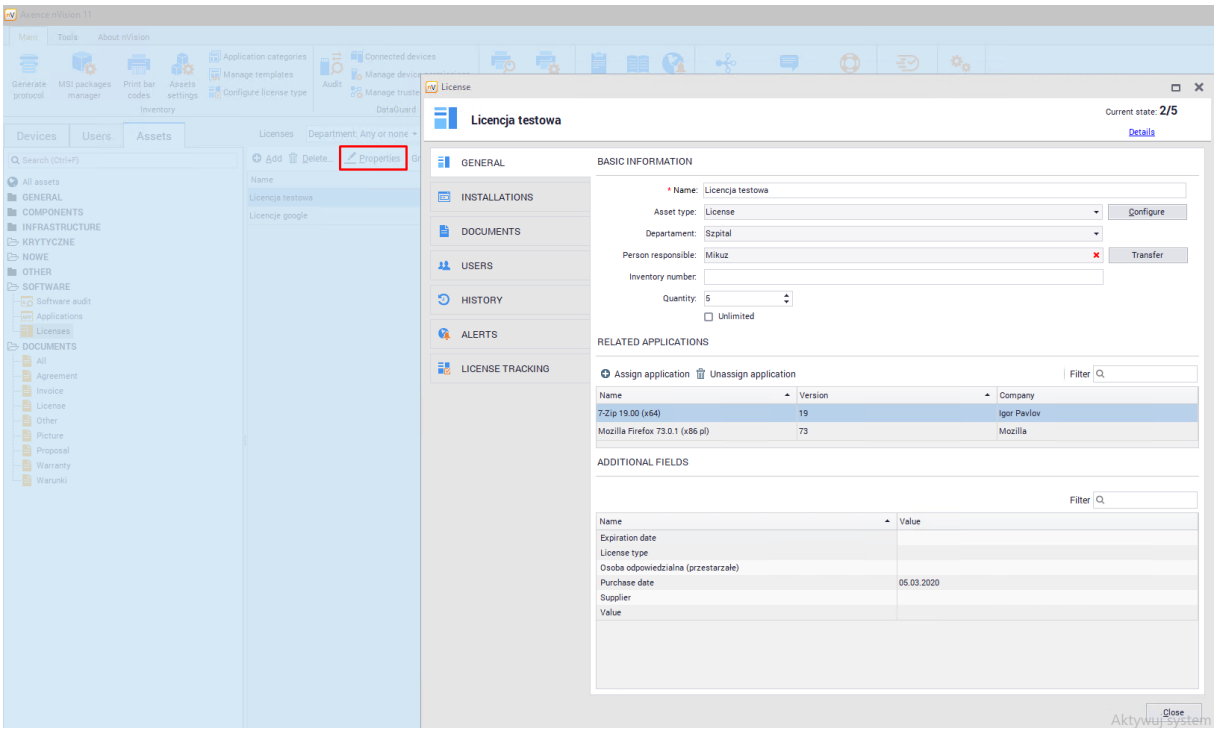


8.5.3.5 License editing properties

8.5.3.5.1 License properties

To access the **License Properties** window, select the **Assets** tab in the main program window, and then scroll down for **Licenses** in the **Software** section.

After selecting an item from the list, click the **Properties** button or double-click on the selected license:



The license properties window will open, showing several tabs described in the following chapters.

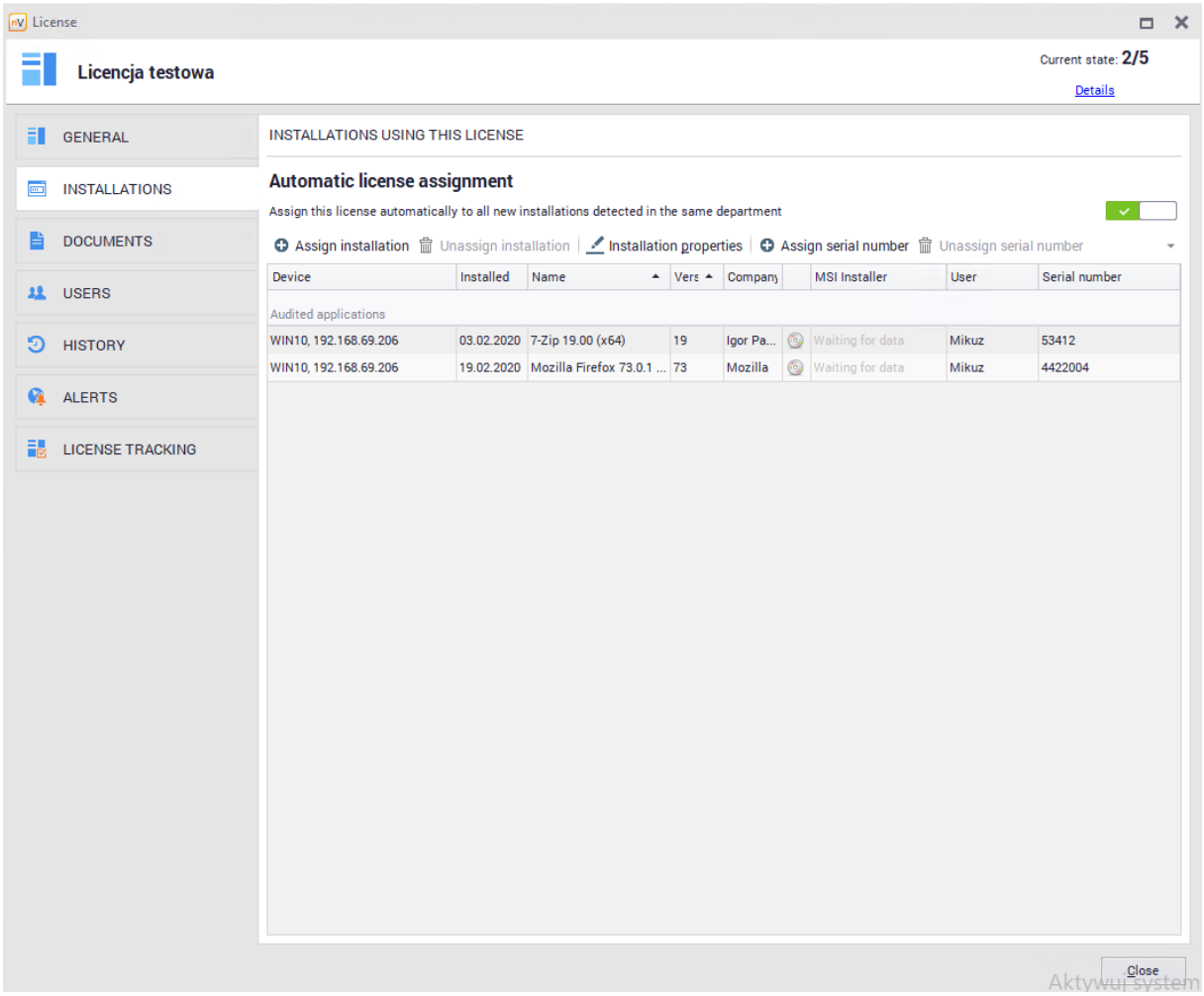
The General tab allows you to edit basic license information. This window includes three sections:

- **Basic information** - basic license properties.
- **Related Applications** - license related applications. **Licenses can only be assigned to audited applications.**
- **Additional fields** - additional fields for the selected license.

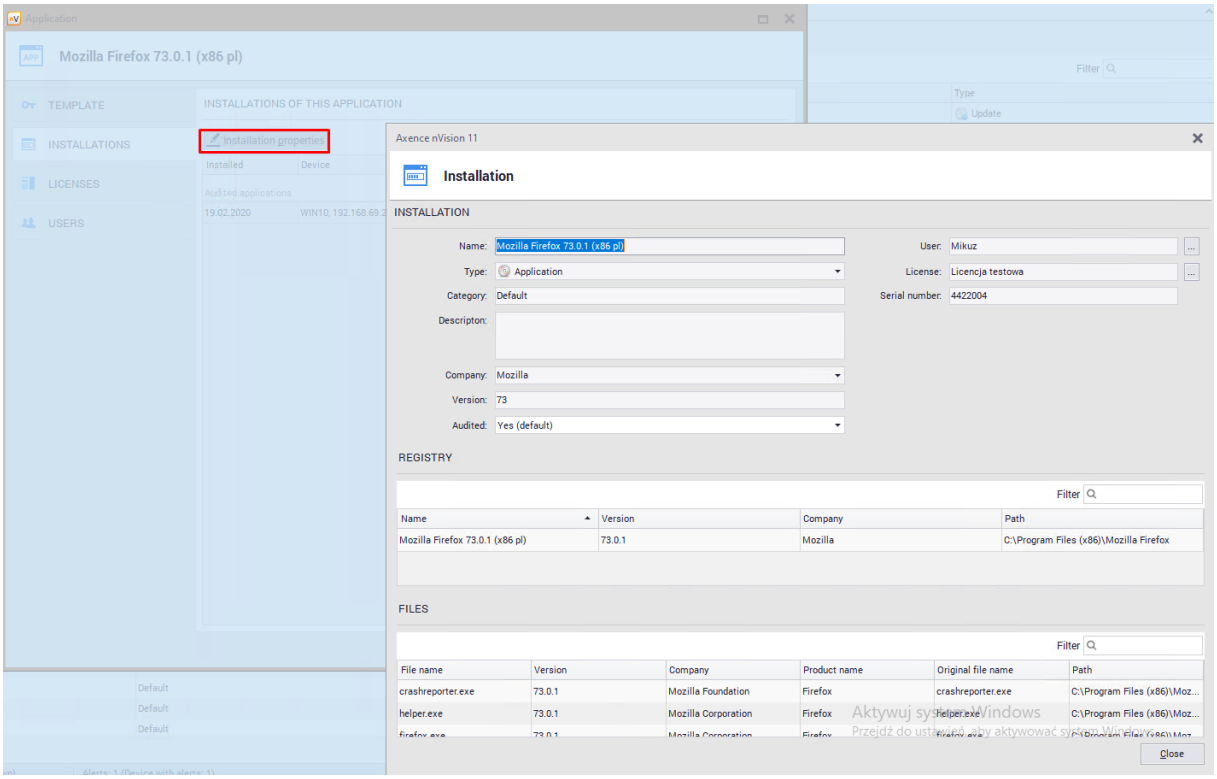
In the top right corner you will find the Current status field, which informs about the current licenses usage status. The usage depends on the configuration described in the licensing methods 274 chapter:

8.5.3.5.2 Application installation

The **Properties** includes the **Installations tab** which presents information about detected application installations that are associated with the edited license:



Double-clicking the selected installation or selecting the **Properties** button a window with detailed information of this installation will be displayed:



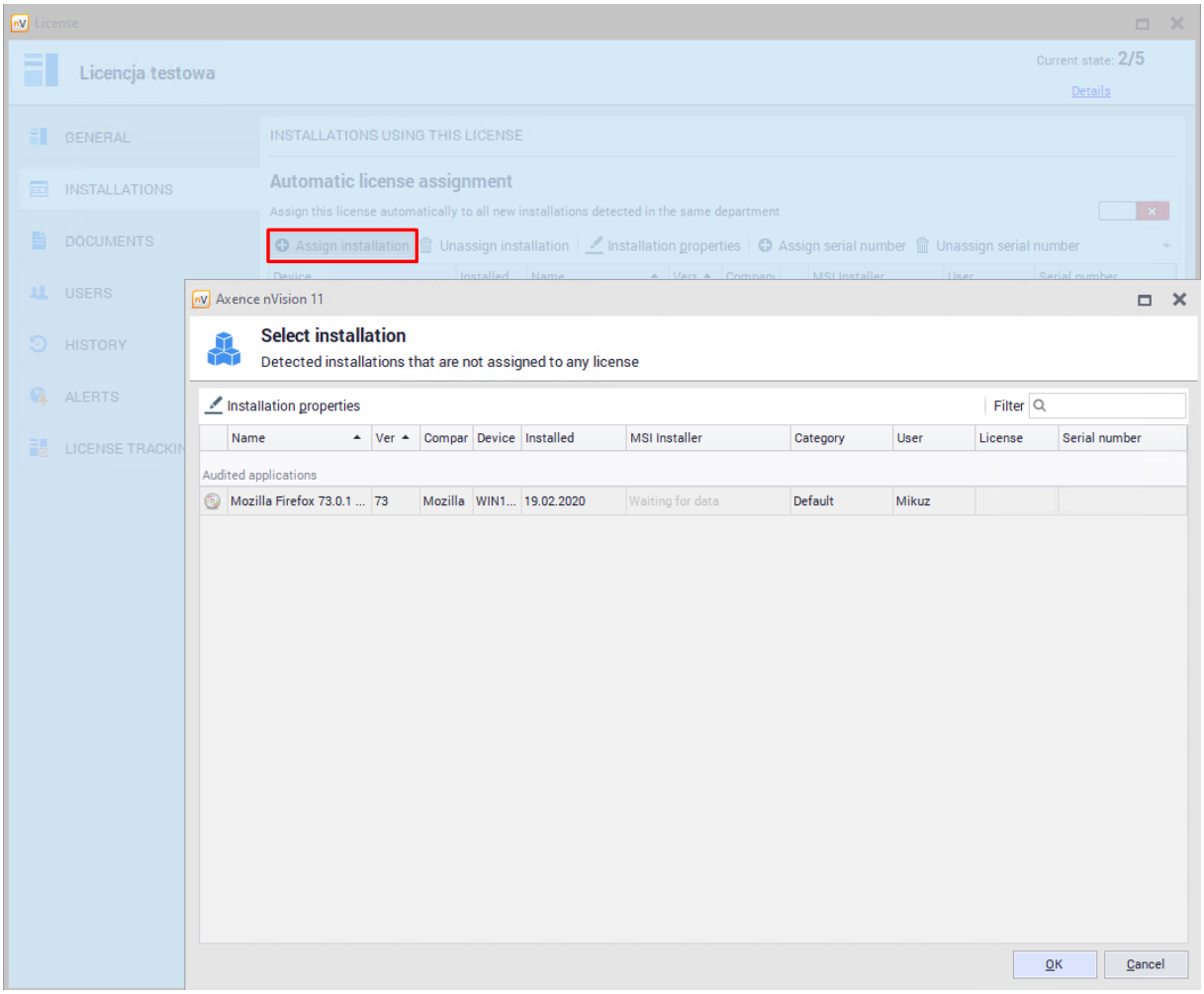
This function is described in app instances 247 chapter.

Assignment to installations

A switch is available at the top of the installation tab window that allows you to automatically assign licenses to new detected installations. Turning it on will automatically add more items to the list of installations once they are detected.

Adding instances

If the automatic license assignment is enabled, new items will appear once the installations are detected. To manually add an installation associated with the license application, click the **Assign installation** button and select an item from the list:



Removing instances

To remove the installation associated with the license application, select the item from the list and click the button **Unassign installation.**

If automatic license assignment is enabled, the deleted item may return to the installation list despite deletion.

Installation serial number

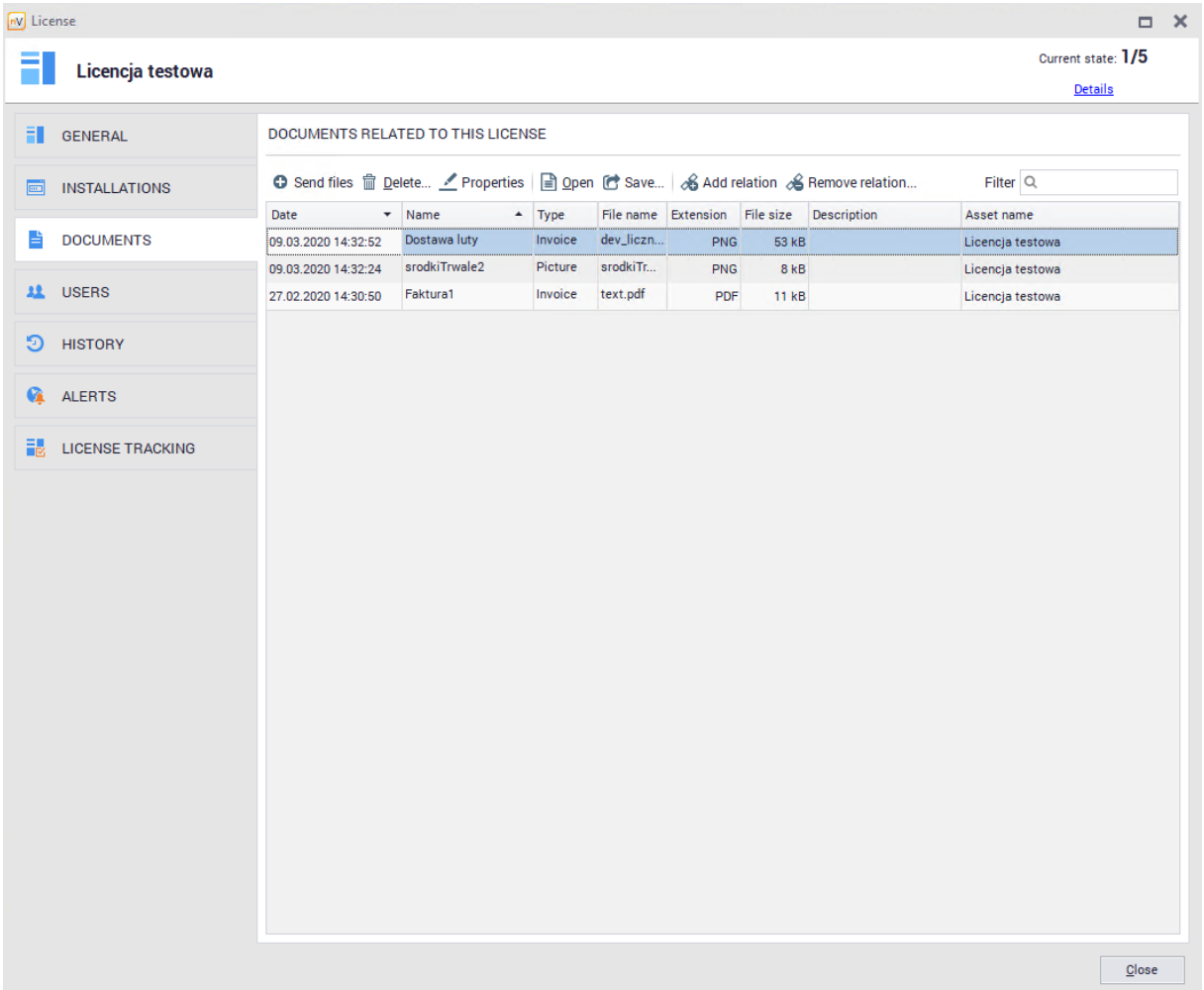
To assign a serial number to the installation, select an item from the list and then click the **Assign Serial Number** button.

Installations with the same serial number can be configured for using only one license. More information is described in licensing methods 274 chapter.

8.5.3.5.3 Documents

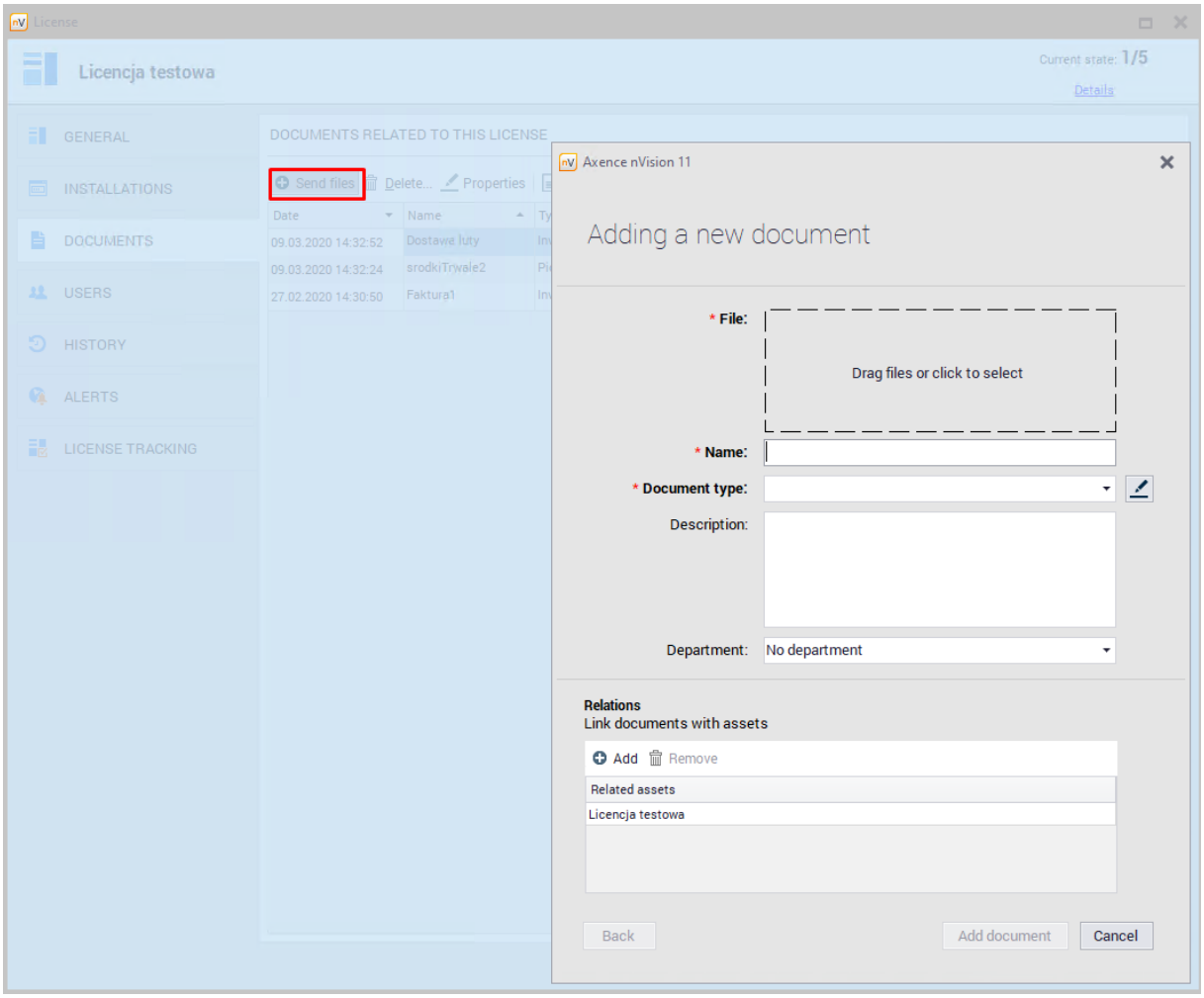
The **Documents** tab in the **License Properties** window allows you to add, display and delete documents related to the selected license.

The documents associated with the selected are displayed in the table:



Adding new document

To add a new document, select **Send files** button. A new window will be displayed to add a new document:



Displayed window has two sections: information section and section with document relations with assets.

Document Information

All required fields are marked with ' * '.

- File - select or drag & drop file here,
- Name - document name visible in nVision,
- Dcument Type - select from available positions on the list - adding new document types has been described in separate topic. 217
- Decription - add-on description fields
- Department - add-on fields for department selection

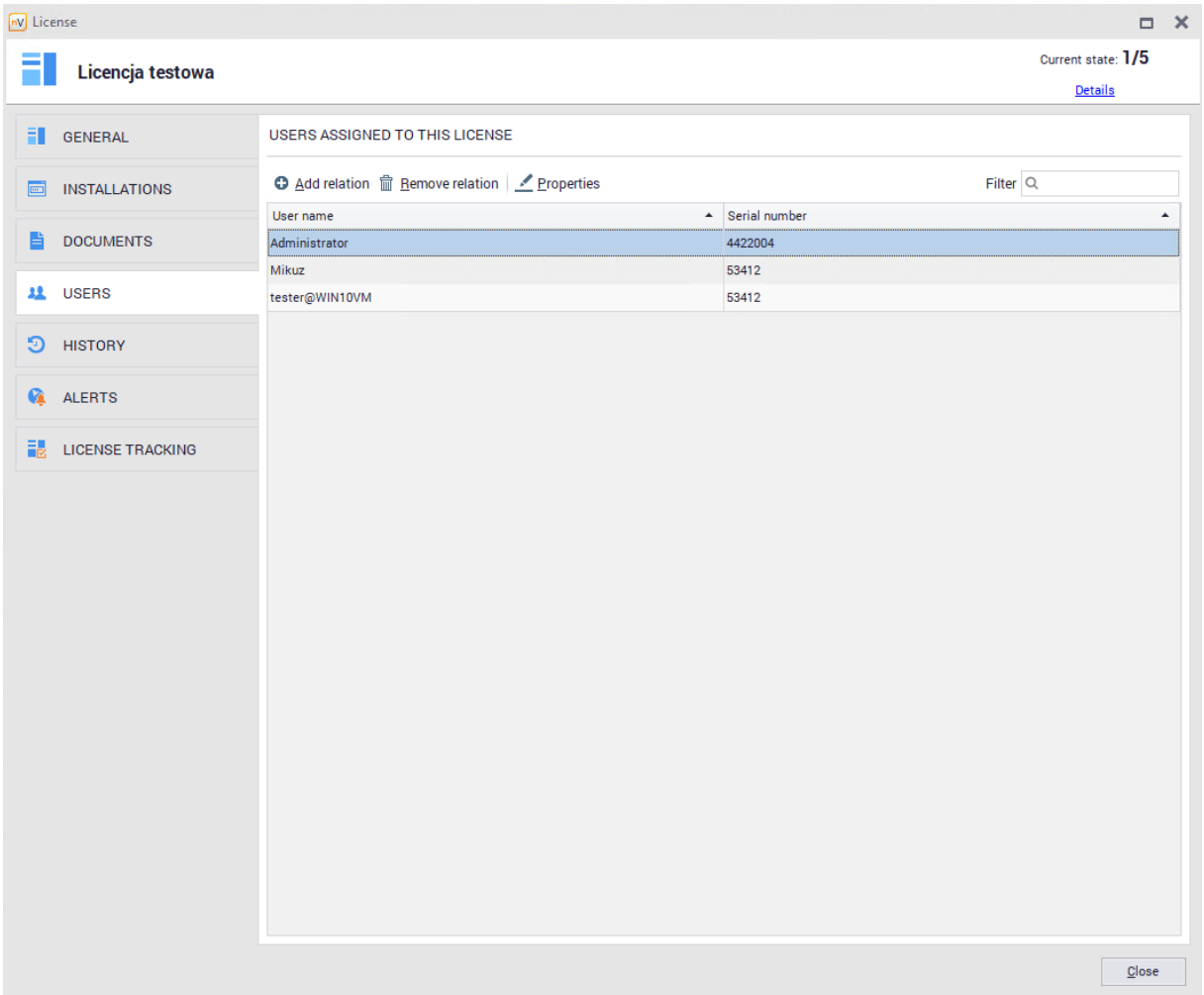
Relations

To link the document with license, click **Add** button and select license from the list.

8.5.3.5.4 Assigned users

The **Users** tab in the **License Properties** window allows you to add and remove relationships between the selected license and users.

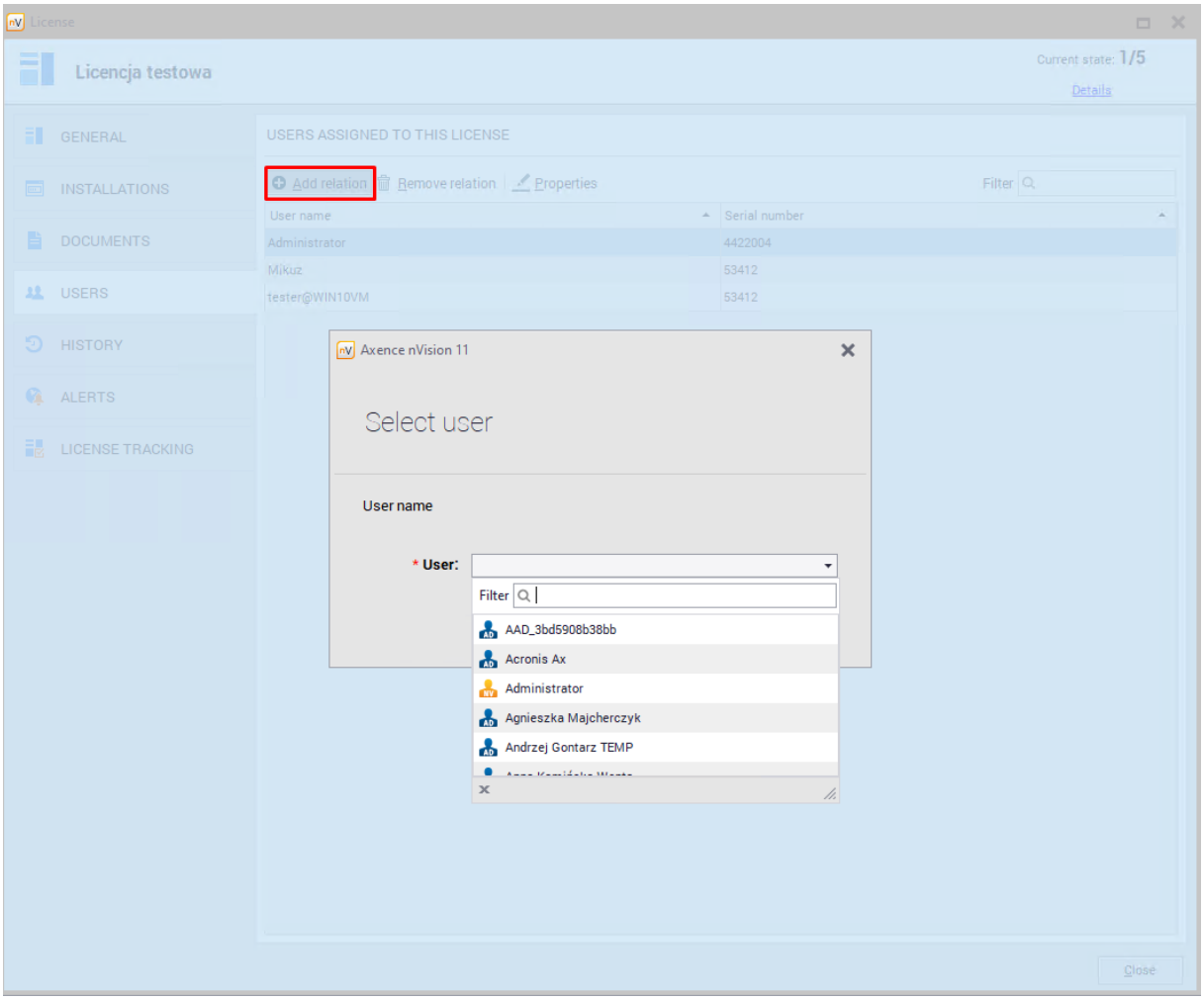
Users assigned to the selected license will be listed in the table:



User assignment is crucial when the application is licensed for a selected number of users. More information about license accounting configuration is described in licensing methods 274 chapter.

Adding relation

To add relation with user, click **Add relation.** A window with user selection will be displayed:



Once you select User, confirm choice by clicking **Add relation** button.

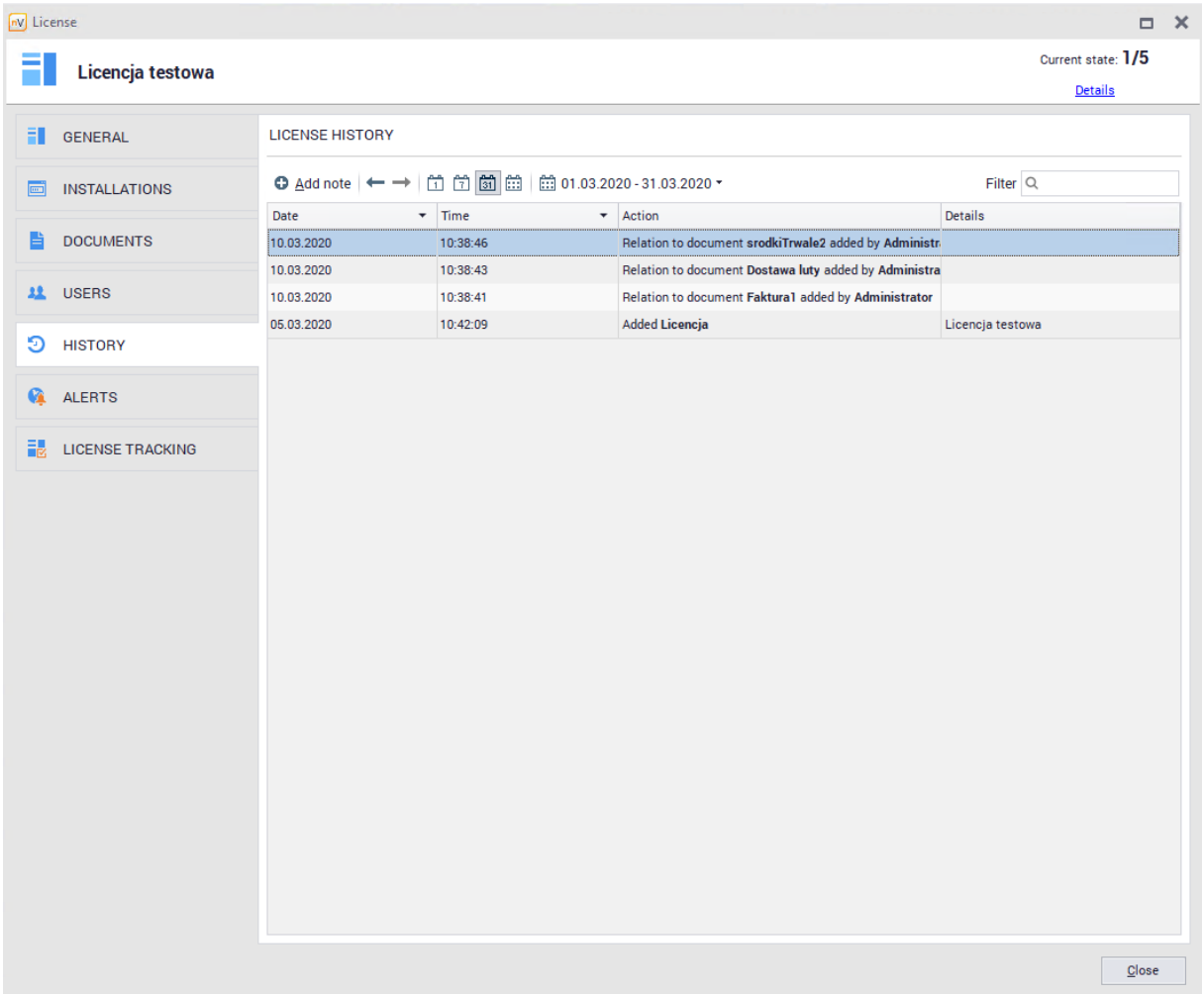
Removing relation

To remove the relation with the user, select relation from list and confirm choice by clicking **Delete relation** button.

8.5.3.5.5 History

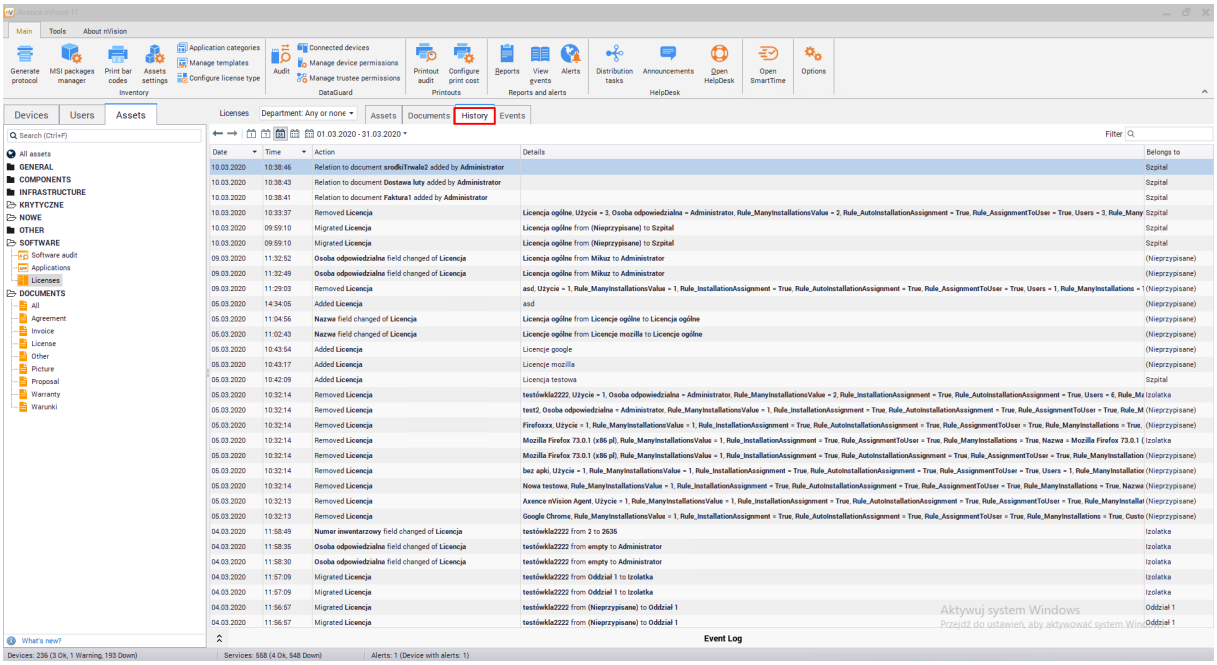
License History feature allows you to collect information about license modifications.

To view the history, select the **History** tab visible in the **License properties** window:



All licenses history

To access the history of all licenses, select the **Assets** tab in the main program window, and then scroll down for **Licenses** in the **Software** section. The **History** tab will appear above the license list:



8.5.3.5.6 Alerts

License alerts feature, which is located inside **License properties** tab can be created for individual licenses or for a group of licenses. Alerts allow to configure notification for the Administrator when certain conditions are met.

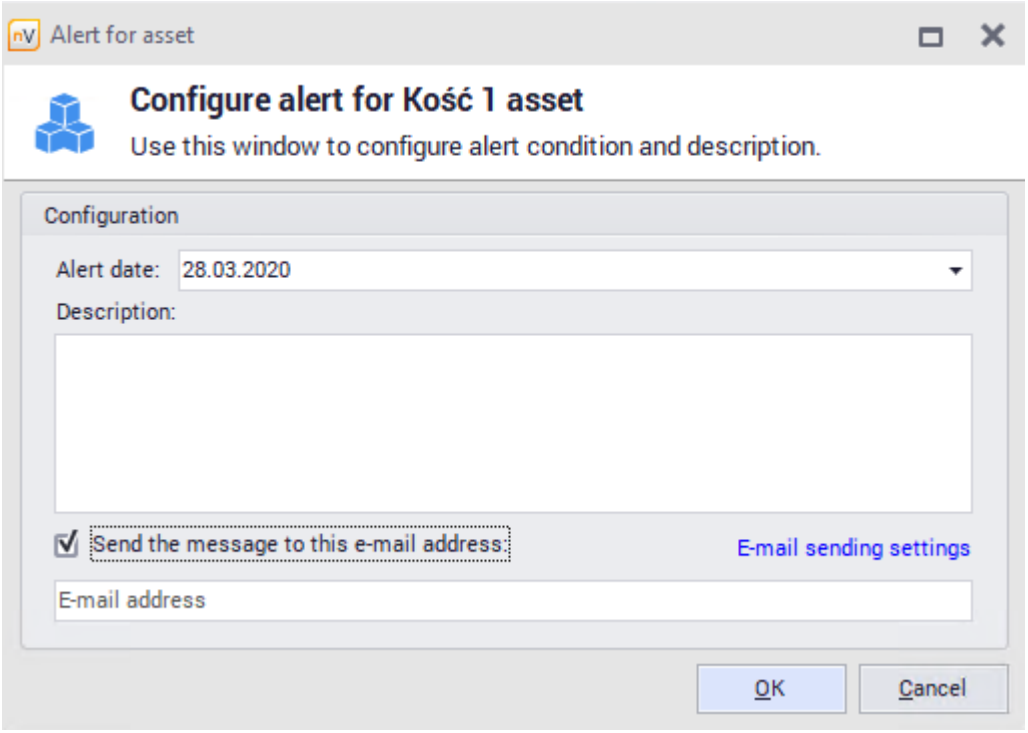
Alerts for selected license

To create alert for selected asset type:

1. Open the resource editing window, go to the **Alerts tab.**

2. Click **Add** button, then select **Add alert for this license.**

3. In the **Alert rules configuration window** select event(field) for which you want to create the alert and set the date the alert is to be created. Enter alert description and click **OK**. Optionally you can also set the e-mail to get reminder messages.



A different method of adding alerts for selected asset types is described in asset types 203 chapter.

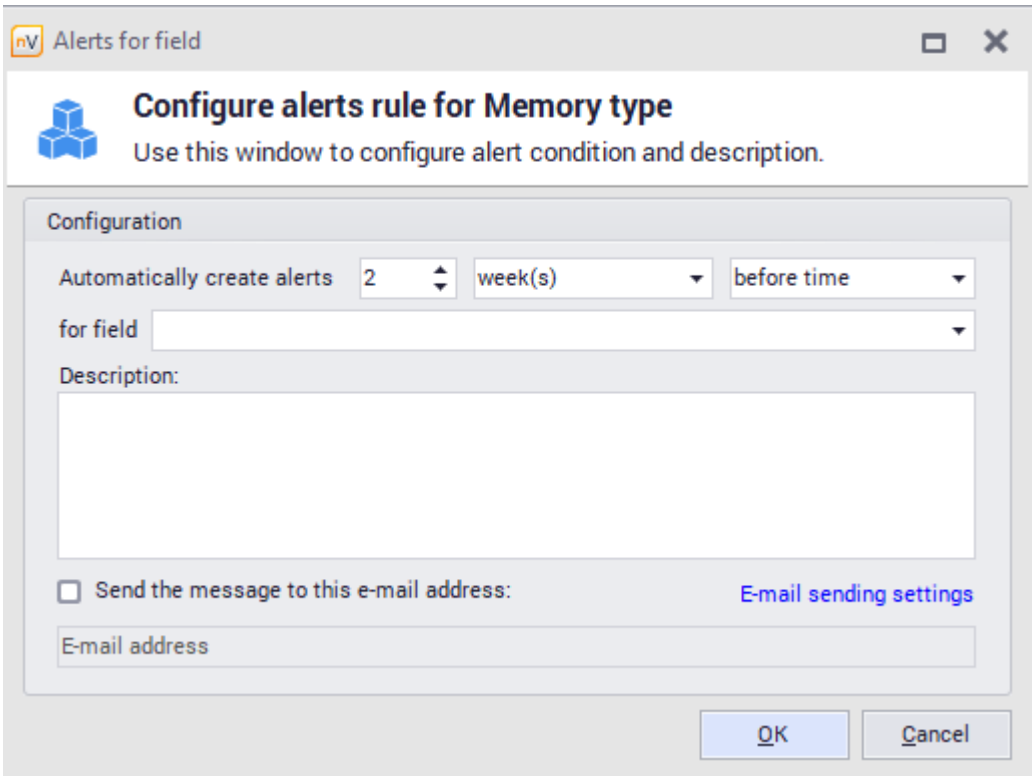
Alerts for all licenses

To create alert for all licenses:

4. Open the resource editing window, go to the **Alerts tab.**

5. Click **Add** button, then select **Add alert for this license.**

6. In the **Alert rules configuration window** select event(field) for which you want to create the alert and set the date the alert is to be created. Enter alert description and click **OK**. Optionally you can also set the e-mail to get reminder messages.

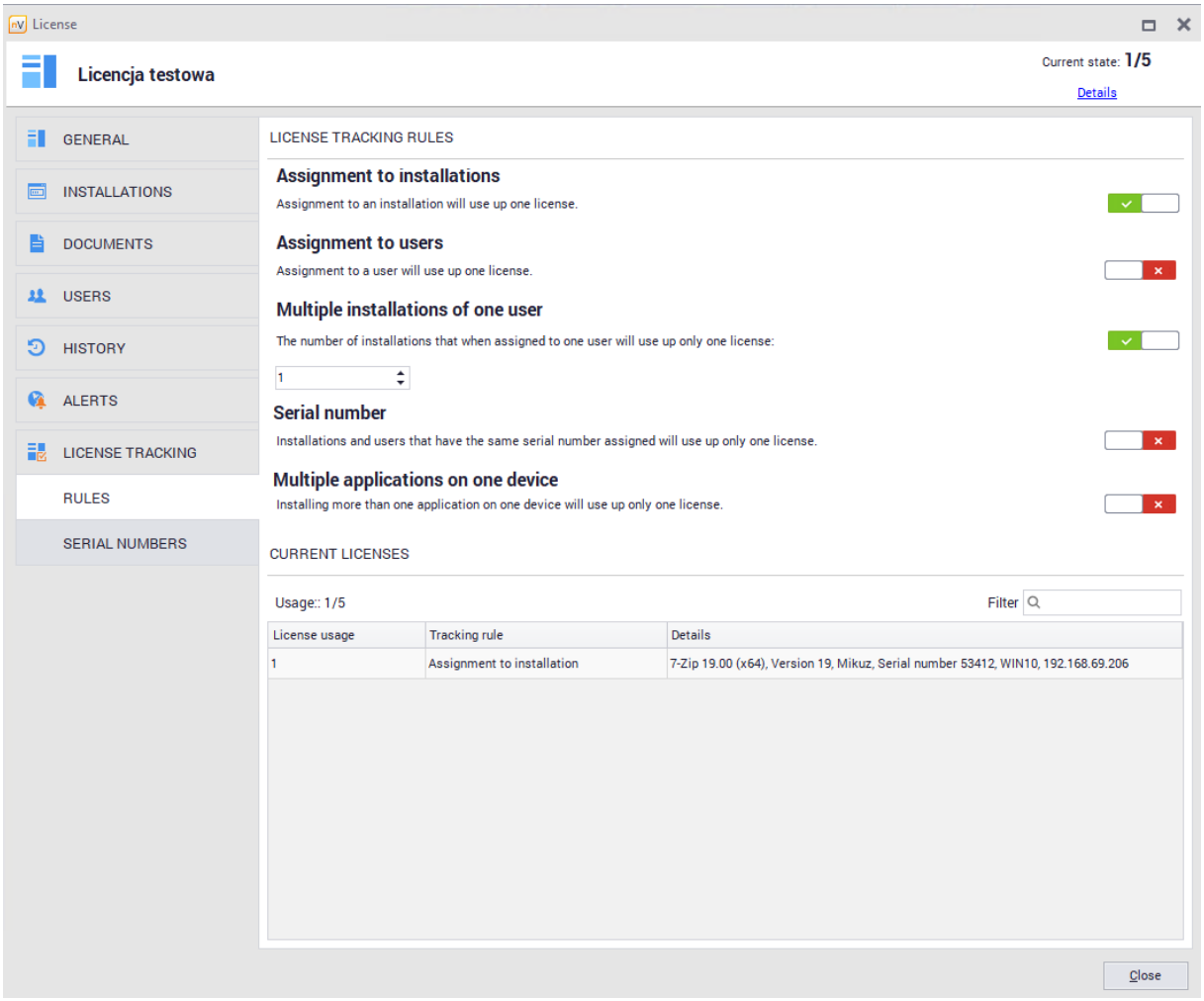


To know more about alerts, see alerting 522 chapter.

8.5.3.5.7 Licensing methods

8.5.3.5.7.1 Rules

The **Rules** tab located under the **License tracking window** gives you extensive options for license accounting configuration. The configuration will affect how many licenses and how they will be downloaded.

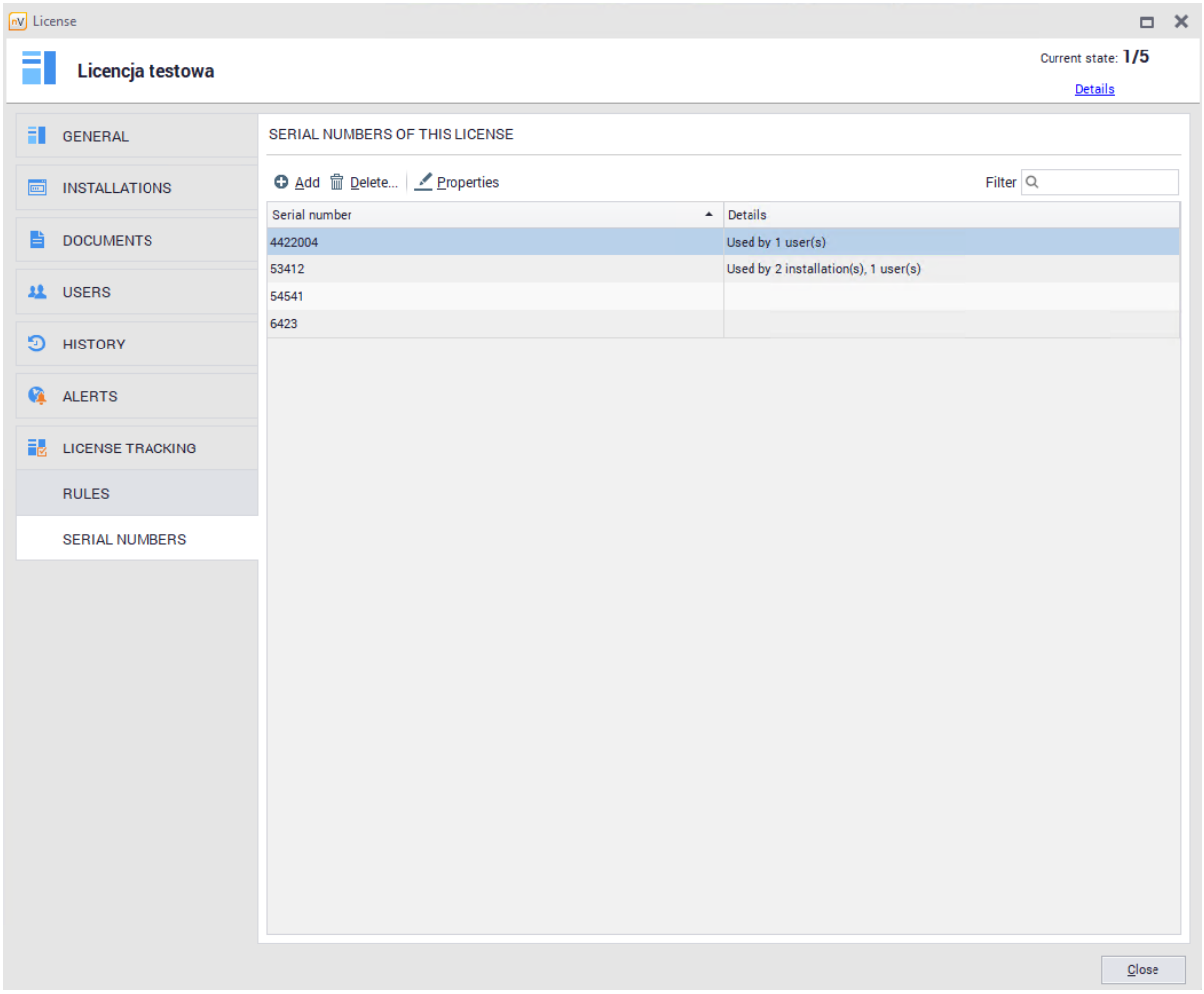


Below the licensing policy settings you can see a list of currently used licenses with description.

Individual options and use cases are explained in the subsections of this chapter.

8.5.3.5.7.2 Serial numbers

Serial numbers tab allows you to define serial numbers compatible with the edited license. Serial numbers can be assigned to users using licenses or for installations assigned to licenses.

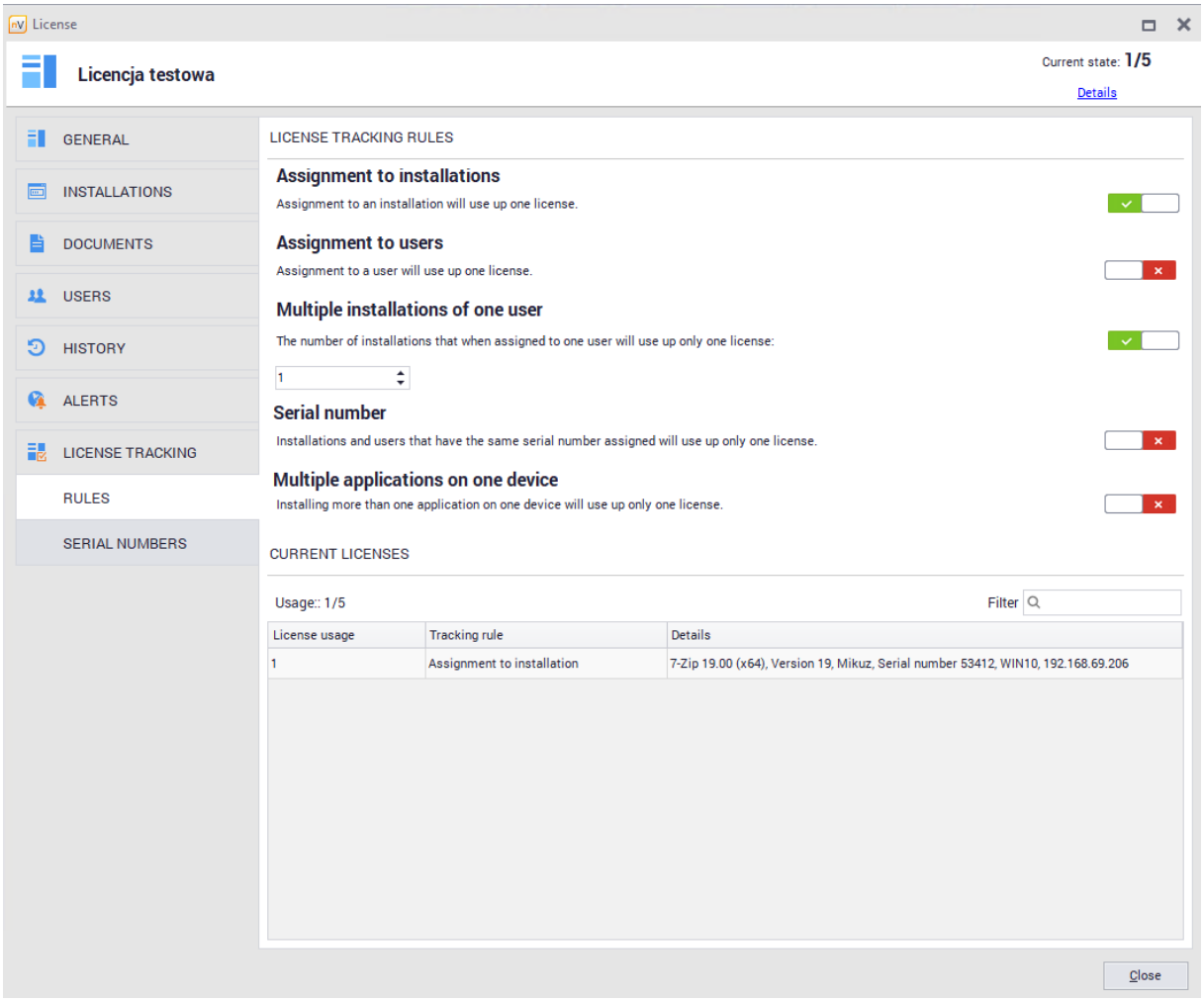


To assign a serial number to a user, go to the **Users** tab in the **License Properties** window and then indicate the serial number by adding or editing the associated user.

To assign a serial number to the installation, go to the **Installations** tab in the **License Properties** window, then select an item from the list and click the **Assign Serial Number** button.

8.5.3.5.7.3 License accounting methods

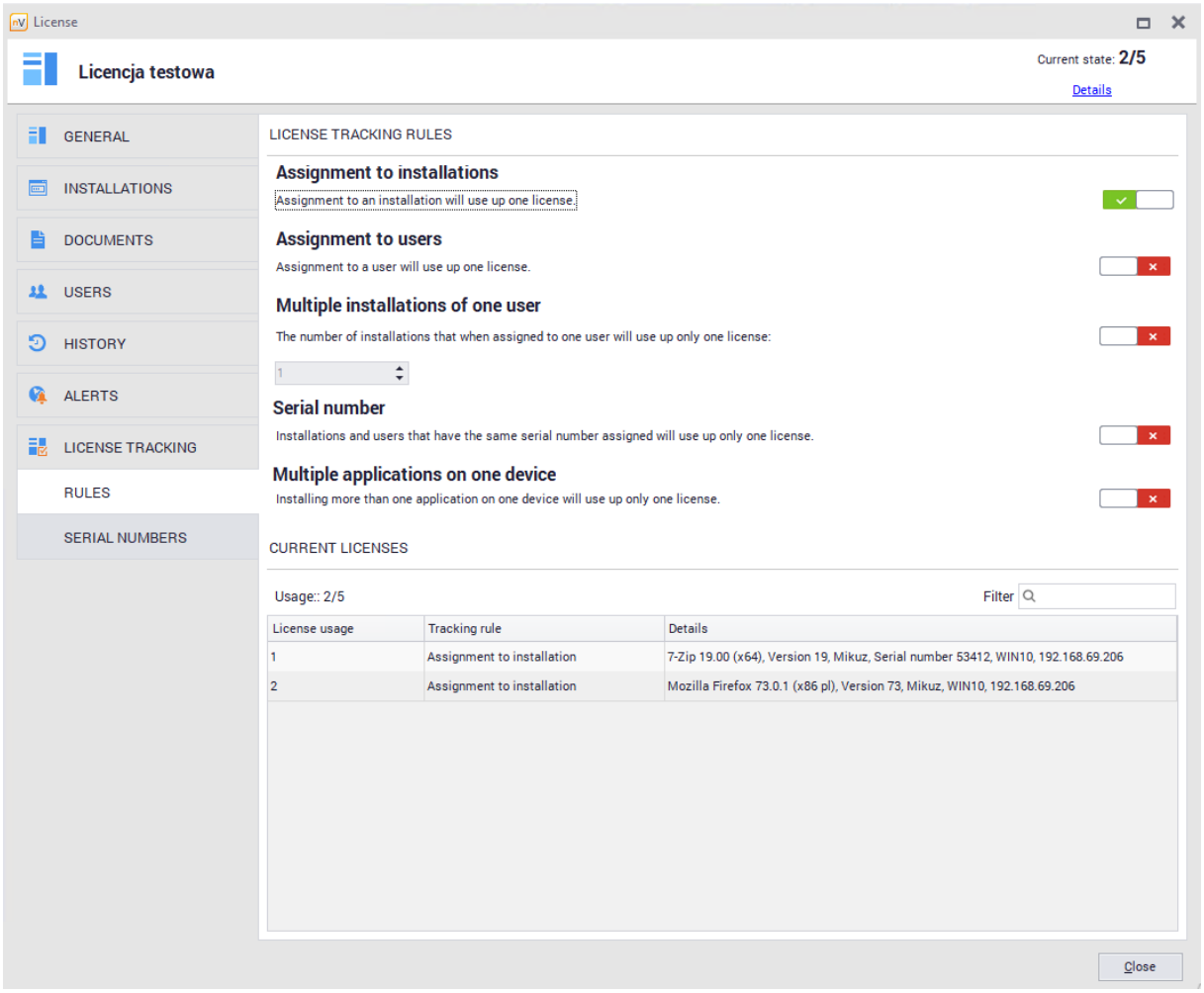
The **License tracking** tab in the **License properties** window gives you extensive options for configuring the license accounting method. The configuration will affect how many licenses and how they will be downloaded.



License can be accounted either to an installation or user:

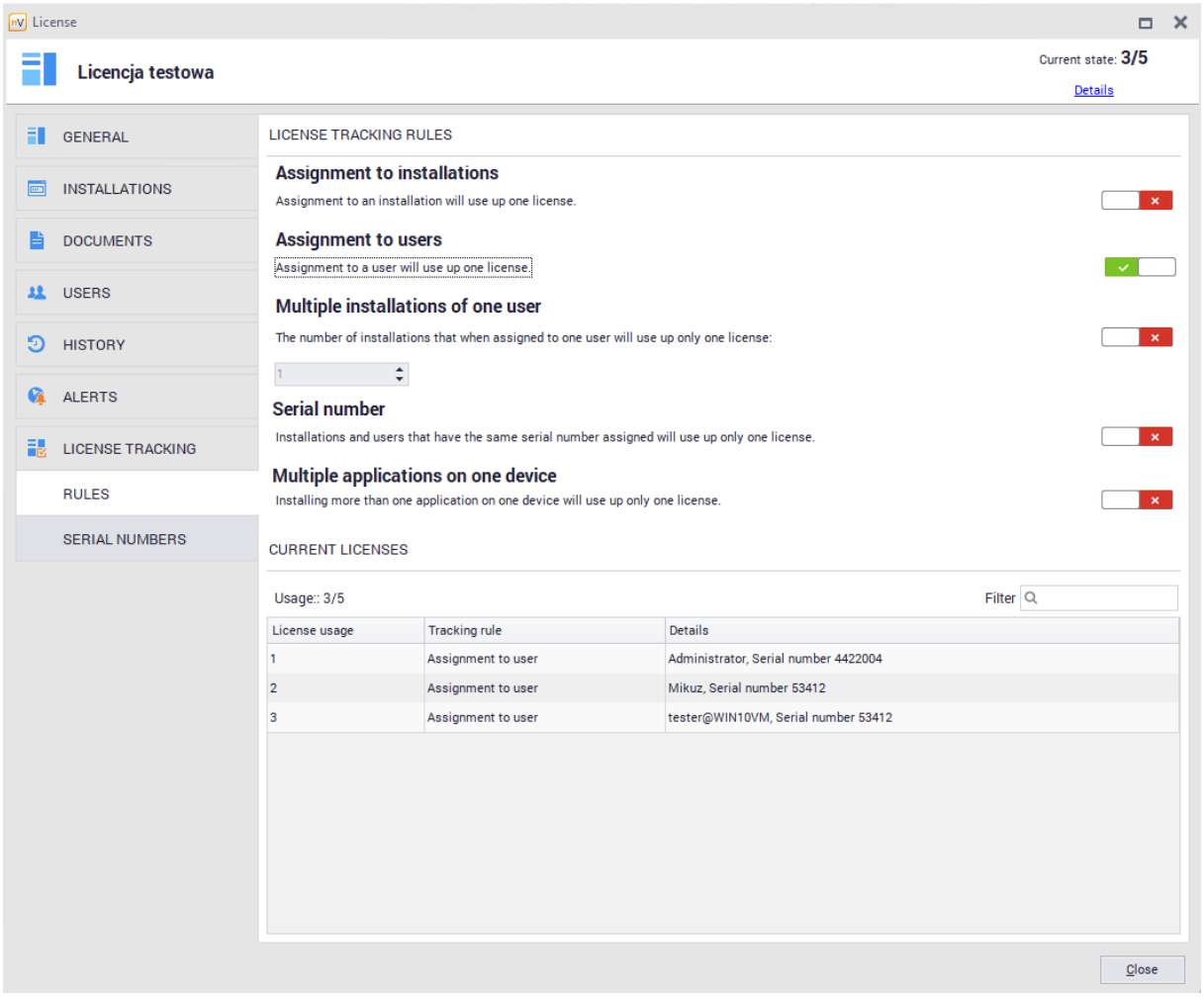
- **Assignment to installation**

Turning this option on will affect the installation of the application being associated with the license is detected on the host and assigned to the license (automatically or manually). Then one license from pre-defined pool in the license properties will be used.



- **Assignment to user**

Turning this option on means, that user assignment to license 269 will result in using one license from the pool of specified licenses



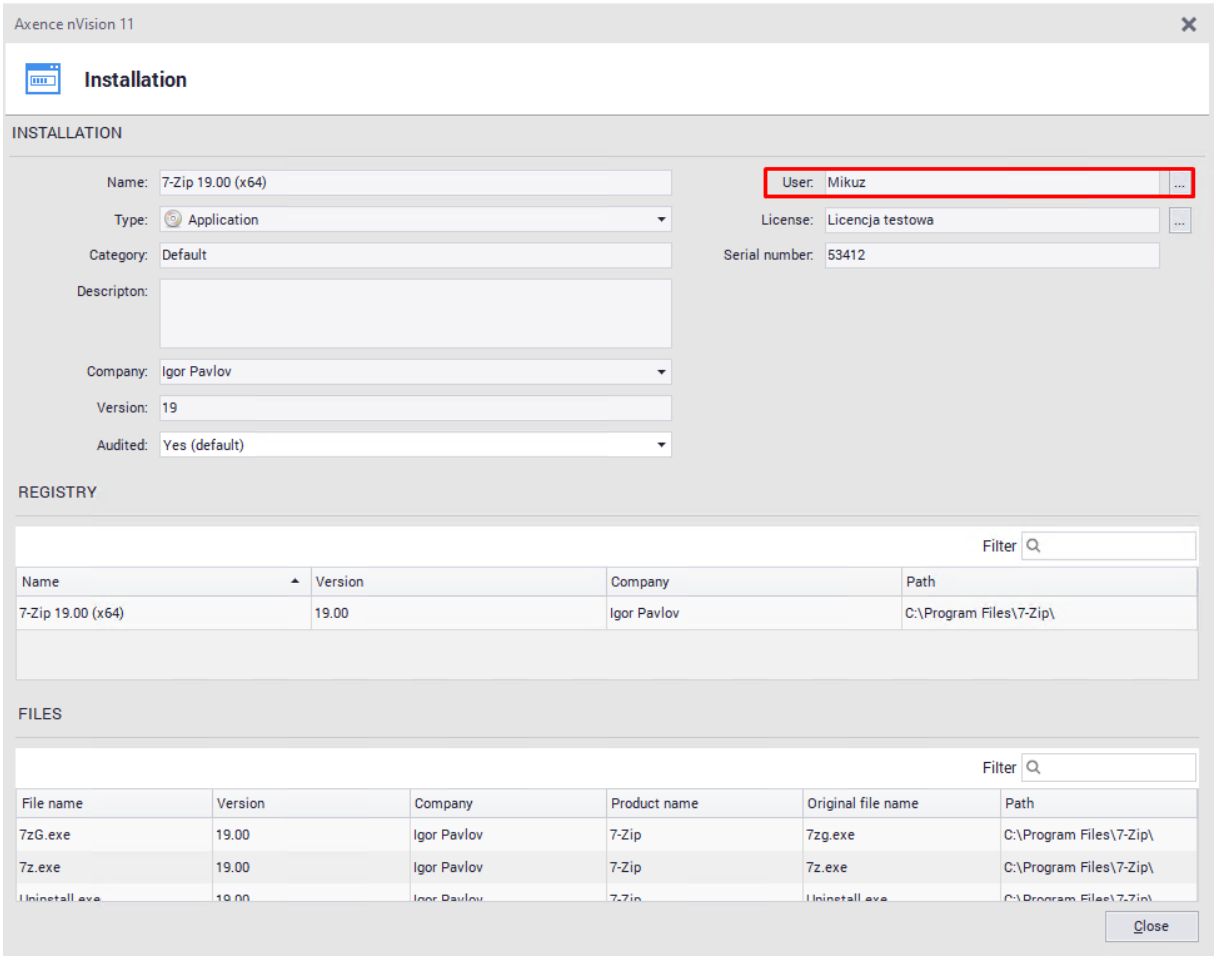
See the following chapters for more information about other license accounting possibilities

8.5.3.5.7.4 Multiple user installations

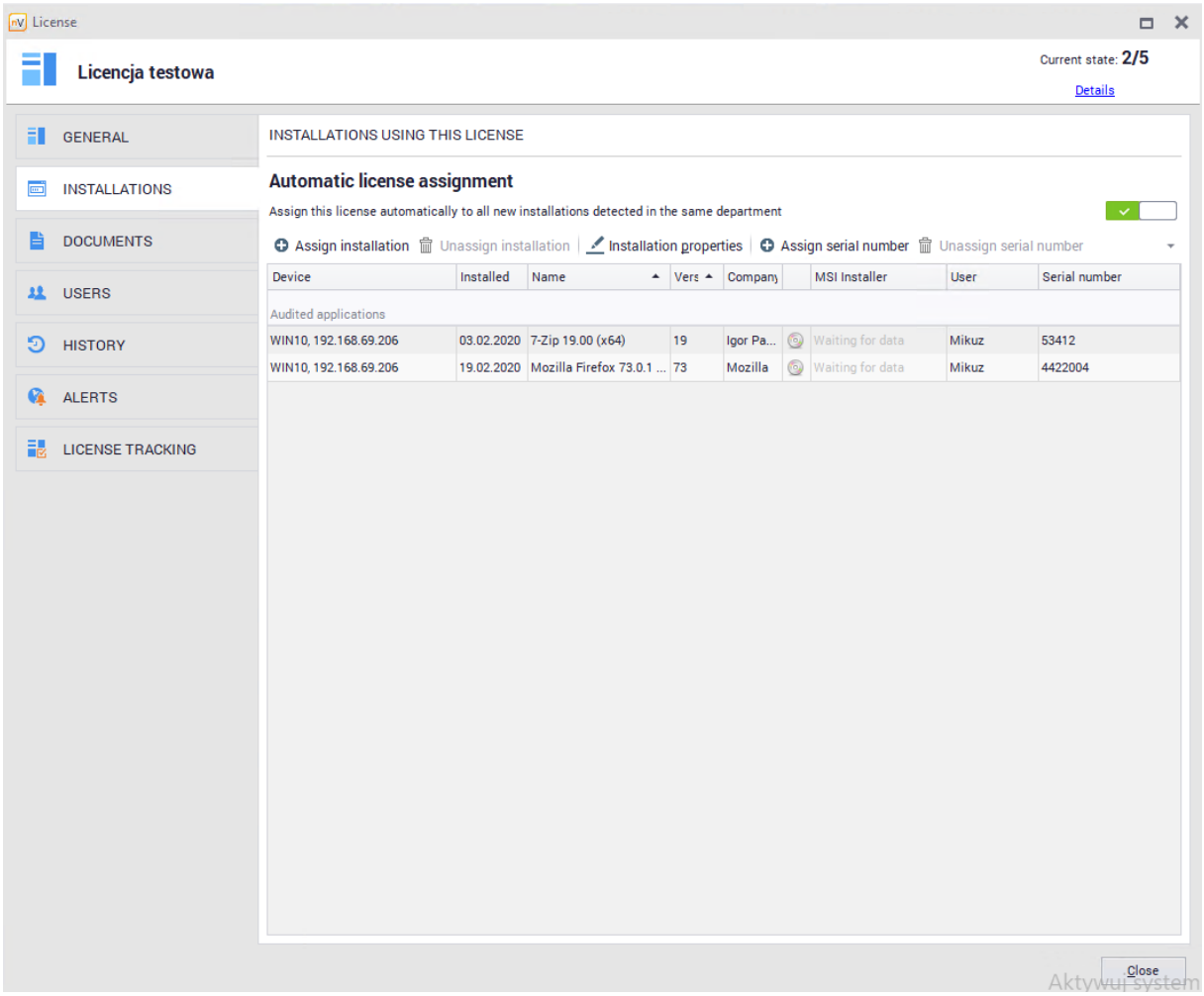
Modification of described settings can be found in the **License tracking** tab in the **License properties** window.

The following configuration allows you to configure the license in such a way that several installations assigned to the same user will result in the use of one license from the pool specified in the license properties.

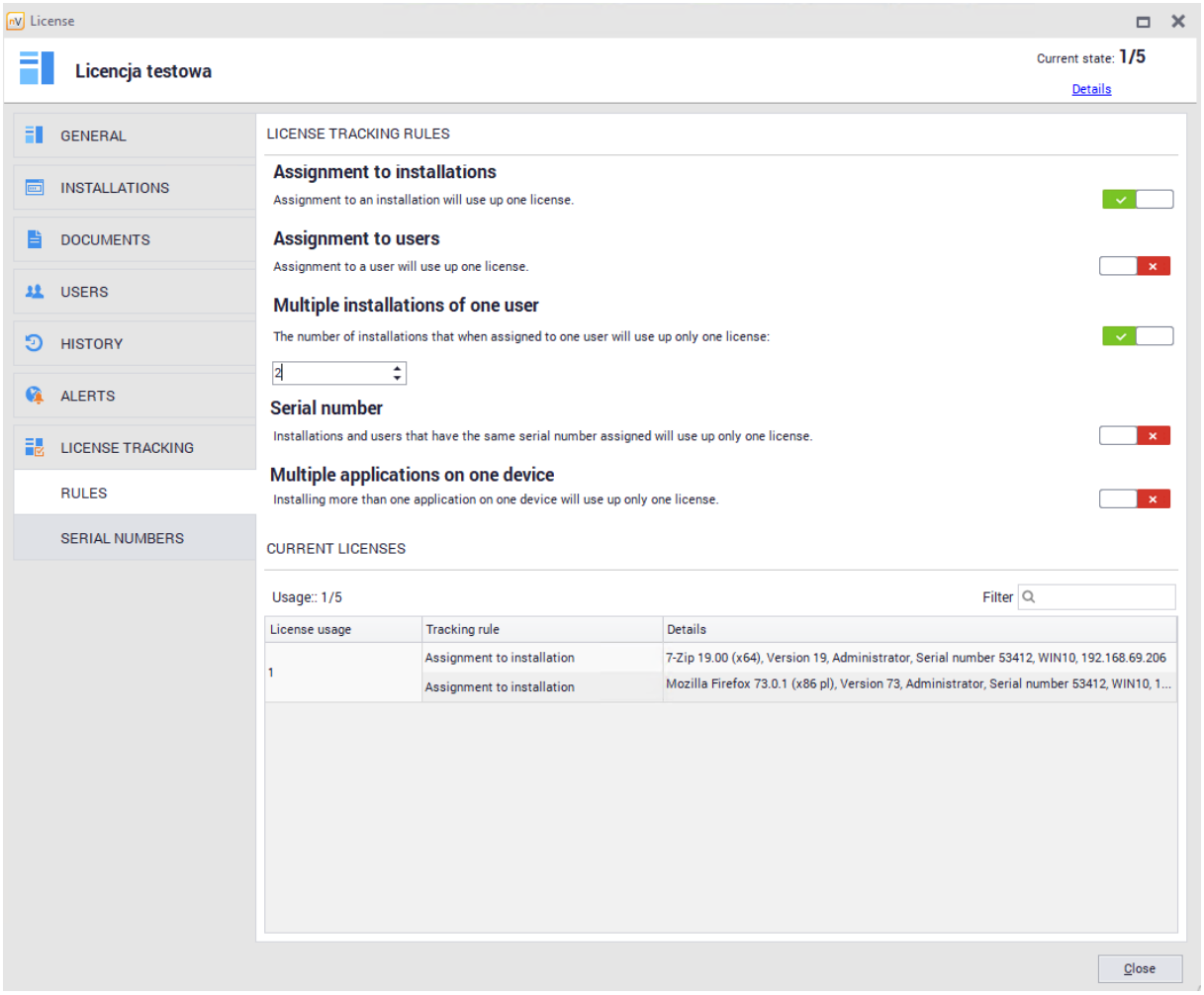
To assign a user to an installation, use the **Installations** tab in the **License Properties** window. After double-clicking the selected item, assign the selected person to the installation:



Example: applications assigned to user Mikuz:



License **Tracking / Rules** tab shows active options for **assigning to installation** and multiple (**in this case, 2**) single user installations. For this purpose, 2 licenses are used from the pool:



Changing the number of installations assigned to single user, to 3rd one only one license will be used:

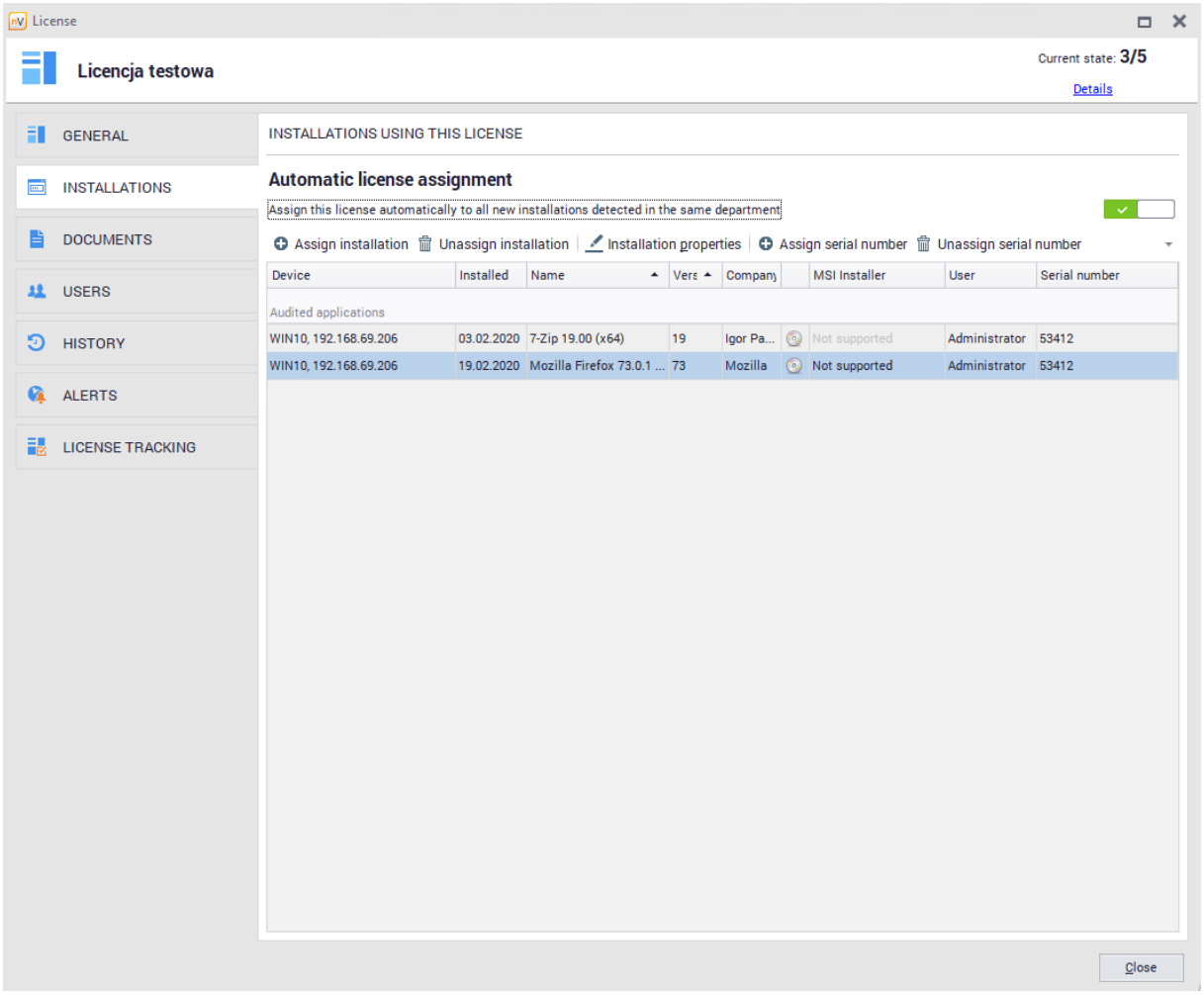
8.5.3.5.7.5 Serial numbers assignment

Modification of described settings can be found in the **License tracking** tab in the **License properties** window.

The following configuration allows you to configure the licenses to use only **one license** from the selected pool in license properties for the **installations and users with the same serial number.**

Defining and assigning serial numbers has been described in serial numbers 275 chapter.

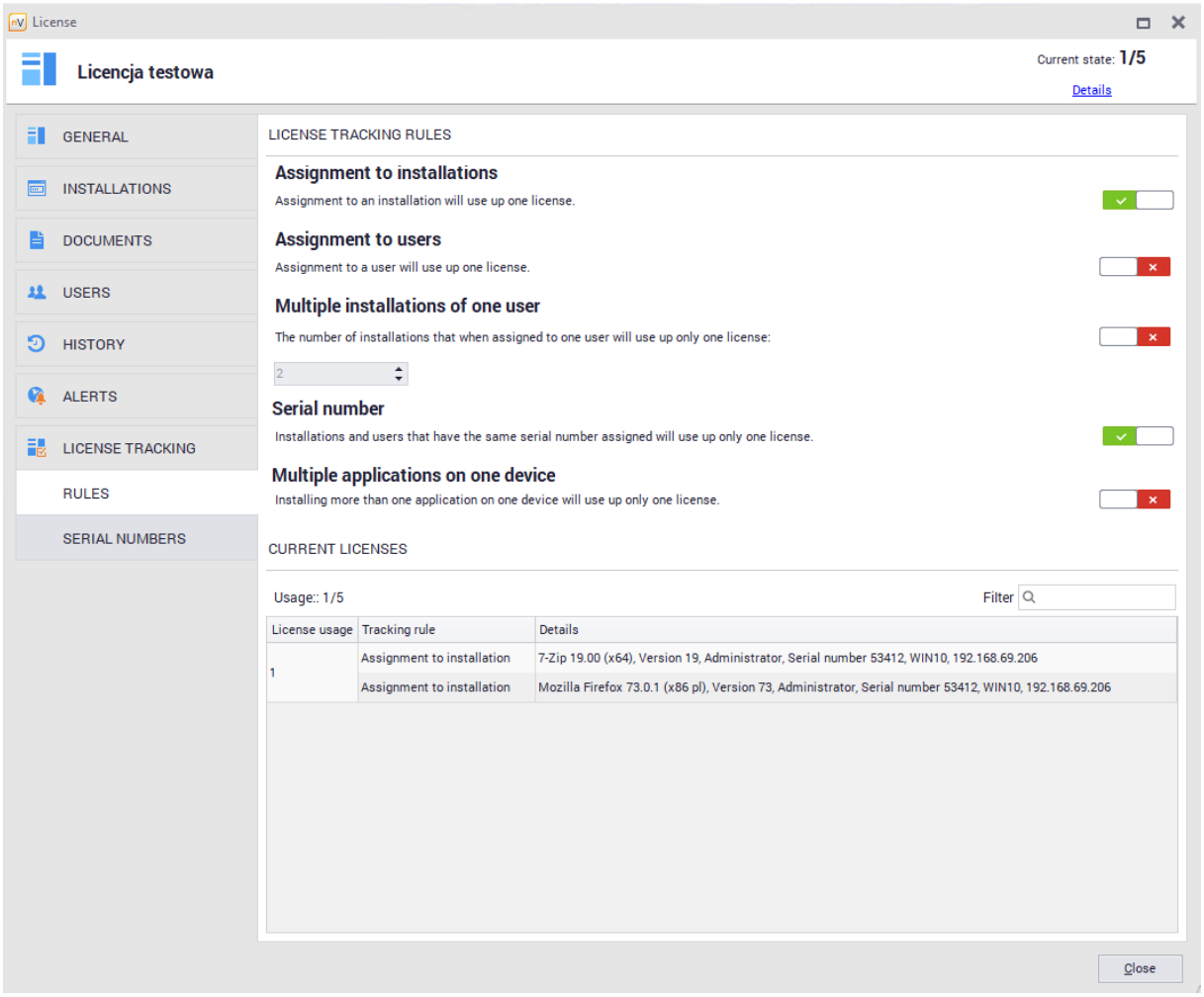
To assign a serial number to user, use the Installations tab in the **License Properties** window. After double-clicking the selected item, assign the selected person to the installation:



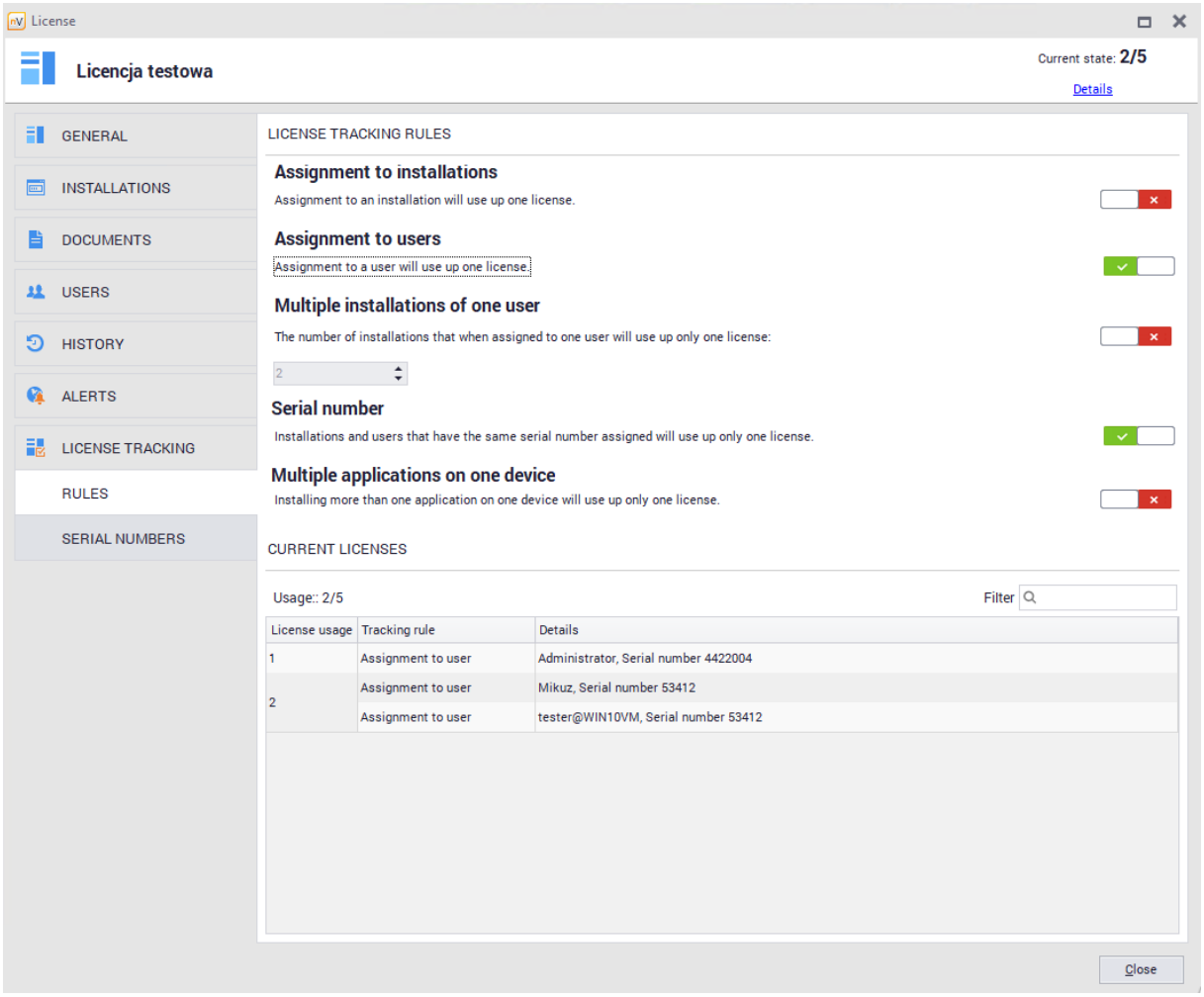
To assign a serial number to installation, go to **Installations** tab, selected item and click **Assign serial number.**

License Tracking / Rules tab allows you to set rules for:

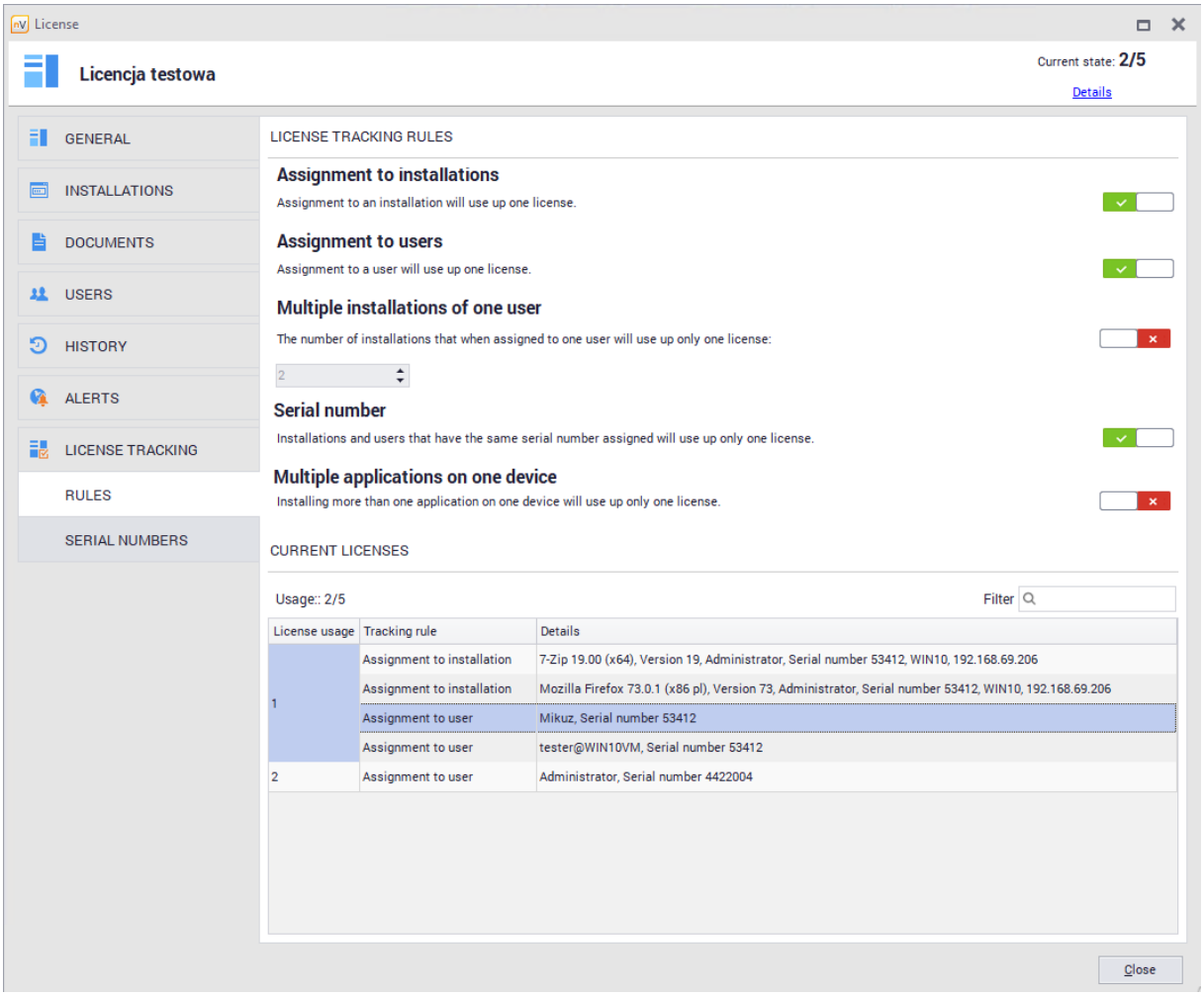
- installations with assigned same serial number



- license users with assigned same serial number



- installations and license users with assigned same serial numbers

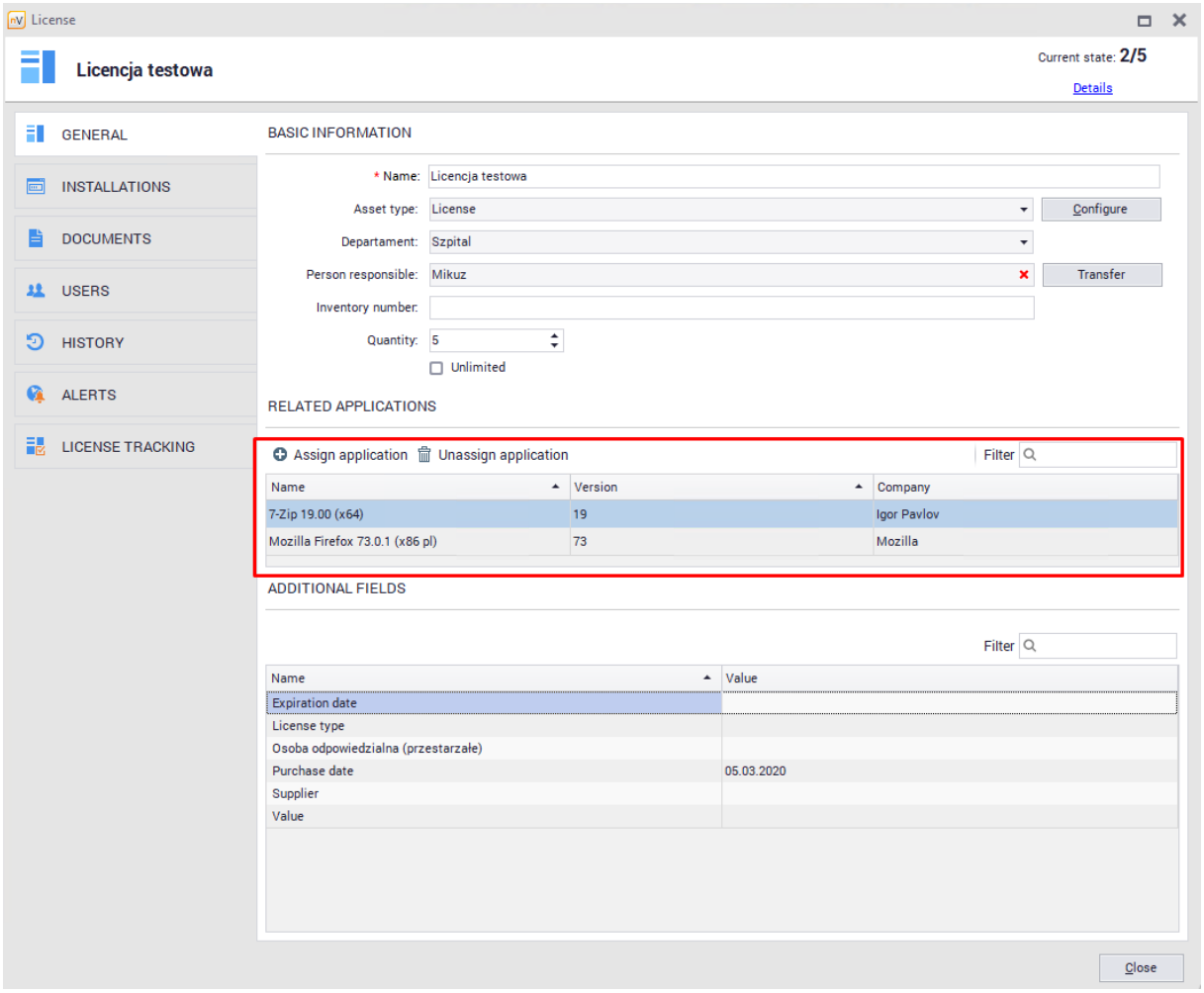


8.5.3.5.7.6 Multiple applications on device

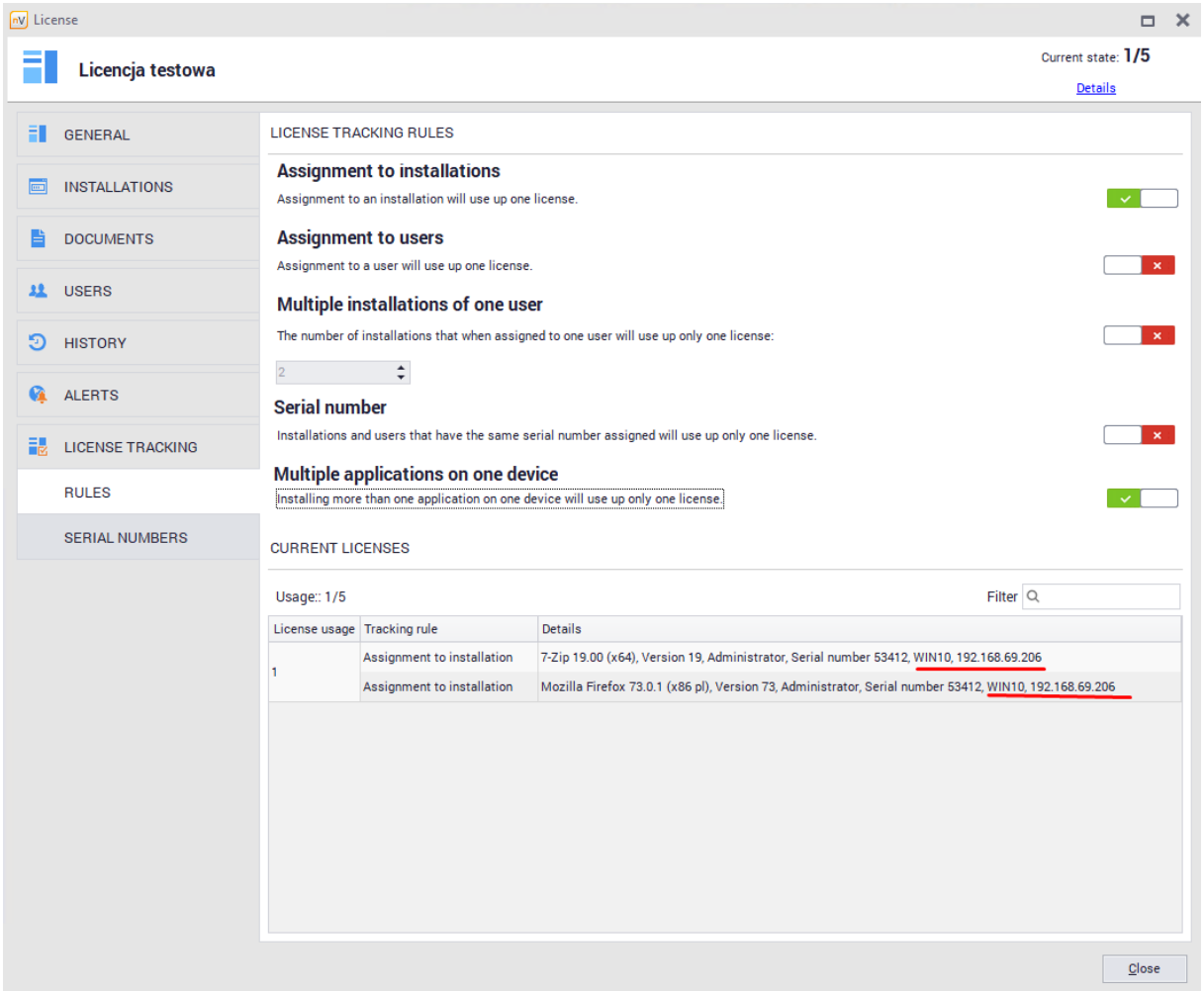
Modification of described settings can be found in the **License tracking** tab in the **License properties** window.

The following configuration allows you to configure the licenses to use only one license from the selected pool in license properties **for many installations of different applications (associated with the license)** within one device.

Related applications are shown in the **License Properties / General window**

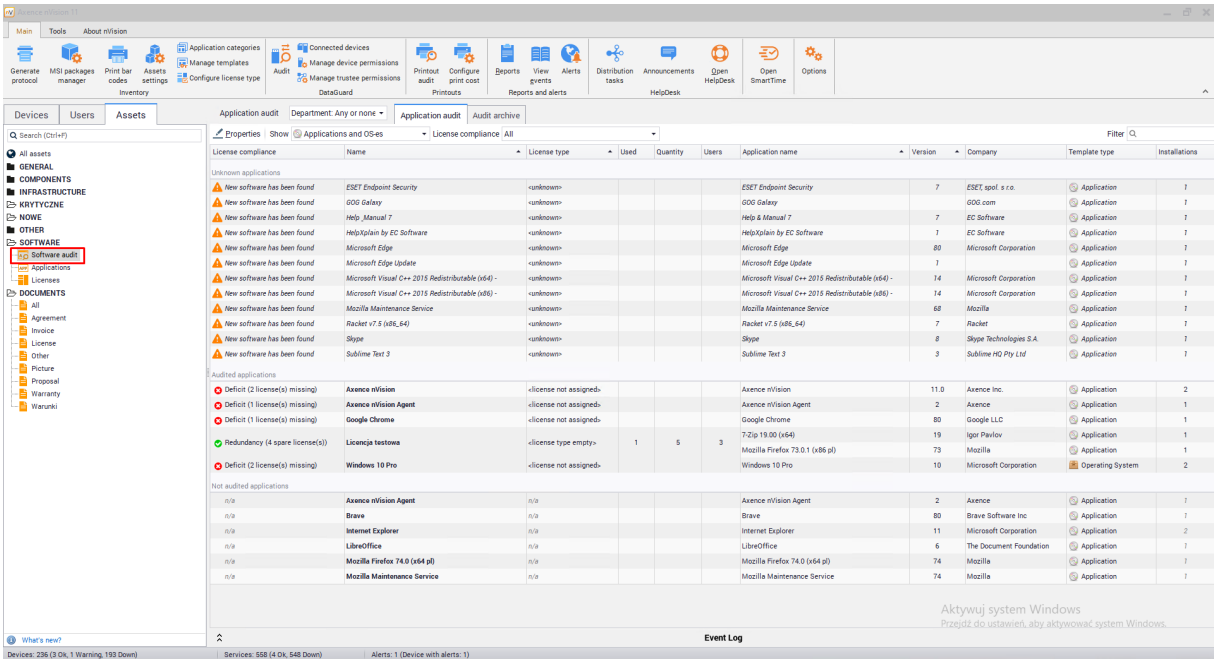


License Tracking / Rules tab allows you need to enable **Assignment to installations** and **Multiple applications on one device** options. Linked applications installed within same device will use one license only:



8.5.4 Software audit

To go to the **software audit**, enter **Assets** tab visible in the main program window, then scroll for **Software audit** in the **Software** section:

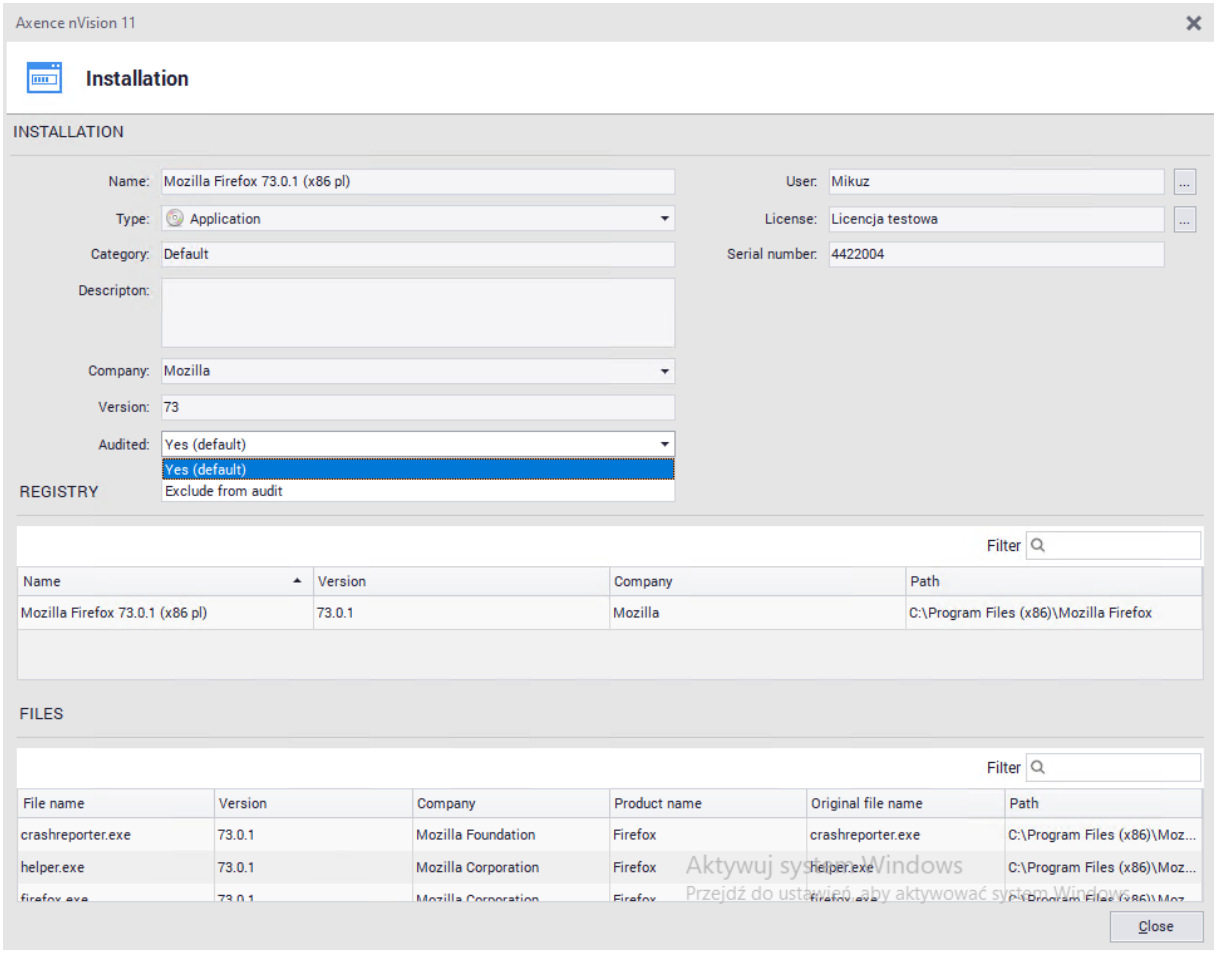


The **Software Inventory Audit** window contains a list of applications detected on the monitored computers. If the programs are recognized, the type of license and the number of licenses held appears in comparison with the number of licenses used (Installations column), i.e. the number of workstations on which a given application is installed and associated with a given license.

Devices with installed applications and licenses

Select an item from the list and go to its properties to view the application properties.

In the **Installations** tab you can view the devices where the application is installed. If the application is audited, it is possible to exclude its selected installation from the audit. - simply change the value of the **Audited** field in the **installation properties** window:



In the **License** tab, you can add, remove and edit licenses for each application. More information is described in users and licenses 250 chapter.

Audit archive

You can view the changes in the installed software for the selected period.

8.6 Data import

8.6.1 Data import from CSV

You can import asset data to nVision. The condition for successful data import is to place them in a csv file and divide the data so that one file contains assets of one type. You can manage these files in Asset settings / Data sources window.

To add a data file for import in nVision:

1. Select the option Assets settings from the main toolbar and then go to the Data sources tab.

2. Click the Import from CSV file button.

3. Enter Name, data Description and Asset type to be assigned to this data.

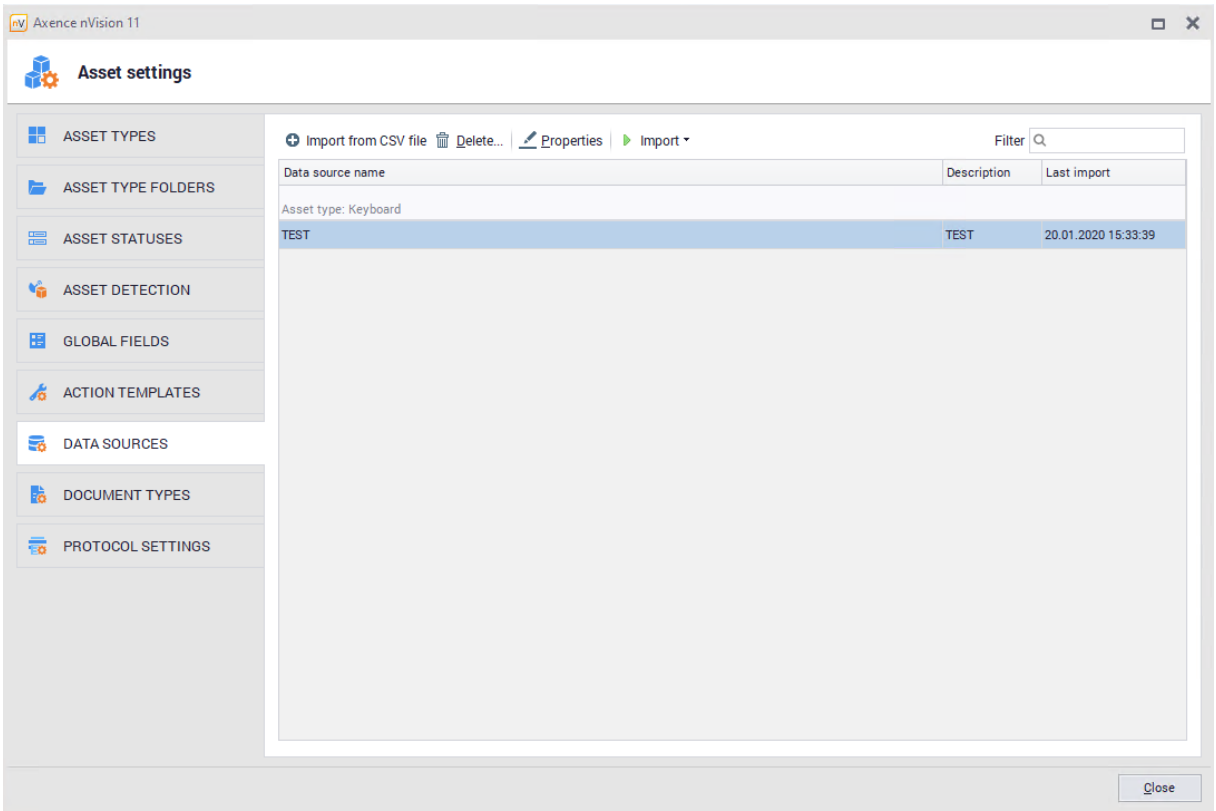
4. In the CSV Options, indicate the path to the data file, specify the separator and the occurrence of headers. The file preview will be presented below

5. Indicate in Import configuration tab which column (or set of columns) of the source identifies the resource (is unique for a given resource).

6. Associate the CSV source columns with target field names. If necessary, go to Asset Type (by clicking Configure button) and add to it additional fields corresponding with selected columns.

7. To test the ability to import data, click Test button. then click OK.

The added file will be shown at the list of data sources. Now you can easily import data from this file eg. if its been changed (without the need to reset all the settings):



From the data source management window you can add data sources, delete them, change their properties and import data from them, as well as import data from Agents and view import logs.

8.6.2 Inventory scanner for Linux and OS X

The inventory scanner for Linux / OS X is a portable tool that allows manual collection and download of device data without Agent installation. It can also be used if the scanned computer cannot be connected to the network.

To run the scanner:

1. Download the scanner script file for the proper hardware architecture into the folder C:\Program Files (x86)\Axence\nVision\Agents:

OSX:

```
http://cdn.axence.net/linux/osx_scanner.run
```

Linux 32-bit:

```
http://cdn.axence.net/linux/linux_scanner32bit.run
```

Linux 64-bit:

```
http://cdn.axence.net/linux/linux_scanner64bit.run
```

2. Copy the scanner script file to an external memory or public network share.
3. Administrator privileges (root) are required for process to run. *Remember to give the rights of launching chmod + x for the script file of the inventory scanner.*

On a Linux / OS X terminal / console run the command:

```
> sudo ./*nazwa_skanera*.run /mnt/scans/
```

After performing the scan in the / mnt / scans / directory, you may see the file eg. **{bdf1bf72-8ad4-44b8-b754-e2b934410b50}.zip** containing all available information about the hardware and software. ***Warning****! During the next scan using same parameters (destination directory), the previous file with the hardware and software status will be overwritten.*

8.6.3 Inventory scan import

The inventory scanner is a portable tool that allows manual collection and download of device data without Agent installation. It can also be used if the scanned computer cannot be connected to the network.

To manually import inventory scans, follow these steps:

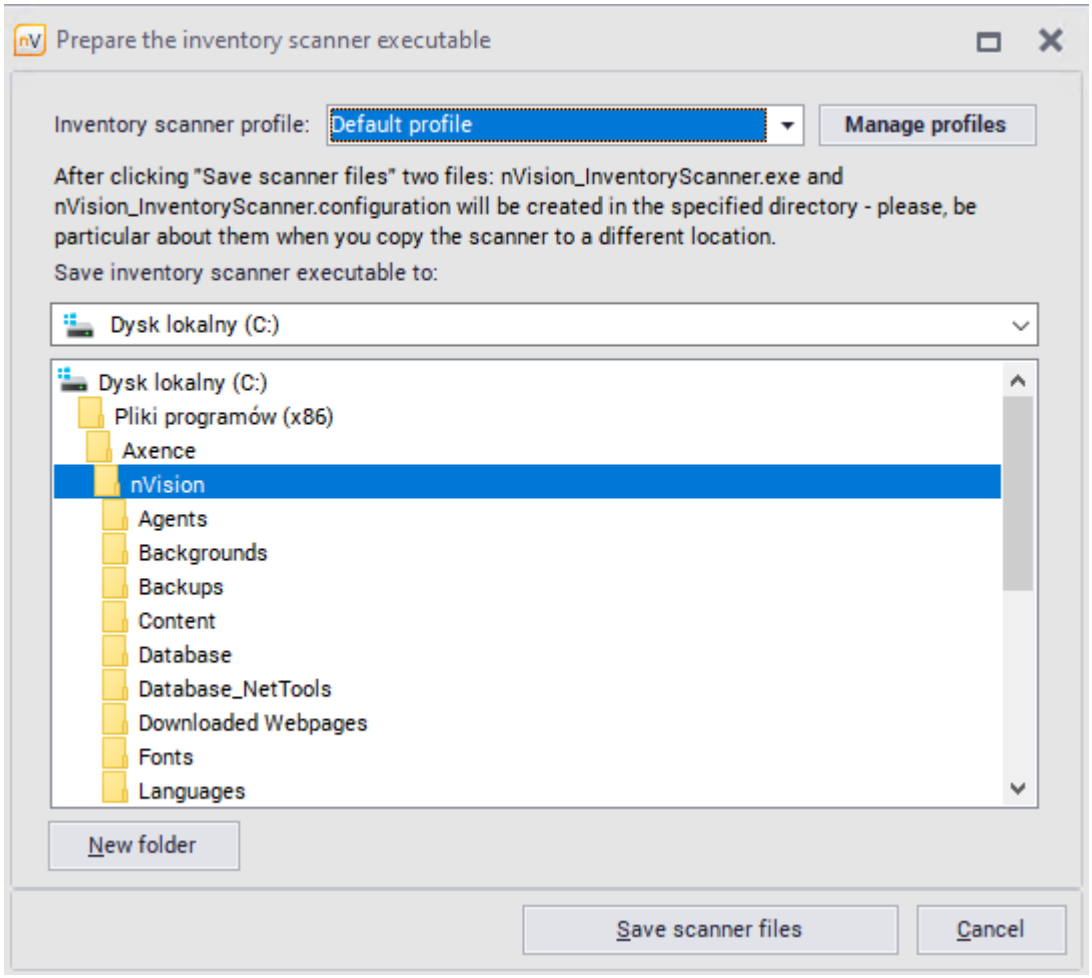
1. Prepare executable file from inventory scanner

a. In the Tools tab select the Inventory scanner executable option.

b. Select the location where the inventory scanner files are to be created (e.g. flash drive).

c. Set the inventory scanner profile, i.e. what information will be collected by the scanner. You can select from the list an existing profile, edit an existing profile or create a new one.

d. Click the Save Scanner Files button.

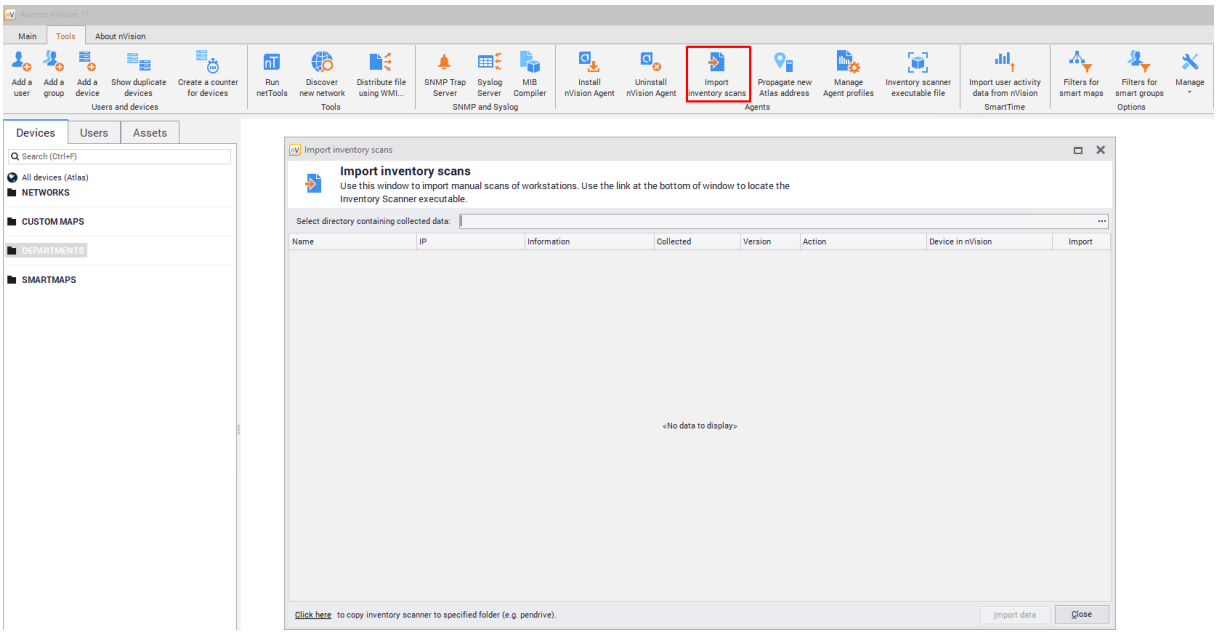


2. Perform inventory scan. If you copy the scanner to another location, make sure both scanner files are copied (nVision_InventoryScanner.exe and nVision_InventoryScanner.config). Run the inventory scanner executable file (nVision_InventoryScanner.exe) on the computer to be scanned to start the scanning process.

3. Data import

   a. After scanning, copy the created folders (Data and Logs) to the location that will be visible from the nVision console.

   b. In the window of importing inventory scans (Import inventory scans in the Tools tab) select the folder where the scans are located (i.e. the Data folder previously copied).



   c. Check, if Import field is selected for scanned device, then click Import data buton.

   d. If the data import has been successfully completed, the message is shown (Import successful).

Part

9 DataGuard module

9.1 Introduction

Axence nVision® DataGuard allows the management of data access rights and the protection of data. In particular, the application of data protection improves corporate security, prevents against infecting the corporate network with viruses distributed on flash drives and protects against data leaks.

Blocking ports and media

All devices and media considered as logical disks can be blocked, including:

- flash drives,
- portable hard disk drives,
- Wi-Fi, Bluetooth, IrDA,
- photo cameras and portable MP3 players, working in *multimedia device* mode – WPD,
- floppy disk drives,
- SD slots.

Managing access rights

Managing access rights can take place on different levels (atlas, map, Active Directory users, workstations). On each level, you can grant the appropriate rights related to the use of media and the rights to audit, read, write and execute files to specific users. Managing access rights by means of nVision facilitates the configuration of computer groups, and the authorization of corporate flash drives and hard disk drives and blocking private **devices**. For more information, see Access rights 296.

9.2 Access rights

9.2.1 Access rights – introduction

Implementation

There are two possible scenarios for implementing DataGuard module in the given system:

1. **Blocking all**/most rights on the atlas level, and then allowing some of these down the hierarchy tree.
2. **Allowing for all actions** on the atlas level and blocking on the level of maps and for specific workstations.

Choosing one of the above strategies depends on the nature of the system, where the data protection is implemented.

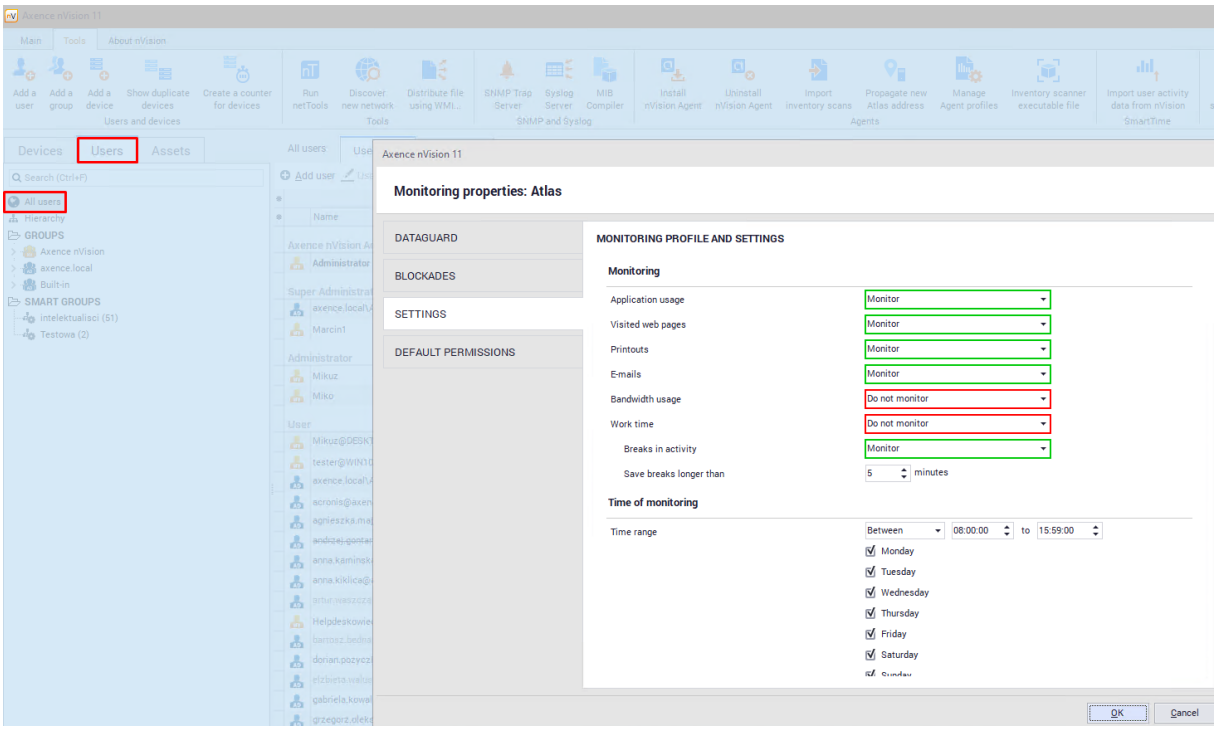
Access rights can be assigned for the following categories:

- **Audit** – determines whether access to the given device should be logged. Logging includes information on file renaming, creating, copying or deleting and access with writing.
- **Reading** – ability to read information from the specified medium.
- **Writing** – ability to write information on the specified medium.

- **Executing** – ability to run programs located on the specified medium.

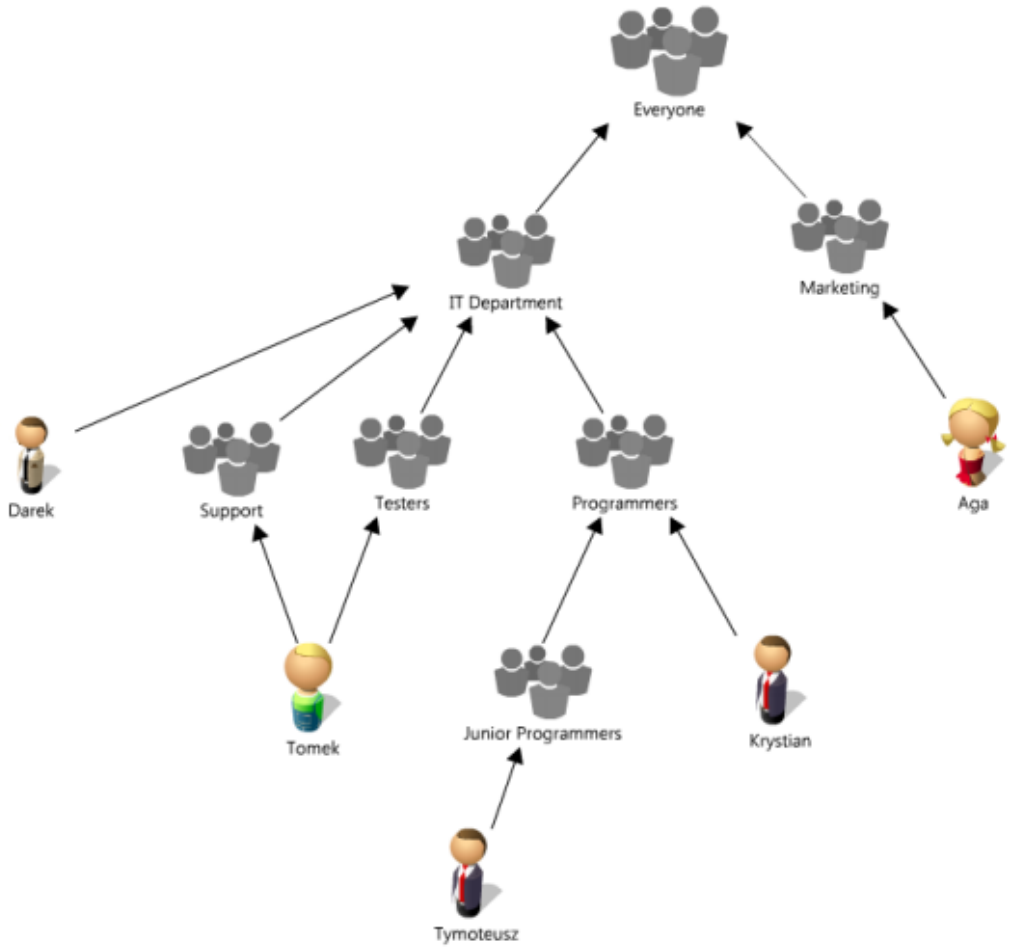
Each category (reading, writing, executing) can have one of two states: **allow** or **block**. An audit can be **enabled** or **disabled**. Devices without a file system can have only one access right category. It has the value of **enabled**, if the user is allowed to use the device, and **disabled**, if the opposite is true.

To define access rights to media, go to the atlas, group or user properties.



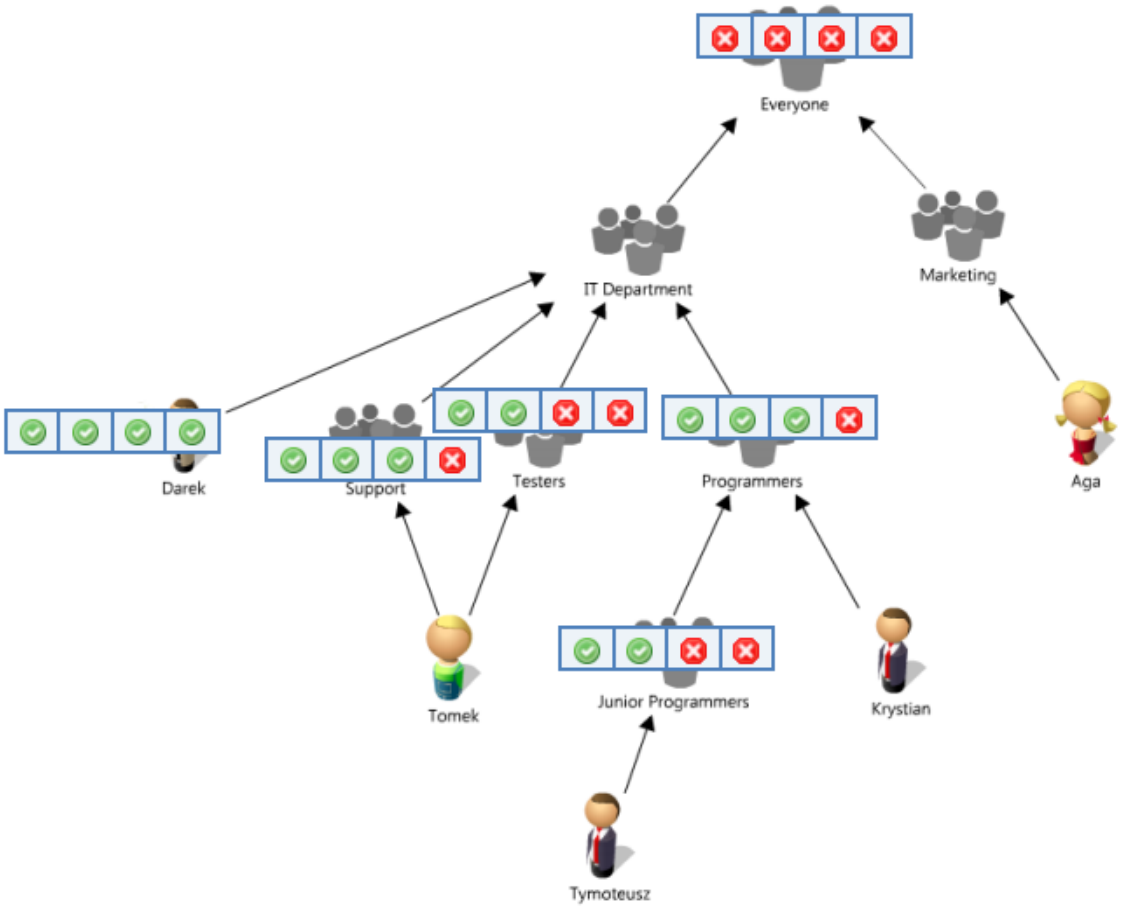
9.2.2 Example of structure

Below is an example structure, which will be used as a basis for discussing the rules of defining rights in the DataGuard module.



The rights can be defined on the level of internal nodes and leaf hosts. Rights effective for leaf nodes are calculated in the following manner: the subsequent nodes, starting from the leaf towards the root (in the present case - *Everyone*), are searched until the first node with assigned rights is found. These rights will be valid for the leaf node.

Please consider the fact that the given computer can belong to several different maps. In the present situation, this is the case of user *Tomek* whose workstation belongs to two maps: *Support* and *Testers*. In this case the effective rights are calculated on each path to the root, and the logical sum of calculated rights is considered as valid. In other words, if the right effective for any path allows for action in the given category, such action will also be allowed for the considered leaf node.



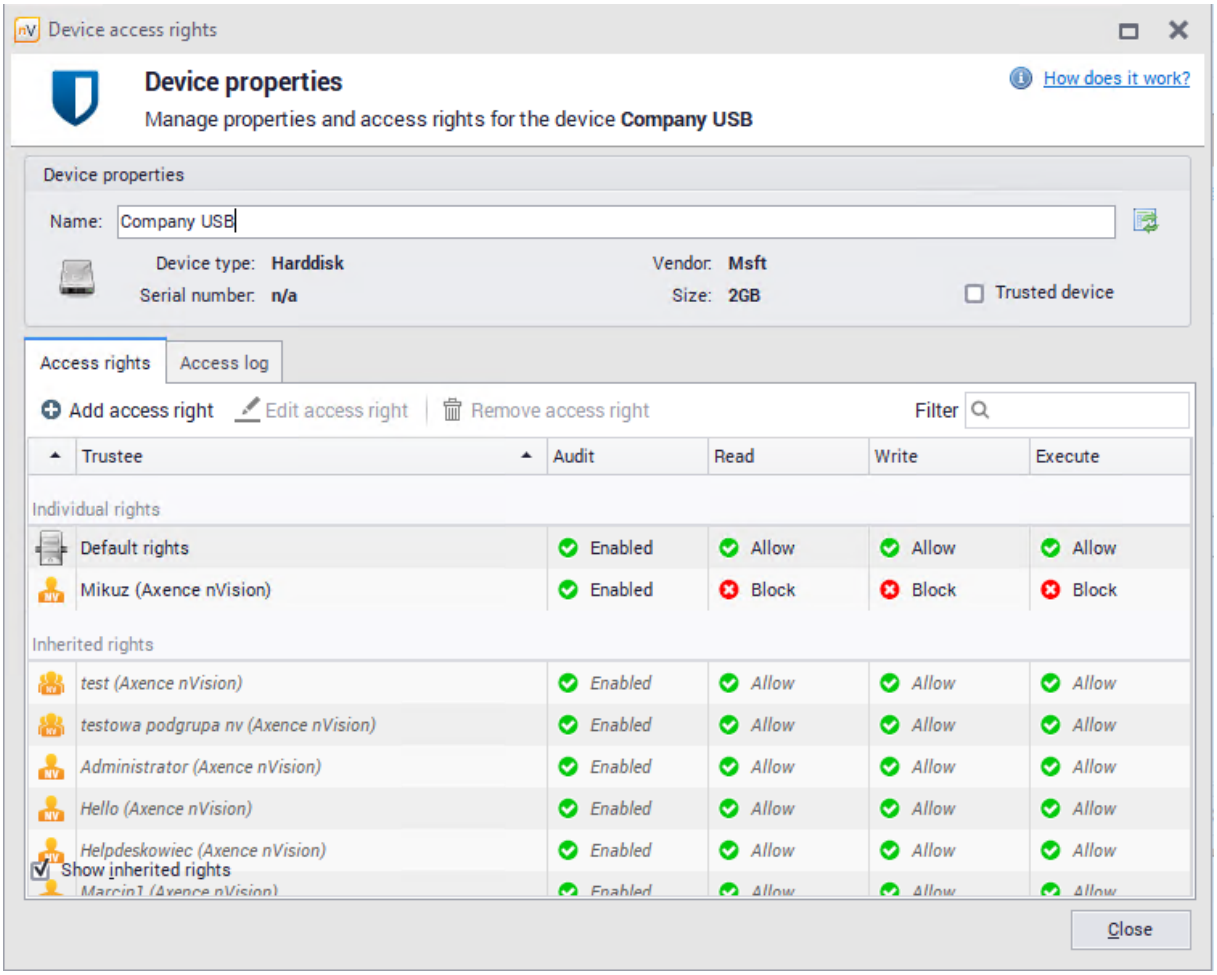
Rights effective for the leaf hosts:

Workstation	Effective rights	Description
Aga		No rights. Effective right is calculated on the basis of affiliation to group *Everyone*.
Krystian		No right to execute files. Rights result from affiliation to group *Programmers*.
Tymoteusz		No writing and executing rights. Rights result from affiliation to group *Junior Programmers*.
Tomek		No right to execute files. Tomek belongs to two groups with defined rights: *Support* and *Testers*. In this case, the sum of their rights is taken into consideration.
Darek		Full rights, assigned individually.

9.2.3 Inherited rights

The rights for the specific workstation or map can be assigned directly or inherited from parent levels. These are displayed in the above mentioned sequence, i.e. first the individually assigned rights, then the inherited rights. What is more, inherited rights are marked in gray and italics. It allows you to distinguish at a glance, which rights are specific for the given workstation, and which are the result of the rights granted on higher levels.

In the case of multiple maps and workstations, using the option of hiding inherited rights by means of the **Show inherited rights** button in the lower left corner of the device properties window is recommended.



9.3 Hosts

9.3.1 Devices and media

Devices and media are divided into several categories. Each category is marked with an appropriate icon.

Devices based on file system

Icon	File system devices
	hard disk drives

Icon	File system devices
	optical devices
	USB storage devices
	virtual volumes
	SD cards
	floppy devices

Other devices

Icon	Device type	Examples of devices
	network or communication devices	Bluetooth radio receivers, infrared devices, network adapters, modems
	portable devices	wireless communication devices
	ports	Firewire, multi-port serial adapters, cable transfer devices, PCMCIA and multi-function devices, COM and LPT ports
	printers	printers
	PnP devices	imaging devices, smart cards, other devices

Assigning rights

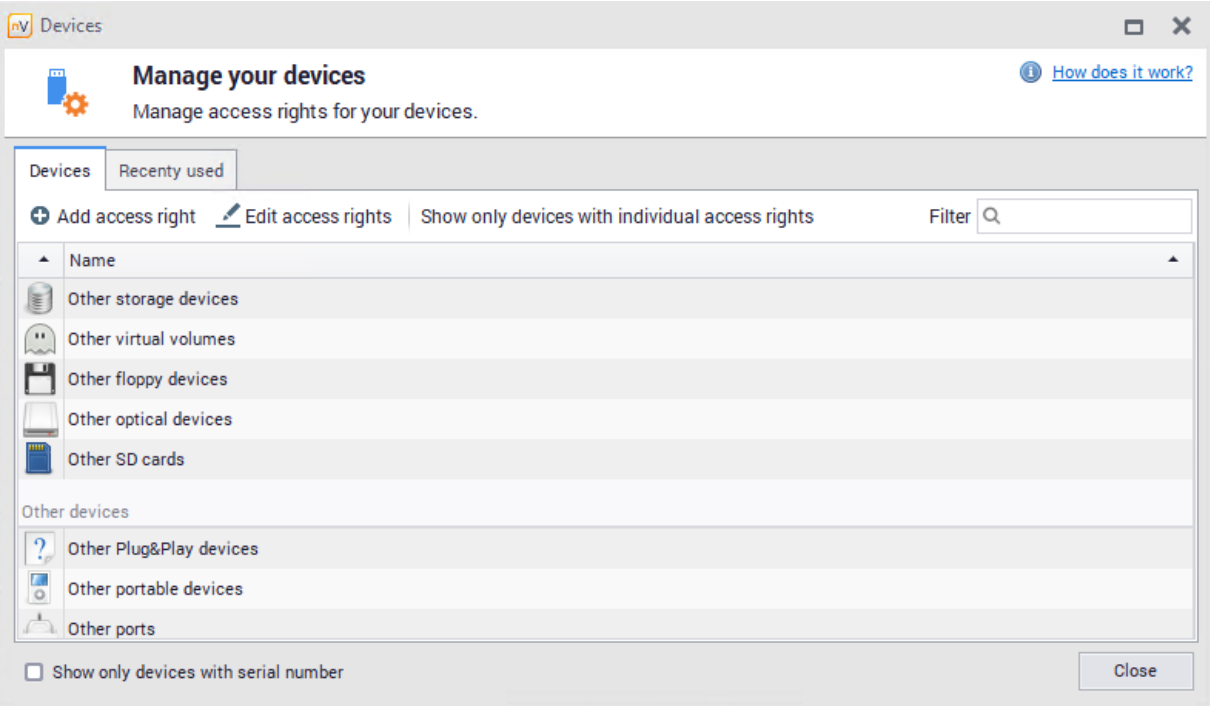
File system devices can have assigned access rights in each of the four categories described in the section Access rights 296. In turn, other devices can only have assigned rights related to the permission to use the device (the given device can be blocked or allowed). nVision automatically detects connected devices and media and assigns each of them to one of the above categories, depending on the device type.

9.3.2 Management

To manage the device access rights, click the **Manage devices** button in the main toolbar.

The following image presents an example of the **Devices** window. The upper part of the list includes specific devices discovered by nVision, the last specified group are **Other devices**. It includes all the remaining devices, i.e. still undefined ones, sorted into categories.

In order to show devices with individual DataGuard rights configured, press **Show only devices with individual access rights** button. Double-clicking on device name opens its properties window where the groups or hosts with individual permissions are specified.

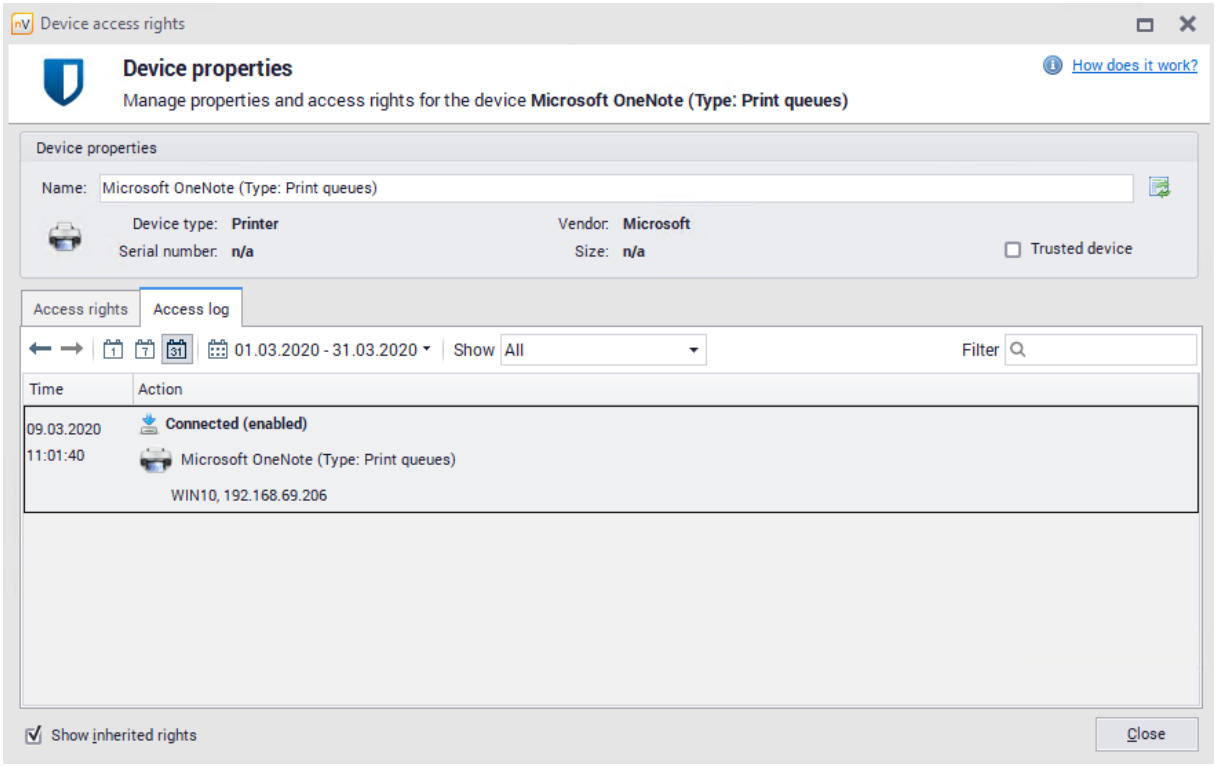


The connecting and disconnecting of a device is always monitored. Detected devices appear in the appropriate categories in the list.

To learn more about flash drive blocking, see section How to set the access rights to USB media? 324.

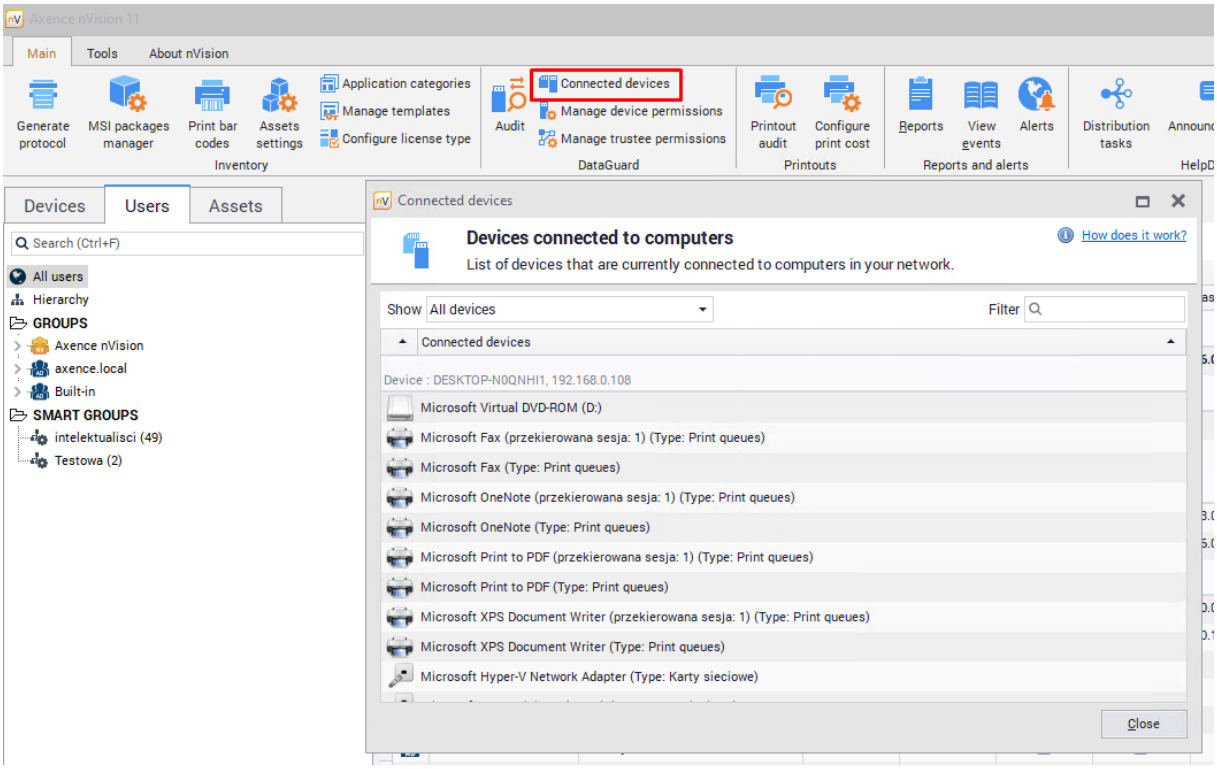
Recently used devices

The **Recently used** tab in the **Devices** window shows the list of recently used devices. All changes related to the connecting and disconnecting of the device are monitored. To review the history of monitored devices, select period (day, week or month) and if necessary, use arrows to view previous or next periods. If the amount of data is significant, use the option to search for required information.



9.3.3 Connected devices

To review the currently connected devices, select the **Connected devices** option in the main toolbar.



It is also possible to view devices connected to a given computer from the level of the **Host info** window specific for a given computer (**Inventory / Hardware / Connected devices** tab).

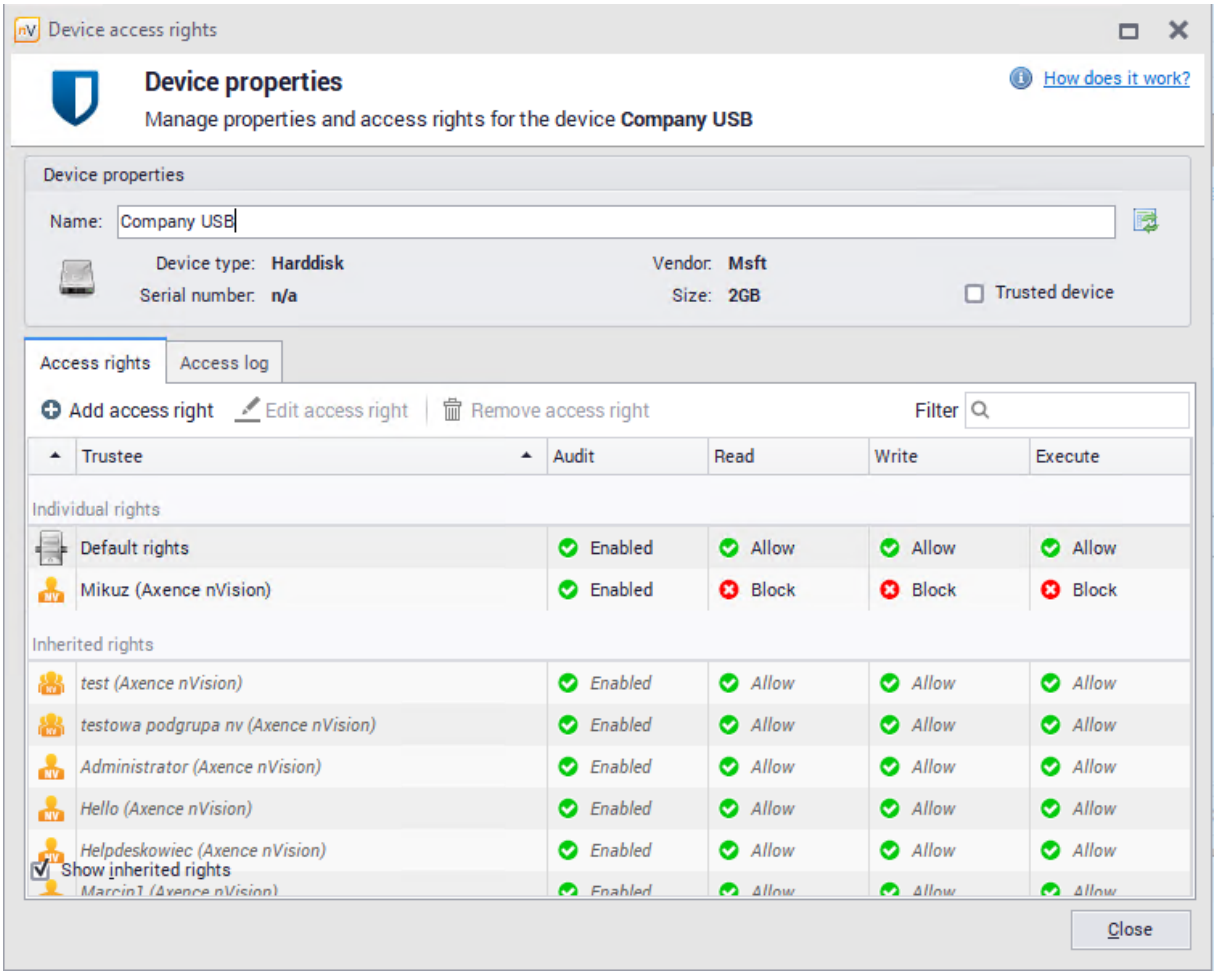
The most general view with the option to switch between workstations, maps and different functionalities of the DataGuard module is offered by the **Manage trustees** window. To learn more, see section Managing trustees 306.

9.3.4 Changing a device name

Devices connected to monitored machines initially bear names assigned by nVision. It is possible to change such a name and to restore the default name.

To change the device name:

1. Navigate to **Device properties** tab by double-clicking the line with the selected device.
2. Enter the custom device name in the **Name** field.



To restore the default device name, click the button on the right side of the **Name** field.

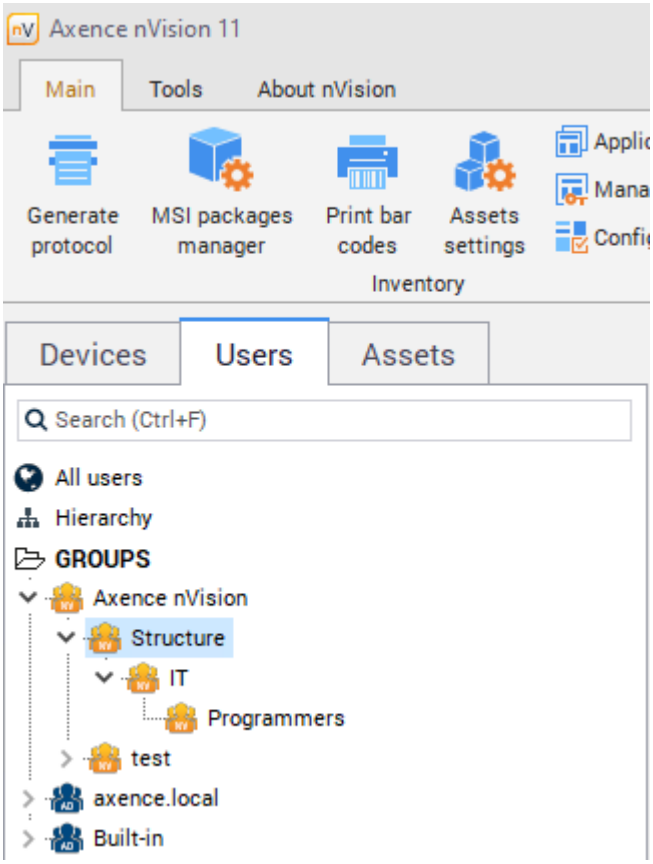
9.4 Trustees

9.4.1 Trustees – introduction

Trustees (trusted units) are workstations and computer groups for which the access rights are defined. Depending on the trust level, units can have various rights assigned. To learn more on the access rights, see section Access rights 296.

User groups

Defining separate access rights for each user would be a time consuming operation. Therefore, grouping the individual workstations into maps created by the system administrator is recommended. If the created map structure reflects the real interdependencies between the users, it is possible to set the access rights in a quick manner. An example of map structure is presented below.



To learn more on the calculation of effective access rights for the above structure, see section Example of structure 297.

There are two methods to manage the access rights:

- Management from the level of the properties of a given user, group or atlas – Managing via user hierarchy 306
- Management with the Managing trustees 306 function

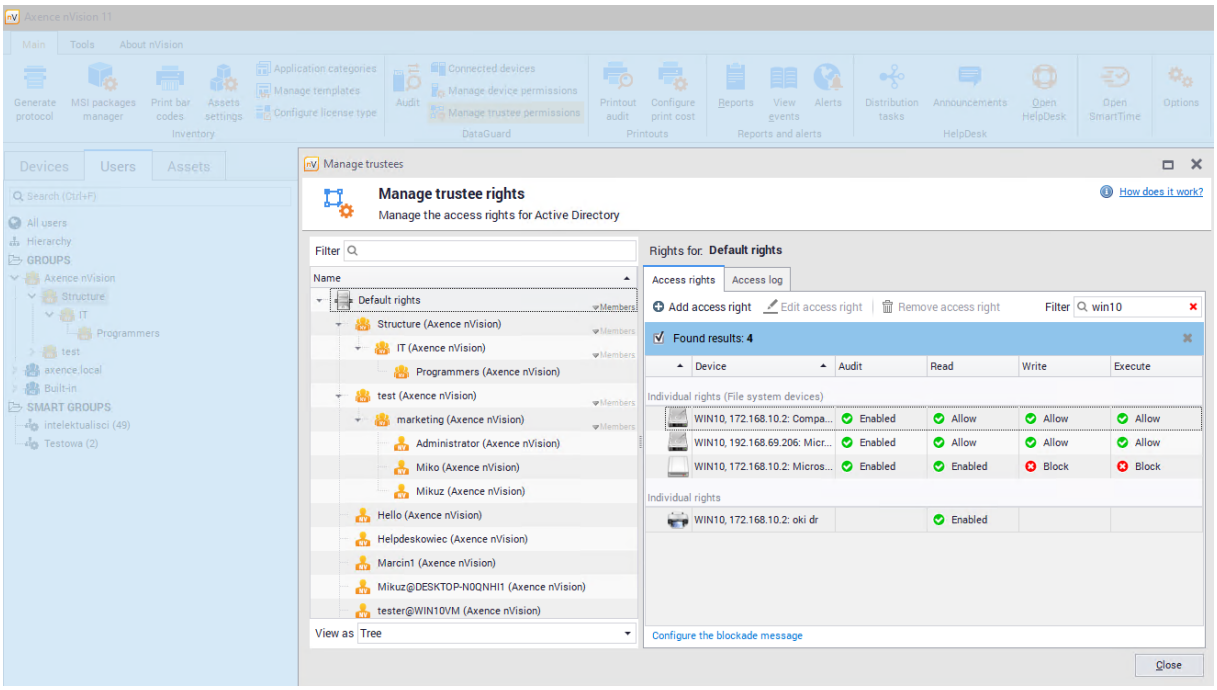
9.4.2 Managing via user hierarchy

To manage the access rights for a user, group or atlas (referred to as “units”):

1. Select a unit and right-click to open its **Info** window.
2. Navigate to the DataGuard tab.
3. To change the previously defined rule, double-click the row with the chosen rule and go to step 5. To define a new rule, click the **Add access right** button.
4. Use the list to select a device for which you will assign the rights.
5. Set the access rights and press **Enter**.

To the edit access rights to the selected device, use the **Edit access rights** button. If you want to delete the previously granted rights, use the **Remove access rights** button.

The screenshot below illustrates the case of setting individual rights to a virtual disk drive in the **Atlas info** window (the default right, most important in the hierarchy).



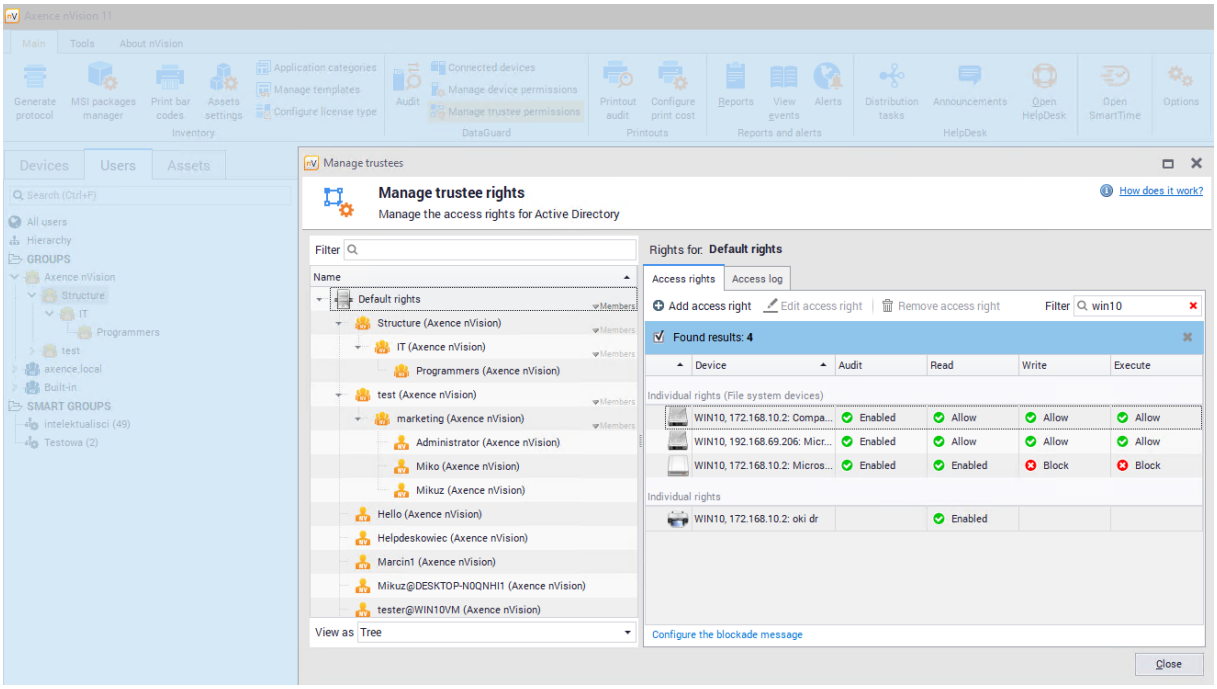
9.4.3 Managing trustees

To manage the access rights to all units:

1. In nVision’s main toolbar, select the **Manage trustees** option from the DataGuard section.
2. Select a unit in the list on the left side. If necessary, use the search function to find the appropriate unit quickly.
3. To change the previously defined rule, double-click the row with the chosen rule in the right part of the window or select the row and click the **Edit access rights** button. To define a new rule, click the **Add access right** button.

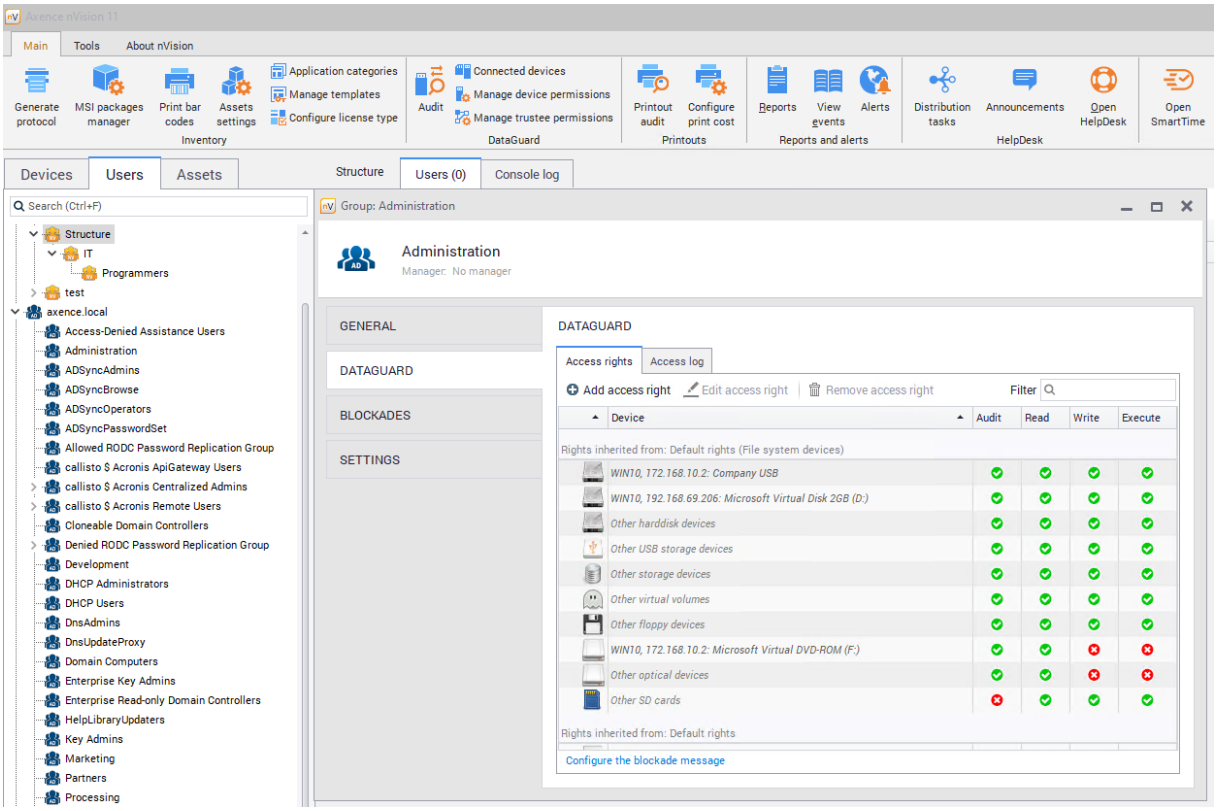
4. Use the list to select a device for which you will assign the rights.
5. Set the access rights and press **Enter**.

The rights assigned individually can also be edited directly in the management window. For this purpose, click the selected right to change it. Clicking the inherited access rights will open the **Define access rights** window.



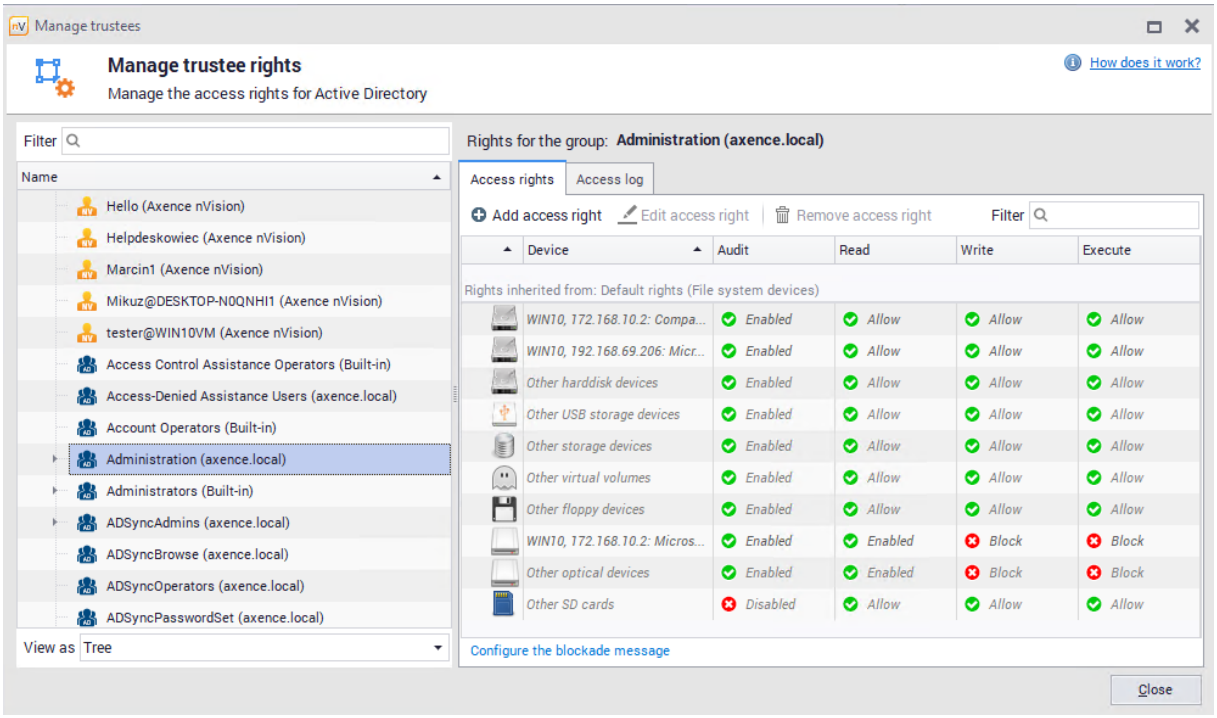
9.4.4 Active Directory users

Data Guard module is integrated with Active Directory. Therefore, access rights can be assigned to AD users directly.



To view and define access rights for AD users:

1. Select the **Manage trustees** option in the main toolbar in the DataGuard section.
2. Select a group or a user on the left side of the window. If necessary, use the search function to find the appropriate unit quickly.
3. To change the previously defined rule, double-click the row with the chosen rule in the right part of the window or click the **Add access right** button. To define a new rule, click the **Add access right** button.
4. Select a device for which you will assign the rights.
5. Set the access rights and press Enter.

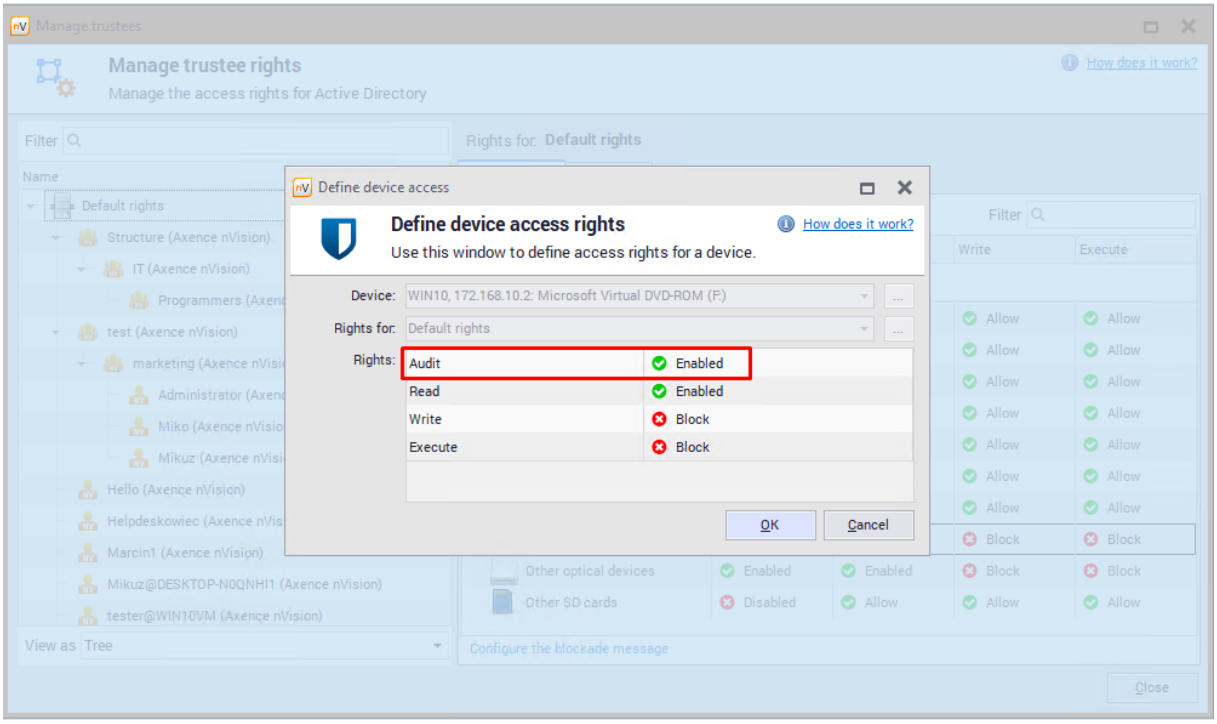


Remarks

- Active Directory trustees access rights have priority over workstation rights.
- Active Directory trustees access rights may be defined for file system devices and for devices with a serial number.
- If a circular dependency between imported AD units is detected, nVision breaks every dependency in that circle. Such a situation is reported by a message in the **Manage trustees** window.

9.4.5 Access log

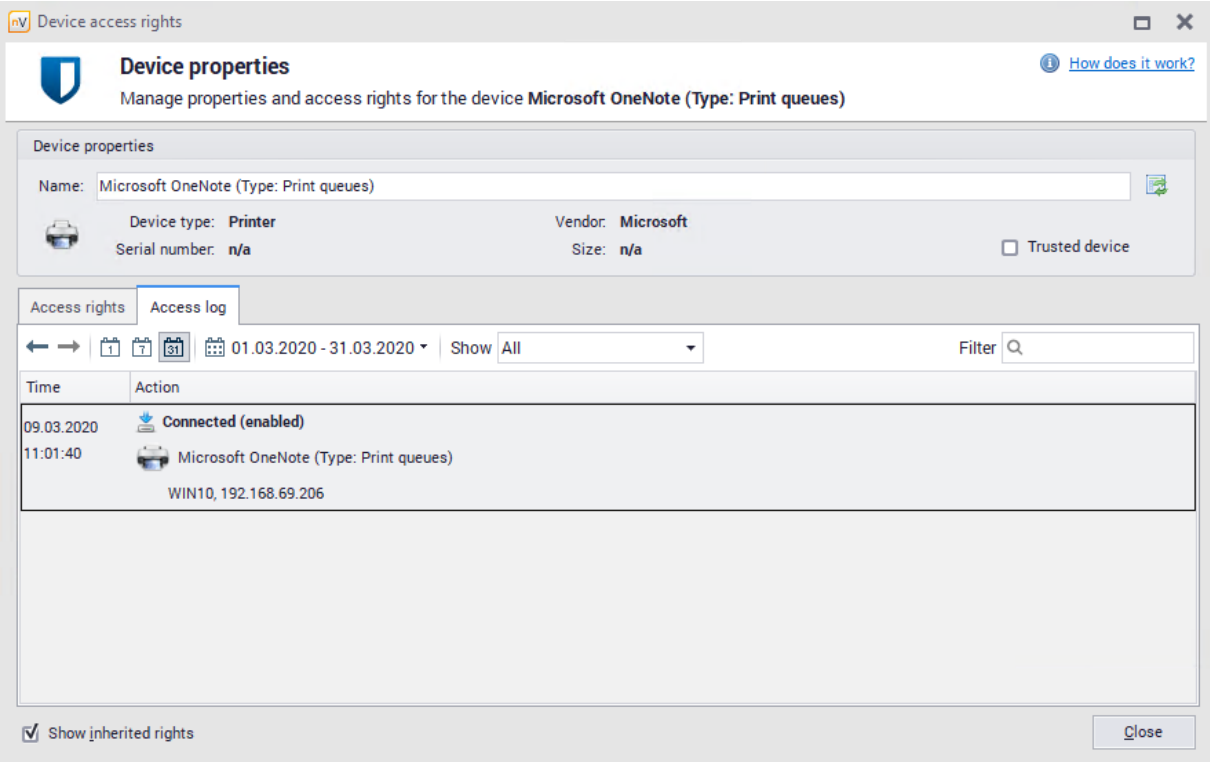
The access log stores information on the access to data and connected devices. To monitor access, enable audit for the device and unit (workstation, map, atlas) to be monitored. Rights can be defined individually or inherited (as shown below).



The connecting and disconnecting of a device is always monitored. **With audit toggled on, file creation, renaming, writing and deleting are also monitored.**

To view the access log:

1. Select the **Manage trustees** option in the main toolbar in the DataGuard section.
2. Navigate to the **Access log** tab.
3. Select a unit in the list on the left side. If necessary, use the search function to find the appropriate unit quickly.
4. Choose a period of information to be viewed.



9.4.6 Access log for users

To view the access log for users from the level of **Manage trustees** window:

1. Select the **Manage trustees** option in the main toolbar in the DataGuard section.
2. Select a group or a user on the left side of the window. If necessary, use the search function to find the appropriate unit quickly.
3. Navigate to the **Access log** tab.

All data relating to connections and disconnections of devices and data relating to file operations will be show in this tab (audit on these devices must be toggled on).

It is possible to limit the view to a specific day, week or month. Use the navigation arrows to read data concerning the period you are interested in.

To check other methods to view connected devices, see section Connected devices 303.

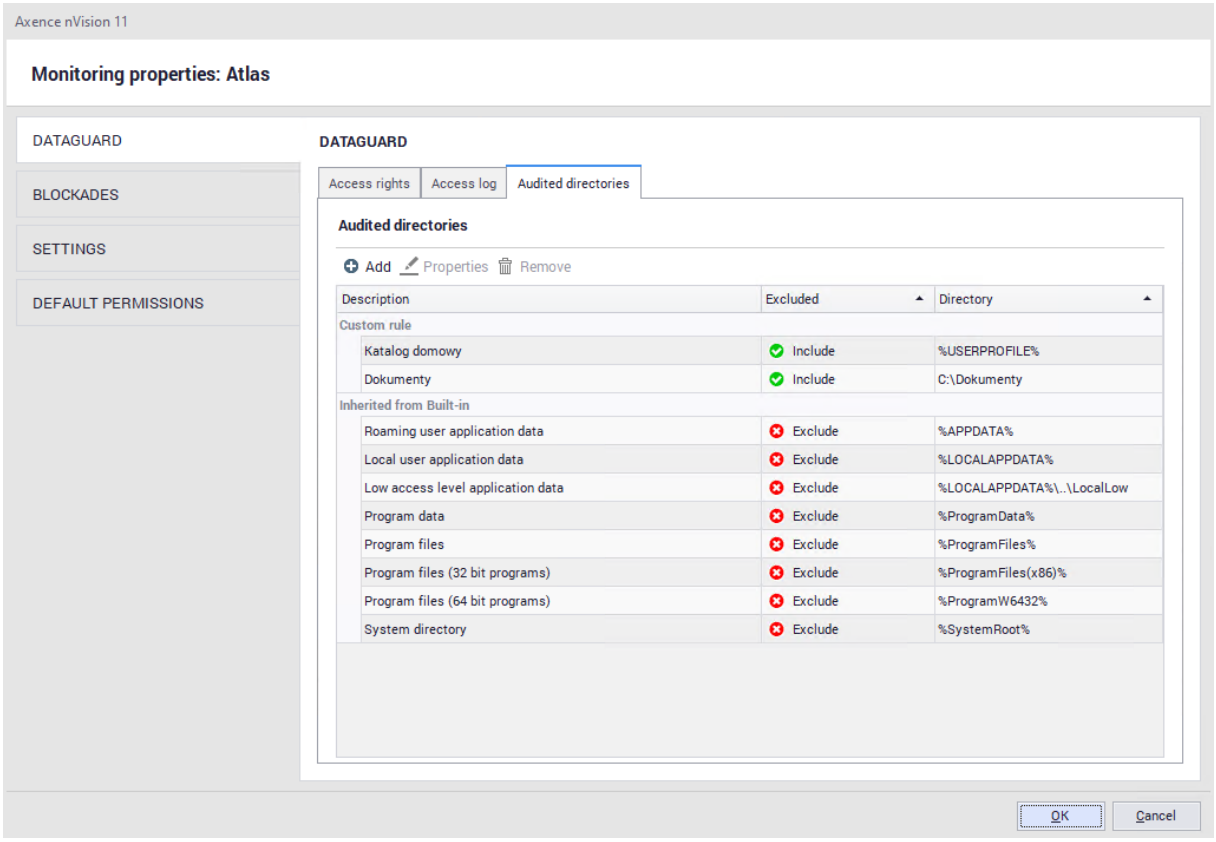
9.5 Local directories monitoring

9.5.1 Audit local directories - introduction

The DataGuard module in nVision 11.9 has been expanded with the auditing operations function performed on files in local directories.

Until now, the DataGuard module allowed auditing only at the level of the entire device, without the possibility of auditing the entire system disk. The purpose of extending the module was to enable the definition of additional auditing rules at the level of local directories (regardless of the disk and device on which the directory is located). Due to changes applied in nVision 11.9, it is possible to monitor operations also on system disks.

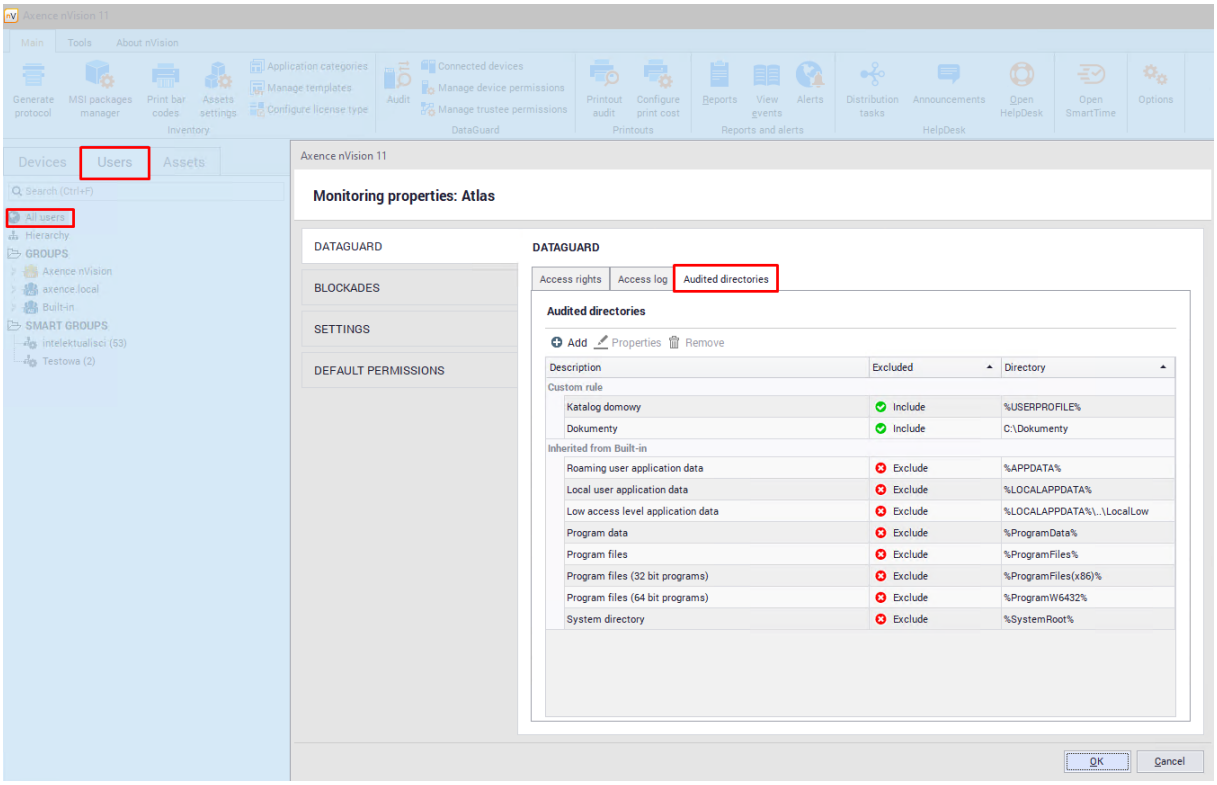
Defining the directories to be audited is done by the user (suchlike defining access rights to monitored devices), user group and Atlas level:



9.5.2 Configuration

Local directory monitoring settings can be defined for Atlas (all users), user groups and for individual users. They can be accessed from several locations:

1. Window: Users **/ Atlas / DataGuard / Audited directories**:



2. Window: Group information **/ DataGuard / Audited directories**

3. Window User information **/ DataGuard / Audited directories**

Atlas is a general setting that is inherited by groups and users by default. This setting can be changed for individual units by going to the settings windows mentioned above.

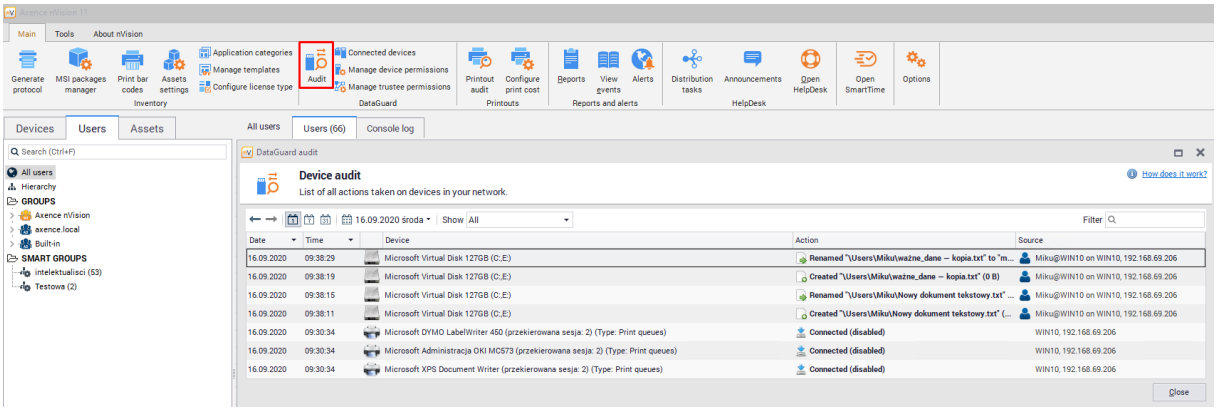
To add a directory in which file operations are to be monitored, click the **Add** button. A new window will open to create an entry. The rule name and directory path should be specified there. The directory path can be given:

- In absolute form, starting with a drive letter (for example "C: \") and ending with the full name of the directory of audited directory

- In a form containing an environment variable that begins and ends with the character "%". A variable can appear anywhere in the path and replace any part of it. For example, if "% USER-PROFILE%" is "C: \ Users", you can add "% USERPROFILE% \ Data \" as the monitored directory.

Each added audited directory automatically causes that **its entire content is audited** (including sub-directories and files).

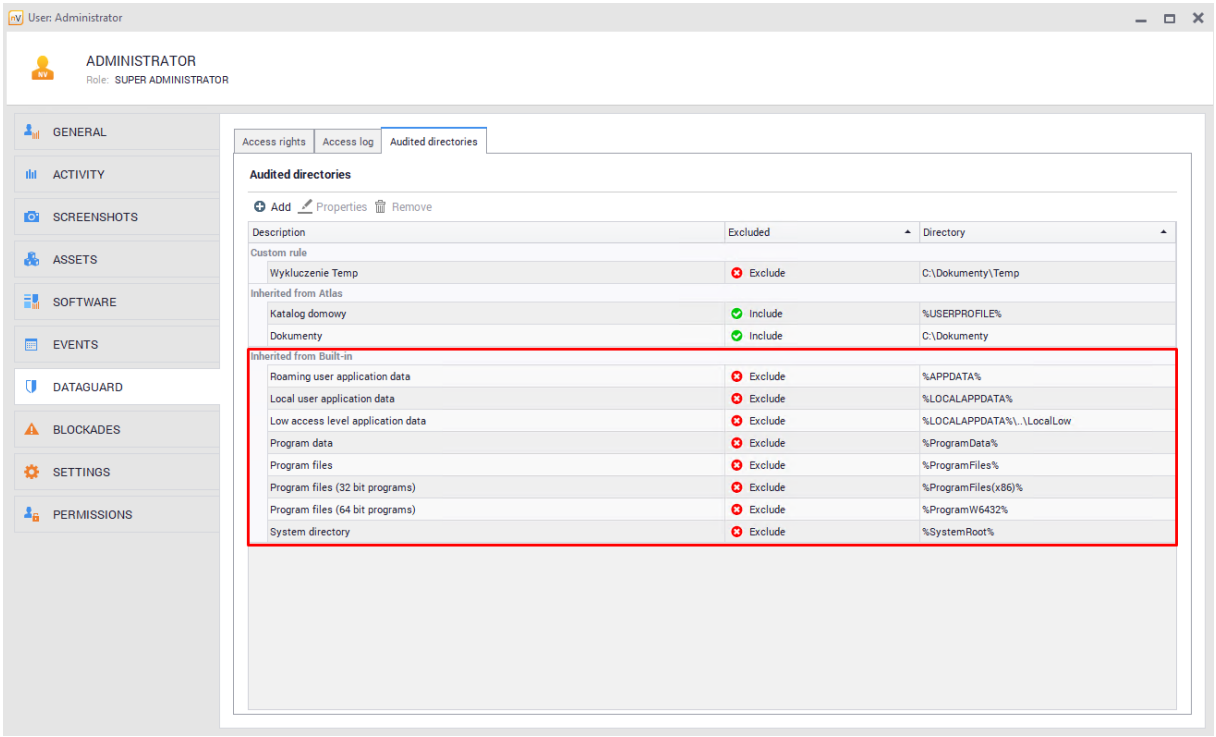
Once the rules are added, it will be possible to monitor file operations in a specific directory:



Default directories excluded from scanning

The DataGuard module has a list of built-in directories that are always excluded from system-wide scanning. The list of globally excluded directories is built into the program and cannot be edited.

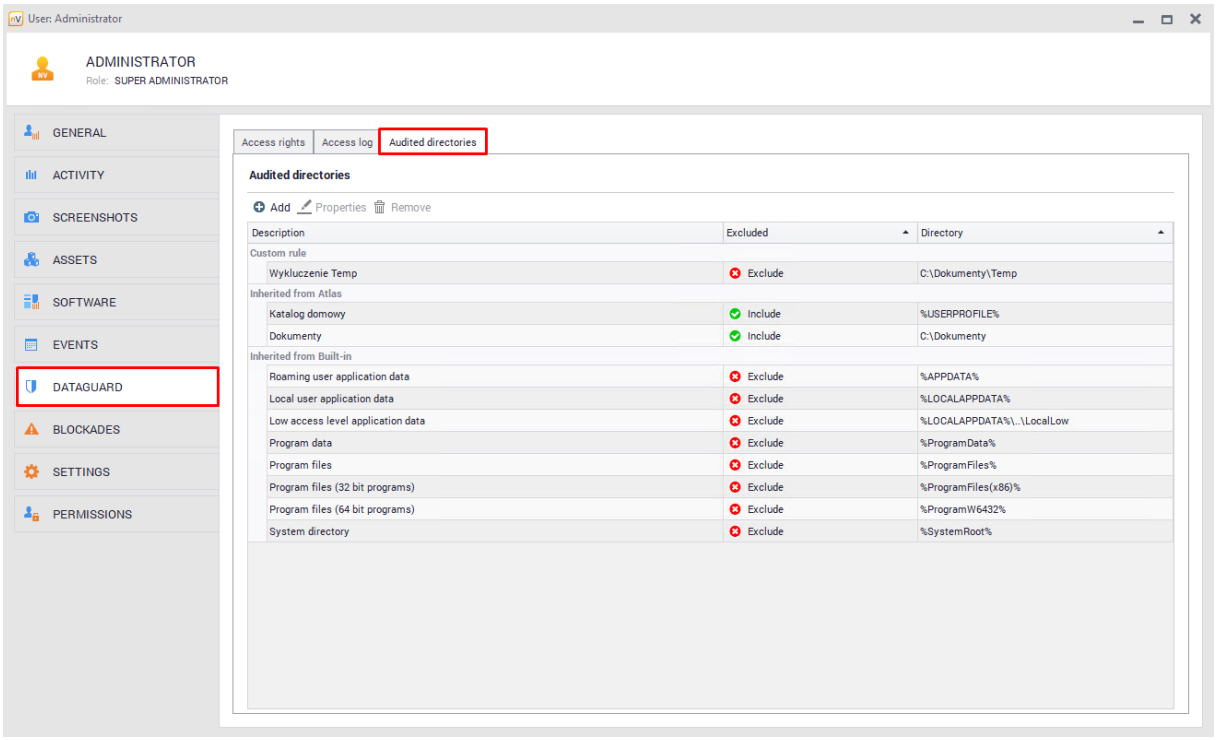
The list of excluded directories is visible in the DataGuard settings:



9.5.3 Audit exclusions

Excluded directories from auditing (exceptions) can be added for each user. This means that for a specific user, operations in the selected directory will not be monitored.

These settings can be assigned for a specific user only from the level of the DataGuard module settings window:



For example: when monitoring operations in the "C: \ Documents \" directory, a directory "C: \ Documents \ Temp \" can be added as a directory excluded from auditing for the selected user. "Documents" directory will be audited excluding the sub-directory "Temp".

To add a new exclusion, select the **Add** button and enter the description and path of the directory to be excluded from the audit.

9.6 Alerts

9.6.1 Alerts for DataGuard

Alerts for the DataGuard module allow a warning to be sent in the case of actions related to mobile devices and their connection status. In particular, the administrator can be informed about each attempt of theft of confidential information.

Event types

1. Mobile device connected or disconnected
    - Device is connected
    - Device is disconnected
2. File operation on the mobile device
    - File was created
    - File was deleted
    - File was renamed
    - Data written to existing file

As an additional condition, a file name wildcard can be specified.

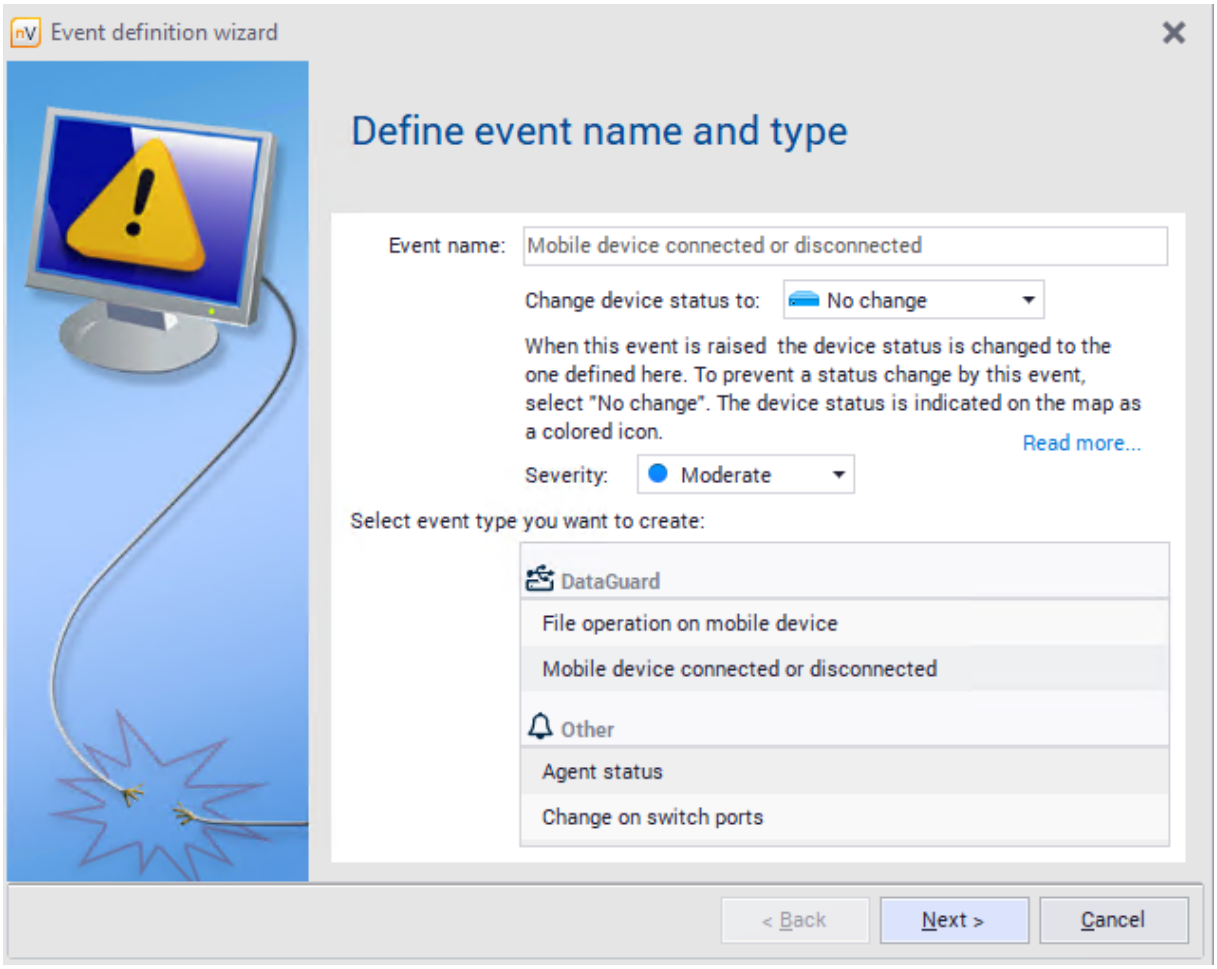
In the case of both selected event types, alerts can be generated for all devices or for specified devices selected from the list.

9.6.2 Creating an alert

To learn more about the alert creation process, see section Alerting 522.

Discovering the connection of a mobile device

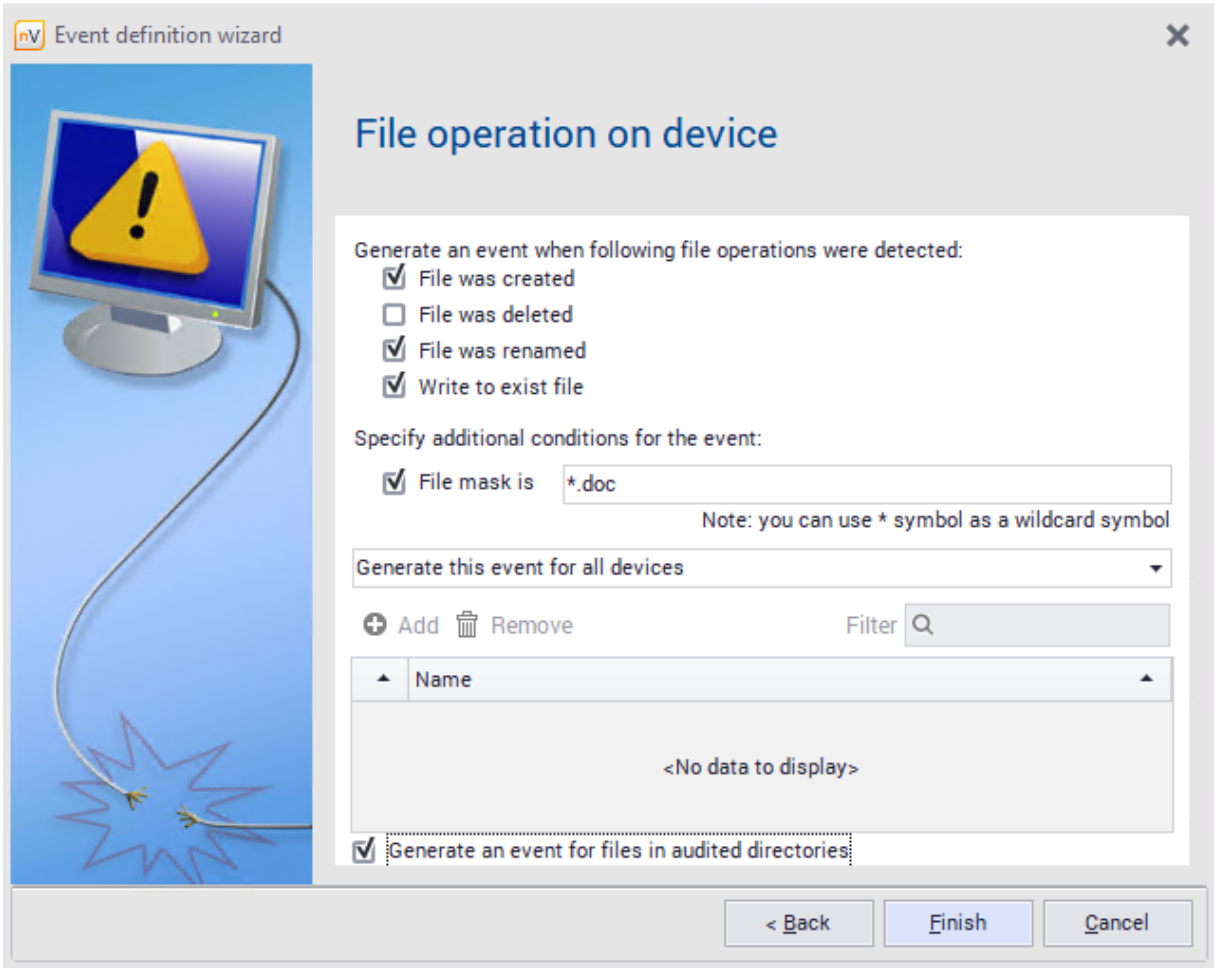
1. Open the alert management window in the main toolbar.
2. Click the **Add alert** button to create a new alert.
3. Click the **New** button in the alert definition window. Enter the event name and select the event type from the list: **Mobile device connected or disconnected**.



4. Click **Next**. Mark the **Device is connected** field and select the **Specified device**, e.g. **Other USB data media** from the list.
5. Then use the alert definition window to add actions to be performed when the event defined above occurs. Such a created alert will detect a situation when an unknown USB media is connected to the monitored computers.

File operation on device

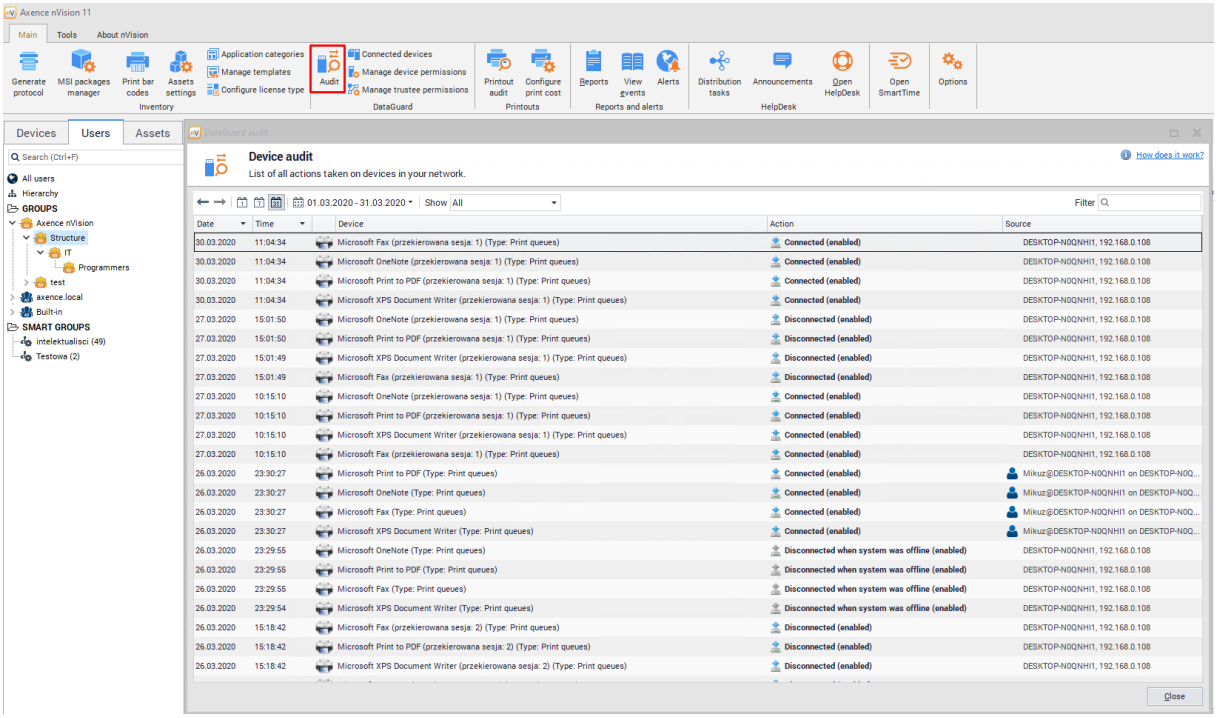
Similarly, at step 3. choose event type: **File operation on device** and select desired configuration. There is a possibility to toggle **generate an event for files in audited directories** - selecting this option will include local directories audit in this alert configuration.



9.7 Audit

To perform a device audit:

1. Select the **Audit** option in the main toolbar in the DataGuard section.
2. Choose a period of information to be viewed.



Reviewing device access history can be also performed from the level of the **Manage trustees** window. To learn more, see section Access log 309.

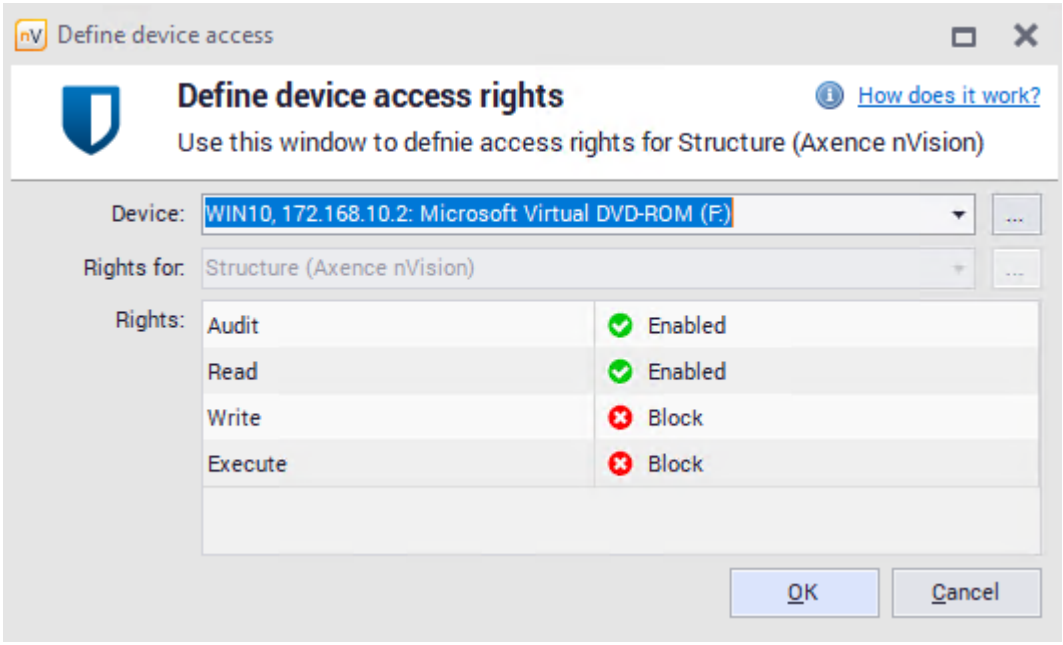
9.8 Quick help – typical rights configuration scenario

This section presents the scenario for setting access rights in a typical situation: operations on undefined USB devices are blocked (in particular, writing to files and executing files), while extended rights are assigned to a specific device, in this case - a corporate flash drive. A corporate flash drive is used by a certain group of users (in the following example - a department represented by *Support* map), which allows the transfer of corporate data between the workstations.

Blocking the rights to write and execute for undefined USB devices

To set the rights for a USB device:

1. Right click Atlas (**Users** tab) and navigate to the **Atlas info** window.
2. Navigate to the **DataGuard** tab and select the device group **Other USB storage devices** marked with the  icon. Press **Enter** or double-click the selected row.
3. Set the access rights as shown in the following image and press **Enter**.



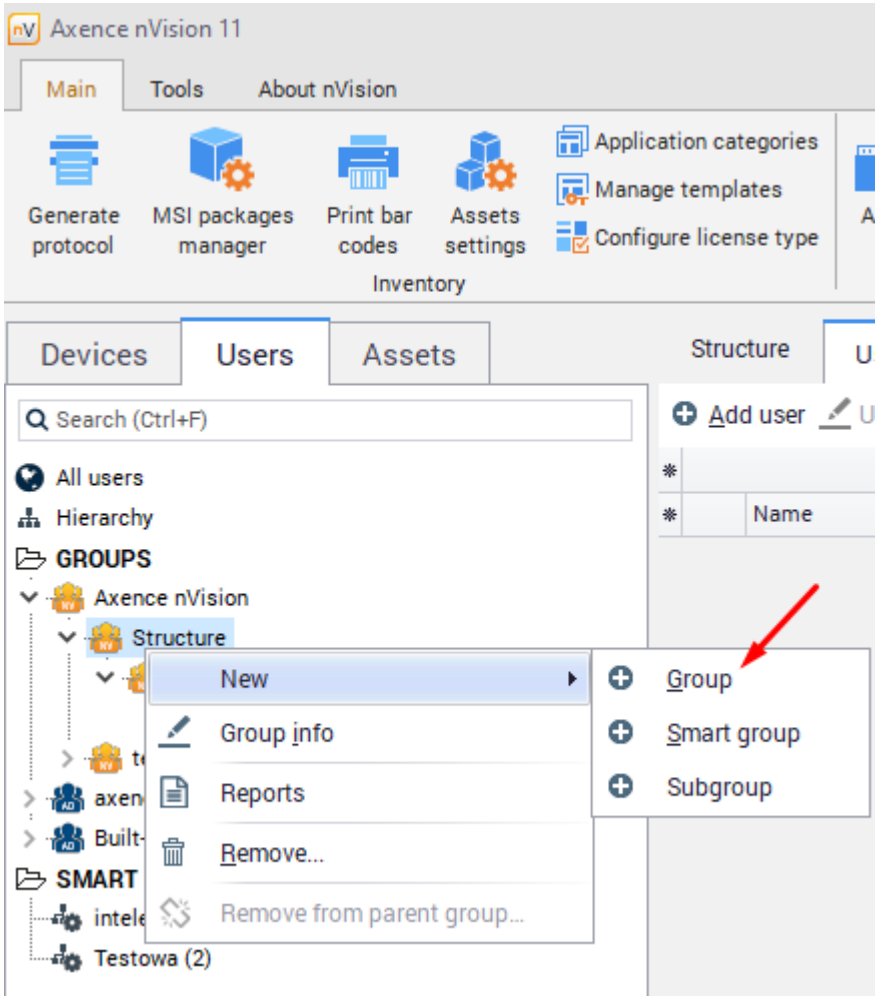
With such a configuration of rights, it is possible to read files from external media, but the ability to write data or run executables is blocked. If the audit is toggled on, users' actions related to external media are monitored, i.e. the information on read files and writing/execution attempts are collected. The connecting and disconnecting of an external device is always monitored, regardless of the audit option setting.

Creating a map of users utilizing the corporate flash drive

If the corporate flash drive is available for a certain department or user group, creating a group enabling the easy management of access rights for these users is recommended.

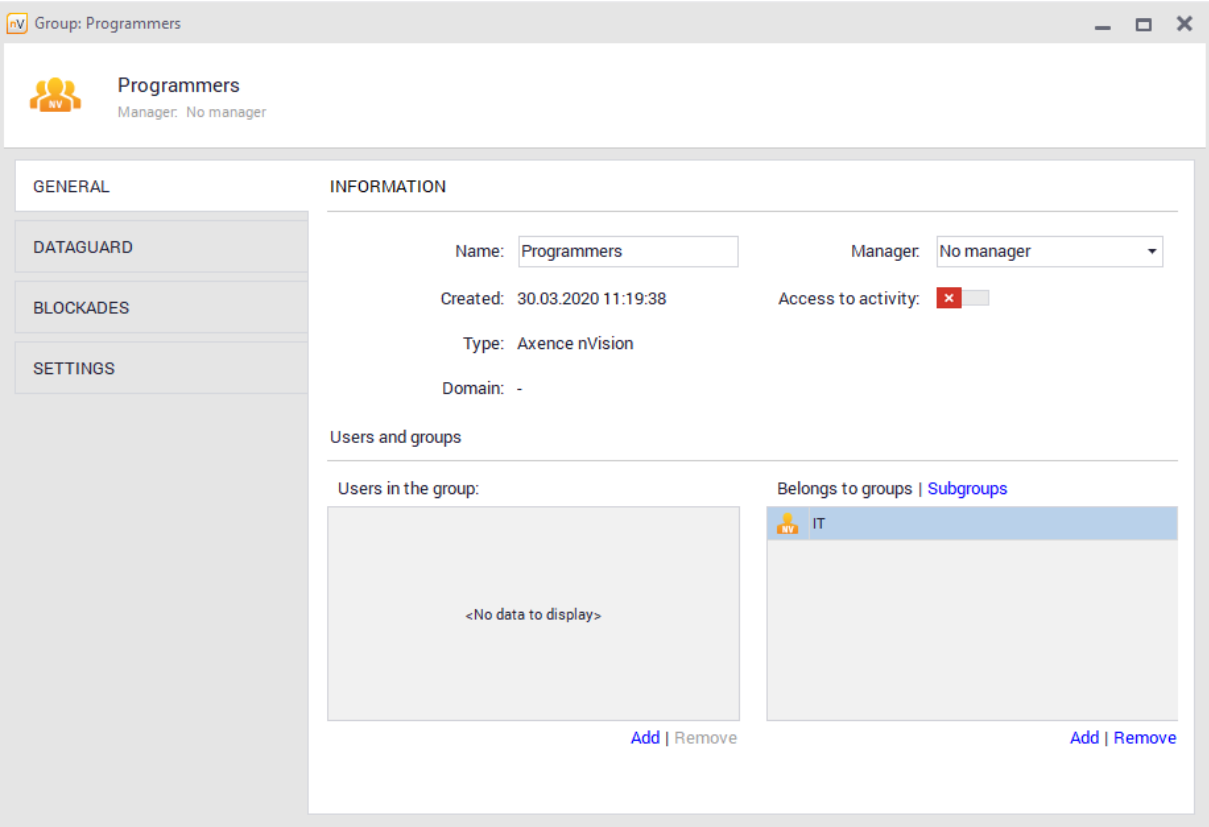
To create a group:

1. Right click the selected group or folder and select **New** / **Group** option.



2. Click the caption or use the **Properties** option to assign a name to the created map.

To add a group to another (parent) group, navigate to its properties.



The next step is to copy the appropriate users to the created group. For this purpose, just select the users and drag the to the appropriate group.

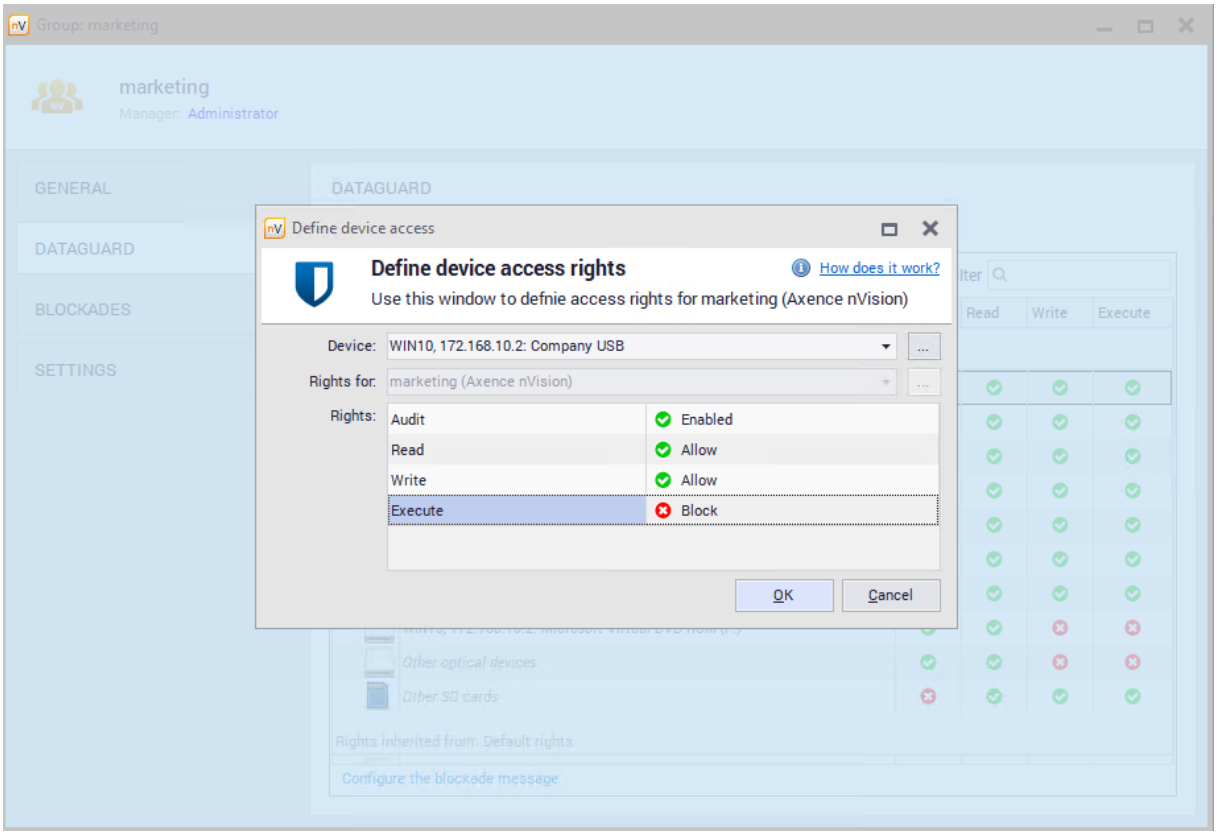
Setting rights for a corporate flash drive

A corporate flash drive allows data to be transferred within a certain group of users. Therefore, file reading and writing are allowed for the given device. Program execution is still blocked to prevent the distribution of viruses. The enabled audit allows all operations performed on the given USB drive to be monitored.

To set the access rights for a USB device:

1. In nVision's main toolbar, select the **Manage trustees** option from the DataGuard section.
2. Click the **Add access rights** button and select the corporate flash drive from the list.
3. Set the access rights as shown in the following image and press **Enter**.

Now users belonging to the Marketing group can read and write data from the Corporate Flash Disk" device.

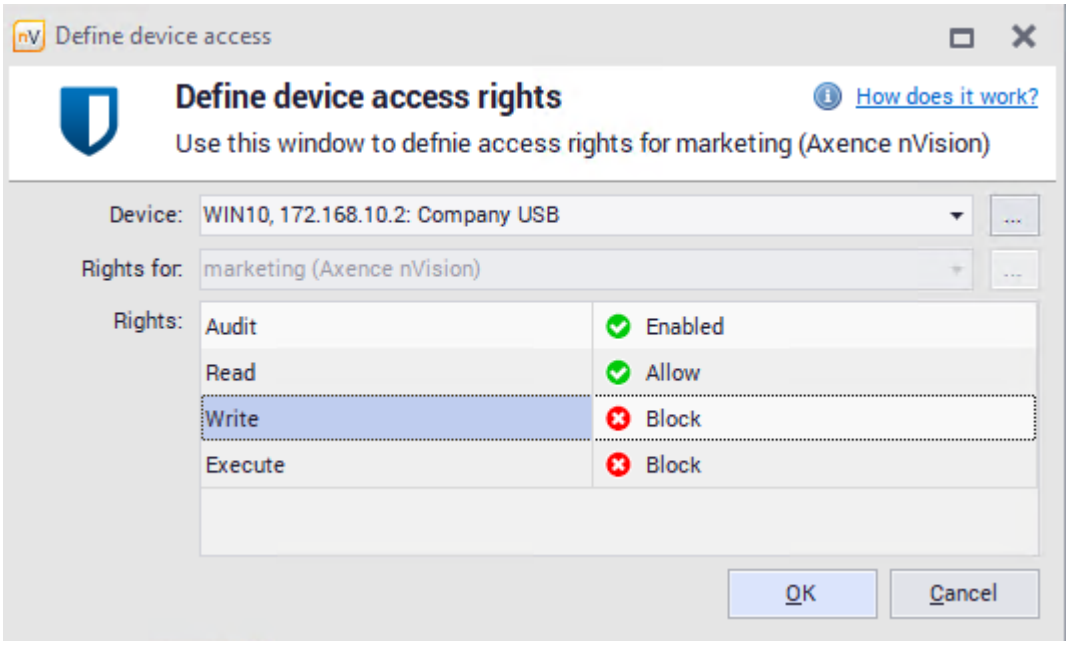


9.9 Quick help – setting default access rights to USB devices

A frequent cause of infecting computers with viruses is the distribution of malware via flash drives. These devices are started up automatically, which allows for the proliferation of viruses. The second factor posing a potential threat is the ability to copy sensitive data and carry it outside of the company on a USB flash drive. The DataGuard module ensures protection against those threats.

To block the ability to write and execute files on all USB devices (except for those for which the access rights were defined individually) for the entire atlas, i.e. for all users:

1. Right click Atlas (**Users** tab) and navigate to the **Atlas info** window.
2. Navigate to the **DataGuard** tab and select the device group **Other USB storage devices** marked with the  icon. Press **Enter** or double-click the selected row.
3. Set the access rights as shown in the following image and press **Enter**.



To set the default rights for specific groups and users or to check their settings:

1. In nVision's main toolbar, select the **Manage trustees** option from the DataGuard section.
2. Use the list to select the group or user for which the changes will apply.
3. Select the device group **Other USB storage devices** marked with the icon. Press **Enter** or double-click the selected row.

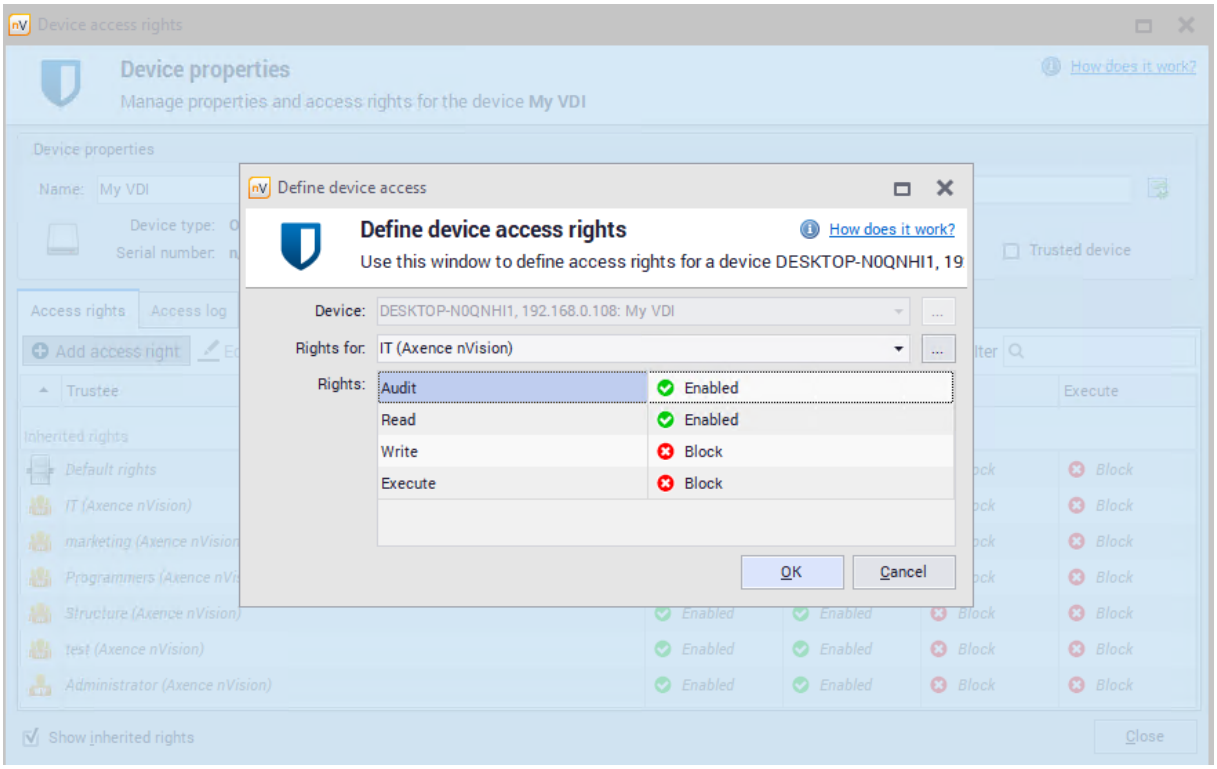
If a user connects a blocked device, a pop-up with a notification about blocking will be displayed from the Agent icon.

To learn more about flash drive blocking and setting access rights for specific devices detected by nVision, see section How to set the access rights to USB media? 324.

9.10 Setting default access rights to USB devices

To block the ability to write and run files from a specific USB flash drive detected by nVision:

1. Click the **Connected devices** button located in the DataGuard section in the main toolbar.
2. Select the detected flash drive to be blocked in the list.
3. Click the **Add access right** button.
4. Use the list to select the user, group or atlas for which the access rights will be set, and block it as presented in the image below. Press **Enter**.



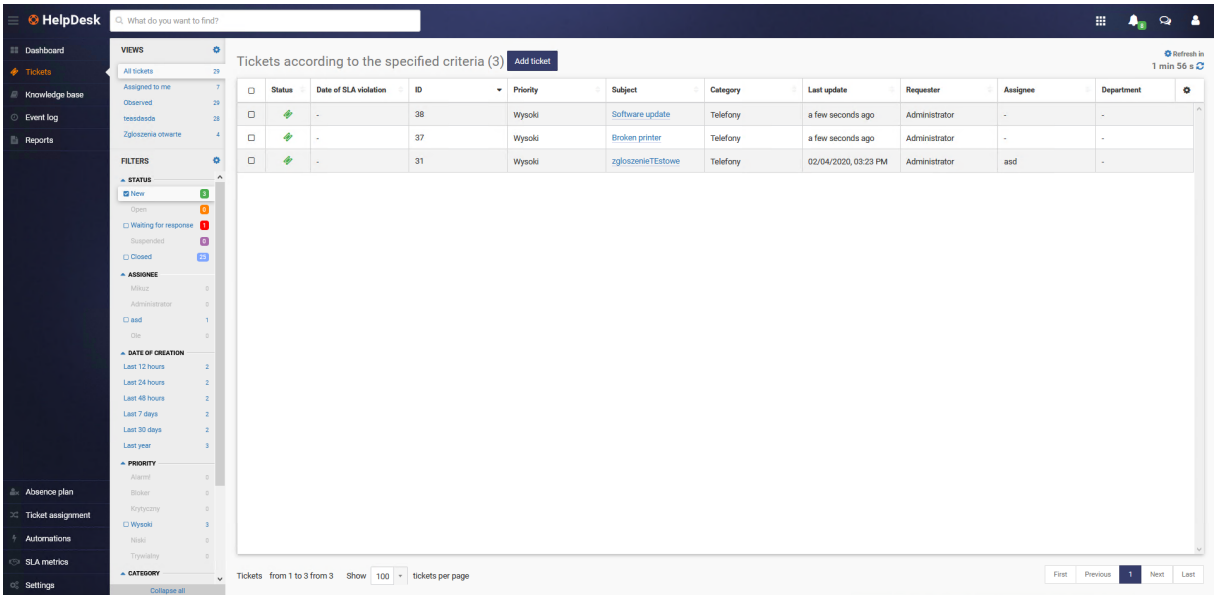
For more information on setting default access rights to USB flash drives, see section Quick Help – setting default access rights to USB devices 323.

Part

10 HelpDesk module

10.1 Introduction

HelpDesk module provides the users with an interactive trouble ticket database, which simplifies reporting and solving problems. Moreover, the database is expanded on an ongoing basis with subsequent technical issues and the related histories of how issues have been solved, thus becoming a valuable knowledge base both for users and technical support employees.



HelpDesk interface

- The trouble ticket database allows the users to report their technical issues with the use of the trouble ticket creation mechanism. Trouble tickets can be created both by users with an installed Agent and without (after logging in or by e-mail).
- The trouble tickets are solved by HelpDesk employees.
- In the part for Administrators and HelpDesk employees, the incoming trouble tickets are processed and assigned to the appropriate person who receives notifications about the delegated problem which requires solving.
- A User can monitor the solving of the reported issue and its current status, as well as exchange information with the administrator, by means of comments, which can be entered and read by both parties.
- The knowledge base is a space where Administrators and HelpDesk employees can publish articles describing the procedures which have been used in a given organization and the most common issues and their solutions.

An example of the view of the trouble ticket database from the Administrator level is presented above.

Related topics

HelpDesk module configuration

10.2 Management and configuration

10.2.1 Configuration

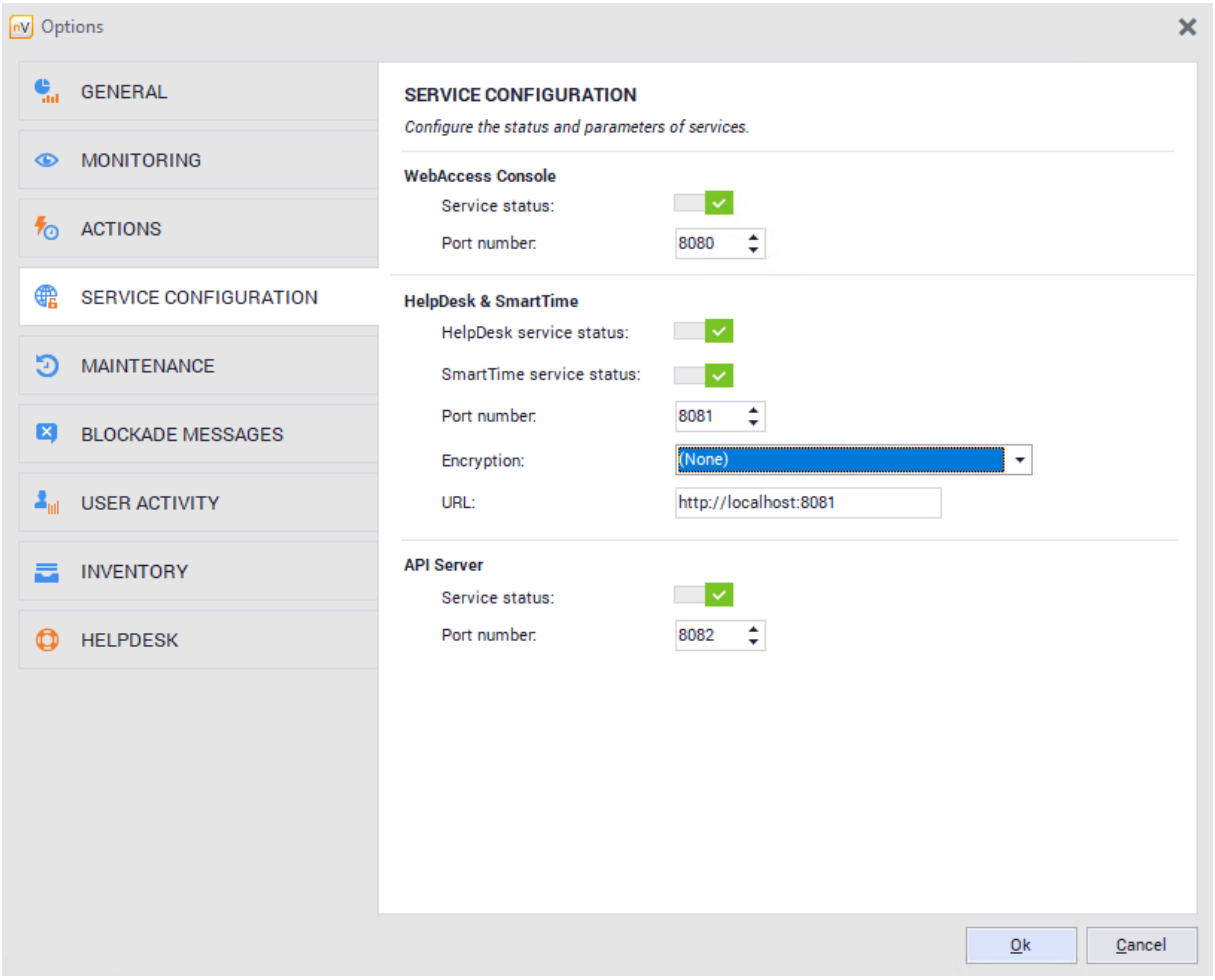
To start using the HelpDesk module, enable and configure the following settings in the main nVision window.

HelpDesk access configuration

To run the HelpDesk functionality, first enable access to this module in nVision:

1. Select **Options**, open the **Service configuration** tab.
2. Check the **HelpDesk** option, enter the port number under which the module will operate, and enter the URL with port number where the HelpDesk will be accessible for the Agents.

   URL is the IP address of the nVision Server where the HelpDesk runs. **Note**: replace “localhost” with the appropriate URL address of the nVision Server, e.g. 192.168.0.100:8081 in the local network.



10.2.2 HTTPS access

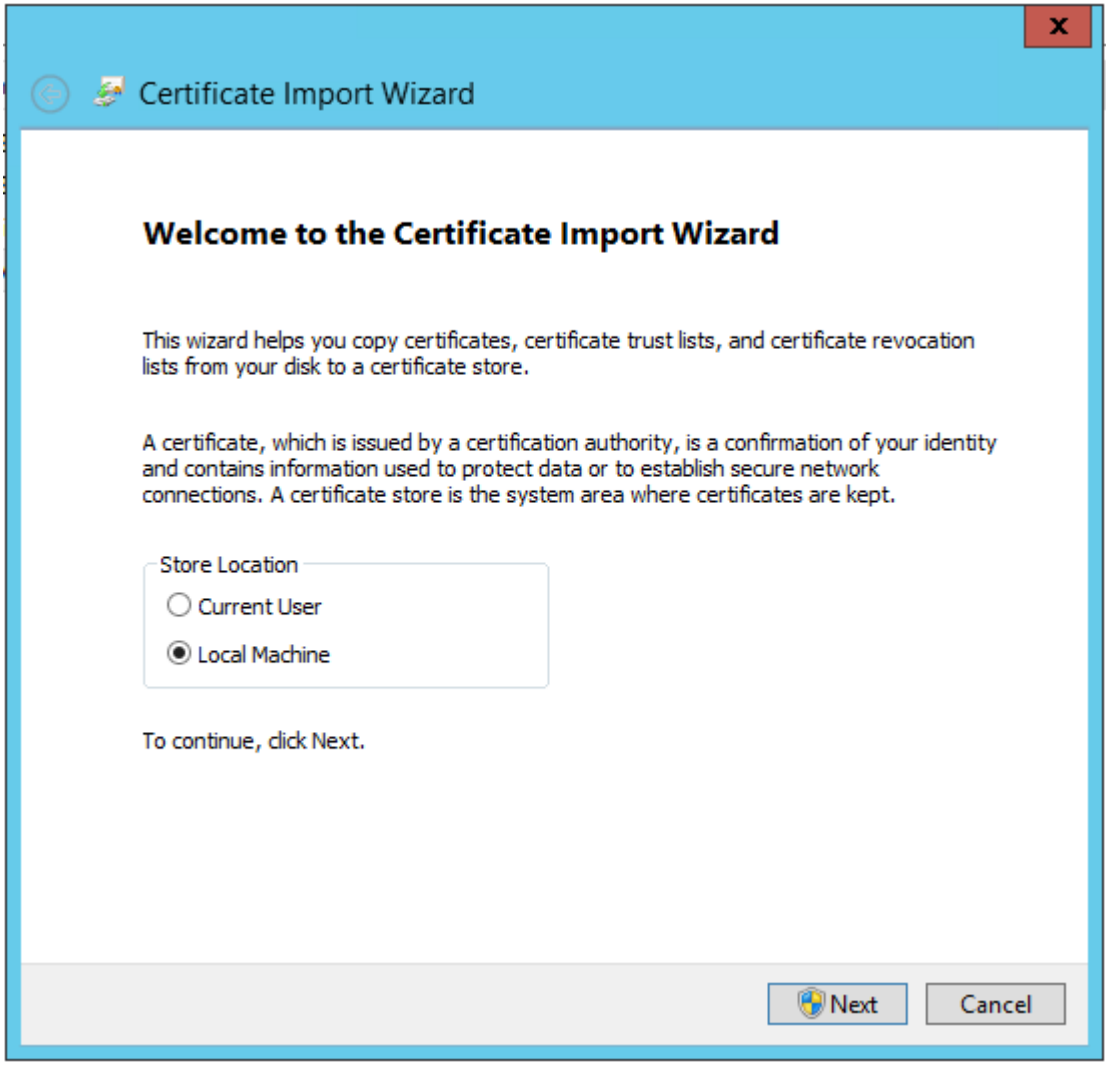
Requirements:

- An up-to-date certificate issued for the domain, where the HelpDesk is available, is a necessary prerequisite.
- The certificate must include a private key:

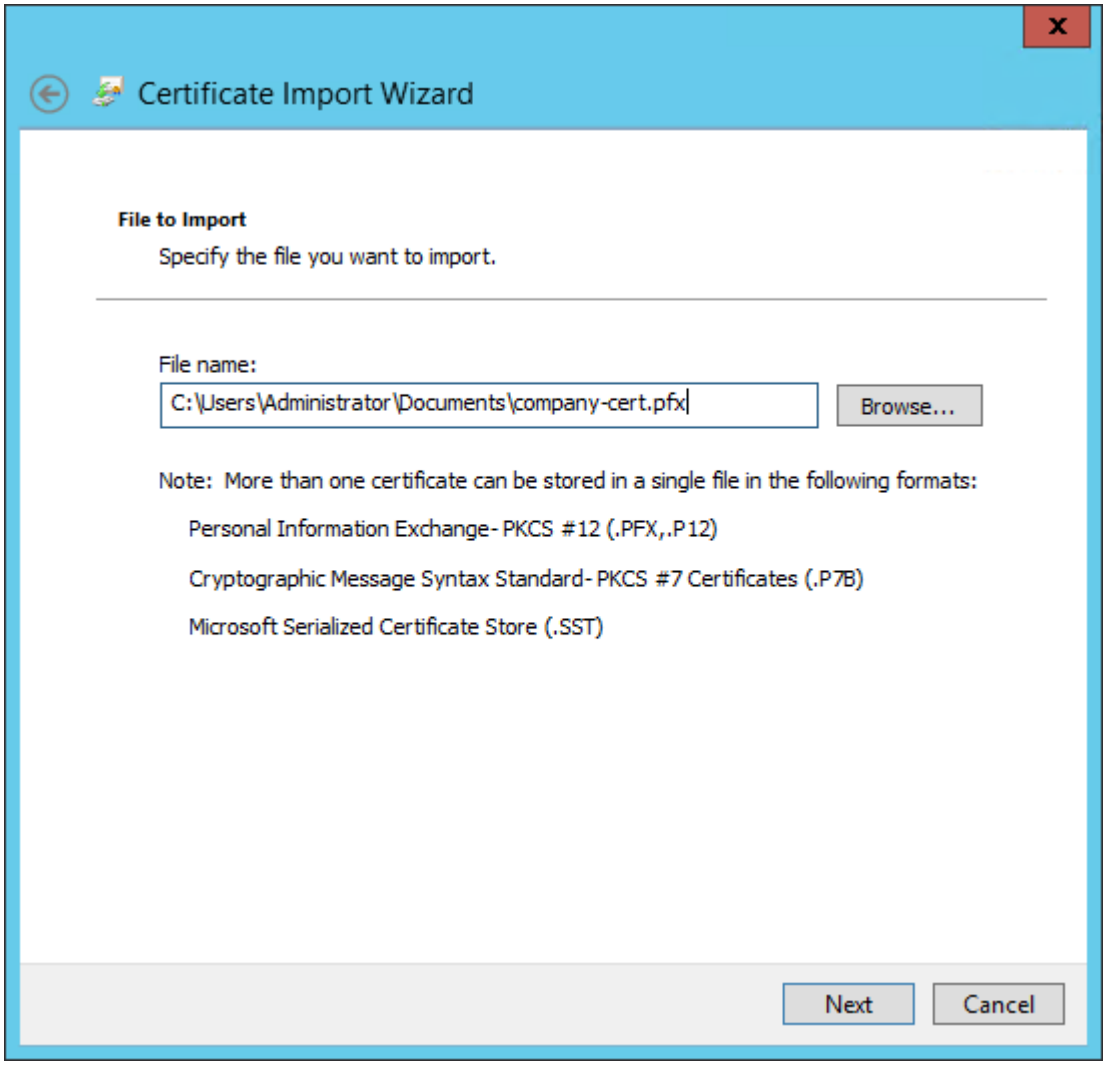
- The certificate must be installed in the personal certificate store of the server where Axence nVision® is installed (System Certificate Store / Local Machine / Personal). A certificate installed in the user store cannot be used to configure encrypted access to the HelpDesk.

How to install a certificate

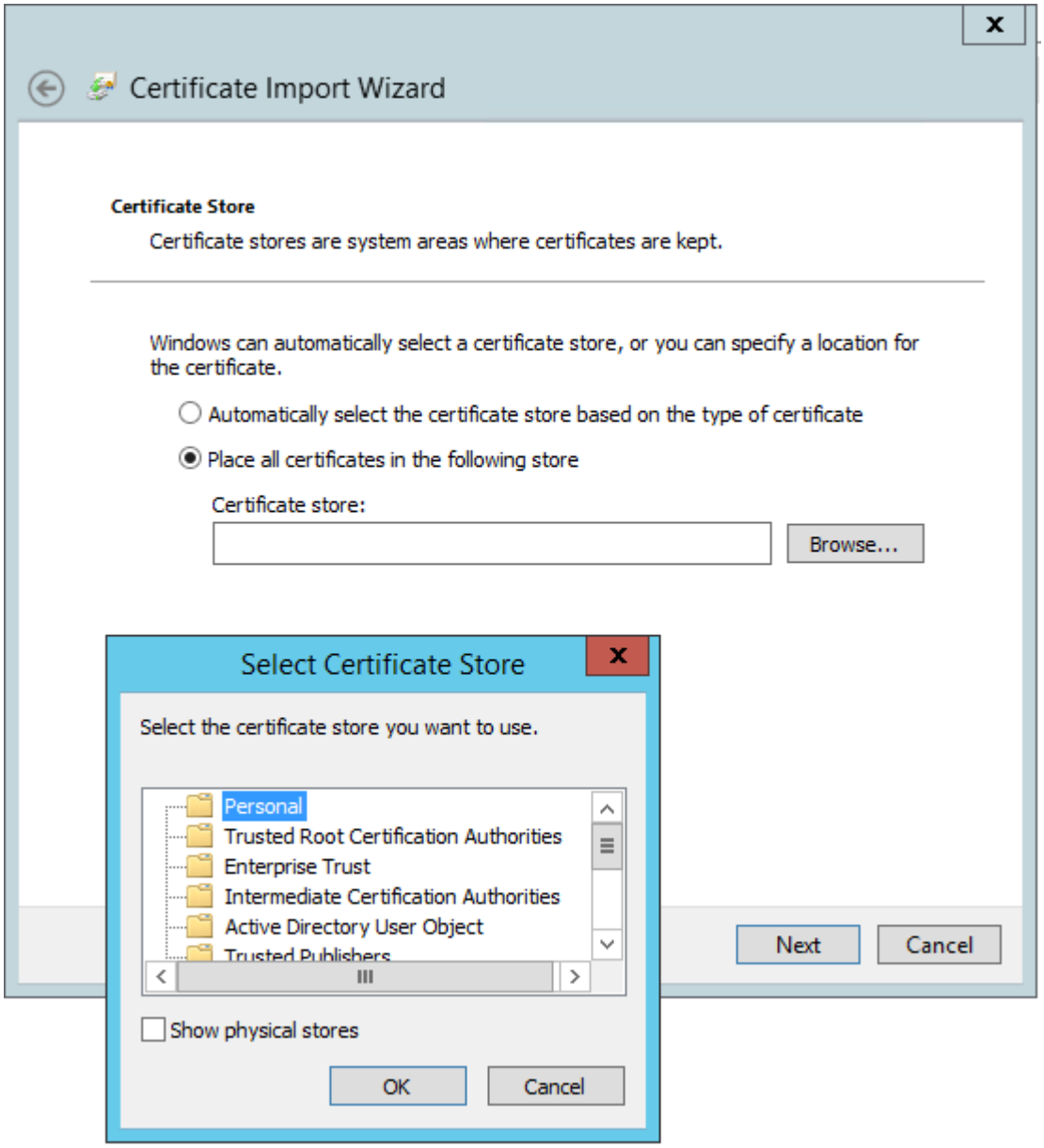
1. Double-click the certificate file. The window as shown below will open. Chose local machine and click the **Next** button:



2. Choose certificate-file path. Click the **Next** button,

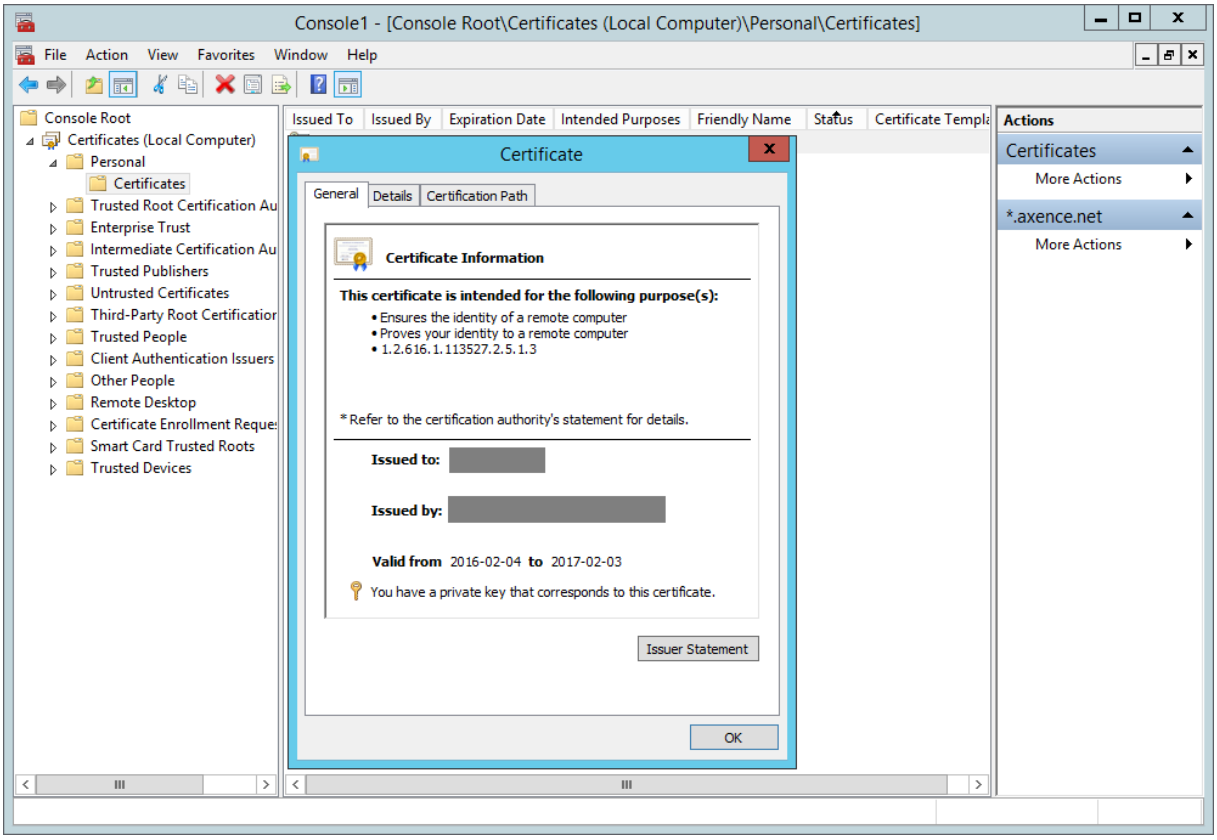


3. Choose Personal from certificate stores list:

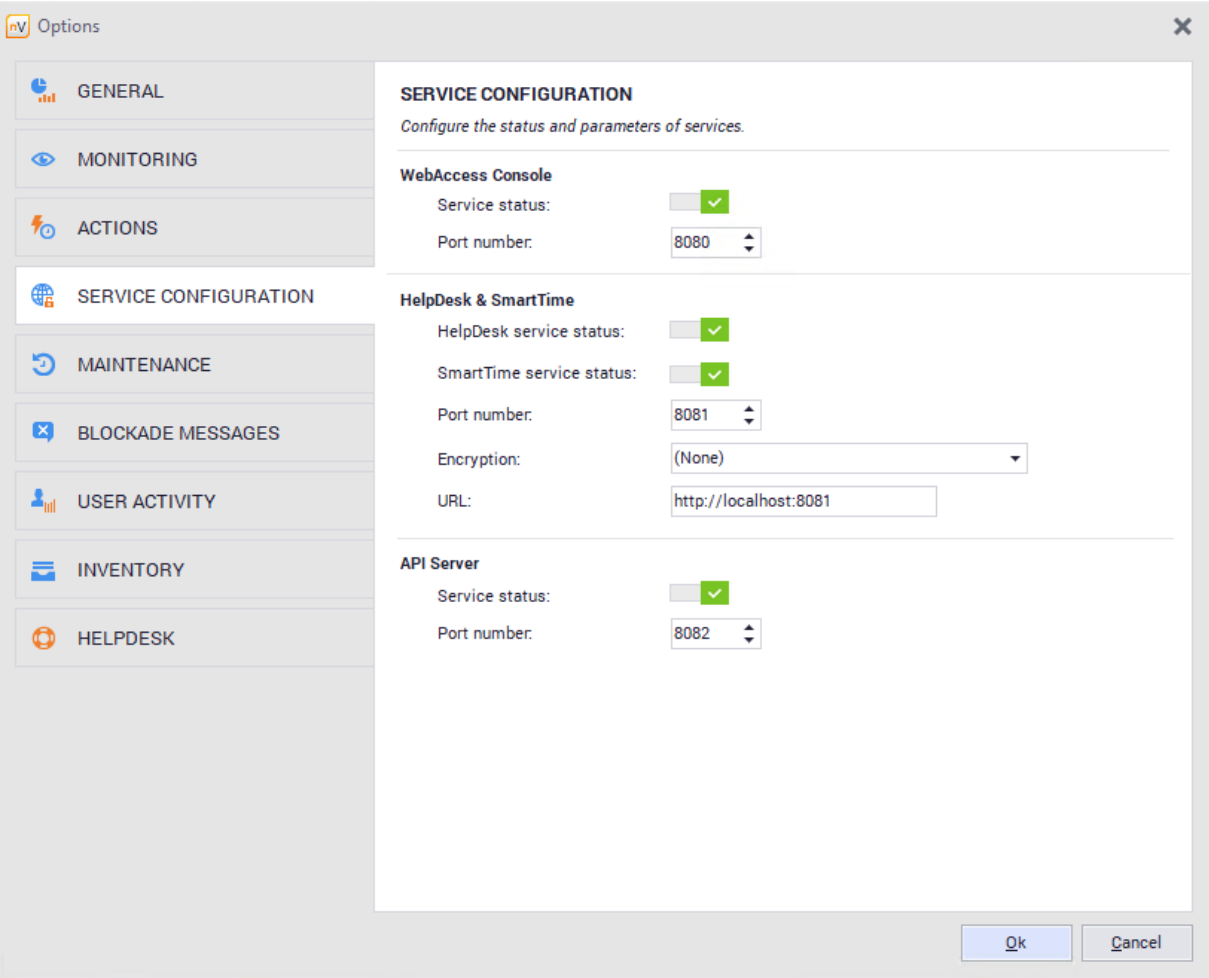


4. In order to verify the certificate:

```
launch: mmc.exe
File \ Add/Remove snap-in ... \ Certificates \ Add \ Computer account \
Local computer \ Finish
```



To configure secure access to the HelpDesk, navigate to nVision and remote access settings in the menu: **Tools / Options / Remote web access**.
In the **HelpDesk** section, use the **Encryption** list to select the certificates installed on the server:



After the certificate has been specified, the URL address of the HelpDesk will be automatically changed to *https://FQDN:port* – you have to configure FQDN to suit it to the actual DNS name (for which the certificate was issued) – preferably then copy the URL and see if it opens in the browser. If the test pass with success, then you can accept the **Options** window by clicking [OK] button and the URL will be sent to Agents.

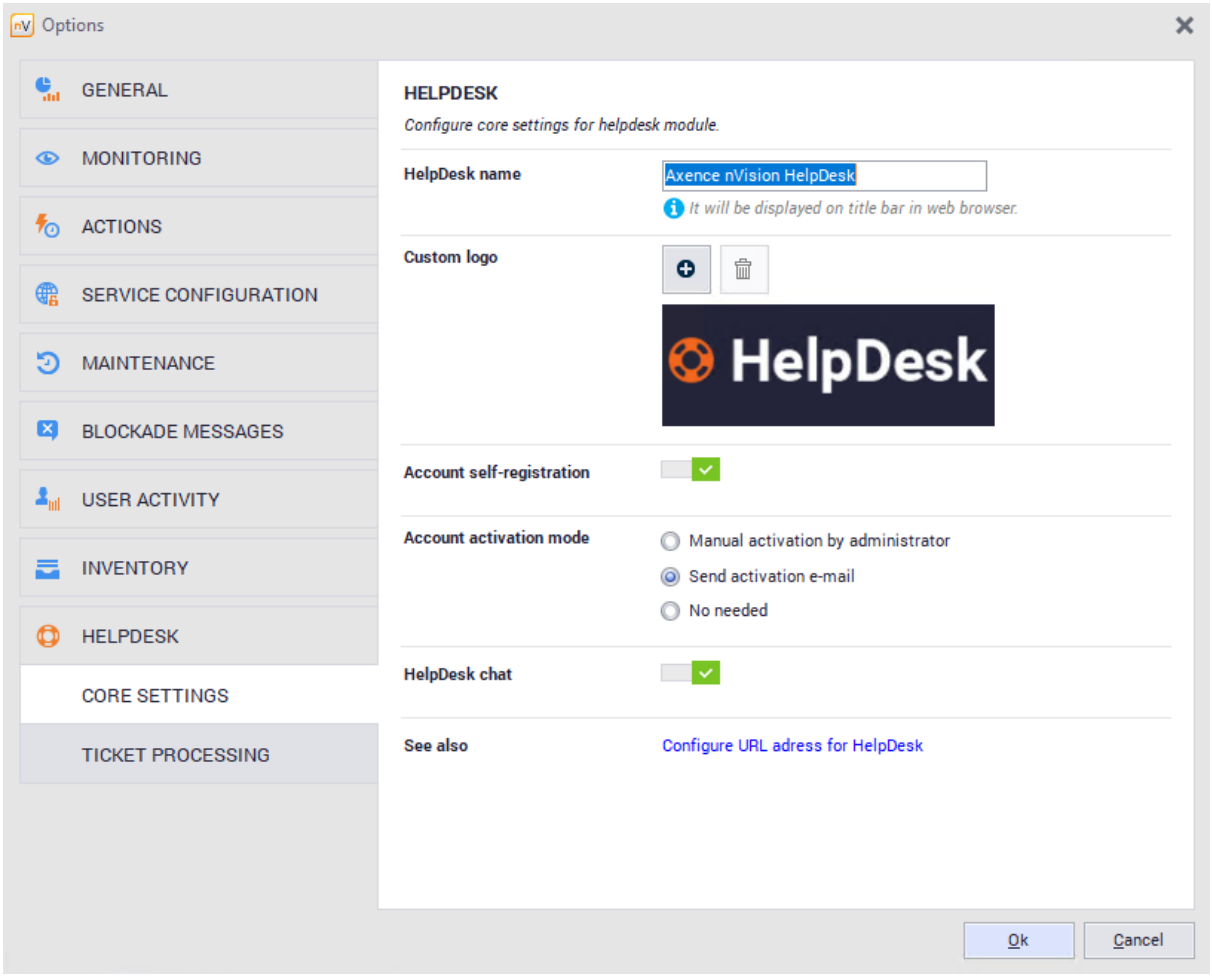
10.2.3 Settings

In order to manage the HelpDesk settings, in the main nVision window expand the menu and enter **Configuration**, **HelpDesk** tab.

Settings are located in two groups:

- Core settings
- Ticket processing

Field	Description
Custom title	Enter the text to be displayed on the HelpDesk module login window. You can also choose a logo by selecting an image from the disk.
Custom logo	Allows to download the graphics to be displayed as a logo on the HelpDesk interface.
Account self-registration	Users of the module can create accounts on their own by checking the field. Alternatively, the accounts can be created directly by the administrator.
Account activation mode	Active fields, if the users can create accounts on their own. Activation can be performed in one of the following ways: • None – the account is active once it has been created by the user. • Activation e-mail – to activate, click the link sent in an e-mail. This option allows the e-mail address given by the user to be verified. • Administrator activation – the account must be activated in nVision under the **Users** icon by checking the “Account activated” field in the respective line.
HelpDesk chat	Check the field to enable the chat feature in nVision HelpDesk.



Related topics

Management and configuration

User management

User registration

HelpDesk interface 347

10.2.4 E-mail settings

The HelpDesk module can automatically send e-mail messages about new trouble tickets and changes in tickets, and can also process the users' trouble tickets sent to the defined e-mail address.

Action-related notifications

The default option, **Options / HelpDesk / Ticket processing | Use nVision e-mail action for sending notifications about changes in tickets**, enables e-mail notifications to be sent according to action settings.

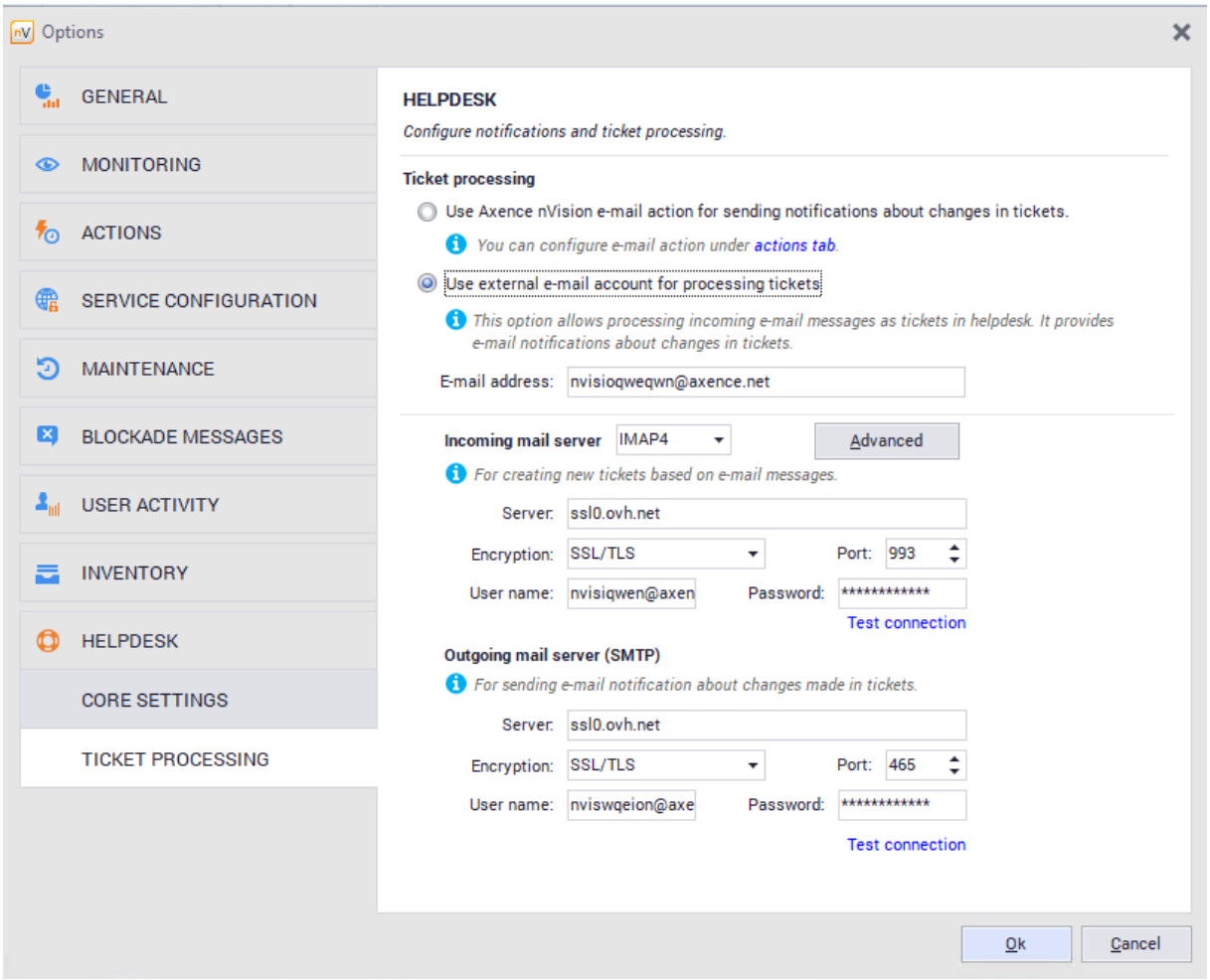
To change action 543 settings, open **Tools and options / Manage actions**.

E-mail processing in HelpDesk

This option enables e-mail notifications about changes made in the tickets to be sent and also allows e-mail messages sent by users to the defined e-mail address to be processed. As a result of this, users can create new trouble tickets without access to the HelpDesk trouble ticket database. In order for the tickets to processed, the requester must have a unique e-mail address assigned to their account in nVision.

To use HelpDesk settings for e-mail processing:

1. Open the **Options / HelpDesk / Ticket processing** option.
2. Select the **Use external e-mail account for processing tickets** option.
3. Define the **E-mail address** where the trouble reports should be sent (address of the mailbox in which nVision HelpDesk will detect messages and use them as a basis to create a ticket).
4. Configure the incoming and outgoing mail server settings. To test the entered settings, click the **Test connection** button.



Note!

All messages in the inbox of the e-mail address provided will be deleted! Create an account dedicated to ticket processing.

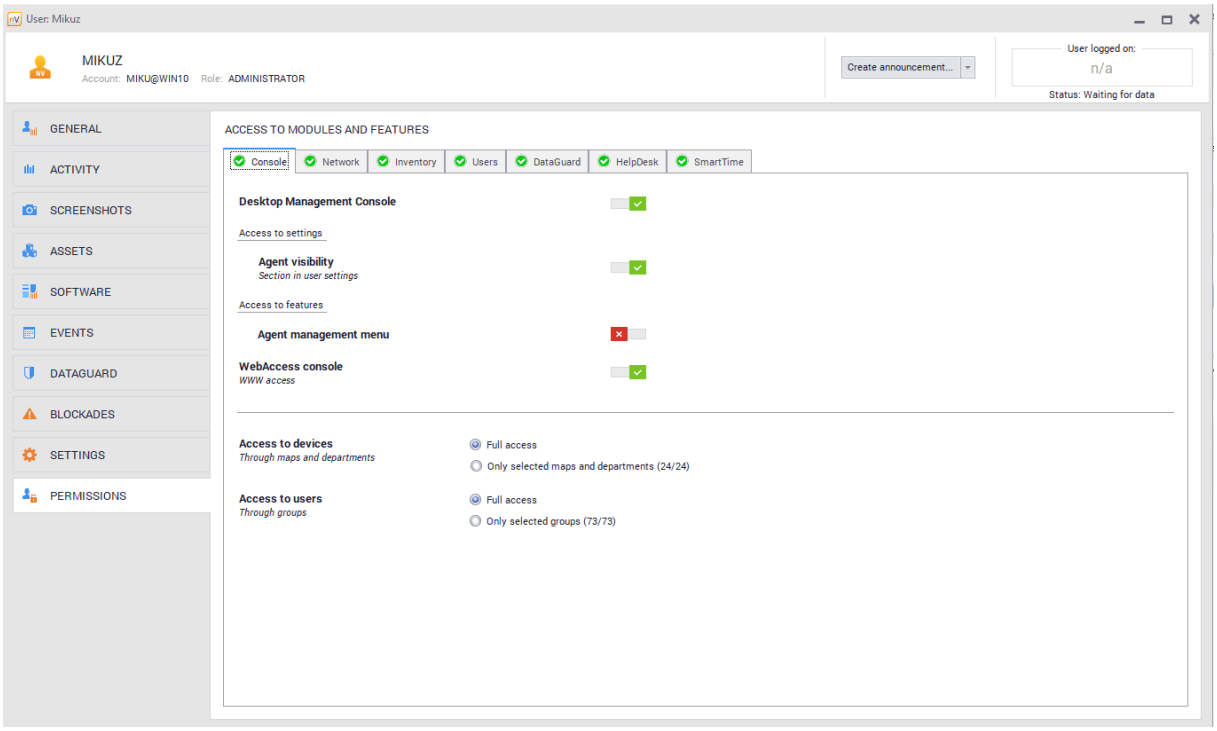
Related topics

Actions

Management and configuration 329

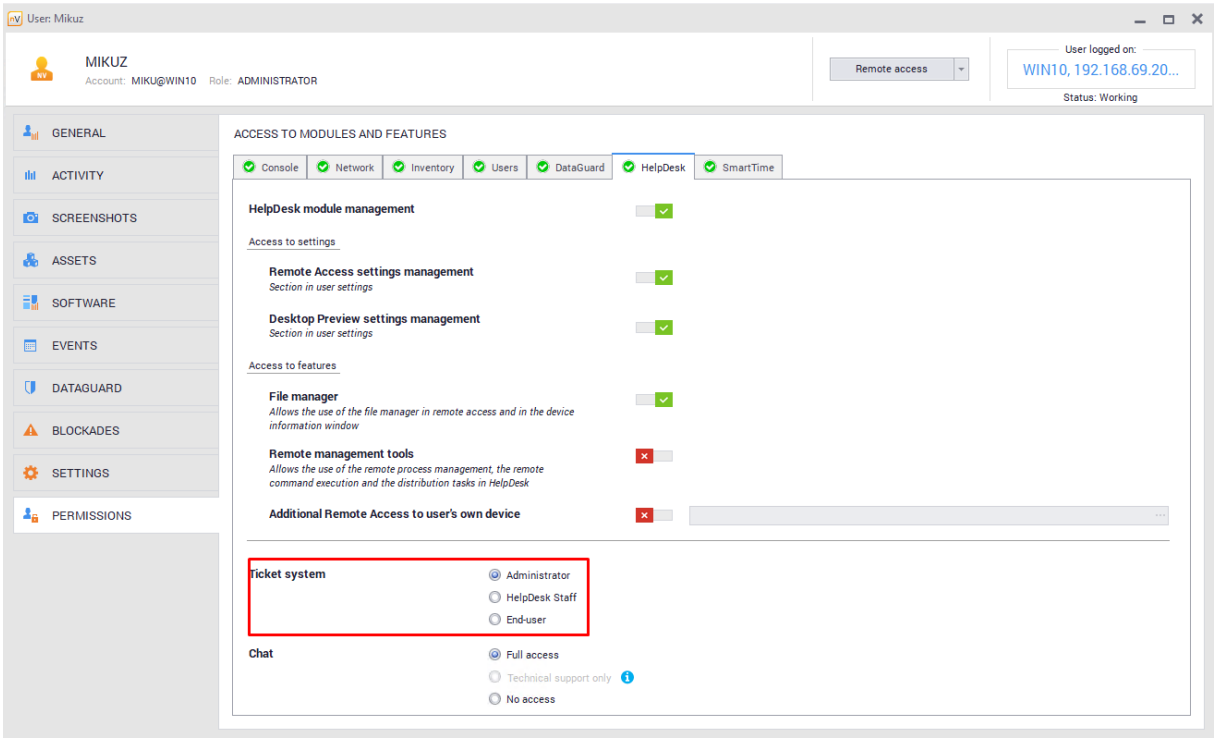
10.2.5 User management

Management of HelpDesk users is performed from the level of the **User info** window in nVision.



User types – roles in HelpDesk system

The user role can be changed in the user information window, using **Permissions / HelpDesk** tab:



Type	Description
End-user	Can create, edit and close tickets. Can see the articles published in the knowledge base and own tickets.
Help-Desk Staff	People who provide assistance. In addition to the above rights, they can change ticket status, delegate a ticket and remotely access the computer from which the ticket originated. They can also have assigned branches and trouble tickets from these branches will be automatically assigned to these people.
Administrator	A user of this type has the most extensive rights, can see and edit all tickets and options. Can manage messages and priorities, and is the only one who can send messages (described in section Messages 435). The user also has all of the rights described above.

Account creation

Accounts can be created in a few ways:

- manually via the Administrator in nVision (all types) – in the **Users** window, after clicking the **Add** button,
- via the Administrator by downloading the account list from Active Directory controller – in the **Users** window, after clicking the **Active Directory controllers** button and configuring the domain controller,
- independently by the users (only “End-user” type) without additional account activation, with activation via e-mail, or with manual activation via the Administrator.

For more information on possible user account creation scenarios, see section User registration 348.

User data change

To change user data (e.g. in order to set up a new password):

1. In the **Users** window, double-click the line of the user to be edited.
2. Enter the new user data and close the window.

Note: Names and e-mail addresses of users of all types must be unique.

Related topics

Settings

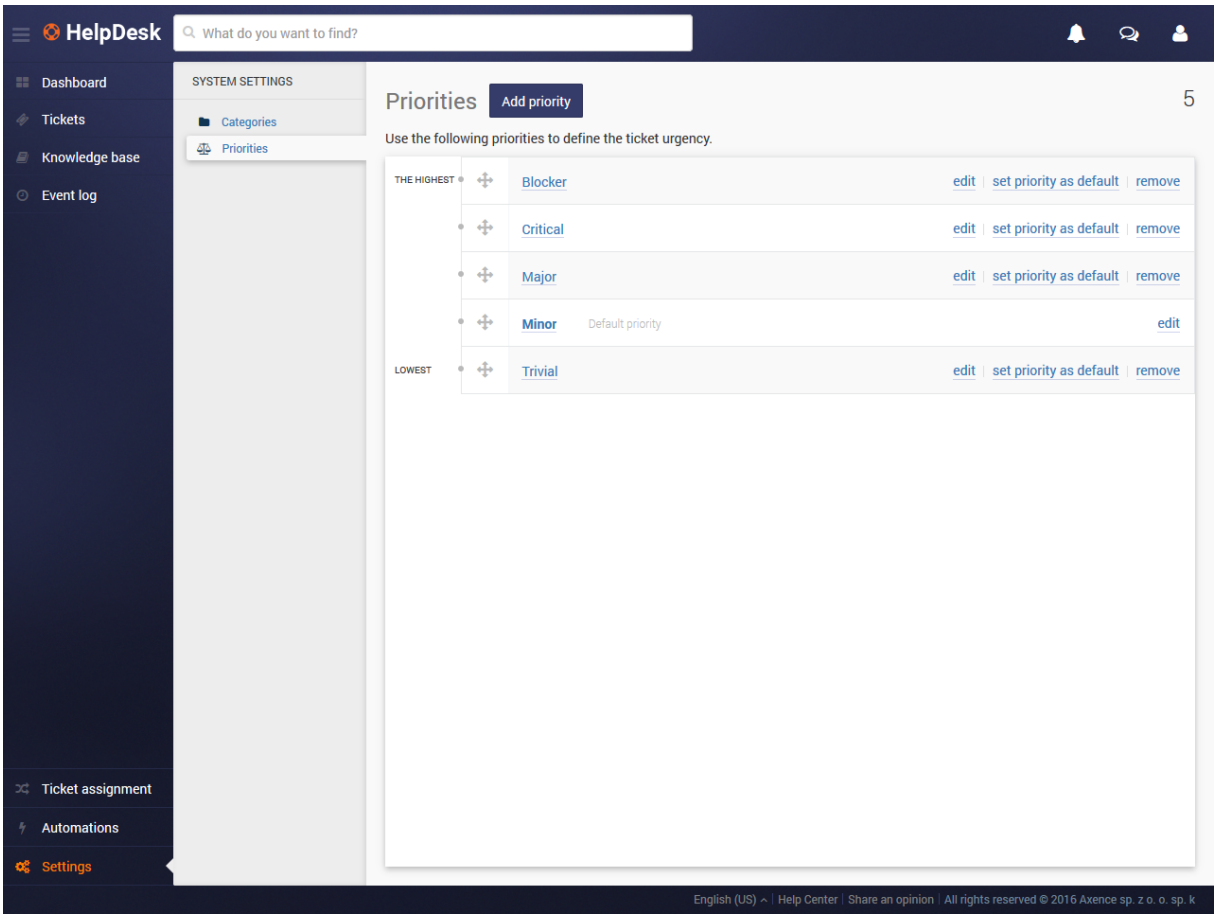
User registration

Management and configuration 329

10.2.6 Priorities

Priorities allow the specification of the severity of the reported issue. When creating a trouble ticket, the user selects the priority which is most applicable to the severity of the problem from the list. The Administrator can manage the existing priorities and add new ones. It is recommended to precede the names with digits, setting the priorities in ascending or descending order, so that after alphabetical sorting, their order of importance can be still easily identified.

Note: exactly one default priority must exist at all times and cannot be deleted.



Priorities are managed from the level of the HelpDesk web interface.

To create a new priority:

1. Go to **Settings / Priorities** tab.
2. Click **Add priority** button.
3. Enter a new unique priority name and click **Add priority**.

To edit a priority:

1. Go to **Settings / Priorities** tab.
2. Select **Edit** option for the priority you want to edit.
3. Enter the new priority name and click **Save changes**.

To change the default priority:

1. Go to **Settings / Priorities** tab.
2. Select the **Set priority as default** option for the priority which should be the default one.
3. Click the **Set as default** button.

To delete a priority:

1. Go to **Settings / Priorities** tab.
2. Select the **Remove** option for the priority to be deleted.
3. Confirm the priority deletion by clicking **Remove priority**.

Related topics

HelpDesk

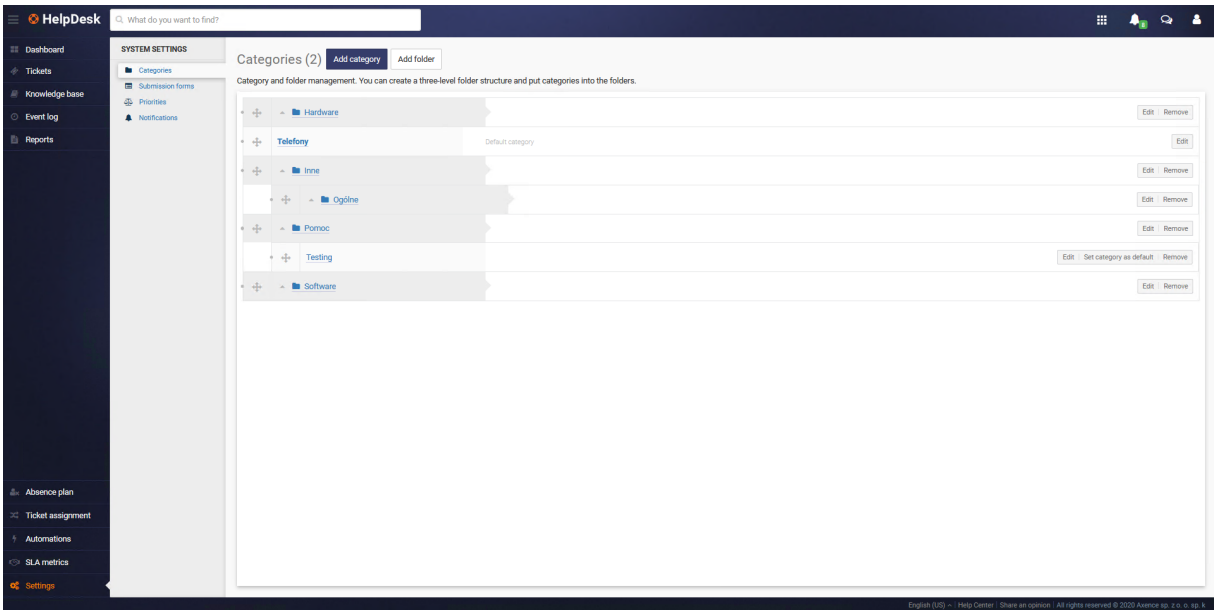
Adding a ticket 363

10.2.7 Categories and labels

Categories enable tickets and articles to be assigned to the issue types they belong to. For instance, the Administrator can create the “Network” label and categories related to network access issues, software issues, hardware issues, etc. beneath this label.

While creating a trouble ticket, the user selects the existing category which best suits their problem from the list. At the beginning, only one category, **Default**, is available.

Labels are used for further categorization of tickets. They allow creating visually separated groups to which you can add categories.



Note: exactly one default category must exist at all times and cannot be deleted.

Categories are managed from the level of the HelpDesk web interface.

To create a new category:

1. Go to **Settings / Categories** tab.
2. Click **Add category** button.
3. Enter a new unique category name and click **Add category**.

To edit a category:

1. Go to **Settings / Categories** tab.
2. Select **Edit** option for the category you want to edit.
3. Enter the new category name and click **Save changes**.

To change the default category:

1. Go to **Settings / Categories** tab.
2. Select the **Set category as default** option for the category which should be the default one.
3. Click the **Set as default** button.

To delete a category:

1. Go to **Settings / Categories** tab.
2. Select the **Remove** option for the category to be deleted.
3. Confirm the category deletion by clicking **Remove category**.

The procedure of adding, editing or removing a label is similar.

It is also possible to assign HelpDesk- or Administrator-type users to a specific category, so the tickets of the given category are automatically forwarded to them. For more information see section Assigning users to categories 419.

Related topics

HelpDesk

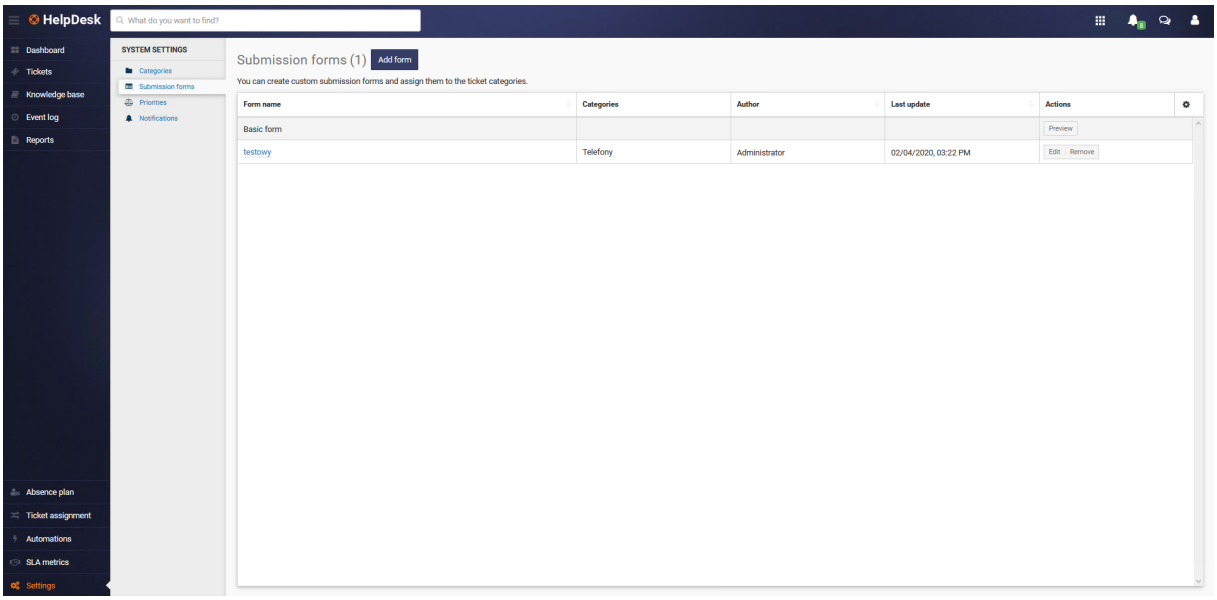
Adding a ticket

Adding an article 377

10.2.8 Trouble ticket forms

Forms allow different scenarios to be configured upon creating a trouble ticket. When creating a trouble ticket, the user selects the category which is most applicable to the severity of the problem from the list. If the relevant trouble ticket form is assigned to this specific category in the system, the page will be updated to include additional fields that will facilitate the identification of and solution to the problem. The Administrator can manage the existing forms and add new ones.

Note: exactly one default priority must exist at all times and cannot be deleted.



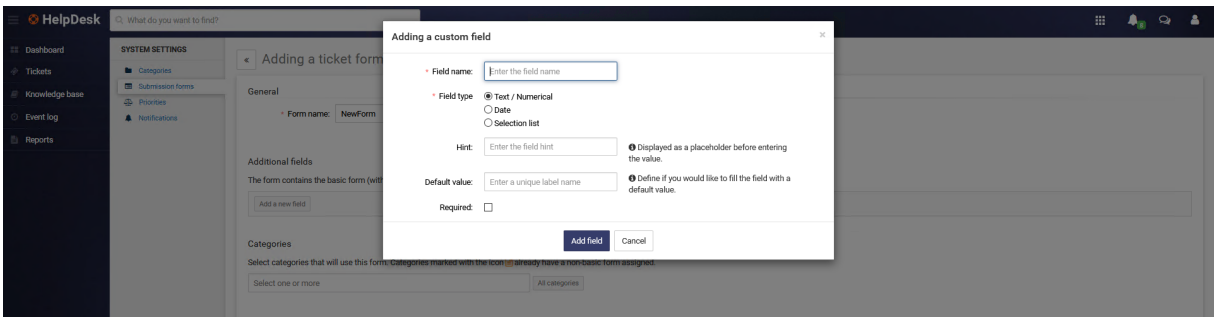
To create a new trouble ticket form:

1. Go to the **Settings / Trouble ticket forms** tab.
2. Click the **Add form** button.
3. Enter a new unique form name and specify the additional fields to appear when creating a trouble ticket.

The additional fields may take different types:

- text/numeric field,
- date,
- single- or multiple-selection list.

It is also possible to specify a default value, tips for the user or requirement for a specific field to send the ticket.



4. Select the categories in which this form will be used.
5. Click **Add form** to complete the adding of a new form.

To edit a trouble ticket form:

1. Go to the **Settings / Trouble ticket forms** tab.

2. Select **Edit** option for the form you want to edit.
3. Enter the new form name and modify the fields that you want to modify, then click **Save changes**.

To delete a trouble ticket form:

1. Go to the **Settings / Trouble ticket forms** tab.
2. Select the **Remove** option for the form to be deleted.
3. Confirm the form deletion by clicking **Remove priority**.

10.3 HelpDesk interface

10.3.1 Starting the HelpDesk interface

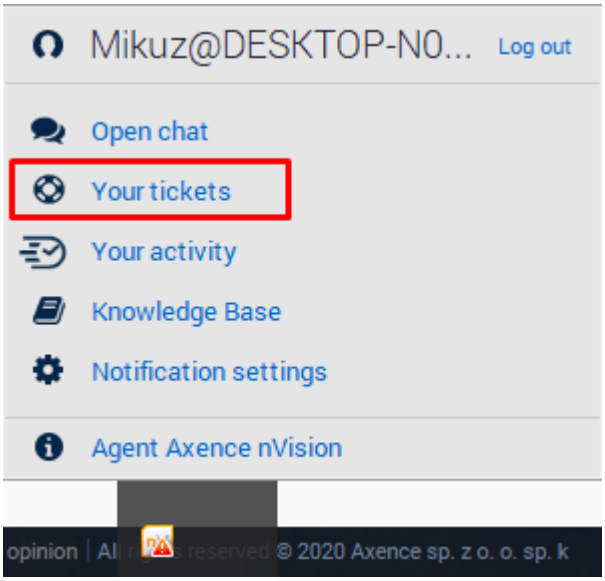
The HelpDesk interface can be started in several ways:

In the main nVision window

Click **HelpDesk**. The HelpDesk interface will be opened in the default browser.

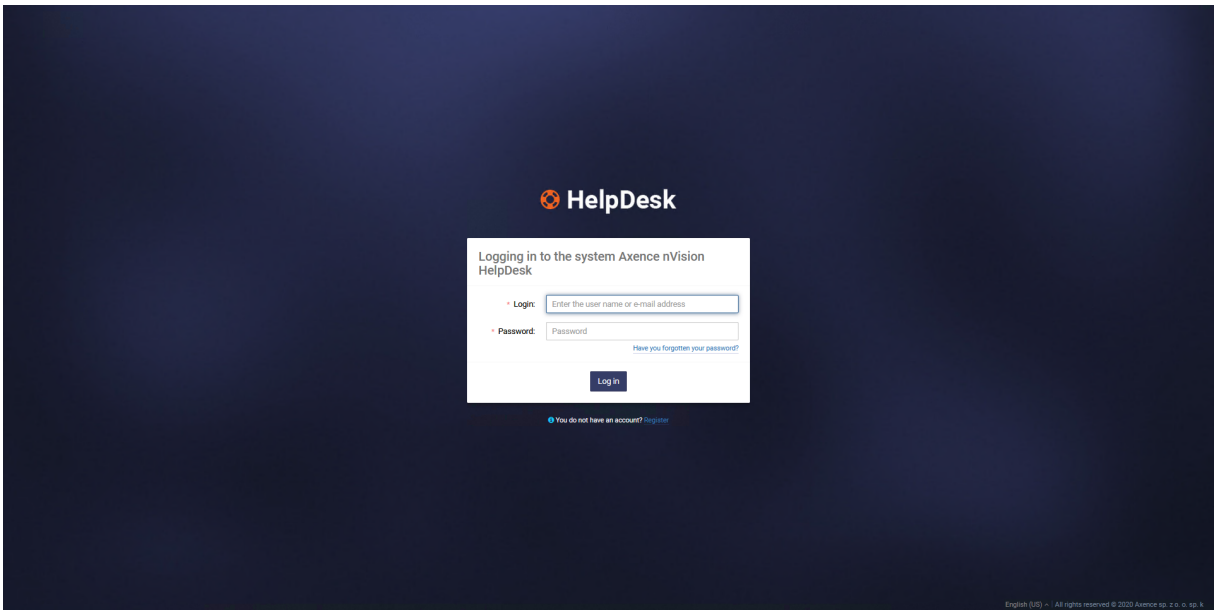
From Agent

Right-click the Agent icon in the task bar. A menu similar to the one below will be opened. The displayed options depend on the Agent settings. If you do not see the options related to the HelpDesk module, you need to enable the HelpDesk in Agent settings 329. Select the **Log in to HelpDesk** option.



Directly in the browser

Enter or copy the HelpDesk system's URL address into the browser or click the link (e.g. sent by e-mail). The HelpDesk's URL address can be found by expanding the **Tools / Options / Services configuration** menu in the main nVision window.



Related topics

Management and configuration

Settings

User registration

Logging in 350

10.3.2 User registration

Possible user registration scenarios

Accounts for Administrator and HelpDesk (technical support) users can only be set up by the Administrator (also by the synchronization with Active Directory 340). In the case of self-registration by the user, only an end user account can be created. The account type can be later modified by the Administrator.

By the Administrator

To create a user account (of any type):

1. In the main nVision window go to the **Users** window.
2. In the **Users** tab, click the **Add** button.
3. Enter the username and password for the entered user.
4. Define the user's **Role** (User, HelpDesk, Administrator).
5. Set the account as **enabled**.
6. You can enter the user details (e-mail, full name), and also other rights, depending on the defined user type.

Self-created by users, activated by the Administrator

Configuration:

1. In the main nVision window, expand the menu at the **HelpDesk** button, open the **Configuration / Core settings** option.
2. Check the **Account self-registration** field.
3. In the **Account activation mode** field, select the **Manual activation by administrator** option.

To create a user account:

1. Run the HelpDesk interface 347. If a user is not logged in, the HelpDesk interface login window will appear.
2. Click **Register** button.
3. In the user registration dialog box, enter your **E-mail address**, which is also the interface login.
4. Enter **Password** and **Full name**.
5. Click **Register** button.
6. You can log in to the system when the administrator activates the newly created account.

Self-created by users, activation by e-mail

Configuration:

1. In the main nVision window, expand the menu at the **HelpDesk** button, open the **Configuration / Core settings** option.
2. Check the **Account self-registration** field.
3. In **Account activation mode** field, select the **Send activation e-mail** option.

To create a user account:

1. Run the HelpDesk interface 347. If a user is not logged in, the HelpDesk interface login window will appear.
2. Click **Register** button.
3. In the user registration dialog box, enter your **E-mail address**, which is also the interface login.
4. Enter **Password** and **Full name**.
5. Click **Register** button.
6. An activation e-mail will be sent to the entered e-mail address. To complete the registration process, you need to click the link in the e-mail. You can now log in to the HelpDesk interface.

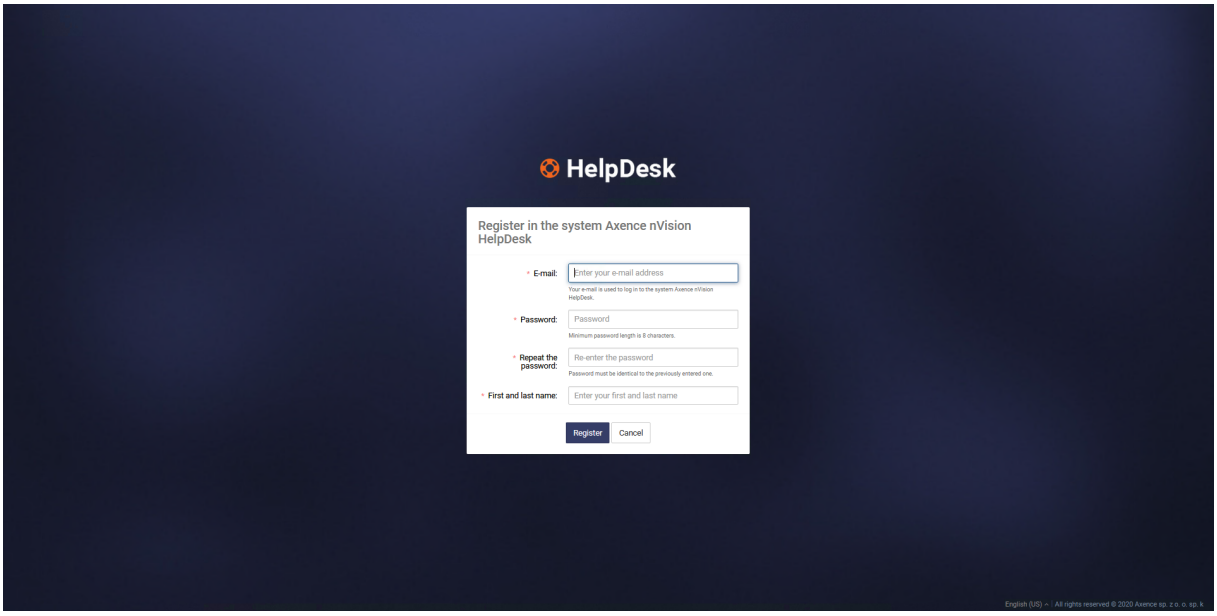
Self-created by users, without account activation

Configuration:

1. In the main nVision window, expand the menu at the **HelpDesk** button, open the **Configuration / Core settings** option.
2. Check the **Account self-registration** field.
3. In the **Account activation mode** field, select **No needed** option.

To create a user account:

1. Run the HelpDesk interface 347. If a user is not logged in, the HelpDesk interface login window will appear.
2. Click **Register** button.
3. In the user registration dialog box, enter your **E-mail address**, which is also the interface login.
4. Enter **Password** and **Full name**.
5. Click **Register** button.
6. After the data is confirmed as valid (the e-mail address is unique and the password length is at least 8 characters), a registration completion message will appear. You can now log in to the HelpDesk interface.



Related topics

Starting the HelpDesk interface

User management

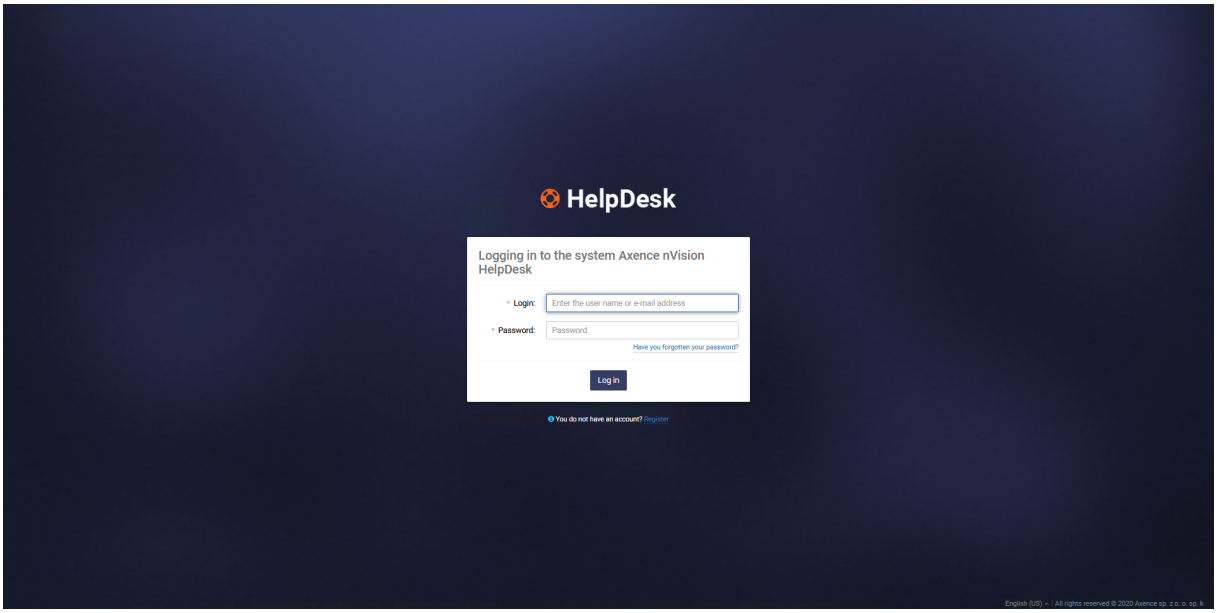
Settings 336

10.3.3 Logging in

To log in to the HelpDesk interface:

1. Run the HelpDesk interface 347.

2. Enter **login** (username or e-mail address) and **password**. (If you enter the HelpDesk via the Agent, an attempt to auto-log in will be made.)
3. Click **Log in** button. If the entered data are correct, you can start using the HelpDesk interface.



Logging out

To log out of the HelpDesk interface:

1. Click the avatar in the user zone 357 in the upper right corner of the HelpDesk interface.
2. Select **Log out** in the pop-up menu.

Related topics

Starting the HelpDesk interface

User registration

Password reset 351

10.3.4 Password reset

If the password has been forgotten:

1. Run the HelpDesk interface 347 and click the **Reset password** link.
2. To reset the password, enter the username or e-mail address which was used to log in to the HelpDesk interface.
3. Click **Reset password** button. If the entered data are valid, a message with guidelines will be sent to the e-mail address. Otherwise, follow the onscreen instructions.
4. Open your mailbox and click the password resetting link in the message received from the HelpDesk.

5. Enter a new password and **Save settings**. You can now log in to your account with the new password.

Related topics

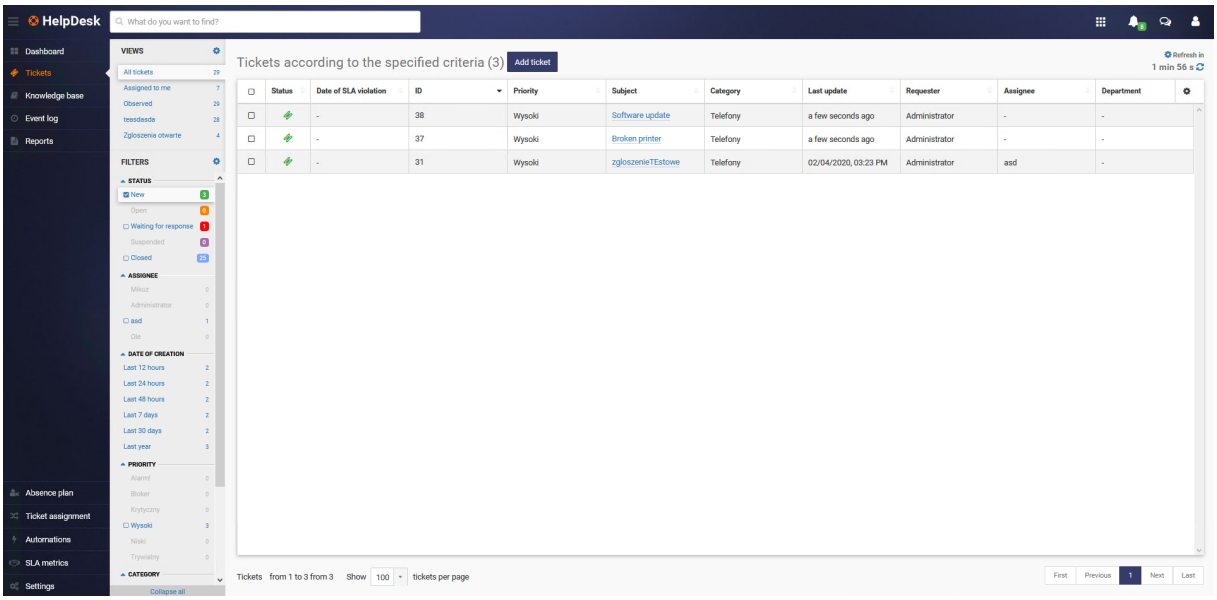
Starting the HelpDesk interface

User registration

Logging in 350

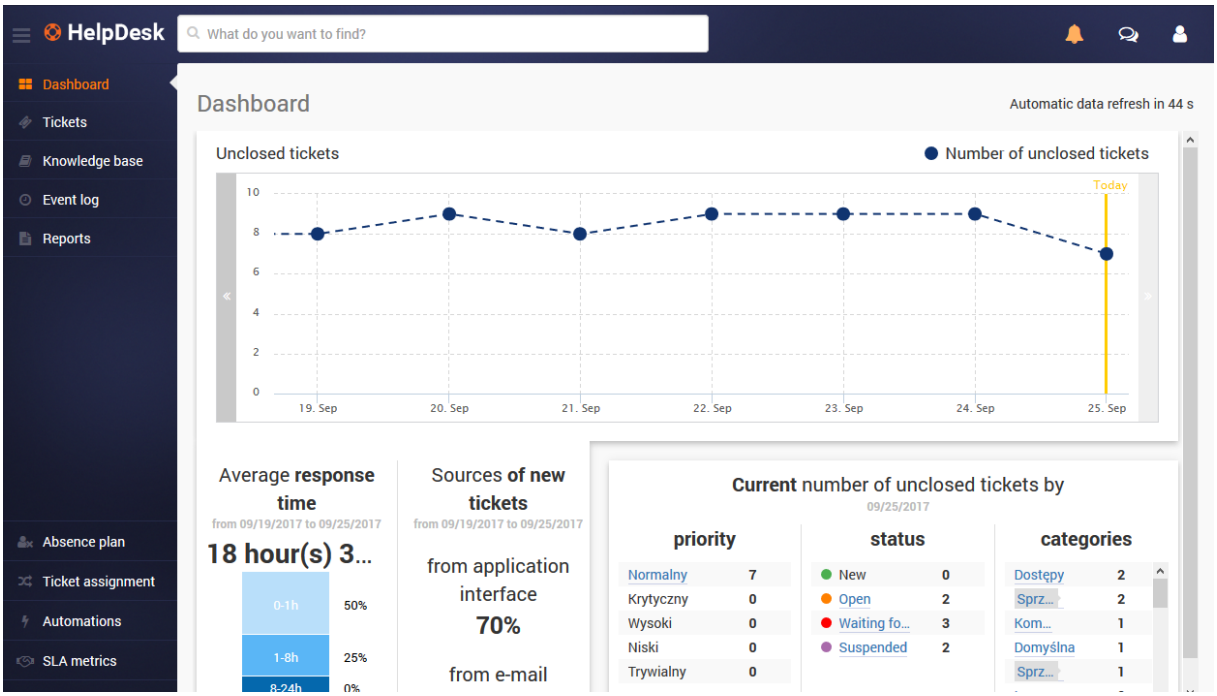
10.3.5 Main views

The main application views are ten views which can be opened by using the main navigation located on the left-hand side of the interface:



- Dashboard

General statistics about tickets are presented on dashboard, e.g. average response time, information about sources of new tickets, number of tickets by priority/status/category. A graph is also displayed, showing the number of tickets with a status other than “closed”.



- Trouble ticket list 361
- Knowledge base 376
- Event log 380
- Reports 382
- Trouble ticket assignment 419
- Automations 420
- SLA metrics 429
- Settings (Categories 344, Priorities 342)

When a selected view is expanded, a quick preview column will appear. The quick preview options differ depending on which item was selected in the main navigation (trouble tickets, articles, etc.). The quick preview option allows for simple and rapid access to various trouble ticket threads, article types, etc.

Page titles are created dynamically, depending on the selected view options.

Related topics

- Trouble tickets - overview
- Knowledge base - overview
- Event log
- Automations
- User zone
- Search bar 359

10.3.6 Text editor

The embedded text editor allows the entered article or ticket contents to be formatted.

Basic functions (adding/editing articles and trouble tickets)

Function	Description
B	Bold.
I	Italic.
U	Underline.
T↕	Text style (options: Small, Regular, Large, Very Large).
A	Text color (selectable after the menu at the button is expanded).
	Embedding a link in the text. Click the icon and in the dialog box enter the URL address where the link will direct to, and the displayed link text.
	Numbered list.
	Bulleted list.
	Retry/undo.
	Remove formatting.
	Justification (options: left, center, right).
</>	Toggle between HTML and Rich Text.

Loading images (adding/editing articles)

To load an image into the article:

1. In the article adding[377] or editing[378] view, click the **Upload image** button.
2. In the dialog box select the image to be added.
3. You can add the image title and an alternative text shown in the place of the image, if it cannot be displayed.
4. Select the image justification style (default: left).
5. Click the **Insert image** button.

Adding an external video (adding/editing articles)

To add an external video to the article:

1. In the article adding 377 or editing 378 view click the **Insert video** button.
2. In the dialog box enter the link to the video.
3. Select the video justification style (default: center).
4. Click the **Insert video** button.

Related topics

Adding a ticket

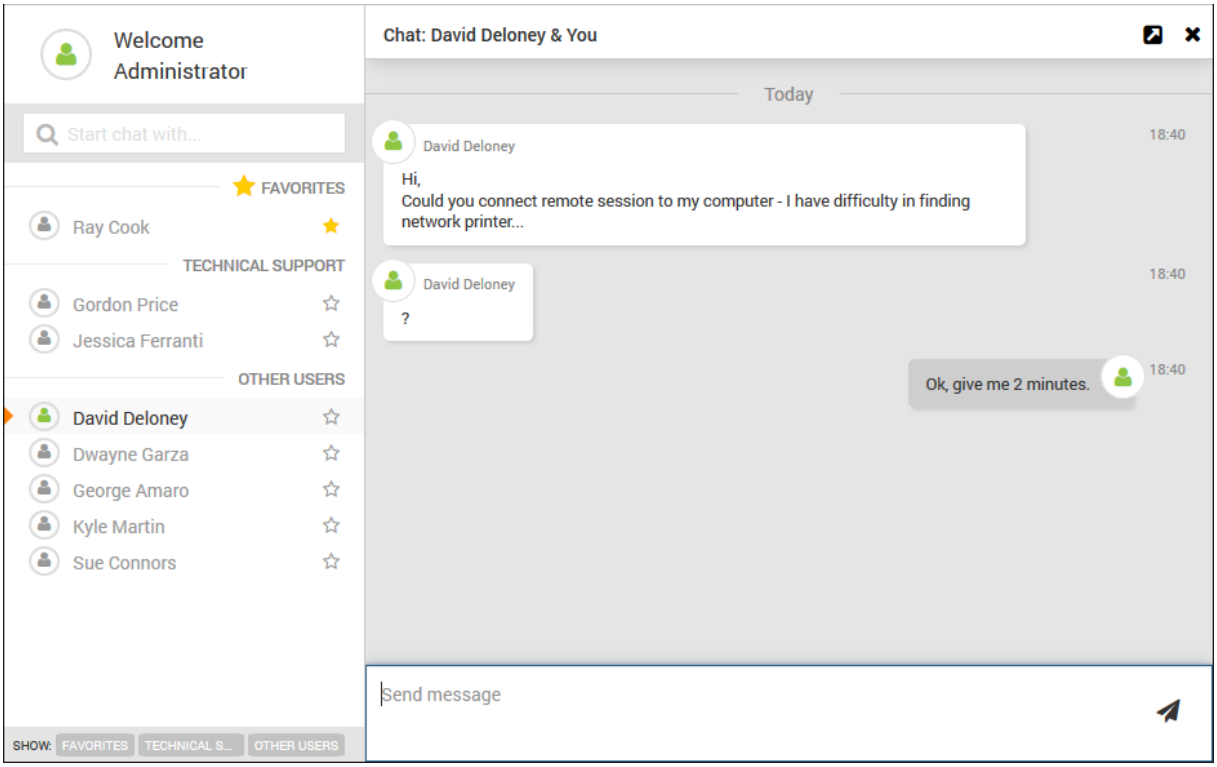
Adding a comment

Adding an article

Editing an article 378

10.3.7 Chat

Chat conversations can be initiated and received both with the use of the HelpDesk module in the browser and via the Agent. The functionality is identical in both cases. A conversation can be conducted between the users who are present in the list in the **Users** window (see User management 340).



Chat users

After clicking the **Chat** button (both in the browser and in Agent options), a window with three user groups is displayed:

Group	Description
Favorites	People added to the list of friend, i.e. marked with star .
Technical Support	HelpDesk- and Administrator-type users (see User management 340).
Other users	All types of users.

To add a user to your friends, click the star on the right-hand side of the username. From now on, the user will also be present in the friends (favorites) group. To remove a user from the friends list, click the star again.

Initiating a conversation from the HelpDesk interface

To use chat:

1. Log in to the HelpDesk interface. 347
2. Click the  button in the upper right part of the window. The chat window will open. Users currently logged in to the HelpDesk are marked in green, users not logged in – in grey.
3. Click the name of the user you want to talk to.
4. Type your message and press Enter. If the user is logged in (green in the user list), a chat window will appear on their desktop with the sent message.

Chat with the trouble ticket creator or with the person responsible for the ticket can be also initiated from the specific ticket by clicking the icon with the name of the appropriate user.

Initiating a conversation from the Agent

Initiating a conversation:

1. Right-click the Agent icon in the task bar. A menu similar to the one below will be opened. The displayed options depend on the Agent settings. If you do not see the options related to the HelpDesk module and chat, enable the HelpDesk in Agent settings 329.
2. In the **Agent options** window select the **Open chat** option.
3. The chat window will open. It enables a conversation with another user to be started.

Answering a conversation

Answering a conversation – possible scenarios:

- If you have an open chat window with the user list and you receive a message, a window will open, which allows a conversation with the user who sent you the message.
- If the window is closed, but you are logged in to the HelpDesk from the Agent, and you receive a message, notification about the received message appears.
- If you are not logged in to the HelpDesk, the message will appear when you next log in.

Creating a group chat

To create a group chat, click the **Create a new group chat** link on the contact list.

During a private chat, you can create a group chat by clicking on the chart partner adding icon  in the upper part of the chat window.

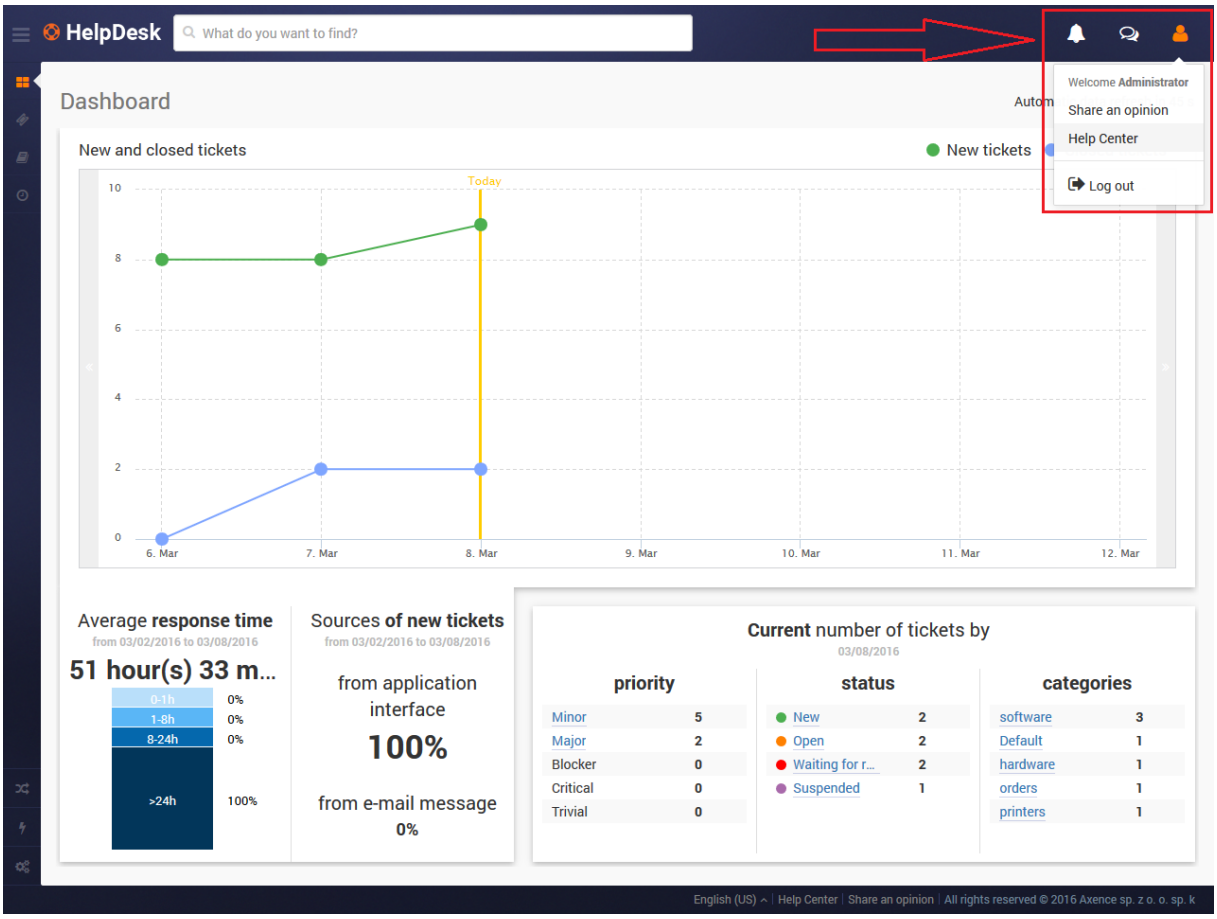
Sending attachments

To send an attachment, click the attachment icon  in the message entry field.

Sending attachments is an experimental function and it is not supported in group chats.

10.3.8 User zone

The user zone is the area in the upper right corner of the HelpDesk interface. It contains a universal user avatar, as well as additional information and actions available to the logged in user.



Icon	Description
	Click the avatar to expand a pop-up menu with the following options (depending on the user type): • Help Center (Administrator and HelpDesk employee) • Change password • Log out 350
	Click the icon to open chat 355.
	The icon displays the number of new notifications related to changes in trouble tickets. Click the icon to display the new notifications (Administrator and HelpDesk employee).

Related topics

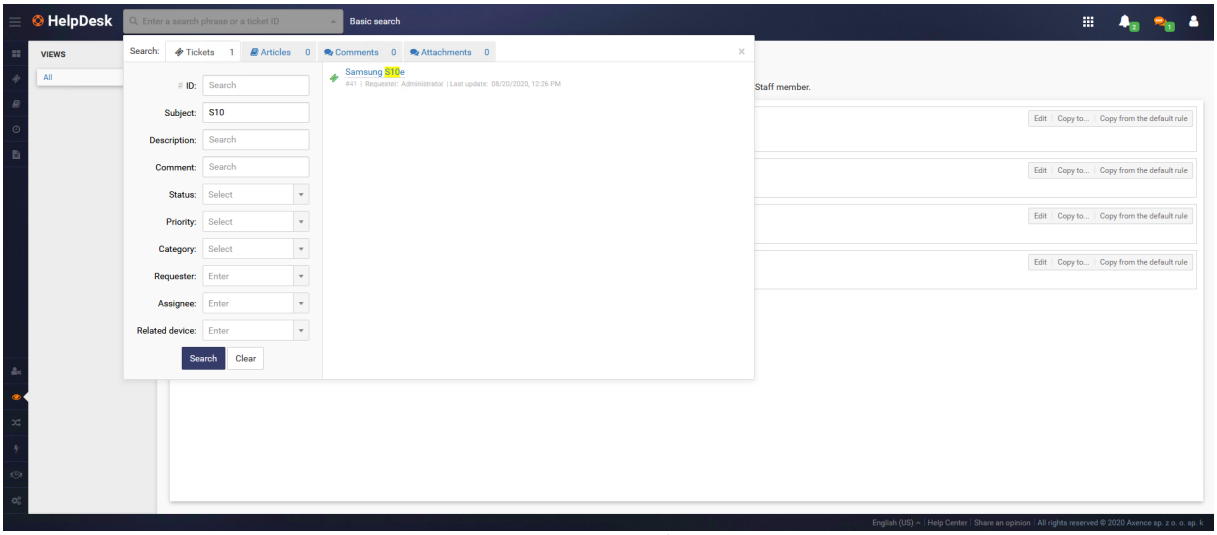
Starting the HelpDesk interface

Main views 352

10.3.9 Search bar

The search field in HelpDesk module is located in the upper part of the window. The search is performed first in the view that is currently displayed. The scope of the search depends on the role of the user and his permissions regarding the visibility of tickets.

It is possible to search through submissions, comments, attachments and articles. Attachment search only searches attachment names in tickets, comments, and knowledge base articles.



Widok wyszukiwarki w interfejsie HelpDesk

Advanced Search

To use the advanced search, click **Advanced Search** at the top of the window. In the advanced view, outside the searched area of the system (Report List / Knowledge Base) you can specify additional parameters that will narrow the list of search results. Available parameters change depending on the searched area (notifications, articles, comments, attachments).
When using an advanced search engine with the option to search for applications, it is possible to define the following parameters:

- ID,
- Subject,
- Description,
- Comment,
- Status,
- Priority,
- Category,
- Requester,

- Assignee,
- Related device.

Related topics

Main views

User zone

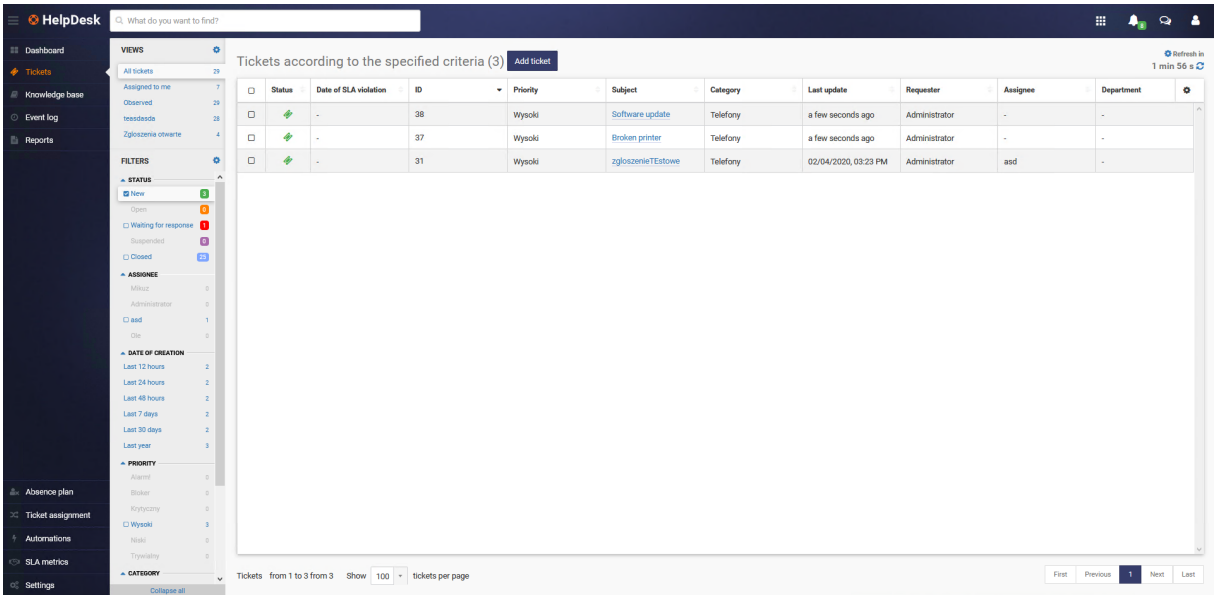
User management 340

10.4 Trouble tickets

10.4.1 Trouble tickets - overview

The trouble ticket database allows the users to report technical issues with use of the HelpDesk interface and via e-mail. The incoming tickets are processed and assigned to specific HelpDesk support employees who are notified about the assigned problems which need to be solved.

Each ticket is assigned to a specific category and has a priority defined to it. Ticket management and processing is simple due to the mechanism of statuses describing the ticket life cycle.



Tickets statuses:

New – the ticket has been registered in system, but no action was performed by any user.

Open – the HelpDesk worker should update the ticket.

Waiting for response – the requester should update the ticket.

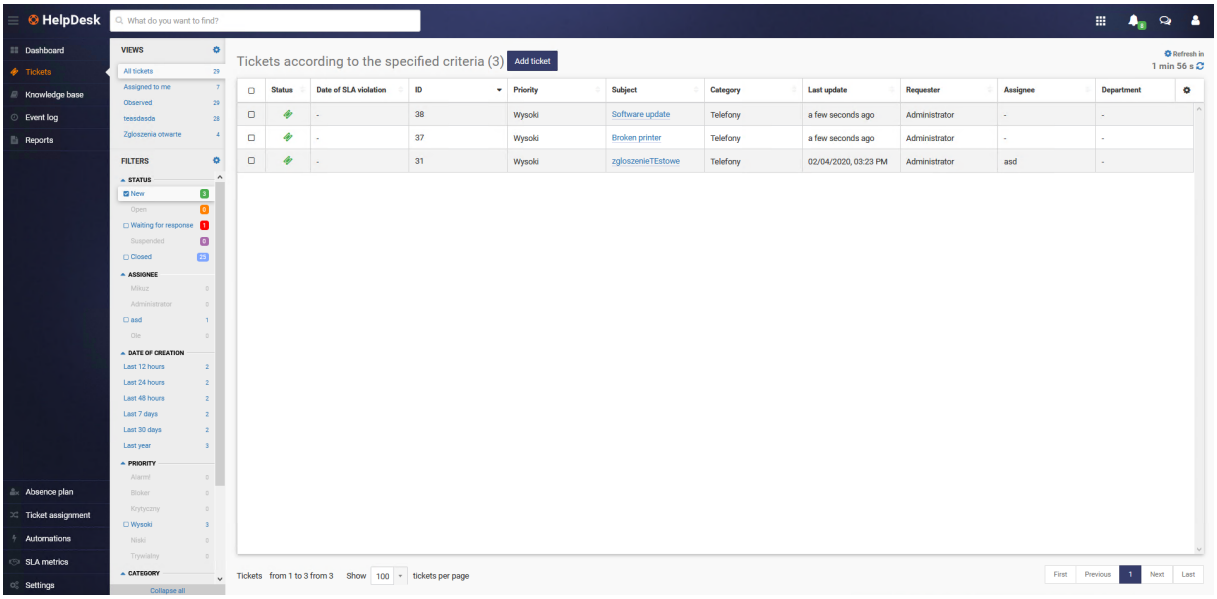
Suspended – ticket is set to suspended by HelpDesk worker (e.g. the issue should be discussed with third party).

Closed – the ticket has been closed by HelpDesk worker. Closed tickets cannot be deleted.

Related topics

10.4.2 Ticket list

The ticket list is one of the main views of the HelpDesk interface. It shows information about trouble tickets sent to the HelpDesk system.



In the left part of the window, there is the main navigation (see Main views 352) and the quick preview column. The quick preview allows you to rapidly display a data set from the specific area of interest. For instance, you can display new highest-priority tickets, which additionally belong to one of two selected categories.

Ticket list table

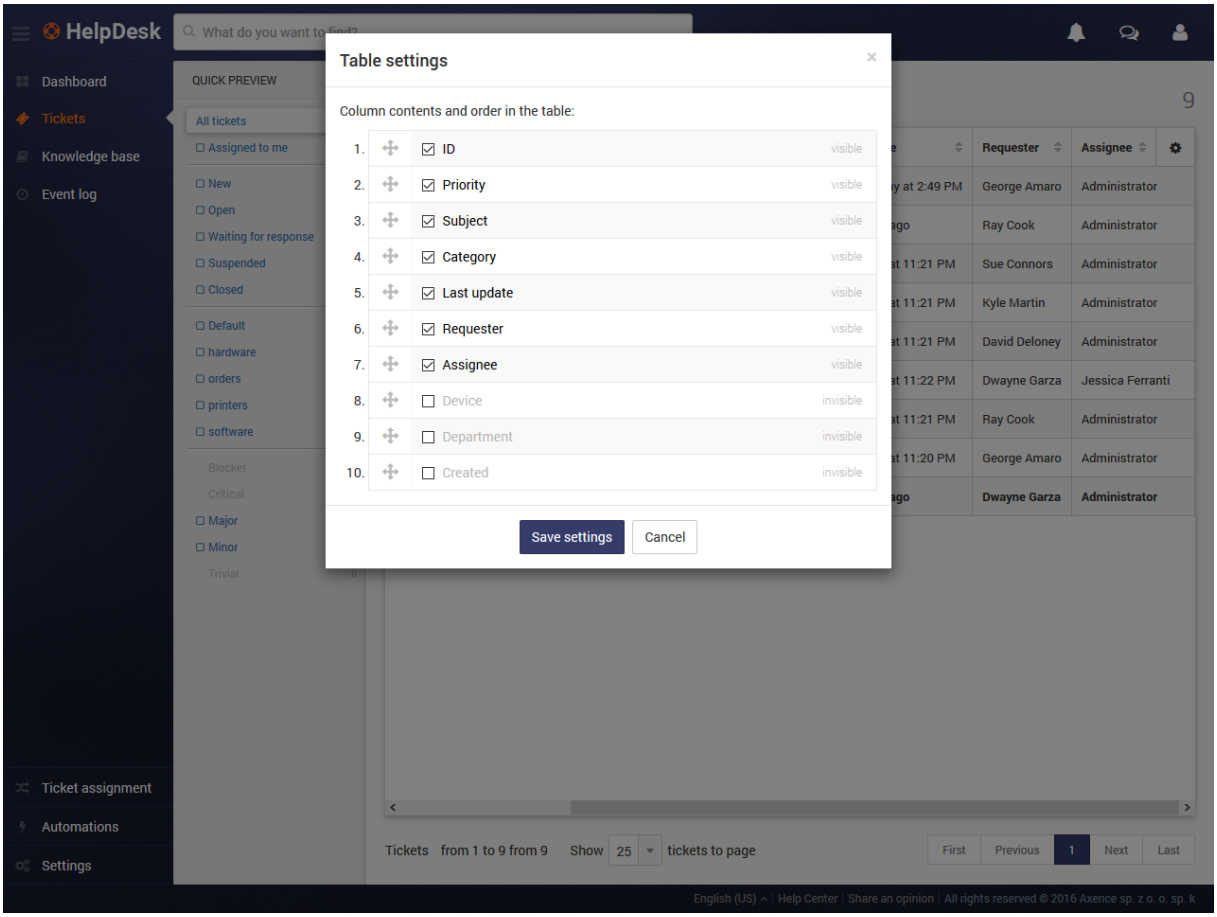
The main part of the described view is the ticket list table. It contains the following columns:

- Status (color marking on the left-hand side of the table line)
- ID
- Date of SLA 429 violation

- Priority
- Ticket subject
- Category
- Related device (column hidden in the Administrator view)
- Department (column hidden in the Administrator view)
- Date of creation (column hidden in the Administrator view)
- Date of last update
- Full name of the assignee
- Full name of the requester

To select the displayed columns or their sequence in the table, click the table settings button [gear icon] in the upper right corner of the table. To sort the table contents by a given column, click the arrow at the column name. Below the table you can select how many tickets are to be displayed per page, and also go to the next pages.

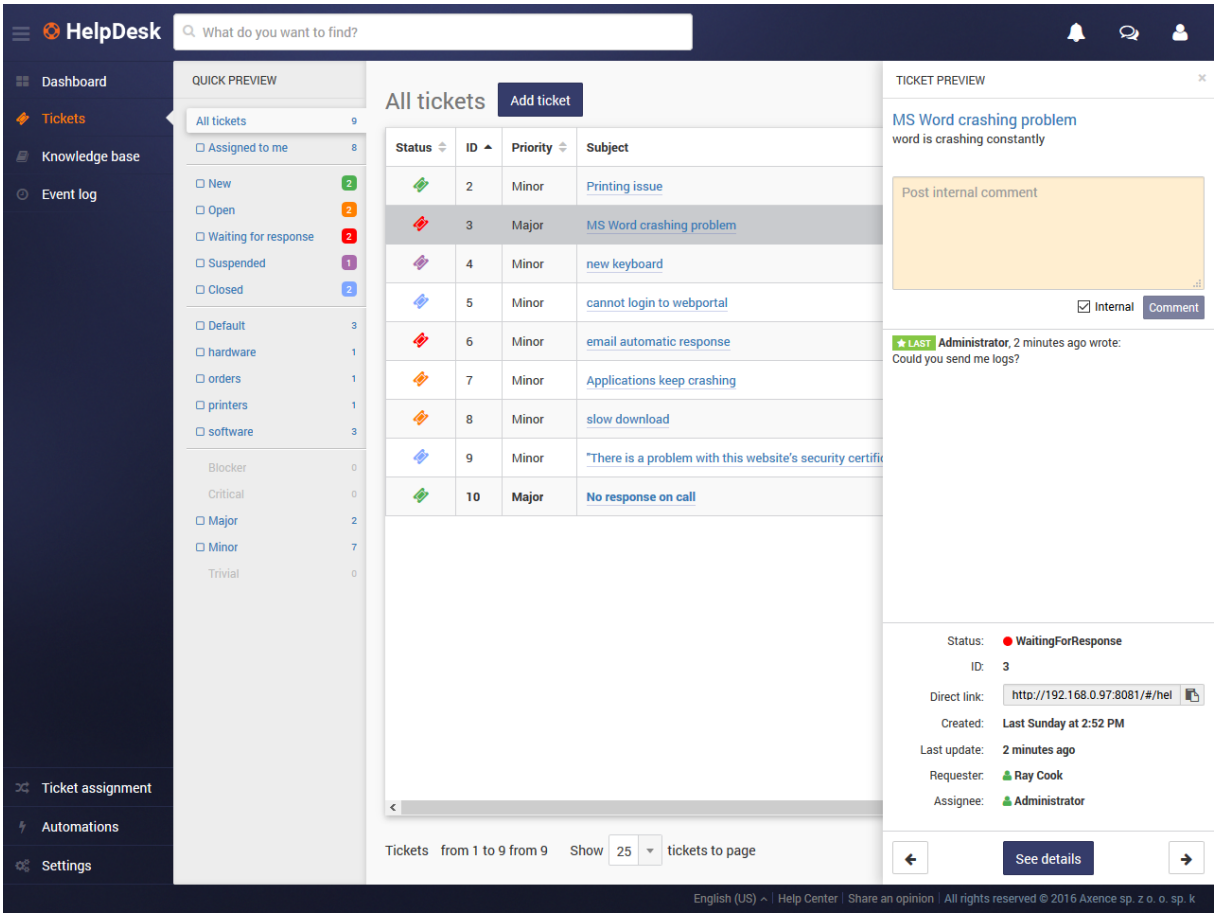
Important: Unread tickets are in bold font.



Ticket preview

Click the ticket icon or line on the right-hand side of the interface to open a quick preview of the ticket. The quick preview displays the title and the short ticket excerpt, and the action block. The block enables

you to quickly and comfortably add an internal or public comment to the ticket. Below, the last comments, short ticket summary and the navigation bar are shown.



To go the detailed ticket view at once, click its subject.

Related topics

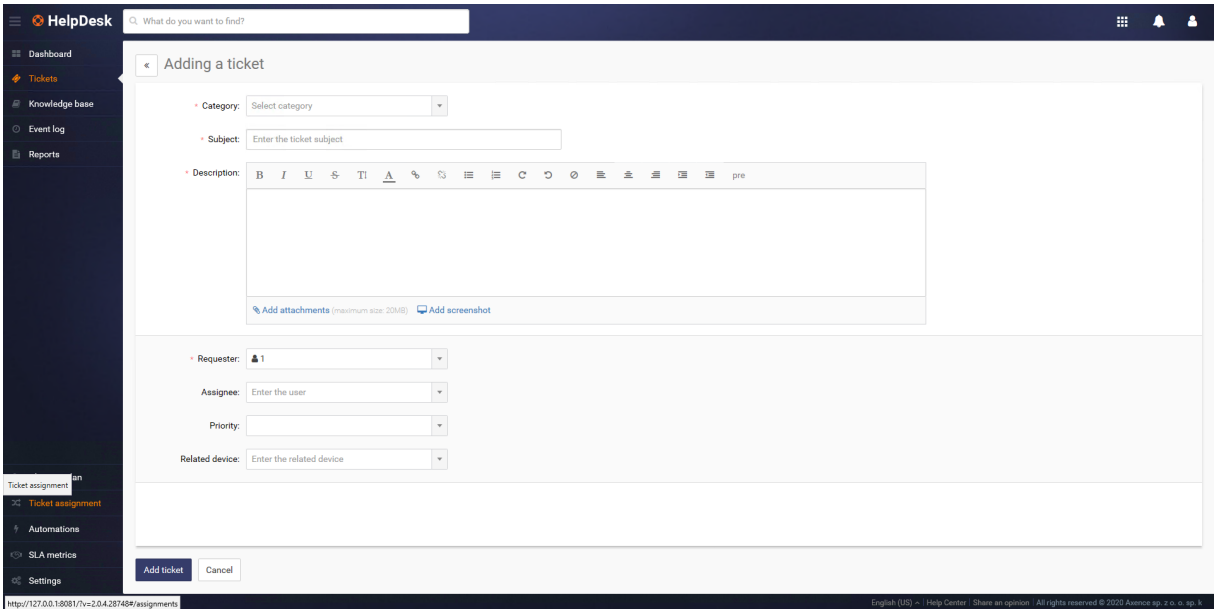
- Starting the HelpDesk interface
- Trouble tickets - overview
- Main views
- Adding a ticket
- Adding a comment
- Categories
- Priorities 342

10.4.3 Adding a ticket

To create a new trouble ticket in the HelpDesk interface:

1. In the **Tickets** view click the **Add ticket** button.
2. Enter the **Subject** of the ticket.
3. Enter the **Description** of the issue in the embedded text editor 354.

4. You can **Add attachment** 368 to the ticket.
5. You can **Add screenshot** 368 if the Agent is installed on the device.
6. Fill in the **Requester** field (Administrator and HelpDesk employee may create a ticket on someone's behalf).
7. In the **Assignee** field use the list to select the person to whom the ticket is to be assigned (optionally).
8. Set the ticket's **Category** by selecting one of the available categories from the list. You can add a new category 344 without interrupting the article creation process.
9. Set the ticket's **Priority** by selecting one of the available priorities from the list. You can add a new priority 342 without interrupting the article creation process.
10. Use the list to select the **Related device** which the ticket relates to (optionally).
11. After the ticket creation is complete, click the **Add ticket** button.



Related topics

Starting the HelpDesk interface

Trouble tickets - overview

Ticket list

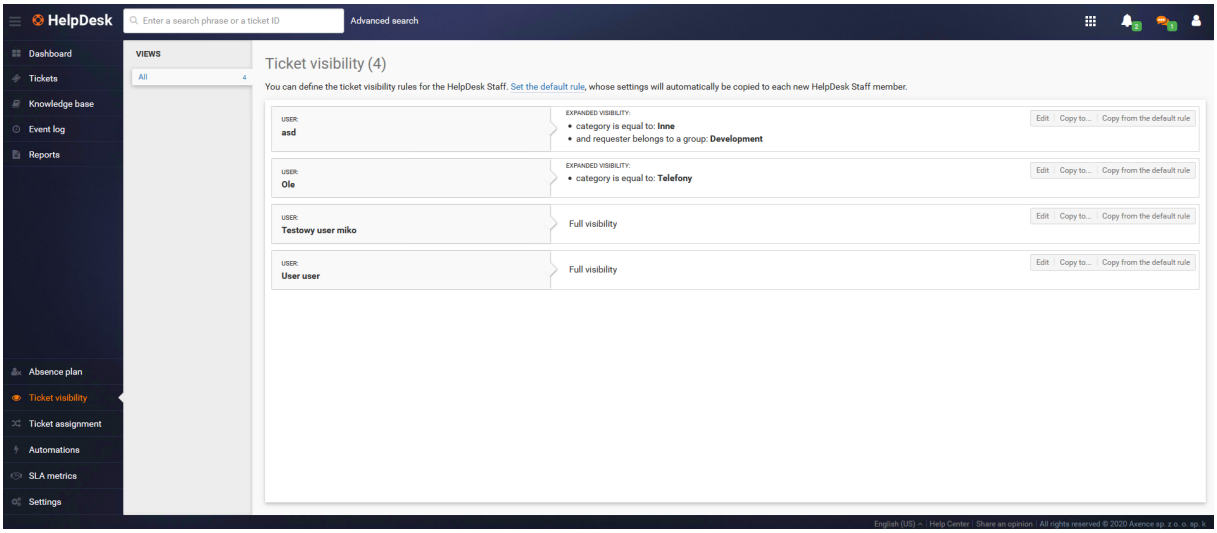
Adding a comment

Merging tickets 374

10.4.4 Ticket visibility settings

Ticket visibility settings allow to configure restrictions on access to tickets for users with the **HelpDesk employee role.**

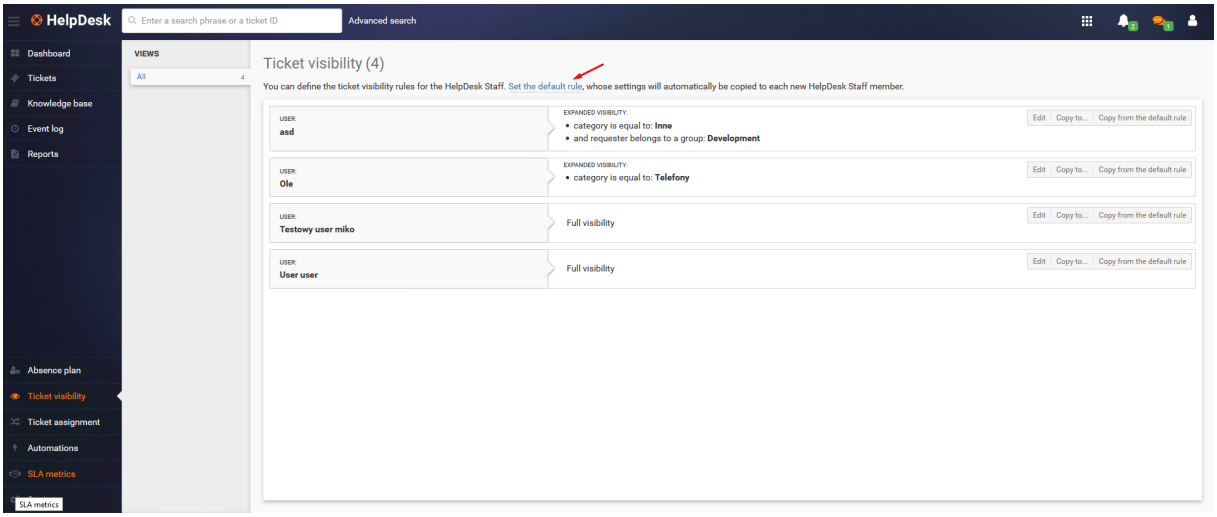
By viewing the ticket visibility tab, it is possible to check the current configuration. All users with the role of **HelpDesk employee** will be visible on the list:



Default settings

It is possible to configure the default user permissions, which will be assigned to each new user who gets the "**HelpDesk employee**" **role** for the first time. If the default rule is edited, people who have already been assigned the role no longer receive the updated form.

To edit the default settings, select the **set the default rule** option:



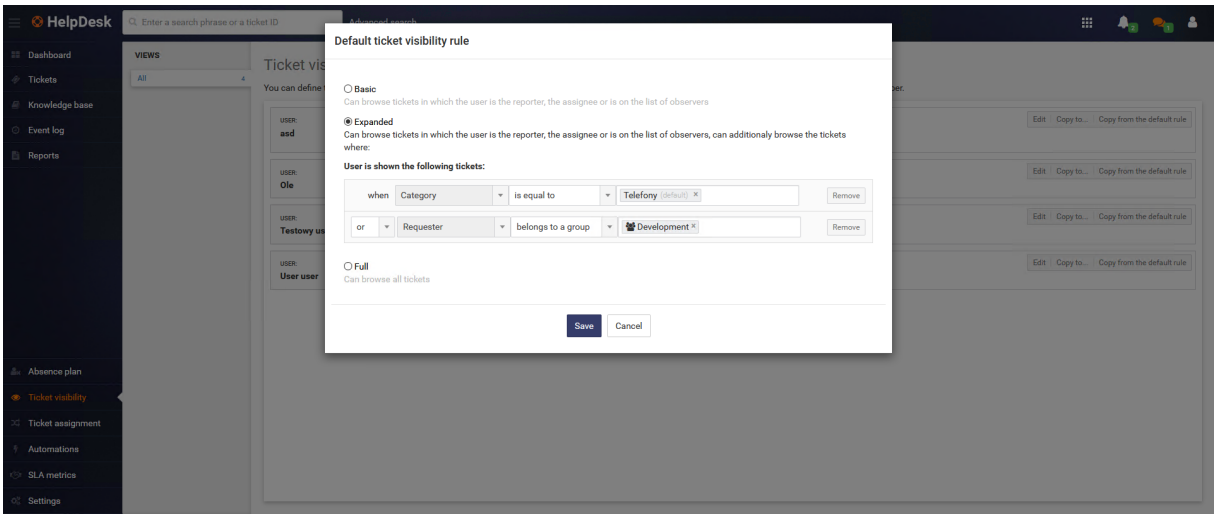
Rule configuration

The ticket visibility rule has two configuration options:
1. Full visibility - the selected person will have **access to all notifications**
2. Visibility limited - the selected person will have access to notifications that **meet the conditions**.

Available conditions:

- Request category **is equal** or **not equal to** selected category
- Requesting person **belongs** or **does not belong** to particular group

Administrator can determine, how many conditions (one or two) must be fulfilled for the rule to work



Rule editing

Each visibility rule can be edited. To do this, select the **Edit** option next to the selected item. After making changes, submit with **Save** button.

Copying rules for other users

It is possible to assign the selected rule to other HelpDesk employees. To do this, click the **Copy to ...** button next to the rule which is to be copied. After specifying the users who will receive new rights, submit changes with **Save** button.

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In order to grant default permissions, click the **Copy from default rule** button next to the selected user.

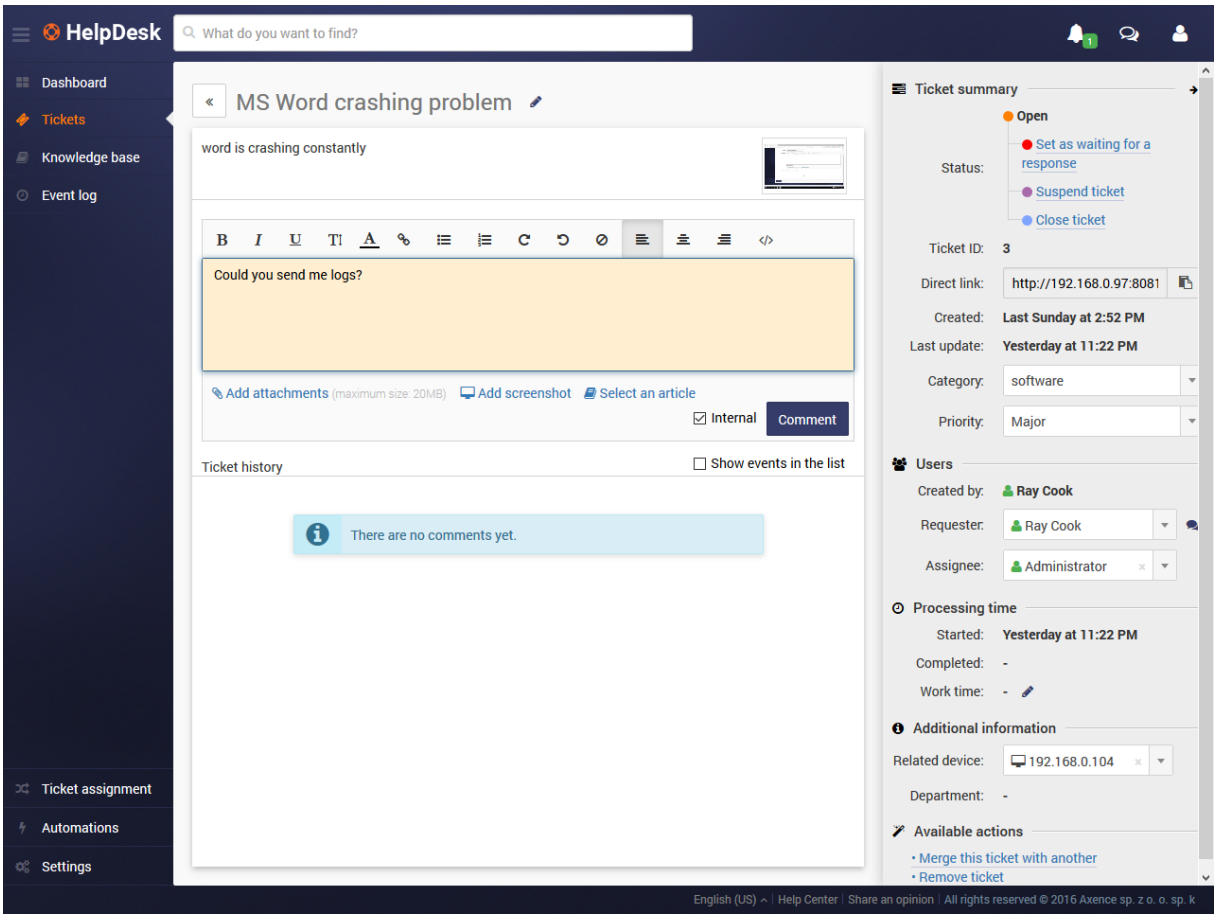
10.4.5 Ticket processing

10.4.5.1 Adding a comment

To add a comment to the ticket:

1. In the **Tickets** view click the ticket you want to process.
2. Enter a comment in the embedded text editor 354 in the field below the ticket description.

3. You can **Add attachment** 368 to the ticket.
4. You can **Add screenshot** 368 if the Agent is installed on the device.
5. By default, the form is set to publish internal comments (orange background), which are visible only to Administrator and HelpDesk users. If a comment is to be visible to end users (white background), uncheck the **Internal** field. An end user can only add public comments.
6. You can add a link to the Knowledge Base article (only the Administrator and the Helpdesk support employee). To do this, click the **Select article** button and enter the title or select the article you want to sublink from the list. In this way, you can sublink multiple articles. To finish, click the **Select article** button.
7. To publish the comment, click the **Comment** button.



Related topics

Starting the HelpDesk interface

Trouble tickets - overview

Ticket list

Adding an attachment 368

10.4.5.2 Adding attachments and screenshots

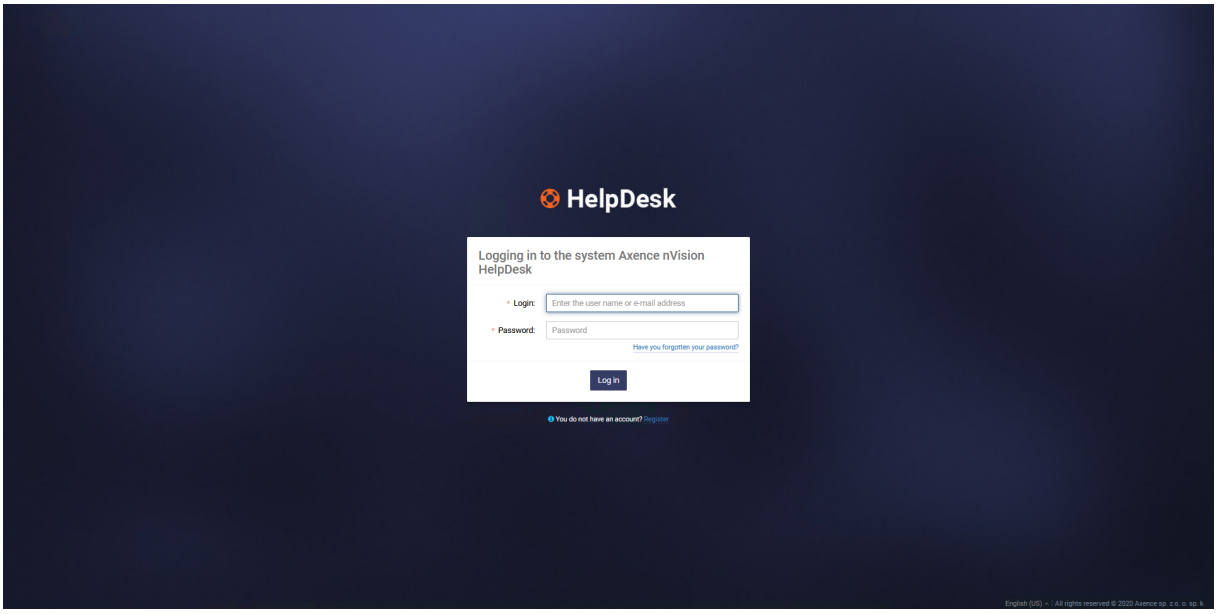
To add an attachment to the ticket:

1. In the Ticket adding 363 or Comment adding 366 view click the **Add attachments** button.
2. In the dialog box select the file to be attached.
3. Enter a comment and click the **Comment** button.

To add a screenshot to the ticket:

1. In the Ticket adding 363 or Comment adding 366 view click the **Add screenshot** button.
2. In the dialog box click the **Screenshot** button. An image of the user's desktop will be displayed.
3. Enter a comment and click the **Comment** button.

Note: A screenshot can only be added by the author of the ticket, if the Agent with the configuration enabling screenshots is installed on their machine.



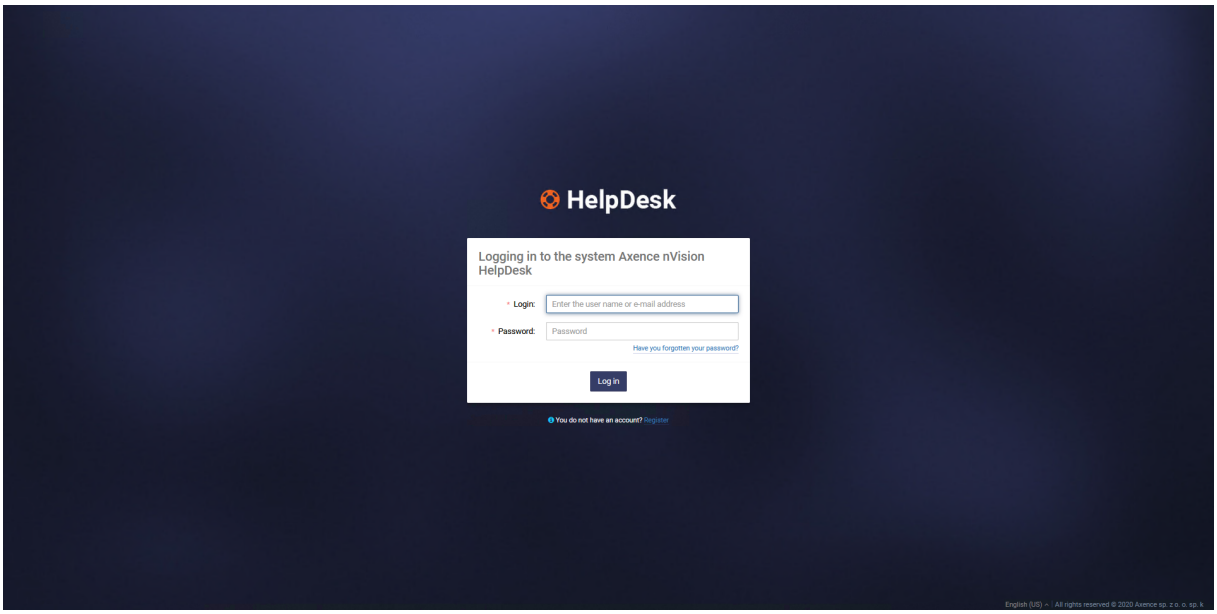
Related topics

- Starting the HelpDesk interface
- Trouble tickets - overview
- Ticket list
- Adding a ticket
- Adding a comment 366

10.4.5.3 Editing a ticket subject

To change the ticket subject:

1. In the **Tickets** view, click the ticket to be processed.
2. Click the pencil icon next to the ticket subject.



3. Enter the new subject in the dialog box.
4. Click the **Save changes** button.

Related topics

Starting the HelpDesk interface

Trouble tickets - overview

Ticket list 361

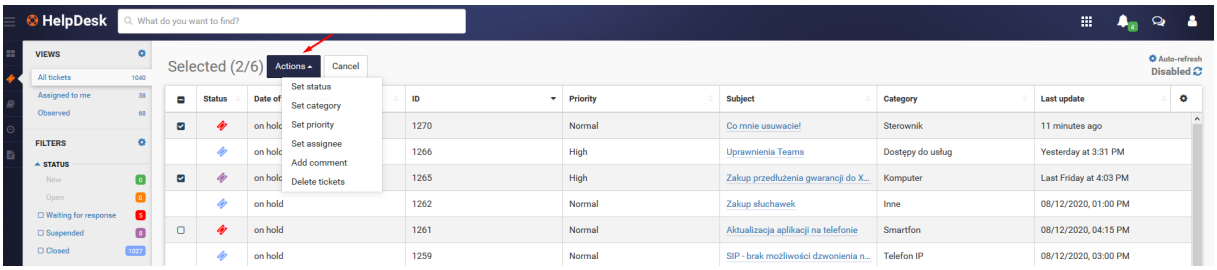
10.4.5.4 Multi-ticket operations

Helpdesk employees can perform multiple operations on many files at the same time.

To close an operation on more than one ticket at a time, go to the ticket list. After selecting items from the list and clicking the **Actions** button, you can make mass change:

- Application status
- Priority
- Categories
- Assignee

in addition, it is possible to add a comment to selected tickets or delete selected tickets (irreversible operation).

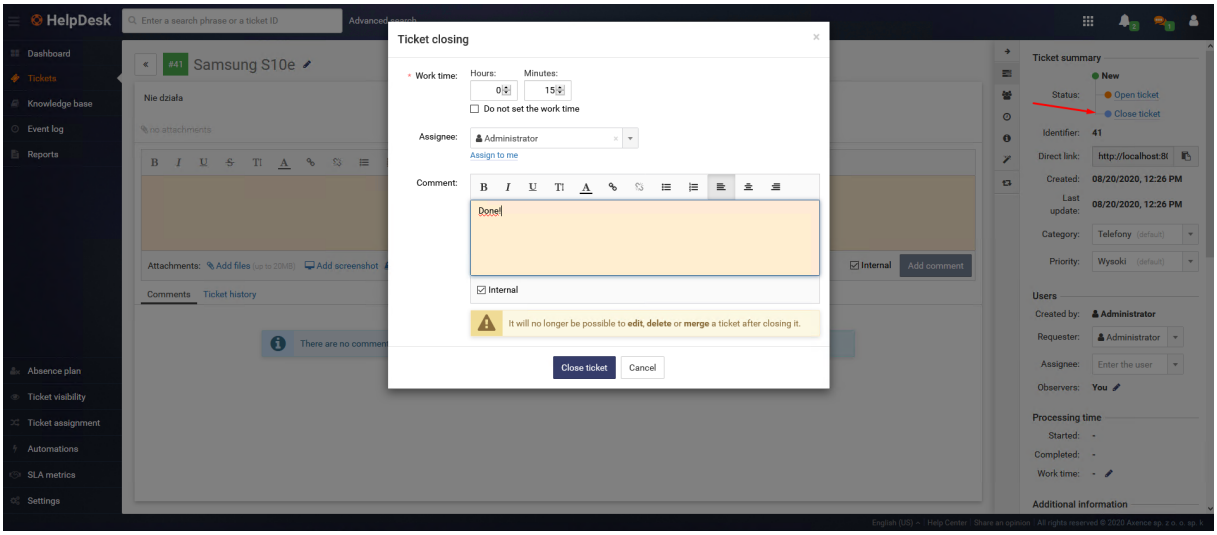


10.4.5.5 Closing a ticket

Ticket can be closed in two ways.

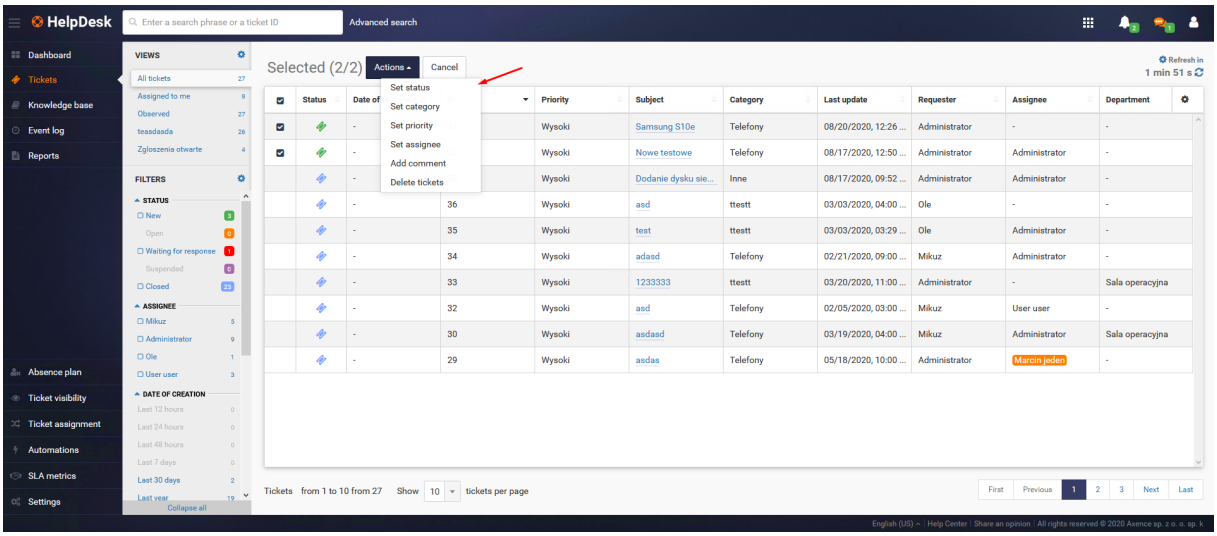
Closing from the application processing window.

To close the ticket, click the **Close ticket** button in the upper part of the window. A window for will open, where the employee can specify the time spent on the execution of the report and add the last comment to the ticket:



Closing from the ticket list level

To close more than one ticket at a time, go to the tickets list. Once the items are selected, it is possible to mass change the notification status:



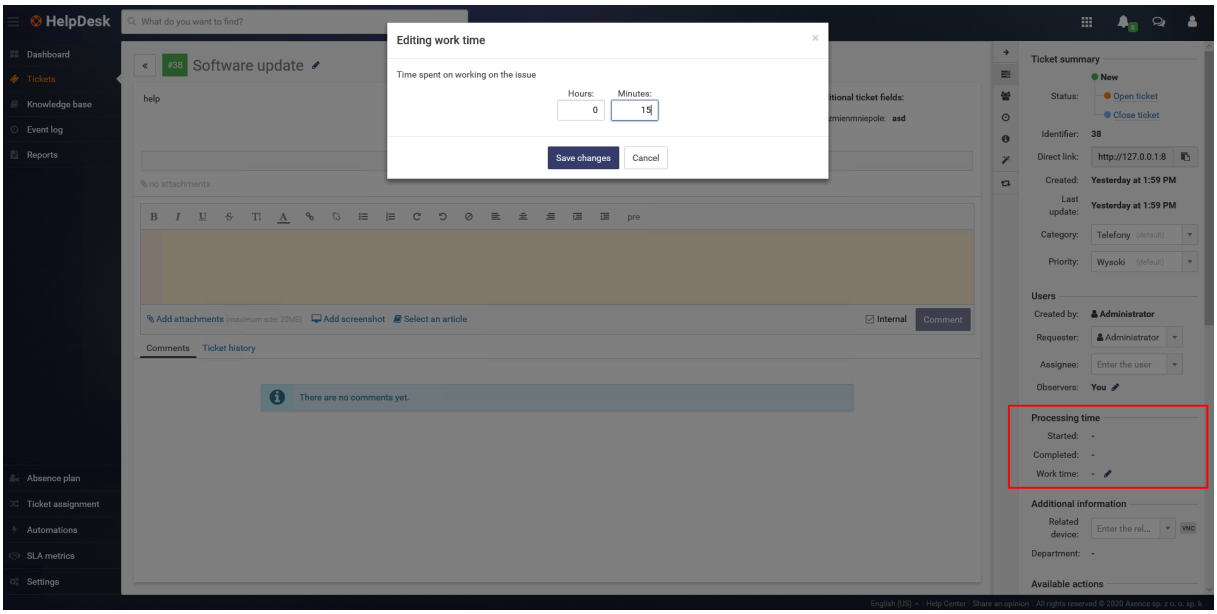
10.4.5.6 Editing ticket details

10.4.5.6.1 Setting the ticket processing time

Setting the ticket processing duration allows a retrospective performance analysis and the estimation of the time required to solve similar issues.

To set the ticket processing duration:

1. In the selected ticket view, in the **Processing time** section, click the pencil icon.
2. Enter the time for which the ticket was being processed.
3. In the dialog box set the ticket processing time and click **Save changes** button.



Related topics

Starting the HelpDesk interface

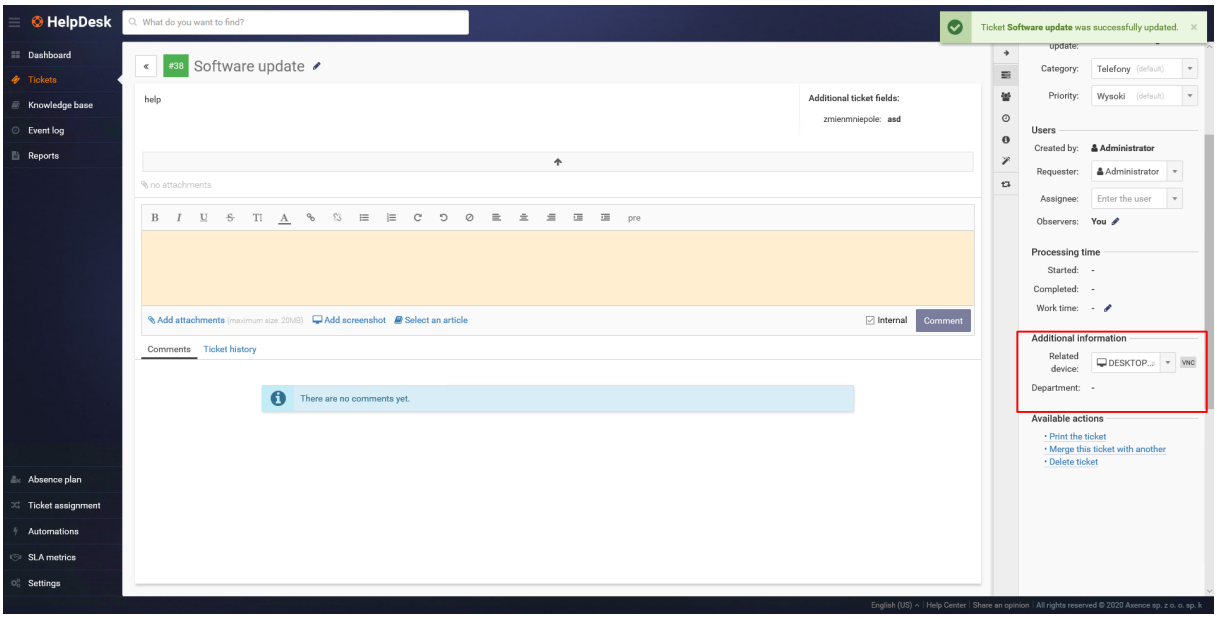
Trouble tickets - overview 360

10.4.5.6.2 VNC connection

Note: the remote access feature is visible only for devices supporting such a function.

To make a remote connection with the device, which the given ticket pertains to:

1. In the selected ticket view, in the **Additional information** section, click **VNC** button on the right-hand side of the related device name.
2. In the dialog box select the user session which you want to connect to and click **Connect** button. As a result, a new browser tab with the remote connection will open.
3. To control connection options, use the menu in the upper right hand corner.



Related topics

Starting the HelpDesk interface

Trouble tickets - overview

10.4.5.6.3 Related tickets

The HelpDesk system allows tickets to be related. Each relation connects exactly two different tickets.

Ticket relations can be created and deleted by any person with a HelpDesk Employee or Administrator role and are visible only for such users.

Information about related tickets is visible in the ticket summary(as the last option).

The HelpDesk system offers the following relation types:

- Association (the same content in both directions)

  Ticket A is associated with ticket B

  Ticket B is associated with ticket A

- Blocking

  Ticket A blocks ticket B

Ticket B is blocked by ticket A

- Multiplication

  Ticket A replicates ticket B

  Ticket B is replicated by ticket A

- Reason and effect

  Ticket A is a reason for ticket B

  Ticket B is an effect of ticket A

- Follow-up

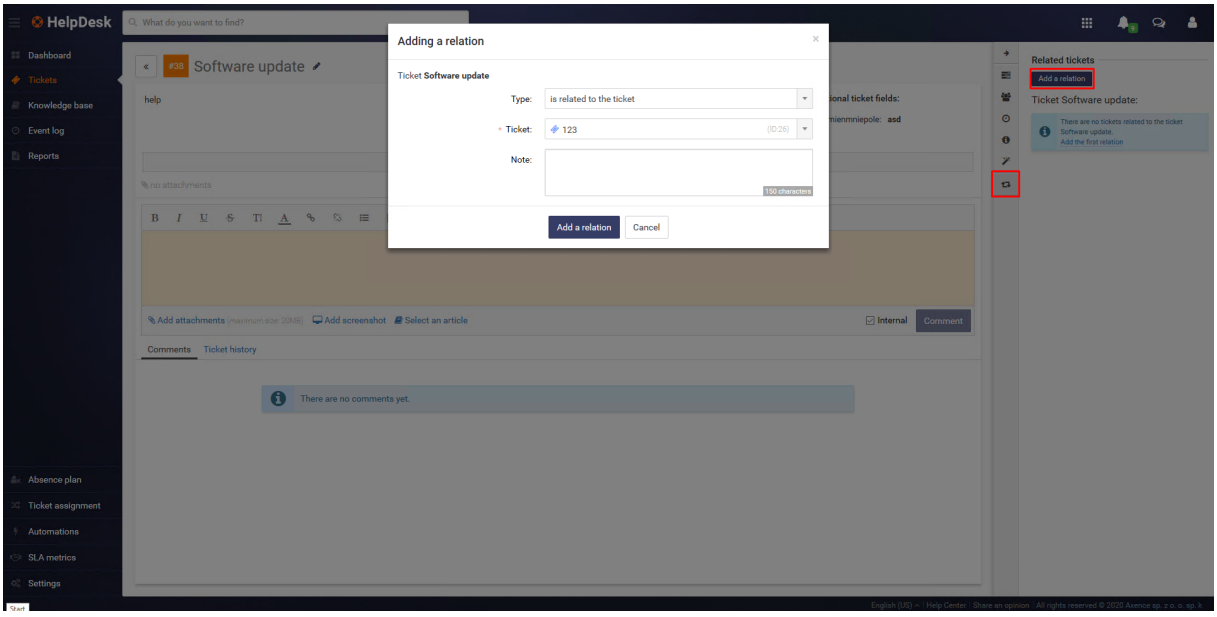
  Ticket A is a follow-up to ticket B

  Ticket B is a followed up by ticket A

Creating and removing relations

To create a relation between tickets:

1. Go to details 371 for one of the tickets.
2. Click **Add relation** button in the **Related tickets** section.
3. Specify:
   - relation type,
   - the other ticket to be related with the current one,
   - optionally: relation description (memo).
4. Click the **Add relation** button.



Additional information

- Each ticket can have a custom number of relations.
- Relations can be created and removed even when one or both related tickets are closed.

- Creating and removing relations does not generate notifications for any users participating in ticket processing.
- A ticket created by means of an e-mail message as a follow-up to a closed ticket (by responding to an e-mail notification) is, at the moment of creation, automatically related to the ticket, which is followed up. (*"<follow-up> ticket is a follow-up to ticket <closed ticket>"*)
- Creating or removing a relation is not a ticket update and therefore does not change the last ticket update date and does not trigger automations.
- Removing a ticket appearing in any relations results in removing all such relations (regardless of their direction).

10.4.5.6.4 Merging tickets

Note: you can only merge tickets, which are not closed (i.e. their status is New, Open, Response pending, Suspended) and which originate from the same reporting person. The operation is irreversible.

To merge tickets:

1. In the **Tickets** view click the ticket which is to be merged with another ticket.
2. Click the **Merge this ticket with another** action in the ticket summary, in the **Available actions** section.
3. In the ticket merging dialog box specify the name or ID of the ticket which the current ticket will be added to.
4. Click the **Merge tickets** button.

Related topics

Starting the HelpDesk interface

Trouble tickets - overview 360

10.4.5.6.5 Deleting a ticket

Note: only the Administrator user can delete tickets (which are not in "closed" status). Ticket deletion operation is irreversible.

To remove a ticket:

1. In the **Tickets** view click the ticket to be deleted.
2. Click the **Delete ticket** action in the ticket summary, the **Available actions** section.
3. In the ticket deletion dialog box click the **Delete** button.

Related topics

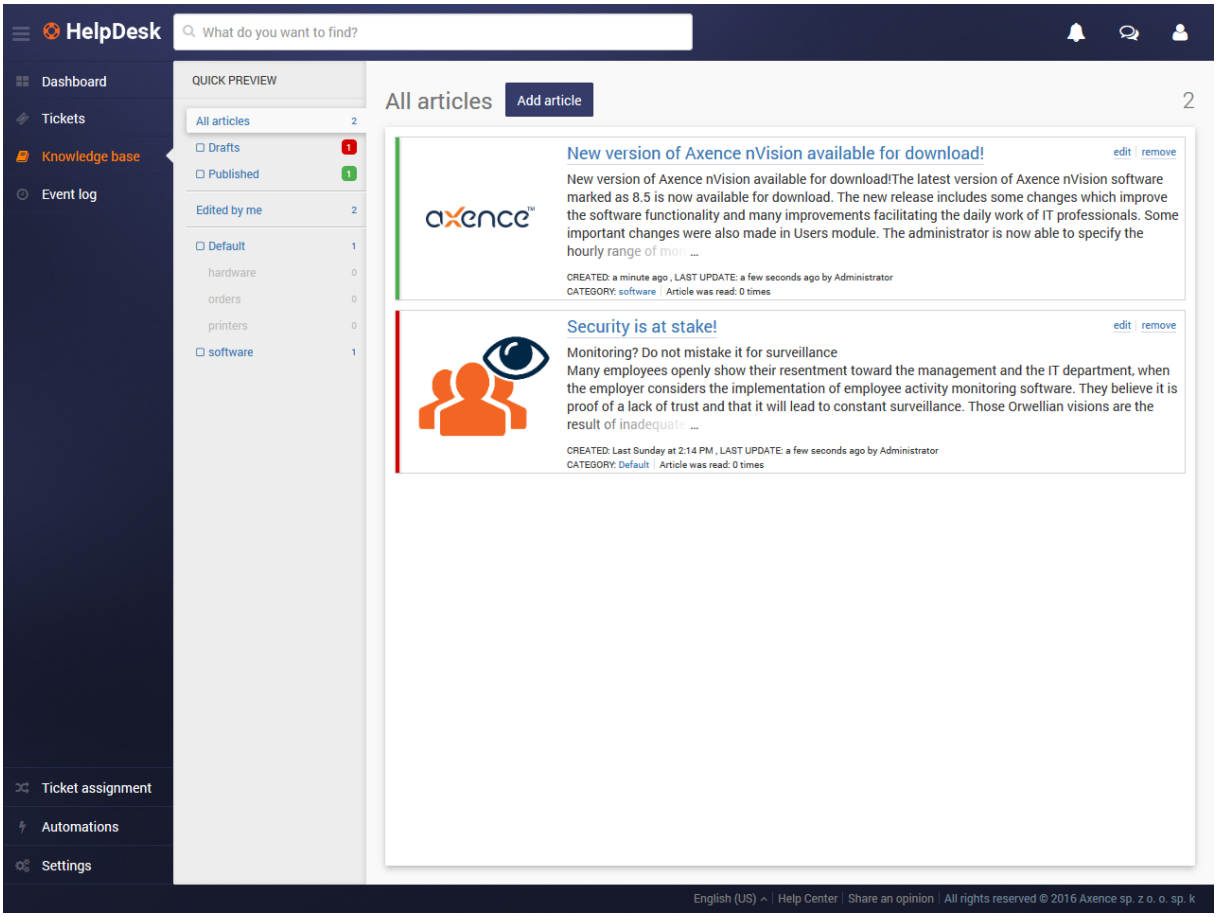
Starting the HelpDesk interface

Trouble tickets - overview 360

10.5 Knowledge base

10.5.1 Knowledge base - overview

The knowledge base is a space where Administrators and HelpDesk employees can publish articles describing the procedures used in the given organization, and the most common issues and their solutions. After such articles have been published, users can browse them or use the **Search** field to search for the article describing the solution to the issue which they have encountered. If the knowledge base search produces no results in the form of a description of the solution to the given issue, the user can create a trouble ticket and describe the issue.

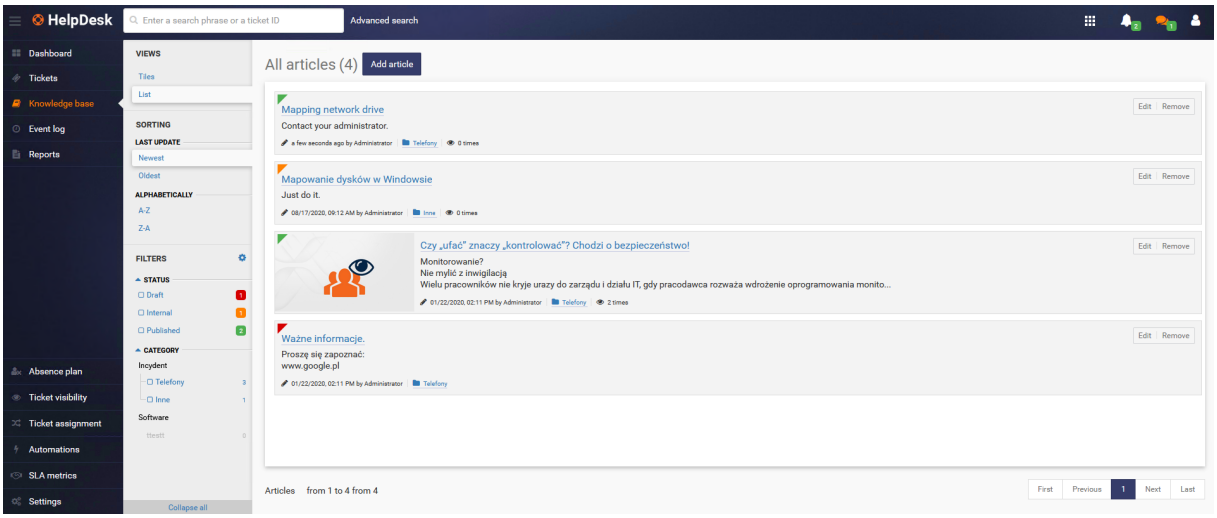


Related topics

- Starting the HelpDesk interface
- Article list
- Adding an article
- Editing an article
- Deleting an article
- Trouble tickets - overview
- Search bar 359

10.5.2 Article list

The article view shows the list of articles present in the knowledge base. The view is coherent with the ticket list 361 view.



In the left part of the window, there is the main navigation (see Main views 352) and the quick preview column. The quick preview allows you to rapidly display a data set from the specific area of interest. For instance, you can display unpublished articles, which, additionally, belong to one of the two selected categories.

Article list

The main part of the described view is the article list table. Each article is represented by a single tile. The following data are displayed within a tile:

- Article status (red – draft, green – published, orange - internal)
- Title
- Context actions: **editing** (only for the HelpDesk support employee and Administrator) and **deleting** (only for the Administrator)
- Article cover (if it was defined)
- Excerpt from the article text
- Date of creation
- Date of last update
- Category
- Number of article visits by end users (only for the HelpDesk support employee and Administrator)

To open the selected article, click its title.

Related topics

Starting the HelpDesk interface

Knowledge base - overview

Trouble tickets - overview

Article list

Adding an article

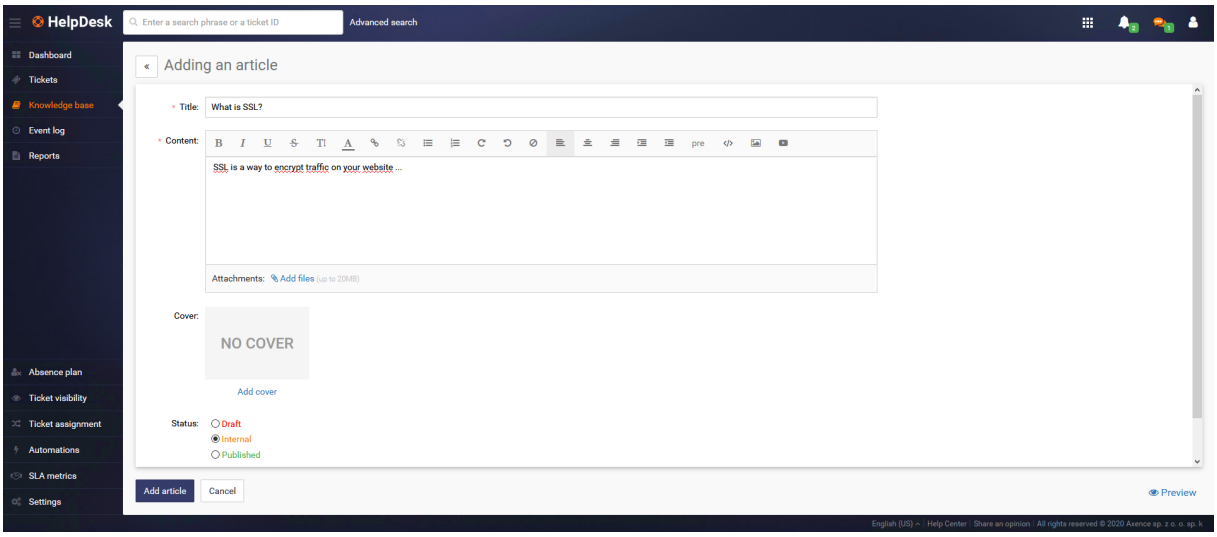
Editing an article

Deleting an article 379

10.5.3 Adding an article

To create a new article in the HelpDesk interface:

1. In the **Knowledge base** view click the **Add article** button.
2. Add article **Cover** (optionally).
3. Enter article **Title**.
4. Type the article contents in the embedded text editor 354.
5. You can attach an image or a link to an external video with the use of **Upload image** and **Insert video** options.
6. Set the article **Status** as **Draft, Published or internal** (default setting: Draft). Articles marked as drafts are not visible to end users. Articles marked as internal are only visible to HelpDesk employees. You can supplement the article and edit its status 378 at a later time.
7. Select the article's **Category** from the list of available categories. You can add a new category 344 without interrupting the article creation process.
8. You can view the created article by clicking **Preview**. To return to the article editing window, click **Back to editing** button.
9. When the article is completed, click the **Add article** button.



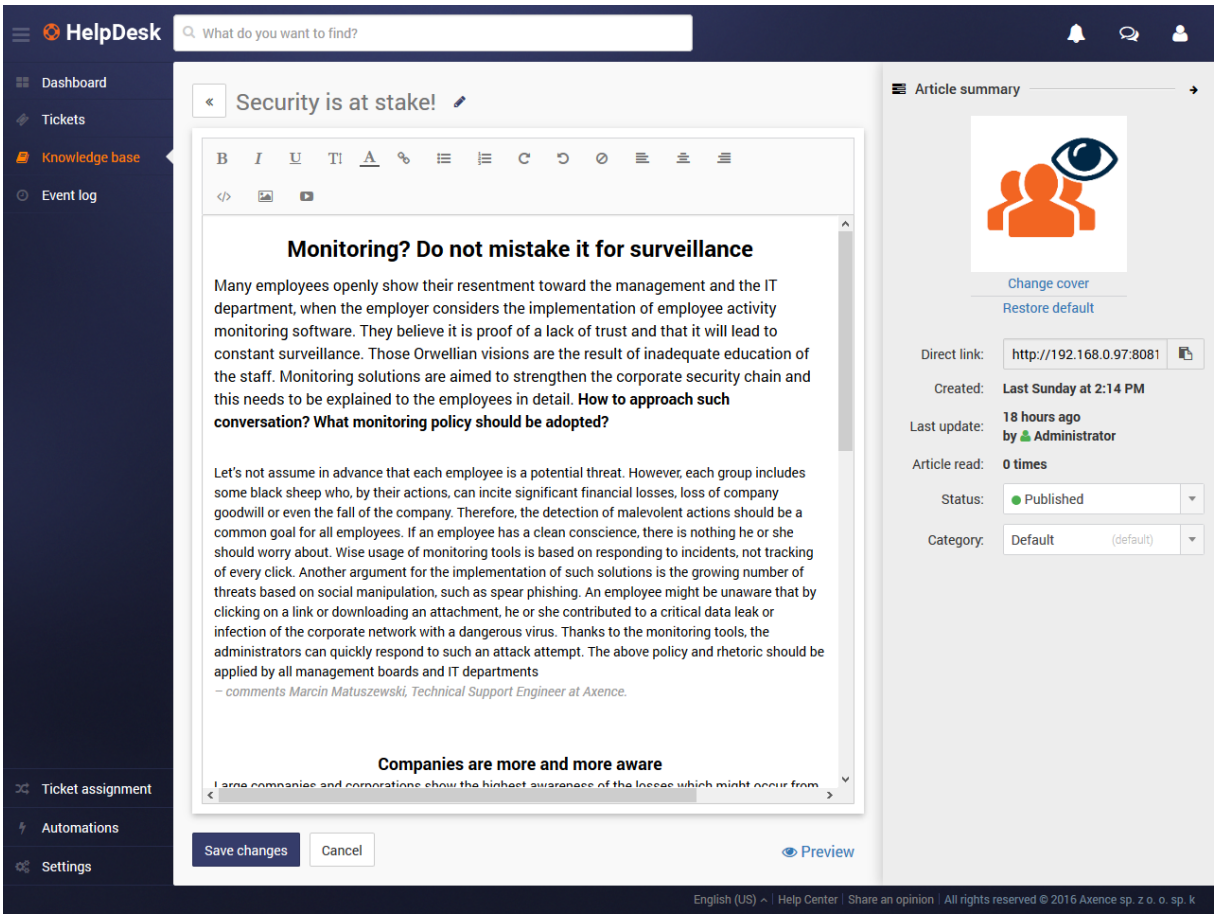
Related topics

Logging in to the HelpDesk interface

10.5.4 Editing an article

To edit an article in the HelpDesk interface:

1. In the **Knowledge base** view click **Edit** button on the tile of the article to be edited.
2. To edit the article title, click the pencil icon on the right-hand side of the title, enter the new title and click **Save changes** button.
3. Modify the article contents in the embedded text editor 354.
4. You can attach an image or a link to an external video with the use of **Upload image** and **Insert video** options.
5. To change the article cover, in the article summary in the right-hand side of the window, click the pencil icon on the cover (or **Add cover**).
6. To change the article status, in the article summary in the right-hand side of the window select **Status**: **Draft, Published or Internal**.
7. To change the article category, in the article summary in the right-hand side of the window select **Category** from the list of available categories. You can add a new category 344 without interrupting the article creation process.
8. You can view the created article by clicking **Preview**. To return to the article editing window, click **Back to editing** button.
9. When modifications are complete, click the **Save changes** button.



Related topics

Logging in to the HelpDesk interface

Knowledge base

Article list

Adding an article

Deleting an article 379

10.5.5 Deleting an article

To delete an article in the HelpDesk interface:

1. In the **Knowledge base** view click the **Remove** button on the tile of the article to be deleted.
2. A dialog box will appear. Confirm your decision to delete an article by clicking the **Remove article** button. The deleted article cannot be restored.

Related topics

Logging in to the HelpDesk interface

Knowledge base

Article list

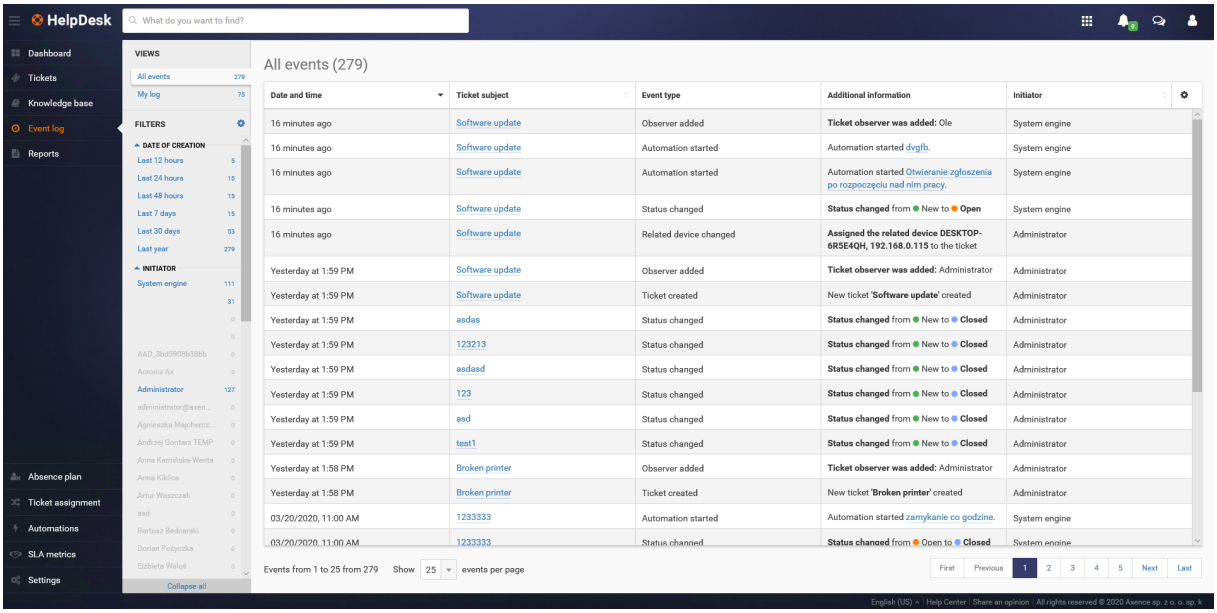
Adding an article

Editing an article 378

10.6 Event log

The event log view presents the list of all operations related to trouble tickets in the HelpDesk system. The event log allows the history of changes to tickets to be tracked, to optimize work and to clarify possible misunderstandings.

Note: the event log includes only ticket-related operations and it does not cover changes in the article database. The event log is visible for operations of Administrators and HelpDesk support employees.



The event log view is coherent with the ticket list 361 and article list 376 views. In the left part of the window, there is the main navigation (see Main views 352) and the quick preview column. The quick preview allows you to rapidly display a data set from the specific area of interest. For instance, you can display the events related only to applied automations and priority changes or all the events for a given ticket which have taken place in the last week.

To change the displayed columns or their sequence, click the table settings button [icon] in the upper right corner of the table. To sort the table contents by a given column, click the arrow at the column name. Below the table you can select how many tickets are to be displayed per page, and also go to the next pages.

Filters

The quick preview column in the left-hand side of the window offers the following event filters:

- all events related to the ticket object (default selection for the Administrator, option invisible for HelpDesk users),
- all events related to a ticket assigned to me (default selection for HelpDesk users),
- events from last week (option to select the types of displayed events),
- events from last month (option to select the types of displayed events),
- events from last year (option to select the types of displayed events),

- events by type (many items can be selected).

Filtering events by type includes the following options:

Event type	Additional displayed information	Event initiator
Comment added	Comment text	User name
Automation action failed	Name of the failed automation action	HelpDesk mechanism
Tickets merged	Name of the ticket, which was closed and merged into another ticket	User name
Automation started	Name of applied automation	HelpDesk mechanism
Ticket has been created	Name of created ticket	User name
Work time has been changed	Ticket processing time	User name
Category has been changed	Current category	User name
Assignee changed	Name of the assigned user	User name
Related device has been changed	Name of related device	User name
Priority has been changed	Current priority	User name
Status changed	Current status	User name
Subject has been changed	Current ticket subject	User name
Requester has been changed	Name of the requested user	User name

Related topics

Starting the HelpDesk interface

Main views

Ticket list

Article list

Automations - overview 420

10.7 Reports

10.7.1 Report generation

There are 32 types of HelpDesk module reports, covering the most common scenarios allowing statements to be generated for:

Tickets:

- ✓ Closed tickets: 384
  - ✓ Closed tickets by days
  - ✓ Closed tickets by weeks
  - ✓ Closed tickets by months
  - ✓ Closed tickets by assignees
  - ✓ Closed tickets by priorities
  - ✓ Closed tickets by categories
  - ✓ Closed tickets by departments
- ✓ Activity and ticket response time: 399
  - ✓ Response time by days
  - ✓ Response time by weeks
  - ✓ Response time by months
  - ✓ Summary - number of events
  - ✓ User activity in tickets
  - ✓ First response time by users
- ✓ Unclosed tickets reports: 407
  - ✓ Unclosed tickets summary
  - ✓ Unclosed tickets by assignees
  - ✓ Unclosed tickets by priorities
  - ✓ Unclosed tickets by categories
  - ✓ Unclosed tickets by departments

SLA reports:

- ✓ Closed tickets under SLA reports 416:
  - ✓ Closed tickets under SLA summary
  - ✓ Closed tickets under SLA by days
  - ✓ Closed tickets under SLA by weeks
  - ✓ Closed tickets under SLA by months
  - ✓ Closed tickets under SLA by assignees
  - ✓ Closed tickets under SLA by departments
- ✓ SLA metric course reports 417:

- ✓ SLA metric course summary
- ✓ SLA metric course by days
- ✓ SLA metric course by weeks
- ✓ SLA metric course by months
- ✓ SLA metric course by assignees
- ✓ SLA metric course by departments

✓ SLA metric violation reports 417:

- ✓ SLA violations by metric violation date
- ✓ SLA violations by ticket closure date

To generate a report:

1. Log in to the HelpDesk interface as the **Administrator**, navigate to the **Reports** view.
2. Select a report group, click the report type name.
3. In report wizard, specify the preconditions (arguments), range and the form in which the results are to be presented.
4. The generated report can be exported to **CSV** or **XLS**.

TICKETS REPORTS

Closed ticket reports are generated for tickets which have already completed the processing (in read-only form – cannot be edited). Reports of this group enable the control of ticket handling quality (for specific days, months, by individual technical support employees).

The reports are archival and unchangeable. Re-generation of a report with the same arguments will always produce the same results.

Activity and ticket response time reports summarize the total number of system events in a given period. Reports from this group offer information about the data volumes processed by the system.

The reports are archival and unchangeable. Re-generation of a report with the same arguments will always produce the same results.

Unclosed tickets reports show data on tickets currently being processed in the system. Reports from this group offer information about the current system status, e.g. the current number of tickets.

The reports work as views – re-generation of the report can produce different results each time.

SLA METRIC REPORTS

Closed tickets under SLA reports display the statistics of closed tickets processed under SLA metrics. This group of reports enables the investigation into how the service level agreement provisions were fulfilled.

The reports are archival. Re-generation of a report with the same arguments will always produce the same results.

SLA metric course reports display the events that occurred during the SLA metric run. The purpose of this group of reports is to monitor the tasks executed under the service level agreement.

SLA violation reports display the tickets with a violated SLA metric. The purpose of this group of reports is to investigate the incidents of service level agreement breaches.

Dates in reports pertain to the local time of the machine where the Axence nVision® Server (HelpDesk service) is installed.

10.7.2 Tickets reports

10.7.2.1 Closed ticket reports

Reports are generated for tickets which have already completed the processing (available in read-only form – cannot be edited). Reports of this group enable the control of ticket handling quality (for specific days, months, by individual technical support employees).

The reports are archival and unchangeable. Re-generation of a report with the same arguments will always produce the same results.

Reported data:

Response time – time from ticket creation to the first public comment by a user with “administrator” or “technical support” role.

Work time – duration of work on the ticket, entered by a technical support employee.

Average number of comments from requester – number of comments authored by the requester divided by the total number of tickets.

The total **time average** and **comment average** is a weighted value: *(number of objects in a row * row value)/total number of objects*.

Types of closed ticket reports *(click the report name to expand the description)*:

Closed tickets by days

The report presents an overview of ticket processing in range of days.

Arguments:

Argument name	Possible values	Selection method	Default value	Remarks
Closing date until:	date (range: 1 day)	date selection	last day of the last month	not possible to select the current day; **maximum time from the start date: 100 days**
Closing date from:	date (range: 1 day)	date selection	first day of the last month	no date limitations
Category:	(any), multiple choice from category list	multiple choice	(any)	-
Assignee:	(any), (none), multiple choice from assignee list	multiple choice	(any)	-
Department:	(any), (none), multiple choice from department list	multiple choice	(any)	-
Show unassigned tickets:	true, false	checkbox	true	-
Show tickets without department:	true, false	checkbox	true	-
Priority:	(any), multiple choice from priority list	multiple choice	(any)	-

Reported data:

Example:

Day	Number of closed tickets	Average response time	Time in 'Open' status		Time in 'Waiting for response' status		Time in 'Suspended' status		Time from opening to closing		Work time		Average number of requester comments
			average	total	average	total	average	total	average	total	average	total	
January 1, 2016	8	30 min	1 h	8 h	1 h	8 h	1 h	8 h	1 h	8 h	1 h	8 h	3.5
January 2, 2016	10	45 min	1 h 30 min	8 h 30 min	1 h 30 min	8 h 30 min	1 h 30 min	8 h 30 min	1 h 30 min	8 h 30 min	1 h 30 min	8 h 30 min	4
January 3, 2016	12	15 min	30 min	7 h 30 min	7 h 30 min	7 h 30 min	30 min	7 h 30 min	30 min	7 h 30 min	30 min	7 h 30 min	4.5
average	**10**	**29 min**	**58 min**	-	**58 min**	-	**58 min**	-	**58 min**	-	**58 min**	-	**4.07**
total	**30**	-	-	**24 h**	-	**24 h**	-	**24 h**	-	**24 h**	-	**24 h**	-

Visual presentation:

Chart: point/line chart of the number of tickets closed from the given day.

Chart: point/line chart of the average response time from the given day.

Chart: point/line chart of the average time in "open", "waiting for response", "suspended" status from the given day.

Chart: point/line chart of the average time from opening to closing from the given day.

Chart: point/line chart of the average work time from the given day.

Chart: bar chart of the total work time from the given day.

Chart: point/line chart of the average number of comments from the requester from the given day.

Closed tickets by weeks

The report presents an overview of ticket processing in range of weeks.

Arguments:

Argument name	Possible values	Selection method	Default value	Remarks
Closing date until:	date (range: 1 week)	date selection	last completed week	not possible to select the current week; **maximum time from the start date: 15 weeks** (105 days)
Closing date from:	date (range: 1 week)	date selection	four weeks back from the last completed week	no date limitations
Category:	(any), multiple choice from category list	multiple choice	(any)	-
Assignee:	(any), (none), multiple choice from assignee list	multiple choice	(any)	-
Department:	(any), (none), multiple choice from department list	multiple choice	(any)	-
Show unassigned tickets:	true, false	checkbox	true	-
Show tickets without department:	true, false	checkbox	true	-
Priority:	(any), multiple choice from priority list	multiple choice	(any)	-

Reported data:

Example:

Week	Number of closed tickets	Average response time	Time in 'Open' status		Time in 'Waiting for response' status		Time in 'Suspended' status		Time from opening to closing		Work time		Average number of requester comments
			average	total	average	total	average	total	average	total	average	total	
January, 4 - 10 2016	100	30 min	1 h	100 h	1 h	100 h	1 h	100 h	1 h	100 h	1 h	100 h	3.5
January 11 - 17, 2016	150	45 min	1 h 30 min	200 h	1 h 30 min	200 h	1 h 30 min	200 h	1 h 30 min	200 h	1 h 30 min	200 h	4
January, 18 - 24 2016	200	15 min	30 min	150 h	30 min	150 h	30 min	150 h	30 min	150 h	30 min	150 h	4.5
average	**150**	**28 min 59 sec**	**56 min 40 sec**	-	**56 min 40 sec**	-	**56 min 40 sec**	-	**56 min 40 sec**	-	**56 min 40 sec**	-	**4.11**
total	**450**	-	-	**450 h**	-	**450 h**	-	**450 h**	-	**450 h**	-	**450 h**	-

Visual presentation:

Chart: point/line chart of the number of tickets closed from the given week.

Chart: point/line chart of the average response time from the given week.

Chart: point/line chart of the average time in "open", "waiting for response", "suspended" status from the given week.

Chart: point/line chart of the average time from opening to closing from the given week.

Chart: point/line chart of the average work time from the given week.

Chart: bar chart of the total work time from the given week.

Chart: point/line chart of the average number of comments from the requester from the given week.

Closed tickets by months

The report presents an overview of ticket processing in range of months.

Arguments:

Argument name	Possible values	Selection method	Default value	Remarks
Closing date until:	date (range: 1 month)	date selection	last completed month	not possible to select the current month; **maximum time from the start date: 3 months**
Closing date from:	date (range: 1 month)	date selection	first month of the quarter with the last completed month	no date limitations
Category:	(any), multiple choice from category list	multiple choice	(any)	-
Assignee:	(any), (none), multiple choice from assignee list	multiple choice	(any)	-
Department:	(any), (none), multiple choice from department list	multiple choice	(any)	-
Show unassigned tickets:	true, false	checkbox	true	-
Show tickets without department:	true, false	checkbox	true	-
Priority:	(any), multiple choice from priority list	multiple choice	(any)	-

Reported data:

Example:

Month	Number of closed tickets	Average response time	Time in 'Open' status		Time in 'Waiting for response' status		Time in 'Suspended' status		Time from opening to closing		Work time		Average number of requester comments
			average	total	average	total	average	total	average	total	average	total	
January 2016	100	30 min	1 h	100 h	1 h	100 h	1 h	100 h	1 h	100 h	1 h	100 h	3.5
February 2016	150	45 min	1 h 30 min	200 h	1 h 30 min	200 h	1 h 30 min	200 h	1 h 30 min	200 h	1 h 30 min	200 h	4
March 2016	200	15 min	30 min	150 h	30 min	150 h	30 min	150 h	30 min	150 h	30 min	150 h	4.5
average	**150**	**28 min 20 sec**	**56 min 40 sec**	-	**56 min 40 sec**	-	**56 min 40 sec**	-	**56 min 40 sec**	-	**56 min 40 sec**	-	**4.11**
total	**450**	-	-	**450 h**	-	**450 h**	-	**450 h**	-	**450 h**	-	**450 h**	-

Visual presentation:

Chart: point/line chart of the number of tickets closed from the given month.

Chart: point/line chart of the average response time from the given month.

Chart: point/line chart of the average time in "open", "waiting for response", "suspended" status from the given month.

Chart: point/line chart of the average time from opening to closing from the given month.

Chart: point/line chart of the average work time from the given month.

Chart: bar chart of the total work time from the given month.

Chart: point/line chart of the average number of comments from the requester from the given month.

Closed tickets by assignees

The report shows an overview of ticket processing for each technical support employee.

Arguments:

Argument name	Possible values	Selection method	Default value	Remarks
Closing date until:	date (range: 1 day)	date selection	last day of the last month	not possible to select the current month; **maximum time from the start date: 100 days**
Closing date from:	date (range: 1 day)	date selection	first day of the last month	no date limitations
Category:	(any), multiple choice from category list	multiple choice	(any)	-
Assignee:	(any), (none), multiple choice from assignee list	multiple choice	(any)	-
Department:	(any), (none), multiple choice from department list	multiple choice	(any)	-
Show unassigned tickets:	true, false	checkbox	true	-
Show tickets without department:	true, false	checkbox	true	-
Priority:	(any), multiple choice from priority list	multiple choice	(any)	-

Reported data:

Example:

Employee	Number of closed tickets	Average response time	Time in 'Open' status		Time in 'Waiting for response' status		Time in 'Suspended' status		Time from opening to closing		Work time		Average number of requester comments
			average	total	average	total	average	total	average	total	average	total	
Jan Kowalski	100	30 min	1 h	100 h	1 h	100 h	1 h	100 h	1 h	100 h	1 h	100 h	3.5
Piotr Nowak	150	45 min	1 h 30 min	200 h	1 h 30 min	200 h	1 h 30 min	200 h	1 h 30 min	200 h	1 h 30 min	200 h	4
Anna Nowak	200	15 min	30 min	150 h	30 min	150 h	30 min	150 h	30 min	150 h	30 min	150 h	4.5
total	**450**	-	-	**450 h**	-	**450 h**	-	**450 h**	-	**450 h**	-	**450 h**	-

Employee	Number of closed tickets	Average response time	Time in 'Open' status		Time in 'Waiting for response' status		Time in 'Suspended' status		Time from opening to closing		Work time		Average number of requester comments
			average	total	average	total	average	total	average	total	average	total	
(no assignee)	2	30 min	1 h 30 min	2 h 30 min	1 h 30 min	2 h 30 min	1 h 30 min	2 h 30 min	8 h	2 h 30 min	8 h	2 h 30 min	3.5

Visual presentation:

Chart: bar chart of the number of closed tickets for the assignee + dotted line with mean value.

Chart: bar chart of the assignee's average response time + dotted line with mean value.

Chart: bar chart of the average time in "open", "waiting for response", "suspended" status for the assignee.

Chart: bar chart of the average time from opening to closing for the assignee + dotted line with mean value.

Chart: bar chart of the assignee's total work time + dotted line with mean value.

Chart: bar chart of the average number of requester's comments for the assignee + dotted line with mean value.

Closed tickets by priorities

The report shows an overview of ticket processing for specific ticket priorities.

Arguments:

Argument name	Possible values	Selection method	Default value	Remarks
Closing date until:	date (range: 1 day)	date selection	first day of the last month	not possible to select the current month; **maximum time from the start date: 100 days**
Closing date from:	date (range: 1 day)	date selection	last day of the last month	no date limitations
Category:	(any), multiple choice from category list	multiple choice	(any)	-
Assignee:	(any), (none), multiple choice from assignee list	multiple choice	(any)	-
Department:	(any), (none), multiple choice from department list	multiple choice	(any)	-
Show unassigned tickets:	true, false	checkbox	true	-
Show tickets without department:	true, false	checkbox	true	-
Priority:	(any), multiple choice from priority list	multiple choice	(any)	-

Reported data:

Example:

Priority	Number of closed tickets	Average response time	Time in 'Open' status		Time in 'Waiting for response' status		Time in 'Suspended' status		Time from opening to closing		Work time		Average number of requester comments
			average	total	average	total	average	total	average	total	average	total	
High	100	30 min	1 h	100 h	1 h	100 h	1 h	100 h	1 h	100 h	1 h	100 h	3.5
Medium	150	45 min	1 h 30 min	200 h	1 h 30 min	200 h	1 h 30 min	200 h	1 h 30 min	200 h	1 h 30 min	200 h	4
Low	200	15 min	30 min	150 h	30 min	150 h	30 min	150 h	30 min	150 h	30 min	150 h	4.5
total	**450**	-	-	**450 h**	-	**450 h**	-	**450 h**	-	**450 h**	-	**450 h**	-

Visual presentation:

Chart: bar chart of the number of closed tickets for the priority + dotted line with mean value.

Chart: bar chart of the average response time for the priority + dotted line with mean value.

Chart: bar chart of the average time in "open", "waiting for response", "suspended" status for the priority.

Chart: bar chart of the average time from opening to closing for the priority + dotted line with mean value.

Chart: bar chart of the total work time for the priority + dotted line with mean value.

Chart: bar chart of the average number of requester's comments for the priority + dotted line with mean value.

Closed tickets by categories

The report shows an overview of ticket processing for specific ticket categories.

Arguments:

Argument name	Possible values	Selection method	Default value	Remarks
Closing date until:	date (range: 1 day)	date selection	first day of the last month	not possible to select the current month; **maximum time from the start date: 100 days**
Closing date from:	date (range: 1 day)	date selection	last day of the last month	no date limitations
Category:	(any), multiple choice from category list	multiple choice	(any)	-
Assignee:	(any), (none), multiple choice from assignee list	multiple choice	(any)	-
Department:	(any), (none), multiple choice from department list	multiple choice	(any)	-
Show unassigned tickets:	true, false	checkbox	true	-
Show tickets without department:	true, false	checkbox	true	-
Priority:	(any), multiple choice from priority list	multiple choice	(any)	-

Reported data:

Example:

Category	Number of closed tickets	Average response time	Time in 'Open' status		Time in 'Waiting for response' status		Time in 'Suspended' status		Time from opening to closing		Work time		Average number of requester comments
			average	total	average	total	average	total	average	total	average	total	
Printers	100	30 min	1 h	100 h	1 h	100 h	1 h	100 h	1 h	100 h	1 h	100 h	3.5
Scanners	150	45 min	1 h 30 min	200 h	1 h 30 min	200 h	1 h 30 min	200 h	1 h 30 min	200 h	1 h 30 min	200 h	4
Monitors	200	15 min	30 min	150 h	30 min	150 h	30 min	150 h	30 min	150 h	30 min	150 h	4.5
total	**450**	-	-	**450 h**	-	**450 h**	-	**450 h**	-	**450 h**	-	**450 h**	-

Visual presentation:

Chart: bar chart of the number of closed tickets for the category + dotted line with mean value.

Chart: bar chart of the average response time for the category + dotted line with mean value.

Chart: bar chart of the average time in "open", "waiting for response", "suspended" status for the category.

Chart: bar chart of the average time from opening to closing for the category + dotted line with mean value.

Chart: bar chart of the total work time for the category + dotted line with mean value.

Chart: bar chart of the average number of requester's comments for the category + dotted line with mean value.

Closed tickets by departments

The report shows an overview of ticket processing for specific ticket departments.

Arguments:

Argument name	Possible values	Selection method	Default value	Remarks
Closing date until:	date (range: 1 day)	date selection	last day of the last month	not possible to select the current month; **maximum time from the start date: 100 days**
Closing date from:	date (range: 1 day)	date selection	first day of the last month	no date limitations
Category:	(any), multiple choice from category list	multiple choice	(any)	-
Assignee:	(any), (none), multiple choice from assignee list	multiple choice	(any)	-
Department:	(any), (none), multiple choice from department list	multiple choice	(any)	-
Show unassigned tickets:	true, false	checkbox	true	-
Show tickets without department:	true, false	checkbox	true	-
Priority:	(any), multiple choice from priority list	multiple choice	(any)	-

Reported data:

Example:

Department	Number of closed tickets	Average response time	Time in 'Open' status		Time in 'Waiting for response' status		Time in 'Suspended' status		Time from opening to closing		Work time		Average number of requester comments
			average	total	average	total	average	total	average	total	average	total	
Warsaw	100	30 min	1 h	100 h	1 h	100 h	1 h	100 h	1 h	100 h	1 h	100 h	3.5
Wroclaw	150	45 min	1 h 30 min	200 h	1 h 30 min	200 h	1 h 30 min	200 h	1 h 30 min	200 h	1 h 30 min	200 h	4
Krakow	200	15 min	30 min	150 h	30 min	150 h	30 min	150 h	30 min	150 h	30 min	150 h	4.5
total	**450**	-	-	**450 h**	-	**450 h**	-	**450 h**	-	**450 h**	-	**450 h**	-

Department	Number of closed tickets	Average response time	Time in 'Open' status		Time in 'Waiting for response' status		Time in 'Suspended' status		Time from opening to closing		Work time		Average number of requester comments
			average	total	average	total	average	total	average	total	average	total	
(no department)	2	30 min	1 h 30 min	2 h 30 min	1 h 30 min	2 h 30 min	1 h 30 min	2 h 30 min	8 h	2 h 30 min	8 h	2 h 30 min	3.5

Visual presentation:

Chart: bar chart of the number of closed tickets for the department + dotted line with mean value.

Chart: bar chart of the average response time for the department + dotted line with mean value.

Chart: bar chart of the average time in "open", "waiting for response", "suspended" status for the department.

Chart: bar chart of the average time from opening to closing for the department + dotted line with mean value.

Chart: bar chart of the total work time for the department + dotted line with mean value.

Chart: bar chart of the average number of requester's comments for the department + dotted line with mean value.

10.7.2.2 Activity reports

The reports summarize the total number of system events in a given period. Reports from this group offer information about the data volumes processed by the system.

The reports are archival and unchangeable. Re-generation of a report with the same arguments will always produce the same results.

Types of activity reports *(click the report name to expand the description)*:

Response time by days

The report provides statistics related to the first response time in range of days, for the tickets with the technical support employee's first response taken in the specified period.

Arguments:

Argument name	Possible values	Selection method	Default value	Remarks
Response date until:	date (range: 1 day)	date selection	last day of the last month	not possible to select the current day; **maximum time from the start date: 100 days**
Response date from:	date (range: 1 day)	date selection	first day of the last month	no date limitations
First response person:	(any), multiple choice from user list	multiple choice	(any)	list is limited to users with "administrator" or "technical support" role.

Reported data:

Response time: time from ticket creation to the first public comment by a user with "administrator" or "technical support" role.

The total **time average** and comment average is a weighted value: *number of objects in a row * row value/total number of objects.*

Example:

Day	Number of tickets with first response made	Number of tickets with response time				Response time	
		up to 1 h	more than 1 h - up to 8 h	more than 8 h - up to 24 h	more than 24 h	average	maximum
January 1, 2016	20	6	10	3	1	50 min	2 h
January 2, 2016	43	12	20	9	2	1 h	2 h 20 min
January 3, 2016	14	3	5	6	0	1 h 10 min	1 h 40 min
average	**25.67**	**7**	**11.67**	**6**	**1**	**59 min 13 sec**	-
total	**77**	**21**	**35**	**18**	**3**	-	-

Visual presentation:

Chart: point/line chart of the number of tickets with the first response taken from the given day.

Chart: point/line chart of the number of tickets with response time of up to 1 h, 1 to 8 h, 8 to 24 h, more than 24 h from the given day.

Chart: point/line chart of the average response time from the given day.

Response time by weeks

The report provides statistics related to the first response time in range of weeks, for the tickets with the technical support employee's first response taken in the specified period.

Arguments:

Argument name	Possible values	Selection method	Default value	Remarks
Response date until:	date (range: 1 week)	date selection	last completed week	not possible to select the current day; **maximum time from the start date: 15 weeks** (105 days)
Response date from:	date (range: 1 week)	date selection	four weeks back from the last completed week	no date limitations
First response person:	(any), multiple choice from user list	multiple choice	(any)	list is limited to users with “administrator” or “technical support” role.

Reported data:

Response time: time from ticket creation to the first public comment by a user with “administrator” or “technical support” role.

The total **average response time** is a weighted value: *number of objects in a row * row value/total number of objects*.

Example:

Week	Number of tickets with first response made	Number of tickets with response time				Response time	
		up to 1 h	more than 1 h - up to 8 h	more than 8 h - up to 24 h	more than 24 h	average	maximum
January, 4 - 10 2016	20	6	10	3	1	50 min	2 h
January 11 - 17, 2016	43	12	20	9	2	1 h	2 h 20 min
January, 18 - 24 2016	14	3	5	6	0	1 h 10 min	1 h 40 min

Week	Number of tickets with first response made	Number of tickets with response time				Response time	
		up to 1 h	more than 1 h - up to 8 h	more than 8 h - up to 24 h	more than 24 h	average	maximum
average	**25.67**	**7**	**11.67**	**6**	**1**	**59 min 13 sec**	**-**
total	**77**	**21**	**35**	**18**	**3**	**-**	**-**

Visual presentation:

Chart: point/line chart of the number of tickets with the first response taken from the given week.

Chart: point/line chart of the number of tickets with response time of up to 1 h, 1 to 8 h, 8 to 24 h, more than 24 h from the given week.

Chart: point/line chart of the average response time from the given week.

Response time by months

The report provides statistics related to the first response time in range of months, for the tickets with the technical support employee's first response taken in the specified period.

Arguments:

Argument name	Possible values	Selection method	Default value	Remarks
Response date until:	date (range: 1 month)	date selection	first month of the quarter with the last completed month	not possible to select the current day; **maximum time from the start date: 3 months**
Response date from:	date (range: 1 month)	date selection	last completed month	no date limitations
First response person:	(any), multiple choice from user list	multiple choice	(any)	list is limited to users with "administrator" or "technical support" role.

Reported data:

Response time: time from ticket creation to the first public comment by a user with "administrator" or "technical support" role.

The total **average response time** is a weighted value: *number of objects in a row * row value/total number of objects.*

Example:

Month	Number of tickets with first response made	Number of tickets with response time				Response time	
		up to 1 h	more than 1 h - up to 8 h	more than 8 h - up to 24 h	more than 24 h	average	maximum
January 2016	200	60	100	30	10	50 min	2 h
February 2016	430	120	200	90	20	1 h	2 h 20 min
March 2016	140	30	50	60	0	1 h 10 min	1 h 40 min
average	**256.67**	**70**	**116.7**	**60**	**10**	**59 min 13 sec**	-
total	**770**	**210**	**350**	**180**	**30**	-	-

Visual presentation:

Chart: point/line chart of the number of tickets with the first response taken from the given month.

Chart: point/line chart of the number of tickets with response time of up to 1 h, 1 to 8 h, 8 to 24 h, more than 24 h from the given month.

Chart: point/line chart of the average response time from the given month.

Summary - number of events

The report provides numerical event statistics in form of a summary.

Arguments:

Argument name	Possible values	Selection method	Default value	Remarks
Activity date until:	date (range: 1 day)	date selection	yesterday	not possible to select the current day; unlimited maximum time from the start date.
Activity date from:	date (range: 1 day)	date selection	earlier of the following dates: • system installation/ migration date (zero date) • yesterday	no date limitations

Reported data:

Example:

Month	Number of tickets created from		Total number of created tickets	Total number of closed tickets	Number of comments		
	e-mail messages	application interface			public	internal	total
Number	500	1500	2000	1800	3500	4000	6500
Average per day	1.37	4.11	5.48	4.93	9.59	10.96	17.81

Visual presentation:

Chart: pie chart of the total number of tickets created from e-mail messages and the application interface.

Chart: bar chart of the number of created tickets and closed tickets.

Chart: pie chart of the total number of public comments and internal comments.

User activity in tickets

The report provides numerical user activity statistics in the specified period.

Arguments:

Argument name	Possible values	Selection method	Default value	Remarks
Activity date until:	date (range: 1 day)	date selection	last day of the last month	not possible to select the current day; **maximum time from the start date: 100 days**
Activity date from:	date (range: 1 day)	date selection	first day of the last month	no date limitations
First response person:	(any), multiple choice from user list	multiple choice	(any)	list is limited to users with “administrator” or “technical support” role.

Reported data:

Reports with which a user has been working: set of unique tickets, in relation to which the user performed any action (ticket editing, any comment) in the specified period.

The total **average response time** is a weighted value: *number of objects in a row * row value/total number of objects*.

Example:

Employee	Public comments		Public and internal comments		Tickets with which the user has been working	
	number	**average per day**	**number**	**average per day**	**number**	**average per day**
Jan Kowalski	15	5	25	8.33	10	3.33
Piotr Nowak	25	8.33	35	11.67	9	3
Anna Nowak	20	6.67	30	10	11	3.67
total	**60**		**90**		**30**	

Visual presentation:

Chart: bar chart of the number of public comments for the user + dotted line with mean value.

Chart: bar chart of the number of public and internal comments for the user + dotted line with mean value.

Chart: bar chart of the number of tickets with which the user has been working + dotted line with mean value.

Chart: bar chart of the daily average number of public comments for the user + dotted line with mean value.

Chart: bar chart of the daily average number of public and internal comments for the user + dotted line with mean value.

Chart: bar chart of the average daily number of tickets with which the user has been working + dotted line with mean value.

First response time by users

The report allows to compare the response times of specific technical support employees for the tickets with the first response taken in the specified period.

Arguments:

Argument name	Possible values	Selection method	Default value	Remarks
Response date until:	date (range: 1 day)	date selection	last day of the last month	not possible to select the current day; **maximum time from the start date: 100 days**
Response date from:	date (range: 1 day)	date selection	first day of the last month	no date limitations
First response person:	(any), multiple choice from user list	multiple choice	(any)	list is limited to users with “administrator” or “technical support” role.

Reported data:

Response time: time from ticket creation to the first public comment by a user with “administrator” or “technical support” role.

The total **average response time** is a weighted value: *number of objects in a row * row value/total number of objects*.

Example:

User performing the first response	Number of tickets with first response made	Number of tickets with response time				Response time	
		up to 1 h	more than 1 h - up to 8 h	more than 8 h - up to 24 h	more than 24 h	average	maximum
Jan Kowalski	200	60	100	30	10	50 min	2 h
Piotr Nowak	430	120	200	90	20	1 h	2 h 20 min
Anna Nowak	140	30	50	60	0	1 h 10 min	1 h 40 min
total	**770**	**210**	**350**	**180**	**30**	-	-

Visual presentation:

Chart: bar chart of the number of tickets for the user who performed the first response + dotted line with mean value.

Chart: bar chart of the number of tickets with response time of up to 1 h, 1 to 8 h, 8 to 24 h, more than 24 h for the user who performed the first response.

Chart: bar chart of the average response time for the user who performed the first response + dotted line with mean value.

10.7.2.3 Unclosed tickets reports

The reports show data on tickets currently being processed in the system. Reports from this group offer information about the current system status, e.g. the current number of tickets.

The reports work as views – re-generation of the report can produce different results each time.

Types of currently processed ticket reports *(click the report name to expand the description)*:

Unclosed tickets summary

The report presents properties of all of the currently unclosed tickets. It allows to assess their progress and time when the tickets remain without solution.

Arguments:

Argument name	Possible values	Selection method	Default value
Category:	(any), multiple choice from category list	multiple choice	(any)
Assignee:	(any), (none), multiple choice from assignee list	multiple choice	(any)
Department:	(any), (none), multiple choice from department list	multiple choice	(any)
Show unassigned tickets:	true, false	checkbox	true
Show tickets without department:	true, false	checkbox	true
Priority:	(any), multiple choice from priority list	multiple choice	(any)

Reported data:

First response – the first public comment added by a user in “administrator” or “technical support” role.

Example:

	Total number of unclosed tickets	Number of tickets in status				Number of tickets		Number of tickets		Average time from creation for tickets without first response	Average time from creation for unclosed tickets
		new	**open**	**waiting for response**	**suspended**	**assigned to assignee**	**not assigned to any assignee**	**without first response**	**for which the first response was taken**		
Number	40	5	10	20	5	38	2	7	33	30 min	1 h 10 min

Visual presentation:

Chart: bar chart of the number of tickets in “new”, “open”, “waiting for response”, “suspended” status.

Chart: pie chart of the number of unclosed tickets not assigned and assigned to any assignee.

Chart: pie chart of the number of unclosed tickets without the first response and with the first response already taken.

Unclosed tickets by assignees

The report presents the current workload of the technical support employees within the system.

Arguments:

Argument name	Possible values	Selection method	Default value
Category:	(any), multiple choice from category list	multiple choice	(any)
Assignee:	(any), (none), multiple choice from assignee list	multiple choice	(any)
Department:	(any), (none), multiple choice from department list	multiple choice	(any)

Argument name	Possible values	Selection method	Default value
Show unassigned tickets:	true, false	checkbox	true
Show tickets without department:	true, false	checkbox	true
Priority:	(any), multiple choice from priority list	multiple choice	(any)

Reported data:

First response: the first public comment added by a user in “administrator” or “technical support” role.

The total **average time** is a weighted value: *number of objects in a row * row value/total number of objects*.

Example:

Employee	Number of unclosed tickets	Number of tickets in status				Number of tickets without first response	Average time without first response	Average time from ticket creation
		new	**open**	**waiting for response**	**suspended**			
Jan Kowalski	10	1	3	5	1	1	30 min	1 h
Piotr Nowak	19	1	5	10	3	2	45 min	1 h 30 min
Anna Nowak	5	0	1	3	1	0	-	30 min
average	**10**	**0.67**	**3**	**6**	**1.67**	**1**	**40 min**	**1 h 30 min**
total	**30**	**2**	**9**	**18**	**5**	**2**	**-**	**-**

Employee	Number of unclosed tickets	Number of tickets in status				Number of tickets without first response	Average time without first response	Average time from ticket creation
		new	**open**	**waiting for response**	**suspended**			
(no assignee)	1	1	0	0	0	0	-	10 min

Visual presentation:

Chart: bar chart of the number of unclosed tickets for the assignee + dotted line with mean value.

Chart: bar chart of the number of tickets in “new”, “open”, “waiting for response”, “suspended” status.

Chart: bar chart of the number of tickets without the first response for the assignee + dotted line with mean value.

Chart: bar chart of the average time without the first response for the assignee + dotted line with mean value.

Chart: bar chart of the average time from ticket creation for the assignee + dotted line with mean value.

Unclosed tickets by priorities

The report presents the current number and status of unsolved tickets with the specified priority.

Arguments:

Argument name	Possible values	Selection method	Default value
Category:	(any), multiple choice from category list	multiple choice	(any)
Assignee:	(any), (none), multiple choice from assignee list	multiple choice	(any)
Department:	(any), (none), multiple choice from department list	multiple choice	(any)

Argument name	Possible values	Selection method	Default value
Show unassigned tickets:	true, false	checkbox	true
Show tickets without department:	true, false	checkbox	true
Priority:	(any), multiple choice from priority list	multiple choice	(any)

Reported data:

First response: the first public comment added by a user in “administrator” or “technical support” role.

The total **average time** is a weighted value: *number of objects in a row * row value/total number of objects*.

Example:

Priority	Number of unclosed tickets	Number of tickets in status				Number of tickets without first response	Average time without first response	Average time from ticket creation
		new	**open**	**waiting for response**	**suspended**			
High	10	1	3	5	1	1	30 min	1 h
Medium	19	1	5	10	3	2	45 min	1 h 30 min
Low	5	0	1	3	1	0	-	30 min
average	**10**	**0.67**	**3**	**6**	**1.67**	**1**	**40 min**	**1 h 30 min**
total	**30**	**2**	**9**	**18**	**5**	**2**	**-**	**-**

Visual presentation:

Chart: bar chart of the number of unclosed tickets for the priority + dotted line with mean value.

Chart: bar chart of the number of tickets in “new”, “open”, “waiting for response”, “suspended” status for the priority.

Chart: bar chart of the number of tickets without the first response for the priority + dotted line with mean value.

Chart: bar chart of the average time without the first response for the priority + dotted line with mean value.

Chart: bar chart of the average time from ticket creation for the priority + dotted line with mean value.

Closed tickets by categories

The report presents the current number and status of unsolved tickets with the specified category.

Arguments:

Argument name	Possible values	Selection method	Default value
Category:	(any), multiple choice from category list	multiple choice	(any)
Assignee:	(any), (none), multiple choice from assignee list	multiple choice	(any)
Department:	(any), (none), multiple choice from department list	multiple choice	(any)
Show unassigned tickets:	true, false	checkbox	true
Show tickets without department:	true, false	checkbox	true
Priority:	(any), multiple choice from priority list	multiple choice	(any)

Reported data:

First response: the first public comment added by a user in “administrator” or “technical support” role.

The total **average time** is a weighted value: *number of objects in a row * row value/total number of objects*.

Example:

Category	Number of unclosed tickets	Number of tickets in status				Number of tickets without first response	Average time without first response	Average time from ticket creation
		new	**open**	**waiting for response**	**suspended**			
Printers	10	1	3	5	1	1	30 min	1 h
Scanners	19	1	5	10	3	2	45 min	1 h 30 min
Monitors	5	0	1	3	1	0	-	30 min
average	**10**	**0.67**	**3**	**6**	**1.67**	**1**	**40 min**	**1 h 30 min**
total	**30**	**2**	**9**	**18**	**5**	**2**	**-**	**-**

Visual presentation:

Chart: bar chart of the number of unclosed tickets for the category + dotted line with mean value.

Chart: bar chart of the number of tickets in “new”, “open”, “waiting for response”, “suspended” status for the category.

Chart: bar chart of the number of tickets without the first response for the category + dotted line with mean value.

Chart: bar chart of the average time without the first response for the category + dotted line with mean value.

Chart: bar chart of the average time from ticket creation for the category + dotted line with mean value.

Closed tickets by departments

The report presents the current number and status of unsolved tickets with the specified priority.

Arguments:

Argument name	Possible values	Selection method	Default value
Category:	(any), multiple choice from category list	multiple choice	(any)

Argument name	Possible values	Selection method	Default value
Assignee:	(any), (none), multiple choice from assignee list	multiple choice	(any)
Department:	(any), (none), multiple choice from department list	multiple choice	(any)
Show unassigned tickets:	true, false	checkbox	true
Show tickets without department:	true, false	checkbox	true
Priority:	(any), multiple choice from priority list	multiple choice	(any)

Reported data:

First response: the first public comment added by a user in “administrator” or “technical support” role.

The total **average time** is a weighted value: *number of objects in a row * row value/total number of objects*.

Example:

Department	Number of unclosed tickets	Number of tickets in status				Number of tickets without first response	Average time without first response	Average time from ticket creation
		new	**open**	**waiting for response**	**suspended**			
Warsaw	10	1	3	5	1	1	30 min	1 h
Wroclaw	19	1	5	10	3	2	45 min	1 h 30 min
Krakow	5	0	1	3	1	0	-	30 min
average	**10**	**0.67**	**3**	**6**	**1.67**	**1**	**40 min**	**1 h 30 min**
total	**30**	**2**	**9**	**18**	**5**	**2**	**-**	**-**

Department	Number of unclosed tickets	Number of tickets in status				Number of tickets without first response	Average time without first response	Average time from ticket creation
		new	**open**	**waiting for response**	**suspended**			
(no department)	1	1	0	0	0	0	-	10 min

Visual presentation:

Chart: bar chart of the number of unclosed tickets for the department + dotted line with mean value.

Chart: bar chart of the number of tickets in “new”, “open”, “waiting for response”, “suspended” status for the department.

Chart: bar chart of the number of tickets without the first response for the department + dotted line with mean value.

Chart: bar chart of the average time without the first response for the department + dotted line with mean value.

Chart: bar chart of the average time from ticket creation for the department + dotted line with mean value.

10.7.3 SLA reports

10.7.3.1 Closed tickets under SLA reports

Closed tickets under SLA reports display the statistics of closed tickets processed under SLA metrics. This group of reports enables the investigation into how the service level agreement provisions were fulfilled.

The reports are archival. Re-generation of a report with the same arguments will always produce the same results.

Reported data

The report only includes the metrics which have not been invalidated and are related to the tickets closed in the specified time interval.

Tickets with fulfilled SLA – counts the tickets with a metric which has not been violated and has completed its run due to an event which effectively closes it (first response, ticket closure).

Tickets with violated SLA – counts the tickets with a metric which has been violated and completed its run due to an event which effectively closes it.

SLA fulfillment (%) – number of tickets, for which the metric has been fulfilled / number of all tickets with any metric.

SLA violation / average / maximum / total – time running from the moment of violation (if a metric was exceeded by one hour, the violation time is one hour). Pertains only to the period when the metric was active. Includes all violated metrics (without the invalidated ones).

Average SLA measurement duration – average run time for all completed metrics. Pertains only to the period when the metric was active.

Total time average is counted by weight: *number of objects in a row * row value/total number of objects*.

10.7.3.2 SLA metric course reports

SLA metric course reports display the events that occurred during the SLA metric run. The purpose of this group of reports is to monitor the tasks executed under the service level agreement.

Reported data

The report does not include metrics in tickets removed by the administrator.

Tickets with SLA measurement – counts the tickets covered by the metric where the coverage started within the specified report time range.

Tickets with violated SLA – counts the ticket with a violated metric where the violation occurred within the specified report time range.

Tickets with completed measurement and fulfilled SLA – counts the tickets with a metric which has not been violated and has completed its run due to an event which effectively closes it (first response, ticket closure) within the specified report time range.

Tickets with completed measurement and violated SLA – counts the tickets with a metric which has been violated and has completed its run due to an event which effectively closes it within the specified report time range.

10.7.3.3 SLA violation reports

SLA violation reports display the tickets with a violated SLA metric. The purpose of this group of reports is to investigate the incidents of service level agreement breaches.

Reported data

The report contains one line per ticket with a violated SLA metric.

The report does not show tickets with invalidated metrics (even if the metrics had been violated). The report does not show tickets deleted by the administrator.

SLA violation is the time running from the moment of violation (if a metric was exceeded by one hour, the violation time is one hour). Pertains only to the period when the metric was active.

If the violated metric has not been completed yet or the ticket has not been closed yet, the cell displays an empty value.

The report does not perform any aggregation operations and does not include any visual representation.

If no ticket shows an SLA violation in the specified time range, the interface displays “No tickets with violated SLA metric” message instead of the table. Such a report cannot be exported.

10.8 Absence plan

The absence plan is a system for reporting the absences of HelpDesk Administrators and Employees. *The purpose of the function is to plan the appropriate ticket system operation when the person assigned to ticket handling is absent.*

Absence plan ***does not support*** *vacation management, understood as calculating the number of vacation days eligible for an individual employee.*

Absence times (start/end dates and hours) pertain to the local time of the machine where the Axence nVision® Server (HelpDesk service) is installed.

To add an absence plan, log in to the HelpDesk interface, go to the **Absence plan** view and click the **Add absence plan** button - a wizard will be displayed, which will allow to easily select the period of planned absence

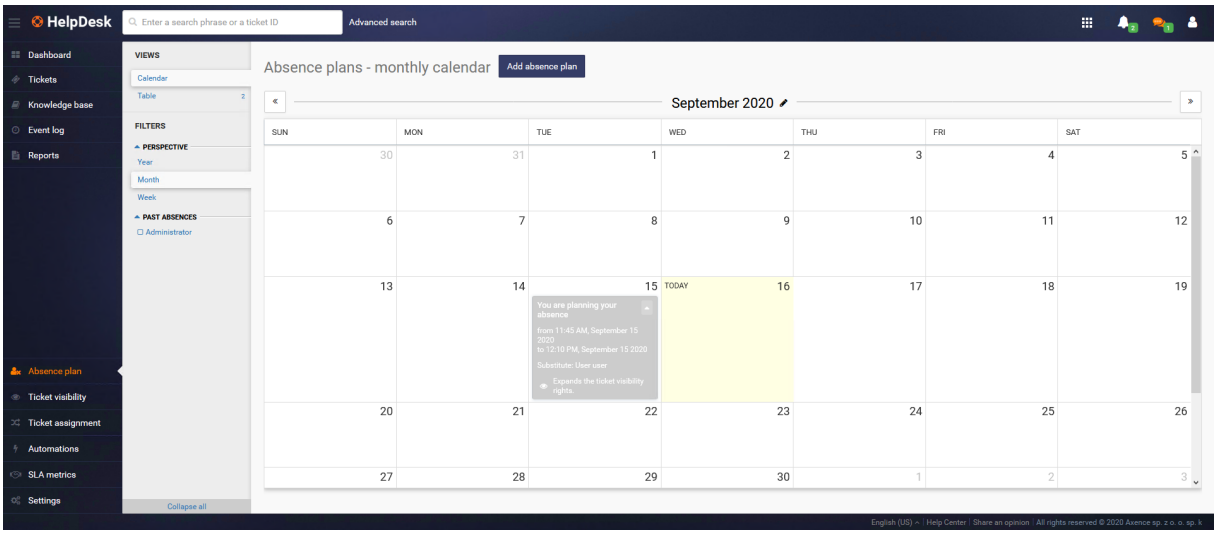
Take the steps:

1. Find the name in drop-down list of the **HelpDesk employee** for whom the absence is to be planned.

2. Using the calendar, indicate the **period of employee’s absence**

3. Select the deputy - the person who will receive notifications about changes in tickets assigned to the absent person. Then choose the color to mark the absence in the calendar. It is also possible to check the box that will extend the visibility of notifications for the person replacing absent employee.

In the period for which an absence is planned, tickets will still be assigned to the absent HelpDesk employee (according to ticket assignment rules 419 and automations 420), and the substitute will receive e-mail notifications about new tickets assigned to the absentee and about the requesters’ comments. They can also see all the tickets assigned to the absentee. After the absence period is over, the defined substitution is disabled and the substitute will no longer receive the mentioned notifications.

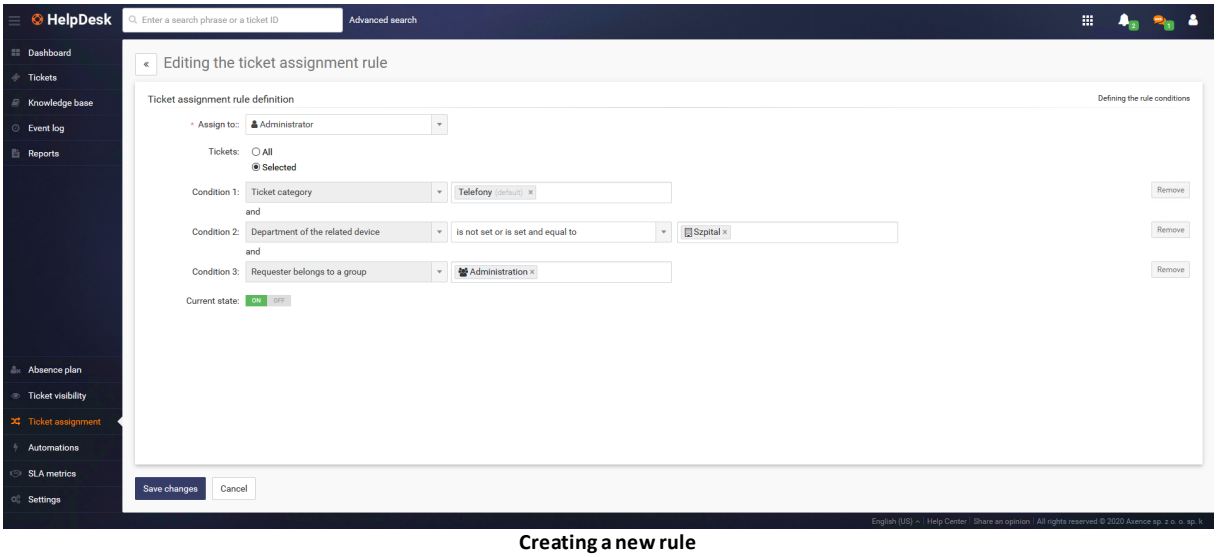


10.9 Trouble ticket assignment

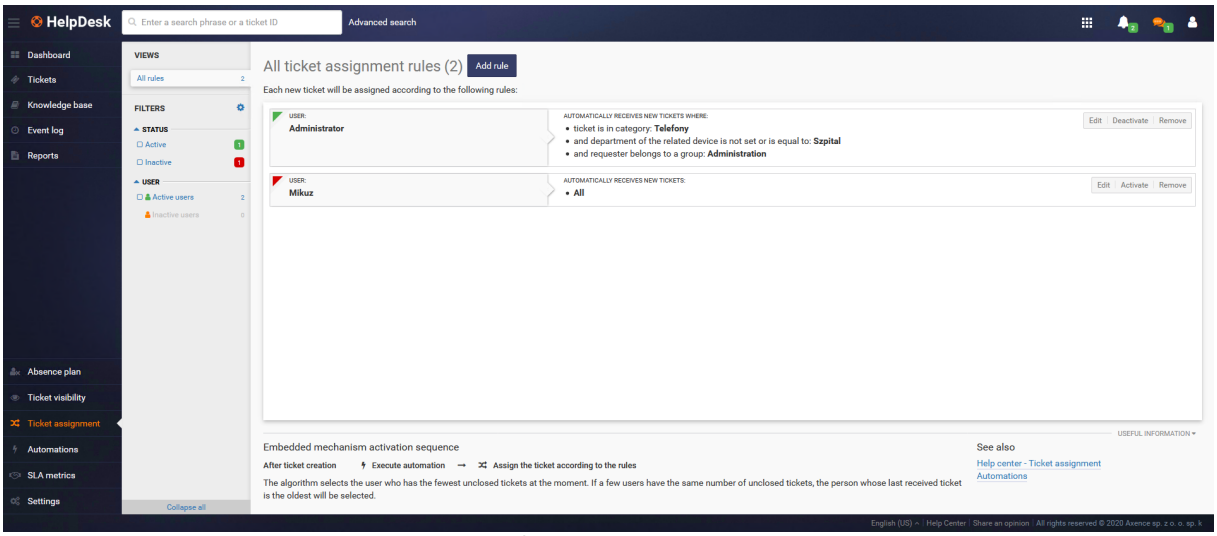
The assignment rule can be defined on the level of the HelpDesk interface in the **Ticket assignment** view.

To define that the trouble tickets from a specific category should be automatically assigned to selected technical support employees or administrators (HelpDesk or Administrator type):

1. In the main HelpDesk view, select the **Ticket assignment** option on the left-hand side of the interface.
2. Click the **Add rule** button and define the assignment rules.
3. In the **Additional settings** section, check if the rule should be active right after its creation.
4. Click the **Add rule** button to save the new rule.



Creating a new rule



List of ticket assignment rules.

Related topics

Categories

User management

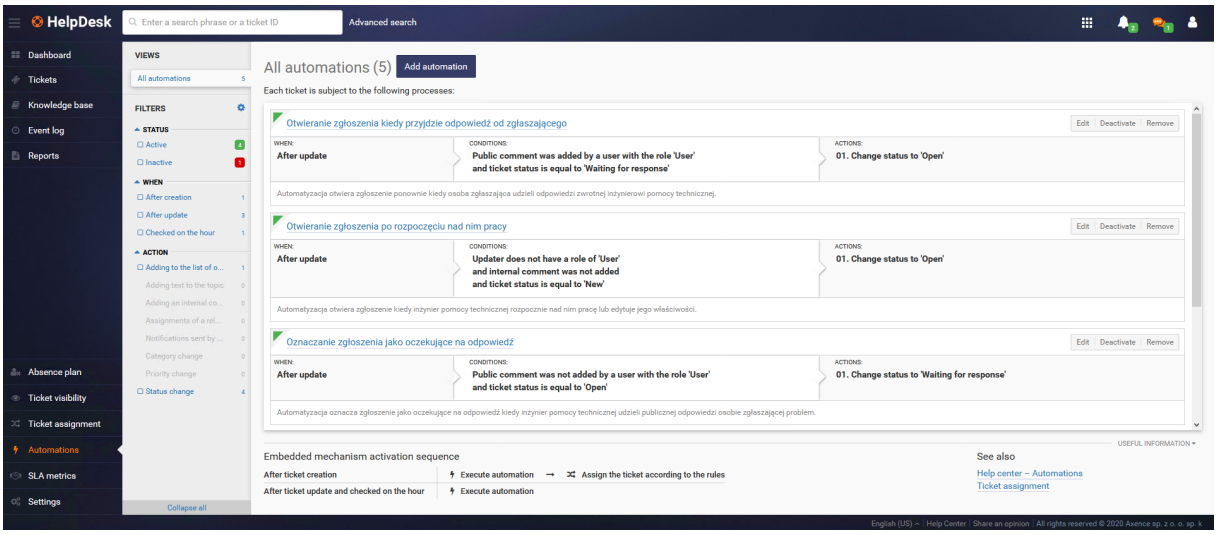
Management and configuration 329

10.10 Automations

10.10.1 Automations - overview

Automations are a brand new, breakthrough function of the Axence nVision® HelpDesk. The purpose is to noticeably accelerate the trouble ticket processing by HelpDesk employees. Their everyday work scenarios include many regular, recurring activities. These happen in specific conditions and call for actions defined within the workflow. Automations enable the time necessary for efficient ticket processing to be reduced and they also accelerate the response to events occurring in the network and to improve processes within the organization.

The HelpDesk module includes a few pre-built automations, which help to introduce the administrator to the structure of such mechanisms.

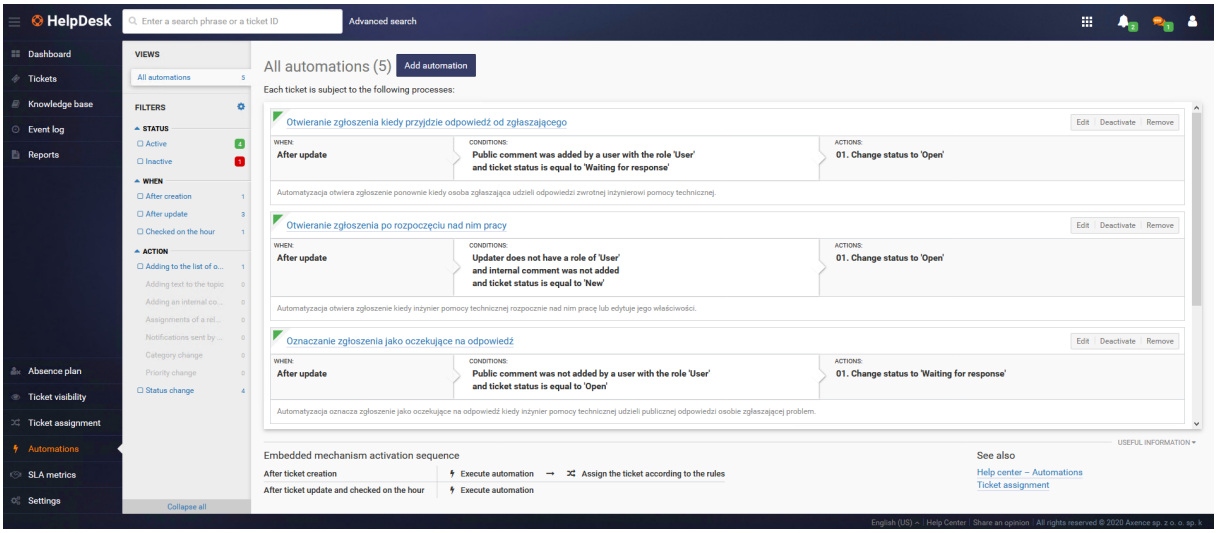


10.10.2 Automation list

The defined automation rules are presented as a list showing the specific rules in the form of tiles.

A single tile representing the specific automation includes:

- automation title,
- context actions – allowing the editing, deleting and change of the status of the automation,
- automation status – as a colored bar: red – deactivated automation, green – active automation,
- automation description,
- automation trigger,
- list of conditions,
- list of actions.



The left-hand part of the automation list displays a quick preview, which allows the automations to be efficiently filtered:

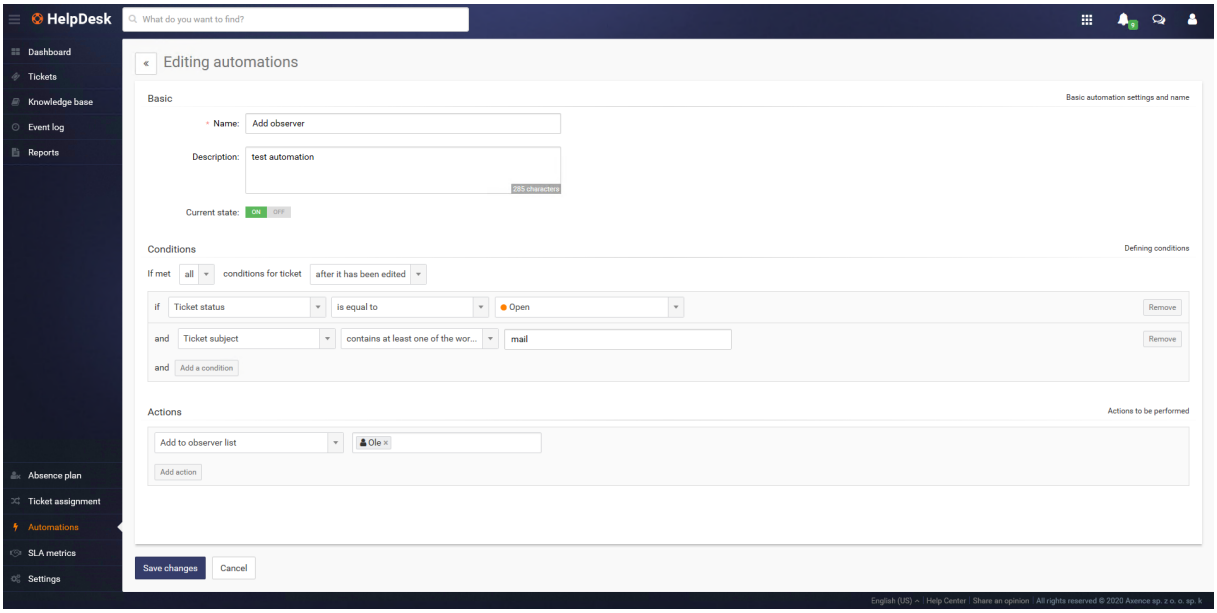
- state:
  - active,

- deactivated,

- trigger:
  - performed when the trouble ticket is created,
  - performed when the trouble ticket is updated,
  - performed daily.

10.10.3 Adding an automation

The automation addition view enables the determination of the conditions and actions which are to be performed in a specified situation.



To add an automation:

1. Log in to the HelpDesk interface.
2. In the main navigation, on the left-hand side of the interface, select **Automations**.
3. In the automation list click the **Add automation** button.
4. Fill in the fields:

- **name** – specify the name of the new automation,
- **description** – you can add a short description of the automation operation.

5. Determine the automation status after it has been created.
6. Specify the automation trigger type – when it should be performed:

- daily – an automatic procedure for checking the list of unclosed tickets is launched every day. Within its operation, the conditions defined by the administrator are checked and determined actions are taken. **Example**: *Set the status to "Closed" for tickets not updated for 14 days.*
- after a new ticket has been created,
- after a ticket has been updated.

7. Define the condition application logic:

You can specify whether in order for the automation to be applied, the processed ticket should meet any or all of the conditions defined below.

To add another condition, click the **Add condition** link.

8. Specify the actions which are to be taken, if the trouble ticket meets the conditions:

To add another action, click the **Add action** link.

9. Save the automation by clicking the **Add automation** button.

10.10.4 Automation conditions

The automation rules which are created should be as simple as possible.

Automation conditions for a new trouble ticket:

Object	Object options	Condition
Ticket subject	contains at least one of the words	enter words divided by commas
	does not contain any of the words	
	contains all of the following words	
Ticket description	contains at least one of the words	
	does not contain any of the words	
	contains all of the following words	
Ticket priority	is equal to	select priority
	is not equal to	
	is higher than or equal to	
	is higher than	
	is lower than or equal to	
	is lower than	
	is the default priority	-
	is not the default priority	
Ticket category	is equal to	select category
	is not equal to	
	is the default category	-
	is not the default category	
Requester	is equal to	enter the requester
	is not equal to	
Related device	is equal to	enter the device name
	is not equal to	
	is set	-
	is not set	
Department of related device	is equal to	enter the department
	is not equal to	
	is set	

	is not set	
Ticket source	is is not	enter the ticket source
Assignee	is equal to is not equal to is set is not set belongs to group does not belongs to group	enter the assignee

Automation conditions for an updated ticket

Object	Object options	Condition
Ticket subject	was changed	-
	was not changed	
	contains at least one of the words	enter words divided by commas
	does not contain any of the words	
	contains all of the following words	
Ticket status	was changed	-
	was not changed	
	was changed to	New Open Waiting for response Suspended Closed
	was changed to status other than	
	was changed from	
	was changed from other than	
	is equal to	
	is not equal to	
Ticket priority	was changed	-
	was not changed	
	was changed to priority higher than or equal to	select priority
	was changed to priority higher than	
	was changed to priority lower than or equal to	
	was changed to priority lower than	
	was changed to default	-
	was changed to priority other than default	
	was changed to	select priority
	was changed to status other than	
	was changed from	
	was changed from other than	

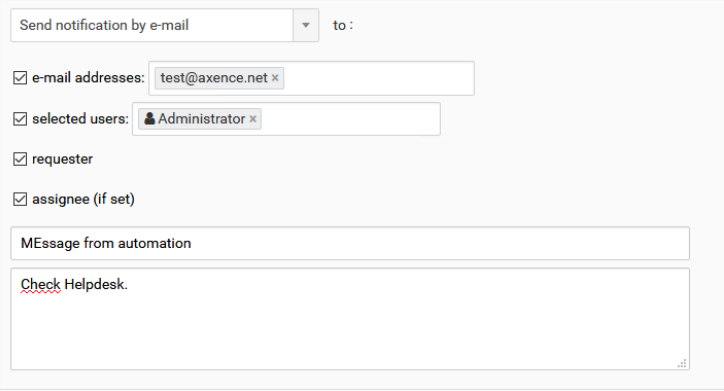
	is equal to	
	is not equal to	
	is higher than or equal to	
	is higher than	
	is lower than or equal to	
	is lower than	
	is the default priority	-
	is not the default priority	
Ticket category	was changed	-
	was not changed	
	was changed to default	
	was changed to other than default	
	was changed to	select category
	was changed to other than	
	was changed from	
	was changed from other than	
	is equal to	
	is not equal to	
	is the default category	-
	is not the default category	
Requester	was changed	-
	was not changed	
	was changed to	enter the requester
	was changed to other than	
	was changed from	
	was changed from other than	
	is equal to	
	is not equal to	
Related device	was changed	-
	was not changed	
	was changed to set	
	was changed to not set	
	was changed to	enter the device name
	was changed to other than	
	was changed from	
	was changed from other than	
	is equal to	
	is not equal to	
	is set	-
	is not set	

Public comment	was added	-
	was not added	
	was added by user with the role	Administrator HelpDesk Staff End-user
	was not added by user with the role	
Internal comment	was added	-
	was not added	
	was added by user with the role	Administrator HelpDesk Staff End-user
	was not added by user with the role	
Updater	has a role	
	does not have a role of	

10.10.5 Automation actions

The following actions can be performed when the trouble ticket meets one or many of the conditions defined in the automation rule:

Action	Description
Change category	Changes the ticket category.
Change priority	Changes the ticket priority.
Change status	Changes the ticket status.
Assign a related device	Adds the specified device to the trouble ticket summary as a related device.
Add text to subject	Adds predefined text, e.g. prefix “Important”, at the beginning of the ticket subject line
Add internal comment	Adds a predefined internal comment to the ticket history
Send notification by e-mail	Sends an e-mail message defined by the administrator (subject + content) to selected users:



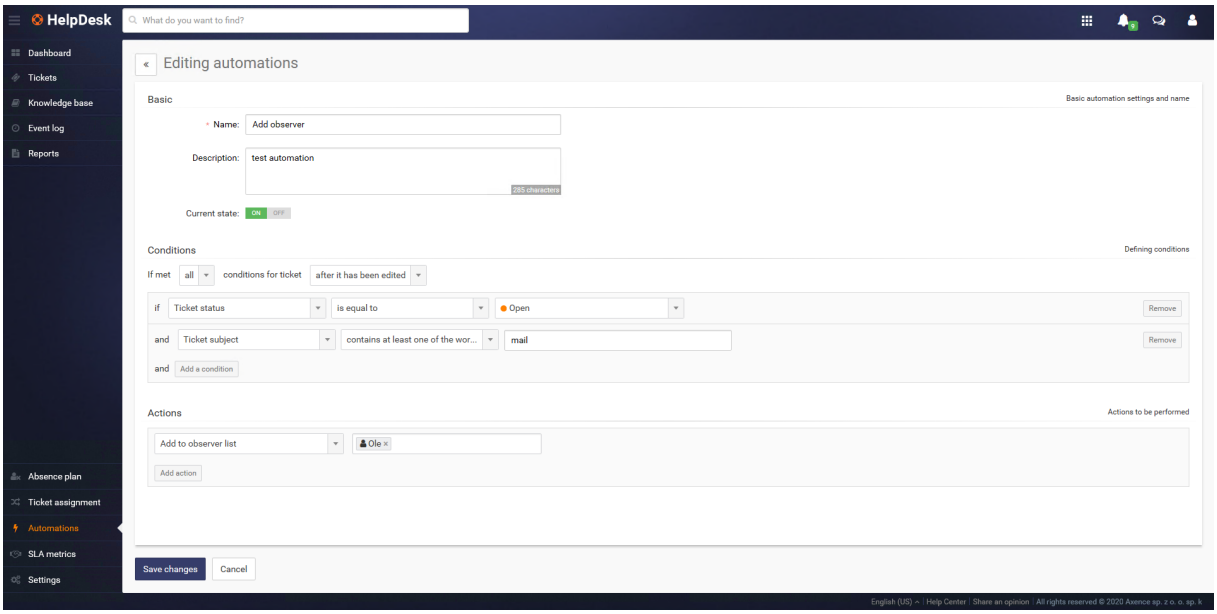
Add to the list of observers	Adds selected users to the list of ticket observers.

Actions are available depending on the selected automation conditions.

10.10.6 Editing an automation

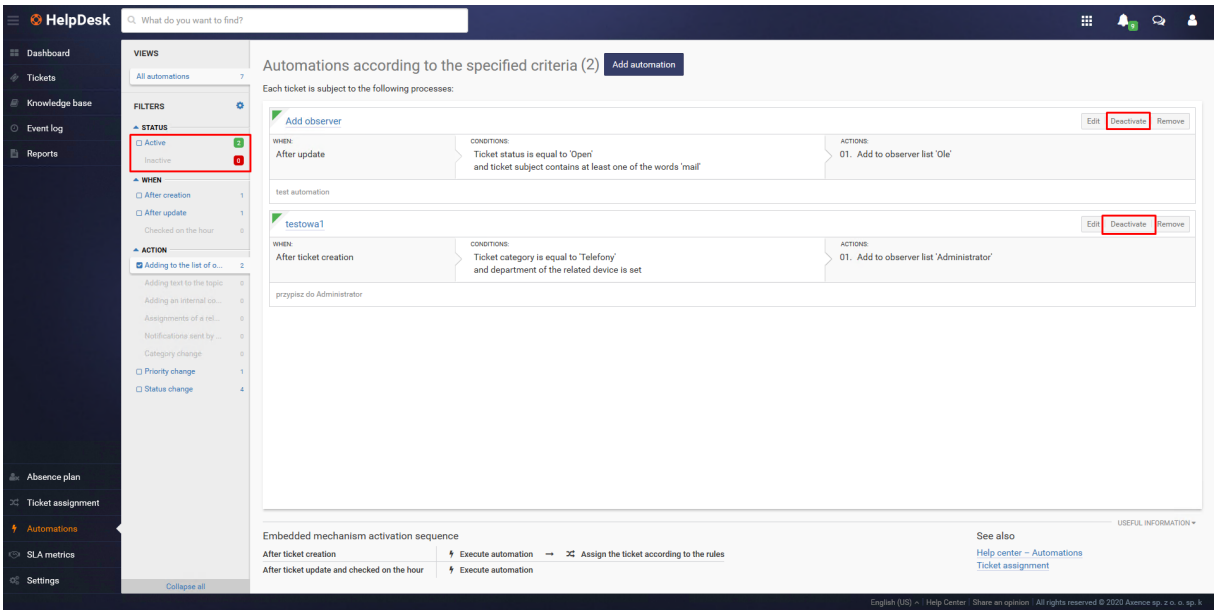
To edit an automation:

1. Log in to the HelpDesk interface.
2. In the main navigation, on the left-hand side of the interface, select **Automations**.
3. In the automation list select the one to be edited.
4. In the automation's context menu (upper right corner of the tile), click the **Edit** link.
5. Change the name, description, status, conditions or automation actions, just as in the case of Adding an automation 422.
6. Save changes by clicking the **Save changes** button.



10.10.7 Activating/deactivating an automation

The created automations can be toggled off (deactivated) for a time when they should not be applied for trouble ticket processing, e.g. when the employee is on holiday. There is no need to remove the automation rule completely.



To deactivate (or activate) an automation:

1. Log in to the HelpDesk interface.
2. In the main navigation, on the left-hand side of the interface, select **Automations**.
3. In the automation list select the one to be edited.
4. In the automation's context menu (upper right corner of the tile) click the **Deactivate** link (or **Activate**, if the automation is already disabled).
5. Confirm the action in the dialog box by clicking the **Deactivate (Activate)** button.

The automation rule can also be toggled on or off by changing the automation status during editing.

10.10.8 Deleting an automation

To delete an automation rule:

1. Log in to the HelpDesk interface.
2. In the main navigation, on the left-hand side of the interface, select **Automations**.
3. In the automation list select the one to be deleted.
4. In the automation's context menu (upper right corner of the tile) click the **Remove** link.
5. Confirm deleting in the dialog box by clicking the **Remove** button.

10.11 SLA metrics

10.11.1 Overview

SLA (*Service Level Agreement*) is an agreement about the guaranteed level of the provided service. The HelpDesk enables the definition of various SLA metrics which allow the monitoring of whether objectives set forth in the SLA agreement are duly executed.

The chapter on the execution of the service level compliance provisions is divided into the following articles:

- **SLA metric types** 429
- **SLA metric conditions** 430
- **SLA metric validity time** 430
- **Creating and versioning SLA metrics** 432
- **Violation of SLA** 433
- **SLA metrics in tickets** 434

Related topics

Closed tickets under SLA reports

SLA metric course reports

SLA violation reports 417

10.11.2 SLA metric types

Each metric can have one of the two time measurement methods:

- ***Waiting time for the first response***

  The metric starts running when a trouble ticket is created.

  The metric irrevocably stops when the first public comment, authored by a user with HelpDesk employee or administrator role, appears in the ticket.

- ***Total waiting time for ticket solution***

The metric starts running when a trouble ticket is created.

The metric is suspended when the ticket status is changed to “waiting for response” or “suspended”.

The metric is restarted (continues) when the ticket status is changed to “open”.

The metric irrevocably stops when the ticket status is changed to “closed”.

10.11.3 SLA metric conditions

SLA metric can include a defined extensive list of conditions related to:

- ticket priority (*is equal to / is not equal to*),
- ticket category (*is equal to / is not equal to*),
- reporting person (*is equal to / is not equal to / belongs to group / does not belong to group*),
- assigned person (*is equal to / is not equal to / belongs to group / does not belong to group*),
- ticket source (*is an e-mail message / is a web application interface*).

Subsequent conditions can be combined only with the logical operator “AND” (i.e. all conditions are met). If a collection of *N* values is allowed within one condition, the entire item is considered as *N* conditions combined with the “OR”/“NOR” operator.

A ticket is eligible to be covered by the selected SLA metric if it meets all of its conditions in a continuous manner. If, due to change of a property (e.g. priority), the ticket no longer meets the metric conditions, it is automatically no longer covered by the metric. The metric which no longer covers a ticket automatically stops, regardless of whether it was fulfilled or not.

Analogically – if, after a change of a property the ticket is eligible to be covered by other additional metrics, it is automatically covered by such metrics. If the ticket is covered by the same metric once again, the system handles it as a restart (continuation) of the metric, not as the creation of another instance of the metric.

In certain cases, this may mean that after the change of ticket properties, the new SLA metric will be exceeded from the moment when it begins to cover the ticket.

Example:

There are two SLA metrics in the system:

1. Tickets with “high” priority shall be solved in 4 hours.

2. Tickets with “critical” priority shall be solved in 2 hours.

A ticket with “high” priority has already been processed for one hour. If its priority gets changed to “critical”, it is no longer covered by the first metric and it becomes covered by the second metric. There is only one hour left until the metric is exceeded.

10.11.4 SLA metric validity time

Note: *All mechanisms described below are based on the time zone set on the server where the Axence nVision® application is installed. The HelpDesk system does not allow any time zone, other than the local time of the server (with Axence nVision®), to be indicated. It is also not possible to set different time zones for specific users.*

Each SLA metric allows one of the two options to be selected during its creation:

- *Metric valid without interruptions* (**All day, all week**).
- *Metric valid only in specified intervals* (**Defined days of the week and times of the day**):
  - Validity hours can be defined separately for each day of the week (from Monday to Sunday). Each day of the week can have one time span (e.g. 09:00 to 17:00) or none (for days off work). Defining more than one time span for a given day of the week is not possible (e.g. Monday from 08:00 to 11:00, and then from 13:00 to 16:00).
  - *A metric with the time span defined in such a manner is considered to be active in hours outside of the specified range, even though its time counter is not running during such periods.*

  Example:

  A metric is valid from 08:00 to 16:00.

  The metric requires the ticket to be solved within one hour.

  The ticket covered by the metric appears at 15:30 and no-one starts to work on the ticket.

  At 15:31 the metric is running, with 59 minutes left.

  At 16:01 the metric is running, with 30 minutes left.

  At 07:59 on the next day, the metric is running, with 30 minutes left.

  At 08:15 on the next day, the metric is running, with 15 minutes left.

  At 08:30 on the next day, the metric is exceeded.

When creating the SLA metric, along with the definition of the validity hours, you can also determine whether the metric should stop on days configured as days off work.

Calendar of days off work

If the selected metric is defined as bound by the calendar of days off work, it stops for the days which are indicated in such a calendar. Each day off overrides the metric validity hours which are specified in its configuration.

The calendar of days of work can be configured during the creation of SLA metrics 432.

The system has a calendar of days off work where specific days can be defined as days off:

- A day off work shall be considered as a specific day of a specific month and of a specific year, starting on 00:00 (inclusively) and lasting until the hour of time quantum prior to 00:00 on the next day, according to the server time where the Axence nVision® application is installed.
- Persons authorized to edit the days off work are solely the users with the Administrator role; only days which have not started yet can be edited. If a day off has already started, there is no way to cancel its definition.

- Days off work can be defined only as single days (it is not possible to specify a range of dates, e.g. “December 24-26, 2017”).
- Defining cyclical days off is not possible.
- The calendar of days off work is shared by all SLA metric definitions.

10.11.5 Creating and versioning SLA metrics

Creating user groups in Axence nVision®

To create a user group:

1. In the main window of the Axence nVision® console, click the **Users** 340 section icon.
2. Go to the **Tools and options** tab.
3. Click the **Add group** button.

To add a user to the group:

1. Go to the **Users** section in the Axence nVision® Console.
2. Drag the selected users to the target group.

To create an SLA metric:

1. In the HelpDesk web interface, navigate (as an administrator) to the **SLA metrics** view.
2. Click the **Add SLA metric** button.
3. In the metric adding dialog box, enter the **metric properties**:
   - Name – for better identification of the SLA metric. Maximum length: 150 characters.
   - Description – (optional) additional description field; can be used by the user for any purpose. Maximum length: 300 characters.
   - List of conditions 430 – a collection of conditions describing the tickets which the metric will be applied to.
   - Metric type 429 – the method of time measurement by the given metric.
   - Time limit – the time value which, if exceeded, means that the SLA conditions are violated. Minimum value: 30 minutes, maximum value: 31 days.
   - Alert – an additional e-mail address for sending notifications on each metric violation (optional).
   - Validity time 430 – a field allowing the selection of either the mode without interruption, or the mode where time runs only in specified periods.
   - List of hours (optional) – if the interrupted mode was chosen, this field is used to define the hours within which the SLA limit is running (for a specific day of the week).

- Calendar of days off work 430 – true/false field, which decides whether the SLA metric is stopped during days off work. Click the *With exclusion of days off work* link to define the list of days off work.

4. To save the metric, click the **Add SLA metric** button.

Versioning of SLA metrics

SLA metric is a versioned entity where all of its properties, except for the name, are subject to versioning. The name is the parameter which remains common for subsequent metric versions and is editable at any time.

Adding a new metric is equivalent to the creation of its first version. When a version is set, its “validity start date” is set as the current date. It means that only tickets reported after this date can by covered by this version of the metric.

When a version of SLA metric is created, it is not possible to re-edit it. Once created, the SLA metric version can be only archived or archived with the simultaneous creation of a new version.

Archiving SLA metric version

When archiving, the “validity end date” in the metric is automatically set to the current date. It means that all tickets created after that date cannot be covered by the metric. Tickets currently covered by the archived metric will remain covered by this version until the end of their life cycle (if they meet metric conditions).

Creating a new SLA metric version

In the case of a valid SLA metric, you can create a newer version of it (always with the simultaneous archiving of the current version). It allows the continuity of such a metric to be maintained.

If a new metric version is created, the system automatically substitutes values from the older version into the respective data fields.

A new version of the metric can also be created for each metric which had previously been archived without creating a new version of it.

Formally, each new version is an independent SLA metric. Metrics are grouped by name only to support their change management processes.

To simplify the system, it is not possible to edit the version validity dates manually. The current version is always valid from the moment of its creation, and has no end date until it is archived.

10.11.6 Violation of SLA

Violation of SLA metric is the expiry of the time limit defined in the metric. Once violated, the metric is permanently visible in the history of metrics covering the given ticket (even if the ticket no longer fulfills its conditions).

A metric can be violated only once. If a violated metric ceases to cover a ticket (and was stopped due to this), and then starts to cover the ticket once again, the metric is treated as if it had been running without interruption from the very beginning.

Metric running time and the duration of ticket covered by the metric are measured and processed separately by the system.

Example:

A ticket has a “critical” priority and is covered by metric: “critical priority tickets shall be solved in 4 hours”.

The ticket is in “open” status all the time.

After 4 hours, the metric is exceeded.

After 5 hours, the ticket ceases to be of “critical” priority. The metric stops running, but it will be forever visible in the ticket as exceeded by one hour.

After 6 hours, the ticket still has the same metric visible as exceeded by one hour.

After 7 hours, the ticket is once again assigned with “critical” priority. The same metric is from now on visible as active and exceeded by 3 hours.

After 8 hours, the ticket status is changed to “closed”. The metric is irrevocably stopped with a state of exceeded by 4 hours.

When SLA metric violation occurs, a notification is generated (in the interface and as an e-mail message) to the person currently assigned to the ticket and to the e-mail address defined in the metric (if any).

For the purposes of ticket visualization in the ticket list, a dynamically generated “SLA violation date” column is defined. The column shows the earliest SLA violation date (also including overdue items) of all metrics active in relation to the ticket. If no metric is currently active, the column holds no value. If SLA time limit has expired, the value in the column is highlighted in orange.

If the ticket starts to be covered by a new SLA metric for which the time limit has already expired, the system also distributes notification about such a fact. However, each ticket cannot generate more than one time limit expiry notification for each SLA metric.

Example:

Ticket “X” is covered by metric “A”.

Metric “A” is violated.

Notification about the violation of metric “A” in ticket “X” is distributed.

Ticket “X” properties are edited in such a manner so that it is no longer covered by metric “A”.

The ticket properties are re-edited in such a manner that it is once again covered by (already overdue) metric “A”.

Repeated notification is not sent, as one notification about metric “A” in relation to ticket “X” has already been generated.

10.11.7 SLA metrics in tickets

A ticket can be covered by any number of metrics of any type. The metrics covering the ticket are only visible for users with “HelpDesk employee” or “Administrator” roles.

The ticket details 371 view (section "Service provision level") for the ticket covered with SLA metrics enables the metrics to be checked, according to the following classification:

1. Active metrics

These are metrics measuring the time until the first response (currently running) and metrics of the total ticket solution time (running or not running). The list must be sorted from the metric with the shortest time until expiry (or from the metric exceeded to the largest extent).

Sorting in such a way allows the user to focus on SLA metrics which are running or which can be restarted. It lets the user check the metrics which can be still fulfilled.

2. **Completed metrics**

These are metrics which are no longer running:

- metrics of **time of waiting for the first response –** after the first response is given,
- metrics of **total ticket solution time –** after the ticket is closed, or metrics which were violated and then ceased to cover the ticket (and therefore their run is also completed).

Completed metrics allow you to check in what period they covered the ticket, and whether they were violated or not.

It lets you confirm in detail whether the provisions of any SLA were violated in the history of work on the ticket.

For the purposes of ticket visualization in the ticket list, a dynamically generated “SLA violation date” column is defined. The column shows the earliest SLA violation date (also including overdue items) of all metrics active in relation to the ticket. If no metric is currently active, the column holds no value. If SLA time limit has expired, the value in the column is highlighted in orange.

Dates in the ticket list are not updated automatically and always show the system status at the moment when the list was loaded. Single ticket detail view is updated on a current basis (max. every minute).

If the ticket is closed, it cannot be covered by any new metrics (even if the users’ assignment to groups are changed). All metrics stop running and the period covering the specific ticket is formally ended.

10.12 Announcements

The messaging mechanism available in HelpDesk module allows passing information to users with installed Agent in an easy way, setting their validity time, and collecting the message read notifications from the users.

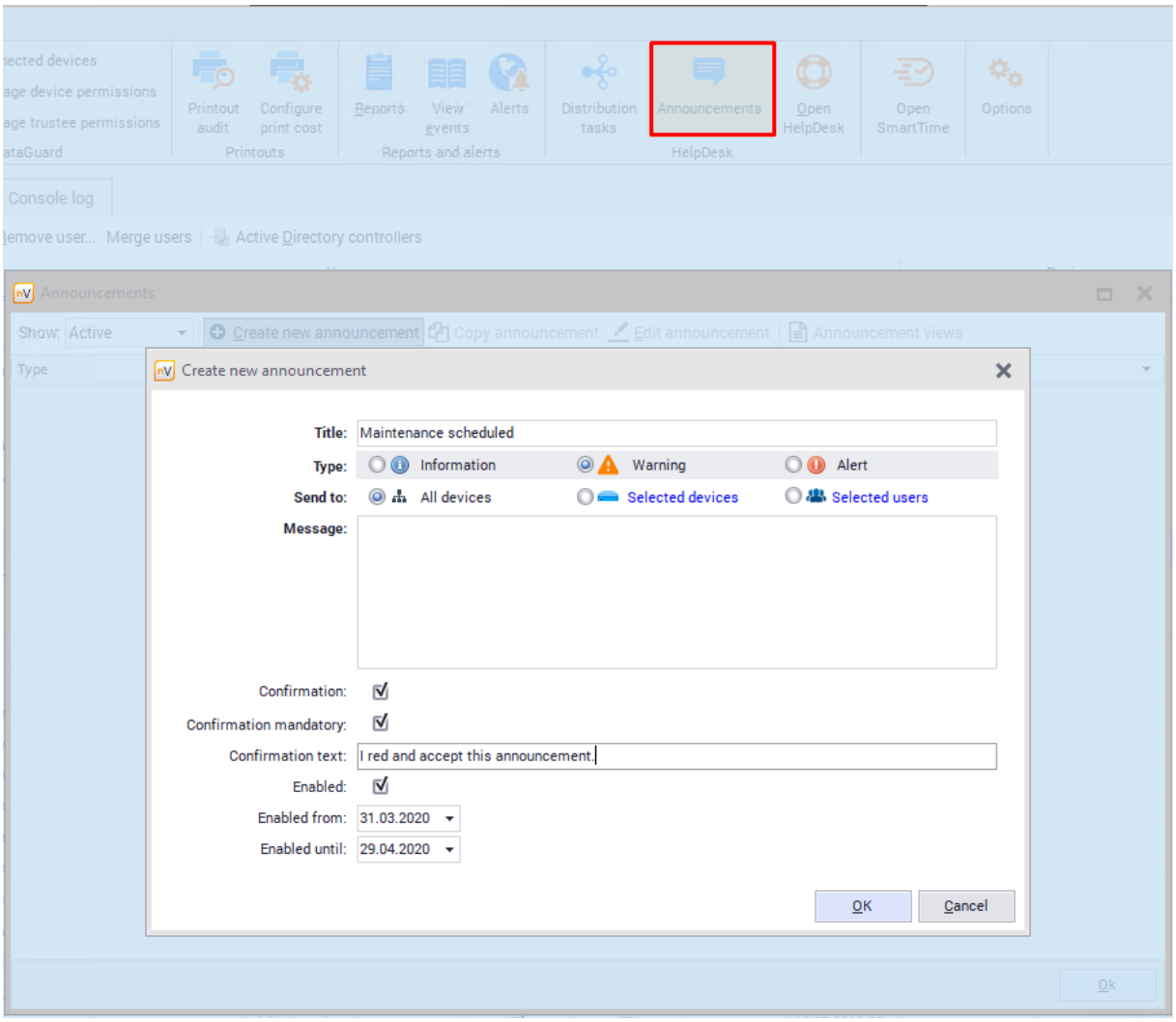
A message can be created by the administrator after logging in to the **HelpDesk Console**, with use of the **Announcements** option located on the right-hand side of the interface.

Creating a message

In order to create a new message, select **HelpDesk / Announcements / Create a new announcement** and fill in the fields described below.

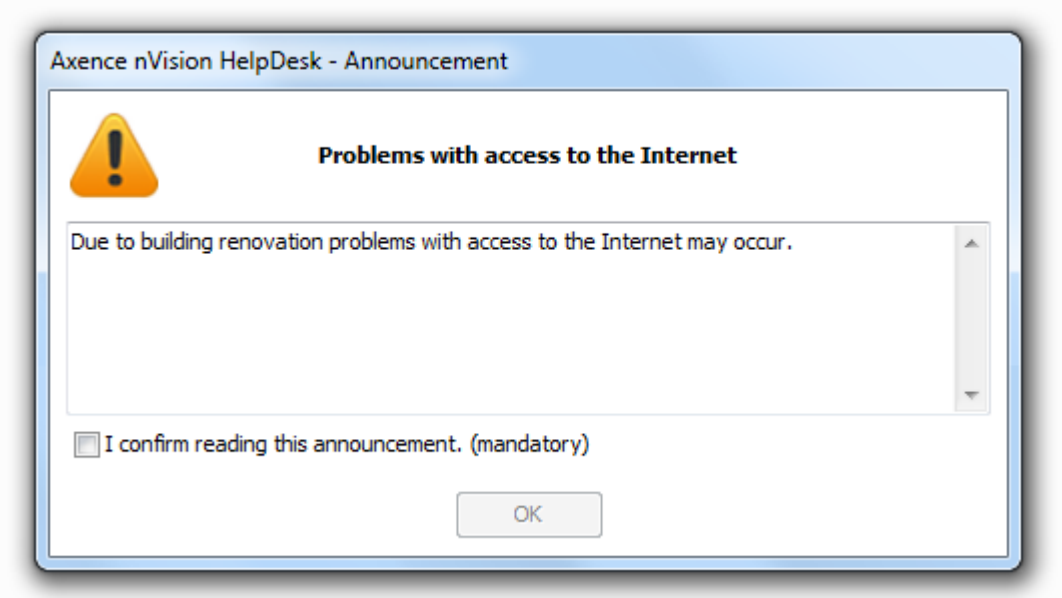
Field	Description

Title	Message title.
Type	Depending on the type of information, one of the three available types can be chosen: **Information**, **Warning**, **Alert**.
Send to	Send message to **All hosts**, **Selected hosts** (choose from the list of hosts) or **Selected users** (choose from the list of users).
Message	Message contents.
Confirmation	If the **Confirmation** field is checked, the user will see the confirmation text presented below. Similarly, if the **Mandatory confirmation** field is checked, the user will not be able to use HelpDesk any further, before they confirm the reading of the message.
Enabled	An active (enabled) alert will be displayed in the time range specified by the start and end dates. It is possible to create an inactive message, i.e. one without a determined time of displaying. To change the message status or contents, click the **Edit** button.



Message layout

The message layout depends on the selected options. An example message is presented below.



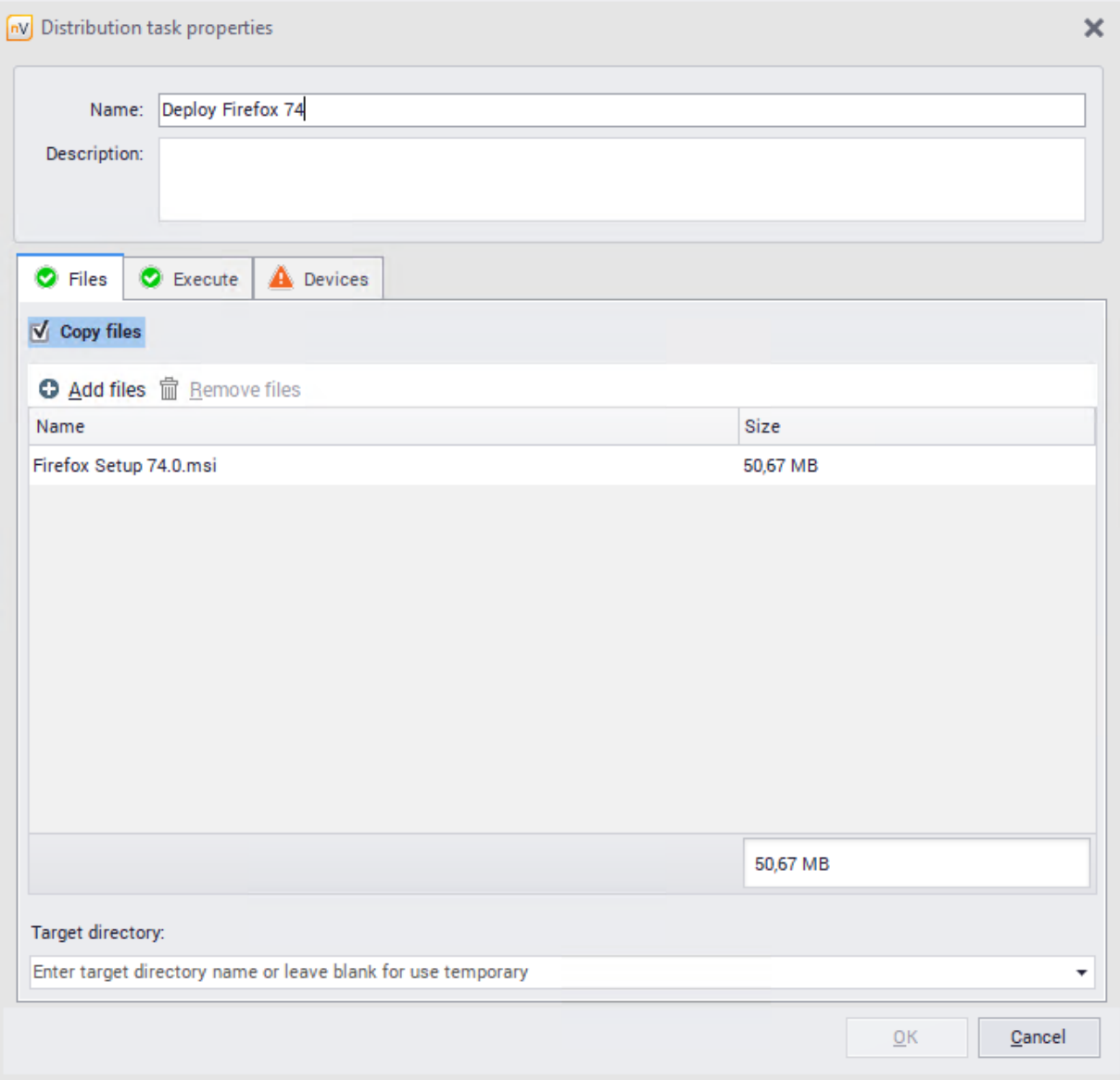
10.13 File distribution

File distribution with the use of Agents

Files can be distributed to workstations with an installed Agent. For more information about Agents, see the chapter Agents 112.

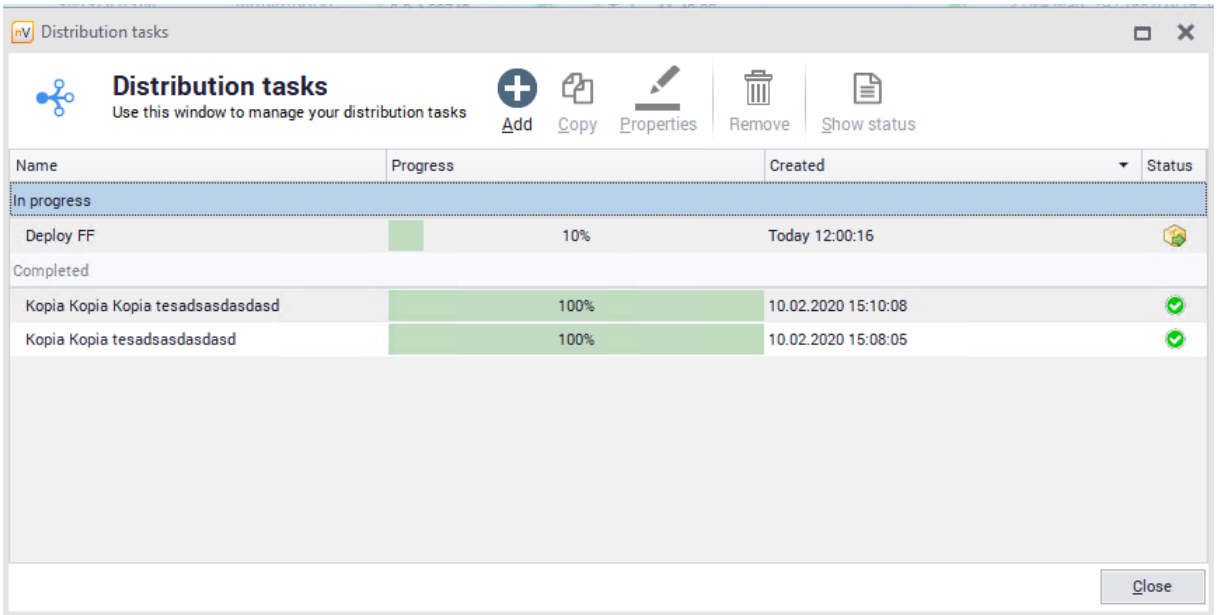
To distribute files:

1. Select the **Distribution tasks** in the main menu.
2. In the **Distribution tasks** window, select **Add**. Specify the task **Name** and **Description** (optionally).



3. If you want to copy files, **Add** the files to be distributed. You can specify a **Destination folder**. If the field is left empty, a temporary folder will be used (C:\Windows\Temp).
4. If you want to run files, go to the **Execution** tab. Specify the execution folder and parameters (optionally, e.g. silent and unattended installation).
5. In the **Devices** tab, select **Add devices**. Use the list to add devices on which you want to run or distribute files. When the action is complete, click **OK**.

The created distribution task will be added to the list. If the destination machine is turned off, tasks will be queued and executed upon the first contact between the Agent and nVision. Progress can be checked at any time in the **Distribution tasks** window.

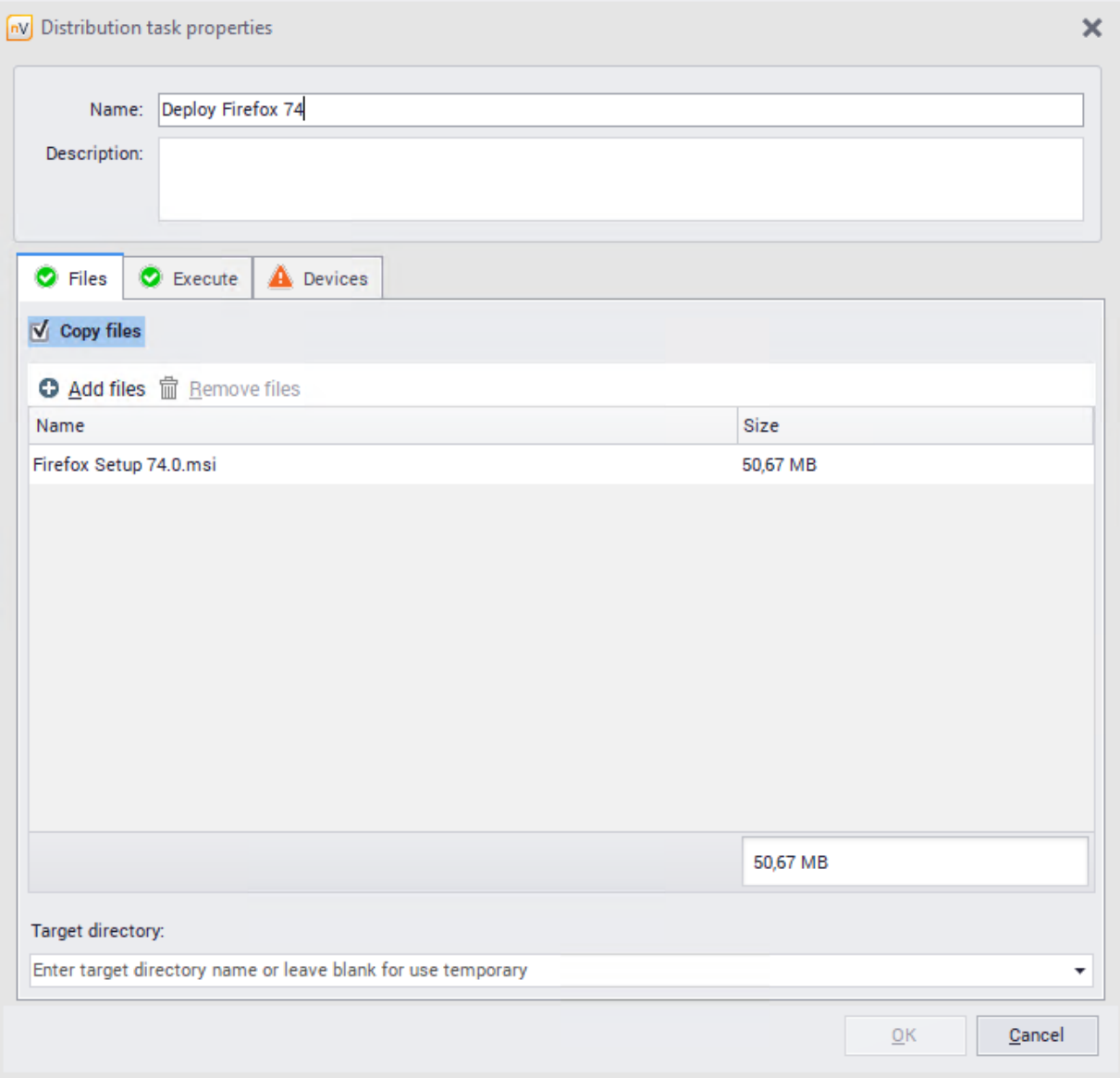


Pending tasks are also displayed in the **Agents** tab in the main nVision window.

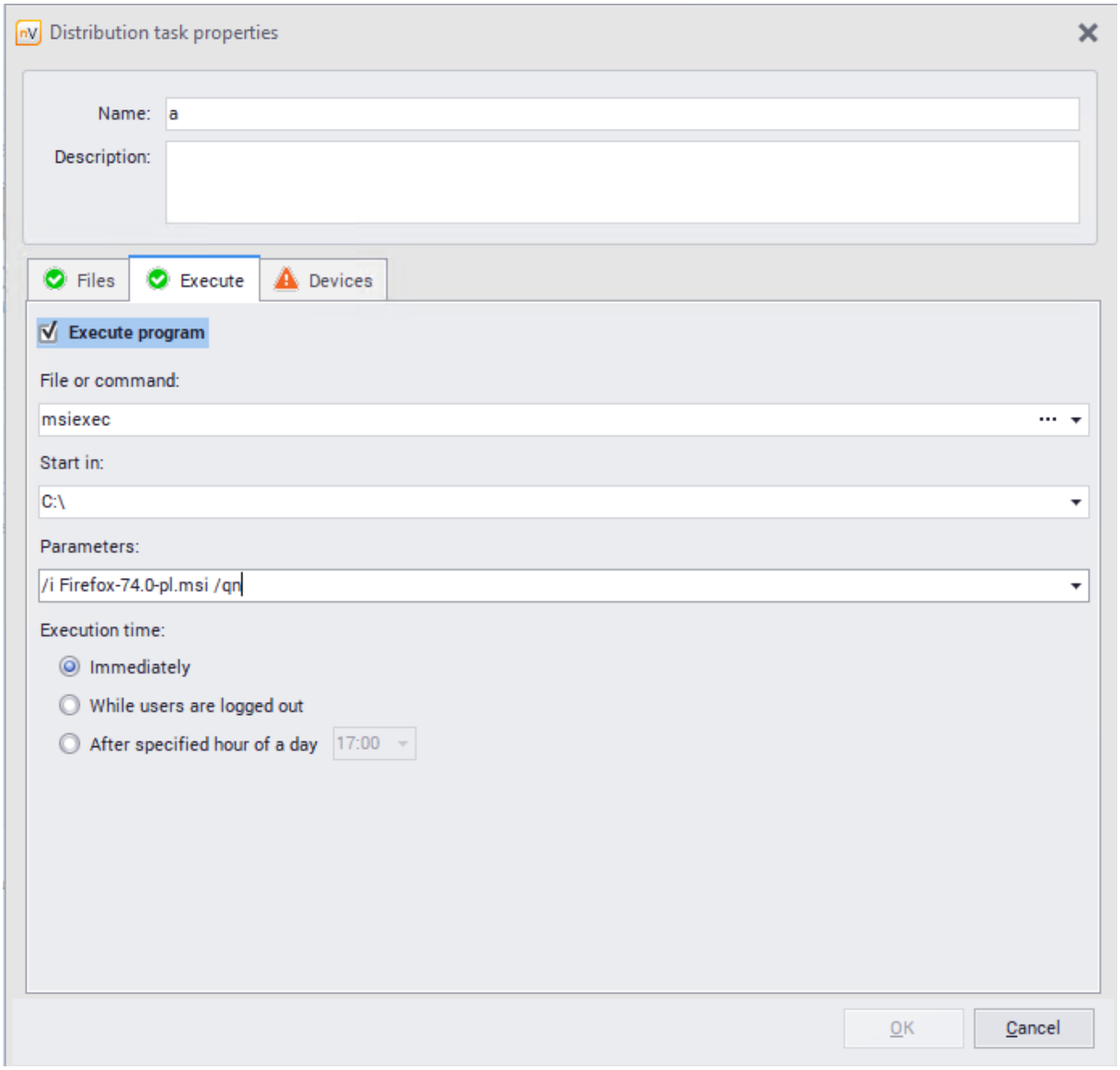
Remote software installation with MSI package

To distribute and install an MSI package:

1. Select the **Distribution tasks** in the main menu.
2. In the **Distribution tasks** window, select **Add**. Specify the task **Name** and **Description** (optionally).
3. **Add** the MSI package to be distributed and specify the destination folder.



4. Navigate to the **Execution** tab, check the **Run program** field and fill the options as shown in the following screenshot.



5. In the **Devices** tab, select **Add devices**. Use the list to add the devices on which you want to distribute and run the MSI package. Then click **OK**.

The generation of the MSI package distribution task can also be automated in the following manner:

1. Check the Agent(s) icon.
2. Right click the Agent icon, use the pop-up menu to select **Agent / Install an MSI package**.
3. Select the MSI installer file in the dialog box.
4. When the installer file is specified, the distribution task properties window will appear with automatically filled task parameters. Along with adding the file, the following parameters will be filled automatically:

- name,
- description,

- command,
- default parameters for silent installation (unattended by the user),
- devices on which the task is to be executed will be added automatically.

All of the described parameters can be edited.

5. To finish the wizard and perform the task, click **OK**.

Remote software uninstallation

The Agent also allows for the remote uninstallation of the software installed with use of MSI packages. During the workstation inventory, the Agent also collects information on the manner of software installation (through scanning registry entries). **The option of uninstallation from the level of the nVision Console is only available for the programs installed by the Windows Installer (MSI packages).**

The software uninstallation task is performed immediately, if the Agent is connected to the Axence nVision® Server. Otherwise, the task is queued and performed at the next connection.

To uninstall software remotely:

1. Navigate to **Device details / Inventory / Program** window.
2. Find the program to be uninstalled in the installed applications list. Select it.
3. Use the toolbar to select **Uninstall** or right click and select **Uninstall**.
4. The status in the **Uninstallation progress** column will change to **Pending**.

or

1. Go to the **Devices / view** menu, **Agents / Software audit**.
2. Find the program to be uninstalled in the detected applications list. Double-click its name to open the detected installations window.
3. Select the name of the machine from which the program will be uninstalled, and use the toolbar to select **Uninstall** or right click and select **Uninstall**.
4. The status in the **Uninstallation progress** column will change to **Pending**.

The **Uninstallation progress** column presents information on the remote uninstallation support and task status:

- Supported – remote uninstallation possible,
- Unsupported - remote uninstallation not possible,
- Pending – task was ordered, waiting for Agent connection,
- Task in progress – task is currently executed,
- Error – an error occurred (additional message is displayed in a “bubble” by the mouse cursor).

The task can be cancelled if the Agent has not connected with the nVision Server yet. To cancel the task, make sure the status in **Uninstallation progress** is displayed as **Pending**, right click and select **Abort uninstallation** in the pop-up menu.

File distribution with the use of WMI

nVision allows for the remote distribution of files to Windows machines. This is performed with use of WMI service, which requires the appropriate configuration of login credentials in device properties. Additionally, WMI service must be enabled on all remote machines.

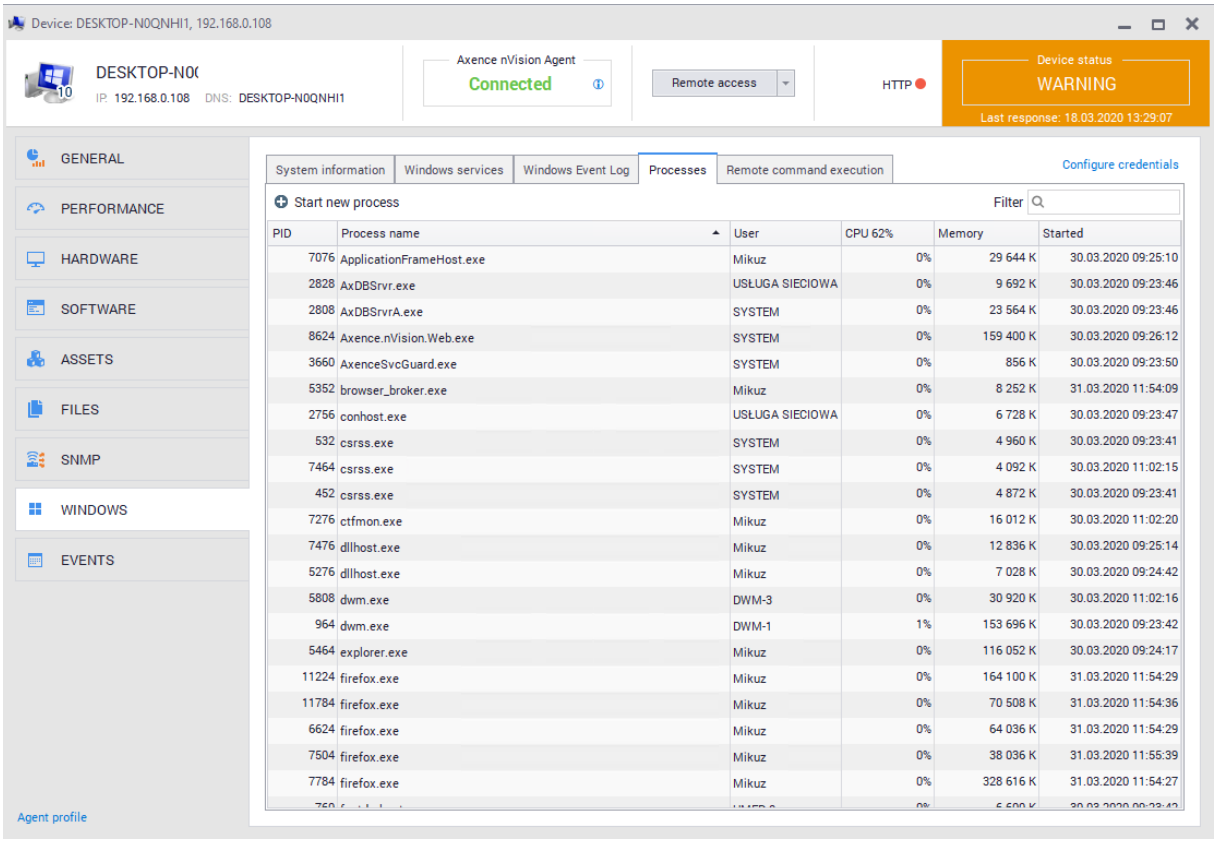
To distribute files:

1. Right-click the Agent and select **Actions / Distribute file with WMI...**.
2. Select the file to be distributed.
3. The selected file can be an executable file (e.g. installation file). It is possible to run such a file after it has been copied to a remote machine. This mechanism can be used to distribute programs or updates (fixes). Specify the runtime settings in the **Parameters** field and enable the **Run file when copied** option.
4. Select **All** to distribute a file to all machines or **Selected** to choose a specific group.
5. Click the **Install** button. A window will appear, displaying the distribution progress and allowing its successful completion to be checked.

10.14 Windows processes

The HelpDesk module displays active processes on the machines with installed Agents within the network.

To view the active processes on a selected host, navigate to the **Host info / Windows / Processes** window.



The process view also enables to stop the selected process, for example when it is not responding. To force the termination of a process, right-click on it and select **Terminate process**. You can also **close the whole process tree** by selecting the appropriate option from the context menu.

10.15 Remote command execution

When using the Agent within the HelpDesk module, it is possible to use the **remote command execution** feature (similar to Windows system command line).

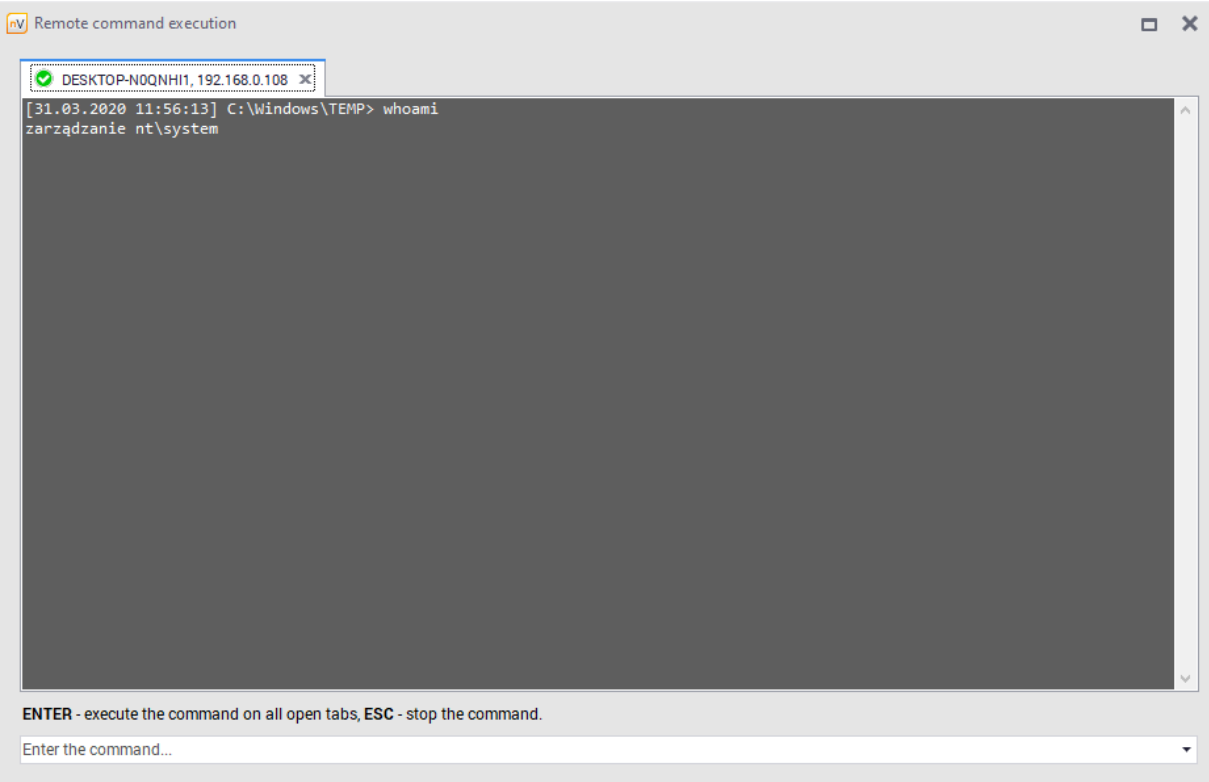
Perform the following steps:

1. Find the icon of the machine with the installed Axence nVision® Agent.
   It is also possible to select several Agent icons – the remote command execution windows with tabs for all selected machines will open.
2. Select the icon of the computer with the Agent, right click it and select the **Web access / Remote command execution** option from the context menu.

The **Remote command execution** window can also be opened from the **Host info / Windows / Remote command execution** window.

3. A remote command execution window will open with the **Command** field where the required commands should be entered. To execute the command, click the **Execution** button or press **Enter**. When the remote command execution window is opened, a folder within which the commands will be executed and the result of ***whoami*** command (credentials on which command execution is based) are also displayed.

It is possible to execute commands on multiple hosts at the same time.



Examples of commands:

Command	Action
systeminfo	system overview, e.g. whether virtualization is working
ipconfig /all	network interface setup, including DNS server address
netsh wlan show all	wireless network setup, including currently detectable wireless networks
netstat -abfo	list of ports used by specific processes for listening / connecting
tracert <IP_nVision>	connection route between nVision Agent and nVision Server
query user	list of sessions for users logged in on the machine
tasklist /v	list of processes and sessions used by the processes, together with authorizations
taskkill /pid <PID>	termination of the selected process
tasklist /svc	list of services active on the machine
sc qc <SERVICE>	detailed information on the selected service

Command	Action
chkdsk c: /f /r /b	checking and repair of data on C:
dir c:\users\<USER>\downloads /a /s	list of downloaded files in the selected user's folder

10.16 Remote access

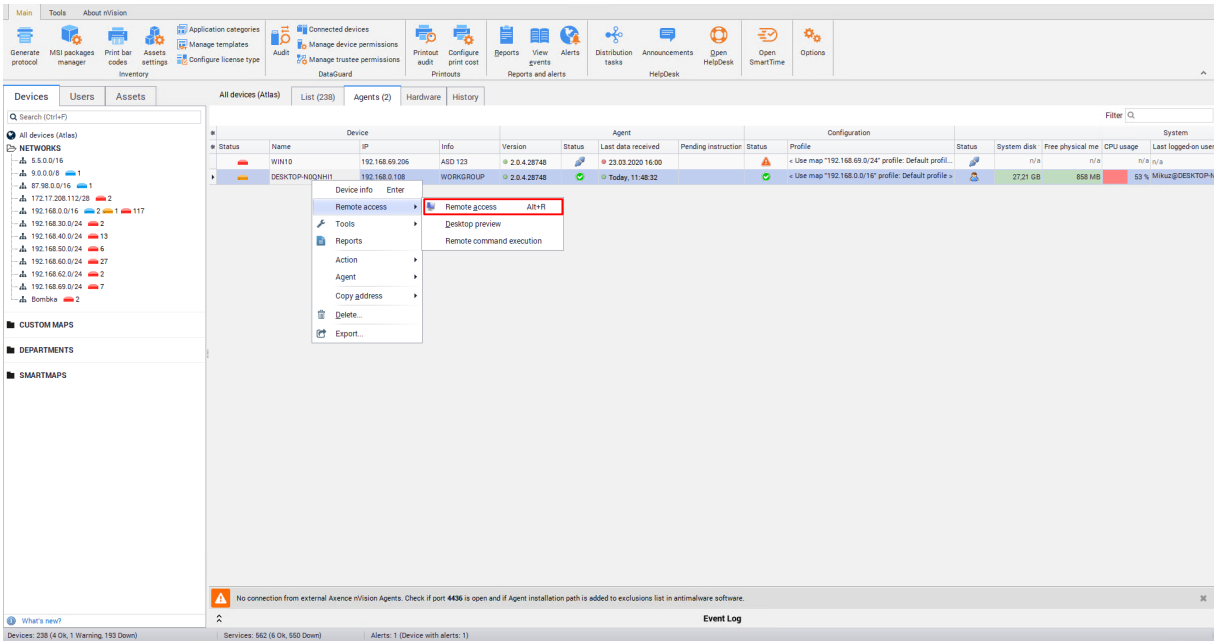
Requirements

The server, i.e. the central nVision program, must run on a static IP address.

Remote access tunneling in nVision

nVision listens on new TCP port 4436. During the installation, this port is configured only for Windows Firewall (to learn more, go to the Ports 22 topic).

The Agent establishes a connection with nVision – and the connection is maintained and used for communication. Therefore, remote access is available even if nVision cannot establish a direct connection to the Agent (e.g. the machine with the Agent is behind NAT). Remote access tunneling also works in nVision WebAccess.



Remote access options

In order to connect to the device remotely, right-click the device and select **Remote access** from the context menu. Then, select one of the **Access modes** in the remote access window:

Option	Description
View only	View user's window without the possibility of interfering with the user's device.
Concurrent access (default)	Both the user and the remotely connected administrator can perform actions on the device.
Block user mouse	Remotely connected administrator can perform actions on the device. The user can perform actions using the keyboard, the mouse is locked.
Block user keyboard	Remotely connected administrator can perform actions on the device. The user can perform actions using the mouse, the keyboard is locked.
Block user mouse and keyboard	Remotely connected administrator can perform actions on the device. User's mouse and keyboard are locked.

File manager

During the remote access session, it is possible use the file manager to transfer and copy data between workstation in a convenient manner.

Part

11 SmartTime module

11.1 Introduction

11.1.1 General information

SmartTime is a module that has been introduced in nVision 11. It allows users to view their activity in applications and superiors to verify the activities of their subordinates. The SmartTime module uses the nVision Agent to collect data on user activity in applications and displays them in a user-friendly manner in the web browser window.

The main features of the module are:

- View of activity data for employees and teams,
- Detailed list of visited web pages and used applications,
- Reports for managers - information about users who have not reached the preset productivity values,
- List of company employees' contacts.

Requirements for the collection of user activity

In order to collect user activity information, you **have to install the nVision Agent** on the remote device and open the TCP 4436 port on the computer running nVision. For more information, see the chapter Requirements and configuration.

Please note, that all the communication between Agents and nVision requires authorization and no data may be communicated if the Agents and nVision are properly configured.

11.1.2 Trial version

SmartTime is available in the trial version.

If the license covers the **Users** module, the **SmartTime** module will be activated automatically after downloading the nVision upgrade to version 11.

In the absence of the **Users** module, **SmartTime** will need to be activated manually in the nVision console by the administrator. When activating the module, the administrator will be asked for consent to enable the collection of user activity data.

When activating the **SmartTime** module **after 1 November 2019**, the test period will be available for **30 days**.

After the activation of the trial license of SmartTime, a notification bar with the remaining time will be displayed in nVision.

11.1.3 Getting started

After the SmartTime module is activated in nVision, the administrator should take a few steps to ensure the desired and efficient operation of the system.

Listed below are the first steps to be carried out (in nVision):

– Review the current hierarchy of users and assign the relevant superiors/supervisors/managers, if required (Hierarchy and superiors 458),

– Assign access rights to the module for users (User roles 457),

– Define the user groups and designate group managers to have access to the activity data for the members of their groups (Groups and managers 458),

– If necessary, import data from nVision – if you want to have access to historical data in SmartTime (Importing data from nVision 453).

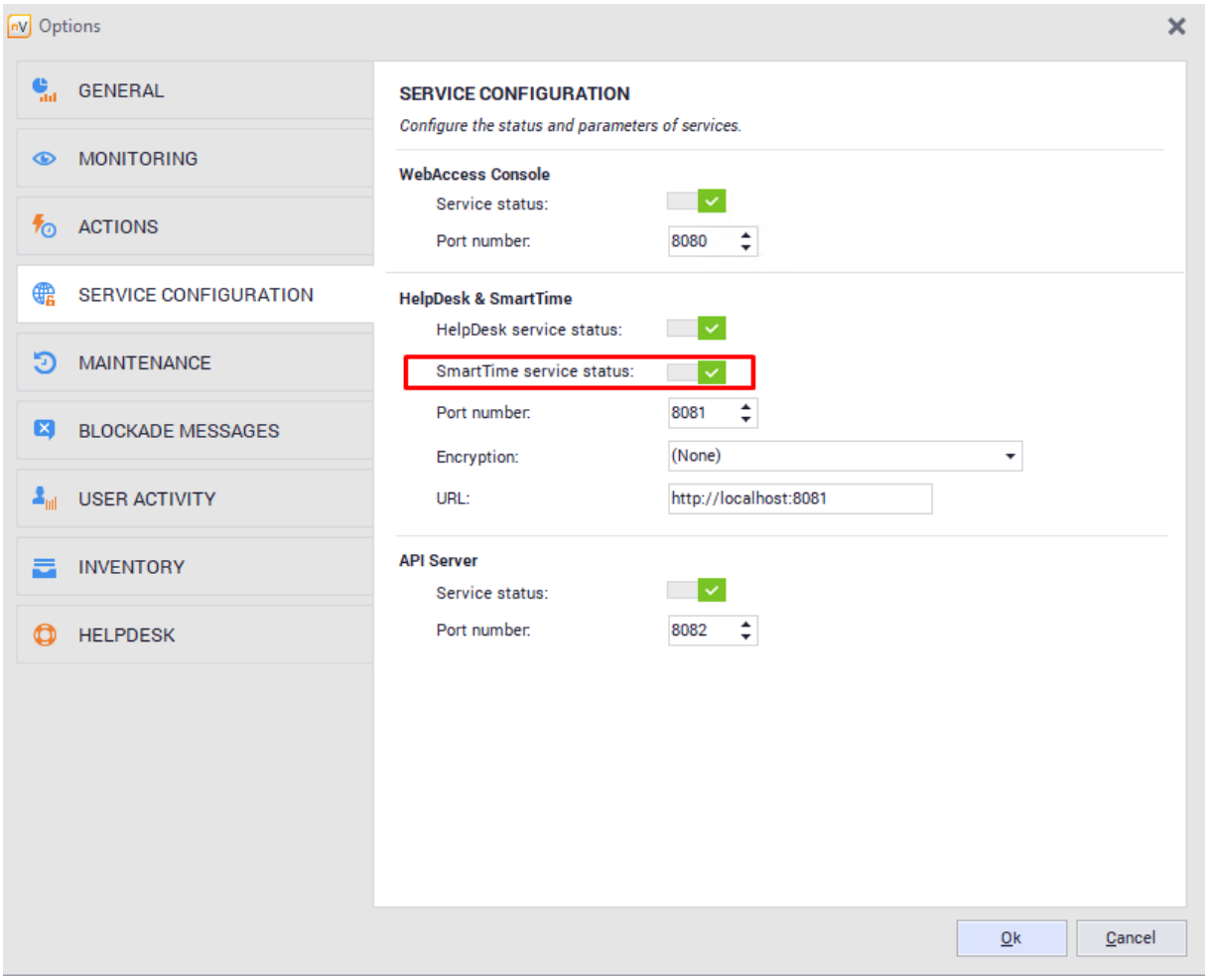
11.2 Module configuration

11.2.1 Installation

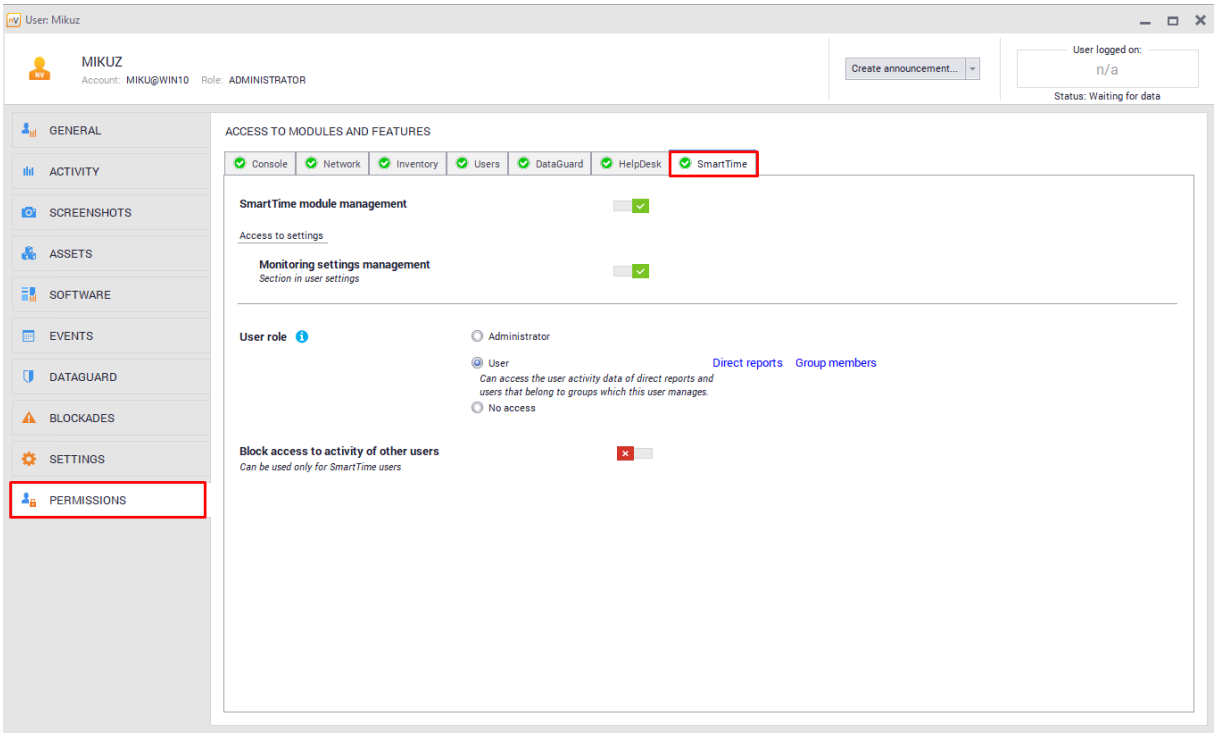
The SmartTime module is available from version 11 of Axence nVision. In order to collect user activity information, you **have to install the nVision Agent** on the remote device.

Access to the SmartTime module can be modified by the administrator at any time.

By going to the main options of the nVision program and then to the **Service configuration** tab, you can enable or disable the SmartTime module:



By default, the SmartTime module is automatically enabled after upgrading the software. Users also have access to the module and their data. To disable access to the data or module, select users on the list, select **Properties** in the context menu, and then navigate to the **Permissions / SmartTime** tab and modify the appropriate item:



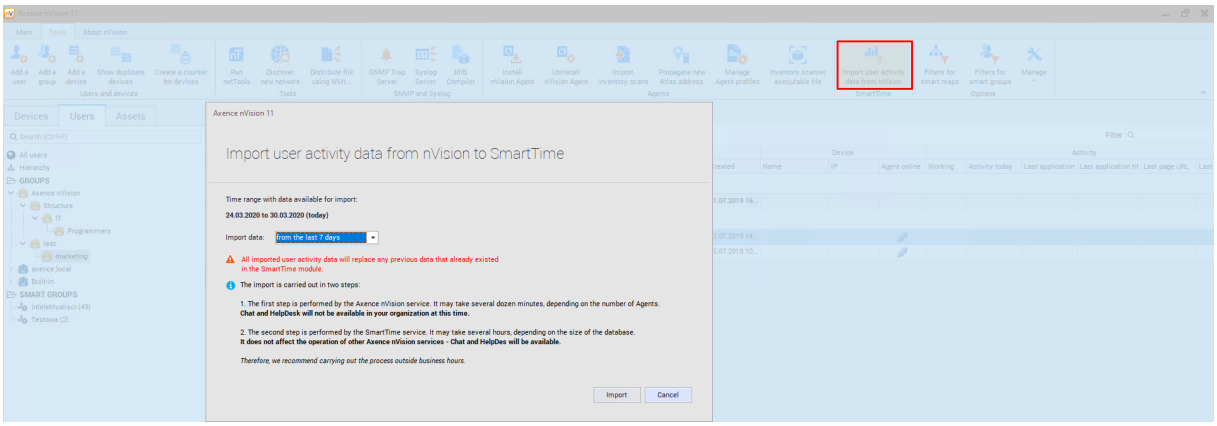
11.2.2 Importing and deleting data

Data collected by the SmartTime module are subject to full control by the administrator. They are sent and added every 20 minutes and upon disabling the system on which the agent is installed.

If the Users module was previously used, you can import the user activity data to the SmartTime module.

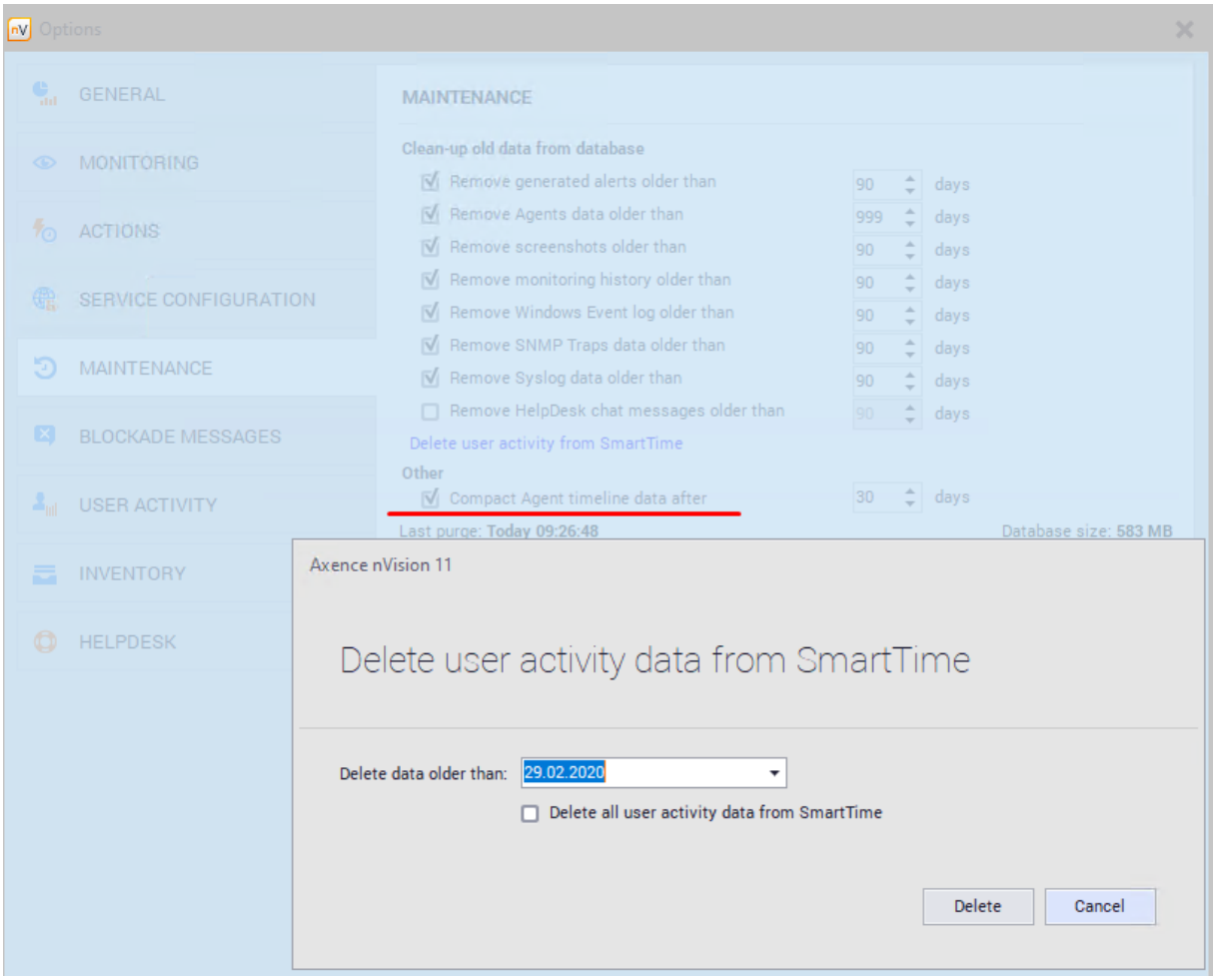
To do this, navigate to the **Tools** tab and select **Import activity data from nVision** in the SmartTime section.

The program will require you to specify the time from which the activity data are to be imported:



Note! All imported user activity data will replace the data collected by SmartTime over the selected period.

To delete the activity data collected in the SmartTime module, navigate to the main options of nVision and then to the **Maintenance** tab:



11.2.3 Starting SmartTime

You can access the SmartTime module in a few ways.

1. Access with the Agent icon

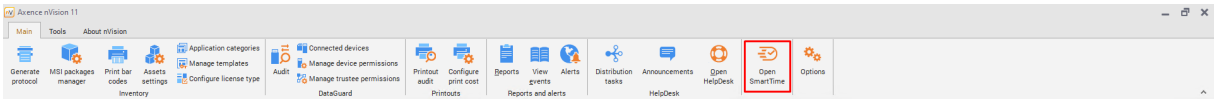
When you click the Agent icon, you can select **Your activity**. This will open the browser and start the SmartTime module.

2. Access from the HelpDesk module

To open the SmartTime module, click the appropriate icon at the top of the HelpDesk screen.

3. Access from the nVision console

To start SmartTime from the console, simply click **Open SmartTime** on the main toolbar:



11.2.4 Productivity levels

Applications in the SmartTime module are grouped into the following three main **productivity levels**:

- **Productive applications**,
- **Neutral applications**,
- **Unproductive applications**.

For defining the productivity of applications, refer to chapter Applications 468.

Defining the productivity of applications does **not** apply to its category – these are two independent settings.

11.2.5 Setting the productivity and category

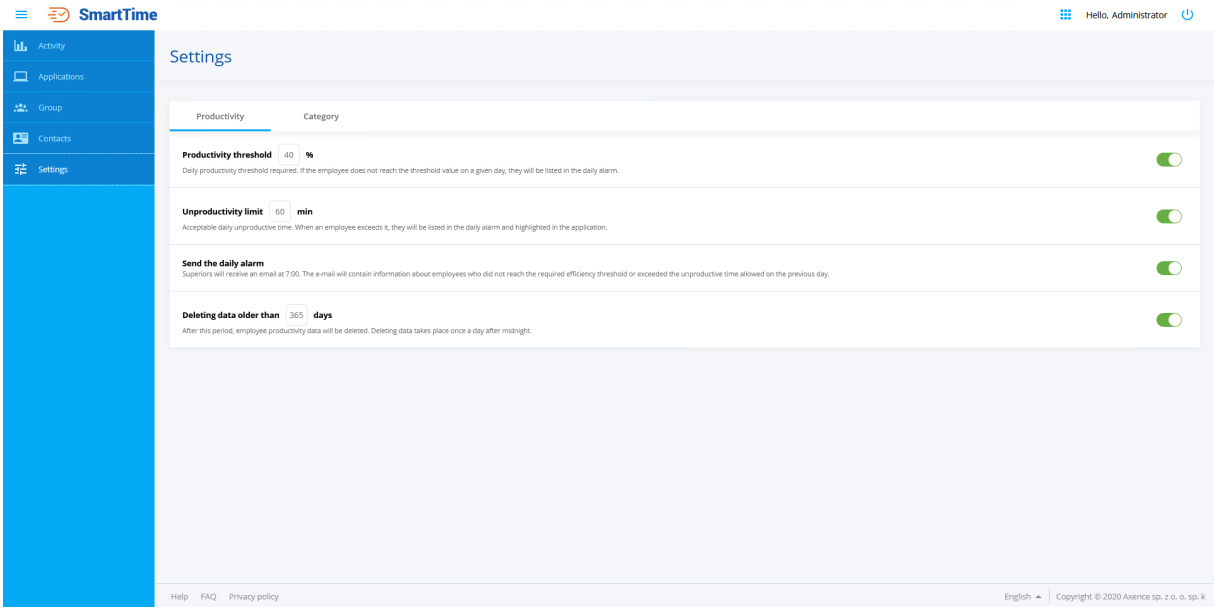
When in the **Settings** tab in the web interface, you can configure the SmartTime module.

The configuration in the **Productivity** tab allows you to define the following parameters:

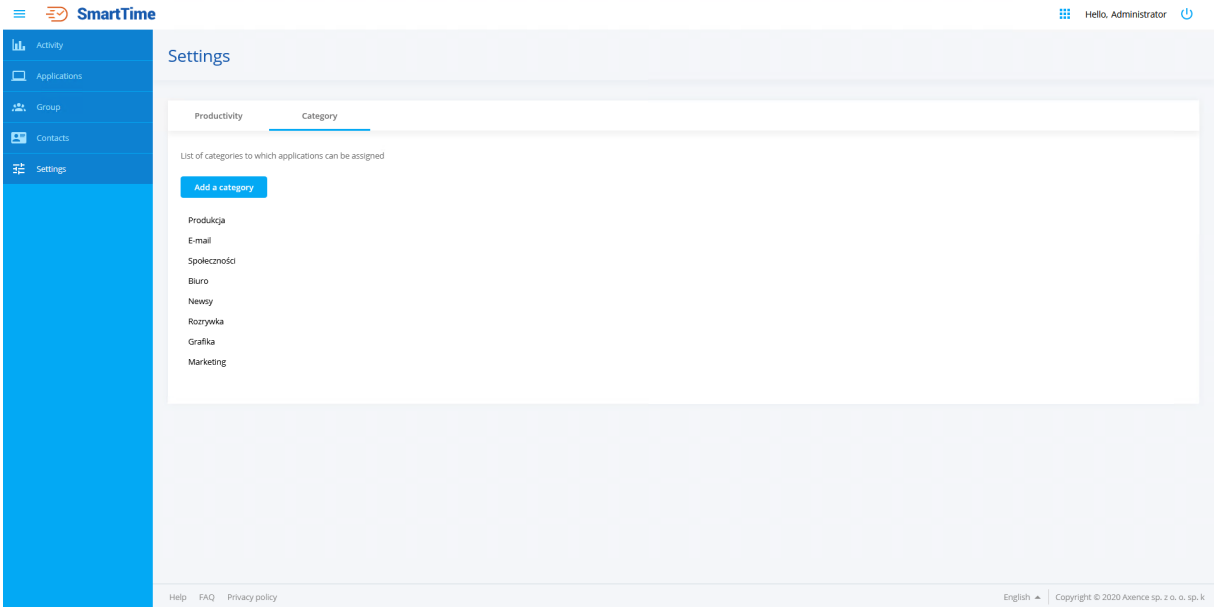
- **Productivity threshold** (%) – the required daily productivity threshold. If specific employees do not reach the productivity threshold on a given day, as configured in this field, they will be added to the report that can be sent to their superiors. This option is set to 40% by default.
- **Unproductivity limit** (in minutes) – specifies the allowed time spent by users on unproductive applications. If employees exceed the time spent on unproductive applications on a given day, as configured in this field, they will be added to the report that can be sent to their superior. Such users will also be highlighted in the application. This option is set to 60 minutes by default.
- **Send the daily alarm** – specifies whether or not the daily alarm is to be sent to the superiors or managers. The alarm will be sent to each user. The email will include information about the employees who have not reached the required efficiency threshold or exceeded the allowed unproductive time on the previous day. Sending alarms is enabled by default.

  The email is sent on the next day at 7 a.m.
- **Delete older than x days** – specifies the period for which the employee productivity data are stored. Clearing takes place once a day at midnight. This function is enabled and set to 365 days by default.

Each of the above-mentioned options may be **enabled** or **disabled**. To enable or disable a specific option, use the toggle next to each of the items.

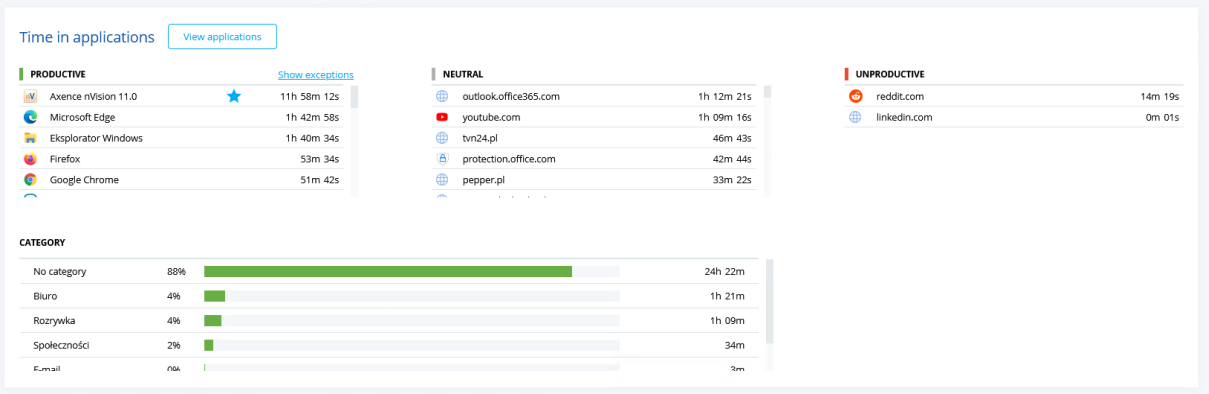


The **Categories** tab allows you to define the categories to which the applications can be allocated.



To add a category, click **Add category**. Then enter the category name and confirm your selection.

For adding applications to categories, refer to chapter Applications 468. By creating categories, you have the ability of the additional grouping of applications:



To change a name or delete a category, move the cursor over the selected category and select the appropriate icon.

Note! After the item is removed from the list, all applications assigned to this category will no longer have an assigned category.

11.3 Users and their permissions

11.3.1 User roles

Users may access the SmartTime module by using one of the following roles:

Administrator:

- This option is **only** available to the user that has access to the management of users and the modification of the Users module functionalities,
- The Administrator in the SmartTime module has access to the modification of settings for this module on the website,
- The Administrator has access to the activity data for all users.

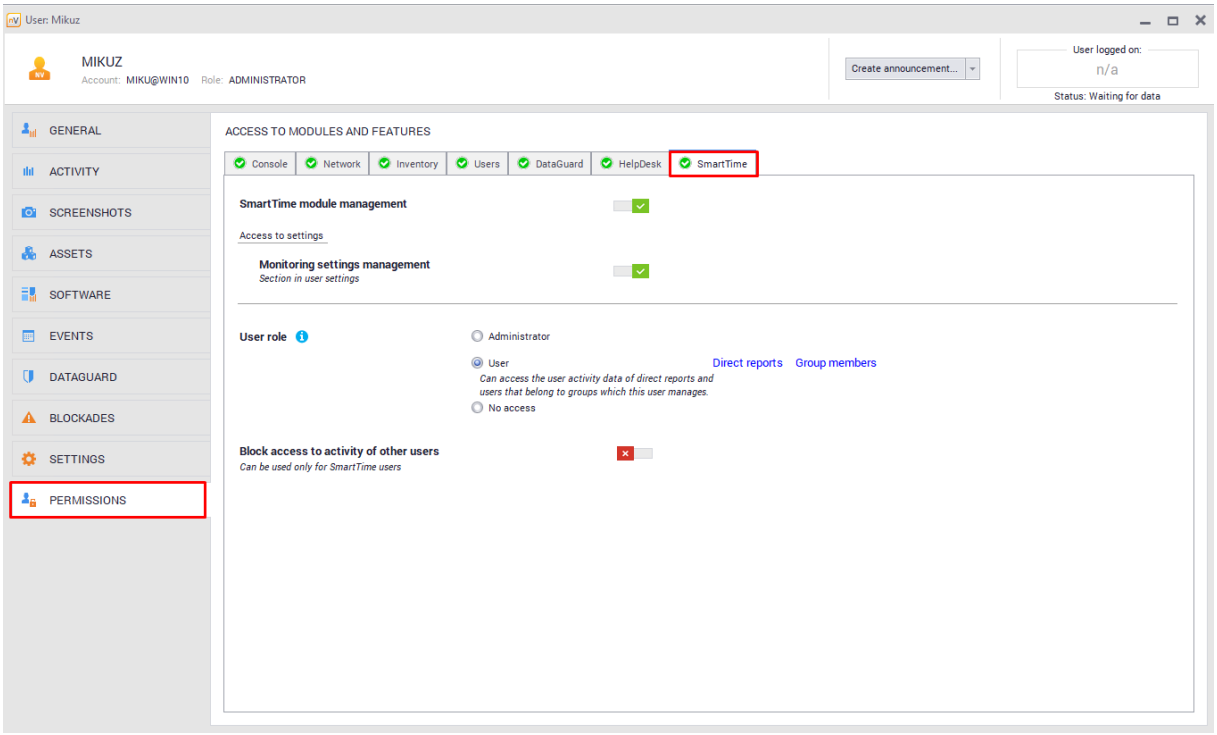
User:

- Users have access to the SmartTime module and can view data on their activity,
- If users are **group managers** and **have access to data enabled**, they can view the activity data for the group members (see the next section for more information),
- If users are superiors, they have access to their subordinate's activity data.

No access:

- People with this level of rights are not able to log in to SmartTime,
- They cannot see the navigation buttons in any part of the program,
- They are still shown in the list of SmartTime users – the activity data for these people can be viewed by their superiors and by the administrator.

These settings are located in **User information** / **Permissions** / **SmartTime**:



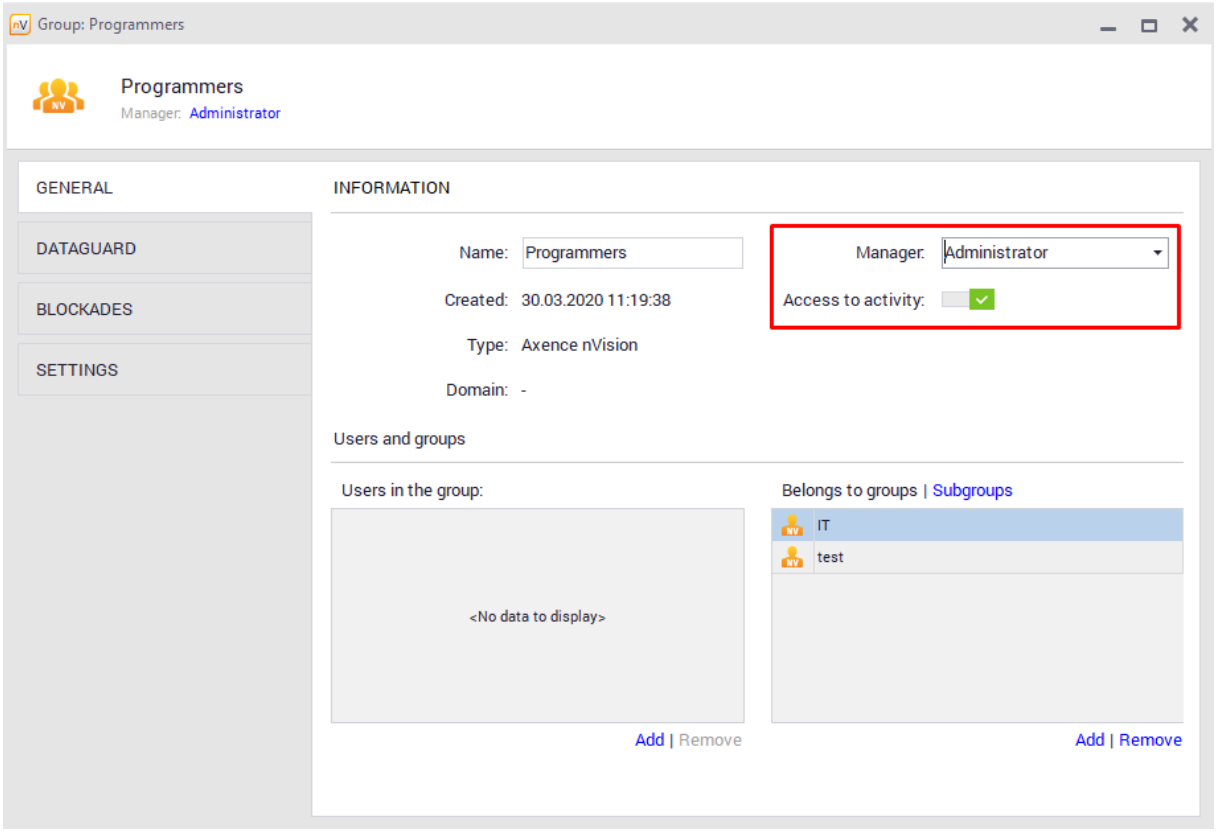
11.3.2 Managers and superiors

Group manager

The manager is a person that may have access to the activity data for all members of their groups. These persons may or may not be members of the groups managed by them.

To assign the group manager rights to a user, navigate to the **Group information** screen and select the appropriate person from the drop-down list in the **Manager** field.

By default, access to the activity data of other group members is **disabled** and the manager **does not have access to them**. To enable access to the data, click the toggle shown in the screenshot below:

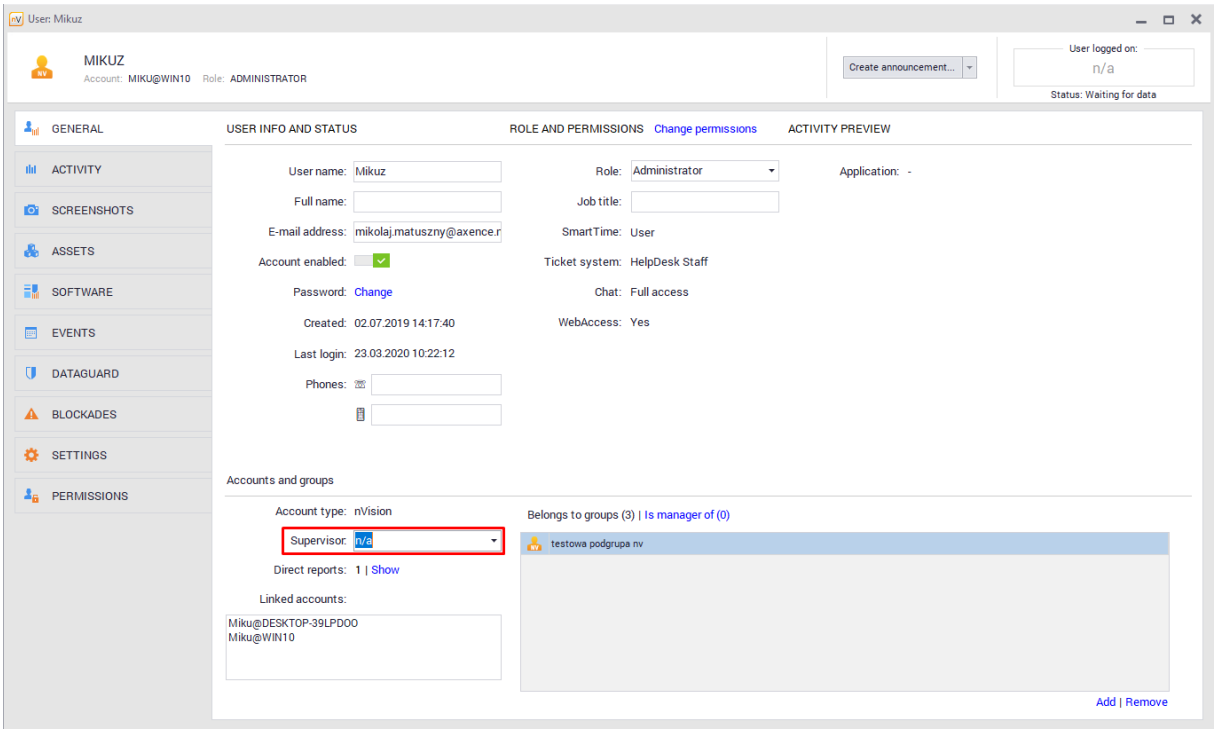


To check whether a user is a manager of any group, go to the **User information** screen for this user. The information will be displayed in the **Accounts and groups** section after clicking the appropriate option.

Note! When importing groups with assigned managers from Active Directory, it is not possible to modify this person in the nVision console (synchronized with the corresponding “managed to” field in Active Directory). Any changes should be made in the Active Directory.

Superiors and subordinates

These settings are related to the hierarchy of users in nVision. This functionality allows the administrator to define the relationships among employees. The **supervisor** field is assigned to each user, and it may be left blank or contain the user name. For users synchronized with Active Directory, the value in this field is a read-only value, and it is read from the field with the same name.



To manage the hierarchy of users, select **Hierarchy** in the **Users** tab. In this list, you can drag and drop the users to define subordinates and superiors for them.

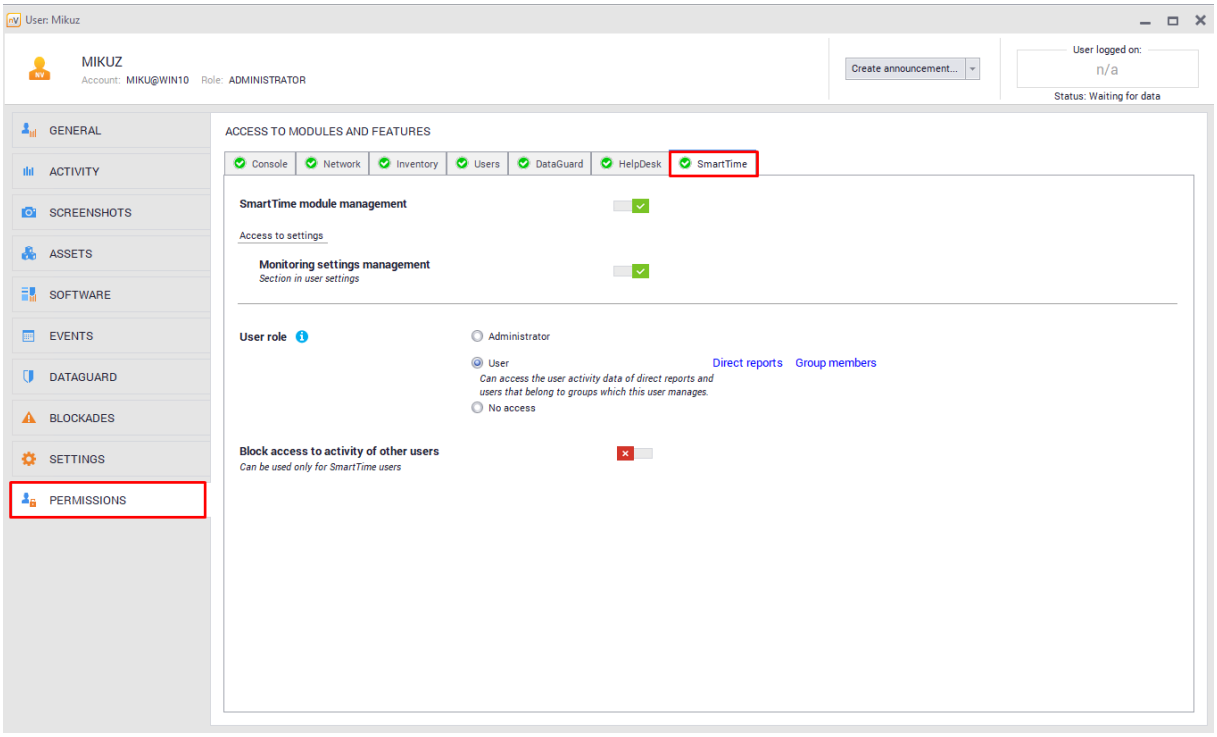
Alternatively, in order to define a superior for a specific user, navigate to the **User information** screen for this user and select the superior for the person from the drop-down list in the **Accounts and groups** section.

In the SmartTime module, the **superiors** will be able to verify the activity of **their subordinates, even if access to the activity data in the group is disabled**.

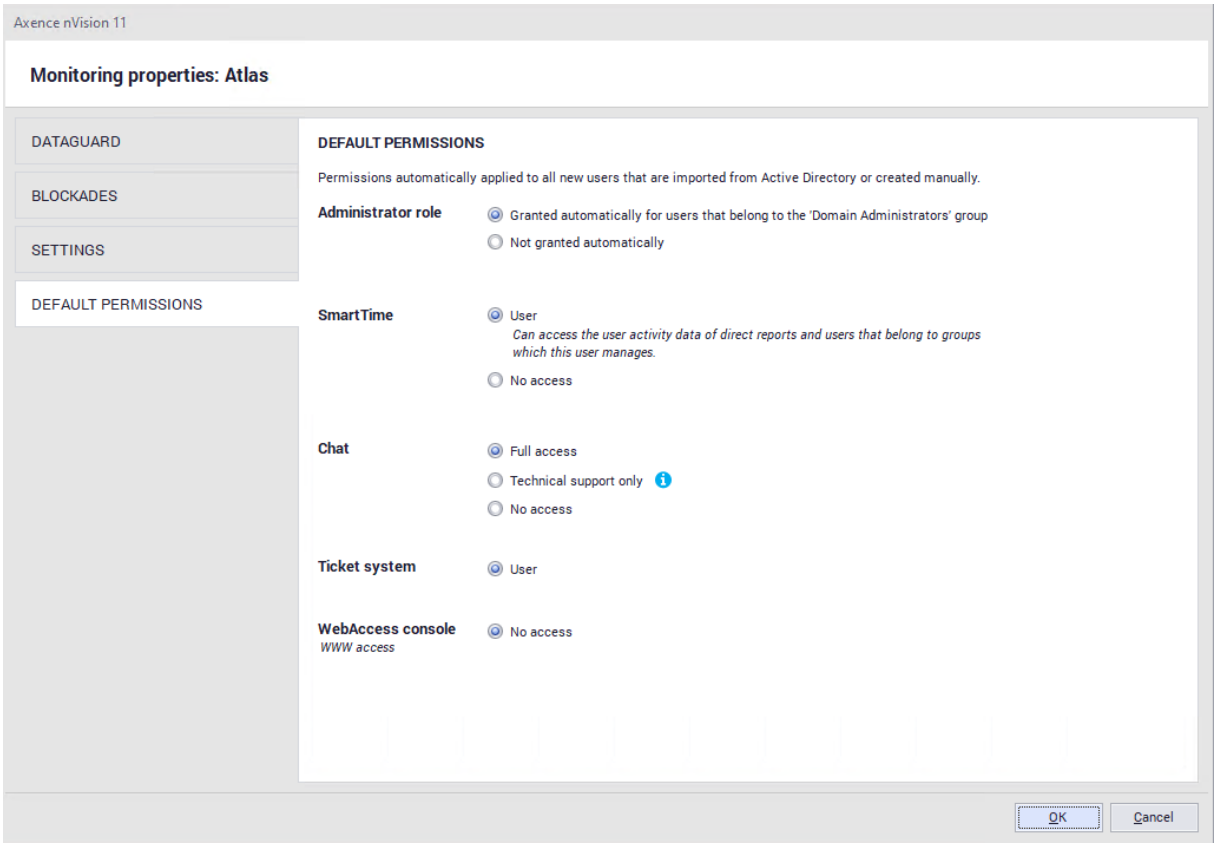
11.3.3 Blocking access to data

One of the user permissions setting items is to **Block access to specific activities**. By enabling this setting, the users (regardless of whether they are managers or superiors) will see only **their own data**.

These settings are located in **User information** / **Permissions** / **SmartTime**:

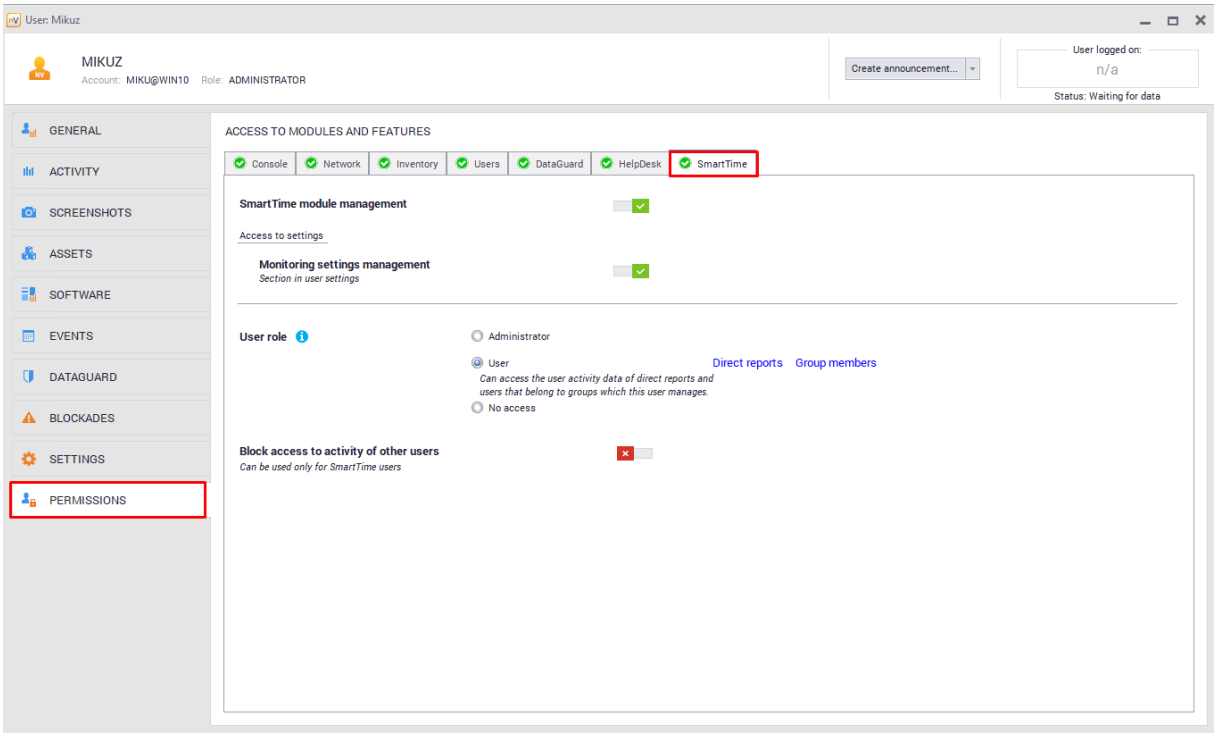


By default, the newly added users will receive user access. To modify the default settings, go to the **Atlas information / Default permissions** and modify options in the **SmartTime** line:



11.3.4 Data available to users

Depending on the level of rights of the logged in person, the items related to the activity visible for that user will be displayed. These settings can be modified in **nVision** by going to the **User information**, and then to the **Permissions / SmartTime** tab:



The access rights are as follows:

- **User with no subordinates**

A person with the **user** role and no subordinates will only have access to their own activity data.

- **User with subordinates**

A person with the **user** role and subordinates will have access to the activity data for each subordinate (also each person that is lower than their subordinates in the hierarchy) and to their own activity.

- **User that is a group manager and has access to data of this group disabled**

A person with these rights has access to their data. If they have any subordinates, their activity will be displayed too.

- **User that is a group manager and has access to data of this group enabled**

A person with these rights has access to their own data as well as the data of the entire group and the individual members. Such users can also edit the group productivity exceptions. If they edit productivity

exceptions for such a group, they see the global list of applications, their productivities and categories, however they cannot edit these items.

- **Administrator**

A person with the administrator rights has access to the activity data for each user and each group. The administrator has full access to all parts of the system, sees the global list of applications and can edit their productivities and categories. The administrator can also edit the productivity exceptions for all groups.

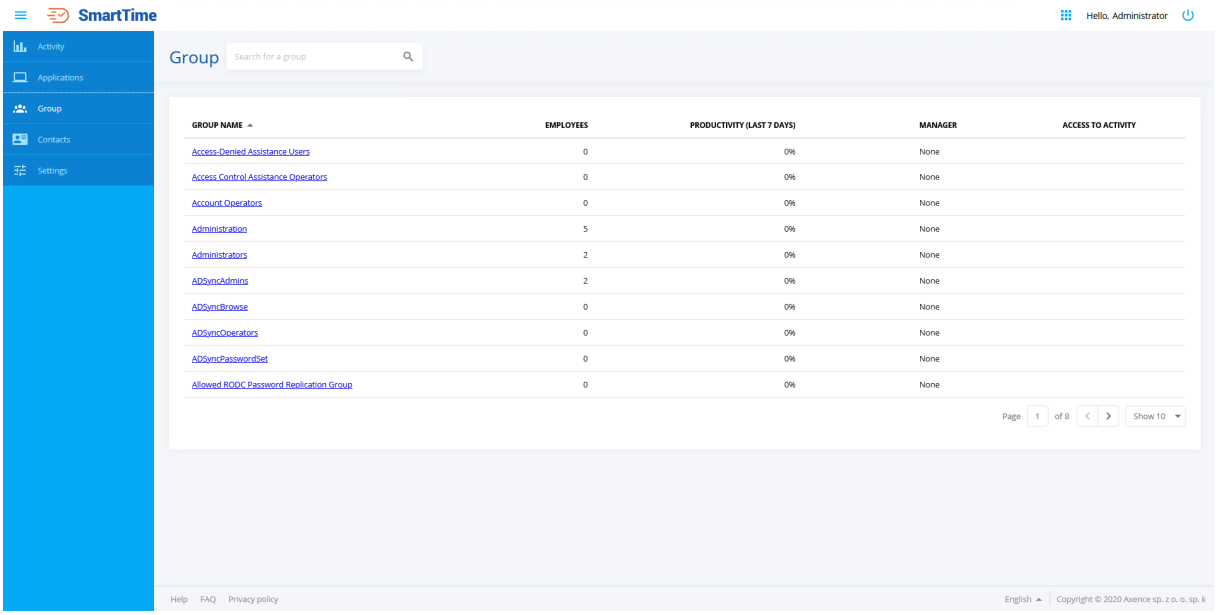
By going to the **User information** and then to the **Permissions / SmartTime** tab, you can enable **blocking access to the activity of other users**. A person with the lock enabled will only have access **to their own activity data**.

11.4 Groups

11.4.1 Group information

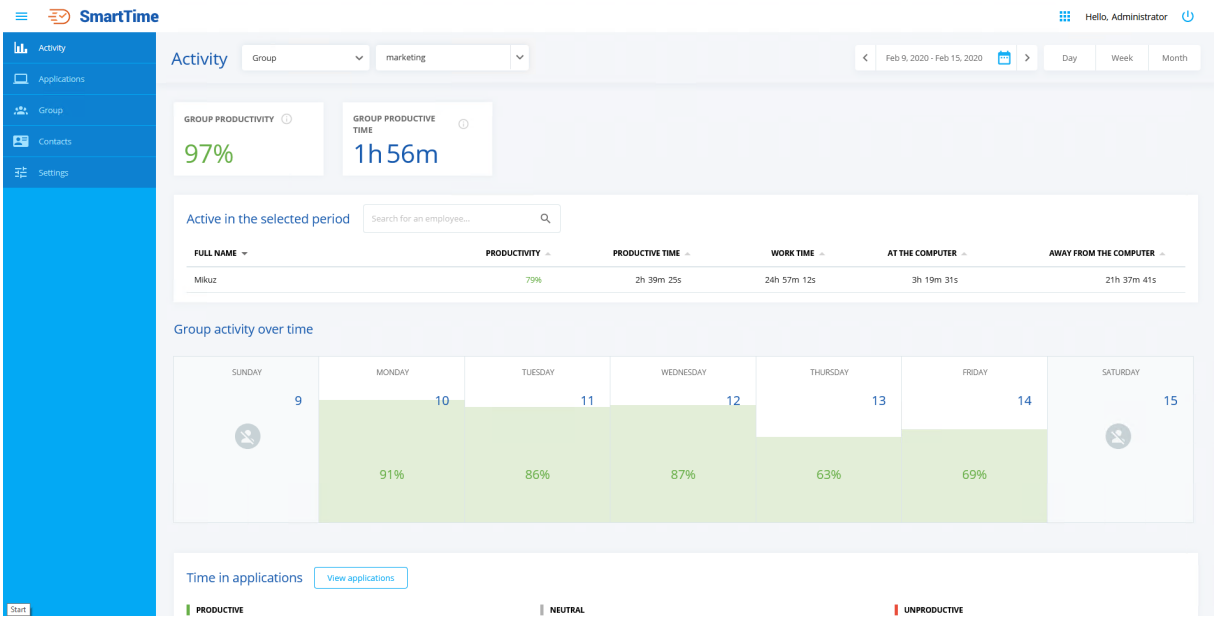
After selecting an item from the list of groups, you can go to **detailed** information. The following tabs are available there:

- Employees – a list of employees belonging to the group or subgroup (see the “relationship within the group” column),
- Belongs to – information about the parent group that the currently viewed group belongs to (this item is not displayed if the selected group does not belong to any other group),
- Subgroups – information about the subgroups of the currently viewed group,
- Application exceptions – provides information on whether or not any exceptions are defined for this group. The list of exceptions only includes **the applications in which the members of the selected group were active**. This tab also allows you to add exceptions for these applications.



After clicking the **View productivity** button, the application will take you to the page 475 where the information on the productivity of the group as a whole and of individual members is displayed.

The **View applications** button displays the application settings for the selected group. The list will show **only the applications in which the members of the selected group were active**.



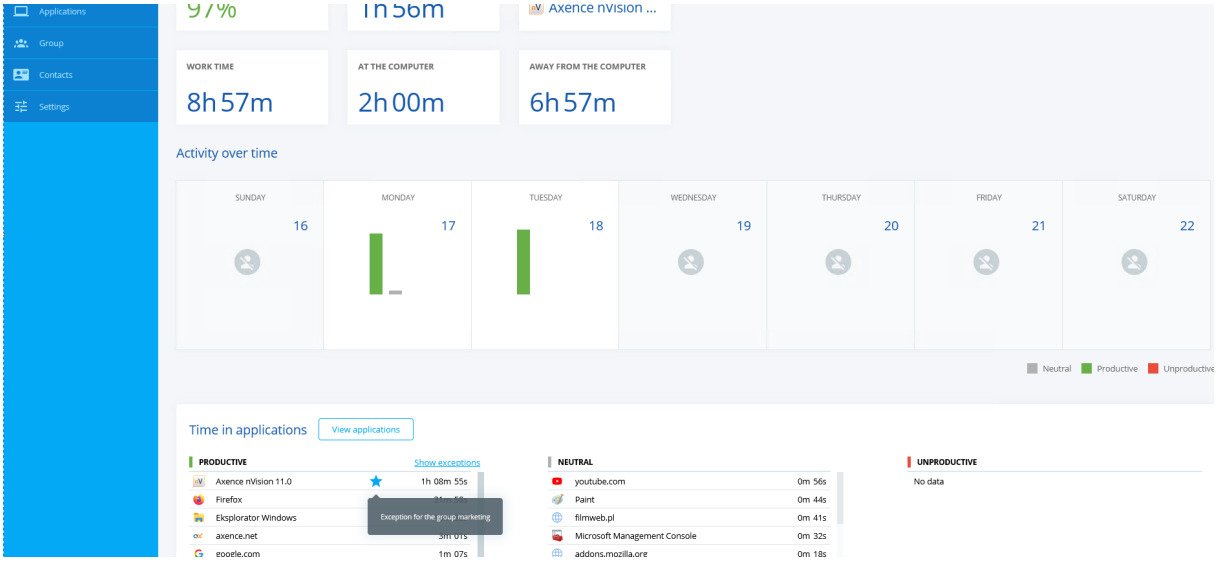
If the group manager does not have access to the data of this group enabled, the appropriate notification will be displayed (see the screenshot above).

11.4.2 Special markings

Special markings in the SmartTime module are used to allow for the better interpretation of activity data. These include:

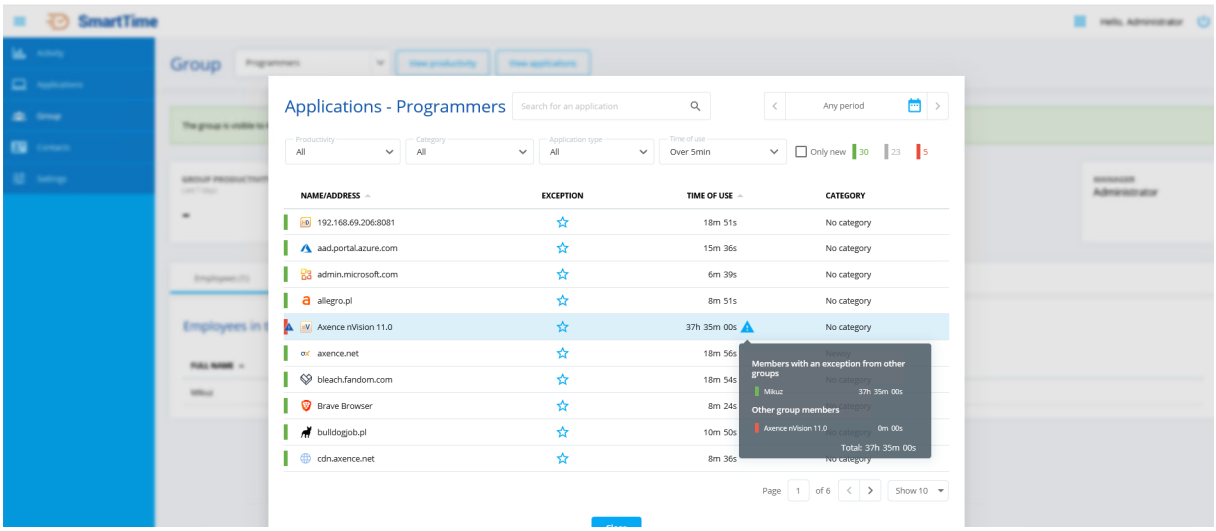
- **Asterisk**

An asterisk will be displayed on the user activity screen for the selected user if this user belongs to a group in which the application is added to exceptions:



Triangle

A triangle will be displayed on the group activity screen or after clicking the **View applications** button in the information screen for the selected group. The symbol appears when at least one of the group members has an exception for the selected application set in another group (which means that the user's time spent in this application is treated as productive). Move the cursor over the symbol to see additional information.



11.5 Application settings

11.5.1 General information

The **Applications** screen provides information concerning **all applications detected on all devices with the Agent** within the network. An application can be both a **program** run on a computer and a **web site** visited by the user. Only the **applications that were used** by users are displayed. If any program has a desktop (e.g. winword.exe) and web (Word online – www.office.com) version, it is always treated as two different applications.

Data collected by the SmartTime module are subject to full control by the administrator. They are sent and added every 20 minutes and upon disabling the system on which the Agent is installed.

Applications in the SmartTime module are grouped by the following three main **productivity levels**:

- **Productive applications,**
- **Neutral applications,**
- **Unproductive applications.**

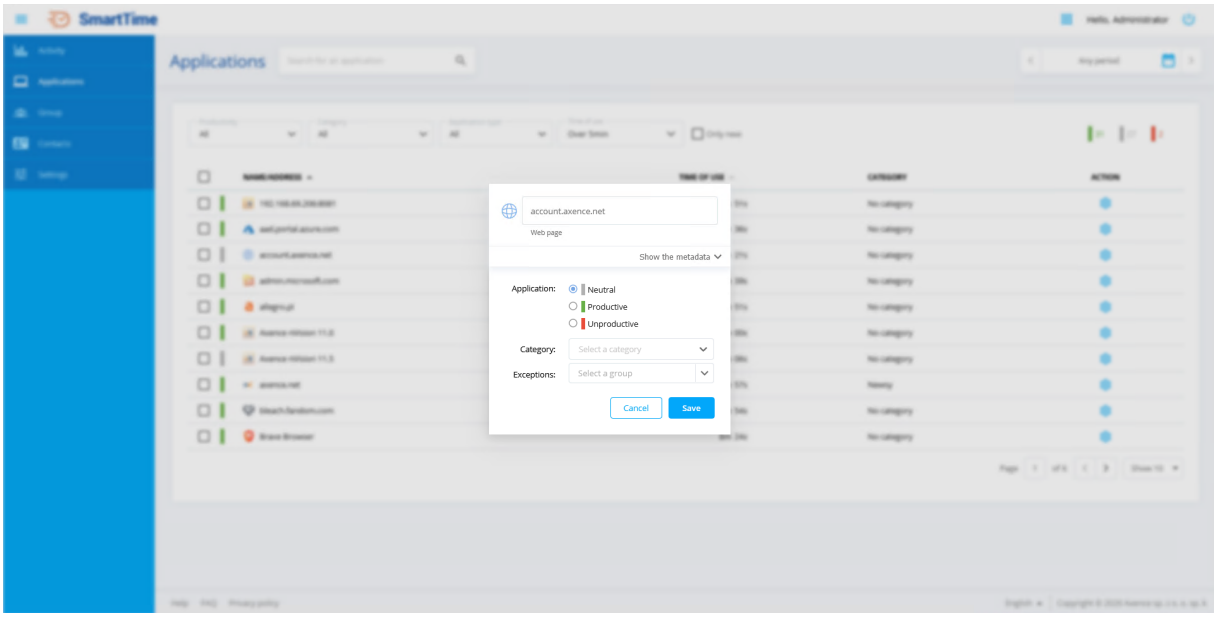
The above-mentioned productivity levels cannot be added, edited or deleted.

To make it easier to review the list of applications, the following filters have been developed:

- Calendar – allows the selection of the time period in which the applications were detected,
- Productivity – allows the application productivity to be defined,
- Category – allows the application category to be defined,
- Application type – allows the search to be narrowed down to **desktop applications** or **web pages** only,
- Usage time – specifies the time of application usage,
- New only – the applications that appeared in the system in the given time period are displayed.

The SmartTime module has a database of the most popular applications and is able to classify them as productive or unproductive. If an application not included in the database is detected, it is classified as neutral.

In order for the SmartTime module to utilize its full potential, the administrator should **regularly update** the list of applications in the system. To facilitate this, the **New only** option is available to show the new applications that appeared in the system **in the selected time period**.



11.5.2 Application identification

Applications in the SmartTime module are divided into two types:

- Windows programs;
- websites.

The SmartTime module treats Windows programs and websites as equal applications in terms of user activity. If any program has a desktop (e.g. winword.exe) and web (www.office.com) version, it is always treated as two different applications.

Windows applications

Each “Windows program” application has the following properties:

- Application detection date (date of the first time quantum of an activity connected with this application),
- Application name (friendly name displayed as the application title in the interface),
- File name (OriginalFileName),
- Product name (ProductName),
- Supplier name (Company).

The unique determinant of such an application is the combination of the OriginalFileName, ProductName and Company fields. This means that two programs with the same name of the executable file may be detected as two applications (if they differ, for example, in the “Company” field).

Websites

Each “website” application has the following properties:

- Date of application detection (date of the first activity connected with this application),
- Application name (friendly name displayed as the application title in the interface),
- Address (DNS name without “www” and without port or the IP address itself),
- Website titles (set of text values).

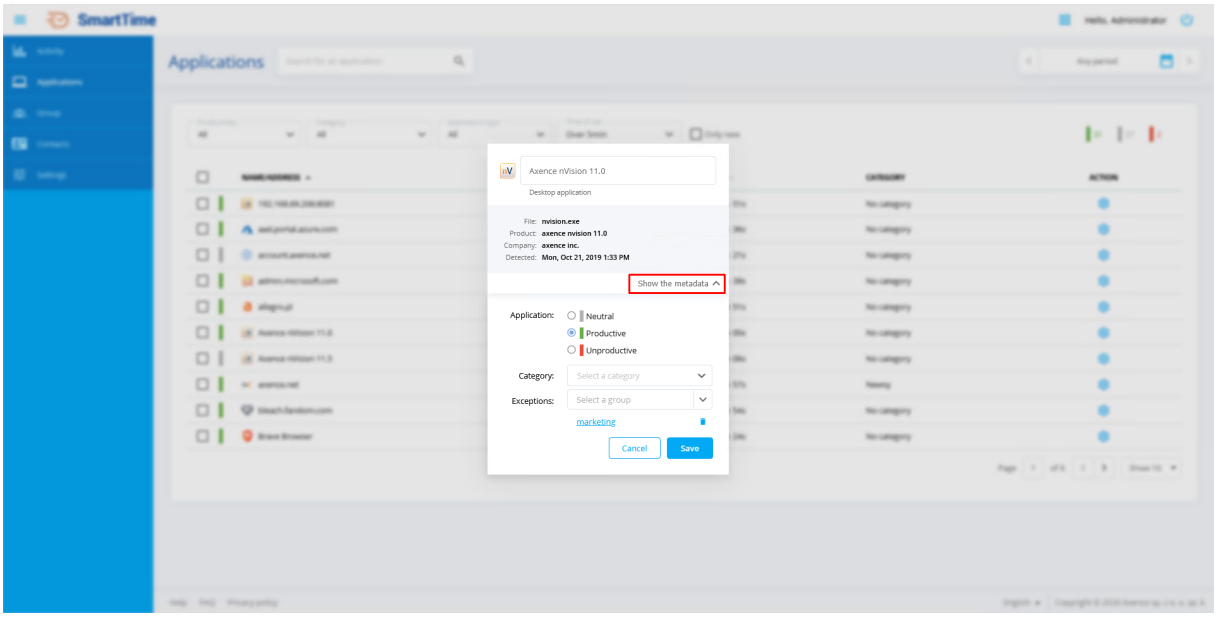
The unique determinant of such an application is the address only. This means that if any website uses different subdomains, each of them will be detected as a separate application. The information concerning protocol is automatically removed from the address.

Each user activity is matched to the application using the described unique determinant. If such an application does not yet exist in the system, a new one is automatically created.

The friendly application name is automatically retrieved from the executable file (for Windows programs) or from the most common site title (for websites).

Metadata

Metadata can be viewed by going to the **Applications** screen in the SmartTime module web interface. After clicking the gear icon next to the selected application, click **Show metadata**. The information concerning the application name, manufacturer and date of detection will be displayed:



11.5.3 Application settings

Individual application settings

To go to the application settings, click the appropriate icon in the **action** column next to the selected item from the list.

A few parameters can be set in the application settings screen:

- specification of application productivity (neutral, productive or unproductive),

- specification of application category (the categories previously created in the **Settings** screen are available – **click here for more information** 455),
- specification of **exceptions** for the user groups,
- ability to change the application name in the list.

Exceptions

The productivity settings for specific applications are global settings. By specifying the **exception** for groups, you can classify unproductive applications as productive ones for selected groups.

Setting the exception for an unproductive or neutral application means that the time spent in this application by users belonging to a group with the exception set will be treated as productive.

To further explain the concept of exceptions, let's consider the following situation:

The **Facebook** application is marked globally as **unproductive** in the SmartTime system. The user **Jacek** is a member of the **Marketing** and **Production** groups. The administrator has added this application to exceptions in the **Marketing** group. The consequence of this action is the following events:

- The time spent on Facebook by the members of the **Marketing** group will be treated as productive when calculating their productivities,
- However, if Jacek spent some time on Facebook, this time will also be treated as **productive** in the **Productivity** screen of the **Production group** (and in his activity screen). By spending time on Facebook, the other members of the **Production** group that do not belong to the **Marketing** group will increase their time in **unproductive** applications. The information that Jacek's time spent on Facebook is treated as productive **will be highlighted accordingly** by the warning sign icon in the group productivity view.

Categories

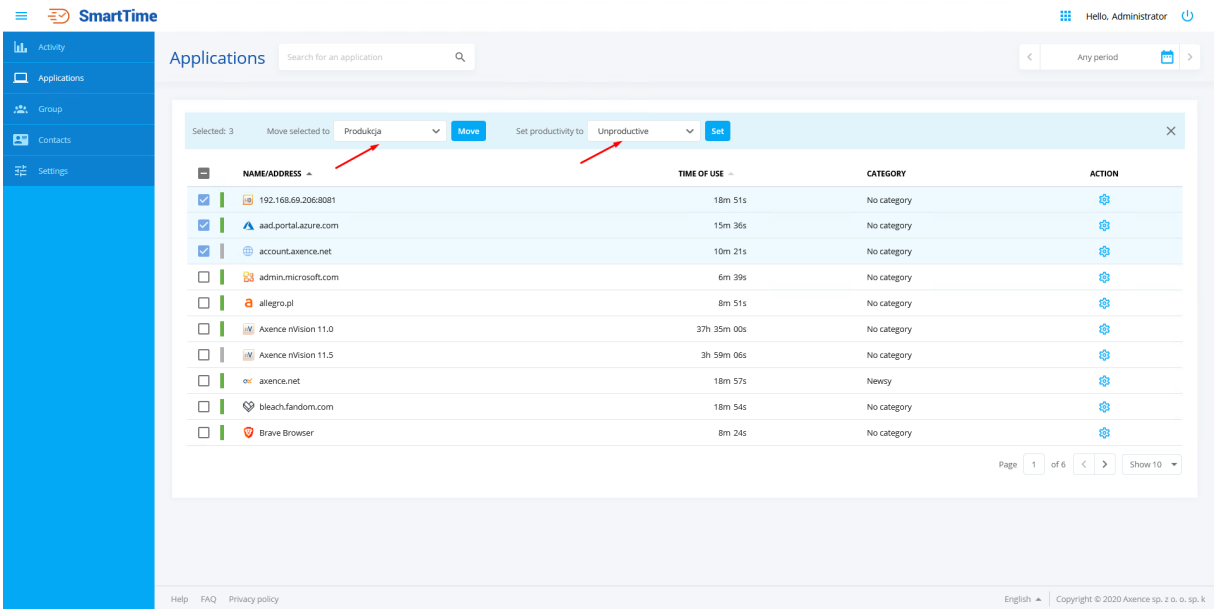
The specification of categories for an application will allow for the better graphic representation of collected data in the **Activity** screen. Each category must have a unique name and each application can be assigned to **only one category**.

When installed, the SmartTime module will include the initial list of categories fed from the built-in predefined list. The initial categories are the special type of categories and the destination place where the automatically assigned applications will be saved. However, in the user interface, they do not differ at all from the categories created manually by the administrator.

Configuration of multiple applications at the same time

To facilitate the configuration of applications, the option for the bulk change of their settings is available. To do this, simply select the applications in the list by clicking the relevant box on the left side of the list. By clicking the box at the top, you can select all items displayed on this page.

After selecting the desired applications, the administrator may assign these items to a specific category and specify the productivity of these applications.



11.6 Activity

The Activity screen provides information about the time spent in individual applications.

Depending on the level of rights of the logged in person, the items related to the activity visible for the logged in user will be displayed. This means that the page will look slightly different depending on who is viewing it.

By using the navigation at the top of the screen, the logged in persons may select their **users, groups or subordinates** and specify the time period they want to view the data from.

Once the item in the list is specified, you will see the statistics for the selected user. The subsections of this topic describe the individual views depending on the period and the person whose data are viewed.

11.6.1 Access to specific activities

Users may have access to their own activity data as well as the activity data of their subordinates or groups managed by them. Depending on the level of rights of the logged in person, the selected people whose activity is visible for that user will be displayed. This topic is described in detail in chapter Data available to users 462.

11.6.2 Individual user activity

11.6.2.1 Activity on the selected day

The user productivity screen is divided into a few sections.

Statistics

The first element of the user productivity screen is the general information about their work on the computer:

- **Productivity** – the productivity is measured in the selected period. **This is the productive time in this period divided by the duration of the user's entire activity on the computer in this period**.
- **Productive time** – shows the amount of time spent by the user in applications classified as productive.
- **Most popular** – displays the name of the most popular application used by the user in the selected period.
- **Working time** – the system calculates the working time for each employee as the difference between the time of the first and last activity on each day.
- **On the computer** – this is the time during which the system detected user activity.
- **Away from the computer** – this is the time during which the system did not detect user activity.

Screenshot

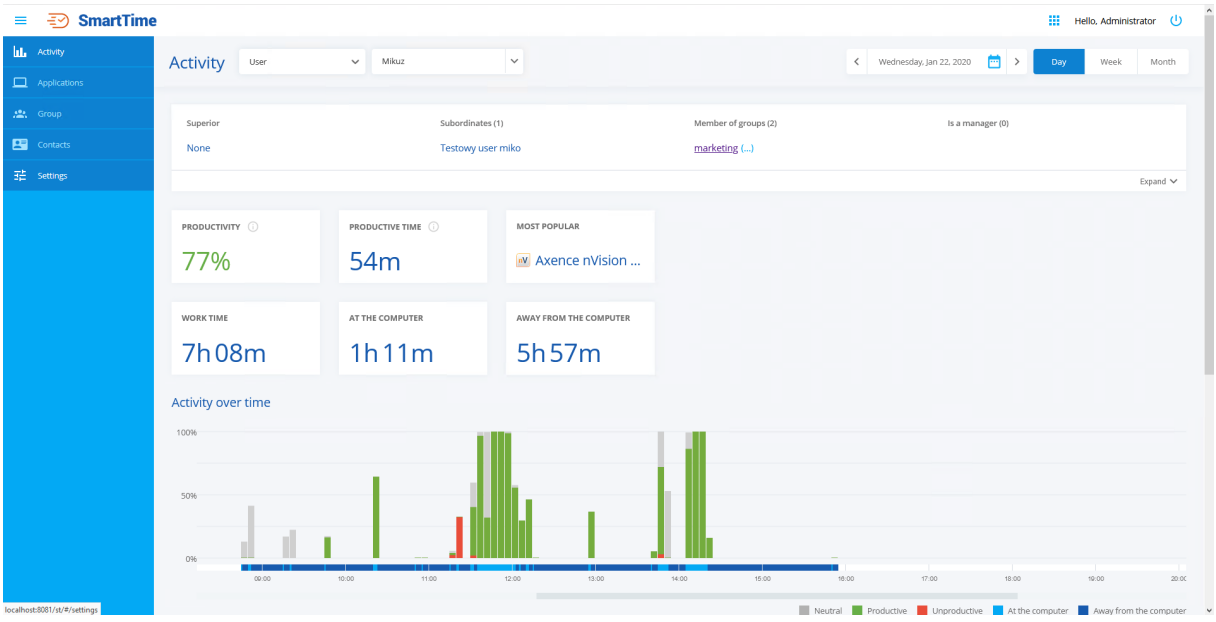
The screenshot makes it possible to view the user's screen snapshot. This allows the superior of this employee to get approximate information about what the user is doing at that moment. It is not possible to zoom in or see the screenshot in more detail. The aim is to provide a certain privacy for the user.

Activity over Time

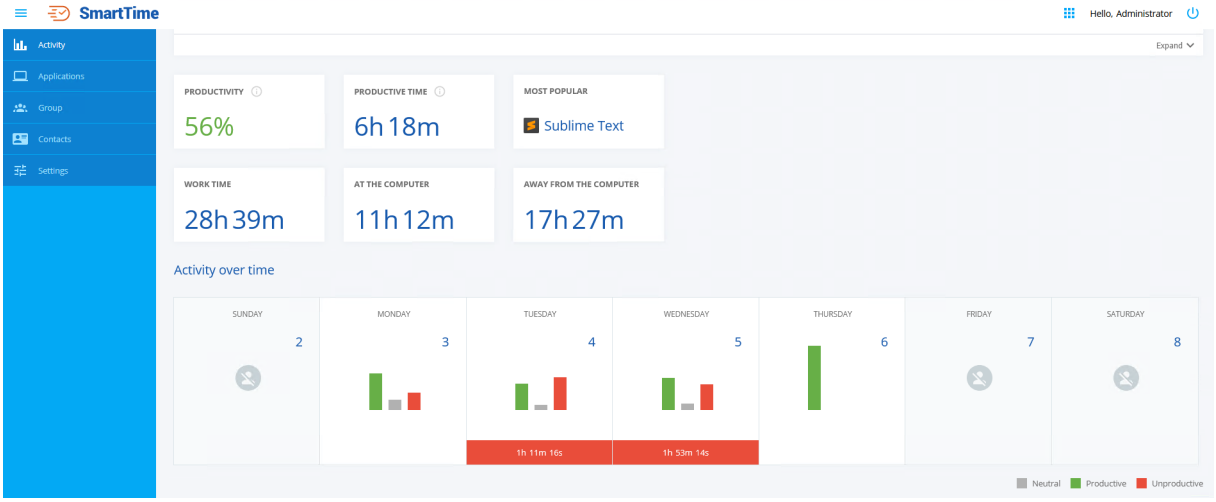
The next area of the productivity screen is Activity over Time. **This area looks different depending on the selected time period (day, week, month, period).**

The daily data are presented on a timeline. Information on used applications is presented as bars representing 5-minute intervals. The chart is described in detail in chapter Activity over Time chart 472.

The screenshot below shows the view of activities within a single day:



When the user exceeds the time spent in unproductive applications as defined in the configuration section on a given day, that day will be highlighted. The time displayed on a highlighted background is the user's inactivity time on that date:



Time spent in applications

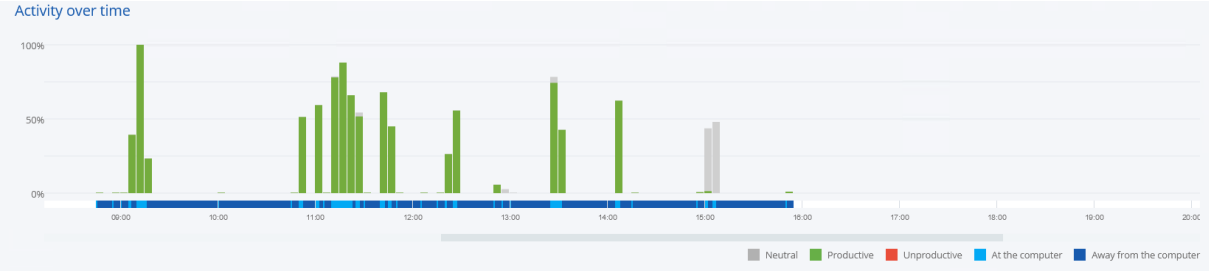
This part shows the time spent in applications by the user. This area of the SmartTime module is divided into three sections: productive, neutral and unproductive applications. The available information is shown as a list. The applications marked with an asterisk indicate that an exception has been applied to the application.

The **Show exceptions** option displays the applications for which the user group exceptions have been set. For more information about exceptions, refer to chapter Applications 466.

The **category** charts show the usage of the applications belonging to the individual categories. Information about the most and least common category applications can be found here.

11.6.2.2 Activity over time chart

The daily user data are presented on the Activity over Time chart. Information about the used applications is presented as **bars representing 5-minute intervals**. The chart allows you to carefully analyze the used applications:



The lower part of the chart shows the user activity time on a given day. In the above chart, the first activity on the selected day was recorded at around 9:00, while the last one at approximately 16:40. The slider can be used to move through the timeline.

On the left side of the chart, there is a percentage scale. It is provided to help visualize the application usage by the user in individual time quanta.

Below the activity chart, there is a legend which indicates the meaning of the colors used in the chart.

The first three items (Neutral, Productive, Unproductive) describe the colors of the bars visible in the chart.

The other two items (On the computer and Away from the computer) refer to the timeline. The colors applied to the timeline indicate when the user was working on the computer and when no activity was recorded at the workstation.

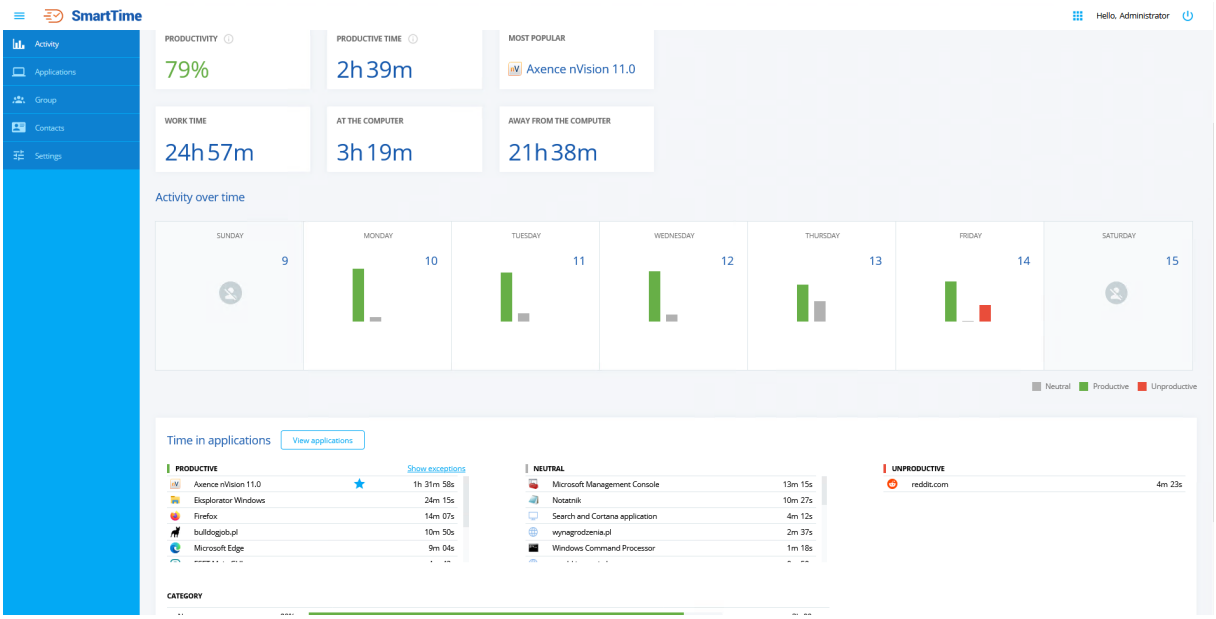
11.6.2.3 Activity in the selected period

When viewing the activity data for an individual user, the Activity over Time section **will look different depending on the selected time period (day, week, month, period)**.

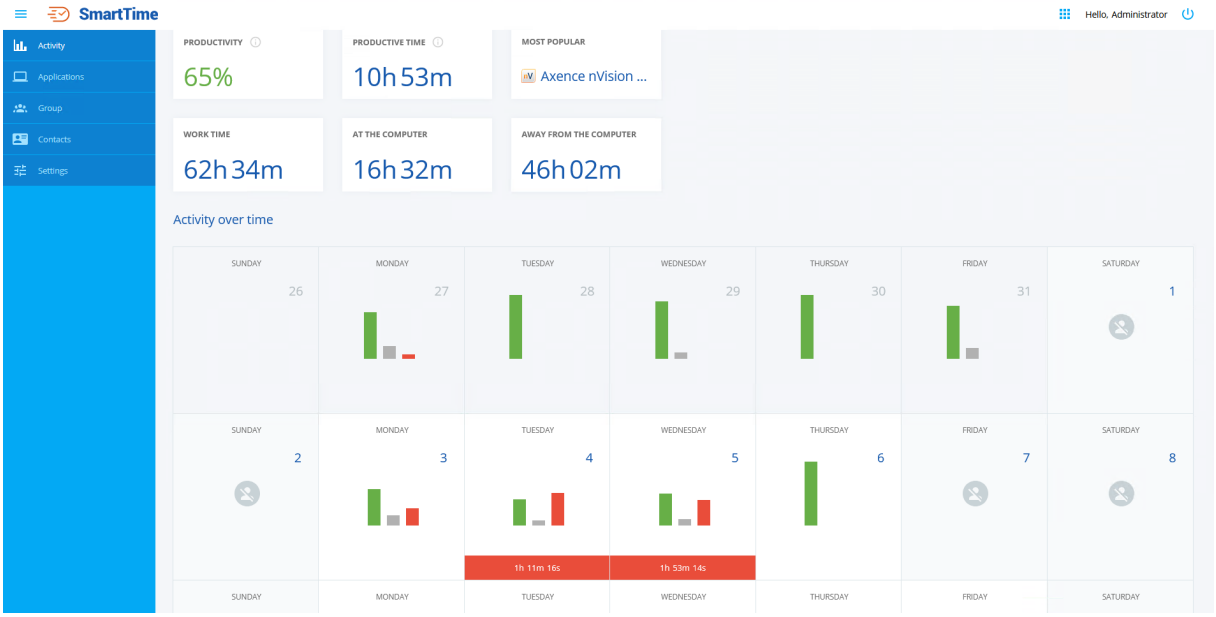
The daily data are presented on a timeline and were described in the previous chapter.

The **weekly and monthly** data are presented as a grid. It shows a summary of information about user productivity at the turn of the selected week or month. These are charts showing the percentage of usage of applications with specific productivity. The time displayed under the bars is the user's productivity time on a given day. By moving the cursor over the selected item, more accurate data is displayed. After clicking the selected day, a page containing information concerning that day only will appear.

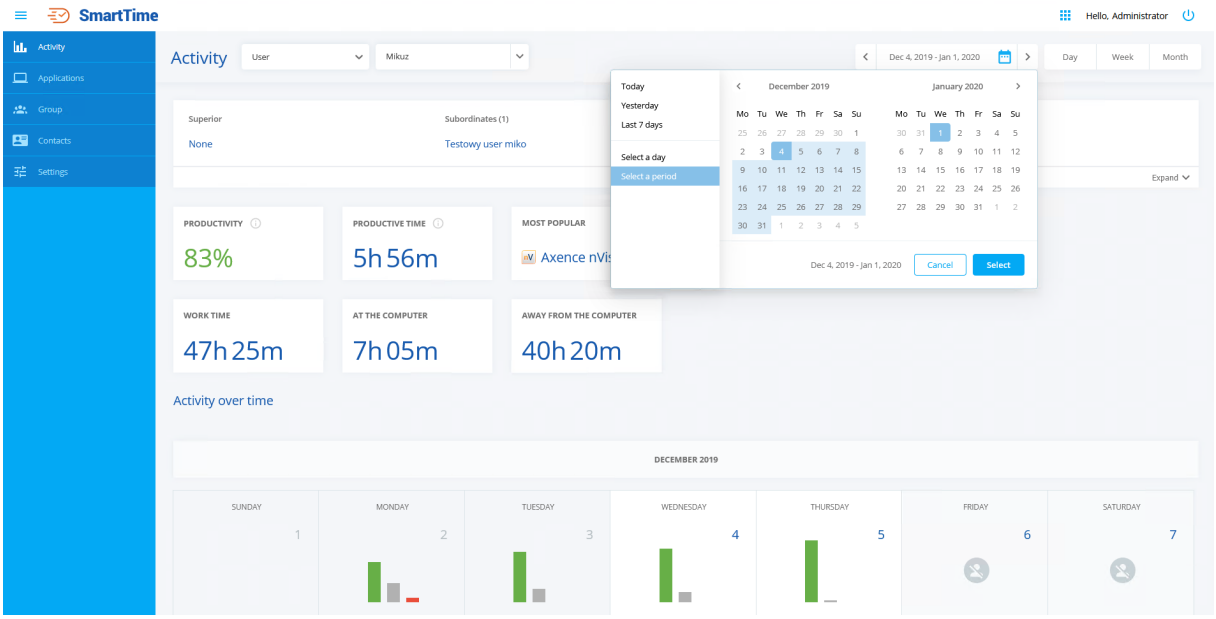
Activity view for selected week:



Activity view for selected month:



You can also specify any time period by selecting it from the calendar:



11.6.3 User group activity

11.6.3.1 Activity on the selected day

When displaying the **group activity** data, the following items are shown.

Statistics

- **Productivity** – productivity is measured in the selected period. **It is the sum of the productive time of the employees in the group, divided by the sum of the time of total activity on the computer in the selected period.**
- **Productive time of the group** – the sum of the time spent by the employees belonging to the group in the selected period.

When an application exception occurs, information that the user's time spent in the selected application is treated as productive will be highlighted accordingly by the warning sign icon in the group productivity view.

Active in a given period

Data on the activity of the group members for whom any activity was recorded in the selected time period will be displayed here.

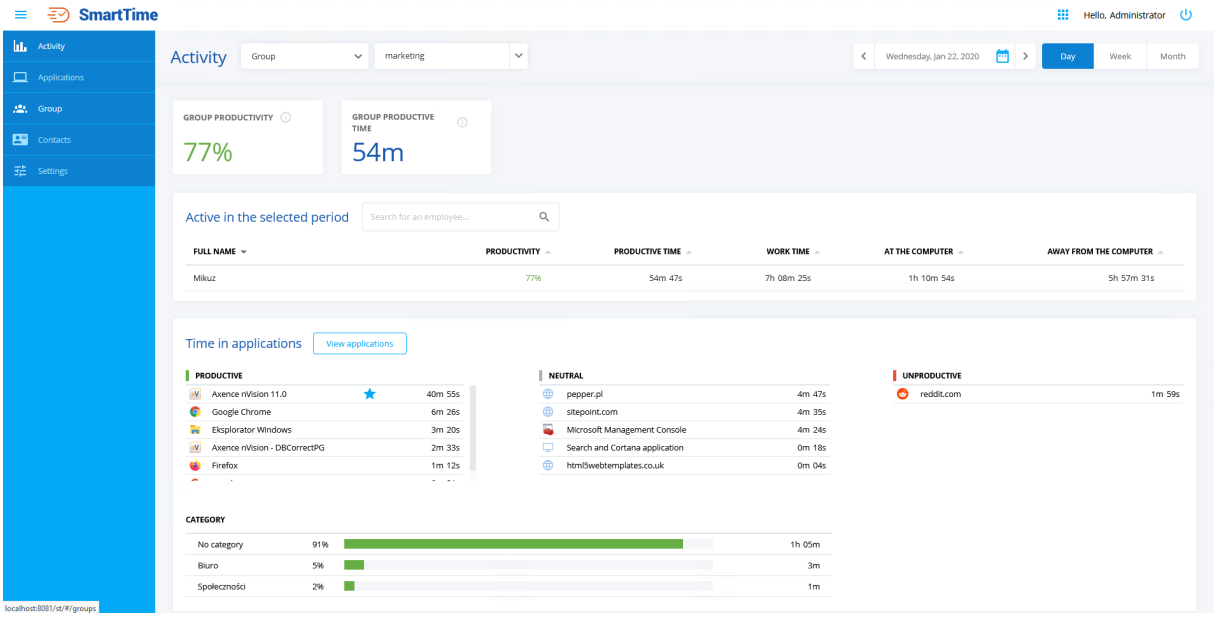
Time spent in applications

This part shows the total time spent in applications by the group members. This area of the SmartTime module is divided into three sections: productive, neutral and unproductive applications. The available

information is shown as a list. The applications marked with an asterisk indicate that an exception has been applied to the application.

After clicking **View all**, the list of applications in which the group was active will be displayed. In this screen, you can quickly add an exception to the displayed group by clicking on the **Asterisk** icon in the **Exception** column.

The **category** charts show the usage of the applications belonging to the individual categories. Information about the most and least common category applications can be found here.



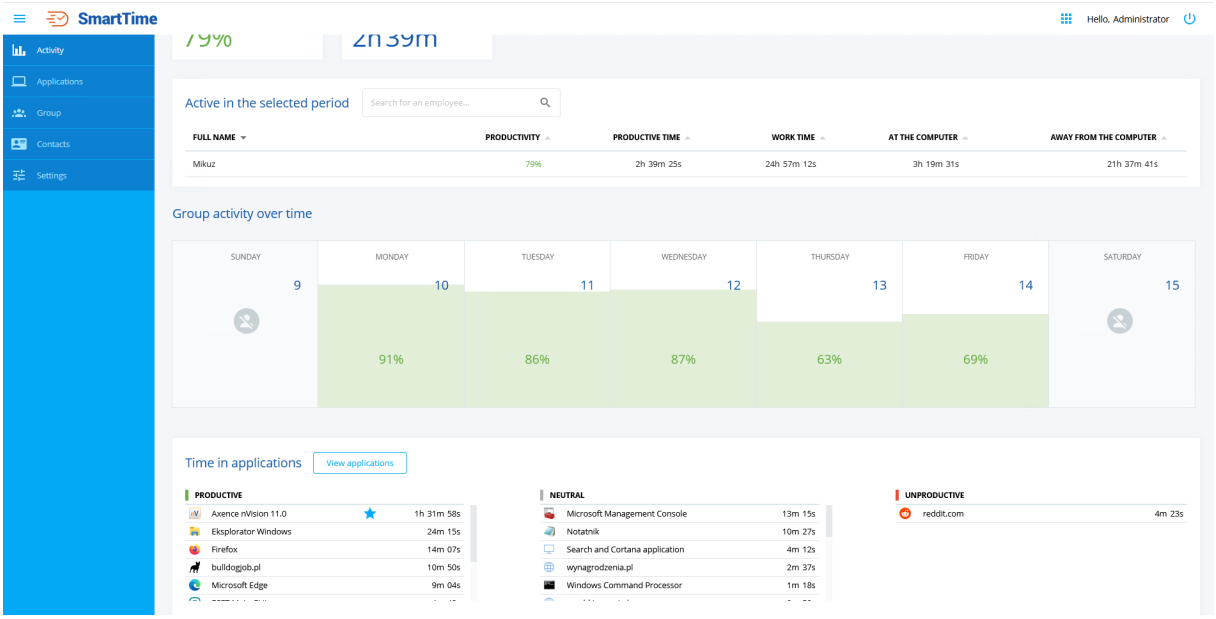
11.6.3.2 Activity in the selected period

When displaying the group activity for a period longer than one day, one more section is added to the statistics described in the previous chapter 475, named **Group activity in a given period**.

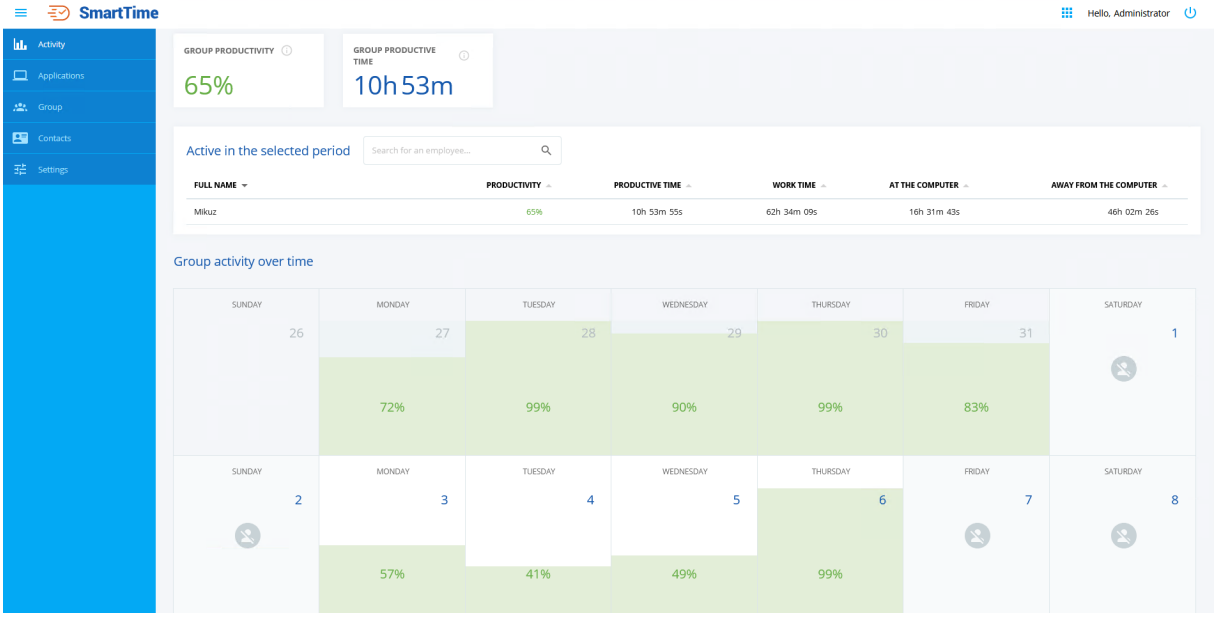
This part of the screen shows the grid indicating the group productivity in the selected time period. After clicking the selected tile, you will be moved to the detailed data for the selected day.

Similarly to the user activity view, you can select the time period from the calendar and view the activity for it.

Weekly activity view:



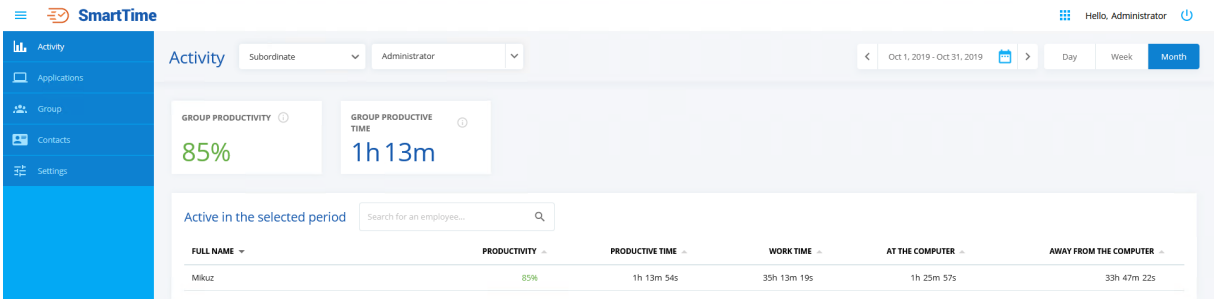
Monthly activity view:



11.6.4 Activity of subordinates

After selecting the activity of subordinates, the **activity data for all subordinates of the selected person** will be displayed. These data are presented in the same manner as the user group data.

The screenshot below shows the activity of all subordinates of the “User user” on selected day:



11.7 Contacts

The **Contacts** screen enables the contact data of the users in the nVision database to be checked.

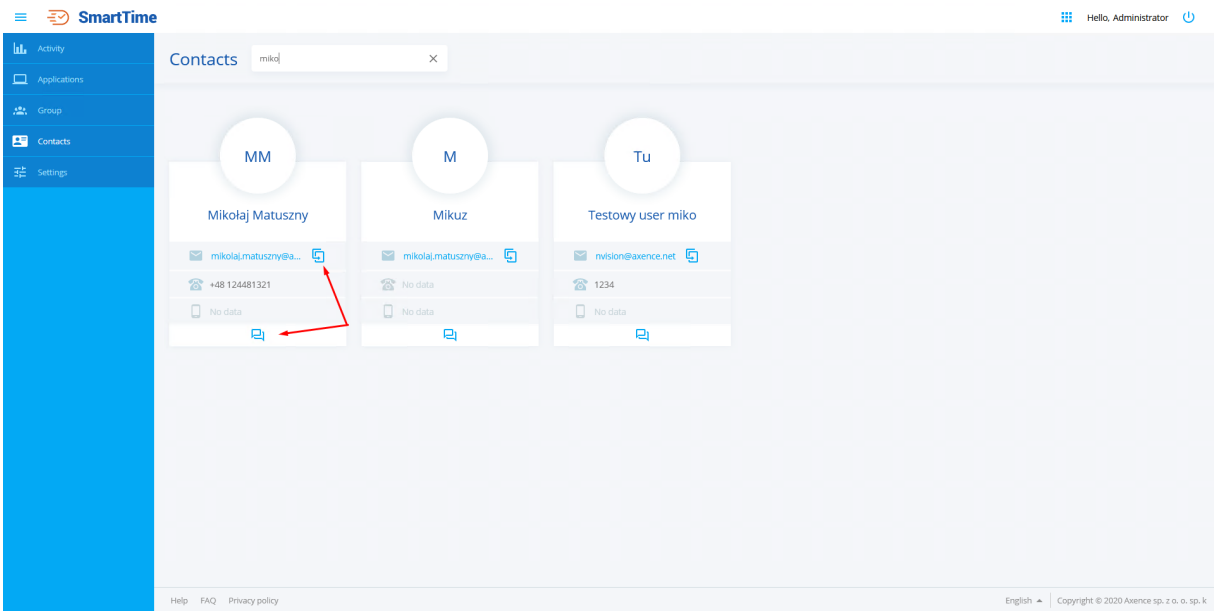
The information displayed in this screen are as follows:

- First and last name of the user,
- E-mail address,
- Desk phone number,
- Mobile phone number.

To quickly search for contacts, the search engine at the top of the screen may be used.

To quickly copy the user's e-mail address, use the **Copy to clipboard** icon next to the selected address.

The Contacts screen also allows for quick chats between users. To start a chat with a selected user, simply click the button under the specific contact and the chat window will be opened:



11.8 System time

The time and hours presented in the SmartTime module (for example on the activity chart) are always referred to the time of the machine on which the nVision server is installed. Data sent from the Agents are treated as if their events always took place in the server's time. If the customer is in a different time zone, the time is also not converted to the server's time zone.

Working time of employees

The system calculates the working time for each employee as **the difference between the time of the first and last activity** on each day.

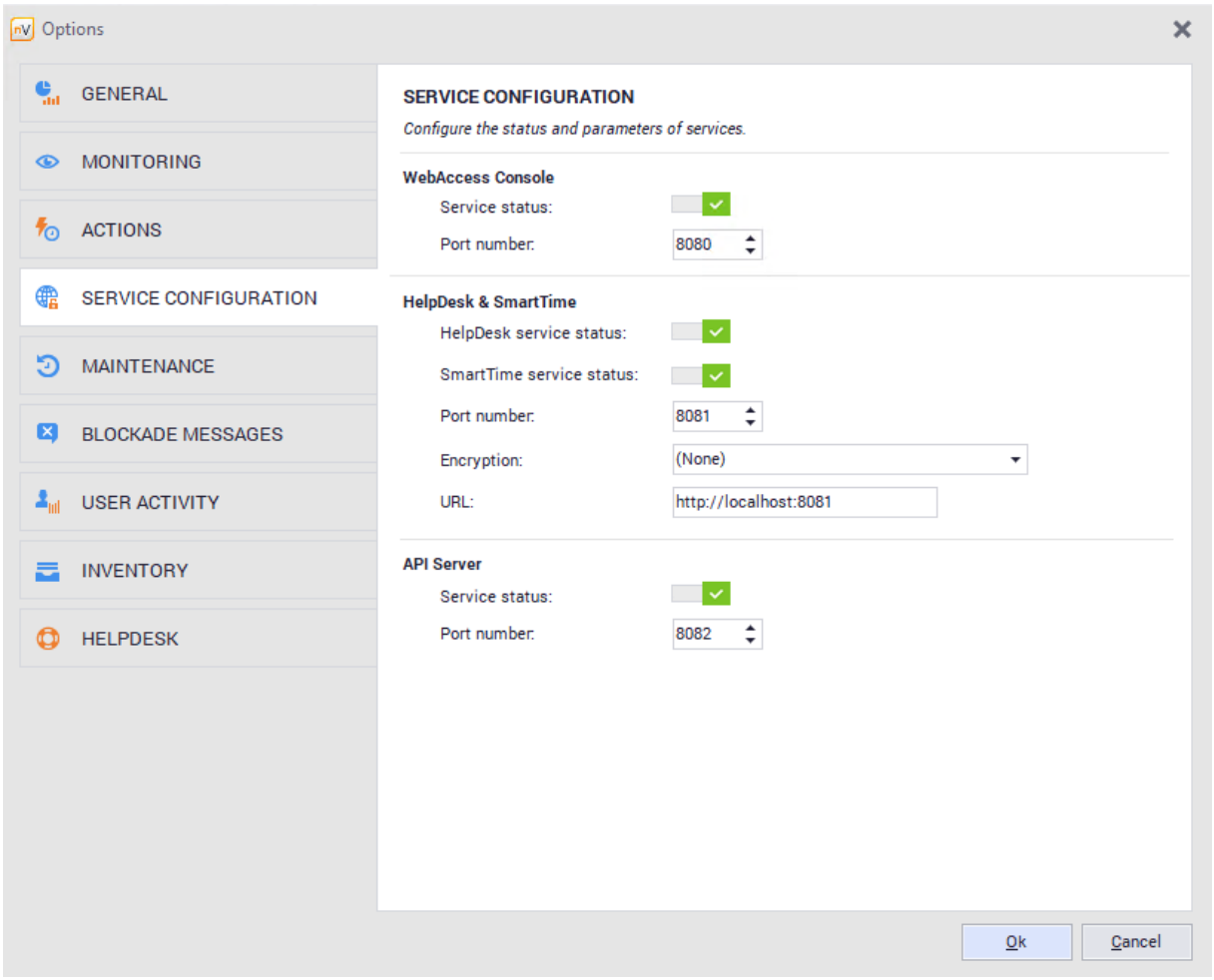
For example, when the first user activity was detected at 9:00 and the last one at 12:00, the working time is three hours.

Part XII

12 Web access

12.1 How to get access to nVision via Web browser?

To allow access to nVision via a Web browser (in read-only mode), first enable the Web access in the nVision application:

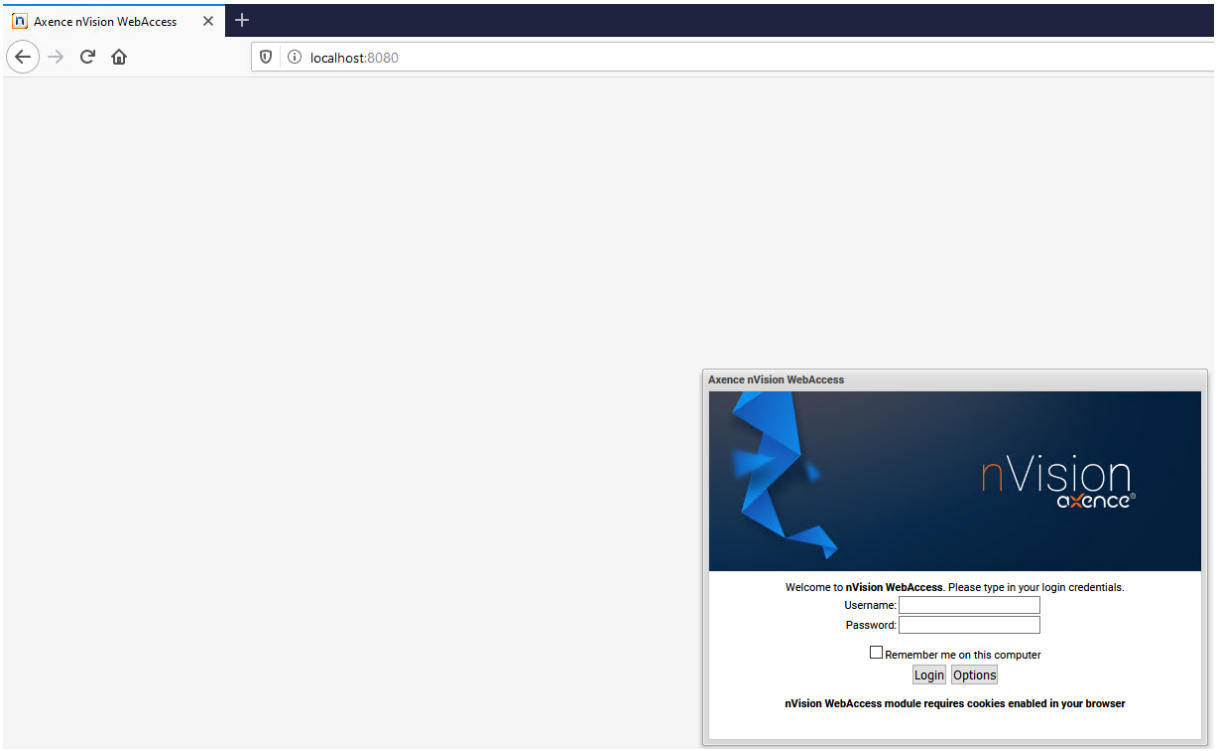


1. Select the **Options** icon in the main toolbar of nVision.
2. Navigate to the Service configuration tab, and then mark the **Enable Web access** option and enter the port number through which the Web Access will operate.

Browser access

When the Web Access is toggled on in the manner described above, it is possible to use nVision by means of a Web browser. For this purpose, enter the IP address and port number of the machine running nVision in the browser address bar and then, after connecting to the access module, enter the user name and password to log in to nVision. Please notice that the Web Access is read-only, so no changes to nVision can be made through it.

The option of optimization for weaker machines (login window, **Options** button) allows the operation of the nVision Web Access module on slower computers, but increases bandwidth usage.



12.2 How to create Web Access user accounts?

It is possible to add multiple users who will have access to selected functionalities of nVision. To make this possible, their accounts should be properly configured. Please notice that the Web Access is read-only, so no changes to nVision can be made through it.

Web Access is enabled automatically for users of the **Administrator** type and may be enabled for users of the **HelpDesk** type. It is not possible for other user types to have Web Access.

Administrator users

Users of the Administrator type have access to all maps and devices, and also to reports, audit and access log.

HelpDesk users

The access rights to specific maps are defined for the HelpDesk user accounts:

- If the given map has no defined right, a default right is set for the given map.
- Users do not have access to audit, reports and the event log (the latter is visible only in device details, the global event log is not visible). The above-mentioned options are hidden for the users.
- The map for which the user has no “Map View” access right is not displayed in the atlas tree.

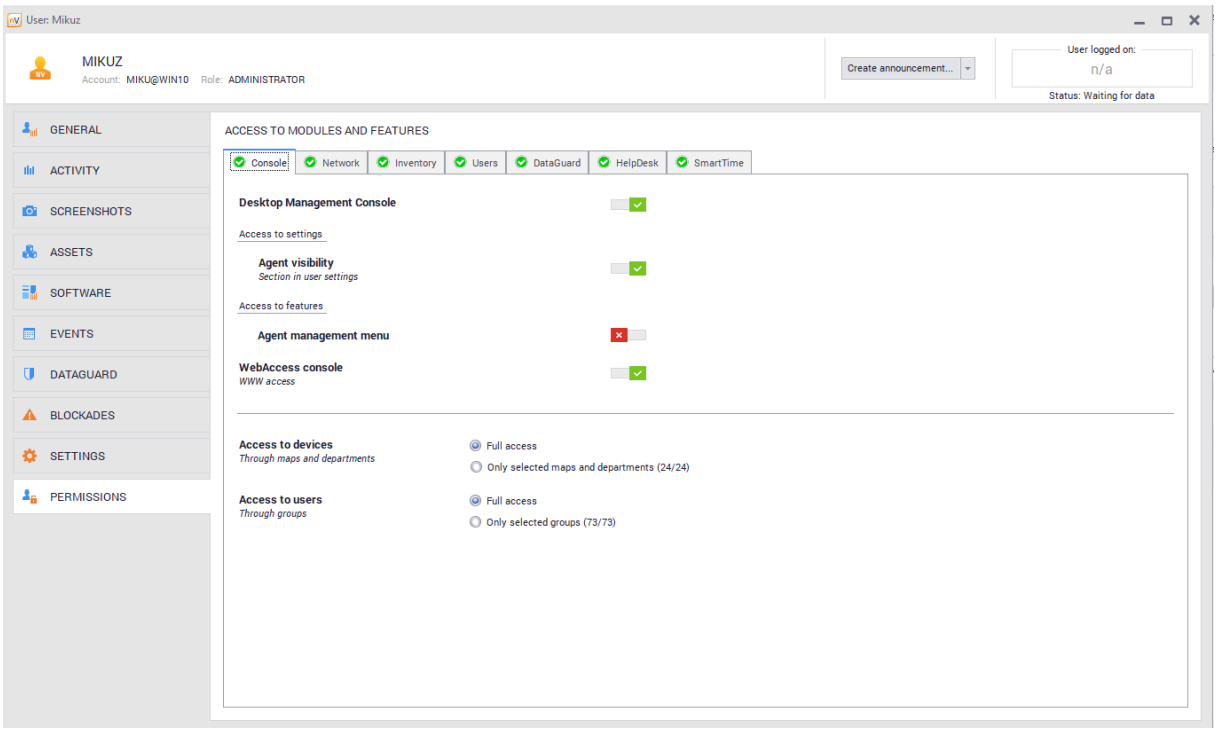
Access rights

Access rights	Required rights	Description
Map View		Displaying the given map in the atlas tree. Allows all devices with the given map to be seen.
Host Info	Map View	Access to all device details (services, counter, user activity, inventory, etc.).
Remote access		Ability to get remote access (VNC) to the devices from the given map.

Assign tickets

To create the Web Access user account:

1. For a new user: create a new HelpDesk user account. Click the **Users** button and press the **Add** button; give the user name, the role (Help-Desk) and the password. Go to number 3.
2. For an existing user: click the **Users** button, and then right click the selected account and select the **User info** option.
3. In the **Access rights** tab, you can edit default rights and add rights for selected departments and maps.

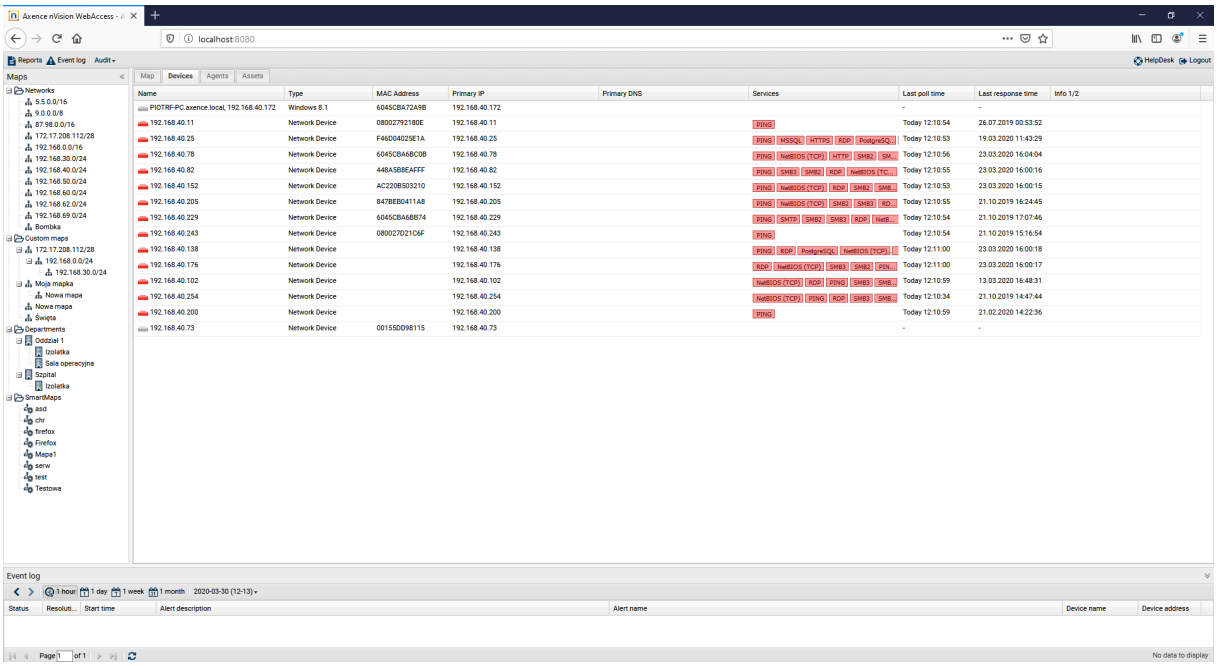


To learn more about user accounts, see section User management 340.

12.3 Window layout

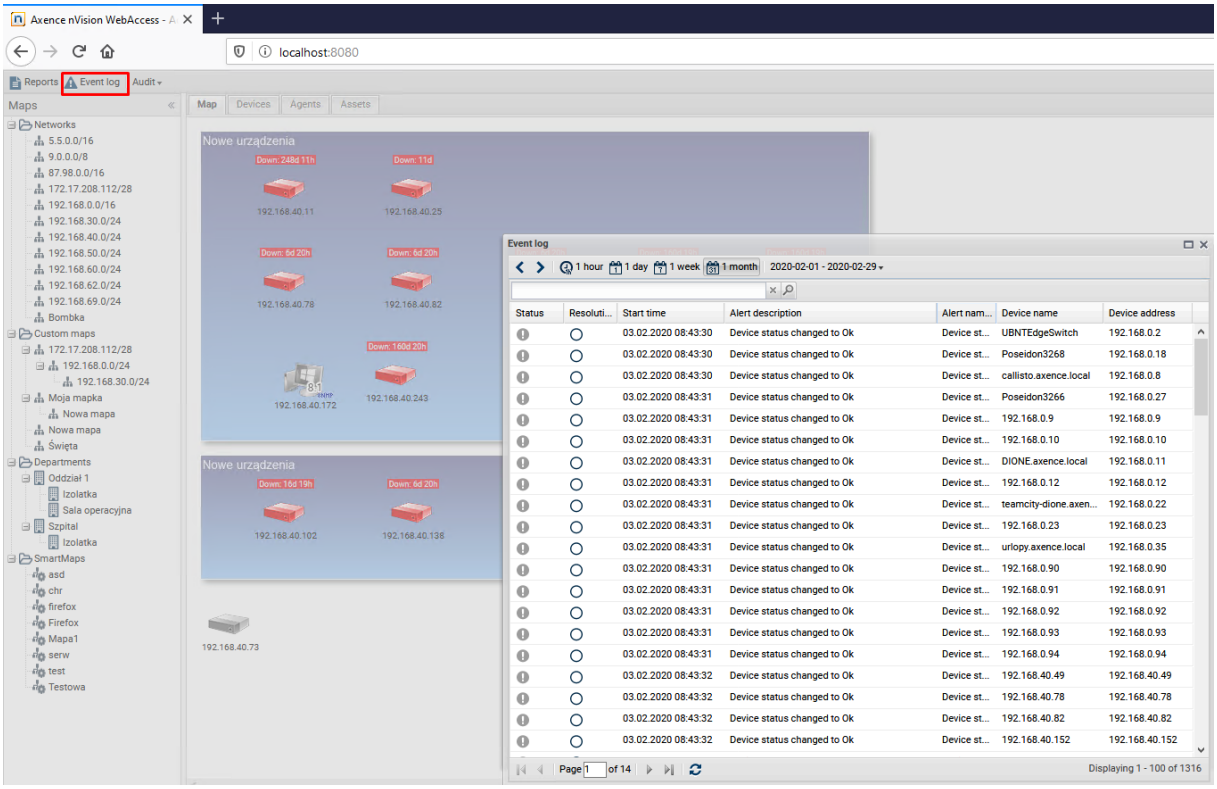
Atlas tree

Atlas tree located in the top left part of the window contains the list of all available networks, user maps, departments and smart maps. When the map is selected in the tree, it is displayed on the right. You can resize the atlas tree column width and also minimize it.



Event log

The event log bar (bottom part of the window) allows recent alerts to be checked quickly. The field where the events are presented can be resized or minimized. To open the event log in a separate frame, click the **Event log** button in the top part of the window.



Map

The tab contains a graphical presentation of the map selected in the atlas tree.

Hosts

The tab presents the list of devices belonging to the selected map.

Agents

The tab presents a list of devices with installed Agents. Among others, the basic stats and awaiting commands are displayed.

Fixed assets

The tab presents a list of all fixed assets.

12.4 Audit

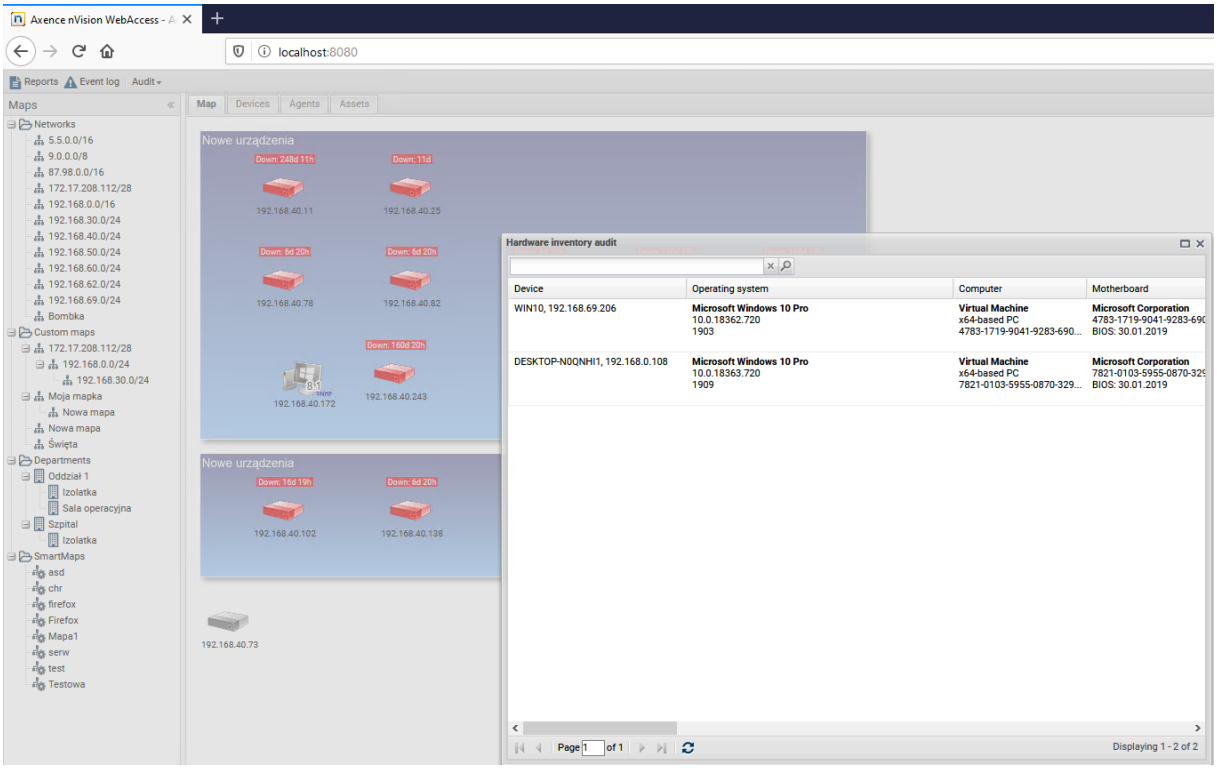
Axence nVision® automatically collects information on the hardware configuration of each machine with the Windows operating system and on the installed software.

Hardware

Hardware inventory allows the devices in the monitored networks to be controlled. The view displays information on the hardware configuration of all monitored devices – from the operating system to CPUs, displays and many others to local printers.

To view the hardware configuration of monitored devices:

1. Click the **Audit** button in the top part of the window.
2. Select the **Inventory** option.
3. To find the required entries more quickly, use the search feature in the top part of the window.
4. To change the number of displayed columns, sorting or grouping methods, expand the menu at the column headers.



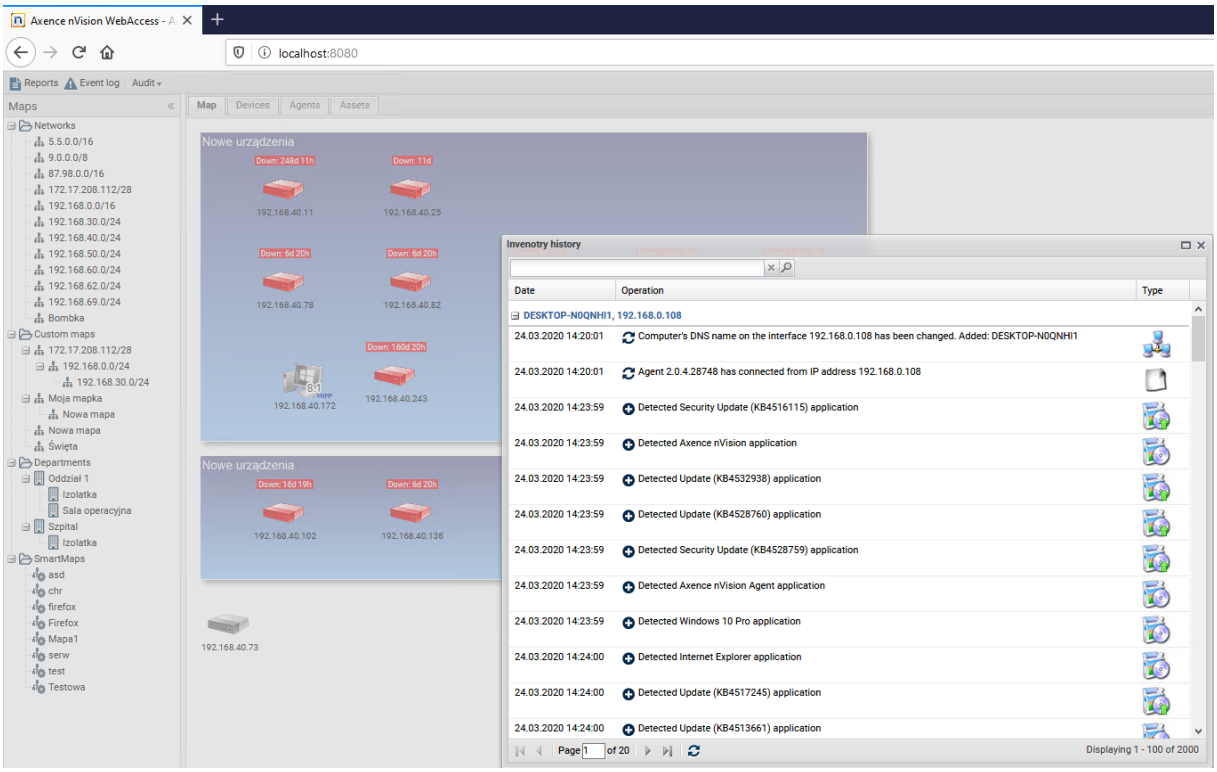
Inventory history

The tab contains information on the changes of hardware and software for all monitored devices.

To view the inventory history:

1. Click the **Audit** button in the top part of the window.
2. Select the **Inventory history** option.

3. To find the required entries more quickly, use the search feature in the top part of the window.
4. To change the number of displayed columns, sorting or grouping methods, expand the menu at the column headers.



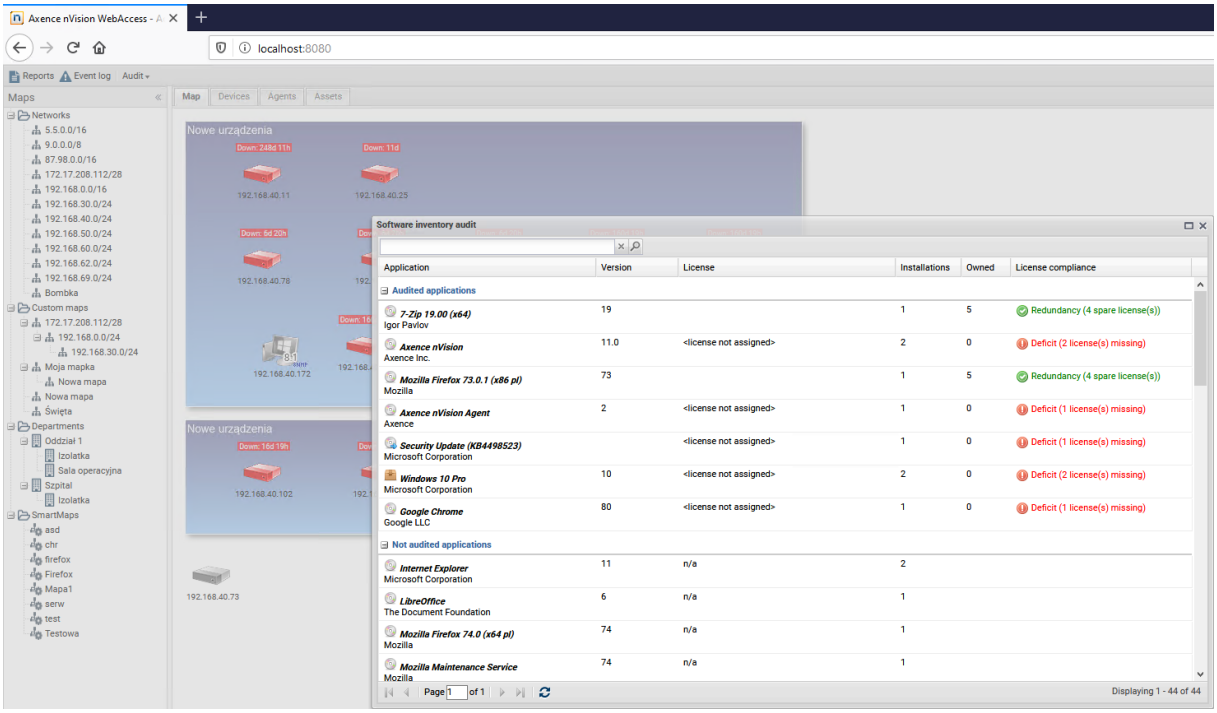
Software inventory audit

Software inventory allows the applications installed on the monitored user machines to be controlled. There are three categories of entries: audited applications (licensed software recognized by nVision and subject to auditing), non-audited applications (software recognized by nVision, not requiring licensing and not subject to auditing) and unknown applications (detected by nVision, but without a determined fingerprint).

In the case of audited applications, the information on the license type, number of instances within the monitored network and the number of owned licenses is displayed. The data are used to calculate the licensing compliance, which is visually presented and any surplus or missing licenses are highlighted.

To view the software inventory audit:

1. Click the **Audit** button in the top part of the window.
2. Select the Software option.
3. To find the required entries more quickly, use the search feature in the top part of the window.
4. To change the number of displayed columns, sorting or grouping methods, expand the menu at the column headers.



Printouts

The printing audit window allows the printing history in selected periods (day, week or month) to be viewed. Data are sorted by printers, and then chronologically.

To view the printing audit:

1. Click the **Audit** button in the top part of the window.
2. Select the Wydruki option.
3. Select the period for the displayed data.
4. To find the required entries more quickly, use the search feature in the top part of the window.
5. To change the number of displayed columns, sorting or grouping methods, expand the menu at the column headers.
6. To check the details of the specific printing job, click the ⊞ button to expand the entry.

DataGuard

DataGuard audit window allows the history of printouts in the selected period (day, week or month) to be viewed. Data are sorted by printers, and then chronologically.

To view the printing audit:

1. Click the **Audit** button in the top part of the window.

2. Select the 

option.
3. Select the period for the displayed data.
4. To find the required entries more quickly, use the search feature in the top part of the window.
5. To change the number of displayed columns, sorting or grouping methods, expand the menu at the column headers.

Part XIII

13 Reports

13.1 Introduction

Axence nVision® includes very advanced, printable reports. There are several predefined reports, providing the most important information for every host and map. You can also easily create your own reports: read more in the Creating reports 492 topic.

Opening the report management window

Click the **Reports** button located in the navigation bar. This will open the report management window allowing you to view, print and create new reports.

nVision has several pre-defined basic reports. The administrator can also create their own reports, depending on their needs.

Viewing and printing reports

To prepare a report for a host, map, user or group:

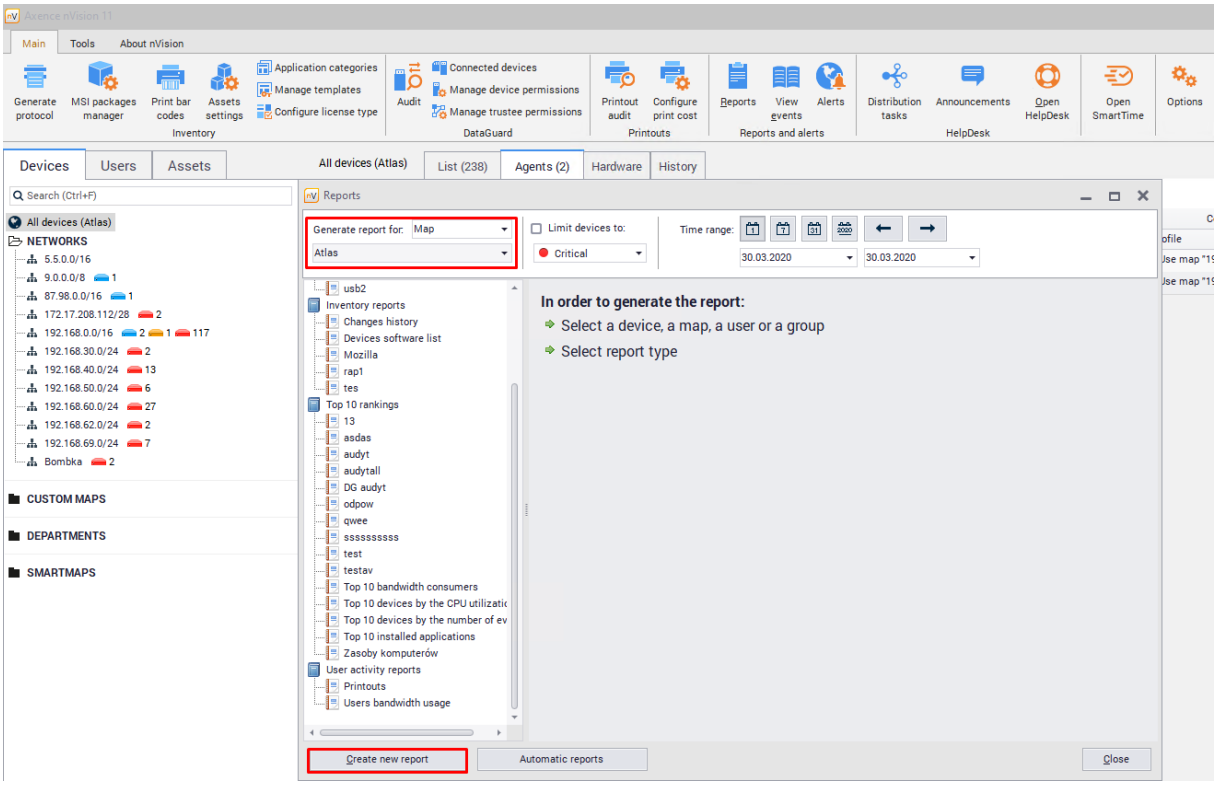
1. Select report type. There are different report types defined for a host, map, user and group.
2. Select a host/user or a map/group (depending on the choice you made in the previous step).
3. Select the report on the left side bar.
4. Select the time period of the report.
5. Click the **Prepare and show report** button. This button is displayed only when this report has never been prepared. Once it is ready, it will show automatically when you define the same options. It may only need an update if the data has changed (i.e. if the report included the current day).
6. After the report is prepared, you can print it by clicking the **Print** button located on the report toolbar.

13.2 Creating reports

Axence nVision® very easily allows creating new reports. You just construct them by selecting several predefined segments. Segments are data collectors, which collect data gathered by nVision and process it to present it in grids and on charts.

To create your own report:

1. Open the report management window by clicking the **Reports** button located in the navigation bar.
2. Select the **Host**, **Map**, **User** or **Group** item which defines the type of report to be created.
3. Select the category in which you would like the report to be created.
4. Click the **New report** button located in the bottom part of the window.



5. Enter the report name and description.

6. Add a new segment by clicking the button located on the left side.

7. Enter the segment name and select segment type. Refer to the Segment types for hosts 494 or Segment types for maps 502 topic for more information.

8. Enter appropriate options as described in the Segment types for hosts 494 or Segment types for maps 502 topic.

9. Enter short and long descriptions. These descriptions will be shown above and below the segment on the report, respectively.

13.3 Segment types for host reports

This topic describes different host report segment types and defines their properties (if required).

Headers

Report header

Header with report details. This should be the first segment of every report.

Services

Services - general information

Lists all host services with the most important performance information.

Service performance chart

Presents charts with the response time and percent of packets lost of the selected or all services.

Property	Description
Generate for specific service	The chart will be generated only for the specified service. If it is not available on the host, then this segment will not be generated.
Generate for all services	The chart will be generated for every service available on the host.
Data presentation	Data may be presented in a normal way, distributed by hours of the day or by days of the week.
Show as	Defines how the chart will look like: • Service response time chart (default) – specialized chart designed to show response time and percent of lost packets on one chart. • Line chart • Table.

Service think time

Presents the chart of service response compared to ping response.

Same properties as described in the table above.

Services – up/down time

Time when services are up and down.

Counters

Performance counters

List of all performance counters for a given host.

Performance counter chart

Presents a chart of counter values over time.

Property	Description
Counter	The chart will be generated for the selected counter. If it is not available on the host, then this segment will not be generated.
Data presentation	Data may be presented in a normal way, distributed by hours of the day or by days of the week.
Show as	Defines how the chart will look like: • Line chart • Area chart • Vertical bar chart • Table.

Interface bandwidth

Shows bandwidth on every interface. May be presented in a table or multi-line chart.

Host counters list

Demonstrates a list of all counters for a particular host.

Total time of counter state or value

Property	Description
Counter	The chart will be generated for the selected counter.
Show as	Defines how the chart will look like: • Pie chart • Table.

Min/max/avg uninterruptible counter state or value

This segment presents minimal, maximal and average uninterruptible counter state or value.

Services and counters

Distribution of range values

Presents a range of values for the selected counter or service.

Property	Description
Data source	Optional: counter or service.
Data ranges	To add a new range, click the button, give the title of the created range and provide boundary values.
Show as	Defines how the chart will look like: • Vertical bar chart • Pie chart • Table.

Alerts

Most frequent events

A list of events sorted by their frequency.

Property	Description
Limit listing to *x* first events	Use this option if you want to constrain the list of events presented in the report.
Show as	Defines how the chart will look like: • Horizontal bar chart • Vertical bar chart • Pie chart • Table.

Event log

Presents all event log entries for the selected time range.

Number of alerts over time

Property	Description
Data source	This segment may contain all events or one, selected from the list of events.
Data presentation	Data may be presented in a normal way, distributed by hours of the day or by days of the week.
Show as	Defines how the chart will look like: • Line chart • Table.

Total time of alert activeness / inactiveness

Presents the total time when the selected alert was active.

Min/max/avg event / no event time

Property	Description
Data source	This segment may contain all events or one, selected from the list of events.
Calculate data for	The time of alert activeness or inactiveness may be calculated.

Windows event log

Presents a list of entries in the Windows Event Log for selected hosts.

User monitoring

Printout audit

Presents information about printed documents: not grouped or grouped by user, host or printer, sorted in the selected way.

Bandwidth usage

Property	Description
Display	What type of information will be presented: • Map / Atlas summary • Host details • Users ranking • Hosts ranking
Sort by	Data may be sorted according to connections: • with Internet, in • with Internet, out • local, in

Property	Description
	• local, out
Ranking settings	In order to obtain information about groups of protocols select option **Show protocol groups details**.

Inventory

Changes in installed applications and hardware

Presents a list of changes in installed applications and hardware. May include add, remove and change operations for selected groups.

Hardware configuration

Hardware configuration may be presented in two ways – with selected view or selected columns. Available views enable presentation of overview information, multimedia, drives and other.

Host(s) software list

Property	Description
Show	Select the type of software that will be included in the report (software, updates, drivers).
License type	Software with the selected license type will be presented.
Show serial numbers	Select if you want serial numbers to be presented in the report.
Show licenses	Select if you want licenses to be presented in the report.

Applications on hosts

Lists all hosts with installed applications, drivers and updates with selected license types.

Property	Description
Show	Select the type of software that will be included in the report (software, updates, drivers).
License type	Software with the selected license type will be presented.

Fixed assets list

Presents a list of all fixed assets for Map/Atlas.

Property	Description
Show	Select types of assets that will be included in this segment.
Show common fields	Common fields are: value, in maintenance, in warehouse, person responsible and inventory number.
Show type-specific fields	If marked, fields existing only for specific types will be presented.
Group by	Fixed assets may be grouped by: • (None) • Asset type • Belongs to • Name.

Host's fixed assets list

Presents a list of all fixed assets for selected host(s).

Host's customs files list

Presents list of all Custom Files found on host(s)

Property	Description
Mask	Check this box if you want to search files that match to a given mask.
Size	You can set a minimum and maximum size of files.

Property	Description
Category	You can choose one or more out of the following options: • Audio • Video • Graphic • Other files.
Is legal	Shows result only for legal/illegal files.

System information

Presents a list of startup commands, network shares or task schedule for specific hosts.

Others

Host status timeline

Table presenting all hosts status changes over time.

Host *up*/*down* time

Percent of host up/downtime.

Property	Description
Show as	Defines how the data will be presented: • Horizontal bar chart • Vertical bar chart • Pie chart • Table.

General host info

General information about the selected host.

Port mapper

Port mapper table.

DataGuard

DataGuard audit

Presents information about operations performed on protected files. Data may be presented for a specified user or device. The following operations may be included: device connected, device disconnected, file created, file renamed, file deleted, file written.

DataGuard known devices

List of devices used in network.

13.4 Segment types for map reports

This topic describes different map report segment types and defines their properties (if required).

Headers

Report header

Header with report details. This should be the first segment of every report.

Services

Services - general information

Lists all host services with the most important performance information.

Best/worst hosts by service performance

Lists hosts with the shortest or the longest response time.

Property	Description
Service	Select a service on the basis of which the devices will be compared. If a device does not have the selected service, it will not be included for comparison.
Sort by percentage of lost packets	The results will be sorted by the percentage of lost packets instead of response time.
Show the best devices	Select this option if you want to see the best devices (with the shortest response time or the lowest percentage of lost packets).
Show the worst devices	Select this option if you want to see the worst devices.
Limit the list	Select this option if you want to limit the number of devices displayed.
Show as	Determines how the segment will be presented: • Horizontal bar chart • Vertical bar chart • Table.

Service performance chart

Presents charts with the response time and percent of packets lost of the selected or all services.

Property	Description
Generate for specific service	The chart will be generated only for the specified service. If it is not available on the host, then this segment will not be generated.
Generate for all services	The chart will be generated for every service available on the host.
Show as	Defines how the chart will look like: • Service response time chart (default) – specialized chart designed to show response time and percent of lost packets on one chart. • Line chart • Table.

Service think time

Presents the chart of service response compared to ping response.

Same properties as described in the table above.

Services – up/down time

Time when services are up and down.

Counters

Performance counters

List of all performance counters for a given host.

Performance counter chart

Presents a chart of counter values over time.

Property	Description
Counter	The chart will be generated for the selected counter. If it is not available on the host, then this segment will not be generated.
Show as	Defines how the chart will look like: • Line chart • Area chart • Vertical bar chart • Table.

Best/worst hosts by the performance counter

Lists hosts with the best or the worst performance.

Property	Description
Performance counter	Select the performance counter on the basis of which the devices will be compared. If a device does not have a chosen performance counter, it will not be included for comparison.
Show the best devices	Select this option if you want to see a list of the best devices (with the lowest value of the performance counter).
Show the worst devices	Select this option if you want to see a list of the worst devices.
Limit the list	Enable this option if you want to limit the number of devices presented in the list.
Show as	Determines how the segment will be presented: • Horizontal bar chart • Vertical bar chart • Table.

Interface bandwidth

Shows bandwidth on every interface. May be presented in a table or multi-line chart.

Host counters list

Demonstrates a list of all counters for a particular host.

Total time of counter state or value

Property	Description
Counter	The chart will be generated for the selected counter.
Show as	Defines how the chart will look like: • Pie chart • Table.

 **Min/max/avg uninterruptible counter state or value**

This segment presents minimal, maximal and average uninterruptible counter state or value.

 **Most/least available hosts by specific counter state or value**

This segment presents the most/least available hosts by a specific counter state or value.

 **Most/least available hosts by longest uninterruptible counter state or value**

This segment presents the best/worst hosts. You can also limit list length to first *x* applications.

Services and counters

 **Distribution of range values**

Presents a range of values for the selected counter or service.

Property	Description
Data source	Optional: counter or service.
Data ranges	To add a new range, click the  button, give the title of the created range and provide boundary values.
Show as	Defines how the chart will look like: • Vertical bar chart • Pie chart • Table.

Alerts

 **Best/worst hosts by the number of events**

Presents the most or least problematic hosts by the number of alerts.

Property	Description
Generate for all events	Compares the devices in terms of the number of occurrences of all events.
Generate for the selected event	Compares the devices in terms of the occurrences of the selected event.
Show the best devices	Select this option if you want to see the best devices (with the smallest number of events)
Show the worst devices	Select this option if you want to see the worst devices (with the most number of alarms).
Limit to	Enable this option if you want to limit the number of devices presented.
Show as	Determines how the segment will be presented: • Horizontal bar chart • Vertical bar chart • Table.

Most frequent events

A list of events sorted by their frequency.

Property	Description
Limit listing to *x* first events	Use this option if you want to constrain the list of events presented in the report.
Show as	Defines how the chart will look like: • Horizontal bar chart • Vertical bar chart • Pie chart • Table.

Event log

Presents all event log entries for the selected time range.

Number of alerts over time

Property	Description
Data source	This segment may contain all events or one, selected from the list of events.
Data presentation	Data may be presented in a normal way, distributed by hours of the day or by days of the week.
Show as	Defines how the chart will look like: • Line chart • Table.

Total time of alert activeness / inactiveness

Presents the total time when the selected alert was active.

Min/max/avg event / no event time

Property	Description
Data source	This segment may contain all events or one, selected from the list of events.
Calculate data for	The time of alert activeness or inactiveness may be calculated.

Windows event log

Presents a list of entries in the Windows Event Log for selected hosts.

User monitoring

Printout audit

Presents information about printed documents: not grouped or grouped by user, host or printer, sorted in the selected way.

 **Bandwidth usage**

Property	Description
Display	What type of information will be presented: • Map / Atlas summary • Host details • Users ranking • Hosts ranking
Sort by	Data may be sorted according to connections: • with Internet, in • with Internet, out • local, in • local, out
Ranking settings	In order to obtain information about groups of protocols select option **Show protocol groups details**.

Inventory

 **Software inventory audit**

Presents a list of installed applications.

Property	Description
Show	Defines the type of software that will be included in the report: only the applications and OSs, or also the updates the drivers.
License	Use the list to select the license types that will be included in the report.
License compliance	Select: • all

Property	Description
	• with assigned licenses • without assigned licenses • license number sufficient or redundant • license number deficit

Changes in installed applications and hardware

Presents a list of changes in installed applications and hardware. May include add, remove and change operations for selected groups.

Hardware configuration

Hardware configuration may be presented in two ways – with selected view or selected columns. Available views enable presentation of overview information, multimedia, drives and other.

Host(s) software list

Property	Description
Show	Select the type of software that will be included in the report (software, updates, drivers).
License type	Software with the selected license type will be presented.
Show serial numbers	Select if you want serial numbers to be presented in the report.
Show licenses	Select if you want licenses to be presented in the report.

Top installed applications

Property	Description
Limit listing to	You can limit list length to first *x* applications.
Show	Select the type of software that will be included in the report (software, updates, drivers).

Property	Description
License type	Software with the selected license type will be presented.

Hosts with applications installed

Hosts which (optionally) have or do not have the selected applications installed are shown. A list of selected applications is shown in the lower part of the window. To add an application, click it and press the button. To remove an application from the list, click it and press the button.

Applications on hosts

Lists all hosts with installed applications, drivers and updates with selected license types.

Property	Description
Show	Select the type of software that will be included in the report (software, updates, drivers).
License type	Software with the selected license type will be presented.

Fixed assets list

Presents a list of all fixed assets for Map/Atlas.

Property	Description
Show	Select the types of fixed assets that will be included in the report.
Group by	Fixed assets may be grouped by: • (None) • Asset type • Belongs to • Name.

Host's fixed assets list

Presents a list of all fixed assets for selected host(s).

Host's customs files list

Presents list of all Custom Files found on host(s)

Property	Description
Mask	Check this box if you want to search files that match to a given mask.
Size	You can set a minimum and maximum size of files.
Category	You can choose one or more out of the following options: • Audio • Video • Graphic • Other files.
Is legal	Shows result only for legal/illegal files.

System information

Presents a list of startup commands, network shares or task schedule for specific hosts.

Others

Host status timeline

Table presenting all hosts status changes over time.

Host up/down time

Percent of host up/downtime.

Property	Description
Show as	What type of information will be presented: • Horizontal bar chart • Vertical bar chart • Pie chart • Table.

General host info

General information about the selected host. You can select the type of hosts and additional information to be displayed:

- addresses and interfaces
- SNMP information
- monitoring
- monitoring time
- alerts.

Port mapper

Port mapper table.

Map View

Presents a graphical view of the map.

Maps' uptime summary

This segment shows the total number of devices whose uptime value is in between the ranges you define. Ranges points are defined by clicking the  **Add point** button.

Example

Adding points 10, 50 and 90 results in creating four intervals:

1. Uptime >= 0% and < 10%
2. Uptime >= 10% and < 50%
3. Uptime >= 50% and < 90%

4. Uptime >= 90% and <=100%

DataGuard

DataGuard audit

Presents information about operations performed on protected files. Data may be presented for a specified user or device. The following operations may be included: device connected, device disconnected, file created, file renamed, file deleted, file written.

DataGuard known devices

List of devices used in network.

13.5 Segment types for user reports

The following chapter describes the types of segments in user reports and their properties (if necessary).

User monitoring

User activity

Presents general information about the user's work time. The user activity report can be displayed as a separate segment for each user or as an overview list.

Visited websites

Presents a list of websites visited by users on a host. You may narrow down the list to websites that match a given mask.

Websites ranking

Shows a ranking of visited websites with the possibility to limit the list to *x* first websites. Data may be sorted by the total time or the number of visits.

Breaks in work time

Presents a list of breaks in work time for the selected host.

Application usage timeline

Presents the timeline of application usage by users.

Summary application usage

Presents the summary application usage for the selected Map/Atlas or host.

Bandwidth usage

Property	Description
Display	What type of information will be presented: • Map / Atlas summary • Host details • Users ranking • Hosts ranking
Sort by	Data may be sorted according to connections: • with Internet, in • with Internet, out • local, in • local, out
Ranking settings	In order to obtain information about groups of protocols select option **Show protocol groups details**.

List of e-mails

Presents a list of e-mails sent or received by users.

Summary of e-mails

Presents summary information about e-mails. E-mails can be sorted by sent, received and size.

Printout audit

Presents information about printed documents: not grouped or grouped by user, host or printer, sorted in the selected way.

Printing costs

This segment shows information about print cost.

User configuration

Presents the monitoring or blocking configuration for the user.

DataGuard

DataGuard access rights

Presents the information about access rights to DataGuard devices.

13.6 Segment types for group reports

The following chapter describes the types of segments in user group reports and their properties (if necessary).

User monitoring

User activity

Presents general information about the user's work time. The user activity report can be displayed as a separate segment for each user or as an overview list.

Visited websites

Presents a list of websites visited by users on a host. You may narrow down the list to websites that match a given mask.

Websites ranking

Shows a ranking of visited websites with the possibility to limit the list to *x* first websites. Data may be sorted by the total time or the number of visits.

Breaks in work time

Presents a list of breaks in work time for the selected host.

Application usage timeline

Presents the timeline of application usage by users.

Summary application usage

Presents the summary application usage for the selected Map/Atlas or host.

Bandwidth usage

Property	Description
Display	What type of information will be presented: • Map / Atlas summary • Host details • Users ranking • Hosts ranking
Sort by	Data may be sorted according to connections: • with Internet, in • with Internet, out • local, in • local, out
Ranking settings	In order to obtain information about groups of protocols select option **Show protocol groups details**.

Website visitors ranking

Presents the ranking of website visitors.

Property	Description
Show ranking for selected option	Select this option if you want to display the ranking for websites matching the mask specified below.
Display	Select: hosts or users which visited the given website.
Limit listing to *x* first web sites	Use this option if you want to constrain the list of websites presented in the report.
Sort by	Data can be sorted by: • the total time • the number of visits.

Application usage statistics

Property	Description
Application group	Information will be displayed for the selected groups of applications: • instant messengers, • web browsers • text editors • e-mail • programming • multimedia.
Executable file	Use the list to select the executable file the running of which is to be included in the segment.
Sort by	Data can be sorted by: • users • application usage time • application run time.
Limit listing to *x* first records	Use this option if you want to constrain the list presented in the report.

Application usage time statistics

Presents the application usage time statistics for the map.

Property	Description
Application group	Information will be displayed for the selected groups of applications: • instant messengers, • web browsers • text editors • e-mail • programming • multimedia.
Executable file	Use the list to select the executable file the running of which is to be included in the segment.

List of e-mails

Presents a list of e-mails sent or received by users.

Summary of e-mails

Presents summary information about e-mails. E-mails can be sorted by sent, received and size.

Printout audit

Presents information about printed documents: not grouped or grouped by user, host or printer, sorted in the selected way.

Printing costs

This segment shows information about print cost.

Part XIV

14 Alerting

14.1 Introduction

This part describes how to use the alerting policies available in nVision. With alerting you can be notified in case of any problems in your network. When a host stops responding, when a service has a slower response or when some applications are having problems, nVision may send you a message, show the information on the screen, or even run a corrective action.

How it works

First, you have to define a set of events. The example of such an event is when a host stops responding. nVision will constantly monitor all hosts to check if any of the defined events took place on them. In our example the event will be raised when all services running on the host do not respond.

Now, we have an event but what should the program do with this event? We need to define a set of actions which can be run in case of the event happening. When events and actions are defined, then we can set alerts. The alert defines which actions should be executed if a specific event takes place.

All raised alerts are logged in the database so you could prepare reports about your network performance. If you would like to collect the information about a specific event, but you don't want any actions to be executed, then you need to define an alert with this event but with no actions. It will tell nVision to just collect those events to the database.

Let's summarize the process of setting the alert:

1. Create an event. The occurrence of such event will trigger an alert. Examples of events: host down, service performance problem, web page load time over a threshold, etc.
2. Create notification and corrective actions. You should create actions to be run when an event occurs. Example of actions: sending an e-mail or ICQ message, running an external application, restarting of Windows service, etc. This step is optional - you can create the alert without any action.
3. Create an alert. The alert defines which actions should be executed when a specific event occurs. When an alert is raised then the information about the event which triggered this alert will be stored to the program's event log. Such information will be stored even if the alert has no actions.

14.2 Concepts

This topic discusses concepts related to alerting.

Event

nVision constantly monitors your network, all hosts and services. As you can imagine – it can detect when a specific service slows down or stops responding at all. It will also detect when a whole host stops responding. For such situations you can define an event to be raised. Every event has its beginning and end time. For example in case of the host-not-responding event, the end will be when the host starts to respond. So with nVision you know not only when an event starts, but also when it ends. What's more, you can see a list of started events. For the purpose of this manual we call such events (that started and have not ended) open events.

You can also define your own events: let's say that you have to monitor an MSSQL Server. Then it's not enough to know how fast it responds to a simple request. You will most likely want to monitor several performance counters describing its current status to be able to react before any critical situation occurs.

For example, when free RAM memory is low or in case of cache performance degradation. Such events can be raised before any unrecoverable error allowing you to correct this situation quickly and prevent any data or productivity loss it might cause.

All raised events are logged in the program's event log. This allows making analyses of your network performance, for example to prepare reports showing the most problematic hosts or a report of the most frequent events.

Host status

Unlike in other similar products, host status in nVision is a calculated value, not a hard coded one. So you can define conditions when a host is considered to have status Up, Down or Warning. For more information about host status refer to Host status concept 98 topic.

Action

You can define two general types of actions: notification and corrective. When an event occurs, nVision uses the action mechanism to notify the administrator about the problem or to run any external program to correct it. So before you define alerts, you need to define a set of actions which will be used to notify you.

You can define such actions as: e-mail, ICQ, pager or SMS message, sounds, dialog box and running an external program. For a complete list of available action types please read Action Types 543 topic.

Alerts

Alert defines the program behavior in case of any network problems. First you select when the alert should be triggered - i.e. upon detecting a certain event. You also have to define which hosts should be checked for event occurrence. It can be defined directly for the host or at the atlas/map level. In such case the alert will be triggered if the event is raised on any host contained in the object for which an alert is defined (i.e. atlas, map or any descendant map).

14.3 Managing alerts

14.3.1 Requirements

To manage alerts, you have to familiarize yourself with several concepts first. You need to know what are events and actions. Before you start with alert management, please read at least the topic Concepts 522, which discusses these issues.

Prerequisites

To begin managing alerts, you have to define a set of events first. Events tell nVision in which situation the alert should be raised. For example, after installation there is a predefined event: "Host down". It describes the event when the host stops responding. You should define events for all possible problematic situations you want to monitor.

After events are defined you will probably want to define some notification actions. Actions describe what nVision should do when an event is raised. For example an action may define how to notify you with an e-mail. However, it is possible to define alerts without actions - it is sometimes useful when you only need the information about an event for future reports and you don't need any notification.

After the above steps are done, you can start managing alerts. Please refer to the following topics describing available functions.

Where we can define alerts

Alerts can be defined on several levels of the atlas. First, we can define global alerts for the whole atlas. Such alerts will be inherited by all hosts in the atlas, which means that such alert conditions will be checked for every host and it can be raised on any host (if it meets the criteria defined in the alert; for example, an alert defined to be valid only for important hosts will not be raised on hosts with importance set to low).

Alerts can be also defined for each map. In this case, such alerts are inherited by all hosts on this map and also by all descendant maps in the atlas tree. And finally, alerts can be defined for each host.

You have then several ways of setting alerts to configure proper alerting based on the importance of your hosts, network, services, etc. Keep in mind that alerts are inherited from parent objects to descendants. Refer to Inherited alerts 527 topic for more information.

14.3.2 Alert management window

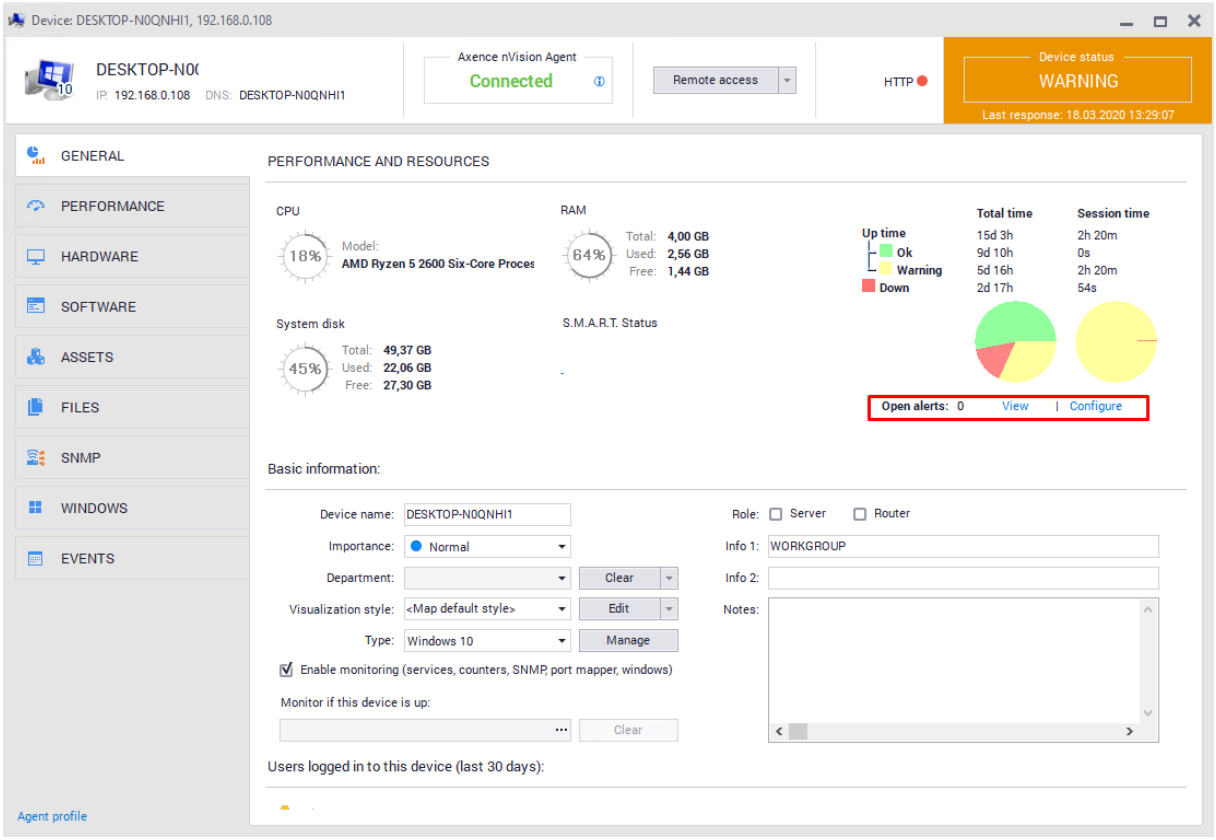
To setup the program to notify you in case of any problems you use the alert manager window. This and the following topics provide more information on how to manage alerts.

Opening alert management window

With this window you can list, modify, create and remove alerts. To open this window, follow these steps.

1. Select the object for which you want to manage alerts. It can be any host, atlas or a map. In case you selected an atlas or a map, the alerts influence all hosts contained by those objects. Please read more about this in the topic Inherited Alerts 527.
2. Select **Alerts** from the context menu.

To manage alerts for a specific host, navigate to the **Host info** window and click **Configure:**



Creating new alert or modifying existing ones

1. Open the alert management window for the object where you want to create an alert.
2. Click the **Add alert** button to create a new alert or select the existing alert and click the **Edit alert** button.
3. In the **For the event** field, select the event for which you would like this alert. If the event is not defined yet, you can define it by clicking on the **New** button located on the right side. For more information about managing events, refer to the Managing Events 532 topic.
4. The **Execute following actions** field allows you to add actions that will be run during the alert.

   To add an action, click the icon located on the left side of the action list. The **Action** window will display. Define action properties as follows:

Property	Description
Execute action	Select the action to run. If the action is not defined yet, you can define it by clicking on the **New** button located on the right side. For more information about managing actions, refer to the Managing Actions 544 topic.

Property	Description
"When" group	
Immediately on event start	This is the default option meaning the action will be executed immediately the event is raised.
After	Select "After" option and enter the number of minutes the program has to wait before the action is executed. Please remember that if the event ends before this time, the action will not be executed.
On event end	Sometimes we need a notification when the problematic situation ends. You can use this option to be notified for example when an important host starts to respond after it has been down.
Time restriction	In this field you can define time limits when the action may be executed. It is often necessary when you want to setup different notification schemes for your work time and home time. For example the program can send just an e-mail when you are at the office and send a pager notification when you are at home (where you might not be able to read your mail).
Repeat action every	Allows you to setup actions which will be executed repetitively until the event ends. Enter the number of minutes you would like to repeat the action.

5. The last step allows you to restrict this alert to the specific host type and importance. This is helpful when you would like to setup a global alert for the whole atlas, but you don't want it to be raised for less important hosts – administrators usually don't care that the user's workstation has been turned off, but they want to know when a server goes down.
   a) Select host type in the "Type" field.
   b) Check all appropriate boxes next to the "Importance" label to limit an alert to hosts with such importance only.
6. Please be sure to check the "Alert enabled" box. If unchecked, the alert will not be active.

Note

- Modifying inherited alerts may affect other hosts, so proceed with caution.

Removing the alert

1. Open the alert management window for the object where you want to remove an alert.
2. Select the alert on the list.

3. Click the **Remove alert** button located in the toolbar. Please remember that you can't remove inherited alerts (such alerts can be removed at the level where they have been defined).

Disabling or enabling the alert

1. Open the alert management window for the object where you want to disable or enable an alert.
2. Select the alert and click the button.
3. To disable the alert, uncheck the **Alert enabled** box. To enable it, you have to make sure that this field is checked.

Filtering inherited alerts off

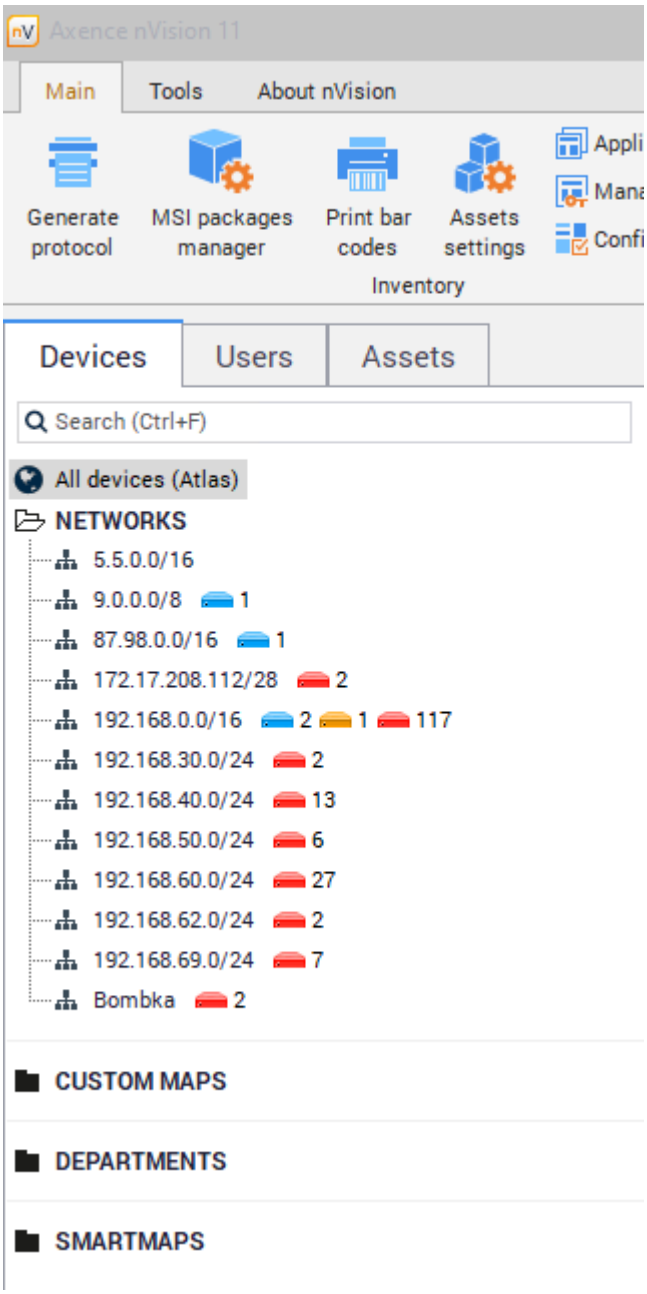
1. Open the alert management window for the object where you want to disable inherited alerts.
2. Check **Don't inherit alerts** if you don't want the inherited alerts to be generated for the selected object. If this box is currently checked and you would like to use alerts inheriting, just uncheck it.

14.3.3 Inherited alerts

As you know from previous topics, you can define an alert for the whole atlas and for the map - not only for one host. If the alert is defined for the whole atlas, then it is valid for all maps and all hosts meeting defined host type criteria (except those objects where inheritance is turned off). Read the Managing alerts 523 topic to find out how to filter out inherited alerts. Inherited alerts are those alerts that have been defined elsewhere, but we see them on the list of the currently selected host or map.

Similarly, alerts defined for a map will be inherited by all maps which are descendants of this map. Descendant maps are those which names appear under the selected map name. You can hide or expand the whole tree of descendant maps using the ⊞ icon next to the map name.

Let's see an example of the atlas tree:



Filtering inherited alerts off

If you don't want alerts from higher level objects to be inherited, then you can filter them out. You can do that for every map and host independently.

1. Open the alert managing window for a map or a host.
2. Check **Don't inherit alerts** if you don't want the inherited alerts to be generated for the selected object. If this checkbox is currently checked and you would like to use alerts inheritance, just uncheck it.

14.3.4 Alert escalation

For especially important events you can use the alert escalation mechanism. It will trigger several actions for an event in predefined periods of time. For example, the first action can be run upon alert

start, the next one after 30 minutes and this action can be repeated every hour until the alert ends. When the event ends, another action can be run.

With this mechanism you can be sure that critical situations will be handled fast by the appropriate network administrator and in case that this administrator cannot deal with the problem, then another notification to a different person can be sent to avoid unhandled problems.

For information on how to setup actions to be run at different times and how to setup action repetitions, refer to Managing Actions 544 topic.

14.4 Events

14.4.1 Configuration

To manage events, you have to familiarize yourself with the event concept first so please read the topic Concepts 522, which discusses this issue.

Before you begin setting up alerts you need to define all events you would like to monitor. The program will monitor all hosts with the appropriate alert defined for an occurrence of defined alerts. When the event is detected then nVision takes two steps:

1. Generate all alerts based on this event. This will also cause the execution of actions defined in those alerts. Please remember that delayed actions may never be executed – it happens when an event ends before the action has been executed. Actions scheduled to run immediately on event start and on event end will be executed always (unless the program has been shut down).
2. The event is logged in the program event log. This allows performing future analyses of the host and network performance and helps preparing reports. To read about how to see events generated, read the topic Event log 557.

When the problematic situation ends the event is also ended and it causes all actions scheduled to run upon event end to be executed.

Severity

Each event has defined a severity, which is designed for informational purposes. When notified, you will see the severity of the alert, which will help you to react faster to important ones.

Host status

Unlike in other similar products, host status in nVision is a calculated value, not a hard coded one. So you can define conditions when a host is considered to have status <Up>, <Down> or <Warning>. For more information about host status refer to Host status concept 52 topic.

14.4.2 Event types

There are several general groups of events. The following list describes them:

Event	Description
Host and service availability	

Event	Description
Host down	None of the host services is responding.
Service down	The host service (HTTP, FTP etc.) is not responding.
Service performance	Raised when a service experience unusual slow down or too many request/packets is lost.
Interface down	Generated when any interface changes its status to down.
Host status change	Can be generated for any host status change, even when a host changes a status from “Down” to “Up”.
New host found	The event will be generated when the new host is found and added to the map.
Specific service test	
Web page load	With this event you can test your web page load time.
Web page content change rate	Allows preventing accidental changes to your web page content (i.e. changed by hackers).
POP3 login time	Raised when there is a problem logging to the mail server.
Send mail time	Checks for any problems while sending an e-mail message.
Counters	
SNMP threshold	You can check for a specific counter value. An event can be generated when this value rises too high (over a defined threshold) and when it falls too low.
Windows threshold	As above, for Windows system and Windows application counters. Allows monitoring health of programs like SQL Server or Exchange Server.
Windows	
New entry in Windows Event Log	Event informing about the occurrence of a new Windows Event Log entry. Entries can be filtered.
Windows service status change	Raised whenever the nVision discovers any changes to the windows service status. You can use it to monitor important services on remote machines and restart them in case of any problems.
Inventory	
System information change	Notifies about changes in startup commands, network shares, and S.M.A.R.T. status.

Event	Description
Software inventory change	Notifies about any program installation/uninstallation.
Hardware inventory change	Notifies about any hardware changes on all computers, where the inventory is being collected.
Users	
User visited domains from selected group	Generates the event when user visits specified domains.
User printed pages over the limit	Generates the event when user prints more than x pages (daily).
User used bandwidth over the limit	Generates the event when user downloads or uploads more than x MB (daily).
Other	
Time schedule	Generates the event within specified schedule (on specific days of week at specific time).
Agent status	Generates the event if Agent is not connected more than x days.
SNMP trap	Event informing about the received SNMP Trap message.
SysLog Message	Event informing about the received SysLog Message.
Change on switch ports	The event is generated if a device is connected, disconnected or its port has changed.
DataGuard	
Mobile device connected or disconnected	The event is generated if a device is connected or disconnected. You can define device types to be taken into account.
File operation on mobile device	Generates an event when following file operations are detected on a mobile device: file created, file deleted, file renamed, file written to existing file. You can specify additional conditions for the event (file mask).

14.4.3 Managing events

To setup alerting, first you have to define all problematic situations when an alert is to be raised.

Opening event management window

With this window you can list, modify, create and remove events. To open this window, select the **Tools and options** tab, and then select **Manage events** from the main menu.

Creating new event

1. Open the event management window.
2. Click the **Add event** button located in the toolbar. The **Event definition wizard** will open.
3. Enter the name of the event you would like to create in the **Event name** field.
4. Select the host status for this event in the **Host status field. This field determines the status of the host when the event is** raised Read more about host status in the topic Events 529.
5. Select the severity of the event in the **Severity** field. This field is for informational purposes and it helps creating reports.
6. Select the event type on the list. To read more about event types, please read Event types 529 topic.
7. Click the **Next** button,
8. Now you have to configure the event options (depending on the event type you selected). This is described in detail in the topic Defining event properties 532.
9. Click the **Finish** button.

Modifying existing event

1. Open the event management window.
2. Select the existing event and click the **Edit event** button. The **Event definition wizard** will open.
3. Now you have to configure the event options (depending on the event type you selected). This is described in detail in the topic Defining event properties 532.
4. Click the **Finish** button.

14.4.4 Defining event properties

This topic describes defining the properties of different event types.

Host and service availability

Host down

This event is raised when every service on the host is not responding. You have to decide the way nVision determines the host is down. It can depend on number of minutes it does not respond or number

of polls. This event will be monitored on every host that monitors at least one service.

Property	Description
Specified number of polls	Check this option if you want the event to be raised after all host services polls fail a specified number of times (with timeout). Enter the number of failed polls in the edit box after which the event will be raised and the host status will change to down.
Specified number of minutes	Check this option if you want the event to be raised after all host services polls fail during specified number of minutes (with timeout). Please remember that this period is measured since last successful poll. If it will be smaller than the monitoring time, you may get false alerts between every host poll. Enter the number of minutes in the edit box after which the event will be raised and the host status will change to down.

Service down

This event is raised when a specific service is not responding. You have to decide the way nVision determines the service is down. It can depend on number of minutes it does not respond or number of polls.

Property	Description
Service	Select the service you want to monitor. This event will be monitored on every host that actually monitors the selected service.
Specified number of polls	Check this option if you want the event to be raised after the specified number of service polls fail (with timeout). Enter the number of failed polls in the edit box after which the event will be raised.
Specified number of minutes	Check this option if you want the event to be raised after services polls fail during a specified number of minutes (with timeout). Please remember that this period is measured since the last successful poll. If it will be smaller than the monitoring time, you may get false alerts between every service poll.

Property	Description
	Enter the number of minutes in the edit box after which the event will be raised.

Service performance

Raised when a service experiences unusual slow down or too many requests/packets are lost.

Property	Description
Service	Select the service you want to monitor. This event will be monitored on every host that actually monitors the selected service.
Check last	The number of last minutes you would like to be checked.
Generate event when	Check at least one of the condition check boxes described below. If you check both then the event will be generated if at least one of the conditions is met.
Average/Each response time	Check **Average response time** if you would like an event to be generated whenever a service experiences any slowdown. • nVision checks an average value as a default. You can change it to check every value by clicking on the **Average** label. The label text changes to **Each** then to indicate that every probe will be checked separately. • Enter the response time threshold in milliseconds. The event will be generated when the response time is higher than this value. • Enter the reset threshold in the next field. Please read the Rising, falling and reset thresholds 542 topic for more information about thresholds.
Lost packets percentage	Check **Lost packets percentage** if you would like an event to be generated when the number of lost requests is too high. • Enter the threshold value. The event will be generated when the percent of packets lost is higher than this value. • Enter the reset threshold in the next field.

Interface down

This event will be generated (started) when any network interface goes down and it will end when the interface status is up again.

Host status change

Can be generated for any host status change, even when a host changes a status from “Down” to “Up”. This event will be monitored on every host.

Property	Description
Generate event when	Select the status for which you would like an event to be raised. You can have an event raised whenever a host status changes to “Up”, “Warning” or “Down”. Just select the required option.

New host found

The event will be generated when the new host is found and added to the map.

Specific service test

Web page load

With this event you can test your web page load time. This event will be monitored on every host that actually monitors any page load (has such counter defined).

Property	Description
Check last	The number of last minutes you would like to be checked.
Generate event when	• nVision checks an average value as a default. You can change it to check every value by clicking on the **Average** label. The label text changes to **Each** then to indicate that every probe will be checked separately. • Enter the page load time threshold in milliseconds. The event will be generated when the page load time is higher than this value.

Property	Description
End event when	Enter the reset threshold in the next field. Please read the Rising, falling and reset thresholds 542 topic for more information about thresholds.

Web page content change rate

Allows preventing accidental changes to your web page content (i.e. changed by hackers). It will be raised whenever the probe discovers that the percent of page content has changed over the threshold. This event will be monitored on every host that actually monitors any page content change (has such counter defined).

Property	Description
Check last	The number of last minutes you would like to be checked.
Average page content change rate	• nVision checks an average value as a default. However, you can change it to check every value by clicking on the **Average** label. The label text changes to **Each** then to indicate that every probe will be checked separately. • Enter the page load time threshold in milliseconds. The event will be generated when the page load time is higher than this value.
End event when	The event will end when the page content returns to the (more) original and the percentage of change drops under the reset threshold.

POP3 login time

Raised when there is a problem logging to the mail server. This event will be monitored on every host that actually monitors any POP3 login time (has such counter defined).

Property	Description
Check last	The number of last minutes you would like to be checked.
Average POP3 login time	• nVision checks an average value as a default. You can change it to check every value by clicking on the **Average**

Property	Description
	label. The label text changes to **Each** then to indicate that every probe will be checked separately. • Enter the POP3 login time threshold in milliseconds. The event will be generated when the page load time is higher than this value.
End event when	Enter the reset threshold in the next field. Please read the Rising, falling and reset thresholds 542 topic for more information about thresholds.

Send mail time

Checks for any problems while sending an e-mail message. This event will be monitored on every host that actually monitors any send mail time (has such counter defined).

Property	Description
Check last	The number of last minutes you would like to be checked.
Average send mail time	• nVision checks an average value as a default. You can change it to check every value by clicking on the **Average** label. The label text changes to **Each** then to indicate that every probe will be checked separately. • Enter the POP3 login time threshold in milliseconds. The event will be generated when the page load time is higher than this value.
End event when	Enter the reset threshold in the next field. Please read the Rising, falling and reset thresholds 542 topic for more information about thresholds.

Counters

SNMP threshold

Property	Description
Counter	Select the SNMP counter to be checked. Please remember that such counter will be checked only on hosts which actually monitor such counter. So to have the event properly working you have to setup such counter on every host.
Check last	The number of last minutes you would like to be checked.
Average value	• nVision checks an average value as a default. You can change it to check every value by clicking on the **Average** label. The label text changes to **Each** then to indicate that every probe will be checked separately. • Enter the POP3 login time threshold in milliseconds. The event will be generated when the page load time is higher than this value.
End event when	Enter the reset threshold in the next field. Please read the Rising, falling and reset thresholds 542 topic for more information about thresholds.

Note

- Please note that setting long time periods to check may slow the program down. If the counter is polled very often then many probes are collected and checking all of them consumes CPU. Do not set this period to more than 10 minutes for hosts that are polled more often than every 10 seconds.

Windows threshold

Property	Description
Counter	Select Windows counter to be checked. Please remember that such counter will be checked only on hosts which actually monitor such counter. So to have the event properly working you have to add counter to each device.

Property	Description
Check last	The number of last minutes you would like to be checked.
Average value	• nVision checks an average value as a default. You can change it to check every value by clicking on the **Average** label. The label text changes to **Each** then to indicate that every probe will be checked separately. • Enter the POP3 login time threshold in milliseconds. The event will be generated when the page load time is higher than this value.
End event when	Enter the reset threshold in the next field. Please read the Rising, falling and reset thresholds 542 topic for more information about thresholds.

Note

- Please note that setting long time periods to check may slow the program down. If the counter is polled very often then many probes are collected and checking all of them consumes CPU. Do not set this period to more than 10 minutes for hosts that are polled more often than every 10 seconds.

Windows

Windows service status change

Property	Description
Generate event when	Select the appropriate option when this event should be generated: when the service stops, pauses and/or starts.
All services	Select to generate this event for all Windows services.
Selected services	Select this option to monitor only one specific Windows service. Click the green plus icon and select the services to be monitored.

New entry in Windows Event Log

This event will be generated when a new Windows Event Log entry meets the filter.

Other

Change on switch ports

Property	Description
Generate event when	The event is generated if a device is connected, disconnected or its port has changed.
Only for new devices connected to the switch	Select to generate this event for new devices only.

SNMP trap

Property	Description
MIB filter	Event will be triggered if the device sends a SNMP trap related to any OID or only to the selected OID.

Time schedule

Property	Description
Time schedule	The event is generated on specific days and at specific time as defined by the administrator.

SysLog Message

Property	Description
SysLog Message	The event is generated when the host sends SysLog

Property	Description
	message containing keywords specified in the filter set on configuration.

Agent status

Property	Description
Agent status	The event is generated if Agent is not connected for a specific number of days.

DataGuard

Mobile device connected or disconnected

Property	Description
Generate event when	The event is generated if a device is connected or disconnected.
Generate this event for specified devices type	Select the types of devices for which the event is generated.

File operation on mobile device

Property	Description
Generate event when	The event is generated if a file is created, deleted, renamed or written to existing file.

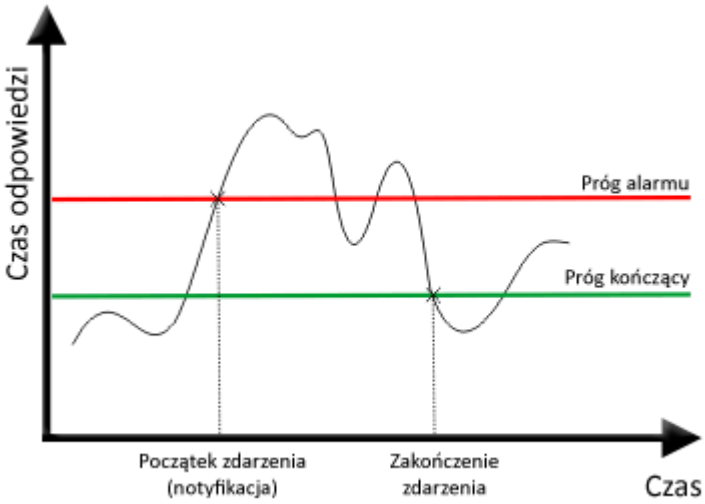
Property	Description
Specify additional conditions for the event	Provide a file mask if necessary.
Generate this event for specified devices type	Select the types of devices for which the event is generated.

14.4.5 Rising, falling and reset thresholds

In most events, you define a threshold value, which indicates when an event should start. For example – in case of service it defines how slow a service can be before it triggers an event.

In case of some event types you also have to define the “reset” threshold for the event. This is important – otherwise an alert would be generated every time the condition is met. That could cause the same alert to be repeated every minute. The measured value must first fall below the reset threshold before the next alert is generated.

The red line indicates the alert threshold. When the response time or packet loss rate rises above this threshold, an alert will be generated. But for the next alert to be generated, this value must fall below the reset threshold. This prevents repeated alerts for the same event.



Rising and falling thresholds

The threshold discussed above is called rising, because it is generated when a measured value rises above it. But you can also define an event when a value should stay above a threshold. Then an event is generated when this value falls under a threshold and such threshold is called falling.

Note

- The reset threshold may not be higher than the alert threshold for rising thresholds and lower for falling thresholds.

14.5 Actions

14.5.1 Introduction

In most cases when you define an event you want to be notified when it occurs or you would like to set a corrective action to be executed. nVision allows you to create both types of actions: notification and corrective. So before you define alerts, you need to define a set of actions which will be used to notify you.

You can define such actions as: e-mail, ICQ, pager or SMS message, sounds, dialog box and running an external program. For a complete list of available action types please read the Action Types 543 topic.

14.5.2 Action types

There are several general groups of actions. The following list describes them:

Action	Description
Desktop notification	
Desktop alert	A small information box will show at the defined position. This box does not steal the focus and it does not disturb you in your current task.
Sound	nVision will play a defined sound.
Speech	This allows alert information to be read by the computer speech synthesis engine.
Send message	
E-mail	An e-mail with alert information will be sent *(you can enter multiple addresses separated by semicolon (";"))*.
ICQ	An ICQ message with alert information will be sent.
SMS via GSM	This action sends an SMS message via an attached GSM phone or modem.
SysLog Message	The SysLog message will be sent to the specified SysLog server.
Program or script	
Run program locally	With this option you can run any program on the local machine, for example to take some corrective action.
Run program remotely	With this option you can run any program on a remote machine, for example to take some corrective action.

Action	Description
Other	
Write to file	The alert information can be written to the file.
Send SNMP Trap	Sending of SNMP Trap message.
Send Wake On LAN packet	Sending of the packet turning on/waking up the selected device.
Windows	
Start/Stop Windows service	It controls the service on the remote Windows workstation.
Shutdown/restart computer	This action allows you to shutdown or restart the remote Windows workstation.
Add entry to Windows Event Log	Creates an entry to Windows Event Log on a local or remote machine with Windows system.

14.5.3 Managing actions

To setup nVision so that it notifies you, you have first to define all possible notification actions you would like to use. The following topics provide more information on how to manage actions:

Opening action management window

With this window you can list, modify, create and remove actions. To open this window, select **Tools / Manage actions** from the main menu.

Creating new action or modifying existing one

1. Open the action management window.
2. Click the **Add action** button to create a new action or select an existing one and click the **Edit action** button. The **Action definition wizard** will open.
3. If you are creating a new action, then enter its name in the **Action name** field and select the action type on the list. Click the **Next** button, To read more about action types, refer to the Action types 543 topic.
4. Configure the action options (depending on the action type you selected). This is described in detail in the topic Defining action properties 546.
5. At this point it may be necessary to define action setup options. These options are required to properly execute some actions (for example the program needs a mail server address to send an e-mail notification or a COM port to which the GSM is connected). Setting up the action is discussed in the topic Setting up actions 553.

6. If all options are configured you can test the action by clicking the **Test** button. This will perform the action and you can verify if it is properly defined and working.
7. Click the **Finish** button.

14.5.4 Defining action properties

This topic describes defining properties of different action types.

Desktop notification

Desktop alert

A small information box will show at the defined position. This box does not steal the focus and it does not disturb you in your current task.

Property	Description
Message	Allows you to select the message format which will be displayed in the box.
Auto	Select it to display the predefined message.
Custom	Select to define your own message. To read more about defining your own messages, please go to the topic Defining custom alert messages 555.

Sound

The program will play a defined sound.

Property	Description
nVision predefined sound	Select one of the predefined nVision sounds.
Windows system sound	Select one of the predefined Windows sounds.
Select file	Click the ... icon and select the sound file to be played.

Speech

This allows alert information to be read by the computer speech synthesis engine.

Property	Description
Message	Allows you to select the message format which will be read by the speech engine.
Auto	Select it to display the predefined message.
Custom	Select to define your own message. To read more about defining your own messages, please go to the topic Defining custom alert messages 555.

Send message

E-mail

An e-mail with alert information will be sent.

Property	Description
Email to	The e-mail address to which the alert message will be sent. You can enter several e-mail addresses dividing them by commas, semicolons or spaces.
Subject	The subject of e-mail message. In the subject you can use variables described in the Defining custom alert messages 555 topic.
Message format	Allows you to select the message format which will be used to generate alert message.
HTML	This is the default message format.
Short text	This is text only format with short information.
Long text	This is text only format with complete alert information.
XML	This is the alert information in XML format. You can use this if you would like to build your own external alert actions. Your program may receive e-mails with XML information, interpret them and do some additional tasks.

Property	Description
Custom	Select to define your own message. To read more about defining your own messages, please go to the topic Defining custom alert messages 555.

ICQ

The ICQ message with an alert information will be sent.

Property	Description
ICQ number	The ICQ number to which the alert message will be sent.
Message format	Allows you to select the message format which will be used to generate alert message.
Custom	Select to define your own message. To read more about defining your own messages, please go to the topic Defining custom alert messages 555.

SMS via GSM

This action sends an SMS message via an attached GSM phone or modem.

Property	Description
Phone number	The phone number to which the SMS message will be sent. It must start with a country code prefix (+1 for US).
Alert message	Check if you want the message to be presented on the phone screen immediately upon arrival.
Auto	This is the default message format.
Custom	Select to define your own message. To read more about defining your own messages, please go to the topic Defining custom alert messages 555.

SysLog Message

The SysLog message will be sent to the specified SysLog server.

Property	Description
SysLog server address	The address of the SysLog server.
Syslog server port	The port on which the server operates.
Message	Define your message in the edit box. To read more about defining your own messages please refer to the topic Defining custom alert messages 555.

Program or script

Run program locally

With this option you can run any program on the local machine, for example to take some corrective action.

Property	Description
Run the program	Click the ... icon and select the program to be run.
With parameters	Enter the parameters of the execution. You can use variables described in the Defining custom alert messages 555 topic.

Run program remotely

With this option you can copy and run any other program remotely, for example to take some corrective action.

Property	Description
Copy local program to a remote host and run	Selecting this option causes both actions: copying and running a program.

Property	Description
	Click the ... button and select the source file of the local program to be run. Then, select the destination directory on the remote host.
Run remote program	Click the ... button and select the remote program to be run.

Other

Write to file

The alert information can be written to a file.

Property	Description
Write to file	Click the ... button and select the file name where the alert message will be written.
Message format	Allows you to select the message format which will be used to generate the alert message.
HTML	This is the default message format.
Short text	This is text only format with short information.
Long text	This is text only format with complete alert information.
XML	This is the alert information in XML format. You can use this if you would like to build your own external alert actions. Your program may receive e-mails with XML information, interpret them and do some additional tasks.
Custom	Select to define your own message in the edit box. To read more about defining your own messages, please go to the topic Defining custom alert messages 555.

Send SNMP Trap

Sends a SNMP Trap to a remote device.

Property	Description
Host Name	DNS name or IP address of the remote device.
Port	UDP port number of the remote device.
Community	SNMP community name.
PDU type	PDU packet header type.
Agent	IP address of SNMP Agent.
Trap generic	Type of SNMP Trap.
Notification ID	It is required if Service type is defined as “enterpriseSpecific”.

Send Wake On LAN packet

Sends Wake On LAN packet to the remote device.

Property	Description
Use host address	Identification is performed based on the IP and MAC addresses of the device.
MAC Address	Target device address in the following notation AA:BB:CC:DD:EE:FF.
Local Broadcast Address	Target address of the Wake On LAN packet.
Port	UDP port number of the remote device.
SecureOn password	SecureOn password of the remote device in hexadecimal notation, e.g. AA:BB:CC:DD:EE:FF.

Windows

Start/Stop Windows service

It controls the service on the remote Windows workstation.

Property	Description
Windows service, which has triggered the event	Check if you want this action to be performed on the host and service for which the event is generated.
Specific windows service	Select if you want the action to be executed on a specific Windows computer and for a specific service.
Host	Select the host on which the action is to be executed.
Service	Select the service.
Action	Select the action to perform: you can start, stop, restart, pause and resume the Windows service.

Shutdown/restart computer

This action allows you to shutdown or restart the remote Windows workstation.

Property	Description
Host, which the event has occurred on	Check if you want this action to be performed on the host for which the event is generated.
Specific host	Select if you want the action to be executed on a specific Windows computer.
Restart	Check to perform system restart.
Shutdown	Check to perform system shutdown.

Add entry to Windows Event Log

This action allows you to write an entry to Windows Event Log of the selected host.

Property	Description
Host, which the event has occurred on	Check if you want this action to be performed on the host for which the event is generated.
Specific host	Select if you want the action to be executed on a specific Windows computer.
Message type	Select a message type (Success, Error, Warning or Information).

14.5.5 Setting up actions

Most actions require setup options to be defined before the program is able to execute them. For example the program needs a mail server address to send an e-mail notification, etc. This topic describes defining properties of each action type setup (some action types do not require setup).

The action setup may be edited in the program options window and during creation of an action or when editing its properties.

Desktop notification

Desktop alert

A small information box will show at the defined position. This box does not steal the focus and it does not disturb you in your current task.

Property	Description
Position	The position in which the information box will display on the desktop
Duration	Duration in seconds for how long the box will show.
Fade	Check this option if you want the information box to fade.

Speech

This allows alert information to be read by the computer speech synthesis engine.

Property	Description
Speech engine	The speech engine you want to be used.
Voice speed	Speed of the voice.

Send message

E-mail

An e-mail with alert information will be sent.

Property	Description
Reply to address	If this address is not set properly or blank most mail servers will reject an e-mail. Enter the e-mail address, which you know will be accepted by the mail server (your e-mail address most likely).
Connection	Set the timeout, the number and delay of retries.
Use external SMTP server	nVision uses its own built-in mail server. But you can use any external one. Just check this option and define the following properties.
Address	The address of the external mail server.
Port	The port number on which the external mail server is operating.
Authorization required	If the server requires authorization, then check the appropriate box and enter your username and password in the Username/Password fields respectively.
User name	Username required to login.
Password	Password required to login.

ICQ

The ICQ message with an alert information will be sent.

Property	Description
ICQ server	ICQ server address.
Port	The port number on which the server is operating.
UIN	The UIN nVision will use to login to the server.
Password	Password required to login.

SMS via GSM

This action sends an SMS message via an attached GSM phone or modem.

Property	Description
COM port settings	Select a COM port, a baud rate, data bits, parity and stop bits.
SMS settings	Check the appropriate option for splitting long messages and for a custom service center number (SMSC).
Device information	Press the **Detect device** button to see its manufacturer and model.

14.5.6 Defining custom alert messages

When defining alert notification options, you can also define your custom messages to be used as information to be sent/saved. nVision allows you to use several variable names, which are changed to the appropriate value when an alert is raised. This topic lists those variables and describes how to use them.

Variables

Variable name	Description
$Host.Name	Name of the host for which the alert is generated.
$Host.Type	Type of the host. To read more about host type or other host related variables defined here, check the topic Host properties.
$Host.Importance	Host importance. See the topic Host properties.

Variable name	Description
$Host.Status	Host status. It defines the status of the host in the moment when the alert message is composed. In case of delayed actions this status may be different than the status at the alert start.
$Host.Info1	Host Info1 field. See the topic Host properties.
$Host.Info2	Host Info2 field. See the topic Host properties.
$Host.ParentHost	Host's parent host. See the topic Host properties.
$Host.SNMPManagable	The information if the host is SNMP manageable. See the topic Host properties.
$Host.SNMPSystem	The system description of the host read using SNMP. See the topic Host properties.
$Host.SNMPLocation	The location of the host read using SNMP. See the topic Host properties.
$Host.SNMPName	The name of the host read using SNMP. See the topic Host properties.
$Alert.Name	Name of the alert - it is the name of the event that triggered the alert.
$Alert.Description	Short description of the event.
$Alert.Type	The type of the event. See the topic Event types 529 for more information.
$Alert.Severity	Severity of the event which triggered the alert.
$Alert.StartTime	The time when an alert has been raised.
$Alert.Duration	The duration of the alert.
$Alert.Resolution	Current resolution status of this alert.
$Alert.Owner	The owner of the alert.

How to use variables

When the program allows you to define your own message format, then you will be able to use variables.

You can just enter the variable name in the text of the message or you can use the button. Click this button to get a list of available variables and select one. Then the variable name will be inserted in the text of the message in the cursor position.

14.6 Raised alerts

14.6.1 Processing alerts

How nVision processes alerts

In most network monitoring products, you can only define conditions to indicate when an alert is to be raised, but do not get any information about how long such conditions have existed. Also, you usually cannot setup actions to be executed when such conditions are no longer valid. In nVision, every alert raised has a start time and an end time. When the event conditions are met, nVision raises an alert. Then the program continually checks if such conditions are still valid and ends the alert when they are not. It means that you can see the start and end times of every alert along with its duration.

When an alert is raised, then it is called an open alert and the status of such alert is set to <Open>. It remains open until the conditions that caused it to be raised are not longer true, or if the condition required to end this alert is not yet true. After all conditions required to end the alert are met, nVision ends it and changes its status to <Closed>. It indicates not only that the alert ended, but that the event (that triggered this alert) also ended.

How actions are executed

When an alert is raised, all actions related to it and scheduled for immediate execution are started. All other actions set as delayed will be executed only if the alert is still open (i.e. raised). When an alert ends, the action being executed also ends. You can also stop action execution for currently open alerts by setting **Alert resolution**.

Every alert is raised with the Resolution set to “New”. If you want to indicate that the alert notification has been successful and you are aware of the alert, then you must acknowledge the alert. To do that, just set alert resolution in nVision’s Event Log to “Acknowledged”. Similarly, when the problem causing an alert has been solved, then you can stop further actions by setting alert resolution to “Resolved”. In general, changing the alert resolution has the effect of stopping the execution of remaining actions.

14.6.2 Event log

All raised alerts are logged by nVision and you can view them in the Event Log. There is a list of all raised alerts along with the action execution log for every alert. You can change the Alert resolution status and view alerts sorted by several fields and also filter them to see only the alerts that are interesting to you.

Icons used in the Alert & Action grids

Alert grid

Icon	Description
Status – indicates the status of the alert	
	Open alert
	Closed (ended) alert

Icon	Description
Resolution – allows an administrator to manage alerts	
	New alert
	The alert has been acknowledged by the administrator and no more actions will be executed.
	The alert has been resolved by the administrator and no more actions will be executed.
Event type – type of the event that raised the alert	
	Host & service availability
	Specific service test
	Counter
Event severity – severity of the event that raised the alert	
	Low severity
	Normal severity
	Important severity
	Critical severity
Host status change	
	Up
	Warning
	Down

Action grid

Icon	Description
Type – type of the action	
	Desktop alert
	Message
	Program or script
	Others

Icon	Description
Status – indicates the status of the action	
	Not executed yet
	Action is currently being executed
	Successfully executed
	Execution failed (see Info column for a problem explanation)

Opening Event Log window

You can see alerts for a selected host only or for the entire atlas. To view the Event Log for atlas, select **Event Log** from the Reports and Alerts section. To view the Event Log for a single host, navigate to the **Host info** window and then to the **Events** tab.

Clearing Alerts (changing alert resolution)

To clear an alert, you have to change its Resolution to “Acknowledged” or “Resolved”.

1. Select an alert or several alerts.
2. Select **Acknowledge** or **Resolve** from the context menu.

For more information about alert resolution refer to the Raised alerts 557 topic.

Sorting & filtering

- You can sort both grids by any column just by clicking on the column header.
- You can filter events by status and resolution. To view only those alerts that have specific status/resolution, just select the appropriate entry in the **Filter** field.

Changing time period

You can view events for one day, week or a month. To select the time period, use the toolbar. To scroll through past alerts in the Event Log, use the arrows located on the toolbar. When scrolling, you will always see the current time range of presented alerts.

Part XV

15 Database backups

15.1 How to make a backup of my Atlases?

All atlases' information is stored in the **Database\AtlasPG** directory.

To make a backup, use the **DBBackup** tool from {**nVision}\Backups** directory. Launching the **DBRestore** tool will restore nVision's database backup.

15.2 Automatic backup

Profiles

Creating backups is based on defined profiles. Each profile may specify:

- the directory where the created backups will be saved,
- the profile name,
- backup date.

The backup can store the selected data:

- collected Windows system log entries,
- generated alerts,
- counter and service monitoring history,
- user activity data,
- inventory data.

Backup rules

To configure backups, multiple profiles can be used. Each profile stores backup frequency (each day, week or month) and the time when the backup is to be performed. In each case the hour of the backup start is specified. If the backup is performed weekly, additionally set the weekday, if monthly – set the day of the month. In the case of large databases, creating backups can be a time-consuming task, therefore planning full backups for such times when it will not interfere with nVision operation in business hours is recommended.

Configuration

To configure the automatic creation of backups:

1. In the main menu of nVision select **Tools / Options**.
2. Select **Maintenance** from the list.
3. Add a new rule with the use of the  button or **Edit** one of the existing rules.
4. In the **Backup rules** window, select an existing profile or create a new one (to create a new profile, expand the menu at the **Edit** button, choose the **Add** option and configure the new profile settings).
5. Set the backup frequency and the times when the backup will be performed.

6. You can also define the number of stored backups.

15.3 Database size

As an effect of collecting a large amount of data in the monitored networks, the database size can grow rapidly. This chapter explains how to counteract the excessive database growth.

Database size management can be performed by means of:

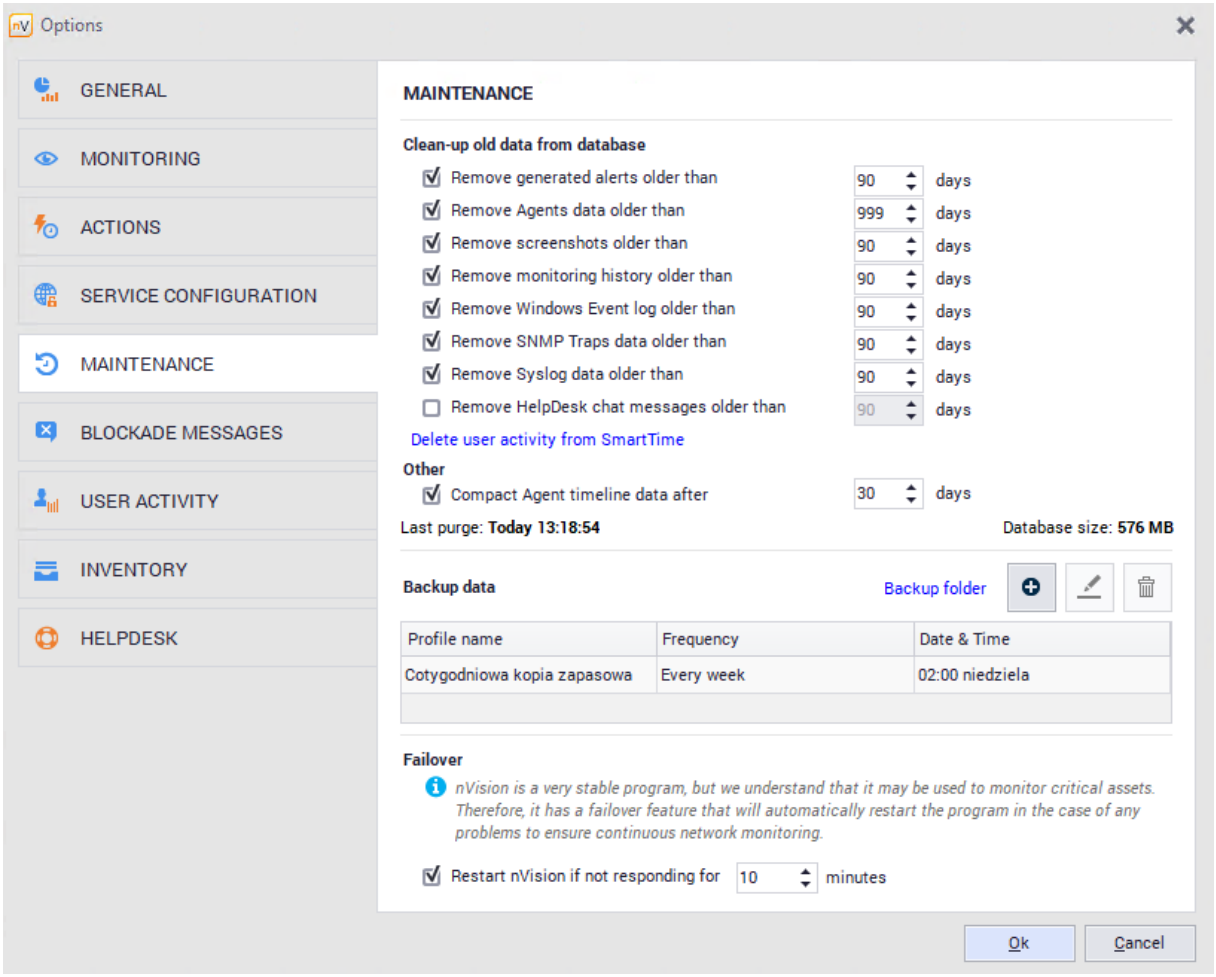
- Setting a time for the deletion of outdated data
- Compacting
- Windows event log monitoring options
- Database repairing

Setting the outdated data removal interval

To set the time after which the outdated data will be removed, use the cleaning option (**Options / Maintenance**). Data cleaning is performed once a day during the night.

Decreasing the time after which the outdated data are removed does not reduce the database size, but will stop its growth at a certain level. This is because the outdated data are not deleted from the database, but overwritten with the newly arriving data.

*Screenshots are the main reason of the huge size of nVision's database. Because of that fact, during turning of this functionality in the **Host info / User activity / Screenshots** 167 window, administrator has to point out a date when collecting them will be stopped.*

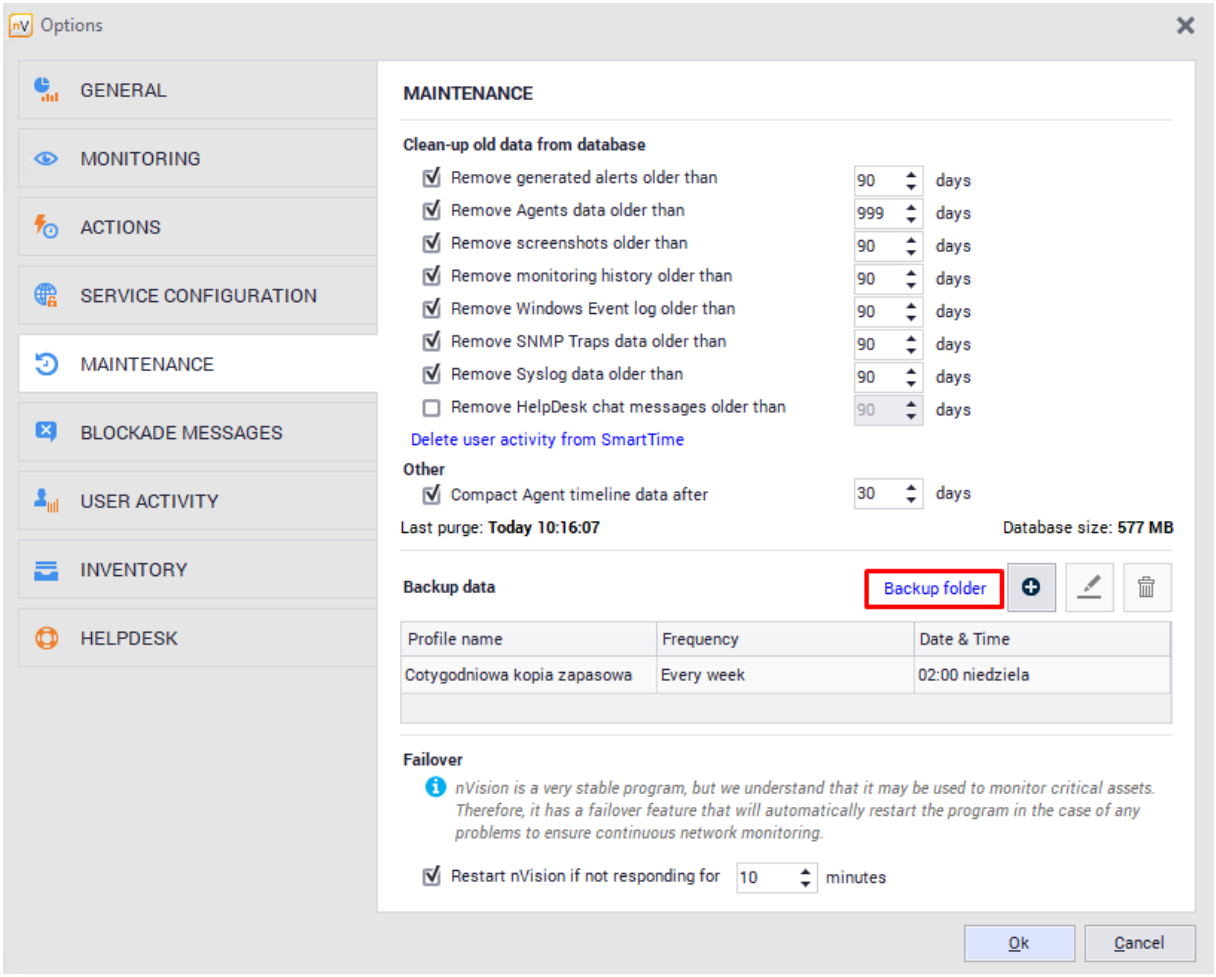


Windows Event Log monitoring options

The large growth of the database is most often the result of collecting data on user logons (Windows Event Log). If the monitoring of Windows Event Log does not need to be collected, toggle the respective field in the device **Properties**, the **Monitoring** tab. If the data should be collected, set the appropriate monitoring interval and check whether the logon entries ignore option is enabled in the configuration (enabled by default). This setting allows unnecessary entries to be filtered (approx. 99% of all entries).

15.4 Backup folder change

nVision allows you to change the default backup location. To do this, in the **Main** tab select **Options**, and then **Maintenance**. Next, select the highlighted **Backup folder** option and specify the new location:



Note! Modification of this setting is only possible from the level of the local nVision console connected to the server using the address 127.0.0.1.

Part XVI

16 Frequently Asked Questions

16.1 Updating and archival versions of nVision

Technical issues to be taken into consideration while updating nVision:

1. Installation of nVision Server on Windows XP is no longer possible – minimum required system for nVision Server is Windows Vista or Server 2008 or newer, for nVision Console and nVision Agent minimum required system is Windows XP SP3 or newer.
2. Updating of nVision (or restoration from backup) **to version 7** is possible only from nVision (or its backup) of the latest build of version **6 (6.5.4.14214)**.
3. After updating nVision to the latest version 6, **run the program at least once (open Atlas)**, then close nVision and perform the database repair to verify the database before updating.
4. Atlas import can be performed only in the local console.
5. The software must be run first from the local console in order to set the administrator's password.
6. You can install nVision Console on another machine using the same **nVisionSetup.exe** file downloaded for nVision 7 update - after executing this file selection of installation type will be available: nVision Server+Console or nVison Console.
7. Updating of nVision to version 7.5 is possible only from nVision of the latest build of **version 7.1 (7.1.3.15872)**. Because of database rewriting this process can take longer time.
8. Because of database engine change after updating nVision to version 7.5 backup settings will be reset so the best is to check it and adjust it according to your needs.
9. Because of database engine change restoring database from backup in nVision 7.5 is possible only from backup created also in nVision 7.5.
10. To update nVision **to version 8.2**, you should first install the latest **version of nVision 7 (7.6.2.17769)**.
11. Updating of nVision to **version 9** is possible only from nVision of the latest build of **nVision 8.2 (8.2.1.20202)** or nVision **8.6 (8.6.0.22469)**.
12. Direct update to **nVision 10** is possible since nVision 8.6. Before updating to version 10, read carefully the document concerning technical issues of migration to version 10.

Archival nVision installation files can be downloaded from the following sources:

- **nVision 6 (6.5.4.14214)**
- **nVision 7.1 (7.1.3.15872)**
- **nVision 7 (7.6.2.17769)**
- **nVision 8.2 (8.2.1.20202)**
- **nVision 8.6 (8.6.0.22469)**
- **nVision 9 (9.3.4.25361)**
- **nVision 10 (10.5.3.27614)**

16.2 File system audit

From the perspective of the file system, there is no such operation as “copy from... to ...”. The application, which “copies” the file, as a matter of fact creates a new file and fills it with the content read (acquired) from any source: another disk, network, external device connected to the computer, text entered from the keyboard in the application window, etc. Therefore it is not possible to log information about the data source in DataGuard.

16.3 Silent installation and uninstallation of nVision Agent

To install the Agent without user interaction, use the following command on the selected machine:

```
nvagentinstall.exe /verysilent /nVisionon:ADRES_IP_nVision
```

or

```
msiexec.exe /i nvagentinstall.msi /qn
```

To uninstall the Agent without user interaction, mark selected machines in nVision Console, and then right-click and select the **Agent / Uninstall** options from the context menu

or use the following command on the selected machine:

```
unins000.exe /verysilent /password=AGENTS_PASSWORD
```

16.4 Duplicated hosts

If duplicate devices, visible in the **Tools / Show duplicates** menu, appear in nVision, run the following command in the command line in relation to the duplicate IP addresses and DNS names:

```
ping -a IP_ADDRESS
```

and:

```
ping -4 DNS_NAME
```

and compare the results of these operations (there should be identical IP addresses and DNS names). If these do not match, look for the solution of the problem in incorrect DNS server configuration (aging / scavenging old records: http://technet.microsoft.com/en-us/library/cc771677.aspx) and/or too short IP address lease time on DHCP server (this time should not be shorter than aging / scavenging period of old DNS records).

16.5 How “Uninstall nVision Agent” option works

The Agent will be uninstalled after receiving uninstallation command during connection with the nVision Server.

If the Agent is not connected with the nVision Server (e.g. the Agent was temporarily disabled or the machine where the Agent is installed is not running), uninstallation will proceed during the next connection with the nVision Server.

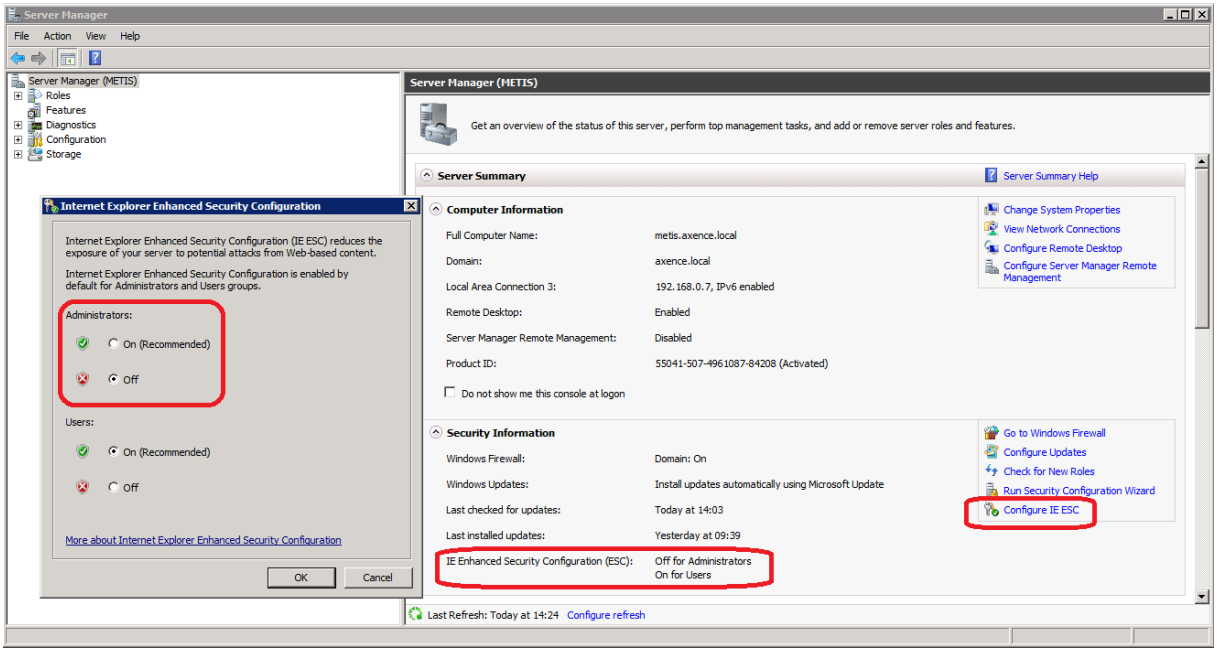
16.6 Generating reports on Windows Server systems

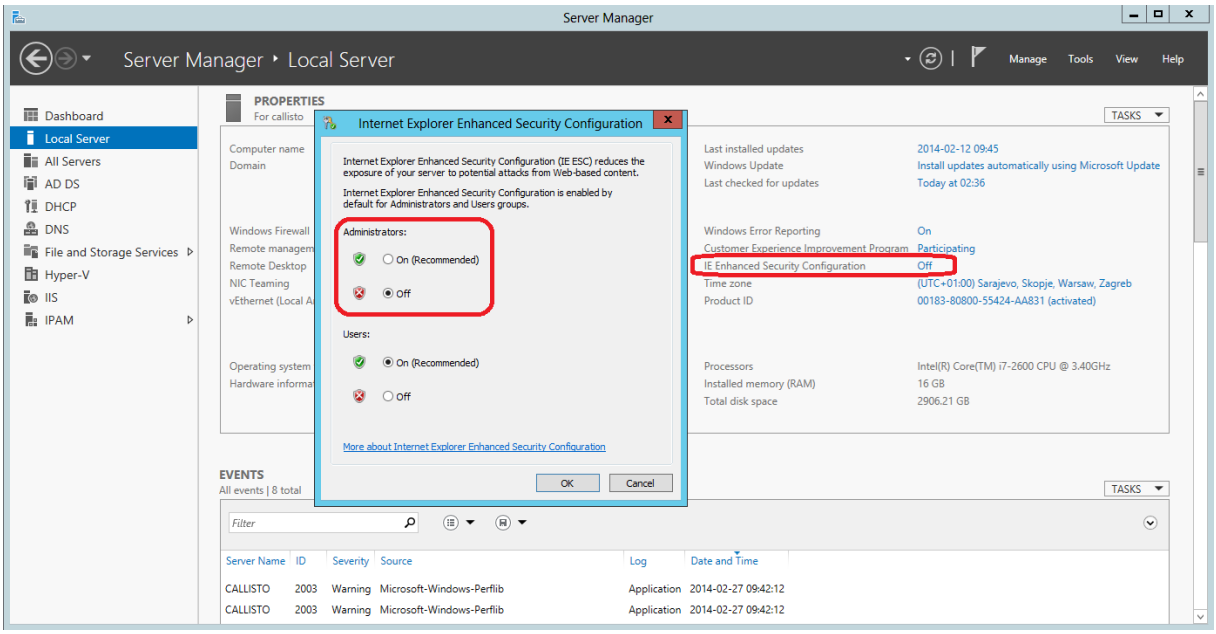
In case of problems with generating reports in nVision Console installed on Windows Server or in Internet Explorer on such a system, disable **IE ESC (Internet Explorer Enhanced Security Configuration) setting for administrators** on this system in the Windows Server configuration. After disabling it, restart nVision Console. Disabling this option changes web browser safety level on the server, therefore it is recommended to generate reports in nVision Console installed on the desktop version of Windows or in a web browser on a desktop system.

For details see:

http://blogs.technet.com/b/plitpromicrosoftcom/archive/2010/04/30/internet-explorer-enhanced-security-configuration.aspx

http://technet.microsoft.com/en-us/library/dd883248(v=ws.10).aspx





16.7 Agent installation with use of Active Directory

Instructions for software distribution with use of Active Directory:

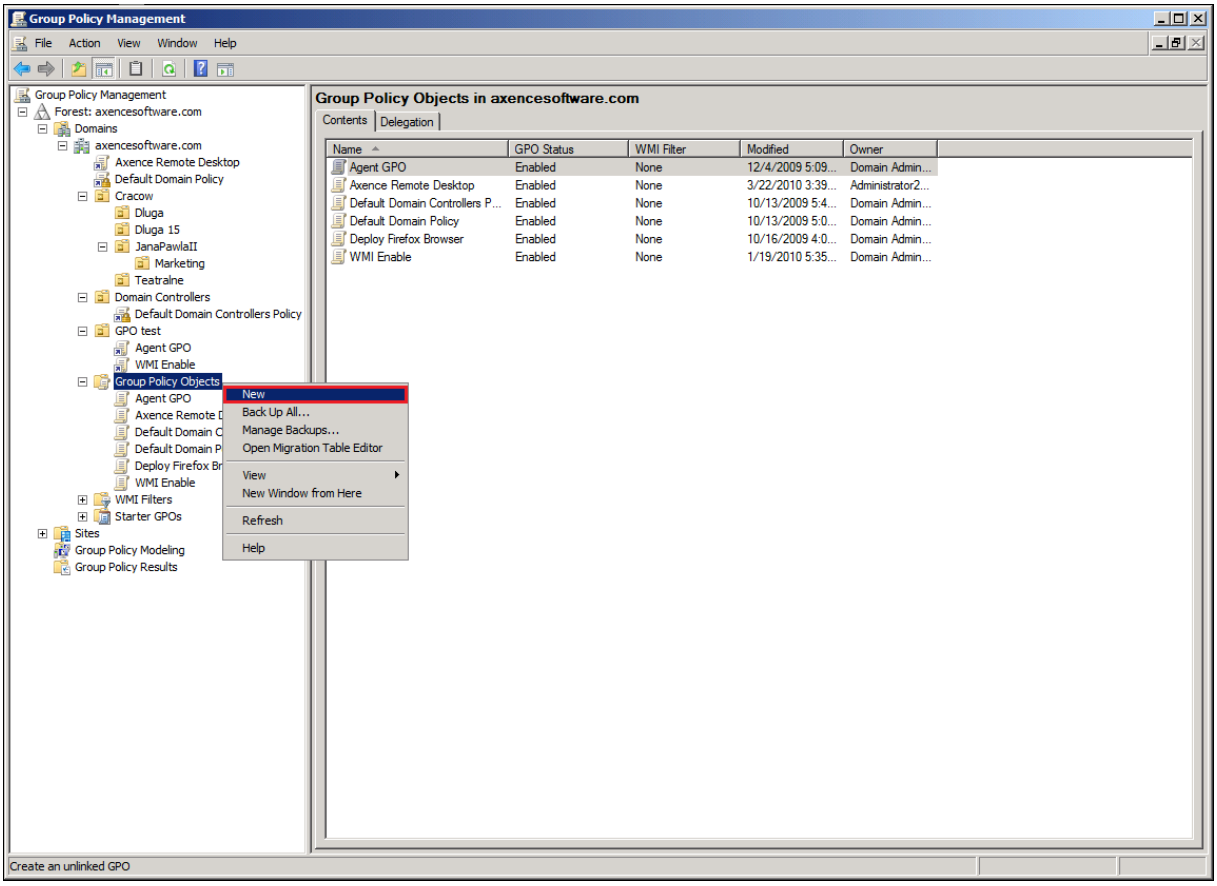
1. Place the **MSI package (nvagentinstall.msi)** in the shared folder on the server so as the workstations and domain controller (the server supporting Active Directory) can access it: create such a folder, copy the package there and set the sharing rights appropriately (resource access as follows:

```
\\[SERVER_NAME]\[DIRECTORY_NAME]\nvagentinstall.msi
```

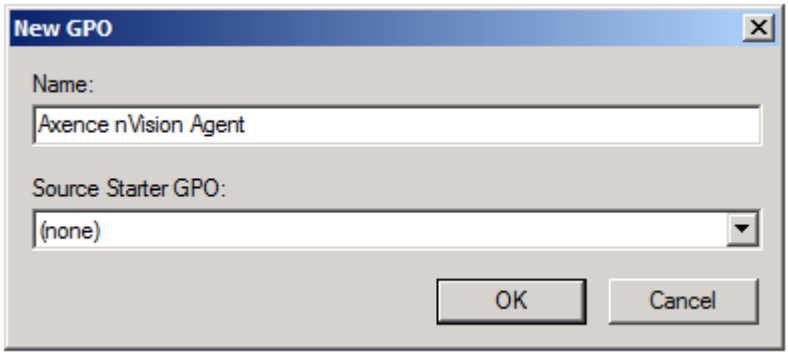
2. Run **Group Policy Management Console** – command:

```
gpmc.msc
```

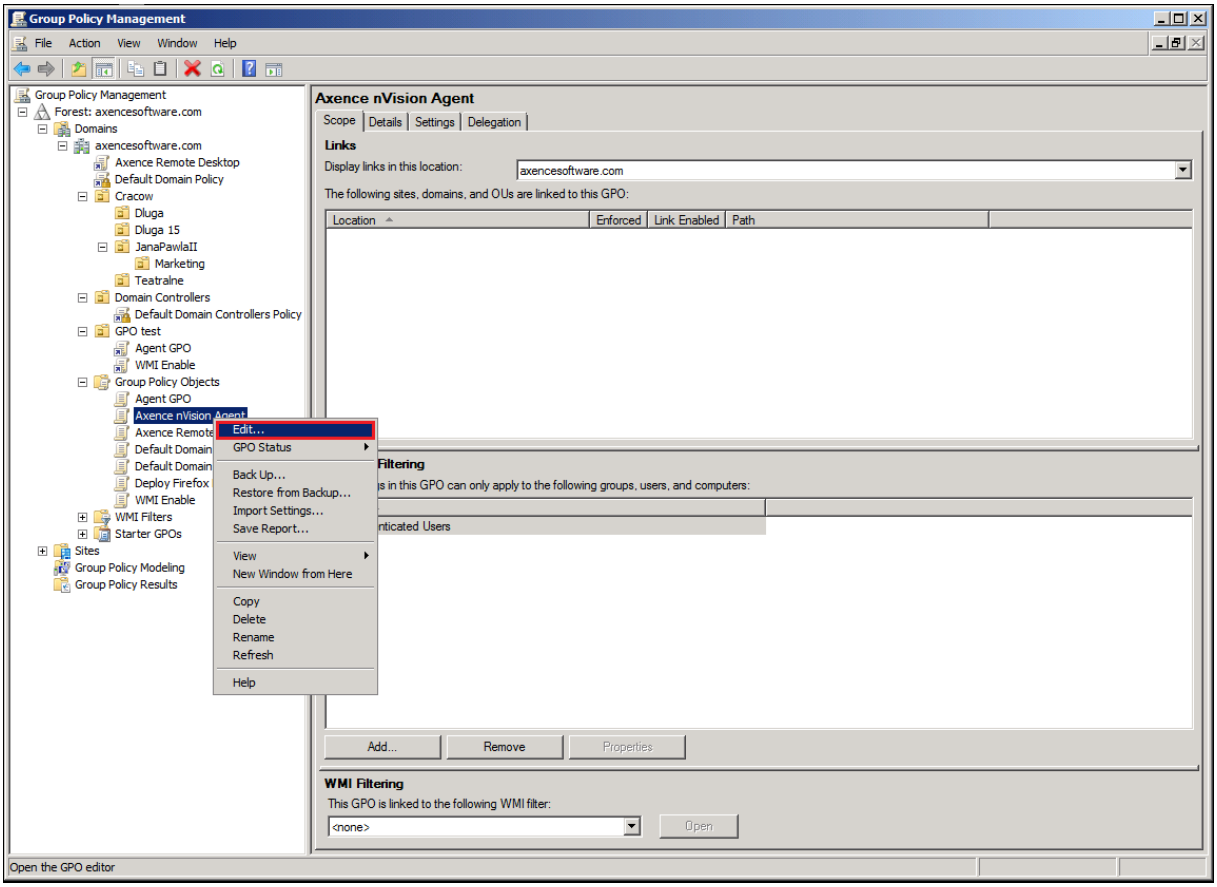
3. Create a new group policy object: select the **Group Policy Objects** folder, right-click it and select **New** from the drop-down menu.



4. In the **New GPO** dialog box, name the created Group Policy Object, e.g. Axence nVision Agent.



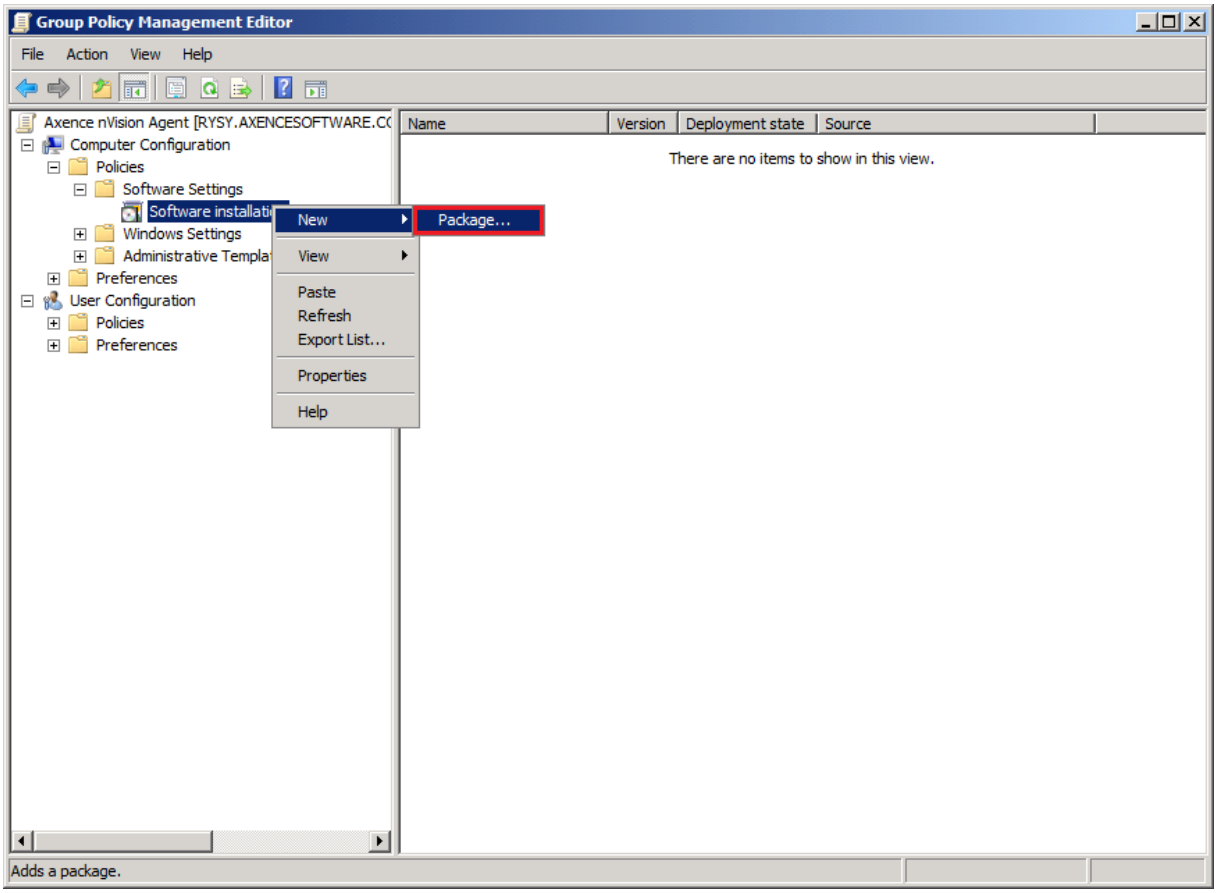
5. Navigate to edit the created GPO: right-click the object, select **Edit** from the drop-down menu.



6. In the **Group Policy Management Editor** dialog box, expand:

```
Computer Configuration \ Policies \ Software Settings \ Software
installation
```

right-click it and select **New > Package** from the drop-down menu.

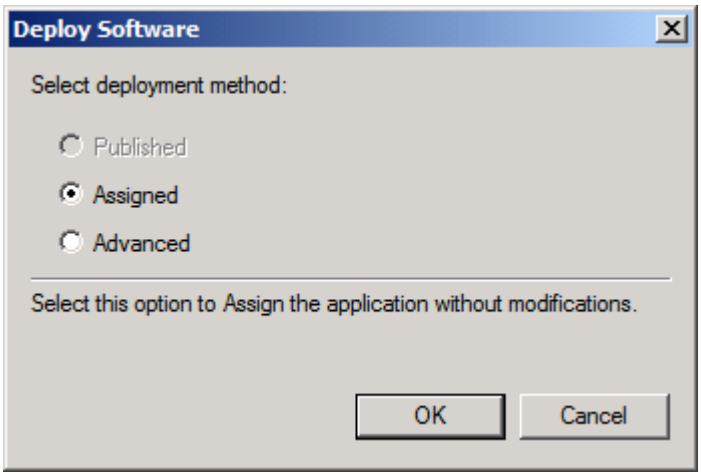


7. Select MSI package file in the resource sharing location (it is best to enter the address of the shared resource).

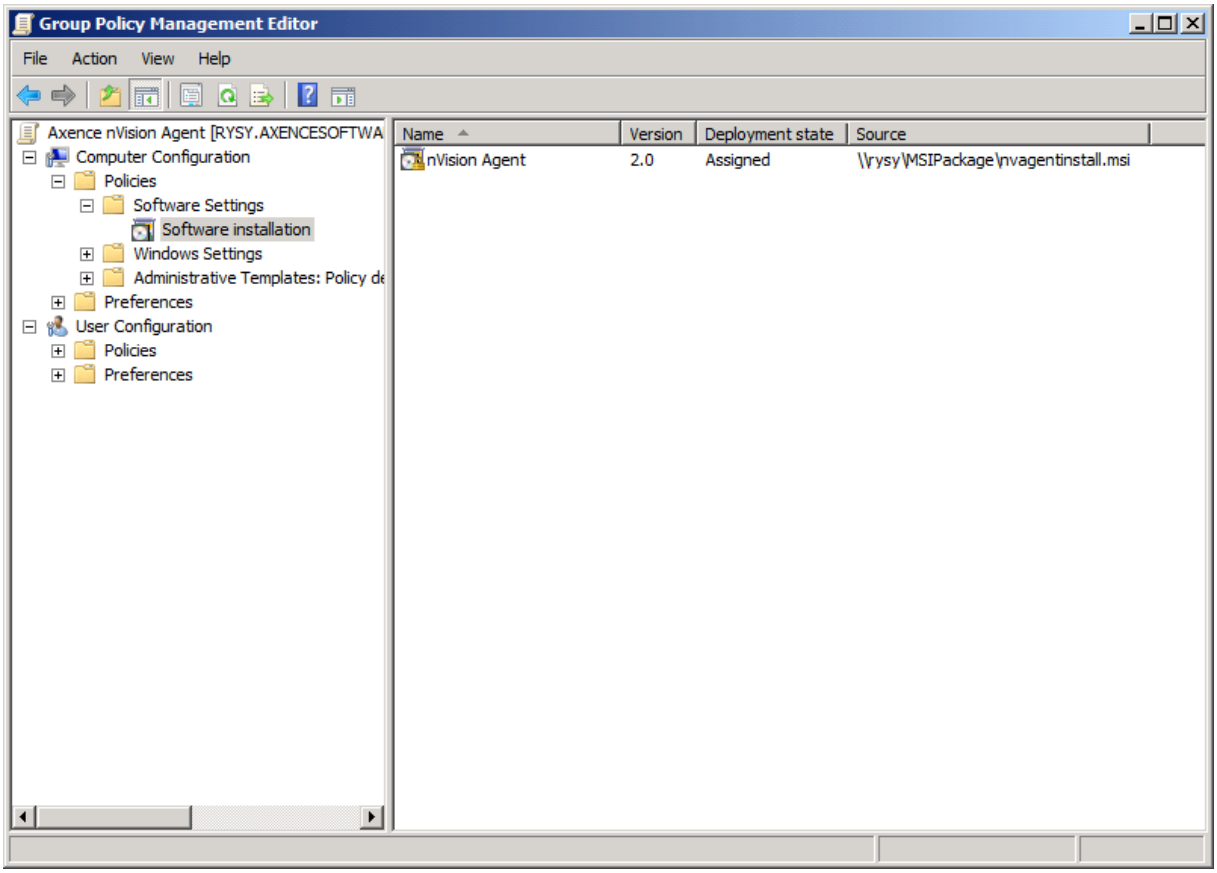
```
\\[SERVER_NAME]\[DIRECTORY_NAME]\
```

and choose the package type.

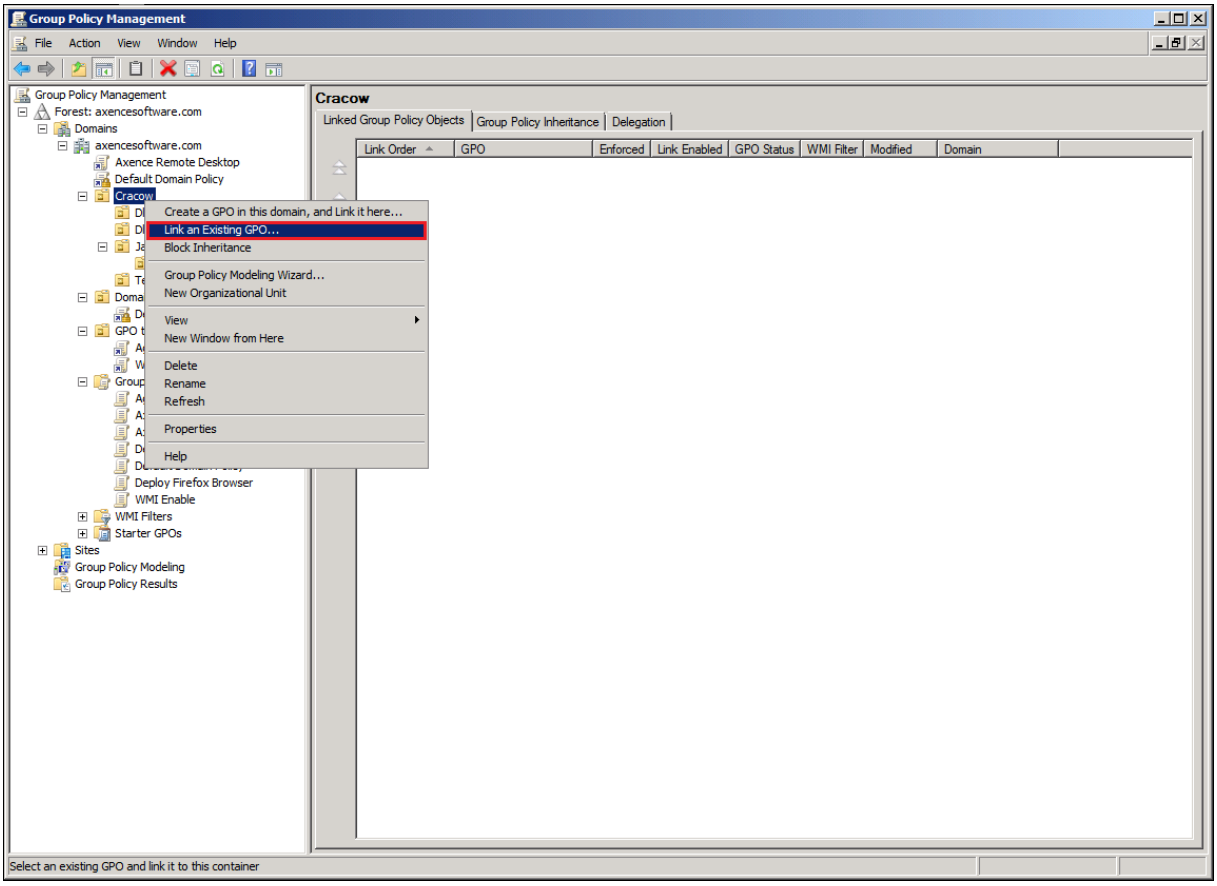
8. In the **Deploy Software** dialog box, select **Assigned**.

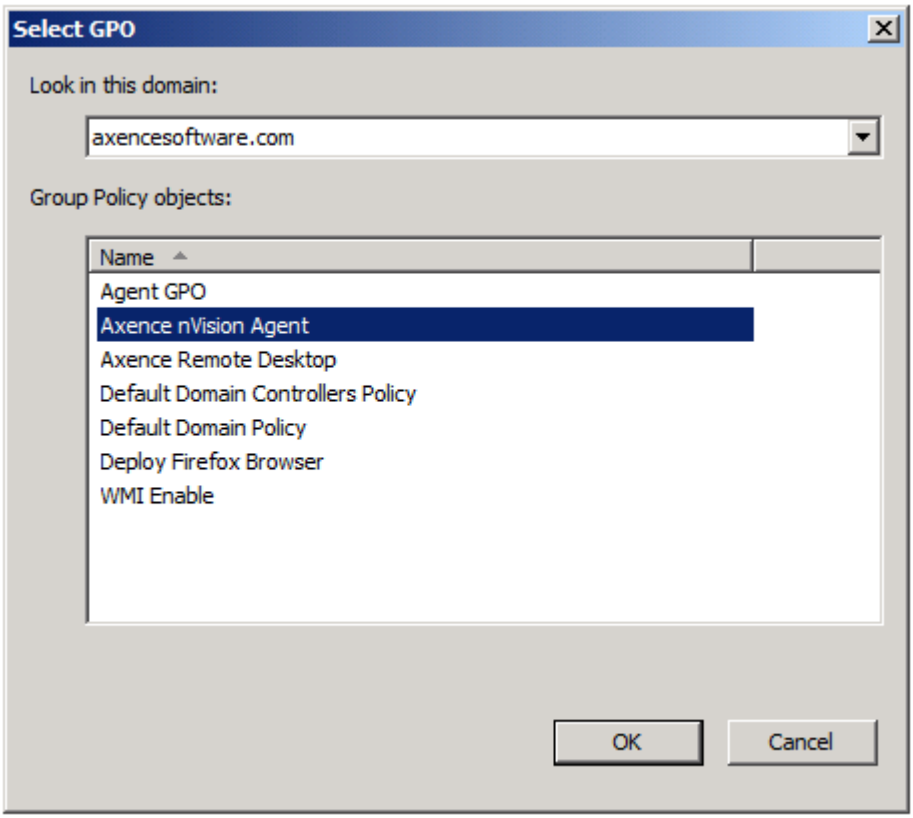


9. **nVision Agent** entry should appear in the **Group Policy Management Editor** dialog box.



10. Having created the GPO, return to the **Group Policy Management** dialog box and link the GPO to a container of the user group or machine group: select the container where the GPO should be assigned to, right-click it, select **Link an Existing GPO** from the drop-down menu, then select the created GPO.





11. The object created in such a manner should be distributed to workstations. The group policy updating can take a few hours; to accelerate it, execute command:

```
gpupdate /force /boot
```

on workstations to force the group policy updates, and in consequence, the installation of the MSI package with nVision Agent. In the case of failure, error messages can be found in the **Windows Event Log** of the workstations and the server.

16.8 Installing Agent through WMI

To install nVision Agent remotely with the use of WMI, perform the following steps on the destination machine:

1. open the command line with administrator rights and run **WmiEnable.exe** (available in nVision installation folder)
2. make sure that **"File and Printer Sharing"** is enabled in Windows:
   - **Windows 7 and 8**: *Control Panel / Network and Sharing Center / Advanced sharing settings* (option on the left side of the dialog box);
   - **Windows Vista**: *Control Panel / Network and Sharing Center;*
   - **Windows XP**: *Control Panel / Windows Firewall / Exceptions;*
3. check the properties of the machine in nVision to make sure that the Windows logon data test is passed successfully

16.9 Cloning the disk image with Agent installed

During installation, nVision Agent generates and saves its unique GUID identifier in the registry. If the Agent detects the change of machine SID, where it is installed on, it generates a new GUID during startup. The correct sequence of steps should include the preparation of the operating system with SysPrep utility before cloning the disk image to other machines. In such a case, when starting each cloned system, a new unique SID is generated, and Agents from these systems report in to nVision with different (unique) GUIDs and thus they create separate icons in nVision. Otherwise, each system reports to nVision under the same GUID, i.e. a few Agents send their data to the same icon in nVision.

If such a situation occurs, use SysPrep utility to reset SIDs on individual machines:

http://technet.microsoft.com/en-us/library/cc721973.

16.10 Antivirus software proper setup

In order to assure the correct operation of nVision in accordance with program requirements, add the following folders to the anti-virus software exclusion list (disk operations and network connection):

- C:\Program Files\Axence*.*
- C:\Program Files (x86)\Axence*.*

including subfolders on:

- the machine where nVision Server is installed,

- the machines where nVision Consoles are installed,
- the machines where nVision Agents are installed.

Then restart these machines:

Examples:

- Eset Antivirus
- Kaspersky Antivirus 2018
- AVG Antivirus.

16.11 Configuration of Agents installed on mobile computers

In order to configure an Agent installed on a mobile machine (operating outside the local network):

1. open port **4436** on the router/firewall with an external address for incoming connections and redirect the traffic to port **4436** of the computer in the local network on which nVision Server is installed;
2. when installing nVision Agent on a mobile machine, provide it with an external **IP address of the router**.

If it is necessary to configure the connection of mobile machines with Agents, which at present are already using a local IP address of a computer with nVision, you can use the **Tools and options** tab, **Agents / Propagate new Atlas address** option and provide a new external IP address of the router. After propagating the new address (adding it to Atlas list in the configuration of nVision Agents), nVision Agents will attempt to connect with each of the addresses on their list. The connection will only be established if GUID and the password are identical in nVision Agent and in nVision Server. The Atlas to which the Agent cannot be connected for 21 days will be deleted from the nVision Agent's list of Atlases (if there is only one Atlas in the list, it will be never removed).

Related topics

Ports used by nVision 580

16.12 Virtual machines

If you want to detect virtual machines in the network, you can create smart maps defining filters:

Primary MAC address / starts with / <type the first three octets from the list below>

If, on the other hand, you want the network scanner/rescanner not to detect virtual machines (e.g. due to exceeded limit of devices allowed by the license), add the first three octets from the following list, each followed by an asterisk, to the ignored addresses list (in the Atlas properties).

```
0003FF
```

Virtual PC

http://blogs.technet.com/b/medv/archive/2011/01/24/how-to-manage-vm-mac-addresses-with-the-globalimagedata-xml-file-in-med-v-v1.aspx

```
000569
```

VMware
http://technet.microsoft.com/en-us/library/jj590655.aspx

```
00155D
```

Hyper-V

http://technet.microsoft.com/en-us/library/jj590655.aspx

```
080027
```

VirtualBox

https://forums.virtualbox.org/viewtopic.php?f=1&t=26295

16.13 Monitoring multiple locations in nVision

There are a few ways to monitor several locations in nVision:

1. One installation of nVision Server and monitoring of devices in remote locations connected with the head office with use of VPN
2. One installation of nVision Server and monitoring of devices (in particular, sending data from nVision Agents) through the Internet
3. Independent installations of nVision Severs in remote locations:
    - no central database (each nVision Server has an independent database)
    - Agents accept configuration changes and new versions only from one nVision Server (Master Atlas)
    - access to nVision Servers with nVision Console in LAN, with RDP in WAN or with a Web browser (nVision Web Access)

The **Users** tab allows the creation of user accounts and to assign each user to one of the three roles. It is described in detail in chapter Types of user roles.

16.14 Printouts monitoring

A locally installed Agent collects information about printouts from the printers installed as local ones only. In the case of printers configured as network devices, the Agent must be installed in the system on which the printer is provided. If the Agent will not be used for other purposes there, the Agent profile can be configured so as to only collect information about printouts.

16.15 Not all users have been imported from Active Directory

The default value of **MaxPageSize** parameter (maximum page size supported for LDAP response) in Windows is 1000 records. If there are more users and groups in the Active Directory, then increase the **MaxPageSize** value in the LDAP protocol configuration.

For details see:

http://support.microsoft.com/kb/315071

16.16 OFFLINE inventory scanner parameters

The nVision offline scanner executable file can be run with following parameters:

```
silent
```

program does not display the window reporting its operation

```
directory
```

program results are saved in the specific path

```
runonce
```

if many files with previous scanning results are detected, the program will terminate immediately.

Example:

```
nVision_InventoryScanner.exe -silent -runonce -directory "c:\"
```

16.17 Ports used by nVision

The following ports should be open for incoming connections on the machines where nVision Server is installed:

nVision Server:

- 4434 – diagnostic information
- 4436 – permanent connection (socket) of the Agent
- 8080 – Web Access
- 8081 – API server
- 162 – SNMP trap.

nVision Agent:

- 4433 – diagnostic information

Machine from which the data from counters / services / Windows event log will be collected:

- 135, 139, 445, 593 – WMI

Windows Firewall is automatically configured during the installation of nVision Server and nVision Agent.

You need to configure firewalls from other producers on your own – for examples, see:

- **Eset Antivirus**
- **Kaspersky Antivirus**
- **AVG Internet Security**

16.18 Moving nVision to another machine

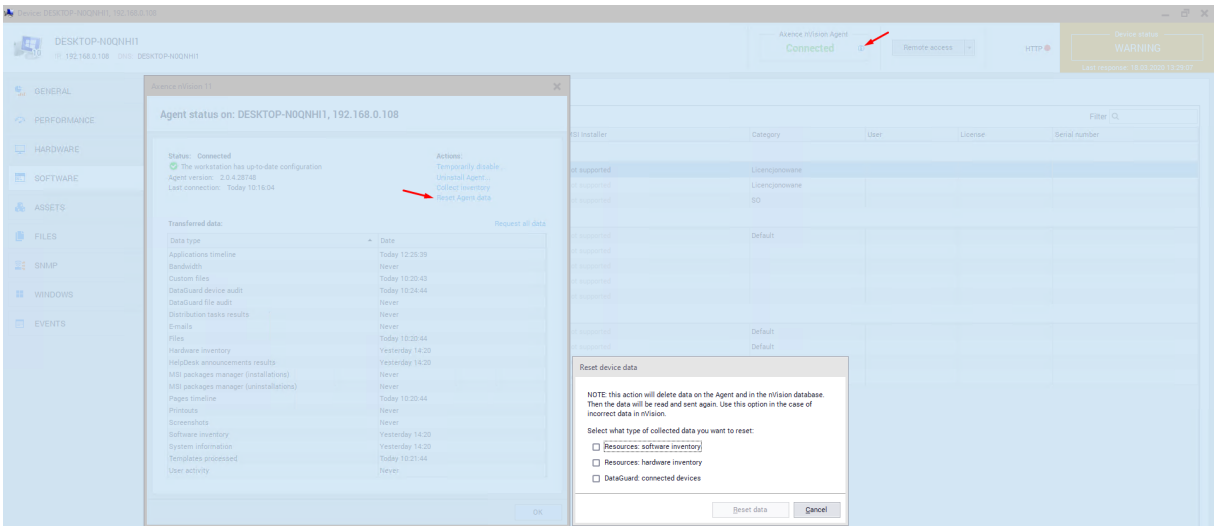
To move nVision to another machine, perform the following steps:

1. Use the **Tools / Agents / Propagate new Atlas address** menu option to propagate new Atlas address to Agents.
2. In the **Agents** view, in the **Last connection time** column, make sure all Agents have received new Atlas address (Agents' connection time should be later than the time when the new address was propagated).
3. Copy the installer file **nVisionSetup.exe** from the **<nVision>\Sources** folder (it will be required in the further part of the procedure).
4. Make sure the amount of free disk space on the target machine is twice larger than the size of the **<nVision>\Database** folder.
5. Make a full backup 562 of the Atlas using the **DBBackup** tool, which is located in the **<nVision>\Backups** folder.
6. Uninstall nVision.
7. Install nVision on the new machine using the file downloaded in step 3).
8. Copy full backup made in step 5) to the target machine.
9. Restore full Atlas backup 562 using the **DBRestore** tool.
10. Start nVision.

16.19 Agent data reset

In order to solve certain problems with some missing monitoring data (e.g. gaps in User activity or outdated inventory data), it might be necessary to restart the Agent data.

This will result in the resending of the missing data if they are available in the Agent's database.



For this purpose, perform the following steps in the **Host Info** window:

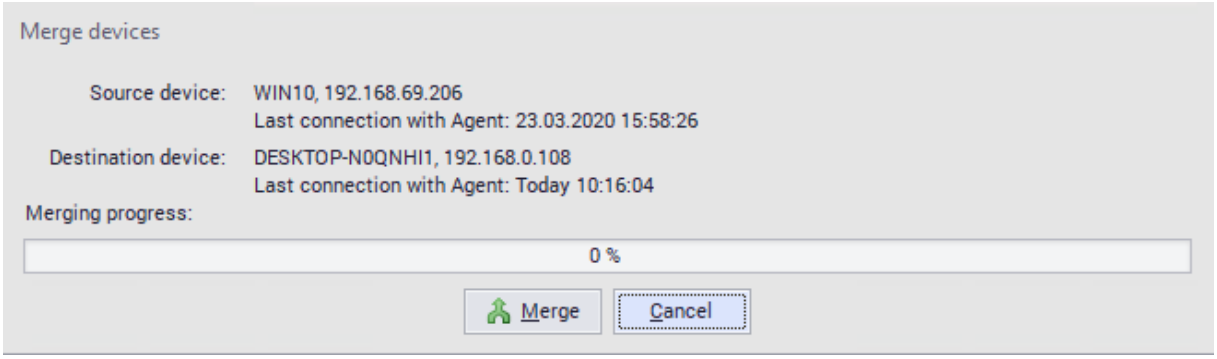
1. Click the “i” icon in the upper part of the **Host Info** window.
2. In the **Actions** section, select **Reset host data**.
3. In the **Reset Agent data** dialog box mark the selected data types which should be reset. Click the **Reset data** button.

Note: Checking the **Force Agent on this host to reset all its data and collect it once again** option will delete the data collected by the Agent from its database and from nVision database, and will restart the data collection from the moment of resetting. This option should be used only in the case of resetting hardware and software inventory data.

16.20 Hosts merging

To merge hosts with Agents:

1. In the **Hosts / Agents** view, select hosts to be merged.
2. Right-click and select the **Agent / Merge hosts** option. The **Merge hosts** window will open.
3. To start the merging process, press **Merge** button**.** The old host will be removed from the map.



16.21 Launching SNMP in Linux system

How to run SNMP in Linux system (on the example of openSUSE distribution):

1. Install **net-snmp** packages (with dependencies)
2. Open ports **161 TCP** and **161 UDP** in the firewall
3. Open command line, enter:

```
su -
```

followed by the root user password

4. Run **gedit** from the command line and edit the **/etc/snmp/snmpd.conf** file
5. To have access to the entire SNMP tree for reading, enter:

```
view systemonly included .1
```

```
rocommunity public default
```

and save such modified file

6. If you want SNMP service to start during each system boot, enter in the command line:

```
chkconfig snmpd on
```

7. Now run SNMP service by entering in the command line:

```
service snmpd start
```

When the above procedure has been performed, open **Credentials** tab in the properties window of selected host in nVision, select **SNMP manageable host** option and click **OK**. Then, when a device information window is opened, it is possible to view SNMP counters tree in the **SNMP** tab.

Especially interesting system information can be found in branch:

```
.iso.org.dod.internet.mgmt.mib-2.host
```

```
OID: .1.3.6.1.2.1.25
```

Index

- A -

- B -

- C -

- D -

- E -

- F -

- G -

- H -

- I -

- L -

- M -

- N -

- O -

- P -

- R -

- S -

- T -

- U -

- V -

- W -