

IVS - Installation, initial settings

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1. Introduction, important information

In this guide, we have summarized the essential details of the IVS installation. For a complete overview of the system's structure and configuration, please refer to the *IVS Installation manual* documentation.

2. Camera installation, IP address and port configuration

Install and set up the cameras. Configure the **cameras with fixed IP** addresses, and open the necessary [ports](#) between the cameras and the server(s). Use the **Intellio Device Explorer** software on the servers to search for, activate, and set the IP addresses of the Intellio cameras on the network.

In a SITE with multiple servers, ensure that for proper automatic camera detection, all servers in the SITE must be able to reach the cameras

3. OS installation and configuration on Servers, clients

If you are using a server or client computer provided by Intellio, the installation of the programs has been completed by Intellio specialists on your behalf, so you only need to perform the specific settings that match your installation environment. To log into the operating system, use the **unique username/password** pair provided **in the documentation that came with the computer**.

Before putting the machines into operation, review the *Intellio server and client workstation settings and security hardening* documentation provided with the machines.

4. Check time settings

Whether using an Intellio pre-installed server/client or your own server/client computer, after logging in, **check the time, time zone, and daylight savings time settings on the server(s) and client(s)** computers before proceeding with the next installation steps.

5. Server network speed, IP address, and port check, configuration

The servers supplied by Intellio use dynamic IP address (DHCP) settings. During setup, it is recommended to assign **static IP addresses** to the servers that match the network environment and refer to the servers by their **IP address** in the server settings to prevent potential future name resolution issues from hindering the operation of the IVS.

Check and enable the appropriate **ports** for communication between the cameras, servers, and clients across the entire IT network and devices. By default, communication between the servers and between servers and clients occurs via port 53540.

The IVS system uses unique ports for its various functions on the network. From the following table, only enable the ports corresponding to the functions that are actually in use, which by default are as follows:

Inbound ACL

Source	Target	Port [TCP]
Desktop client	Server service	53540
Gateway service	Server service	53540
IP-based 3rd party event sending software	Server service	53541
Source	Target	Port [UDP]
Intellio Initio camera	Server service	37020
ONVIF camera	Server service	3703
Intellio ILD, ILC cameras	Server service	Random ports

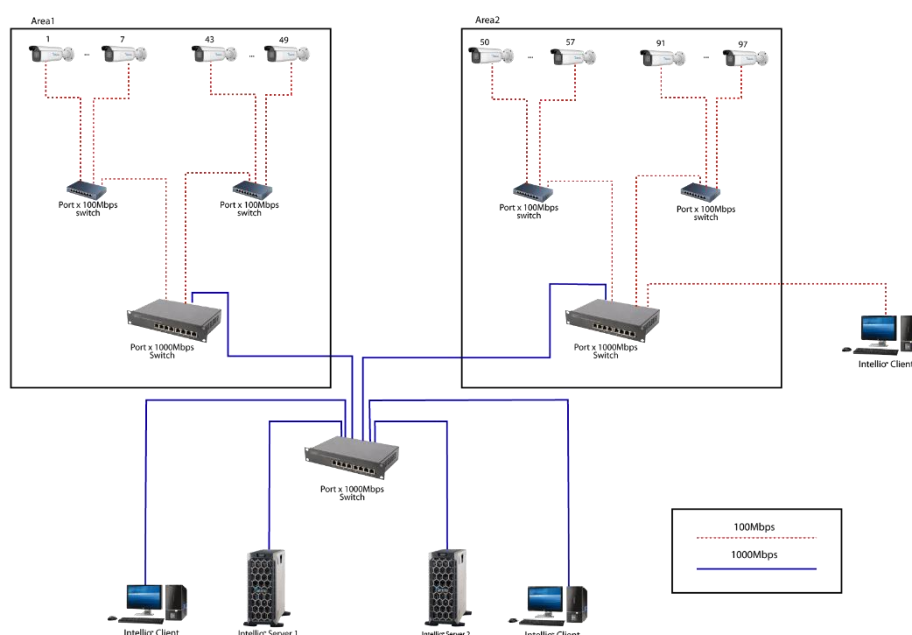
Outbound ACL

Source	Target	Port [TCP]
Server service	Intellio Visus (ILD) camera	53539
Server service	Intellio Initio camera	554, 8000
Server service	ONVIF camera	554, 80
Server service	RTSP video stream	554
Server service	IO module (MOXA)	502
Server service	Backup server	6501-xxxx
Server service	Einar camera	443, 554
Source	Target	Port [UDP]
Server service	Intellio Initio camera	37020
Server service	ONVIF camera	3702
Server service	Intellio ILD, ILC camera	53539

Other communication

Source	Target	Port [TCP]
Rtsp client app (pl. VLC)	Gateway service	80, 8554
Mobil client	Gateway service	53560
Gateway service	Firestore Cloud Messaging	443

Check the **network adapter speeds**, ensuring that the network connections between the servers, clients, and storage devices have a minimum speed of 1 Gbps.



A high-reliability Intellio network video surveillance system requires a well-structured Ethernet network. The network architecture depends on the number of cameras, servers, and client applications being installed.

The typical bandwidth requirement for Intellio cameras ranges from 4-32Mbps, meaning that a 100Mbps network segment can support a maximum of 2-20 cameras, provided no other communication is present on the same segment.

If you want to connect more than 80-100 cameras to a single server, it is advisable to add additional servers to ensure continuous storage, even if one server fails. Automatic camera handover between servers can be ensured by organizing the servers into a Site-based configuration. For details, refer to the **Connect more servers – Site and Domain configuration** documentation.

6. Server service and Client program installation

The Intellio Video System software is compatible with all modern **Windows** operating systems. In practice, this includes Windows 10 / Windows Server 2016, and any subsequent products released.

The system consists of two programs: the **Intellio Server** and the **Intellio Client** programs. The Intellio Server maintains the connection with the cameras, records the video feeds, and serves the clients. The Intellio Client is the system's user interface. Live monitoring, playback, event queries, and system settings are all managed through this interface.

When using your own server, download and install the Intellio Video System video management software **Server program**. During installation, provide the **Product Key** received upon purchase, following the instructions in the next section ([Installation of Intellio Server](#)).

Additionally, download and install the Intellio Video System video management software **Client program** on both the servers and client workstations. Installing the client on the server itself can significantly ease the configuration process, as you can directly access the server services through the local client. This setup allows you to likely rule out any issues arising from incorrect network configurations.

After installing the server, check the **firewall settings**. If the firewall is enabled, ensure that the Intellio Video Server (RCServerSvc.exe) and the Intellio Video Gateway (IntellioGatewaySvc.exe) programs are granted access to the appropriate network.

6.1. Installation of Intellio Server

The **Intellio Server** is a Windows service that **runs in the background on the server** machine after installation.

If there are multiple servers in the architecture, install the Intellio Server program on each one and organize them into a SITE. Configuring a multi-server system is detailed in the **Connect more servers – Site and Domain configuration** guide.

During the server installation, enter the **IVS product key** received at the time of purchase, which determines the number of cameras the server can manage and the available features. The server can also be installed in trial (demo) mode, in which case it will be operational for 30 days, supporting one Intellio camera, one non-Intellio camera, and some IVS features.

Remember that you have 15 days to [activate](#) the **product key** from the time of server installation. After 15 days, an unactivated server will suspend its operation until activation. Use the **Intellio Activation Tool** program for activation and verification.

Installation Steps:

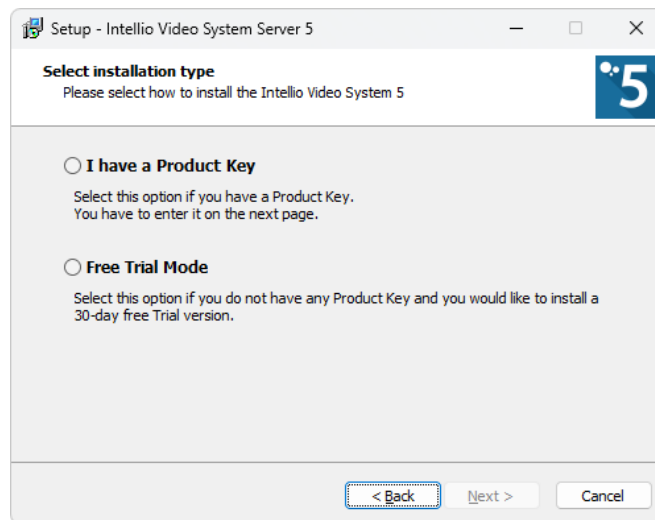
- Download the latest version of the server installer from the following link: support.intellio.eu/website/ivs5/intellio_server_5_setup_x64.zip
- Extract the downloaded file and run the **IntellioServer5Setup_x64.exe** file.
- Select the language for the installation wizard and click Next.
- After accepting the license agreement, choose the installation location (it is recommended to leave it at the default setting).
- If this is the first installation, select the installation mode.
- For product key installation, enter the **product key** received at the time of purchase.
- Select the components to install (it is recommended to perform a full installation: the Intellio Video System Gateway Server is required for mobile client playback and event browsing), and start the installation process.
- **Activate** the product using the Intellio Activation Tool within 15 days of installation. An unactivated server will shut down after 15 days and will only become operational again after activation.
- After successfully installing the Intellio Server, **restart** the computer.

6.2. Product key, software license activation

Each server must have a **Product Key**, which determines the **number of cameras the server can handle** and the **features** available on it. Product Keys (also known as licensing) are required only for servers; client programs do not require or offer this option during installation.

A Product Key can be activated only once and on a single server. If a reactivation is necessary for any reason, please notify our support team via our support system, by email at support@intellio.eu.

During a fresh server installation, the installer offers two installation modes from which you can select the one that best suits your needs.



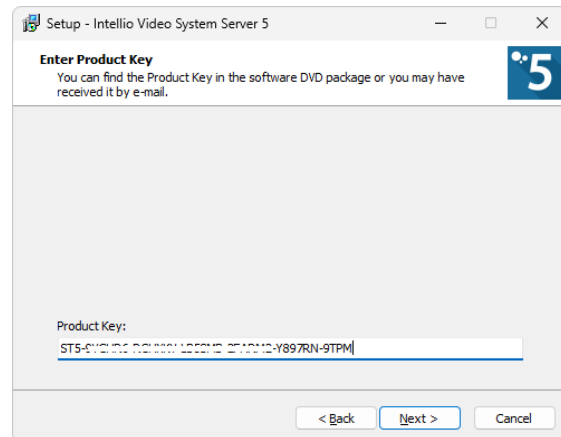
Trial Version

When selecting the trial version, the installer does not require a Product Key. In this case, the server has limited capabilities: you can test many features of the Intellio Video System with 1 Intellio camera and 1 non-Intellio camera (ONVIF, Hanwha, RTSP video stream, etc.), for a period of thirty days from installation.

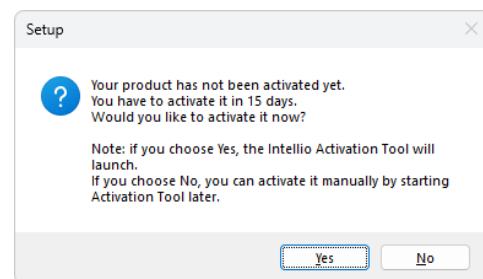
Trial versions cannot be activated; only servers with a Product Key can be activated. To continue using the trial server beyond 30 days or to add more camera licenses and features, purchase a Product Key, then follow the instructions in the subsequent sections to enter and activate the Product Key using the **Change Product Key** button in the **Intellio Activation Tool** program.

Installation with Product Key

If you have a Product Key, you need to enter or paste the key received via email during purchase. This allows the server to immediately handle the number of cameras specified by the Product Key and provide the purchased features.



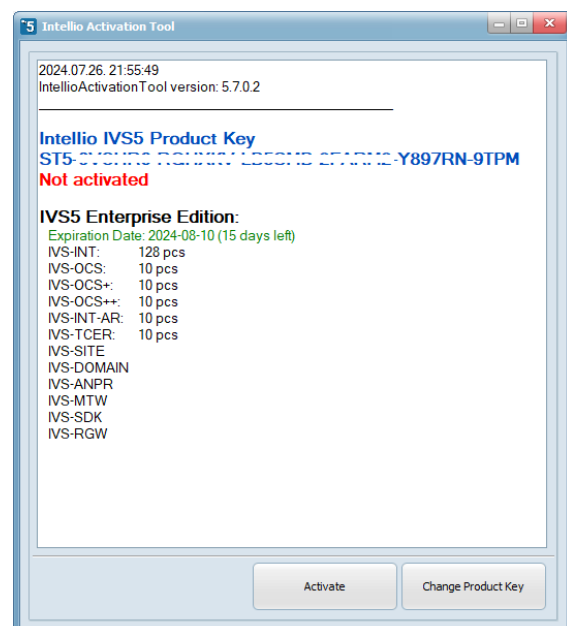
After installation, a pop-up window will alert you to the lack of activation and offer the option for immediate activation.



If you choose not to activate the program immediately, the server service installation will complete, and the server program will start running immediately after installation. You can activate the software later using the **Intellio Activation Tool** program installed during setup, and this must be done **within 15 days**. If activation does not occur within this period, the server program will stop and will not restart until activation is completed.

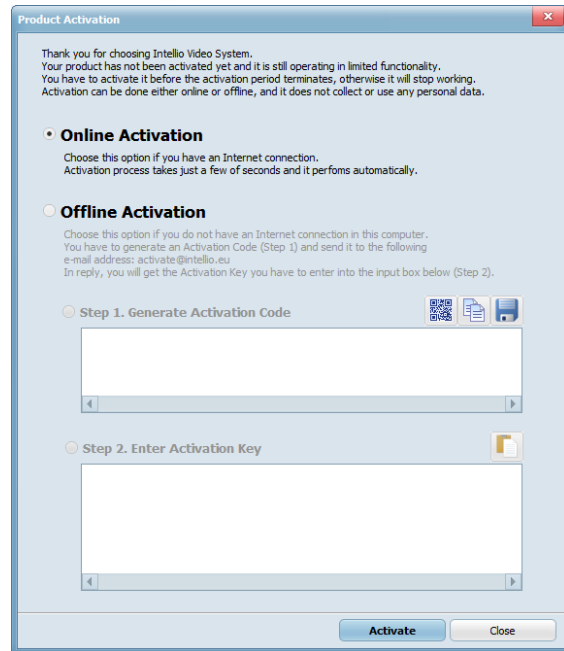
The remaining time until activation is required can be checked in the Intellio Activation Tool program and in the client program connected to the server service, under the **System Configuration / System / Site / Servers** menu, as described in later chapters.

Choosing immediate activation will automatically launch the **Intellio Activation Tool** program, which will display the previously entered product key and its details.



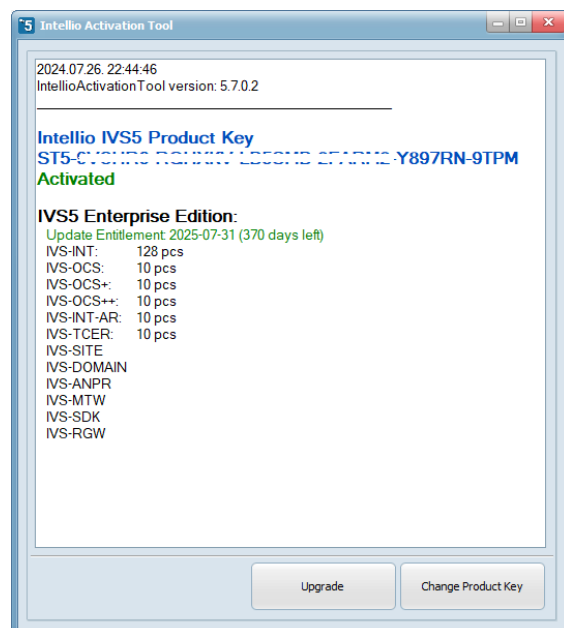
6.2.1. Online activation

Click the **Activate** button, and if the server has internet access, select the simplest method, **Online Activation**, in the window that appears, then press the **Activate** button

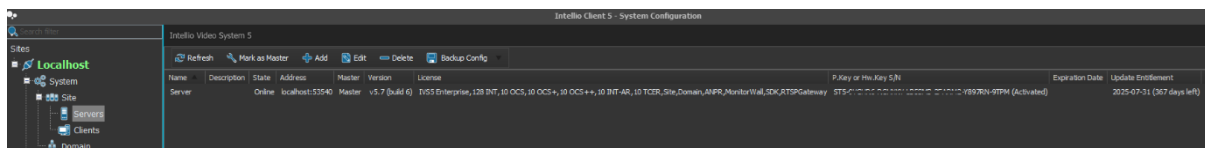


Upon successful activation, the Intellio Activation Tool program will display the activated status, the product key, the current status of associated licenses and modules, the update entitlement deadline, and will offer the option to expand the product key.

You can read about the process for expanding camera licenses or other features in the **System management** documentation.



After the server service starts, also check the activated status and the product key data in the client program, which can be found in the **System Configuration / System / Site / Servers** menu.



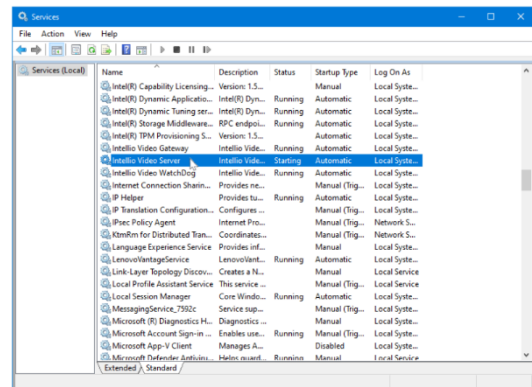
6.3. Status check of the Server operation

Since the **Intellio Server** runs in the background, it is advisable to verify the installation result and the server's status. This check can be performed using **Windows Services** or the **Intellio Agent** utility.

6.3.1. Windows Services

Checking via Windows Services:

- Select the **Start menu / Run...** command or press the **Windows + R** key combination.
- In the window that appears, type **services.msc** and press **Enter** or click **OK**.
- Locate the Intellio services (**Intellio Video Server**, **Intellio Video WatchDog**, **Intellio Video Gateway**).

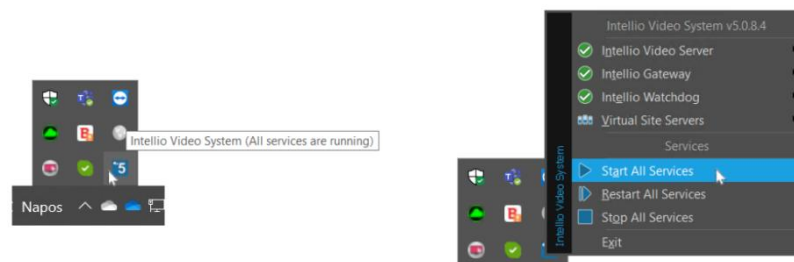


Intellio Video Server is the main server service. **Intellio Video WatchDog** is responsible for restarting the server service if it stops for any reason. **Intellio Video Gateway** ensures the handling of mobile clients.

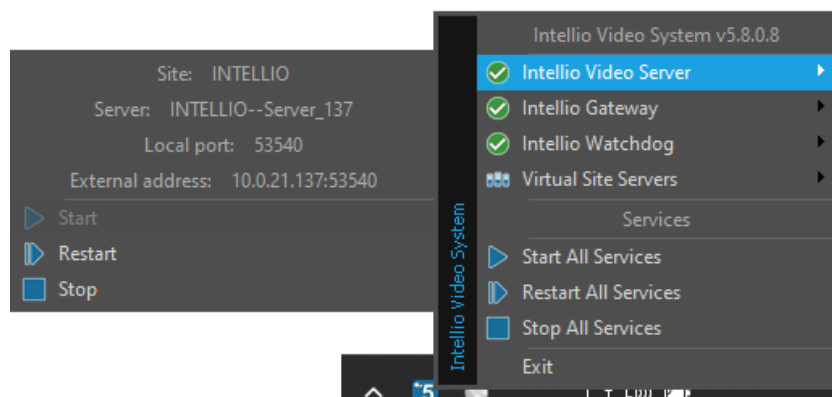
If the status of the installed services is **Started**, the system is operational.

6.3.2. Intellio Agent utility

The **Intellio Agent** utility allows you to manage the Intellio Video System services on the given machine. You can find the program's **icon in the system tray next to the clock**. If it's not visible, click the Show hidden icons button. If you still can't find it, launch it from the Start menu: Start menu / Intellio Video System / Intellio Agent. Hovering the mouse pointer over the icon will display a tooltip window with a summary of the current status of the services.






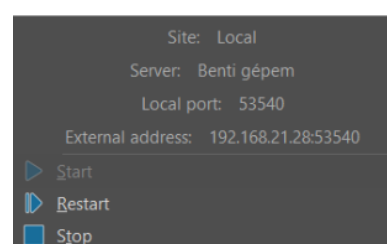
Clicking on the Intellio Agent icon brings up a pop-up window. A green check mark indicates that the corresponding service (**Intellio Video Server**, **Intellio Gateway**, **Intellio Watchdog**) is running. If additional services are installed, such as the Intellio Download Gateway, they will also appear in the list.



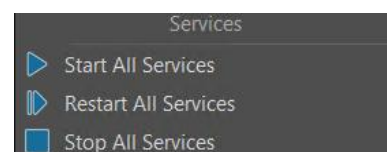
Hovering over any service opens its corresponding pop-up menu. From this menu, you can control the specific services:

In the upper section, you can view the details and key settings of the selected service. Below that, you will find the associated actions:

-  Start the service,
-  Restart the service,
-  Stop the service.



Under the **Services** menu, there is an option to control all services at once.



Virtual servers can be managed under the **Virtual Site** Servers menu. For more information about virtual servers, refer to the ***Connect more servers – Site and Domain configuration*** description.

6.3.3. Product key (software license) verification

If the Intellio Video Server service does not start, launch the **Intellio Activation Tool** program (default location: c:\Program Files\Intellio Video System\Intellio Server\Intellio Activation Tool\IntellioActivationTool.exe) and check the status of the product key. If necessary, activate the product.

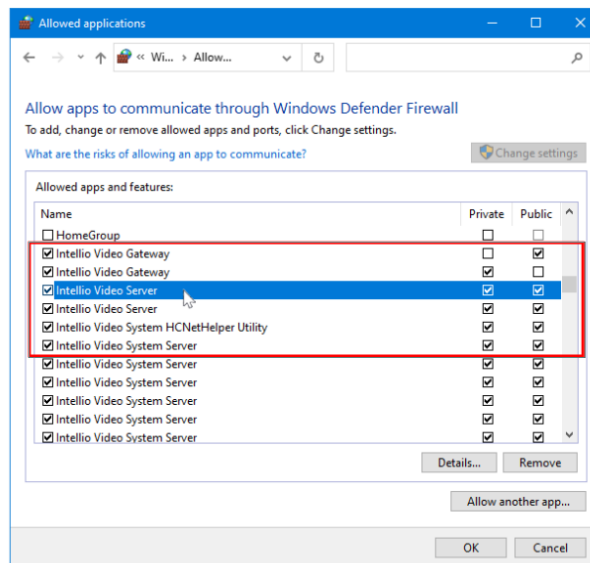
6.3.4. ErrorLog.txt verification

If the service still does not start despite activation, check the content of the **ErrorLog.txt** text file generated in the server folder (**...\Intellio Video System\Intellio Server**) and resolve the issue indicated in the file. The most common problems are IP address conflicts, improperly activated product keys, incorrect network settings (e.g., overlapping network masks, multiple link-local IPs), or configuration file corruption (insufficient server power supply leading to improper server shutdown, causing interrupted write operations).

6.3.5. Windows firewall verification

During server installation, the essential firewall rules are automatically configured. However, to ensure that the Windows firewall does not block the services, check the settings:

- Open the Start menu and select the **Run...** command (**Windows + R** keyboard combination).
- Type **firewall.cpl** and then click **OK**.
- Check the permissions for the Intellio services in the **Allow an app or feature through Windows Defender Firewall** menu.



6.4. Intellio Client installation

Install the client program on the servers and any desired monitoring workstations. The installation steps are:

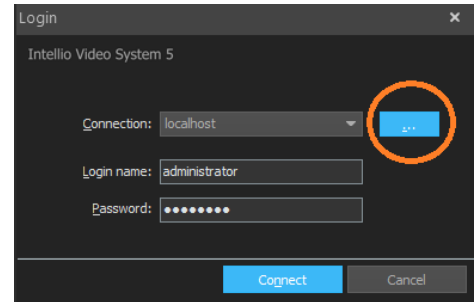
- Download the latest version of the client installer from the following link: support.intellio.eu/website/ivs5/intellio_client_5_setup_x64.zip
- Extract the downloaded file and run the **IntellioClient5Setup_x64.exe** file.
- Select the language for the installation wizard, then click the **Next** button.
- After accepting the license agreement, choose the installation location (it is recommended to keep the default setting).
- Select the components to install: by selecting **Alarm sounds**, you will install the set of alarm and other notification sounds; **Intellio Video Codec** installs the codec package needed to play exported materials; selecting **Intellio Viewer** installs the program package to help play exported recordings; and by enabling the installation of **Intellio Face Masking**, it installs the software package that allows face blurring during export. The latter requires the IVS-PRIVACY module to be available on the server(s) for operation.
- Start the installation.
- After successfully installing the Intellio Client, you can immediately launch the client program.

If needed, the Client program's **MSI installer** is available at the following link: support.intellio.eu/website/ivs5/intellio_client_5_setup_msi_x64.zip

6.4.1. Connecting to the Server and basic Client program Settings

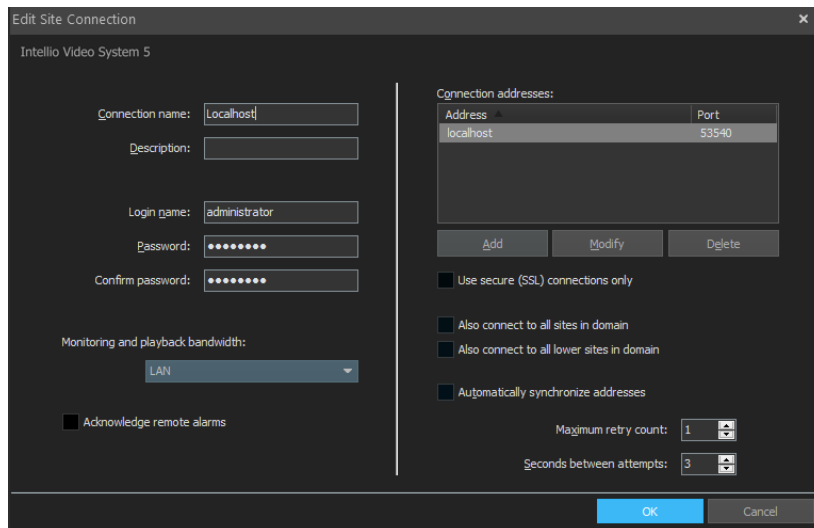
Upon launching the Client program for the first time, create a connection to the installed server:

- In the login window that appears automatically at startup, press the ... button next to the connection to be selected. The login window can also be opened from the top main menu by pressing the **Connect to a site** button. To display the main menu, click on the middle section of the client's title bar (see *Users Manual*).

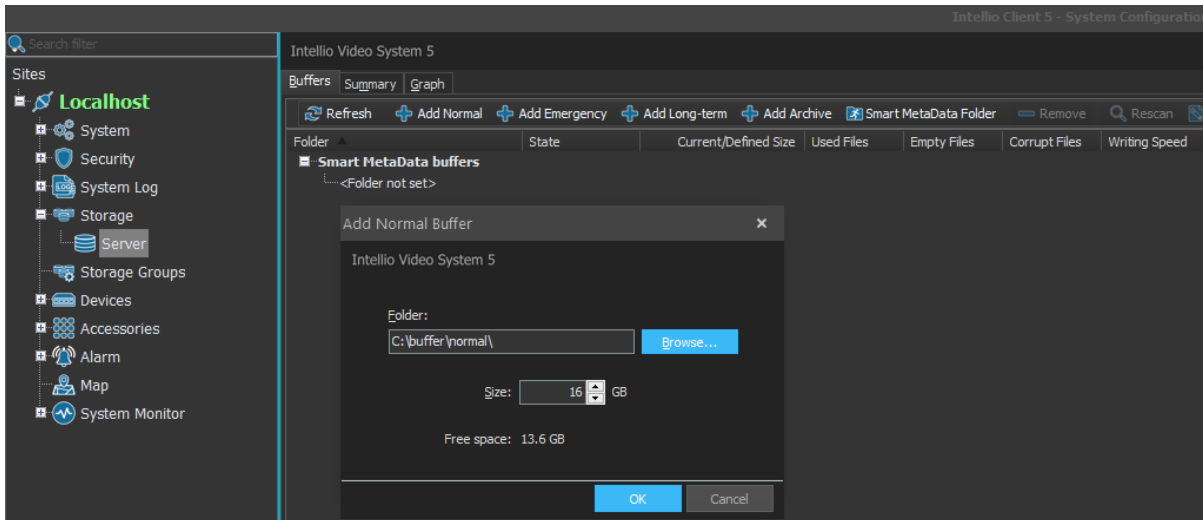


- Create a new connection to the server. When configuring the client connection installed on the server, you can easily connect to the server service by entering the **localhost** IP address. If you installed the server service and the client program on different machines, enter the specific server's IP address during the connection. If you haven't changed the server's port settings, the default **TCP port** is **53540**.

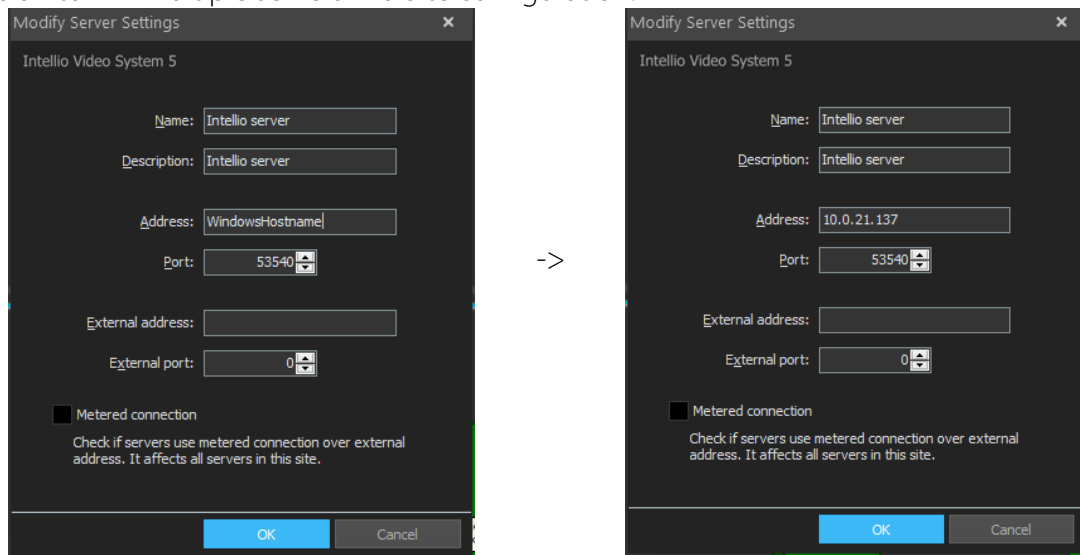
The default user name and password with full access are: **Administrator / admin**. When adding or editing a connection, you can provide the authentication credentials (username/password), which will be saved. For such connections, the system will only request any missing credentials upon connecting.



- After the initial connection to the server, the program will immediately prompt you to set up folders (**Normal Buffers**) for storing video recordings. Specify a folder and set the maximum size. The minimum size is 16GB. Storage folders can also be configured later in the **System Configuration / Storage** menu. For more information about storage, refer to the *Storage Settings* documentation.



- It is recommended to change the server address from the computer name to a fixed IP address in the **System Configuration / System / Site / Servers** menu. This helps prevent server access issues due to potential name resolution errors, especially if you plan to link multiple servers in a Site configuration.



You can find detailed information about connection settings and the client's program usage and configurations in the **Users Manual**. Below are the most important and commonly recommended tasks/settings:

- Define and enable display monitors.
- Run a GPU test (enable hardware video decoding) to ensure the workstation's video card effectively assists in displaying images.
- Enable performance optimization.

7. SSL Encryption between Servers and Clients

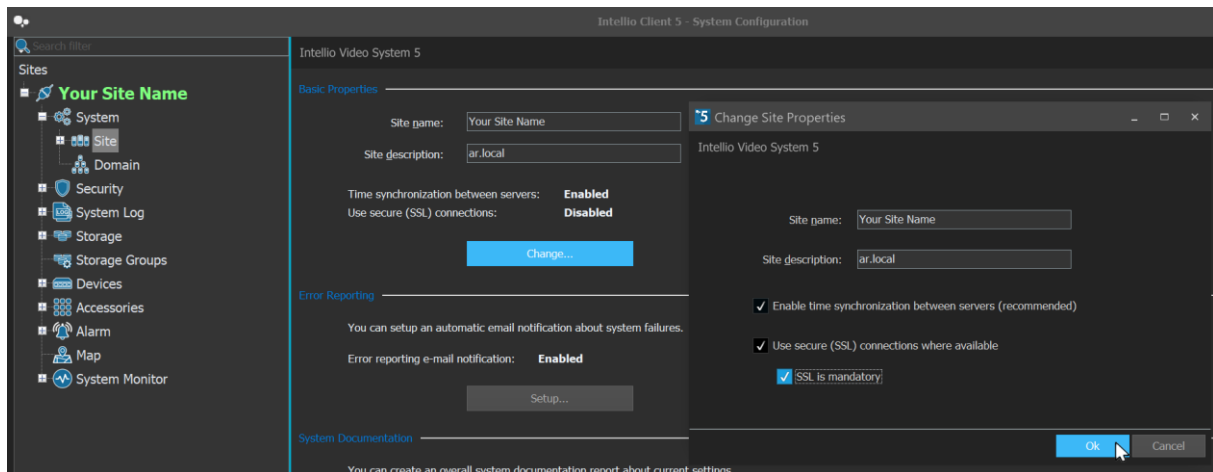
Starting from version 5.2, **Intellio Server** supports the latest standard of the SSL/TLS encryption protocol. Enabling this encryption protocol can secure the following communication channels:

- Communication between SITE servers.
- Communication between SITE servers and clients connected to the SITE.
- Communication within the DOMAIN between the SITE and other SITES.
- Communication between SITE servers and the connected Intellio Gateway.

Note that Intellio Video SDK currently does not support SSL encryption, so avoid enabling SSL if using the SDK.

The feature is disabled by default and can be enabled in the **Change Site Properties** window (**System Configuration / System / Site / Basic Properties / Change** button) by selecting the option **Use secure (SSL) connections where available**. Once enabled, SITE servers will use SSL for all available communication channels.

If the **SSL is mandatory** option is checked, all previously listed communication channels will be forced to use secure (SSL) communication.



8. Further steps

For an overview of additional system settings, please refer to the *IVS Installation manual* documentation, and continue configuring the system with other storage-related settings, as per the *Storage Settings* documentation.