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THE CLASSROOM MANAGEMENT SOFTWARE

***NET CONTROL***<sup>2</sup>

**PRO**

(PROFESSIONAL EDITION)

# INSTALLATION AND CONFIGURATION GUIDE



**Revision 5.0**

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## General information

Net Control<sup>2</sup> PRO (Professional Edition) is a classroom management software for easy controlling, monitoring and managing computers in local networks.

The software consists of three main parts – **Teacher Component**, **Student Component** and **Connection Server**.

You need to install the student component of the software on each student computer that will be managed with **Net Control<sup>2</sup> PRO** software. The **Teacher Component** should be installed on each computer that will be used to control other computers. Both components may be installed on the same computer.

**Connection Server** component should be installed on a computer in your network that is accessible by all teacher and student computers (located in the same network), will act a role of a “server”, i.e. an intermediary between students and teachers, should be always turned on (when the software is used on teacher and student computers). It is assumed that one network contains one Connection Server. Server operating system is not required, Connection Server component may be installed on any compatible desktop version of Windows.

**Teacher** and **Student Components** may be installed using one of the following methods:

- manually on each student computer, using the standard (.exe) installation package;
- deployed automatically through Microsoft Windows Active Directory/Group Policies service and using a special MSI distribution package. The special MSI package is available by request for registered users;
- deployed through Microsoft Windows Active Directory or SCCM scripts, using the standard installation package (.exe) in a non-interactive mode, pre-configured with command line parameters;
- the built-in Net Deploy tool allows centralized deployment of the software in a network with a domain, if administrator tools are enabled and several other conditions met as described below, in [Chapter O](#) of this manual.

## Hardware requirements and software environment

Microsoft Windows 7, 8.x, 10, all 32- and 64-bit editions; or Microsoft Windows Server 2008R2, 2012, 2016; or Mac OS X 10.5 and higher (the teacher module only).

Virtual Machines (Microsoft HyperV, Oracle VirtualBox, VMWare) with one of the specified above operating systems as a “guest” system.

Terminal sessions (RDP, Multipoint Server, nComputing).

1 GHz or faster 32-bit (x86) or 64-bit (x64) processor; 1 GB RAM (32-bit) or 2 GB RAM (64-bit); 100 MB of free disk space.

100/s wireless or Ethernet local network.

## A. Recommended installation strategies

The provided below sequence of installation is only a recommendation, you can change it, according to the requirements of your network and environment, where the software will be used. You can install the software in any combination of components on one computer, for example, Connection Server, Teacher and Student components may be installed on the same computer.

1. Install Connection Server components on a “server” computer. The “server” here means a computer in the local network that uses Windows operating system. Server operating system is not required, desktop editions like Windows 7 or 10 also may be used. The server computer should be accessible by all student and teacher computers in the network; we recommend to assign a static IP address to the computer, where Connection Server components are installed, though it is not required. If you use dynamic IP addressing (DHCP) for the server, you need to address it in the teacher and student module by the server’s network computer name (DNS name).

Connection Server is used in Net Control 2 Professional edition only for establishing communication between teachers and students, it does not process network traffic between these parties and therefore does not require a wide network bandwidth or high productivity CPU. As the hardware configuration for Connection Server components, we recommend to use the “recommended” by Microsoft hardware configuration for the operating system installed on the server computer.

2. After the software is installed on Connection Server computer we recommend to install **student** components of the software on student computers.
3. After the student module is installed, we recommend to create one or more teacher accounts in **Connection Server** settings, as described in [Chapter C](#) of this manual. Teacher account credentials may be necessary in the process of installation, and are required to run the teacher module.
4. Finally, install the teacher module on teacher computers.

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## B. Installation with standard installation package

To understand the basic principles of Net Control 2 PRO configuration, we recommend to read this chapter even if you are planning some other ways of installation.

The installation package is intended for installation of teacher, student and Connection Server components in any combination. The kind of installation is configured in the process of setup.

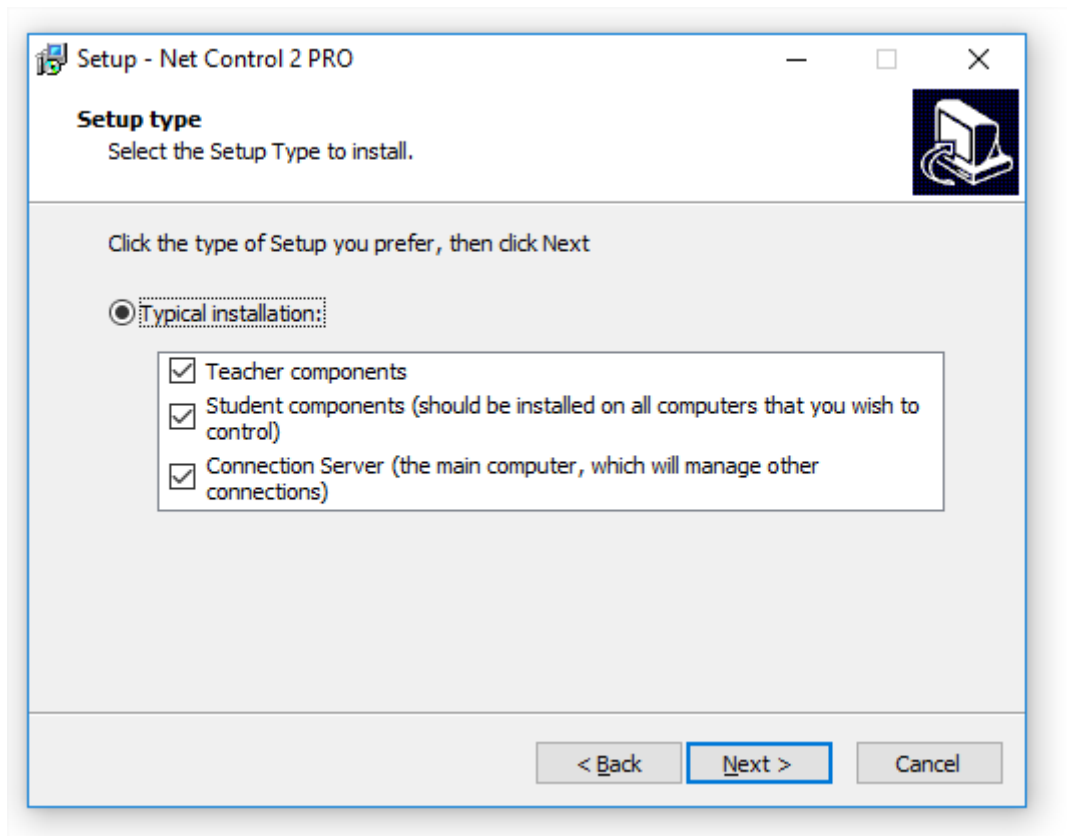
1. Run the Net Control 2 Installation Package (most often net120opr.exe).



2. Read carefully and accept if you agree the End-User License Agreement.

3. Select Components.

On the **Setup Type** page select the necessary components for installation:



- select **Teacher Components** if you are installing the software on a teacher computer;
- select **Student Components** if you are installing the software on a student computer, or if this computer should be controlled remotely from another teacher module.
- Select **Connection Server components** if you are installing the software on Connection Server computer.

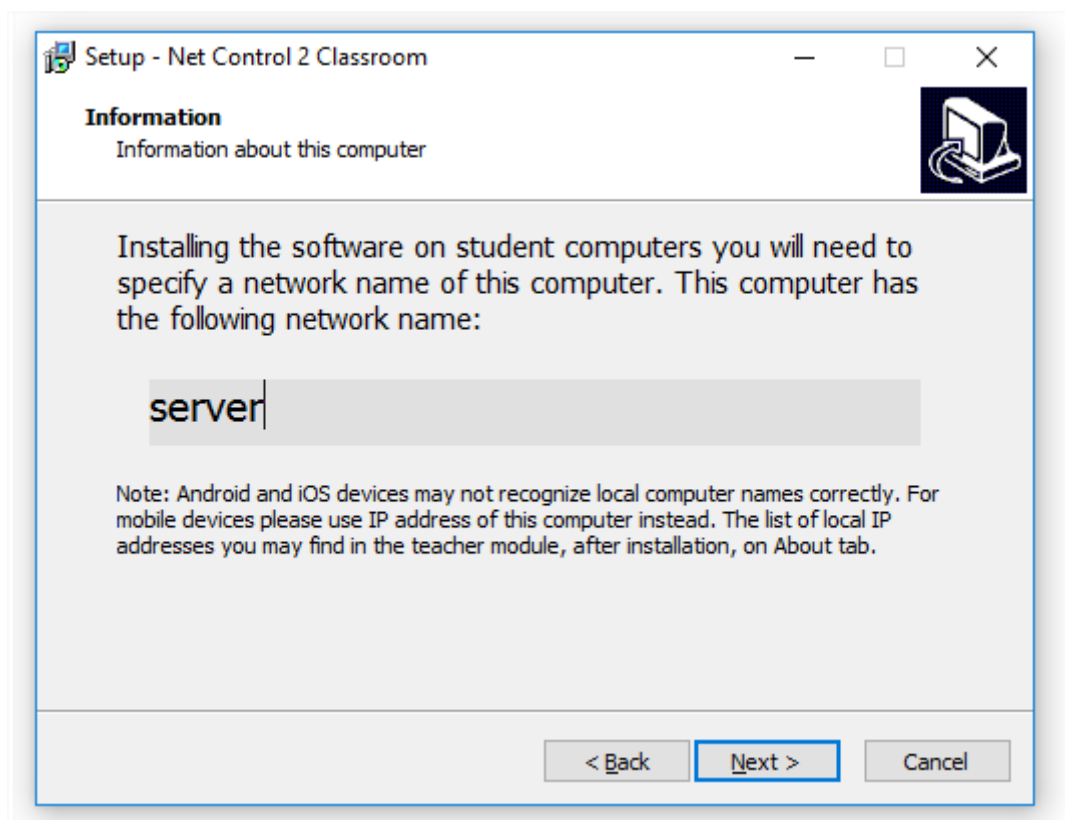
**TERMINAL SERVER ONLY:** If you are installing the software on a terminal server, one installation is necessary for all sessions of the server. Installing teacher components on a terminal server, you are making them available for all users in all terminal sessions. If you need to limit access to the teacher module from student sessions, we recommend to set up a teacher password for the teacher console after installation, alternatively you can change Windows access privileges for the teacher module file (teacher.exe file in **C:\Program Files [(x86)]\Net Control 2 PRO** folder, may be changed in the process of installation). Only one teacher module may work within one terminal server.

#### 4. Select a path to the installation folder.

#### 5. Network computer name (Connection Server installation only).

If you are installing the software on Connection Server computer, the setup program will display a network computer name for this computer:

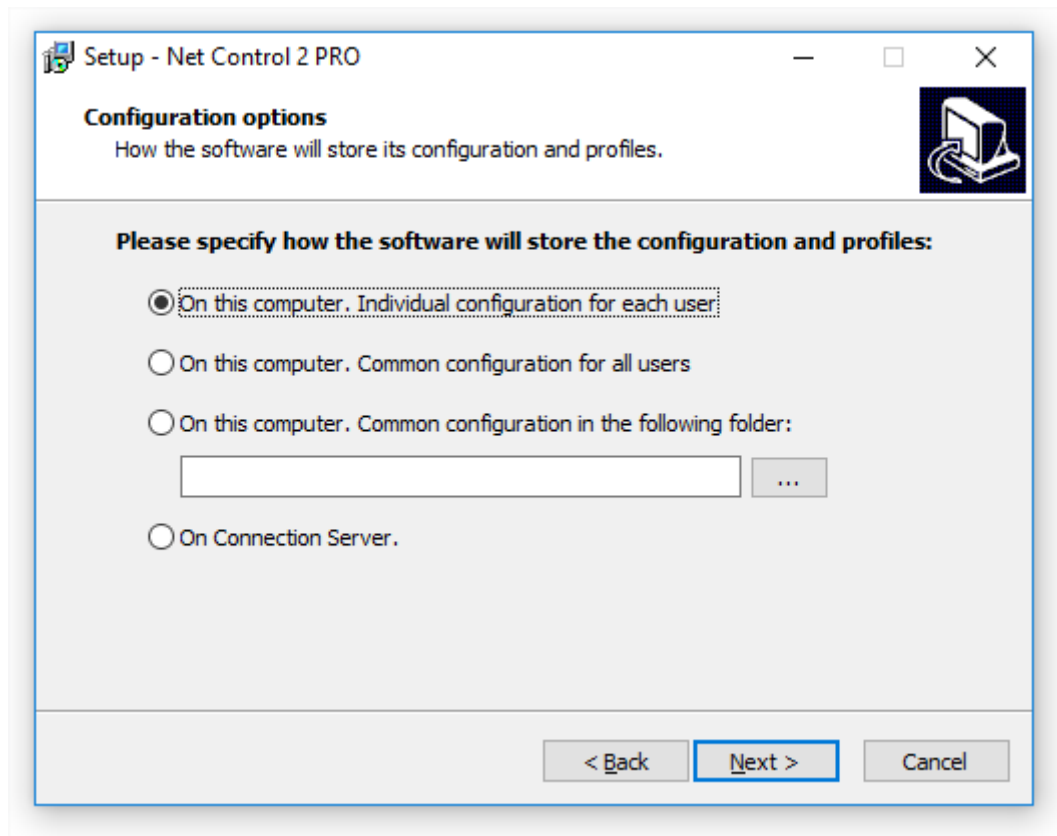




This information is provided for your reference only, but you may need it when you will install the student or teacher components of the software.

## 6. Teacher module configuration (for teacher components only).

On “Configuration Options” page you can set up how the teacher module will store its configuration:



**Individual configuration for each user of this computer** – the configuration will be stored on the computer where the software is installed, will be individual for each user of this computer and stored in a personal folder of the user, for example:

“C:\Users\[Your\_Login\_Name]\AppData\Roaming\Net Control 2” for Windows 7 and higher  
 (“C:\Documents and Settings\LOGINNAME\Application Data\Net Control 2” for Windows XP).

**Common configuration for all users**– the configuration will be stored on the computer where the software is installed, and will be common for all users of this computer.

**Common configuration in the following folder** – the configuration will be common for all users of this computer and stored in a specified folder. This option is useful if you need to keep the same configuration for teacher modules on several computers in a shared network folder.

**On Connection Server** – the configuration will be stored on Connection Server, and will be the same for all computers where this teacher account is used.

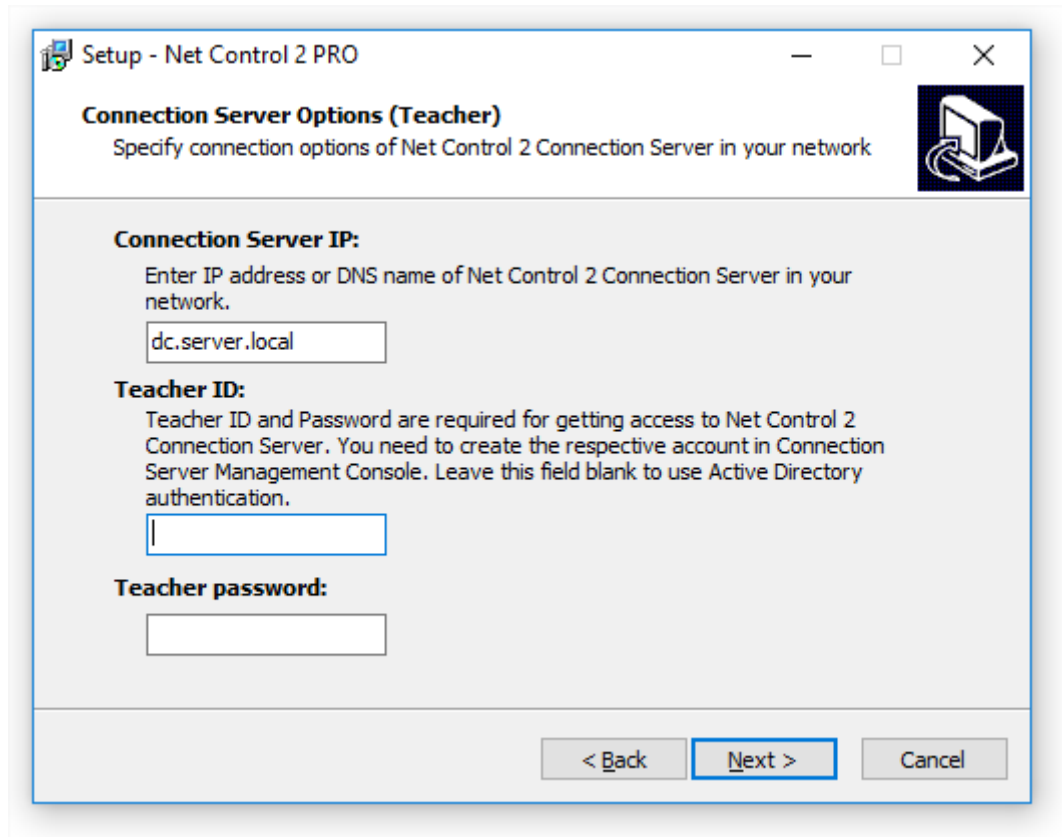
The configuration includes the workspace, connections layout, profiles and settings, and does not include Net Control 2-related documents, quizzes, avatars, journals. Documents by default are always stored in Documents folder of the current computer.

## 7. Connection Server address.

This step is available only if teacher or student components were selected for installation. The setup program will prompt for Connection Server address and credentials.

Connection Server computer may be addressed either by IP address or by network computer name (DNS name). If your Connection Server computer uses static IP addressing, we recommend to use IP address of the server. If your network uses dynamic IP addressing, but it is possible to enable static IP addressing for Connection Server computer only, we recommend to enable it and use an IP address instead of DNS name.

For **Teacher Components**:



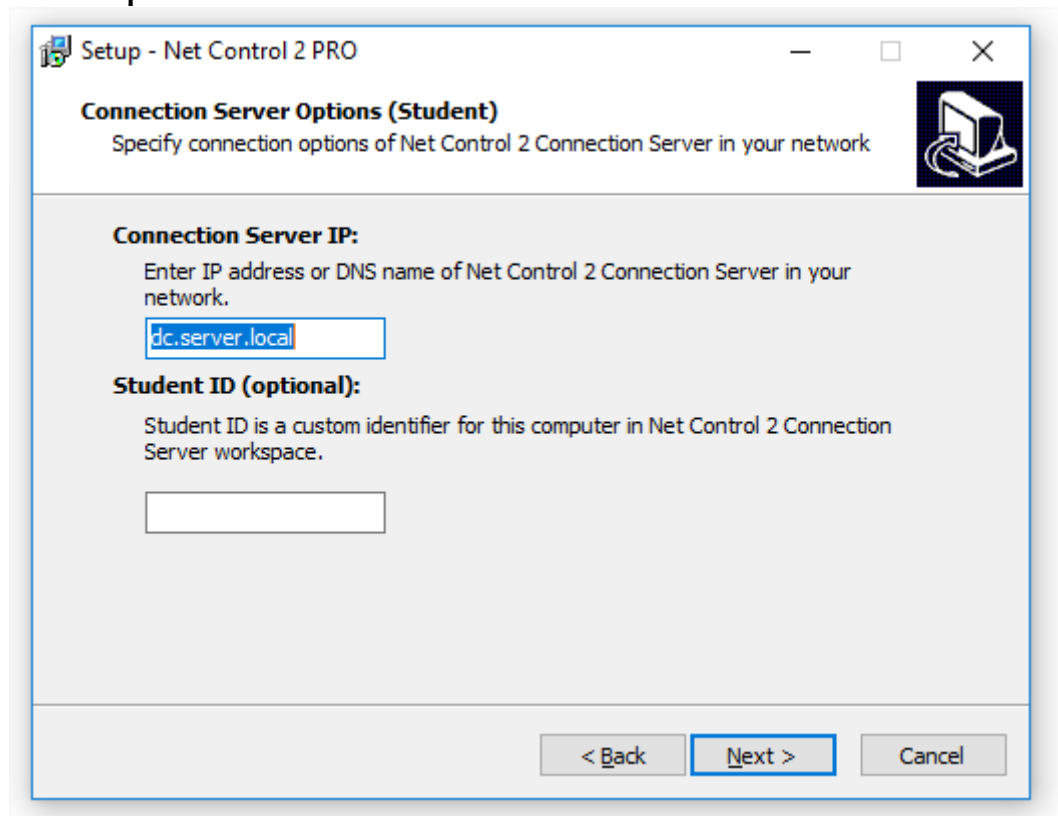
**Connection Server IP:** specify here an IP address or DNS name of a computer, where Server Component (Net Control 2 Connection Server) is installed.

**Teacher ID and Teacher password:** a login name and password of a **teacher account** on Connection Server.

Net Control 2 PRO supports custom teacher accounts and authentication by Windows accounts. Custom teacher accounts should be set up in Connection Server Management Console as described in [Chapter C](#), before installation of the teacher components. You can leave this field blank and specify the teacher account credentials later, in the teacher module directly (in the teacher console use the main menu command **N – Options – Options; Connections** page).

Alternatively, instead of using custom teacher accounts, you can use Windows authentication, when teachers are authenticated in Net Control 2 Connection Server by their Windows login names, in this case you need to leave **Teacher ID** and **Teacher Password** fields blank. For more information about teacher accounts please refer to [Chapter C](#).

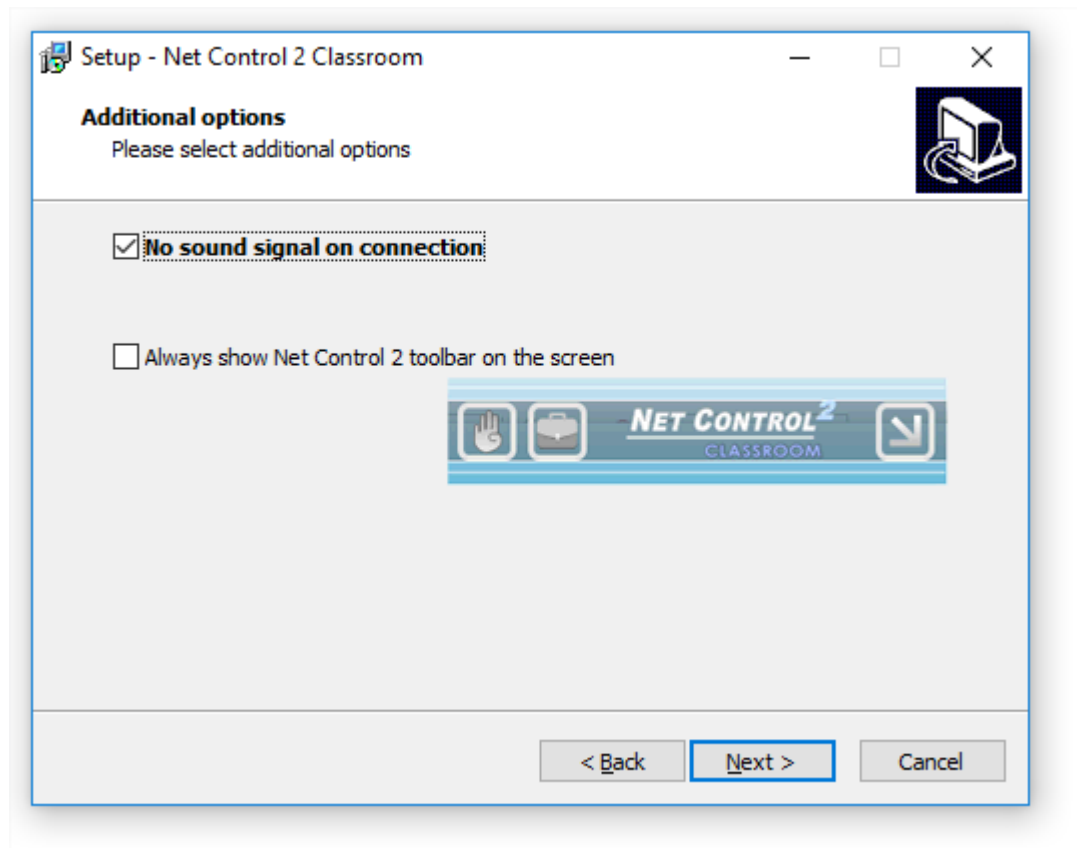
For **Student Components**:



**Connection Server IP:** specify in this field an IP address or DNS name of the computer, where Connection Server is installed.

**Student ID (optional):** a custom identifier for this student computer or a group of student computers. We recommend to use the same Student ID for a group of student computers (a classroom, for example) for further building groups on Connection Server referencing computers of the group by Student ID.

## 8. Additional options.



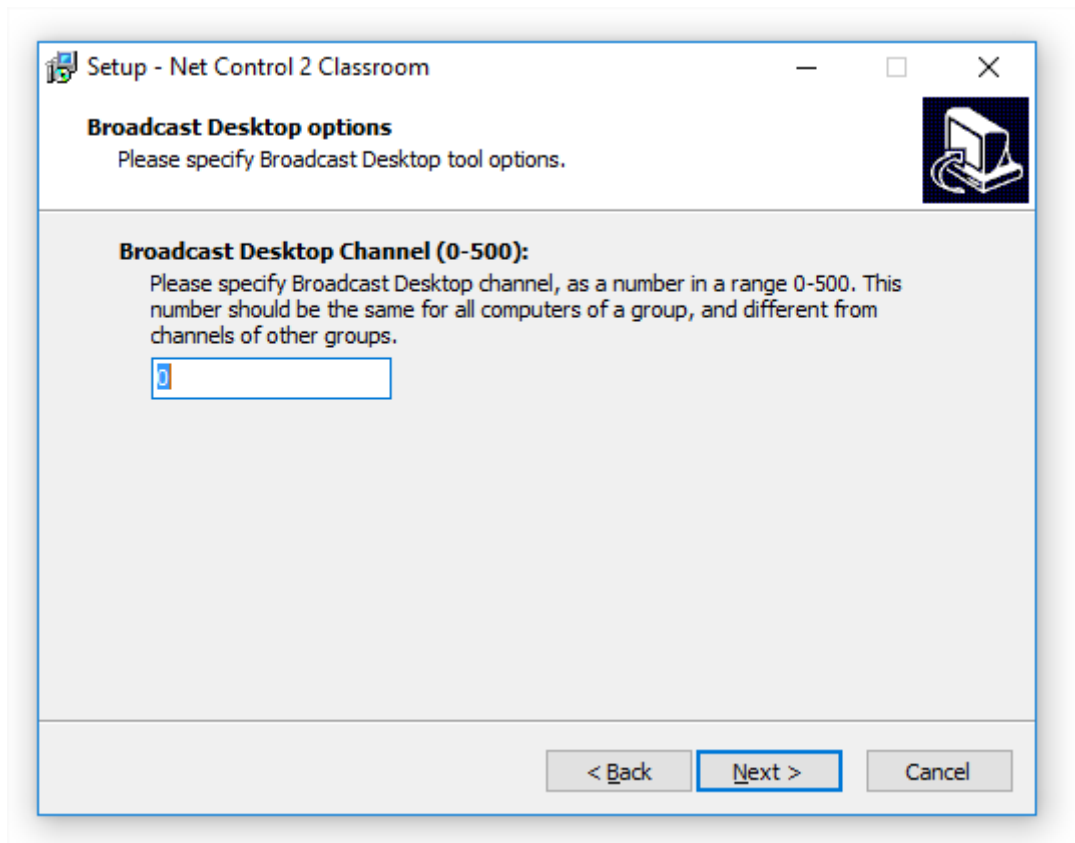
**No signal on connection** – when it is not enabled, the student module will alert with a sound signal and text notification when a teacher computer is connecting to it. Enable this option to suppress the sound signals and leave text notifications only.

**Always show Net Control 2 toolbar on the screen** – when enabled, the student module will display Net Control 2 Student Module toolbar on a screen of the student computer. The toolbar **is always present** on the screen as a popup window in the top area of the screen. The toolbar provides quick access to “Raise hand” and “Lesson Resources” features of the student console, as also quick access to Student Console itself.

#### 9. Broadcast Desktop options. (The teacher module installation only).

Broadcast Desktop tool by default uses special multicast protocols for sending data over network to multiple recipients, this allows keeping a minimum bandwidth use, but makes possible an interference between several teachers, broadcasting on the same network port over the same network.

To exclude the possible interference, you need to set up a unique broadcast desktop channel for each teacher module. If you have only one classroom in the network, the default value may be used.



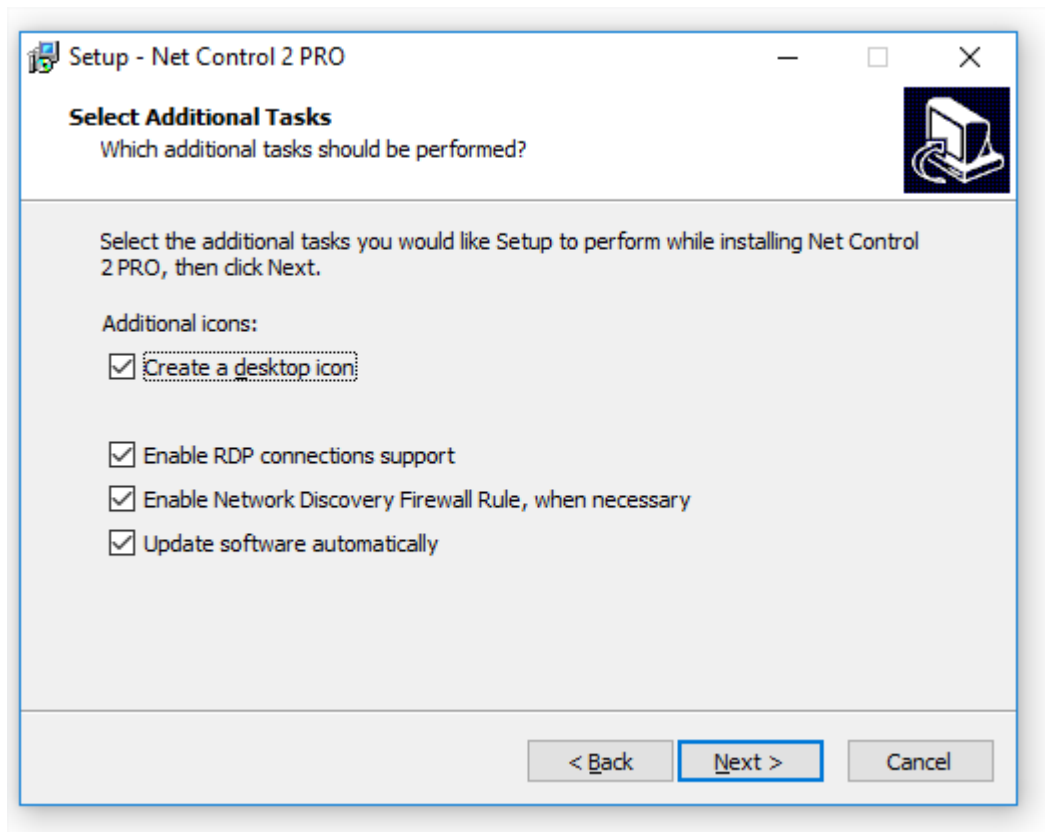
The broadcast desktop channel is a number from 0 to 500 that will be internally mapped then to a unique network port to guarantee that only one teacher uses this network port number at a time.

You need to set up Broadcast Desktop Channel for teacher module installation only.

After installation, you can change the channel and other broadcast settings in the Teacher Console, clicking the main menu command **N -> Options -> Control Options**; on Control/Broadcast page.

## 10. Additional tasks and options.

The set of options may vary depending on teacher or student module installation.



**Enable RDP connections support** – enabled by default, recommended. When enabled, the student module will support both console (real) and terminal (remote) login sessions. Each user login session will be displayed in the teacher console as a separate connection (“computer”). This option is required for use with Terminal server or nComputing connections. Disable this option if RDP sessions should be invisible in the teacher console.

**Enable Network Discovery Firewall Rule** – enables the Network Discovery rule of Windows Firewall in Windows 7 and higher. This rule is required for connectivity between computers in a local network and is enabled by default for “private” and “work” network profiles of Windows Firewall.

**Update software automatically** – enables automatic update of the software over the Internet. When enabled, Teacher Component will check the update server every 14 days for available updates, download, and install them automatically when necessary. This feature is available in the software for registered users only.

### 13. Restart the computer after installation.

## C. Connection Server Management Console

### Connection model

**Net Control 2 Professional Edition** uses the client-server connection model, which requires creation of a special connection server in the network (“Connection Server”). This server acts as

an intermediary between student and teacher computers, and helps the software to operate more effectively in large networks, which consist of several VLANs.

Each student computer may belong to one or several groups (e.g. classes or classrooms); to create groups, assign student computers to groups, as also to manage teacher accounts, Connection Server includes special Connection Server Management Console program.

If a student computer was assigned to neither group, it becomes a member of the group “Default”.

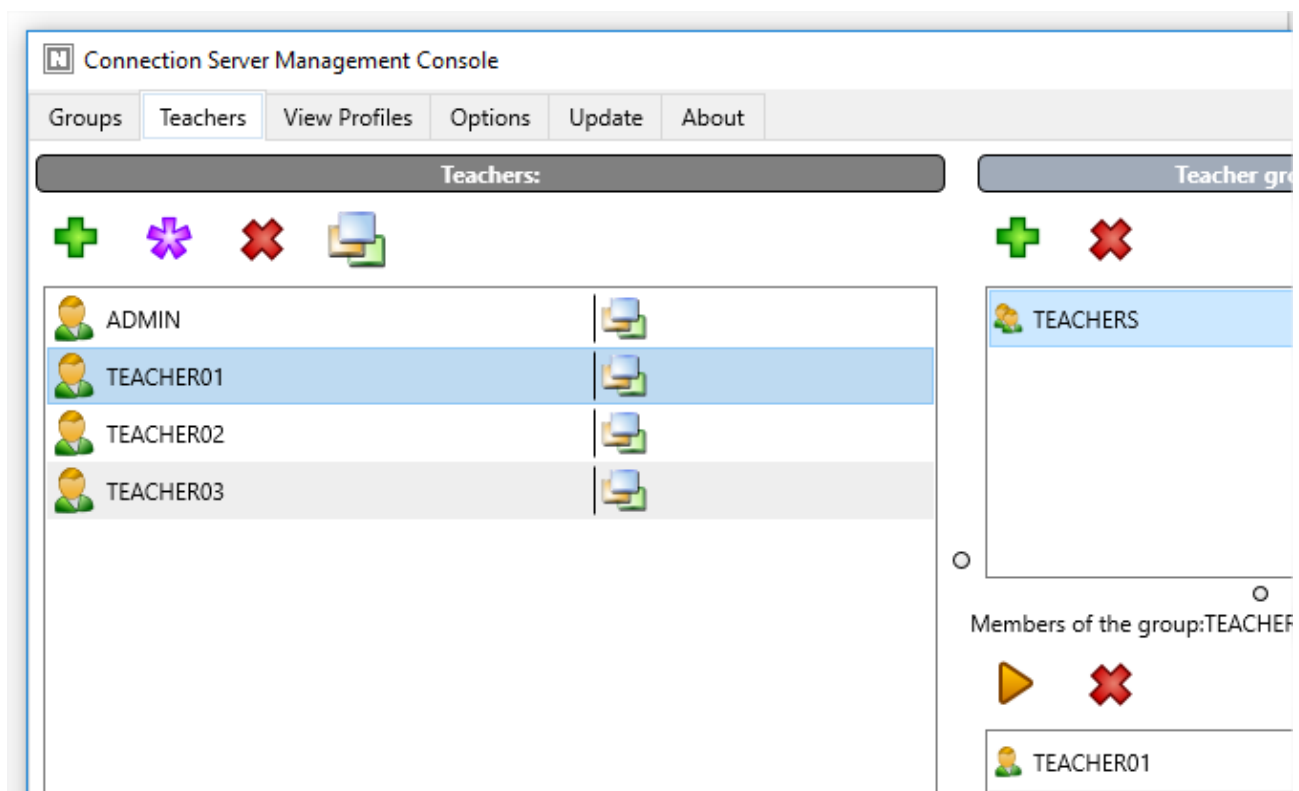
Each student computer may be connected to several teachers at a time.

Before installing and setting up teacher and student computers we recommend to install Connection Server components on a server computer or a computer that will act as a “server” in the network. Connection Server component does not require a server operating system, may be installed on desktop versions of Windows (please see [Hardware Requirements](#) chapter).

### Teacher accounts.

For security reasons, all teachers connecting Connection Server computer must be authenticated. Therefore, before using the teacher module you need to create one or several teacher accounts that will have access to the server.

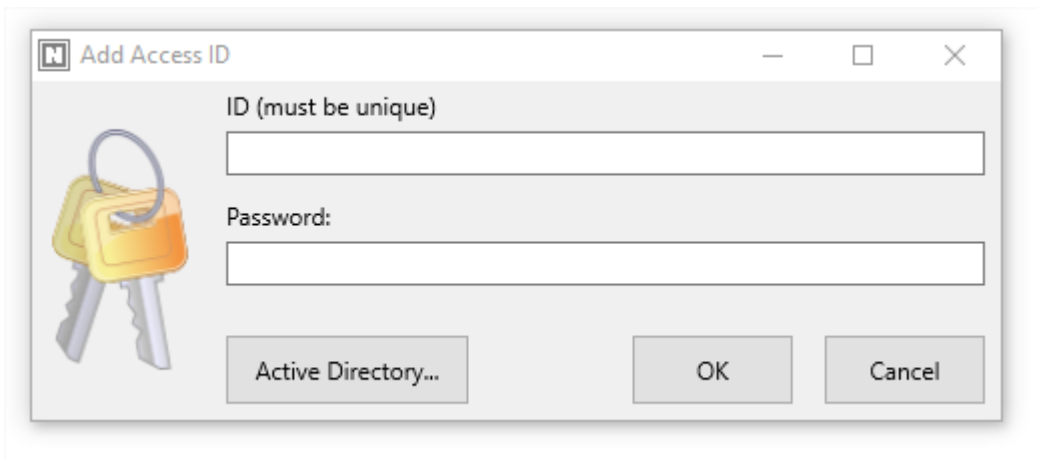
On Connection Server computer, open **Connection Server Management Console**: click Windows Start menu command **Start -> All Programs -> Net Control 2 PRO -> Connection Server Management Console**



On **Teachers** tab of Connection Server Management Console window, at left pane



(“Teachers”), click **Add** button to create a new teacher account.



At this step, you can create *a custom teacher account*, providing some teacher ID and password; or choose *a Windows user account* from Active Directory database.

For Windows-based authentication you can use user accounts and user groups.

We strongly recommend using Windows logins for authentication on Connection Server only in networks with a domain, if Active Directory services are enabled on all teacher and connection server computers.

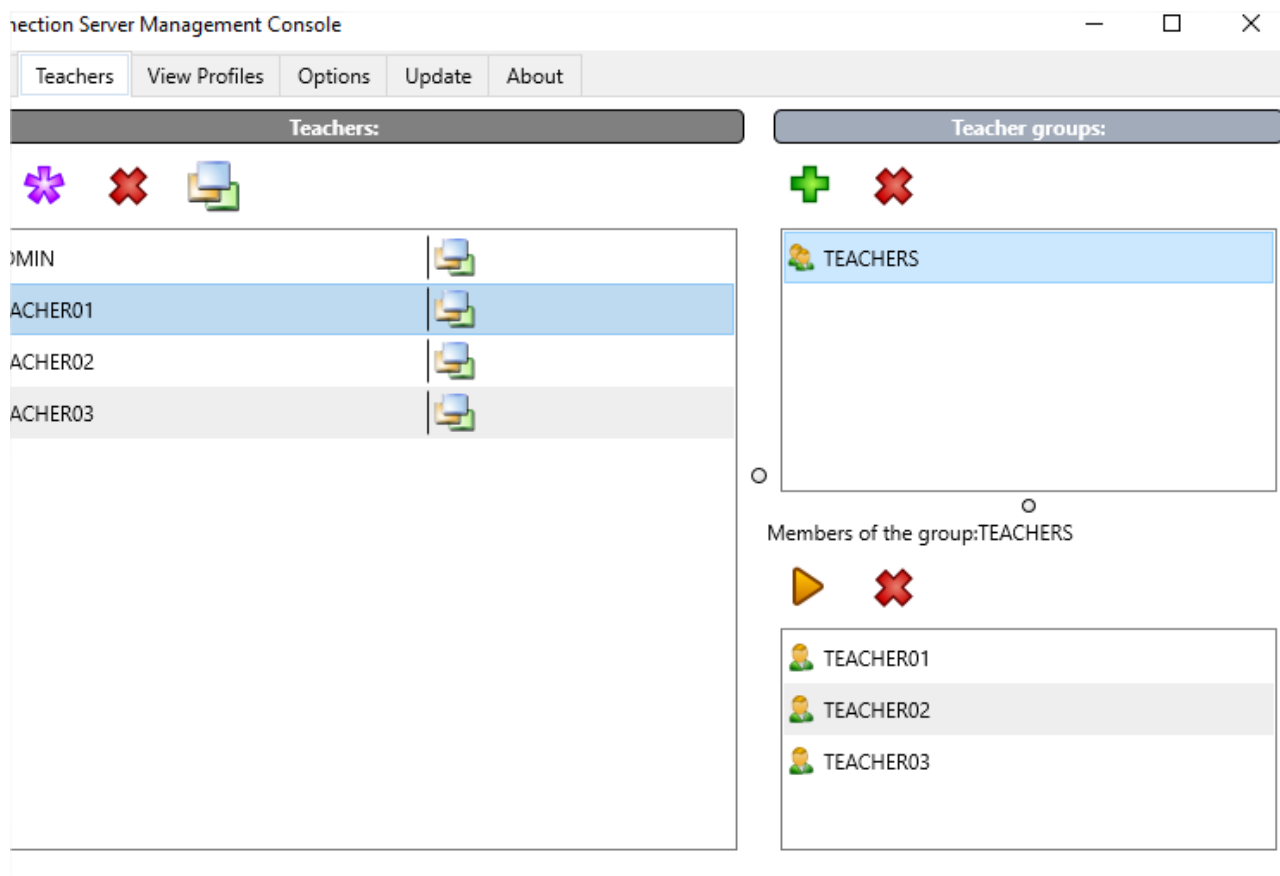
For networks without a domain we recommend to create a custom account for each teacher that will be connected to NC2 Connection Server.

Adding a Windows user group to teacher accounts, you are allowing all members of this group access Connection Server as teachers. Only explicit members of the group are allowed: for example, a user, a member of Active Directory user group A, which (the group) is a member of a group B, will not be allowed to access Connection Server, if only group B is added to the list of teachers.

## Teacher groups

Optionally, on the same Teacher tabs, on **“Teacher Groups”** pane you can manage teacher groups.

Teacher groups join several teacher accounts, providing a common alias for all these accounts. Teacher groups may be used on Groups tab for setting up teacher access privileges to individual Net Control 2 groups; teacher groups do not have passwords and therefore cannot be used for authentication of the teacher console.

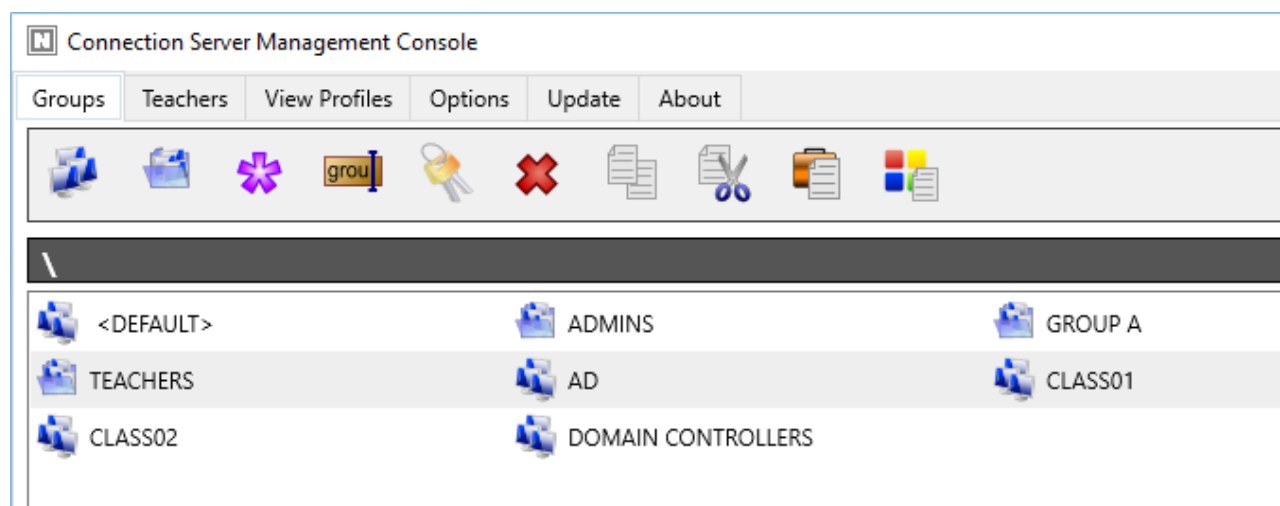


To create a teacher group click **Add** button in Teacher Groups section. To move teacher accounts to this group, select the group in Teacher Groups list; then select teacher accounts at left pane and click **Add** button in “Members of group” section of right pane.

## Groups

On Groups tab of Connection Server Management Console, you can manage groups. A group contains a list of student computers or users. Groups may be placed to *containers*, making possible to organize a nested structure of groups.

A special “<Default>” group includes all students connected to this connection server.



The top toolbar provides access to the following functions:

**Add group** – adds a new group in the current container and opens Group Editor.

**Add container** – creates a new container. Containers are equivalent of folders in Windows file system, e.g. you can open containers and add new groups there.

**Edit** – modifies currently opened group.

**Rename** – renames the selected group or container.

**Access permissions** – changes access permissions for a selected group. By default, all teachers have read access privileges to new groups, can open them in the teacher console.

**Delete** – deletes a group or container.

**Copy** – copies selected groups to the Clipboard;

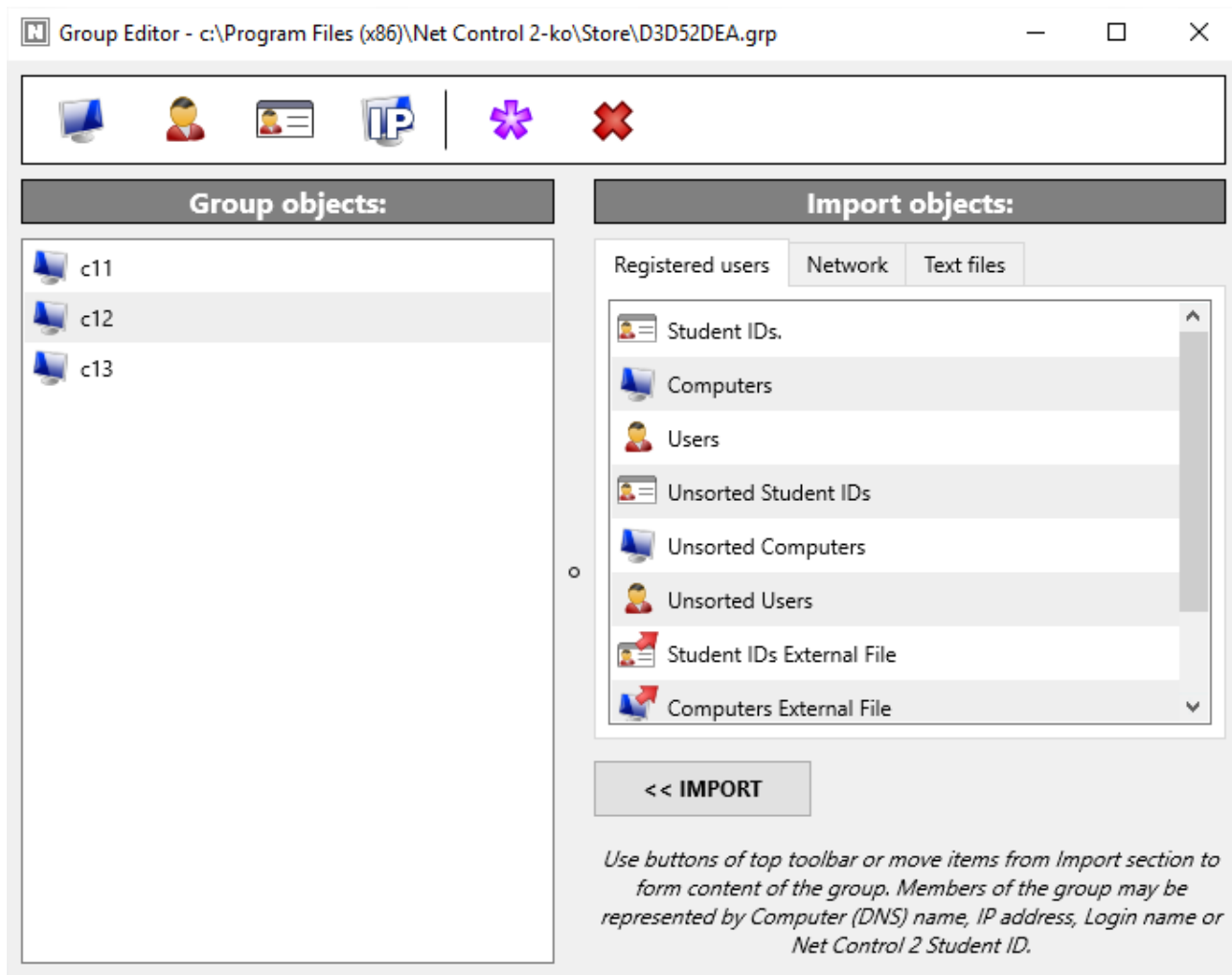
**Cut** – cuts selected groups to the Clipboard;

**Paste** – inserts selected groups from the Clipboard.

**Import from Active Directory** button provides a simple way of importing computers from Active Directory Organizational Unit database.

## **Group Editor**

After clicking **Add group** button on top toolbar on *Groups* tab of Connection Server Management Console, and specifying a name for the new group, you are switching to **Group Editor** window, where you can add members of the group.



A group may consist of:

**computers**, addressed by a DNS name, IP address or a custom Student ID parameter  
or  
**users**, referenced by their login name.

**To add an item to the group**, click a respective button on the top toolbar:

**Computer name** – adds a new connection to the group referenced by the computer (host) name.

**User name** – adds a new connection to the group referenced by the user login name, i.e. once a user is logged in on any student computer under the specified login name, this computer becomes a member of the group (while the user is logged in).

**IP address** – adds a new connection referenced by IP address.

**StudentID** – adds a new connection referenced by *StudentID* parameter. StudentID is an optional identifier, which may be assigned to student computers in the process of installation, or in the student module settings. One, the same Student ID may be used for several student computers, in this case, all computers that have the same Student ID will be placed to the group.

**Rename** – renames the object selected.

**Delete** – deletes the object selected from the group.

To simplify the process of group creation you can also use import tools placed in Import section (right pane):

**Registered users** tab contains list of objects (StudentIDs, Computers and Users), which were connected to the Connection Server earlier. To add objects to the group, select them and drag-drop to the left pane.

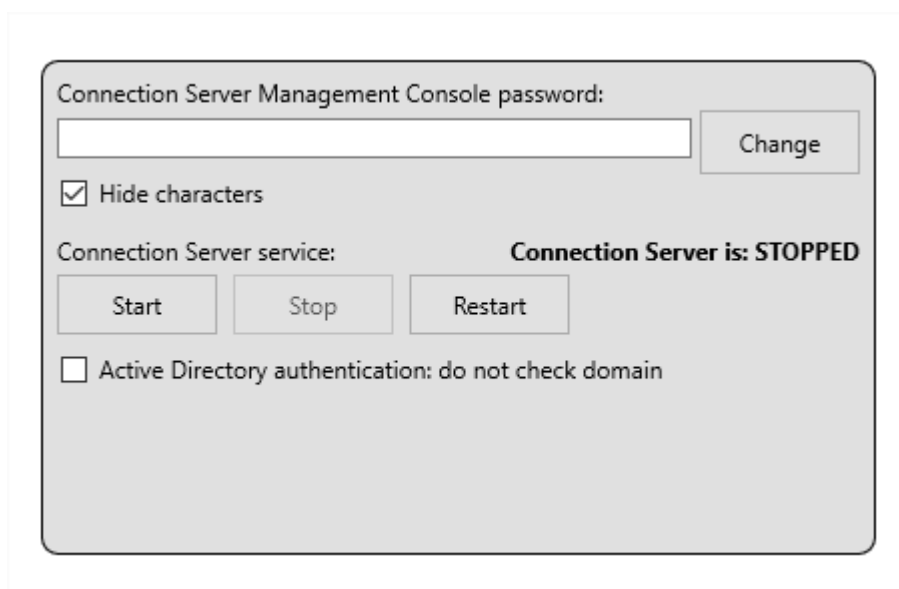
**Student IDs External File, Computers External File, Users External File and IPs External File** items may be used to link the group with some text file. In this case the group members of the specified type will be loaded from the text file right after connection server start up. For example, using this feature you can form dynamic groups using external scripts, where the script creates groups based on some necessary algorithm.

**Network** tab – provides access to the Network Neighborhood. To import computers from this list to the group drag-drop them to the left pane.

**Text files** tab – here you can open any text file and import elements of the file to group.

Close Group Editor to save changes.

### Options tab



**Management Console Password** field enables password protection for opening Connection Server Management Console on this computer.

Here you can also manage Connection Server service and obtain current status of the service: click **Start** button to start the service, **Stop** button to stop the service and **Restart** button to restart the server.

**Active Directory authentication: do not check domain** option enables authentication of teachers by login name part only, omitting the domain name part, where this login account is

created. For security reasons, we strongly recommend to use this feature for special cases only, when teachers may belong to different domains or domains and workgroups at the same time. **The recommended value for this option is disabled.**

---

## D. Licensing

In order to use the software in your network you need to register and activate it after installation.

For Professional Edition, the registration and activation may be done on Connection Server computer in Connection Server Management Console.

To register the software:

- open Net Control 2 Connection Server Management Console;
- on **About** tab click **Register** button and enter your registration information.

Teacher and student computers will be registered automatically.

If you had some Registered User License and upgraded it then to some other (larger) license, to reset your previous registration:

- open Net Control 2 Connection Server Management Console;
- on **About** tab click **Re-register** button;

**Important!** After registration and activation please restart the Connection Server service in order to apply changes to the service. To restart the service use **Options** tab of Connection Server Management Console, or standard **Services** console of Windows Control Panel.

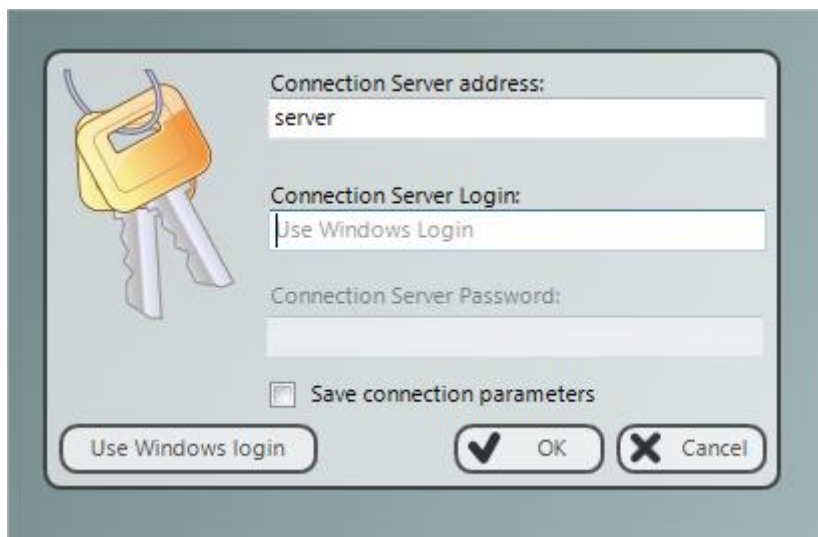
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## E. The teacher console – first start

To run the teacher module use Net Control 2 PRO icon on Desktop or in Start menu – All Programs – Net Control 2 PRO folder.

### 1. Teacher login credentials.

If Connection Server address and login credentials were set up in the process of installation correctly, the teacher console appears; otherwise, if credentials were not provided or are incorrect, the following prompt may appear:



In this case, in **Connection Server address** field you need to enter an IP address or DNS name of **Connection Server** computer (where Connection Server components were installed).

In **Connection Server login** and **Connection Server password** fields you need to specify credentials of the teacher account, created in Connection Server Management Console (please see [Chapter C](#)); or leave these two fields blank if you are using *Windows authentication* (authentication based on the user logon information in Windows operating system) .

Enable “**Save connection parameters**” option to save the entered credentials for further automatic authentication.

**If you still cannot log in to Connection Server** with the entered information, and the prompt does not disappear, please check that:

- In Connection Server Management Console, on About tab, please verify that your license information is correct, valid and not expired. If you just have registered Connection Server, please reboot the server computer in order to apply changes.
- Verify that Connection Server address or computer name is specified correctly, try to use an IP address instead of a DNS name of the server, to exclude possible DNS resolution issue;
- Verify the teacher account credentials, if you use Windows authentication model, please try to create a custom teacher account in Connection Server Management Console on Teachers tab and try to use it for the authentication;
- Verify that Net Control 2 Connection Server is running on Connection Server computer, and port 21037 is not blocked by a network firewall.

The teacher login credentials may be changed at any moment in the teacher console, by clicking the main menu command **N -> Options -> Options:**

On Connections page, you need to set up:

**Connection Server IP address/DNS name** – IP address or host name of Connection Server computer, where the server components are installed.

**Connection Server Login** – the Teacher account ID, as provided in Connection Server Management Console (described above in p. 2 of this chapter).

**Connection Server Password** – the Teacher account password.

Click **Change** button.

The screenshot shows the 'Options' dialog box with the 'Connections' tab selected. The left sidebar contains a tree view with the following items: Interface, Connections (selected), Commands, Control/Broadcast, Hot keys, Right Panel, Update, and Advanced Options. Below the sidebar is a large gear icon. The main area of the dialog contains the following settings:

- Connection Server:**
  - IP address/DNS name:
  - Port:
- Connection Server Login:**
- Connection Server Password:**
- Buttons:**
- Checkboxes:**
  - ☐ Ask for Teacher Name and Password at startup
  - ☒ Enable user-initiated connections (Self-Registration)
- Classroom name:**
- Bottom checkbox:** ☒ Send Wake-up signal on group entry (computers should be connected at least once before)

At the bottom of the dialog, there is a footer area with the following text:

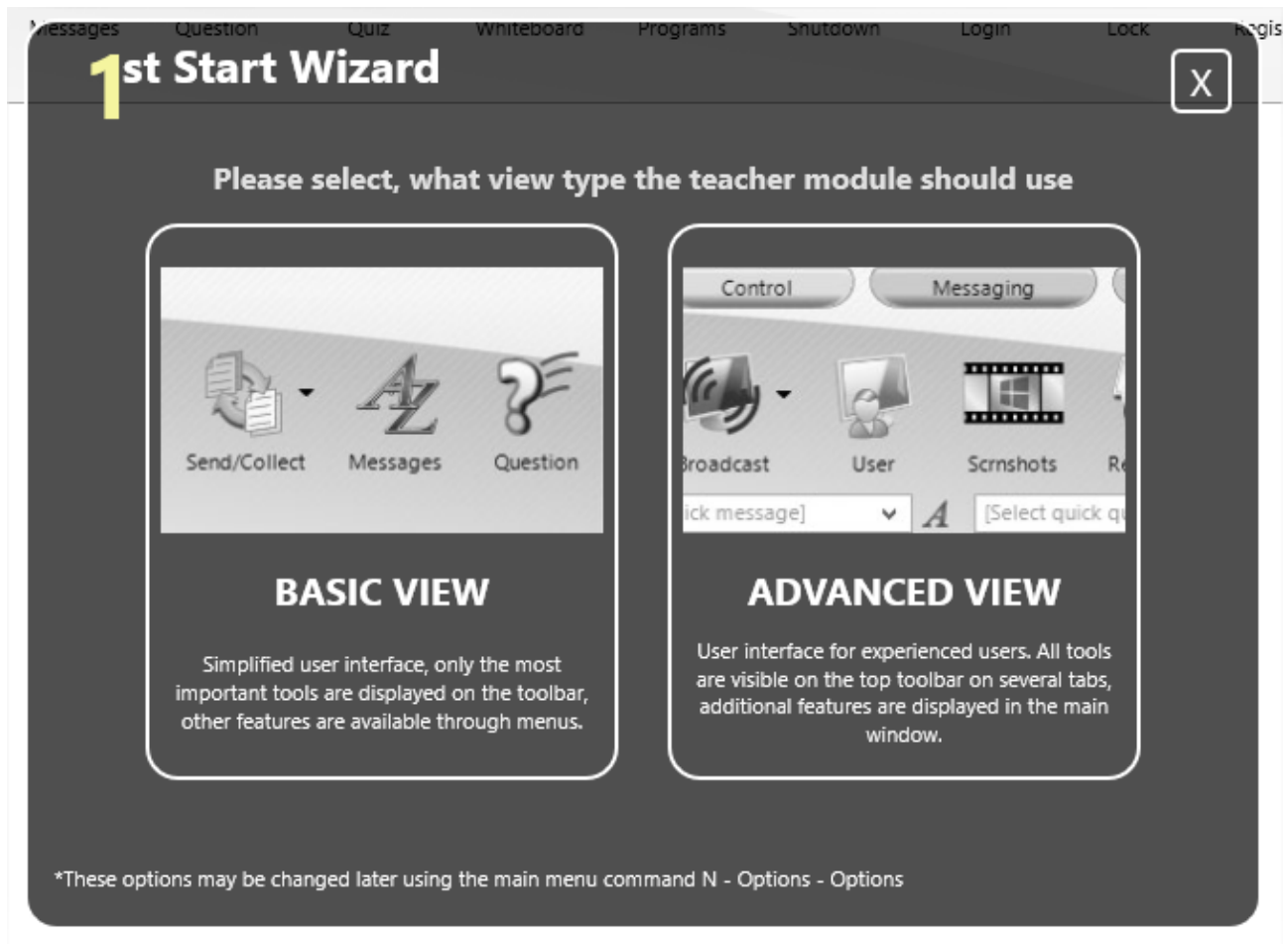
- \* - administrative privileges in the system are required
- \*\* - changes will be applied after restart of the program

On the right side of the footer are two buttons:  and .

## 2. First Start.

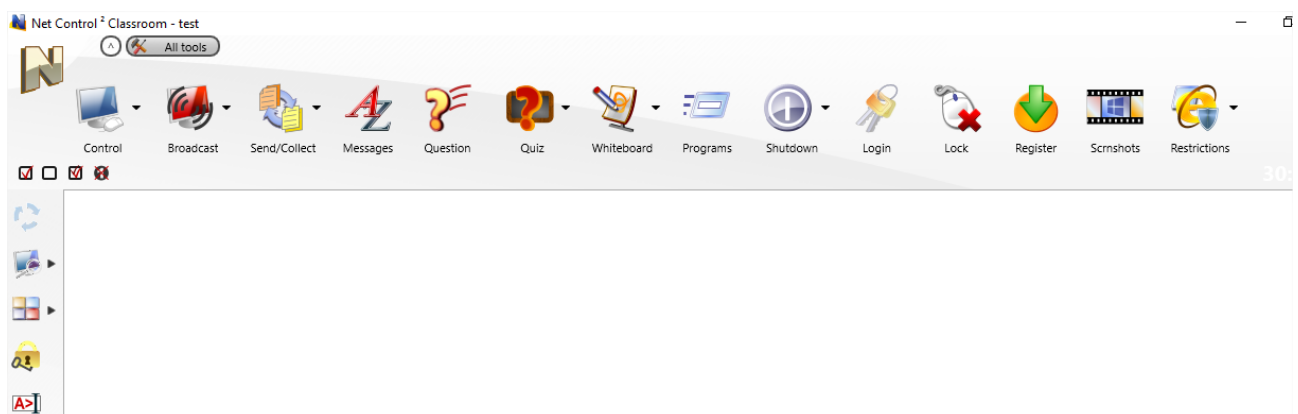
After login, at first start, the teacher module will prompt you to choose the User Interface type: Basic View or Advanced View.





When the **Basic View** mode is selected, to simplify the user interface, the teacher module will hide several tools on the top toolbar and turn off several administrative features. The hidden tools are still available through a special **All Tools** button and in the main menu (**N – All tools**).

The top toolbar in **Basic View**:

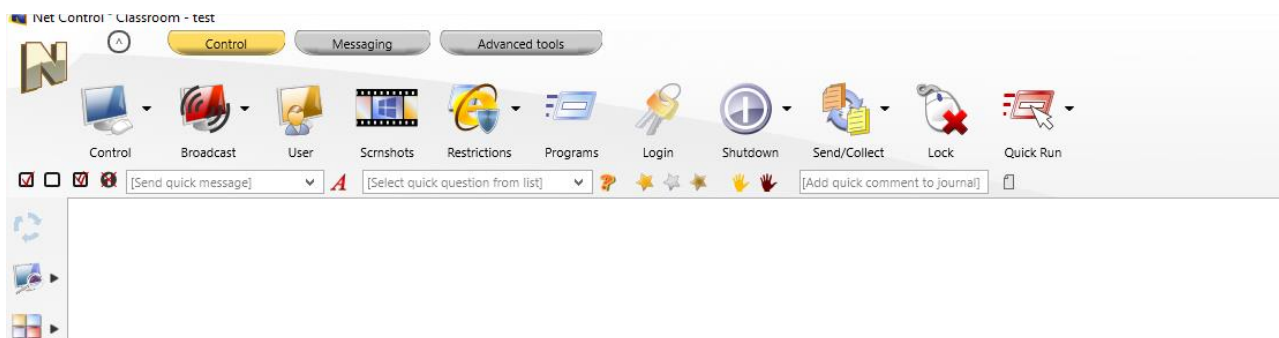


The 14 most important tools are grouped on one page of the top toolbar, other tools are available in All Tools button menu.

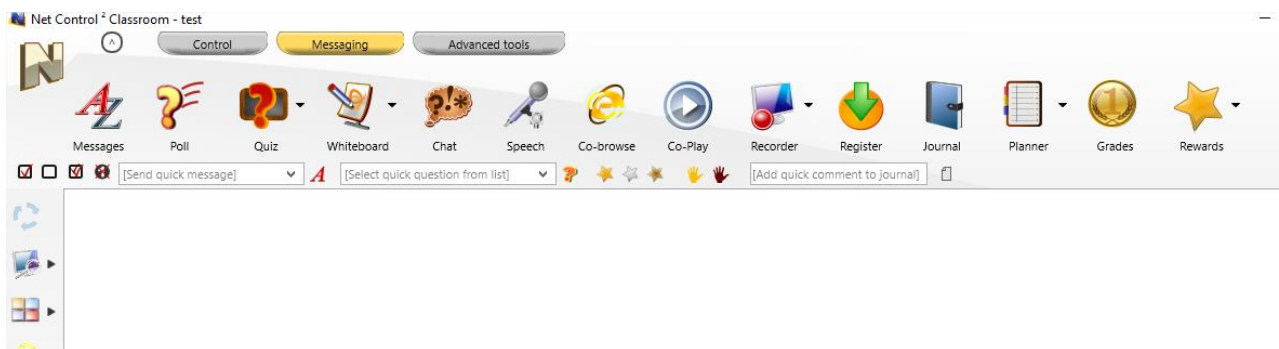
In the **Advanced View** mode, 30+ tools are grouped on three tabs, additional controls for quick sending messages, polls, adding comments to the journal, and other features are displayed at the bottom of the top toolbar.

The top toolbar in **Advanced View**:

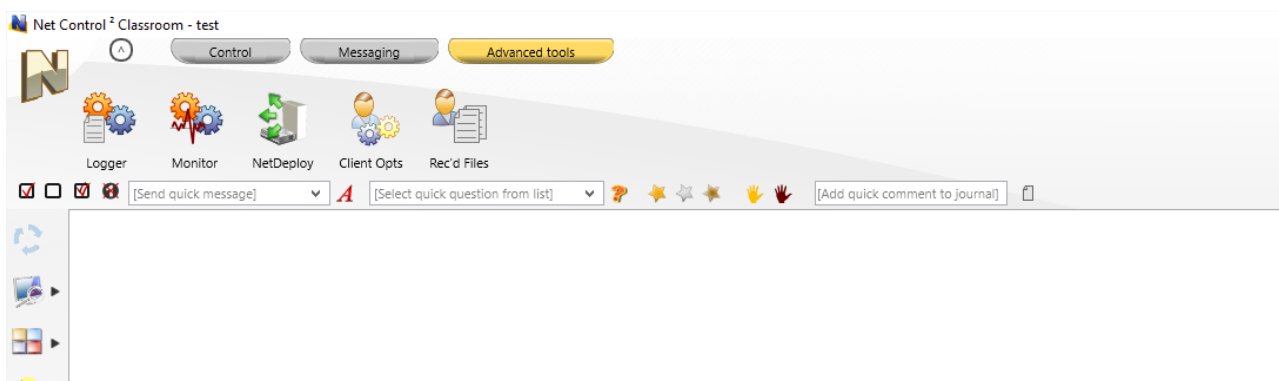
“Control” tab:



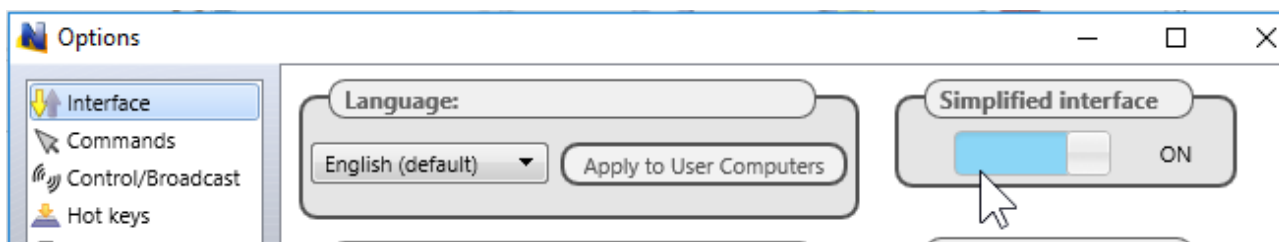
“Messaging” tab:



“Advanced tools” tab:



You can change the view type later, at any moment, using the main menu command **N – Options – Options, Interface** page, “Simplified Interface” slider.

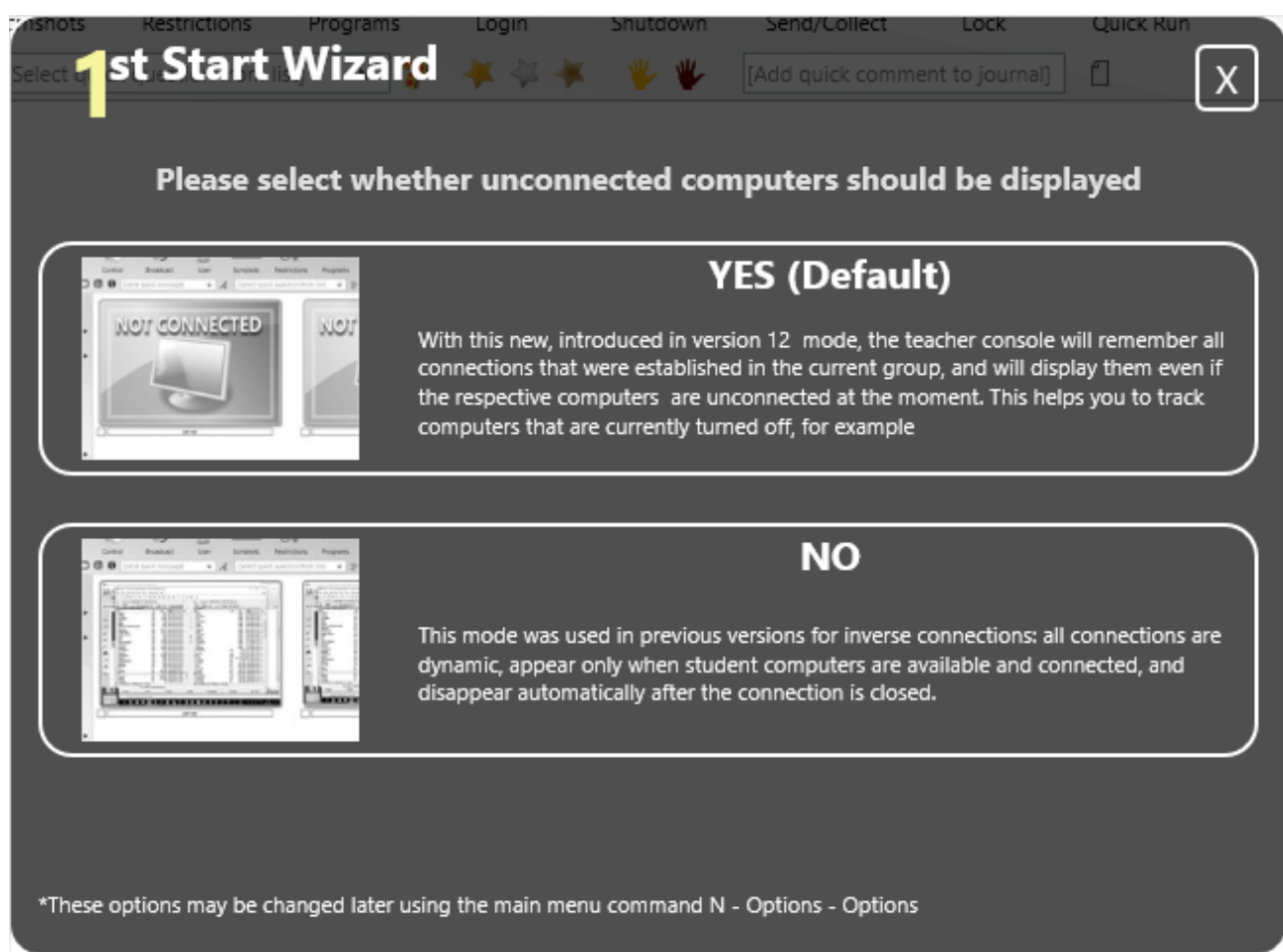


At next step, after selecting the view type, you can choose the way how the teacher module will handle connections.

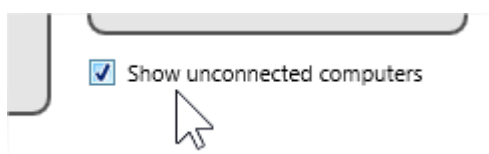
Net Control 2 PRO version 12 introduces a new way of storing and displaying student connections.

The new interface (“**YES**” button) assumes that student connections will be always displayed in the group, even if they are turned off at the moment. This helps to keep the same order and position on the screen for connected and unconnected computers in the teacher workspace. This mode is recommended.

In previous versions, all inverse connections were dynamic, i.e. appeared in the teacher console only when a connection with a student was established and disappeared automatically when the connection was closed or the student computer was turned off. To enable this mode, click “**No**” button.



To change this behavior in future, please use the main menu command **N – Options – Options; Interface** page, “**Show unconnected computers**” option should be enabled for the new mode, or disabled for the old mode otherwise

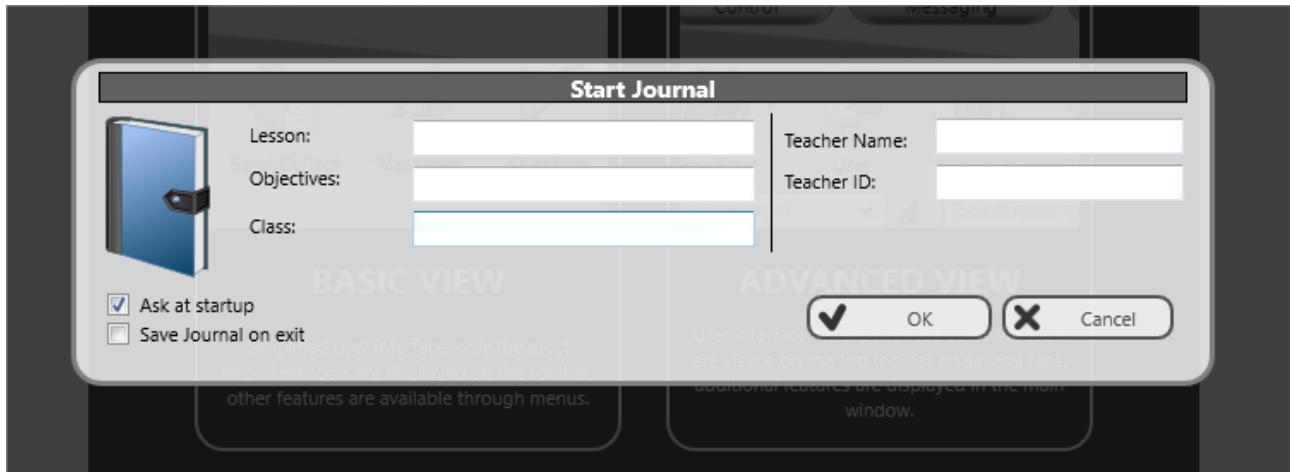


Please note, the teacher module displays the “**1st start**” dialog only once for each user of the

computer, after you select one of the available modes, the window will not appear next time you are running the teacher console.

## F. The teacher console

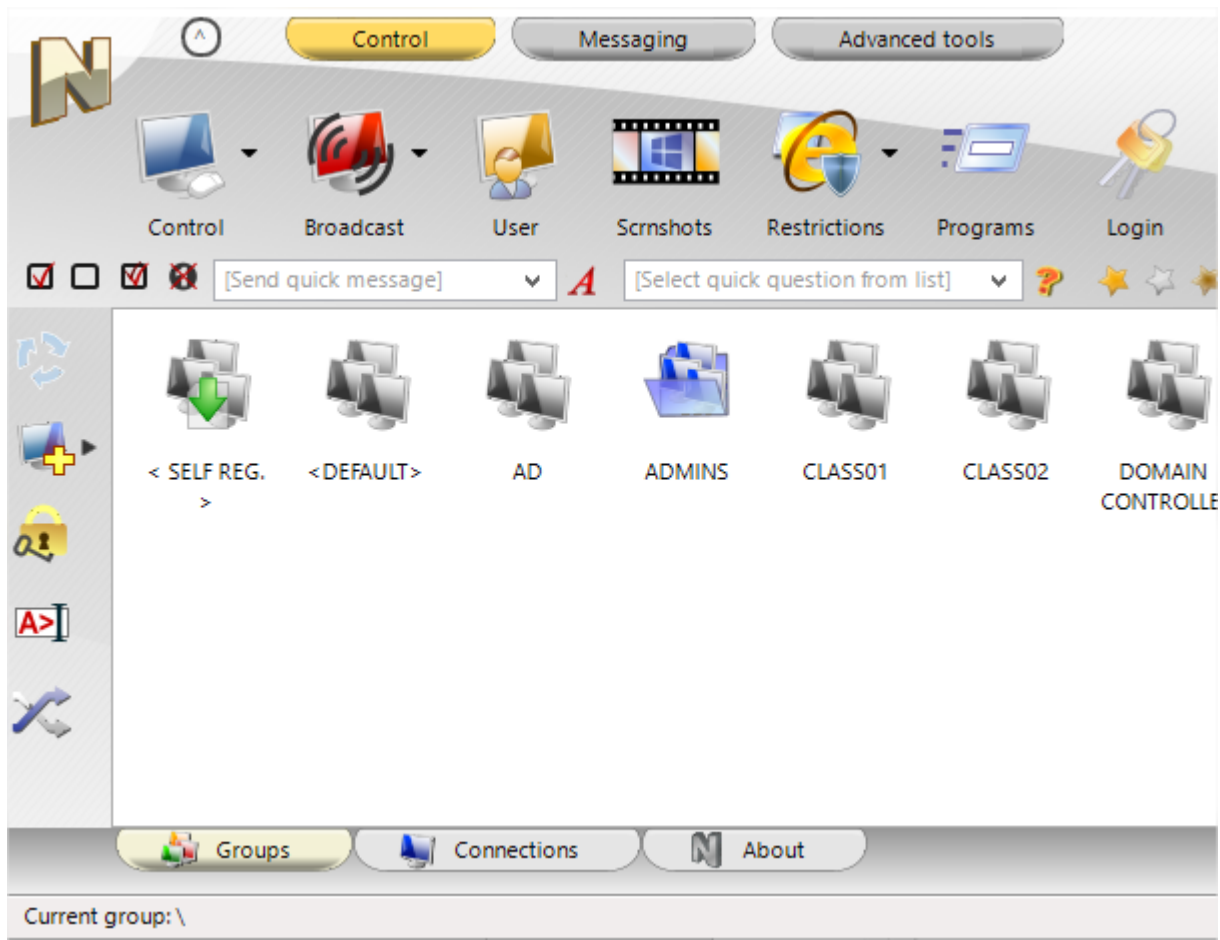
At the teacher module start up, it may display a prompt to enter the lesson details:



These details are optional, are necessary for keeping the lesson information in the Journal, and will be displayed on student computers in the student console.

You can uncheck “Ask at startup” option to prevent appearing this window at next start. The entered Teacher name, ID and Class will be stored and used for next lessons.

At next step you should see a list of groups, available for your account:



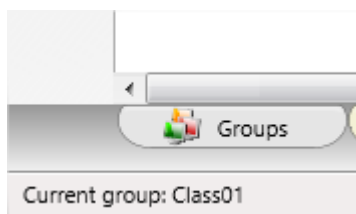
Currently selected group is highlighted with blue monitors icon.

Double click a group or container to enter it.

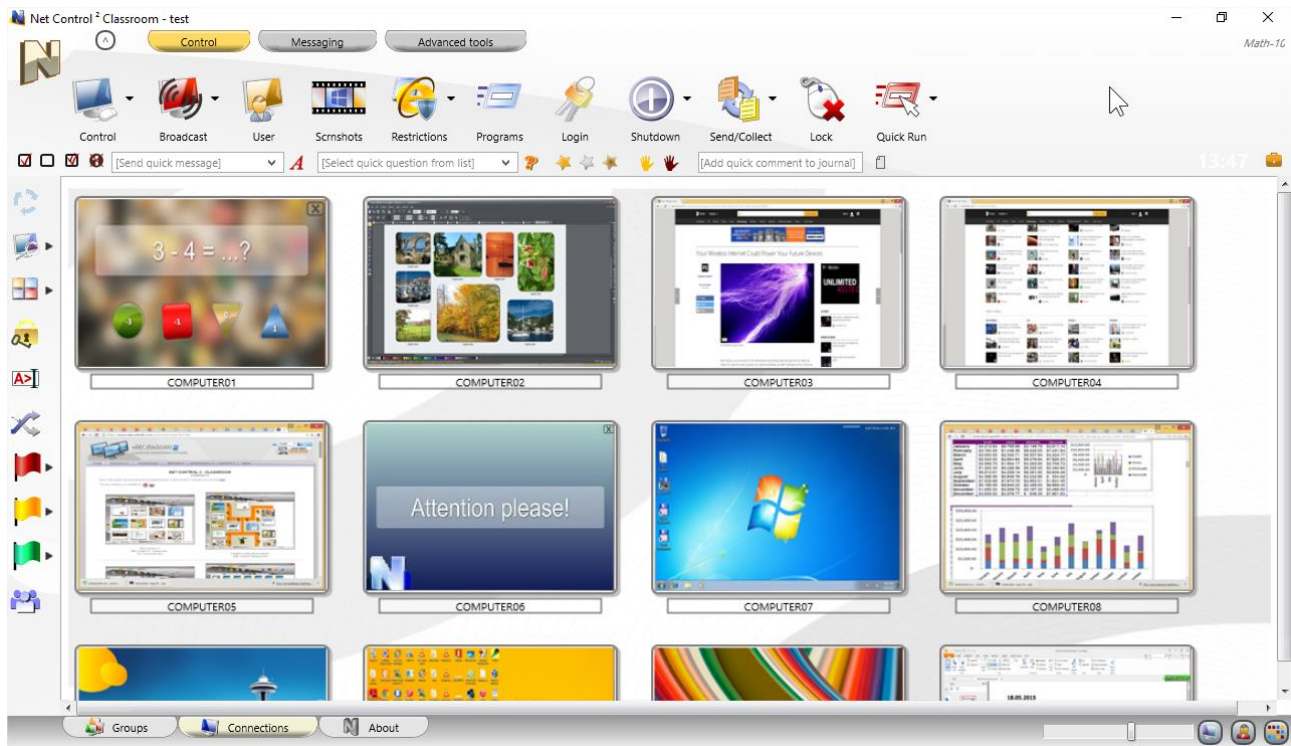
**<DEFAULT>** group in the main container is a special group, which contains all student connections, which were not sorted to any other groups.

**<SELF REG.>** group is a special group, which contains only connections initiated and created by students (*self-registered* connections). For more information about this mode please refer to [Chapter I](#).

The actual group name is displayed in the bottom-left hand corner of the teacher console:





After entering a group, you will see a list of student connections, belonging to this group.



Now you can select one or several connections and apply commands and tools to perform operations. Tools and features that are common for all editions are described in the **Tools and Features Guide**, you can download it from our website at <http://www.netcontrol2.com/downloads>

By default, connections are named as a combination of:

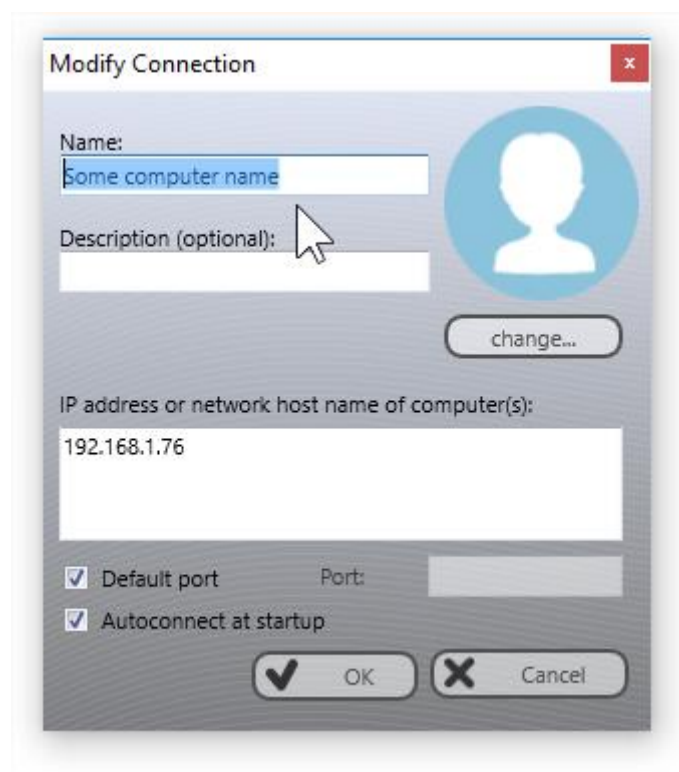
**Computer name** (network computer name), if Computer Name View mode is selected (  button at the bottom-right hand corner of the teacher console is pressed);  
and/or

**User name** (an alias), if User Name View mode is selected (  button at the bottom-right hand corner of the teacher console is pressed). The user name will be displayed as (in order of importance):

- a student registration name, i.e. a name that students enter in Student Registration dialog (for more information please see Student registration tool), or
- any custom alias, if provided in the student module settings in “Alias” field on Connections tab of Client Configuration window; by default the alias is not set; or
- a full user name as provided in the Active Directory database (as “John M. Doe”, for example), if available; or
- a Windows user login name.

You can rename a connection (the computer name part) right clicking the connection, and then using Modify connection menu command:

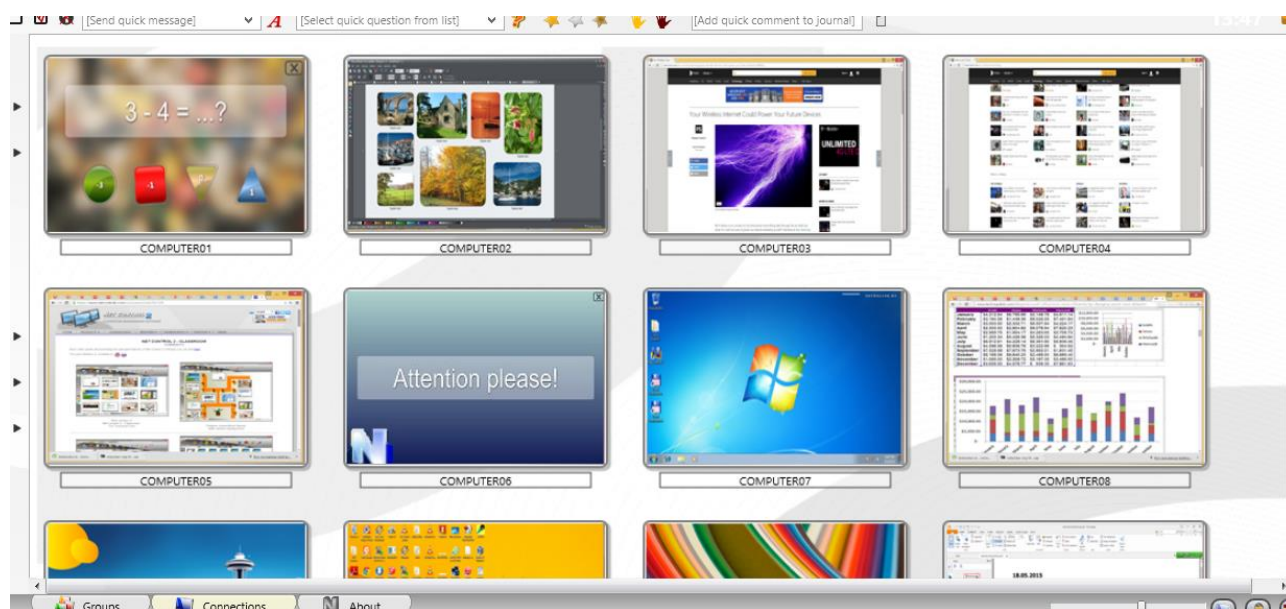




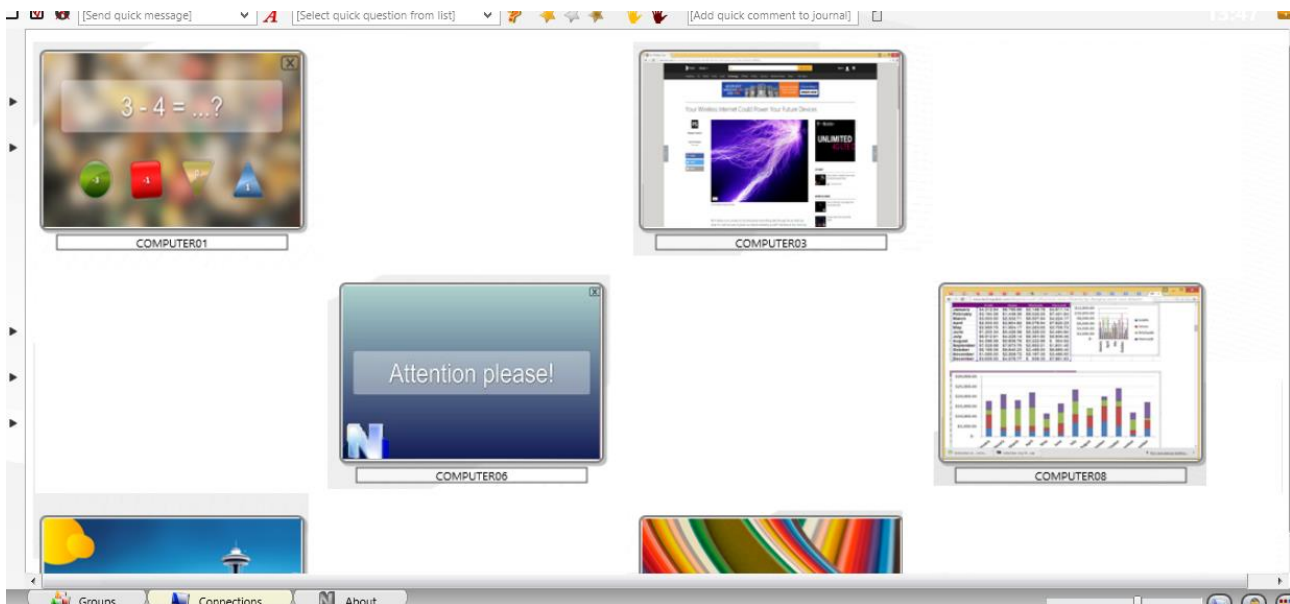
### ***Arranging and sorting connections. Custom layouts.***

Except for the Table View (described below), the teacher module may display connections either in arranged order or in custom, user-defined positions:

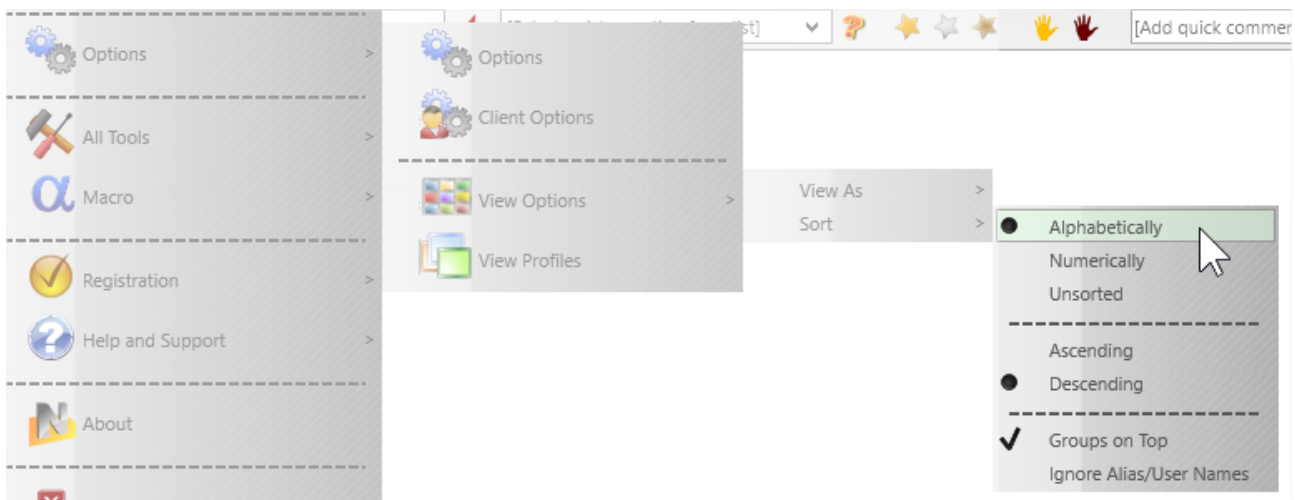
#### **Arranged view:**



#### **Custom layout:**



In Arranged View connections may be sorted in one of the following orders:



**Alphabetically**, in descending or ascending order;

**Numerically**, in descending or ascending order, in this case only the numeric part of a connection name will be taken in account for sorting, e.g. **“Computer0123”** connection will be displayed earlier than **“Auto987”** for ascending order.

**Unsorted** – connections appear in the order as they are stored in the workspace database.

**Groups on Top** – places joined (grouped) connections to the top of the list.

**Ignore Alias/User Names** – when enabled, only the computer name part of a connection name will be taken in account for arranging.

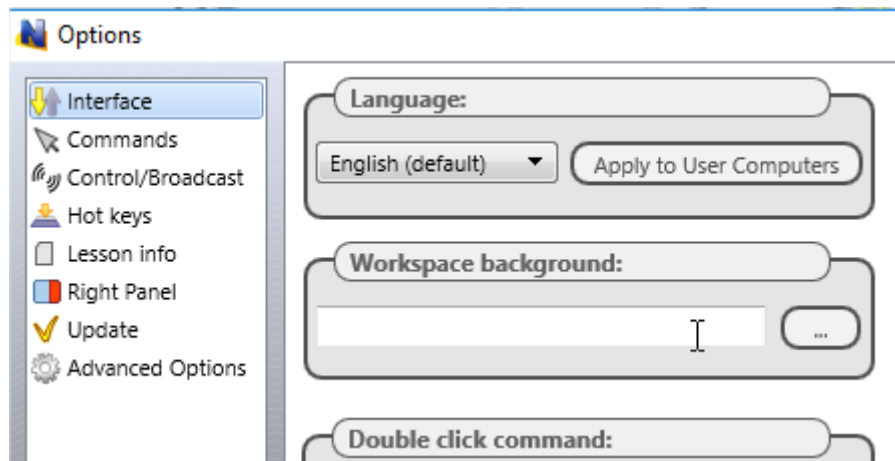
To change the sort mode, use the main menu command **N – Options – View Options – Sort**.

In **Free View** mode, you can position connections in the connections list in a custom order, just by dragging them to a desired position within the connections list. To change Arranged View mode to Free View, please use the following button at the bottom-right hand corner of the



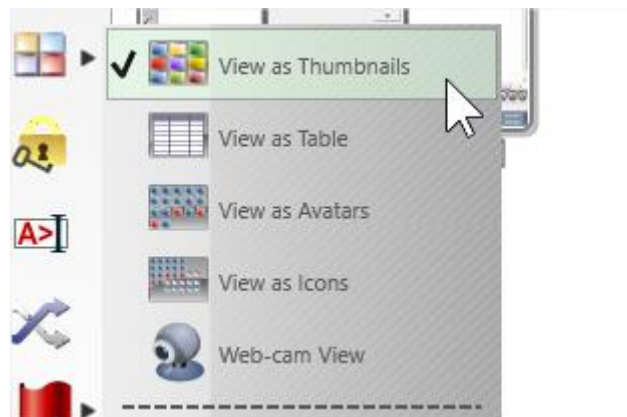


background and click OK.



## View modes

Net Control 2 PRO supports five view modes for the connections list:



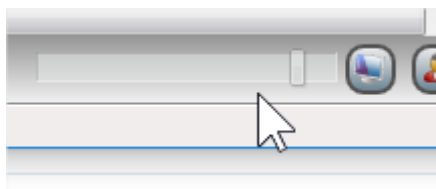
**Thumbnails:** connections are displayed as desktop snapshot thumbnails,



In this mode, you can see an icon of the currently used application on the student computer (in the bottom-left hand corner), help request buttons, awards, poll answer information etc.

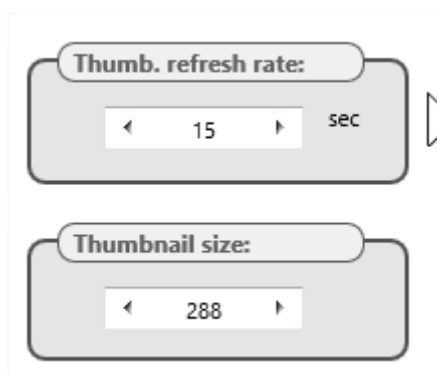
Thumbnail size may be adjusted with a slider at the bottom-right hand corner of the teacher

console:



or in the teacher module settings.

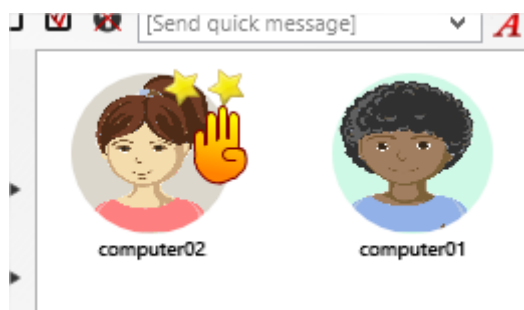
The default refresh rate for thumbnails is 15 seconds, i.e. the image will be reloaded every 15 seconds. To change this value, in the teacher module settings (the main menu command Options – Options) on Interface page, adjust “Thumb refresh rate” option, click OK to apply changes:



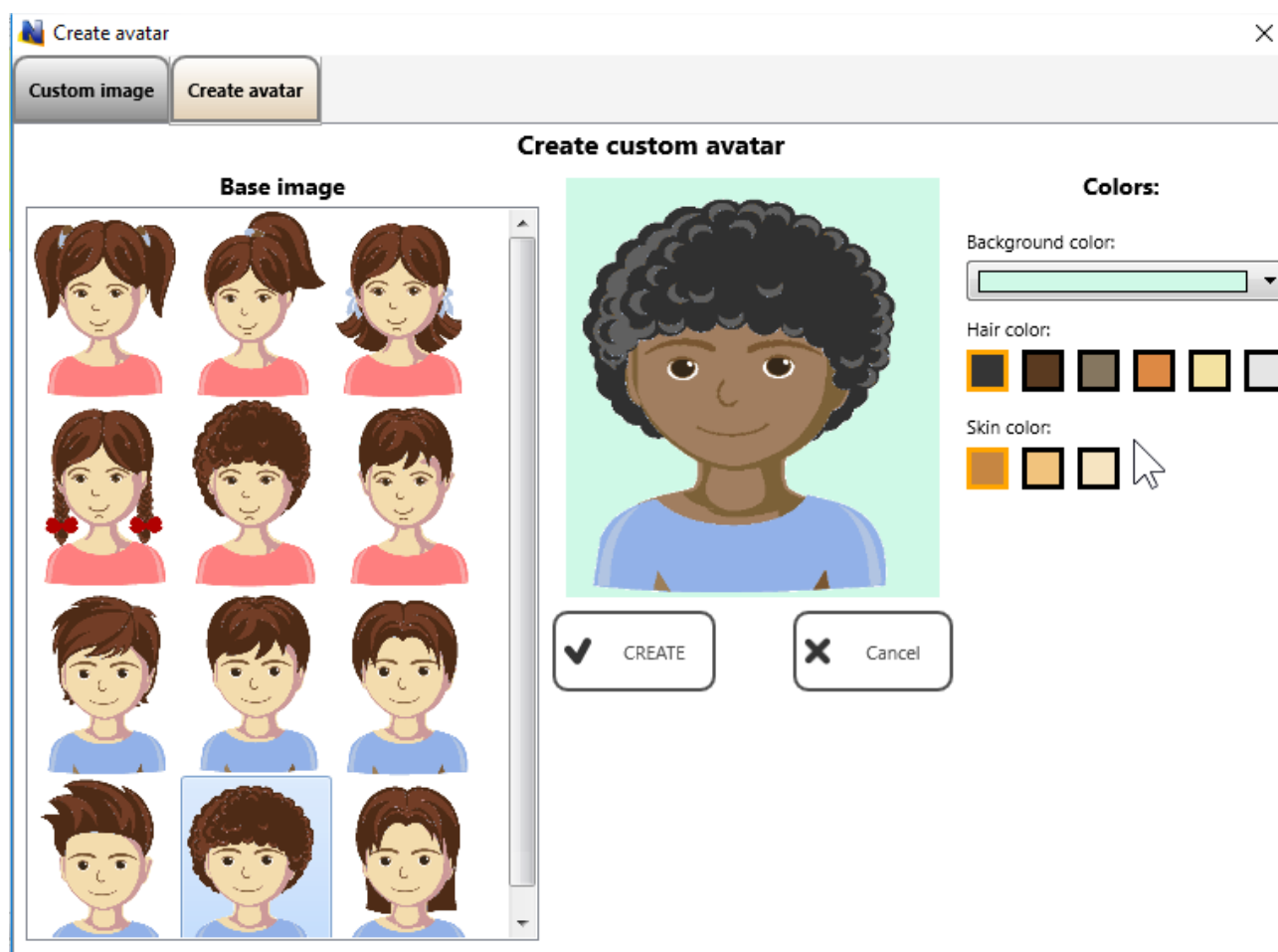
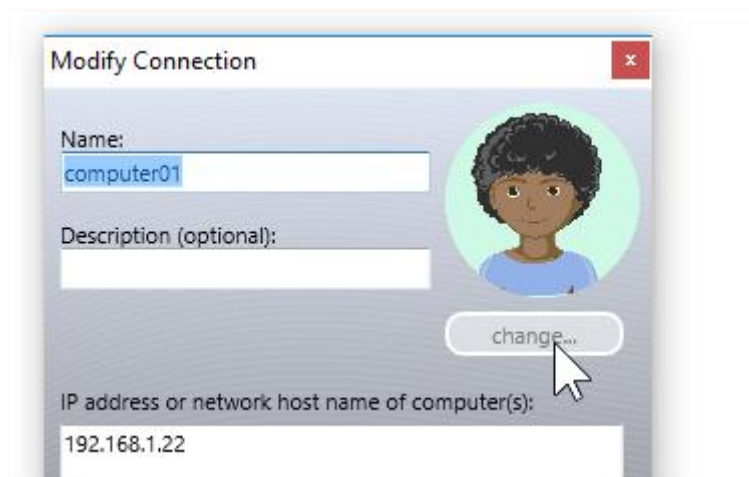
**Table:** the connections list is displayed as a table, each line represents one connection, in this view mode you can see connection and user names, IP address or DNS name of the remote computer, awards, help request, description, remote platform information, MAC addresses of the remote computer, other information:

<input type="checkbox"/>	Name	Alias	Address		Description	Platform	StudID
<input type="checkbox"/>	computer02	tester	192.168.1.76 RDP#1			Windows 7 Service Pack 1/11.1.1.632	
<input checked="" type="checkbox"/>	computer01	user	192.168.1.22 RDP#2			Windows 10 /12.0.0.515	

**Avatars:** connections in the list are displayed as avatars, for any connection you create an avatar with the built-in editor or assign a custom image from a file.



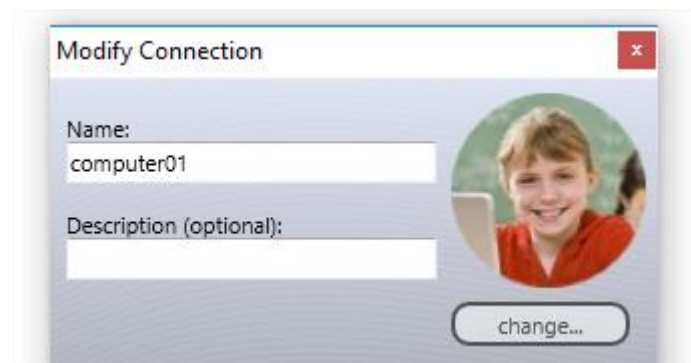
To change an avatar for a connection, right click it in the connections list, use **“Modify connection”** context menu command. In the appeared window click **“Change”** button below the avatar image.



Customize the avatar or load a graphic image on **Custom Image** tab:



Click Crop and Use button to save changes.



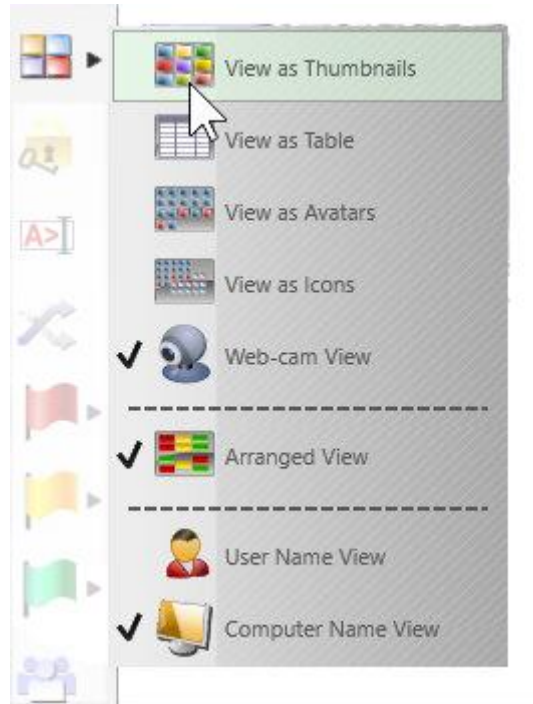
**Icons:** connections will be represented in the connections list by small icons, making possible to place more connections on the screen than with other view modes:





**Web-cam view:** connections are represented by thumbnails from a web-camera attached to student computers. Except the source for the thumbnail image, this mode is similar to Thumbnails view mode, allows displaying icons, signs and other information in the same way as in Thumbnails View mode.

To change the view mode you can use the Thumbnail button's sub-menu:



Or the main menu command **N – Options – View Options – View as**.

## Left Toolbar



The left toolbar provides access to several connection-related features of the teacher console:

**Refresh connections** – reloads connections, current connections will be closed and re-opened. You can use this command if you experience some issues with network connection or a remote computer does not respond.

**View mode** – changes the view mode.

**Lock** – locks the teacher console, the teacher console will be locked and waiting for a teacher module password. If the password is not set, you will be prompted to create the password first.

**Console** – opens an internal Command Console window, where you can send commands to student computers directly, view notifications and connection events.

**Random** – selects a random connection. Works for connected computers only.

**Select red, yellow or green group of computers.** With these buttons, you can create a selection group for selected computers: select one or more computers click one of

color group buttons, the selected computers will be assigned to the respective color group. Then, to select computers of the group again, just click the button again.

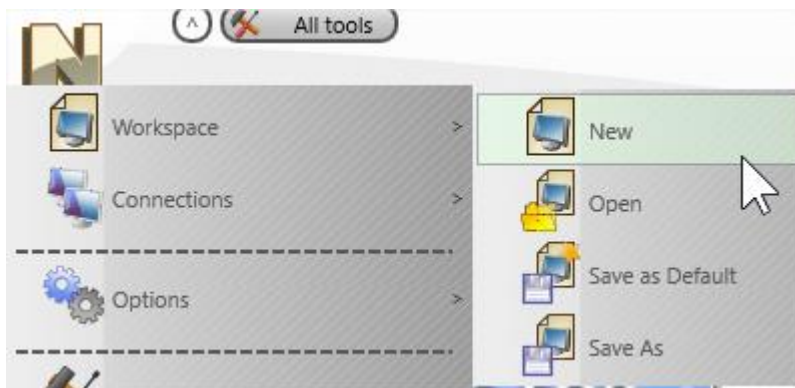
**Student Group Manager** – allows managing student groups. For additional information regarding this feature please refer to Tools and Features Guide.

## Workspace operations

Despite the main part of group information (a list of members of the group) is stored on Connection Server computer and is available independently and unchanged for different teacher computers; certain settings are still associated with the current teacher console, and are stored on the teacher computer directly (by default), or, if specially configured, on Connection Server computer.

The local part of such information is called “*the workspace*” and includes information about position of thumbnails on the screen, assigned color groups, custom names for connections, avatars and other connection details. When some of the connection details are changed in the process of the teacher module exploitation, upon closing the program, it will prompt to save changes to the workspace.

In several cases, you may need to transfer the workspace to another computer, in this case you can use commands of **Workspace** menu (**N – Workspace**):



**New** – creates a new, empty workspace

**Open** – opens a workspace from a file

**Save as Default** – saves the current workspace with all its changes, and makes this configuration “default”, which will be loaded at next startup.

**Save as** – saves the current workspace to a custom file.

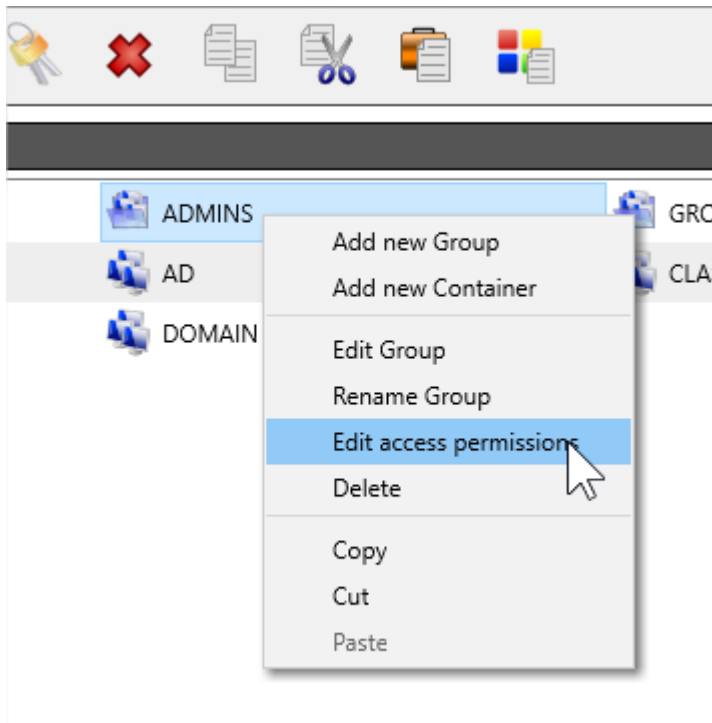
To transfer the workspace to a new computer you need to save the workspace to some file with *Save as* command, then on the new computer open it with *Open* command and save it immediately as “default” workspace with *Save as Default* command.

## G. Access to Groups and Containers

With Professional Edition, administrator can limit access of teachers to groups or containers by setting up access permissions for particular groups in Connection Server Management Console.

By default, all teachers have read access to all groups, i.e. can open them and control students in these groups.

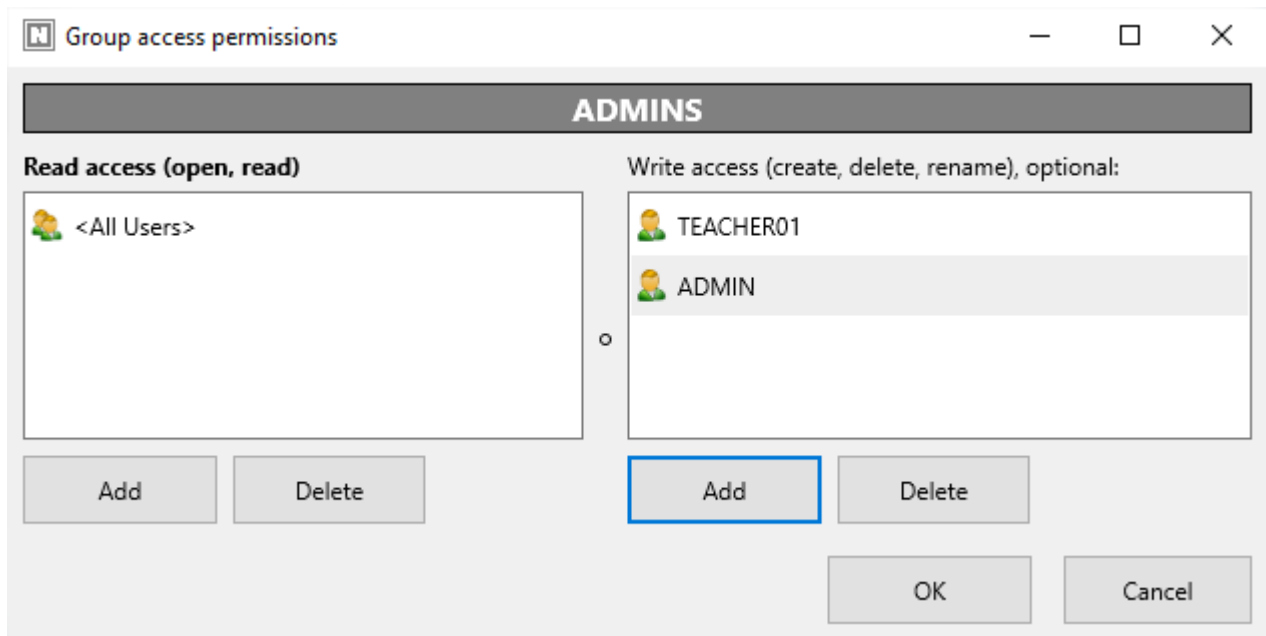
To change an access permission for any group or container, in Connection Server Management Console, on Groups tab select a group and right click it; in the appeared context menu click “Edit access permissions” command:



In the appeared window, in **Read access** section use **Add** or **Delete** buttons to add users, user groups, Active Directory users or Active Directory groups that **will have access to the group**.

The predefined **<All Users>** group includes all teachers of Connection Server. Presence of this account means that any teacher may have access to the group. Therefore, in order to limit access to some group, first you need to delete **<All Users>** account and add only the teacher accounts that should be able to open and work with the group.





Write access permissions allows modifying the selected group by teachers remotely, from the teacher console and are described in the next chapter.

To apply changes, click OK button, close Connection Server Management Console and restart Connection Server services.

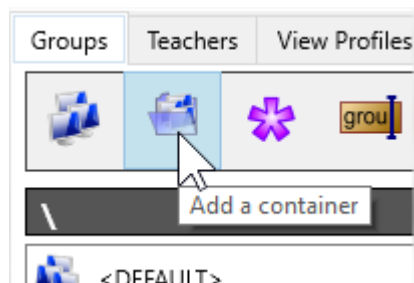
## H. How teacher can create groups or containers and add connections to a group

With Net Control 2 PRO version 12 it is possible to assign several write access privileges for particular teachers to allow them creating groups, containers and manage members of these groups remotely, from the teacher console.

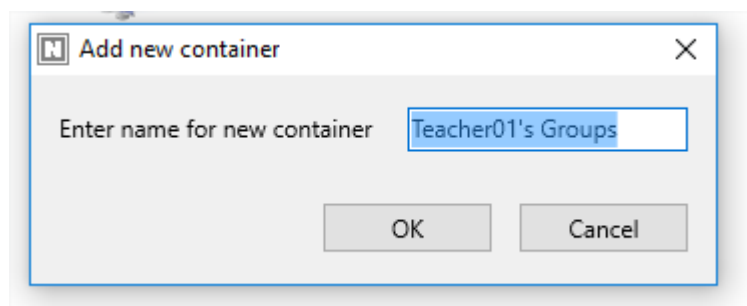
**By default teachers do not have write privileges** for any groups, and the group management is allowed only for an administrator on Connection Server computer, using **Connection Server Management Console**. Any write access privileges must be set up for each group or container individually.

Teachers can create, delete or rename groups only within containers where they have write access privileges. Particularly, teachers cannot create or delete groups on the root level, you need to create in the group structure a special *container* for a teacher, assign the necessary write privileges for this container and the teacher account.

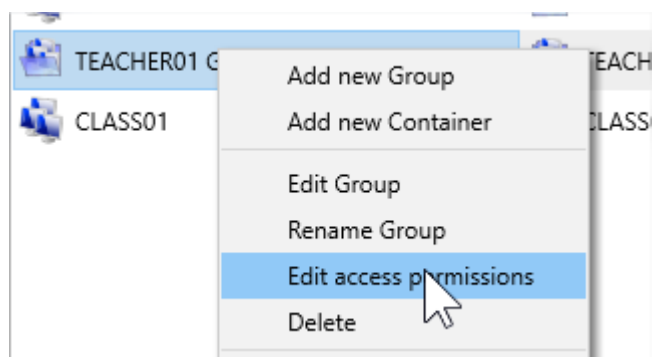
In **Connection Server Management Console** on **Groups** tab click **Add Container** button:



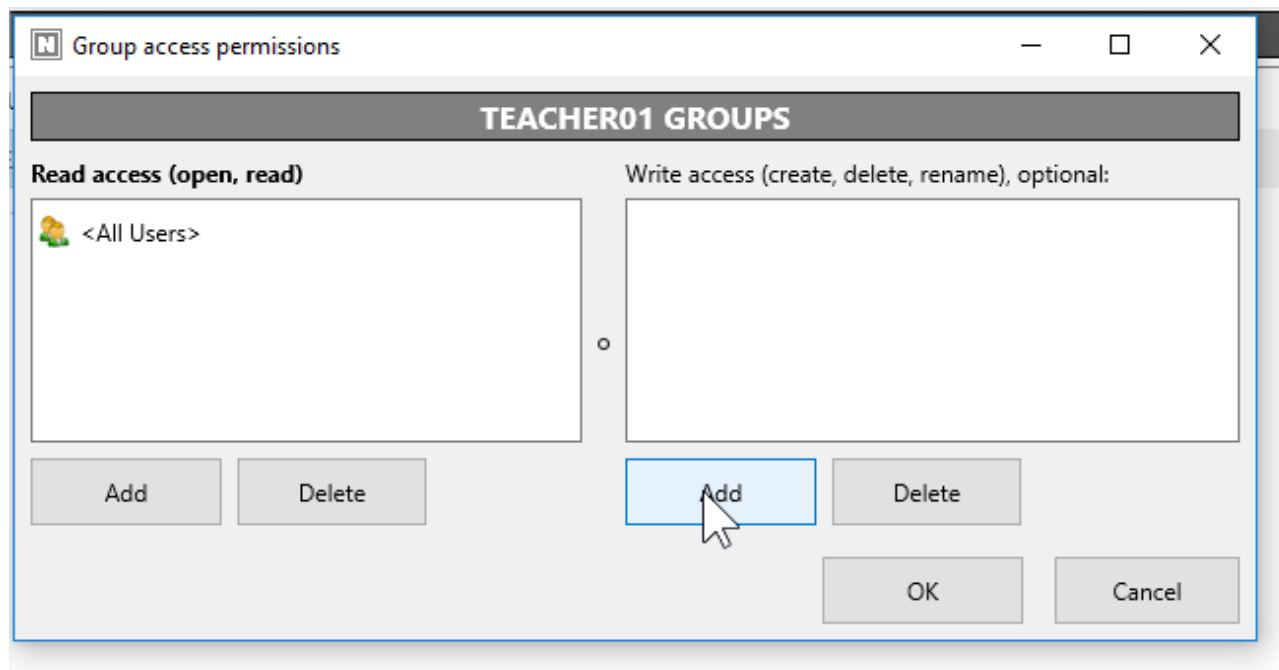
And create a container:



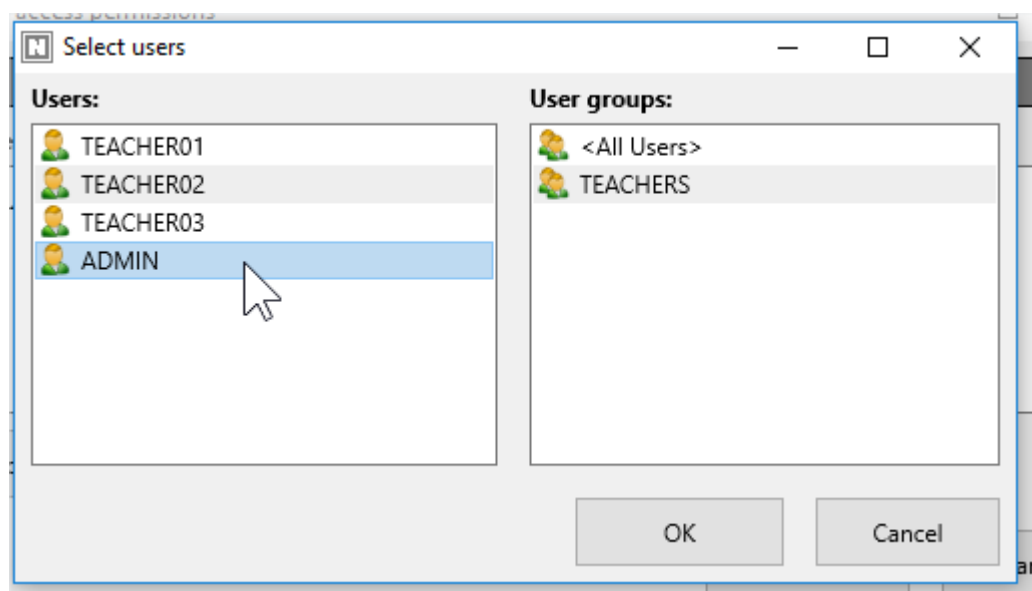
Right click the created container and use “Edit access permissions” menu command:

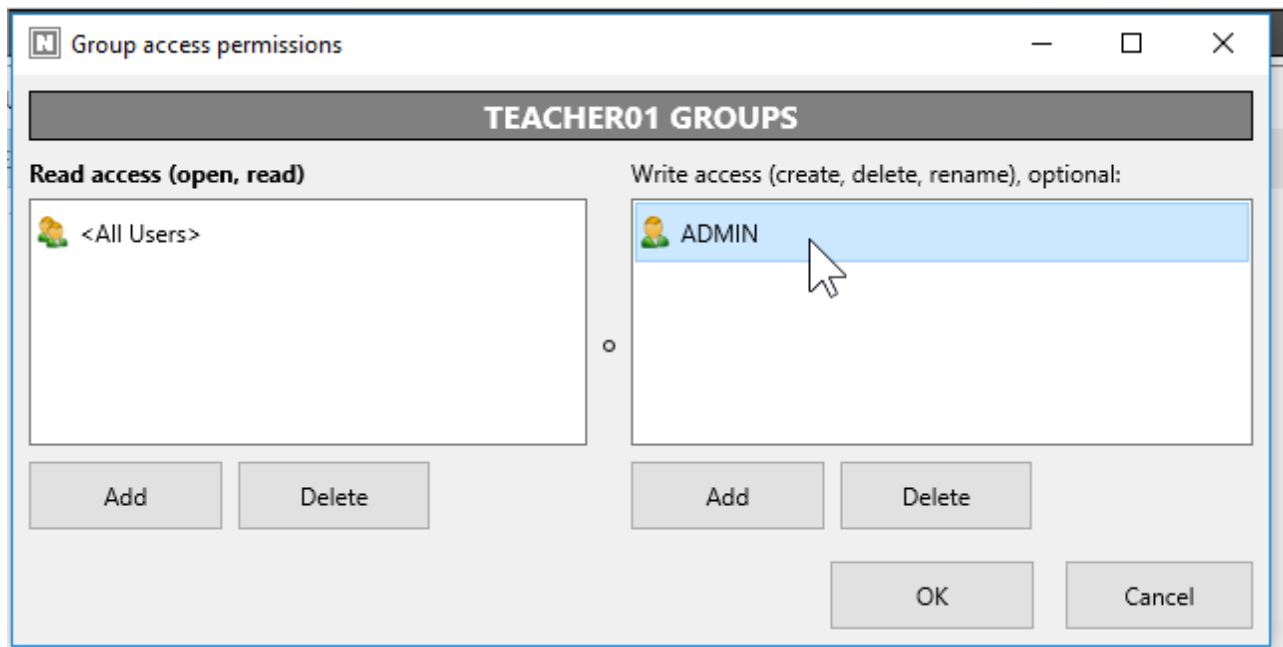


In the appeared **Group access permissions** window, in right section **Write access**, click **Add** button:



And add a teacher account that will have write access privileges for the group.

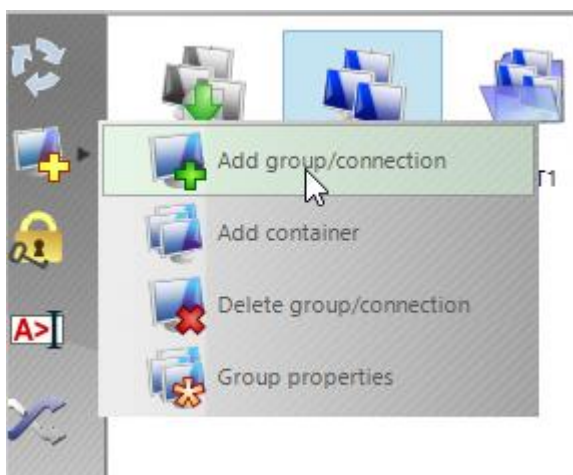




Click OK, close *Connection Server Management Console*, restart *Connection Server* service in order to apply changes.

In the same way, you can add write permissions to any existing group. In this case the teacher will be able to copy connections to this group from any other groups, delete this group or rename it.

When the write access privileges are assigned, the teacher can use group management tools in the teacher console:



On **Groups** tab, in **Add Group** button's context menu the teacher can perform the following operations:

**Add group/connection** – create new group. Group creation is possible only within a group container where this teacher has write access privileges.

**Add container** – create new container. Container creation is also possible only within a group container where this teacher has write access privileges.

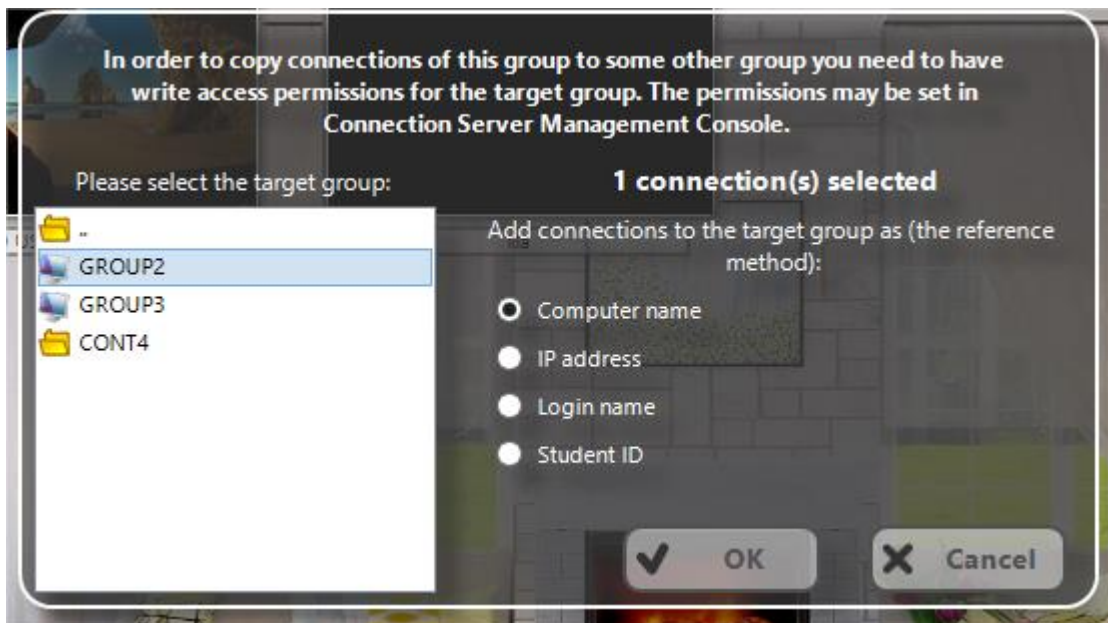
**Delete group/connection** – deletes the selected group, if the teacher has write access

privileges for this group.

**Group properties** – using this command the teacher can rename any group if s/he has write privileges for this group.

By default, the teacher has automatically read and write privileges for all groups and containers that s/he has created.

In order to copy student connections from one group to another, on Connections tab of the teacher console select the respective connections, right click them, use Copy Connections to other group context menu command:



In the appeared window select the target group where the connections will be copied and specify how the connections should be referenced in the target group: by computer name, IP address, login name or Student ID.

The write privileges are required only for the target group, the source group may be any existing group, including **Default**, the copied connections are any connections, created on the server or self-registered connections, connected by students manually.

## I. How a student can connect a teacher. Self-registration.

### Self-registration

Student self-registration mode may be useful when students (users) use laptops and can move from one classroom to other, i.e. from one Teacher to other, when it is impossible to join such students in one constant group.

When Student Registration mode is enabled on both teacher and student computers, the student can initiate connection with teachers.

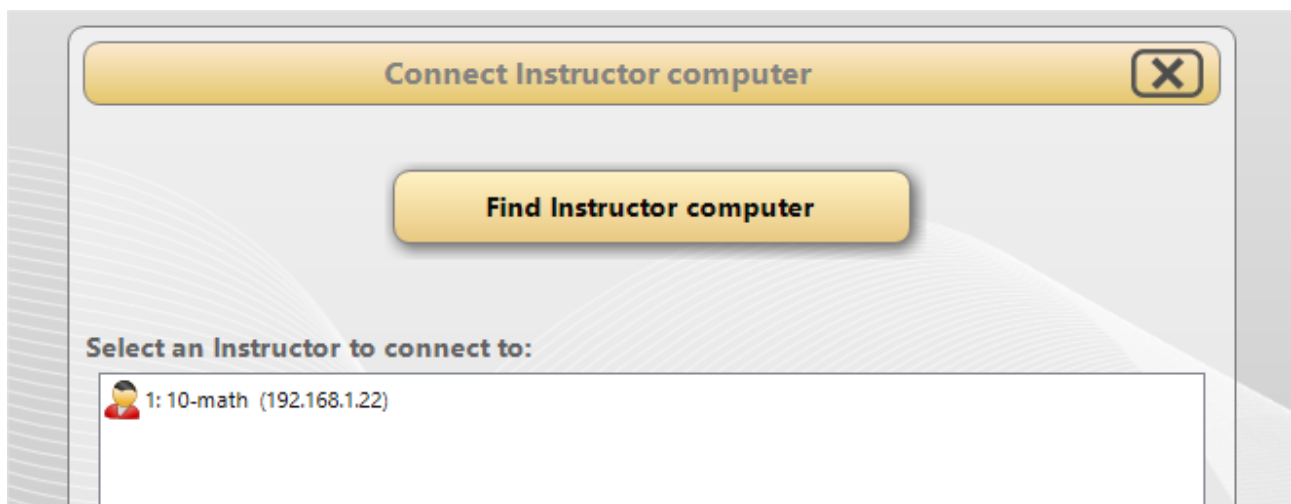
To initiate the connection on a student computer, open Student Console:

- **left click** Net Control 2 PRO icon in the System Tray
- or **right click** Net Control 2 icon in the System Tray and select in appeared Net Control 2 Client Menu **“CONNECT INSTRUCTOR COMPUTER”** button.



or click the popup Net Control 2 Toolbar at the top of the screen (if the toolbar is enabled) and click **Connect Instructor Computer** button.

In all these cases the software will display the following dialog window:



**Select an Instructor to connect to** list should contain one or more teachers that allows student registration. Select a teacher to which you would like to connect and click OK button.

The client module will connect the respective teacher computer and create a new connection in its workspace.

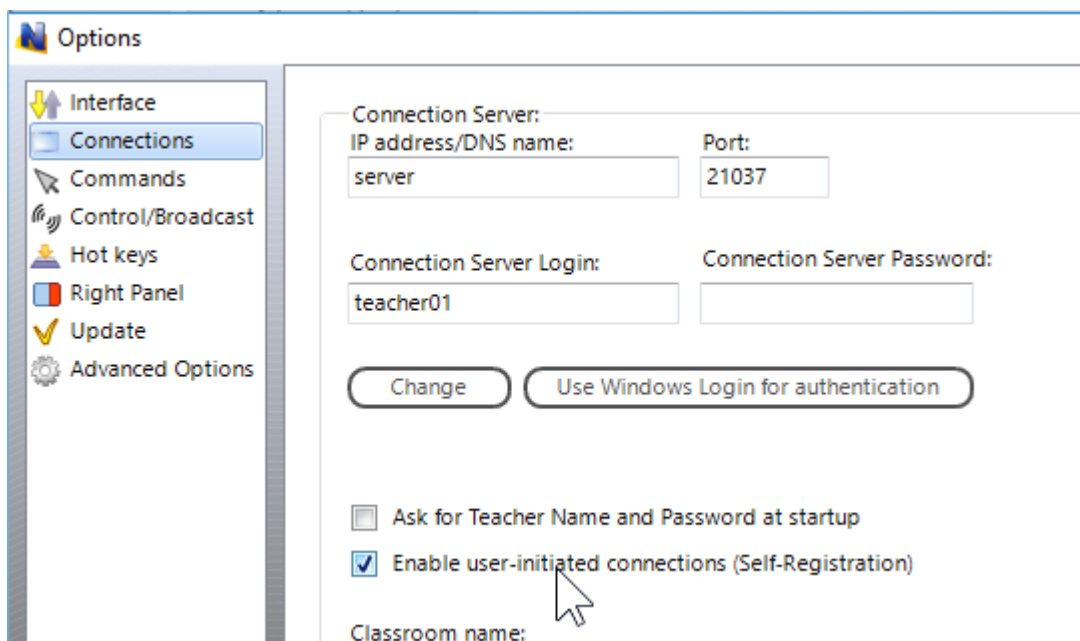
To disconnect from the connected teacher computer, click the same command again, and Student Console window should display information about existing connection, click **Disconnect** button to close the connection.

In order to allow student-initiated connections the teacher module should be respectively configured: in Teacher module click the main menu command **N -> Options -> Options**.

On **Connections** page the **Enable user-initiated connections (Self-Registration)** option should be **enabled**. Optional **Classroom name** parameter may specify some name, which will be displayed in the teachers list on the student computer.

New student connections will be automatically placed to the currently opened group on teacher computer and removed automatically upon disconnect.

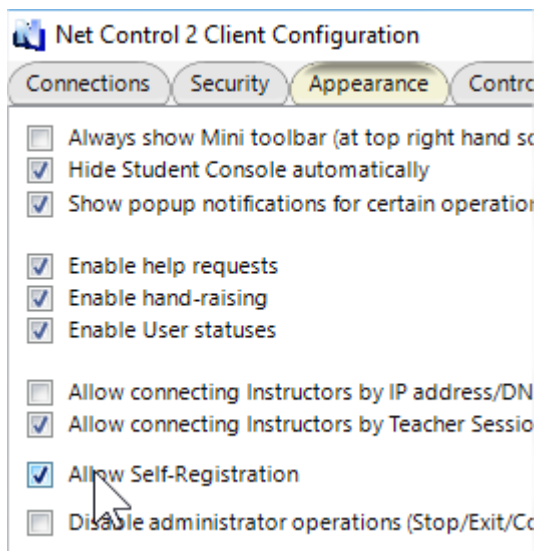
In addition to standard groups, the groups list on the teacher computer will contain a special **<SELF REG.>** group. This group is empty by default and will contain only student-initiated connections.



Student Self-Registration mode may be disabled or enabled in the client configuration. To modify client computers configuration remotely from teacher computer:

- select student computers;
- click the main menu command **N -> Options -> Client Options**.

To change the configuration on student computers directly right click Net Control 2 icon in the System Tray of client computer and then click **Configure** button.



On Appearance tab, enable “Allow Self-Registration” option and click OK.

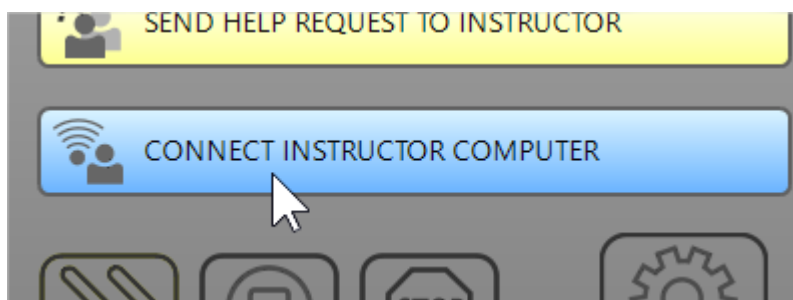
### Connection by Teacher ID

To connect a teacher by a Teacher ID code:

1. A teacher lets know to students a Teacher session ID code that is available in the teacher console, on About tab, in the upper-left hand corner of the About window:

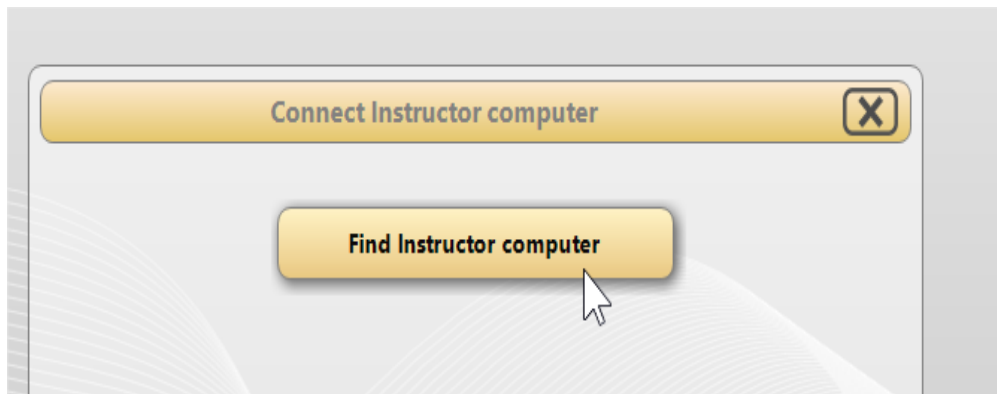


2. Students on their computers open Student Console using an icon in the System Tray or Net Control 2 toolbar (if it is enabled); then click “Connect Instructor computer” button:

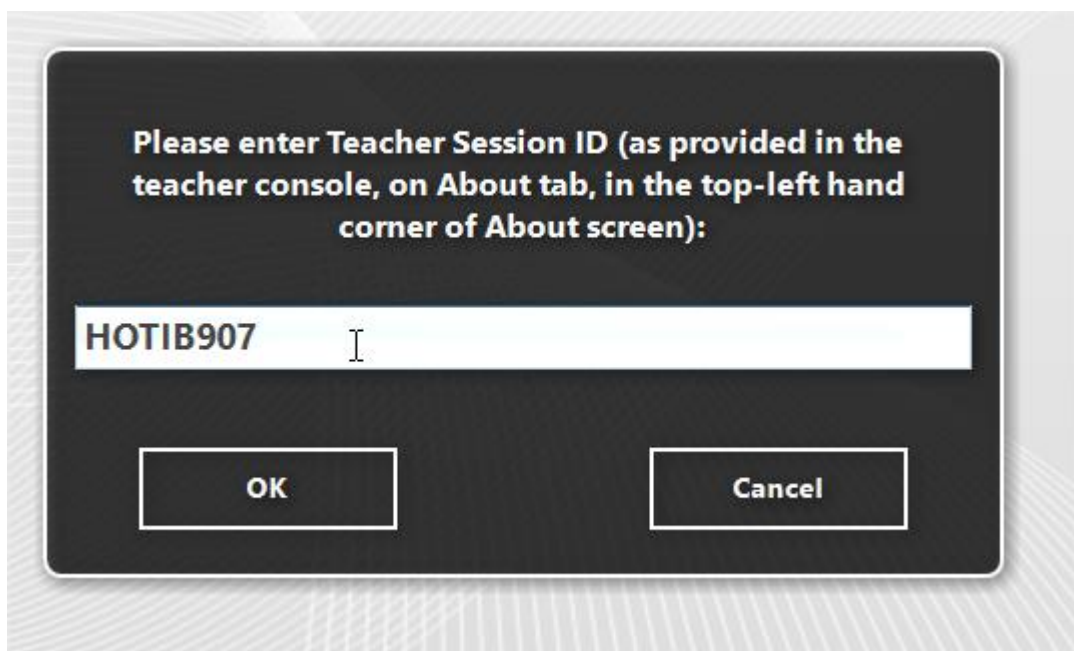


3. In the appeared window click “Find Instructor computer” button:





4. At next step, enter the Teacher session ID code and click OK:



Connections, created with this feature are always temporary, i.e. “live” within the current session only, and are closed automatically after the user log off.

---

## J. Student Module settings

The Student Component may be configured remotely from Teacher Module or on a Student Computer directly.

**To configure Student Module remotely from Teacher Console:**

- select the Student Computers
- click menu command **N -> Options -> Client Options** or just click the **User Opts** button on the **Advanced Tools** tab
- configure the options as specified below
- click the **OK** button

**To configure Student Module on a student computer directly:**

- right click Net Control 2 icon in the System Tray
- then click the **Configure** menu command
- Configure options
- click **OK**

**Connections**

The screenshot shows the 'Net Control 2 Client Configuration' window with the 'Connections' tab selected. The window has a title bar with standard minimize, maximize, and close buttons. Below the title bar is a tabbed interface with tabs for 'Connections', 'Security', 'Appearance', 'Control/Broadcast', 'Internet', 'Commands', and 'Advanced'. The 'Connections' tab is active and contains the following fields and text:

- Connection Server:** A text input field containing 'server'. To its right is the text: 'Specify IP address or DNS name of Net Control 2 Connection Server, which will manage further teacher and student connections.'
- Student ID:** A text input field. Below it is the text: 'Student ID is an optional, custom identifier of this computer. Net Control 2 Connection Server can form groups by Student IDs, computer names or user names.'
- Alias (alternate name):** A text input field containing 'user'. Below it is the text: 'This name (alias) will be displayed in the teacher console as the connection name in User Name View mode. By default (when is not set), a user name or login name will be used.'

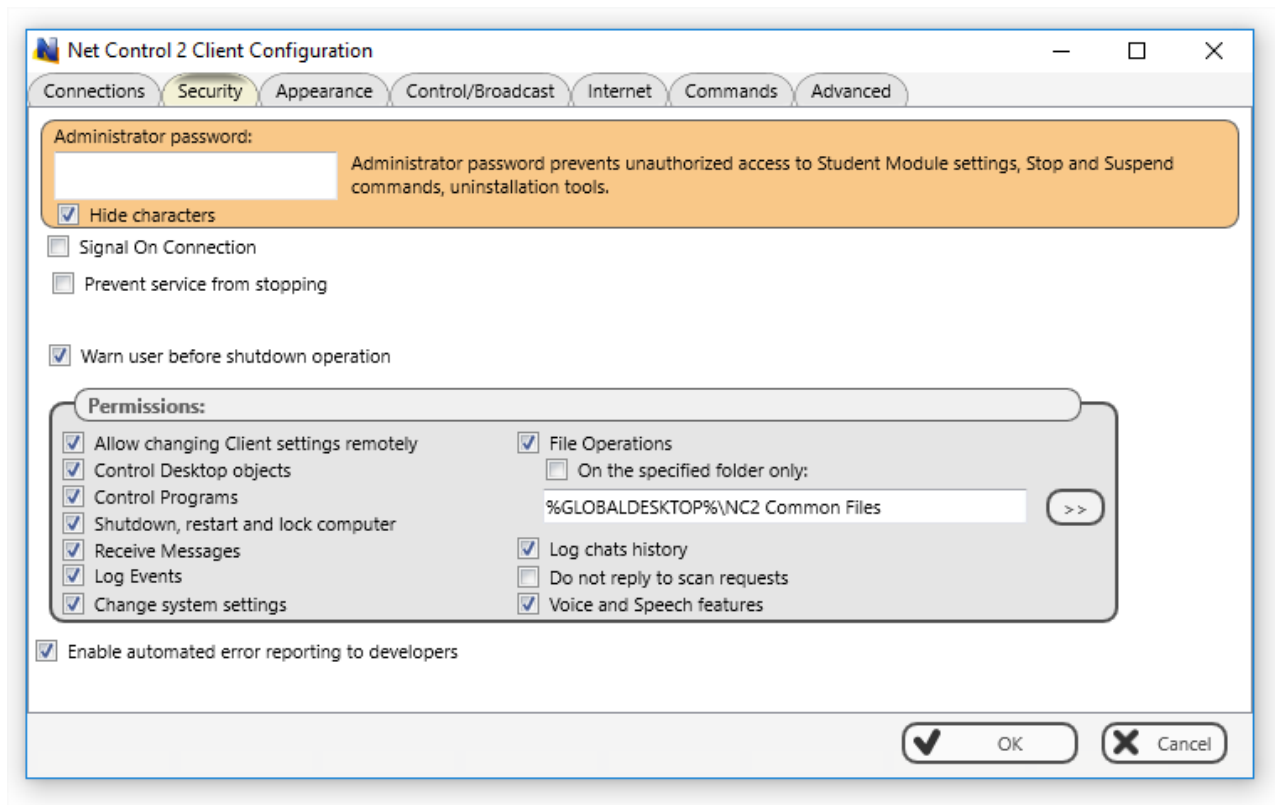
At the bottom right of the window are two buttons: 'OK' (with a checkmark icon) and 'Cancel' (with an 'X' icon).

**Connection Server** – IP address or DNS name of the Connection Server computer.

**Student ID** – a custom identifier for this computer, may be used by Connection Server for sorting computers to groups.

**Alias (alternate Name)** – this name will be displayed when Teacher switches the view mode from *Computer Name View* to *User Name View*. If it is left blank or [USER NAME] value is specified, the name of the currently logged in user will be displayed.

**Security**



**Administrator password** used when a user attempts to change the settings of the student module or clicks the menu commands "Stop" or "Exit". We recommend setting up this parameter if you need to prevent stopping Net Control 2 PRO service or unauthorized configuring the service.

**Signal On Connection** - when enabled, any connection of Teacher computer will be accompanied with a sound signal and text message.

**Prevent service from stopping** – when checked, the user will not be able to stop Net Control 2 Client service using Services console of Administrative Tools or net.exe system program.

**Warn user before shutdown operation** – enables 20-second timer before applying a shutdown, restart or logoff operation.

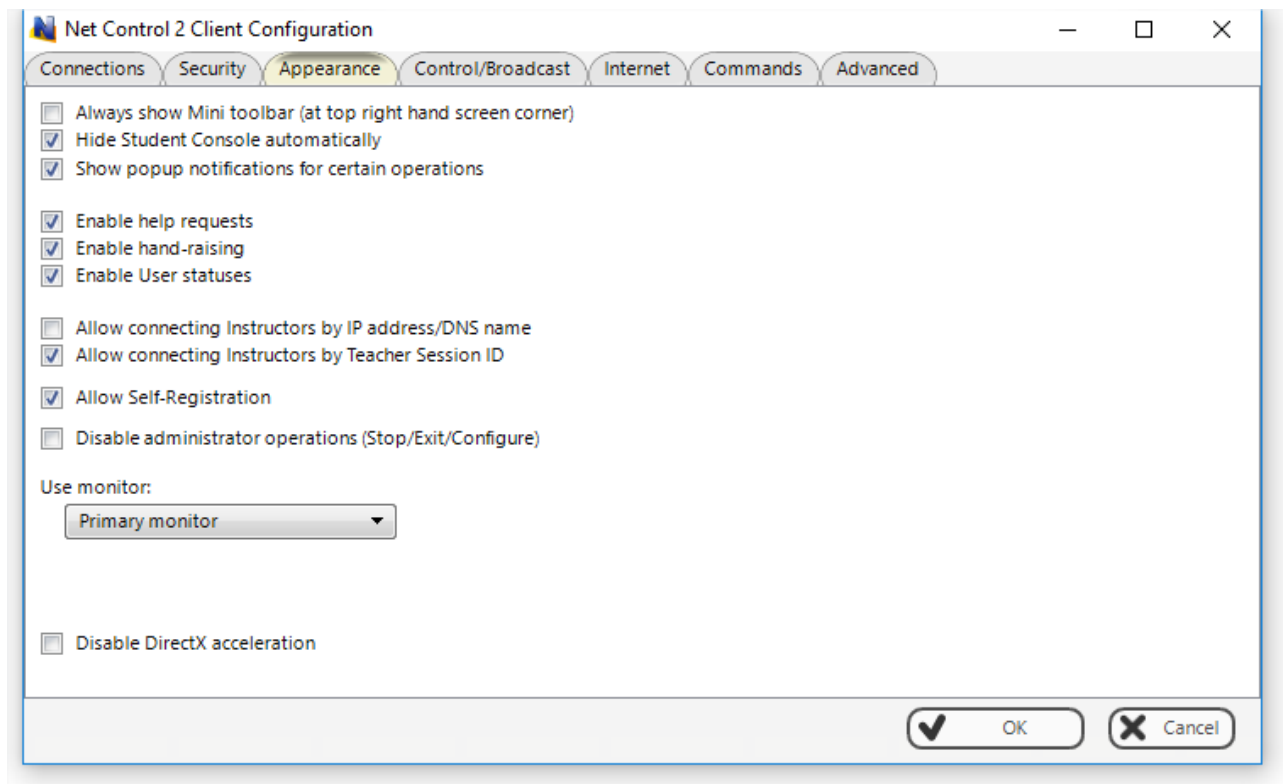
**PERMISSIONS** – allows limiting the functionality of service. When permission is disabled, all features related to this permission will be disabled:

- **Allow changing Server settings remotely** - when this permission is set, the Teacher can change Server settings remotely via the Net Control 2 Client.
- **Control Desktop objects** - permission for controlling the Desktop of the user computer remotely, receive screenshots, run Remote Desktop and Broadcast Desktop sessions, change resolution, etc.
- **File Operations** - permission for file operations between computers. When additionally, "On the specified folder only" option is set, all file operations may be performed within the specified folder only.
- **Control programs** - permission to execute and terminate programs and services remotely.
- **Shutdown, restart, lock** - permission to perform power-related operations, like shutdown, reboot, stand-by etc., and lock and unlock computer remotely.

- **Receive messages** - permission to receive messages from the Teacher computer.
- **Log Events** - permission for Events Watcher and Events Logger tools.
- **Change system settings** - access to Registry, Policies, and access to the Internet etc.
- **Allow Help Requests** - when enabled, student can send Help requests to Teachers via Net Control 2 Server menu.
- **Log Chats History** – chat history will be logged in C:\Users\YOURLOGINNAME\AppData\Roaming\Net Control 2\nc2chat.log file for Net Control 2 MiniChat and in C:\Users\YOURLOGINNAME\AppData\Roaming\Net Control 2\nc2cchat.log file for Chat tool.

**Enable automatic error reporting to developers** – enables anonymous reports to the software developer about critical errors occurred in the student module. The error reports contain only common information regarding the error and a place in the program, which has raised the error.

## Appearance



**Always show Mini toolbar** – when enabled, the student module will display the mini toolbar in the top area of the screen, the popup toolbar provides quick access to Student Console; Lesson Resources and Raise Hand features of Student Console.

**Hide Student Console automatically** – when enabled the Student Console will be automatically hidden if the student cursor is out of the window within more than 5 seconds.

**Show popup notifications for certain operations** – when enabled, the student module will display a popup notification to a user when the teacher uses Control (Remote Desktop) command, runs a program or URL on the student computer, applies a new restriction profile, and for several other operations.

**Enable Help Requests** - when enabled, a student can send help requests to teachers.

**Enable Hand Raising** – when enabled, a student can “raise hand” in the Student Console. This raised hand status will be shown in the teacher console, the teacher can accept the request (“to call on” the student) or reset the status.

**Enable User statuses** – enables “user statuses”. The user status is a short string that is visible on teacher computer in student connection properties, and it’s shown in a tooltip when a student is changing his/her status. With this tool students can quickly communicate with teachers sending short messages to the teacher.

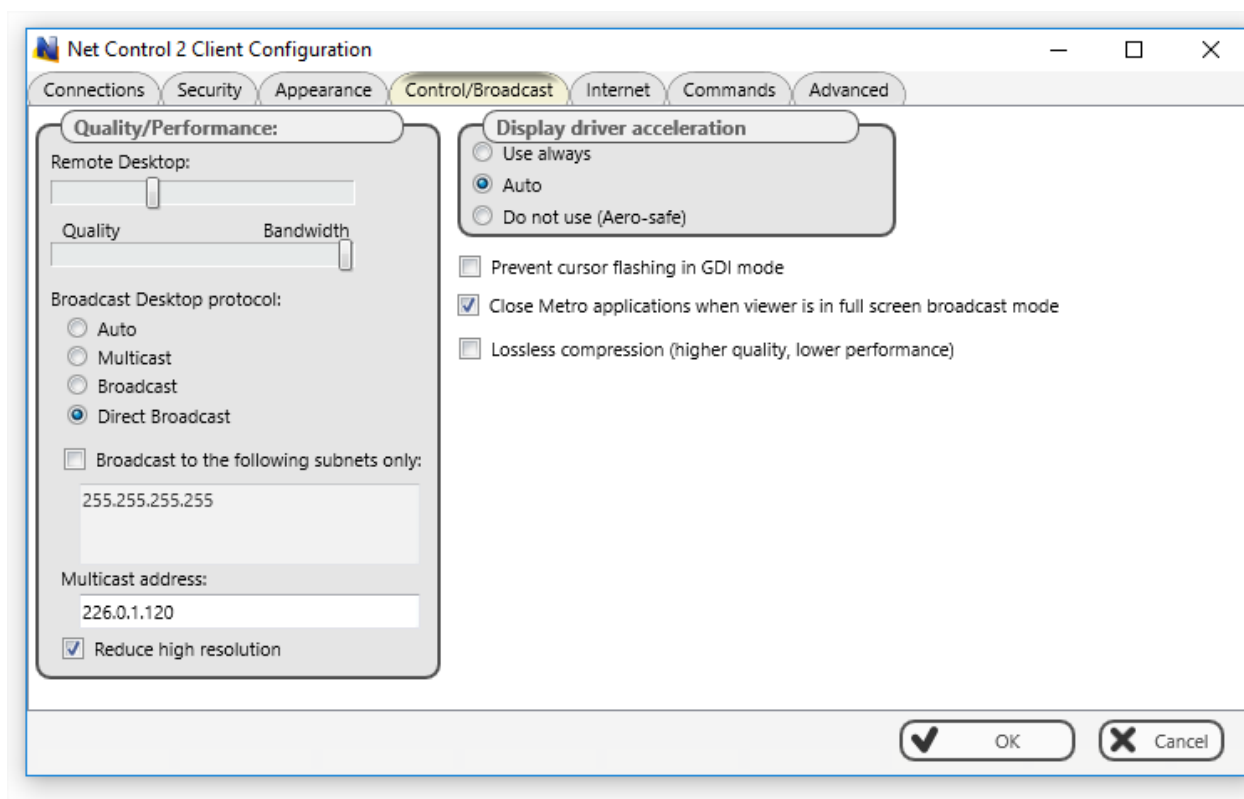
**Allow connecting Instructors by Teacher Session ID** - if enabled, students can connect Instructors by Teacher session ID, for more information please see [Chapter I](#).

**Disable administrator operations (Stop/Exit/Configure)** – when enabled, the Student Console will not provide access to “Stop”, “Exit” and “Configure” commands of Student Console.

**Use monitor** –in a multimonitor environment, here you can select a display, which will be used as a source for screenshots and thumbnails, displayed on the teacher computer.

**Disable DirectX acceleration** – enable this option, if you experience issues with compatibility of Net Control 2 software with DirectX drivers.

## Control/Broadcast



### Quality/Performance.

Use this option to adjust the level of performance/quality for Remote Desktop and Broadcast Desktop features. Moving the track bar position to the left will increase quality of the picture displayed on remote computer, but at the same time will increase network bandwidth usage and may result slower speed of image refreshing.

**Broadcast Desktop** protocol:

**Auto** – the default value, Broadcast Desktop service will try to determine the transmission protocol automatically.

**Broadcast** – when enabled, the Broadcast Desktop service will use UDP Broadcast protocol for transmission data over network. This protocol has better compatibility with network configurations and hardware, and is recommended if clients use Windows XP operating system. If a network consists in several VLANs, a router or other network hardware may prevent information sent in Broadcast mode from sending to other VLANs, in this case you may need to add IP address of every VLAN to the broadcast list. For example if VLAN 1 uses IP addresses in range 192.168.0.1-192.168.0.254 and VLAN2 uses IP address range 192.168.1.1-192.168.1.254, you need to add the following addresses:

192.168.0.255

192.168.1.255

as IP masks for the specified networks.

**Multicast** – Broadcast Desktop service will use Multicast protocol as a transport protocol. Most often this protocol has better performance and resistance to errors during data transmission if clients use Windows Vista/7/8/10 operating system. If the default Multicast address interfere with other network software used in your network, you can change it in this dialog, and need to change it on all Student and Teacher computers.

**Direct Broadcast** – *enable this mode, if you experience issues with the performance of Broadcast Desktop tool* with the default parameters, this mode has the better performance in slow or in high-loaded networks, but generates more network traffic than the previous modes.

**Display Driver acceleration** – enables or disables Video Hook Driver acceleration for Remote Desktop and Broadcast Desktop tools.

Video Hook Driver provides better performance and accuracy in screen changes tracking for these tools. In Windows Vista/7, when the VHD driver is active, Windows will disable Aero style for windows (semi-transparent borders and captions) as also some DirectX3D features, which will be restored only after stopping the driver.

If you prefer to have Aero style active during Broadcast Desktop/Remote Desktop sessions in Windows 7, you need to disable the driver, setting up the “Do not use (Aero safe)” option.

For Windows 8/10, “Auto” or “Use always” modes are recommended.

**Prevent cursor flashing in GDI mode** – in several cases, some display/theme configurations may result flashing the mouse cursor on student computers when Remote Desktop session (“Control” command) is active, or on a teacher computer in Broadcast Desktop session. To avoid this issue you can enable this option.

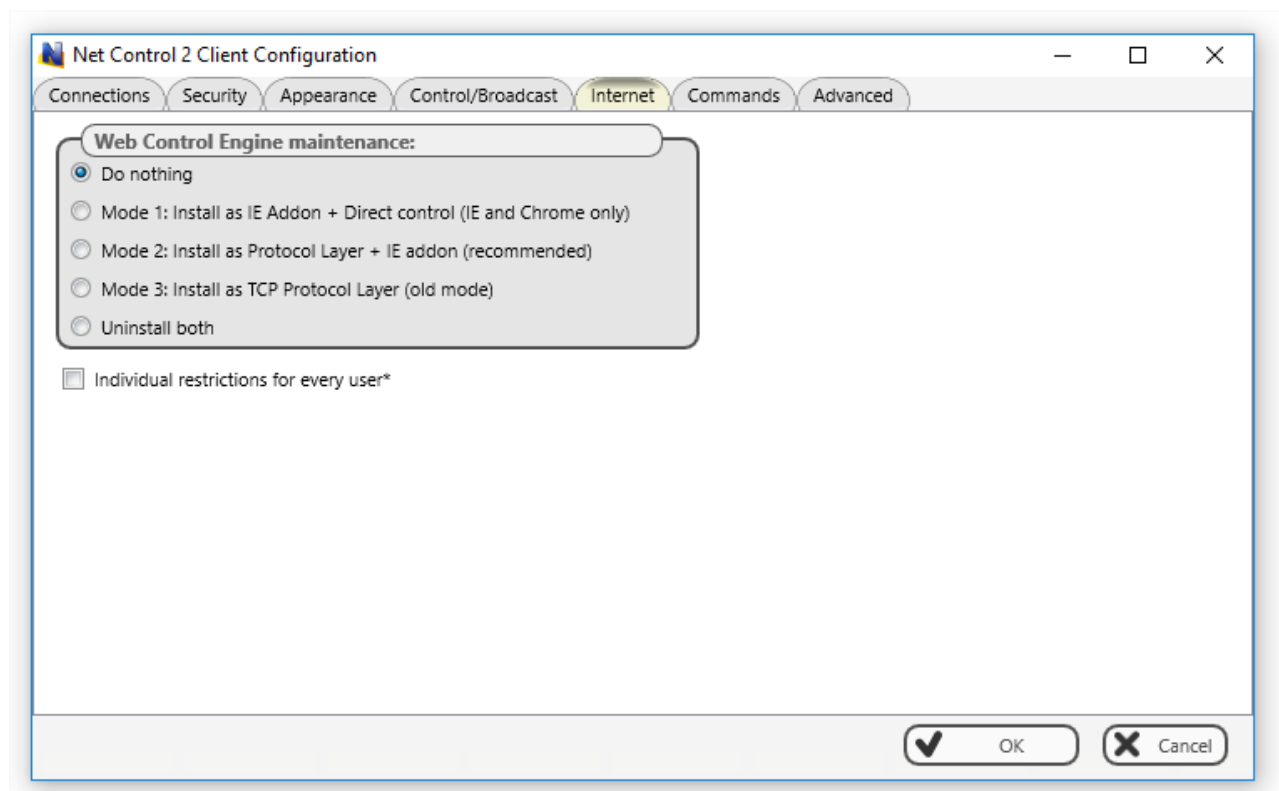
**Close Metro applications when viewer is in full screen broadcast mode** – in Windows 8, full-screen Metro-applications may overlap Net Control 2 Broadcast Desktop Viewer window,



making it invisible for students. When this option is enabled, the student module will automatically close all Metro applications before opening Broadcast Desktop Viewer window.

**Lossless compression** – when enabled, Broadcast Desktop and Remote Desktop tools will use lossless compression algorithms for image compression, this makes possible to display high quality picture of the remote computer on the receiving side, without compression “artifacts”, but generates 1.5-2 times higher volume of network traffic.

## Internet



**Web Control Engine maintenance** – manage the installation of the Internet Control Engine. Setting any option, except for “Do nothing”, will schedule the installation routine. **Do not change this value unless you need re-install the Internet Control Engine.**

**Mode 1: Install as Internet Explorer Addon + Direct Control (IE only)** – schedules installation of the Net Control 2 Internet Control Engine as a plug-in for Internet Explorer, and enables internal control of Internet Explorer and Google Chrome browsers from the service. This mode is most compatible with third-party software, but allows controlling access to Internet resources in Internet Explorer and Google Chrome only. Other browsers (Safari, Opera, Firefox, Edge) will be automatically blocked when an Internet restrictions are applied.

**Mode 2: Install as Protocol Layer + IE addon (recommended)** — schedules installation of Net Control 2 Internet Control Engine as a Protocol Layer. In this mode, applied Internet restrictions work in all the most popular browsers (including Internet Explorer, Edge, Chrome, Safari, Opera, Firefox), but the mode is less compatible with third party software. **Use this mode if you need to make Internet restrictions working in alternative browsers, like Chrome, Opera, Safari, Firefox.** If you have any compatibility related issues, or if all Internet restrictions do not

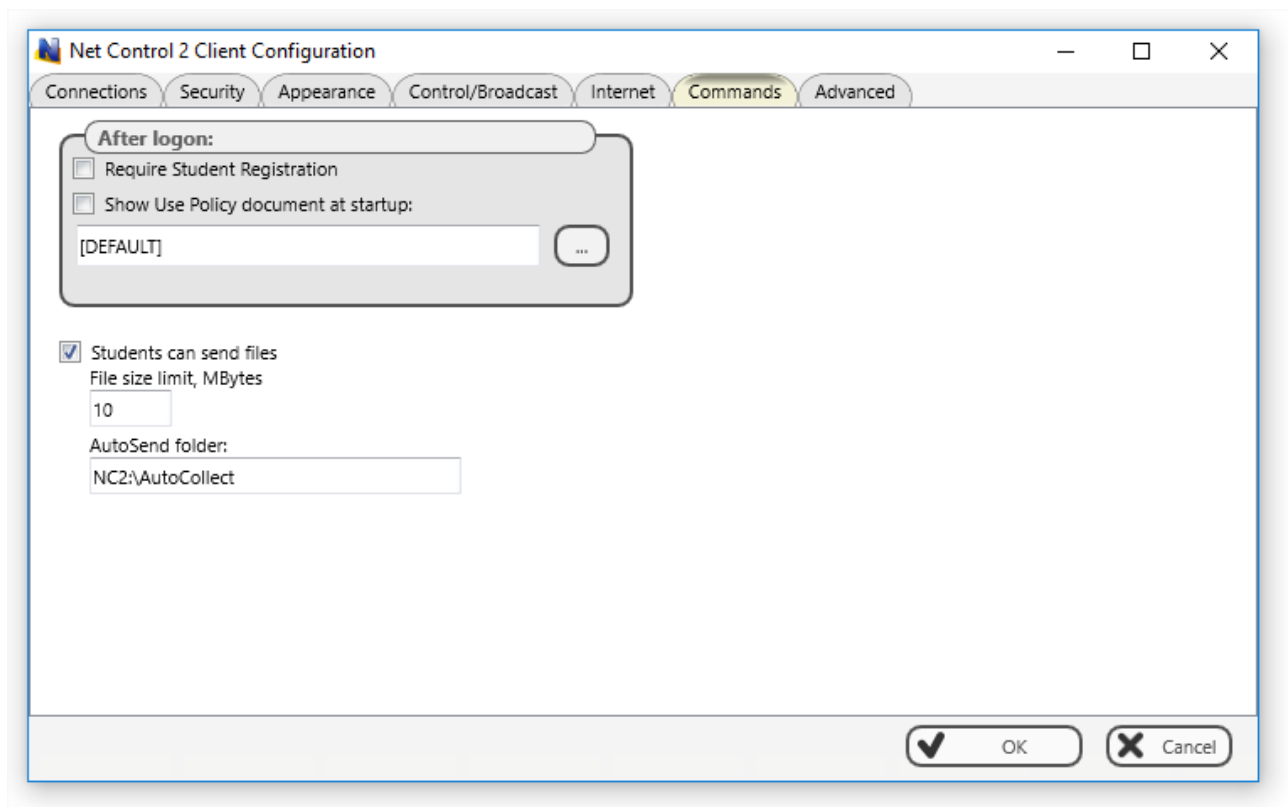
work in your environment, change the mode to Mode 1.

**Mode 3: Install as TCP Protocol Layer (old mode)** – use this mode if you have issues with both Mode 1 and 2.

**Uninstall both** - Internet Control Engine will be uninstalled from the User computer. You can use this option if Net Control 2 software conflicts with other software installed on User computers. All Internet-controlling features will be disabled.

**Individual restrictions for every user** – by default all Internet restrictions are applied to all users of the same computer. This may result some issues when one computer works as a terminal server, several users are working on the same computer, sharing all its resources, and therefore share the same Internet restriction profile. Enable this option if profiles should be applied on a per-user basis, i.e. individually for every user. This option work only together with **Control web-sites from the service** option.

## Commands



**After logon operations** are performed by the service automatically after a user logs on.

**Require Student Registration** – requires a student to enter his/her real name, other lesson details for Student Registration tool.

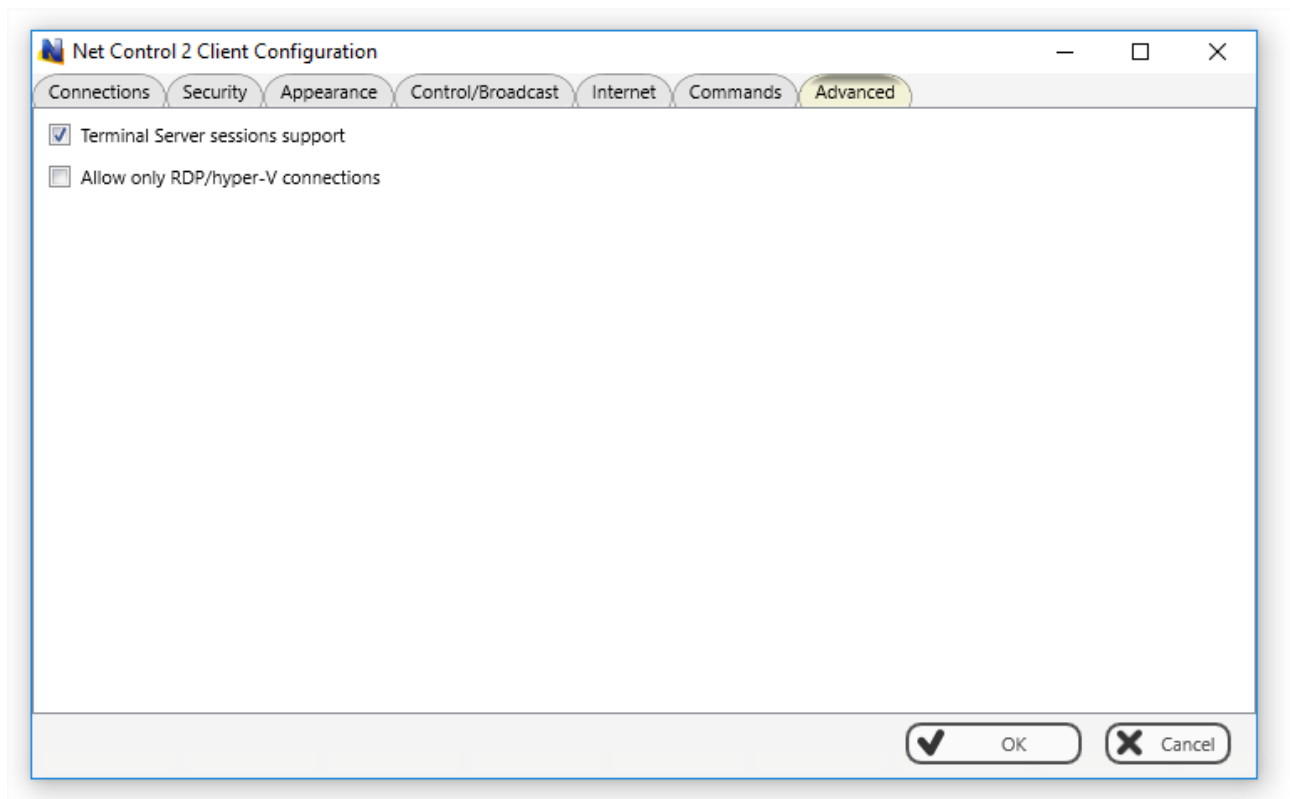
**Show Use Policy document at startup** – when enabled, the service will display the Acceptable Use Policy document at user logon, with this option you can also specify a path to a custom



.RTF or text document that will be displayed instead of the default AUP document.

**Student can send files** – when enabled, Net Control 2 Student module will maintain a special “AutoSend” folder, so all files saved in this folder will be synchronized with connected teacher computers. Here you can also set up a path for the folder (by default it is in Net Control 2 Common Files\AutoSend folder on Desktop), and a limit for files that will be sent to teachers.

## Advanced



**Terminal Server sessions support** – if enabled, the student module will create a separate connection for users in terminal or RDP Windows sessions, this option is enabled by default.

**Allow only RDP/hyper-V connections** – recommended only for hyper-V environments, when two connections (logon screen and desktop screen) appear for each hyper-V virtual machine. This option disables the student module in console (real) sessions and enables it only for terminal sessions. Do not use it this option outside of the hyper-V environment.

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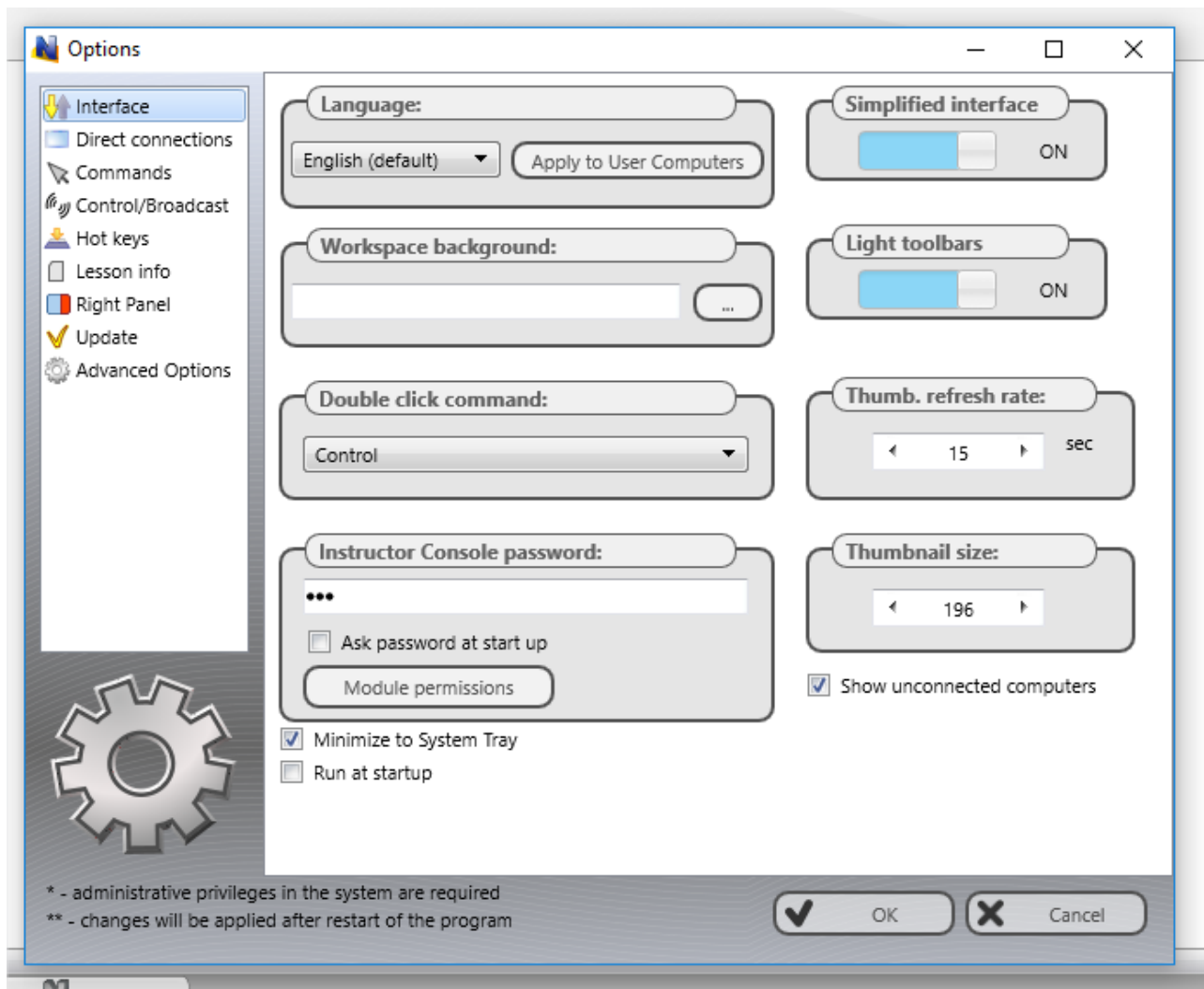
## K. Teacher module settings

To change settings and options of Net Control 2 Teacher Console, click the main menu command **N -> Options -> Options**.

Several options of Control Options window are marked with (\*) sign. To change these options you need to run the teacher module as administrator: in Windows 7-10 right click Net Control 2

PRO shortcut on Desktop or in Start menu, then click menu command **Run as Administrator**.

## Interface



**Language** – select a language for the user interface. To apply language settings to client computers, select them in connections list, then select a language and click the **“Apply to User computers”** button.

**Workspace background** – use this option to set up background picture for the connections list.

**Double-click command** – allows to specify a command, which will be performed when a user double clicks a thumbnail in the connections list. Default double-click command opens Remote Desktop session with the selected computer.

**Instructor Console password** – here you can set up a password for the teacher console. If **Ask Password at startup** option is enabled, the password will be required at the teacher module startup. Otherwise the password is used by **Lock Console** command when you need to block the teacher module temporarily.

**Module permissions** – click this button to set up Windows security settings for the teacher module program file.

**Simplified Interface** – when enabled, the Basic View mode will be enabled, please see [Chapter E](#) for more information.

**Light Toolbars** – when enabled, turns on light toolbars for the user interface.

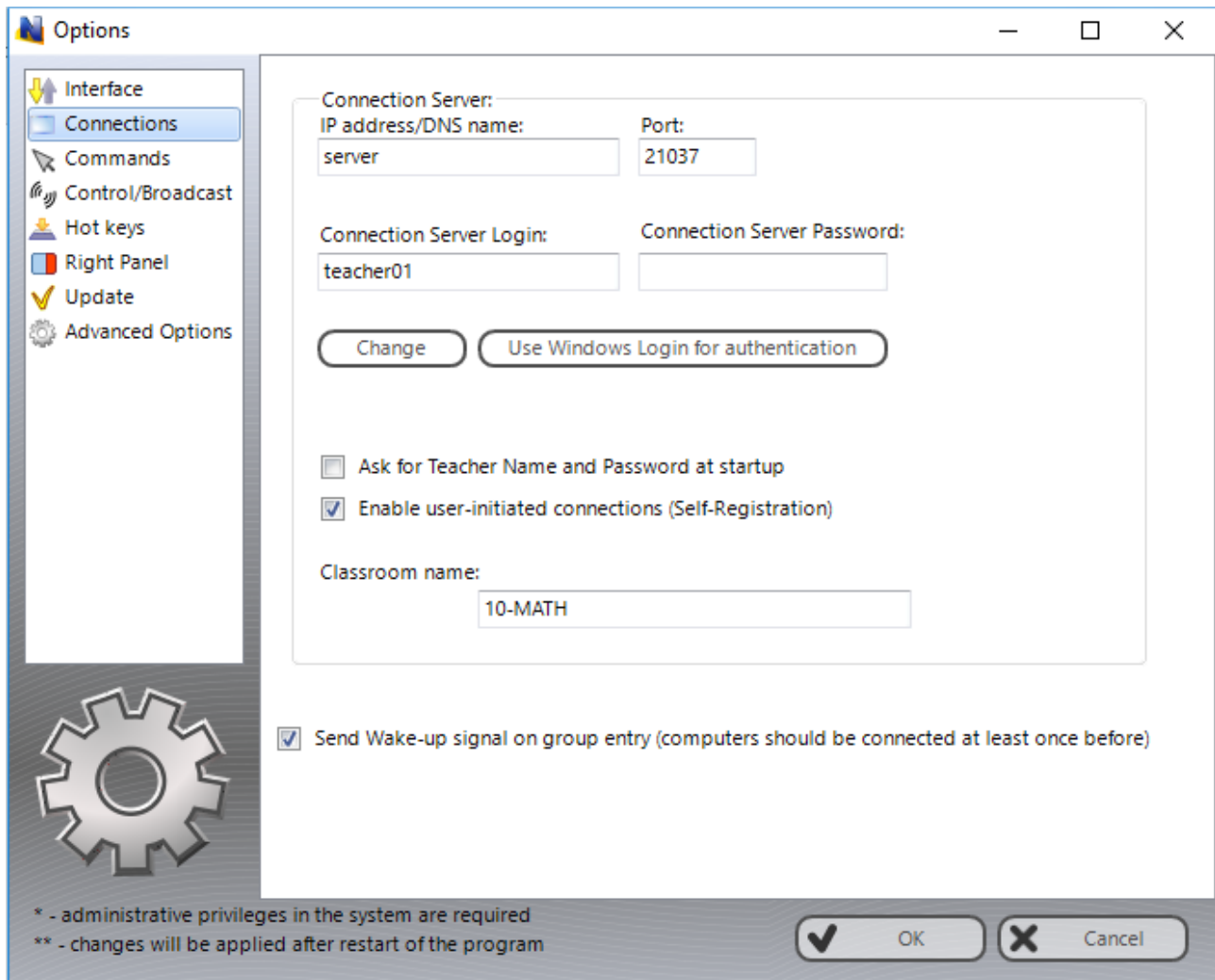
**Thumbnail Refresh interval** – specifies a refresh interval in seconds, when thumbnails of client connections will be updated.

**Thumbnail size** – specifies a width in pixels of a client connection thumbnail.

**Minimize to System Tray** – when the option is enabled, being minimized to the taskbar, Net Control 2 Administrator Console will remove its button from the taskbar and place an icon to the System Tray.

**Run at startup** – when the option is enabled, the program will be started automatically at Windows startup.

## Connections



The screenshot shows the 'Options' dialog box with the 'Connections' tab selected. The left sidebar contains a tree view with 'Interface', 'Connections', 'Commands', 'Control/Broadcast', 'Hot keys', 'Right Panel', 'Update', and 'Advanced Options'. The main area contains the following settings:

- Connection Server:**
  - IP address/DNS name:
  - Port:
- Connection Server Login:**
- Connection Server Password:**
- 
- ☐ Ask for Teacher Name and Password at startup
- ☒ Enable user-initiated connections (Self-Registration)
- Classroom name:**
- ☒ Send Wake-up signal on group entry (computers should be connected at least once before)

At the bottom, there is a footer with two lines of text: '\* - administrative privileges in the system are required' and '\*\* - changes will be applied after restart of the program'. To the right of this text are three buttons: a checkmark icon, 'OK', and 'Cancel'.

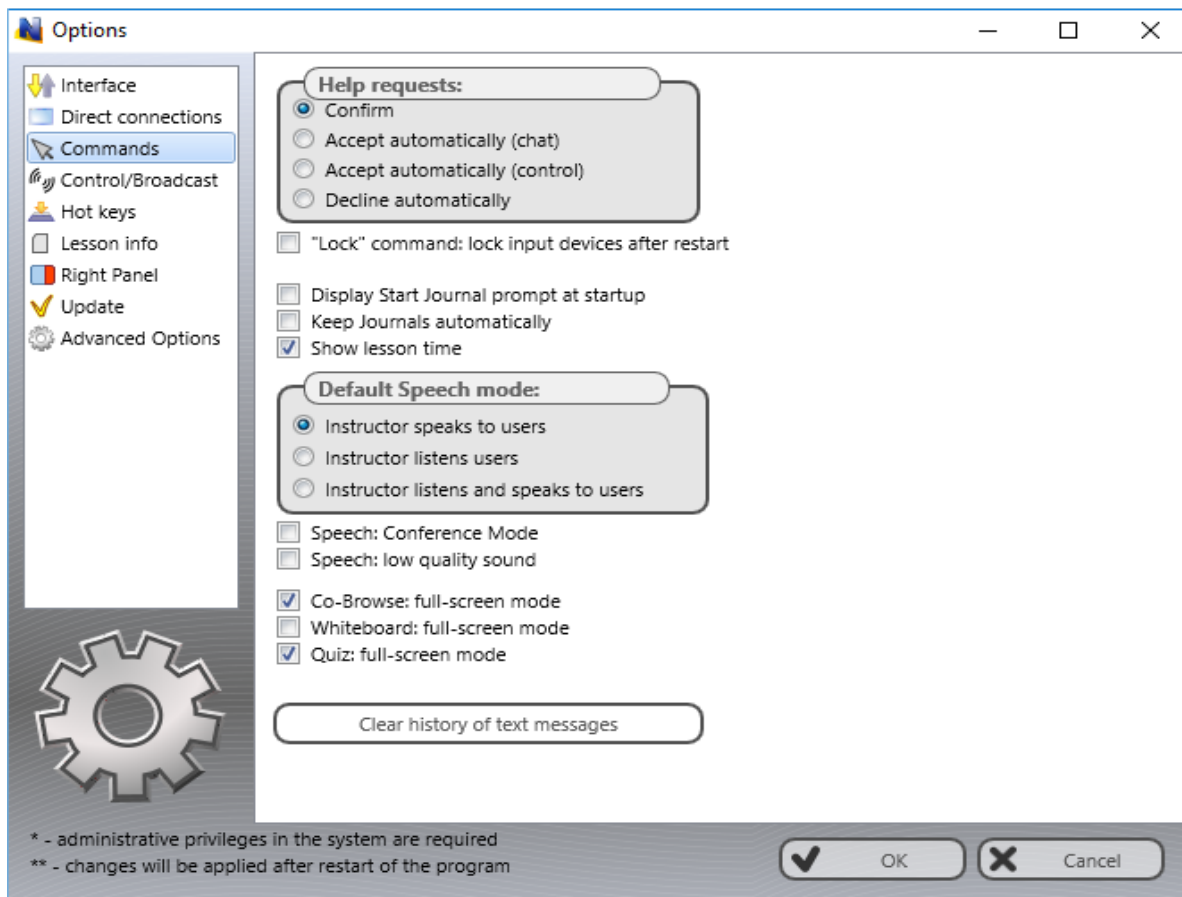
Provides access to Connection Server settings (address, login credentials), described in previous chapters.

Ask for Teacher Name and Password at startup – if enabled, the teacher module will display a prompt for connection server credentials at startup of the teacher console.

Send Wake up signal on group entry – if enabled, the teacher module will send “Wake up”

signal to computers of the group. This signal is sent only to computers that were connected to this teacher module within the current group before.

## Commands



**Help requests** – determines a default action, which will be applied when a teacher receives a help request from a client computer:

**Confirm** – the software will prompt the teacher what action should be applied;

**Accept automatically (chat)** – accepts the request and initiates a chat session;

**Accept automatically (control)** – accepts the request and initiates remote control session;

**Decline automatically** – help requests will be automatically declined.

**Lock command: lock input devices after restart** – when enabled, and client computer was locked with the “Lock” command, Net Control 2 Client will restore the locked state of the client computer after restart.

**Display Start journal prompt at startup** – when enabled, the teacher console will display the “Start journal” prompt at program start up. For more information please refer to **the Journal** chapter of Tools and Features Guide.

**Keep journals automatically** – the teacher module will start a new journal automatically for each new session, when you are opening the teacher console, and will save it automatically when you are closing the program; the current journal will be stored in Documents\Net Control 2 folder.

**Show lesson time** – shows a lesson timer in the upper right hand corner of the teacher console.

**Default speech mode** – determines a default mode for Speech Manager tool, when you are opening it.

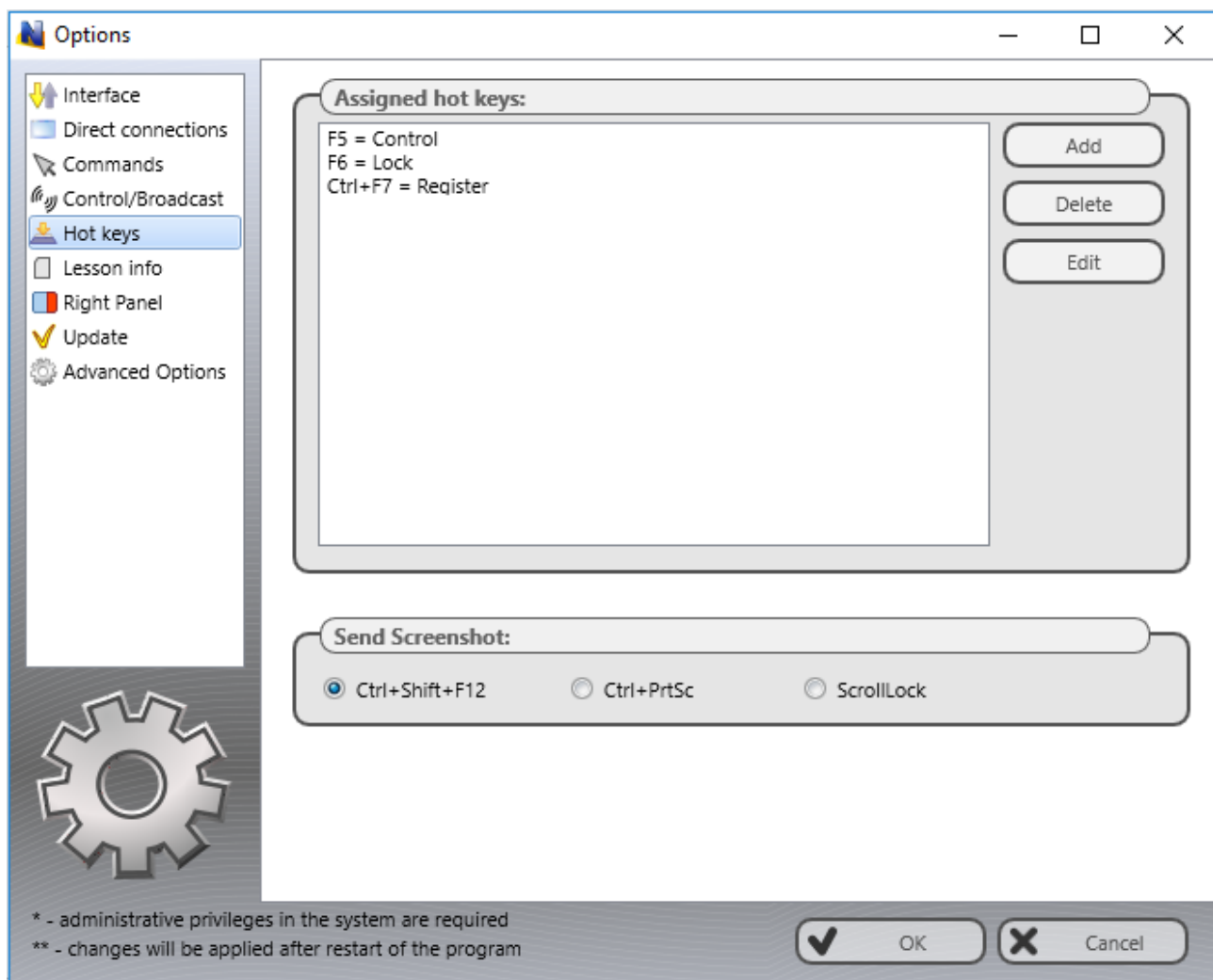
**Speech: Conference mode, Speech: low quality sound** – Speech Manager quality settings, for more information please see “Speech Manager tool” chapter in Tools and Features Guide.

**Co-Browse: full screen mode, Whiteboard: full screen mode, Quiz: full screen mode** – enables full screen mode on student computers for Co-Browse, Whiteboard and Quiz tools.

## Control/Broadcast page

Provides access to settings of Control (Remote Desktop) and Broadcast Desktop tools, for more information please see “Broadcast Desktop” tool chapter in Tools and Features Guide.

## Hot Keys

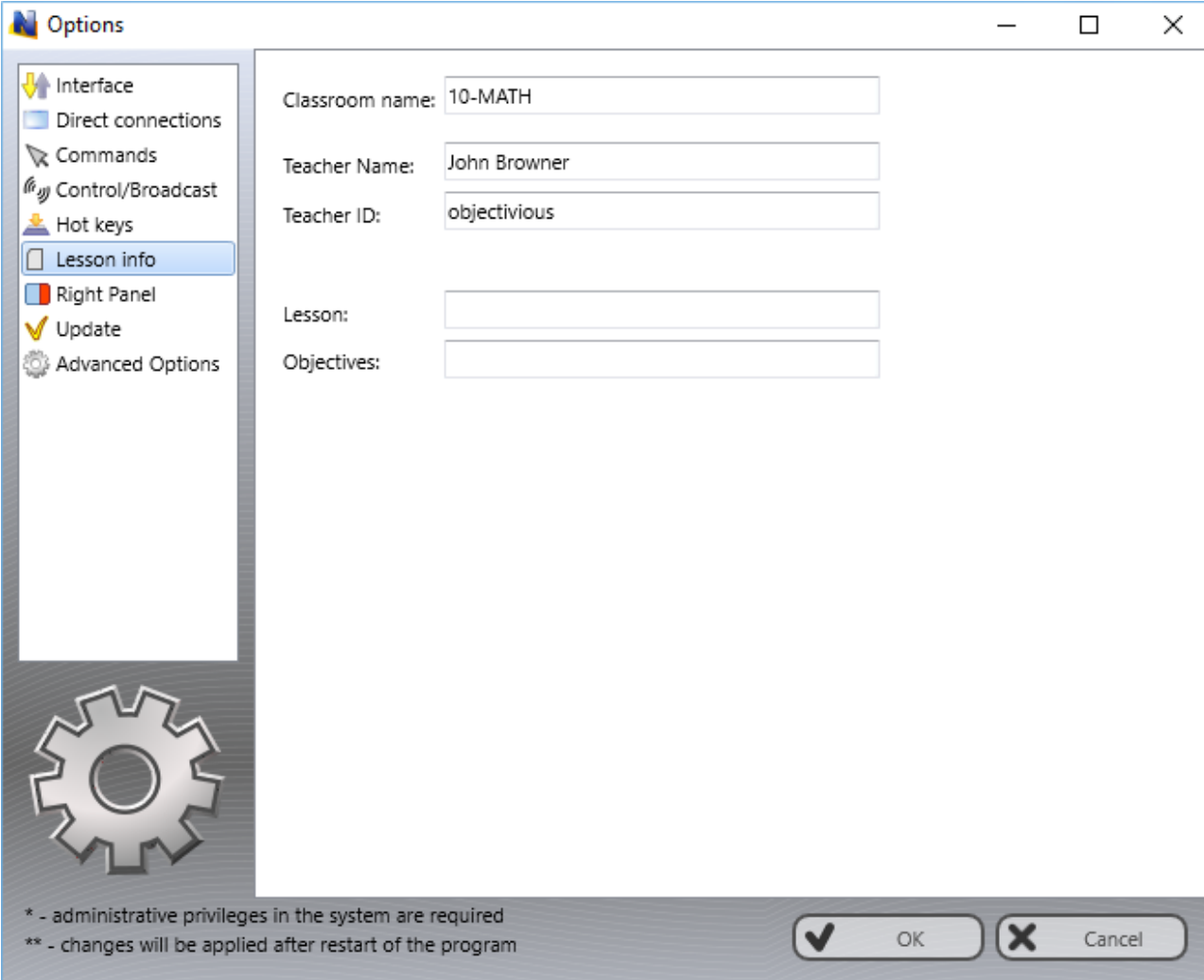


On this page you can assign a hot key to Net Control 2 PRO tools or commands; to change a default hot key for the “Send snapshot” command.

The hot key for the “Send snapshot” command is a global key combination, i.e. it works in any Windows application when Net Control 2 software is running at background.

## Lesson Information

The information on this page may be also updated with Start Journal, Lesson Resources, Student Registration tools. Teacher and lesson information is visible on student computers in Student Console window.



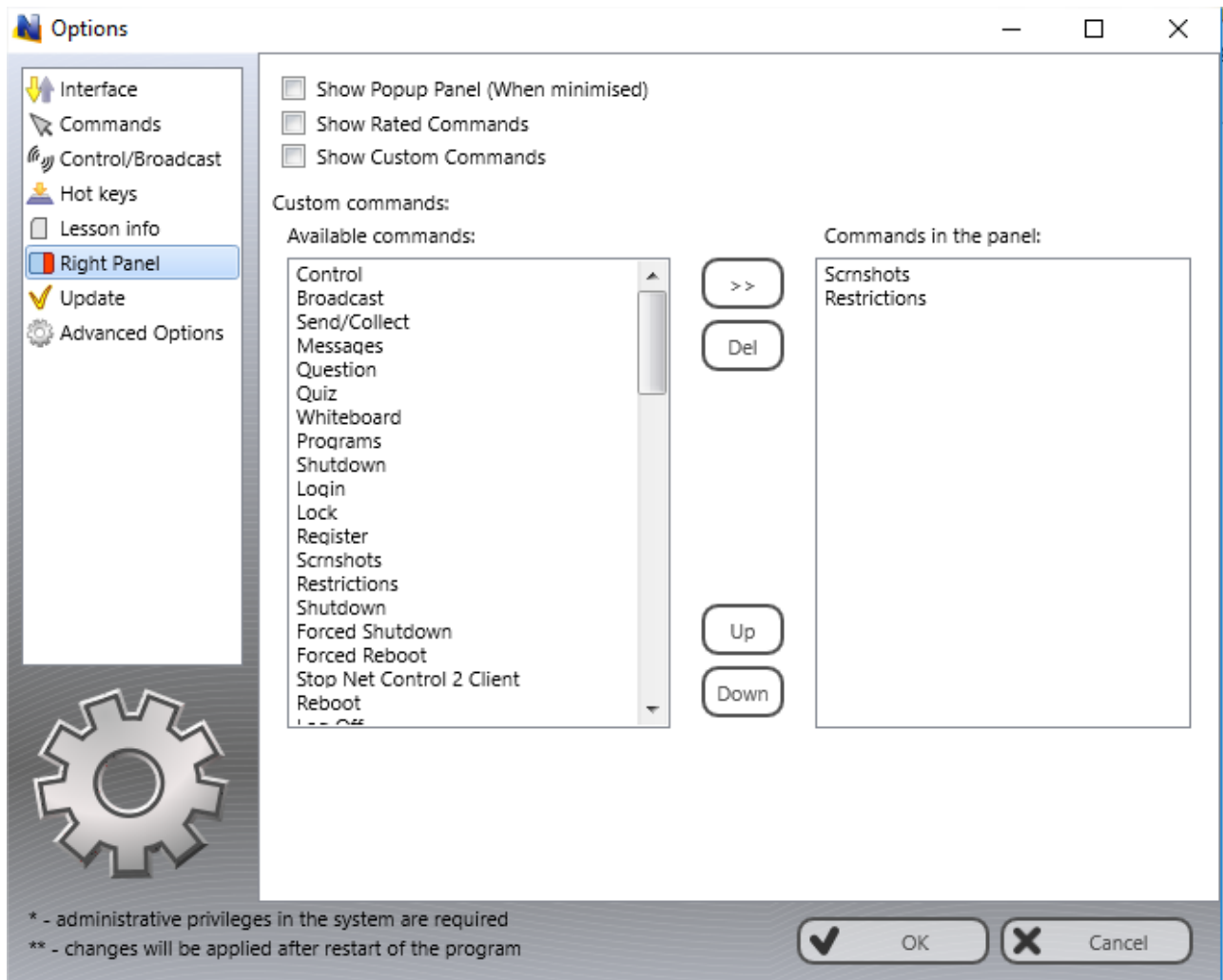
The screenshot shows the 'Options' dialog box with the 'Lesson info' tab selected. The dialog has a sidebar on the left with icons for Interface, Direct connections, Commands, Control/Broadcast, Hot keys, Lesson info (selected), Right Panel, Update, and Advanced Options. Below the sidebar is a large gear icon. The main area contains the following fields:

- Classroom name: 10-MATH
- Teacher Name: John Browner
- Teacher ID: objectivious
- Lesson: (empty field)
- Objectives: (empty field)

At the bottom left, there are two lines of text: '\* - administrative privileges in the system are required' and '\*\* - changes will be applied after restart of the program'. At the bottom right, there are 'OK' and 'Cancel' buttons with checkmark and X icons respectively.

## Right panel

The Right panel is a special toolbar that provides quick access to the most often used features and tools.



**Show Popup panel** – when enabled, the teacher module will display a popup panel on the screen when the main teacher module window is minimized, providing quick access to the most important tools.

**Right Panel** – enables or disables the Right panel.

**Show Rated Commands** – enables or disables the Rated Commands tab on the Right panel.

**Show Custom Commands** – enables or disables the Custom Commands tab on the Right panel.

**Custom commands** – the list of commands, displayed on the Custom Commands tab.

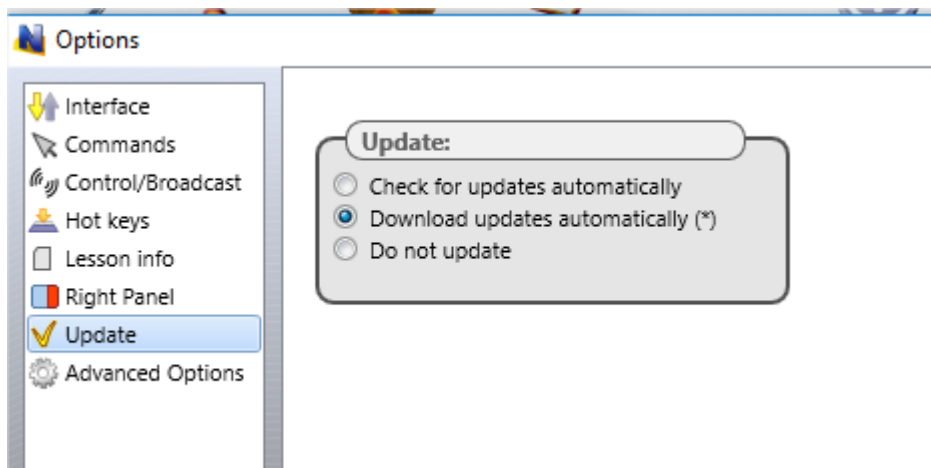
## Update

**Check for updates automatically** – when enabled, the software will check the update server for new versions (updates) of the software and will notify when an update will be found.

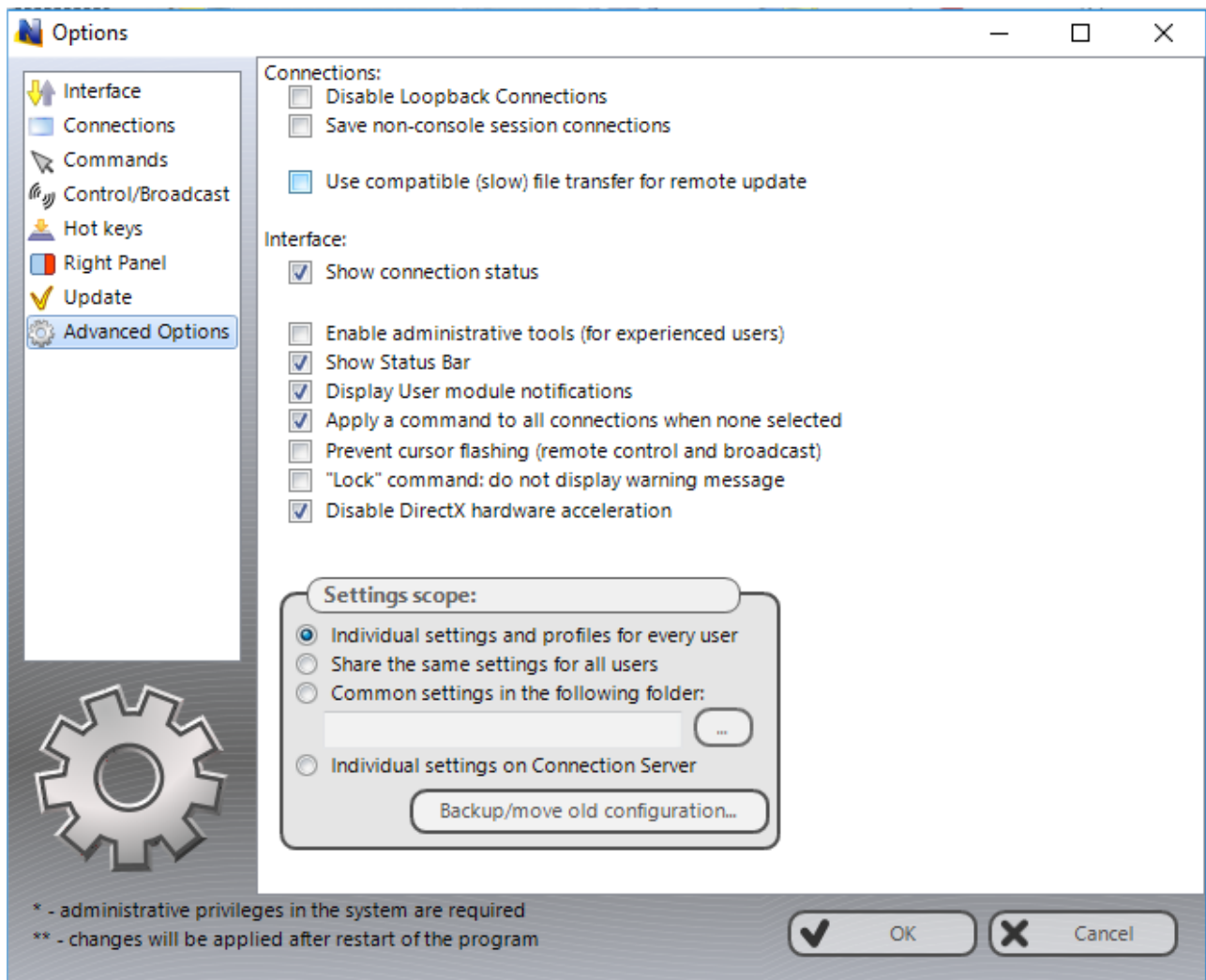
**Download updates automatically** – when enabled, the software will download and update the software on teacher and client computers automatically. To change this option the program should have administrative privileges (please see a comment at begin of this chapter). Only critical updates are passed through automatic update, regular versions should be updated manually.

**Do not update** – when enabled, the software will not check the server for updates.





## Advanced Options



**Disable loopback connections** - Enabled by default. Connections to itself (to the same



computer, where the teacher module is installed) will be blocked. You need to enable this option if the teacher module is installed on a **terminal server**, and student sessions are running on the same terminal server.

**Save non-console session connections** – by default, the software stores connection information in the workspace (position, name, color groups) for connections that represent a real (console) session only, RDP sessions are always dynamic and are not stored. Enabling this option, you are making possible storing information for all sessions, real and terminal ones.

**Use compatible (slow) file transfer mode for update** – enable this option if you need to update client software on student computers using menu command N -> Help and Support -> Update Net Control 2 Client and the client software on student computers has version below 8.xx

**Show connection status** – when enabled, displays status of a connection including error description in a popup message.

**Enable administrative tools** – enables several tools that are intended for experienced users, and are hidden by default, including File Manager, system services control and several others.

**Show Status Bar** – enables or disables the Status bar at the bottom of main window.

**Display User module notifications** – when enabled, the Console will display notifications from client computers when some operation was failed or requires additional attention.

**Apply a command to all connections when none selected** – if enabled, when none connection selected in the connections list, the operation will be applied to all computers.

**Prevent Cursor Flashing** – prevents mouse cursor flashing in Remote Desktop (Control) and Broadcast Desktop tools that may appear with several configurations.

**Lock command: do not display warning message** – when enabled, and client computer was locked with the “Lock” command, Net Control 2 Client will not display a warning message or splash screen.

**Disable DirectX acceleration** – enable this option if the teacher module shows a critical error message after opening some tools.

### Settings scope:

**Individual settings and profiles for every user** – every user on this computer will have its own set of profiles and settings;

**Common settings for all users** – when enabled, all users will share the same settings and profiles;

**Common settings in the following folder** – defines a custom local or network folder, where the teacher console will store its settings, workspace and profiles.

**Individual settings on Connection Server** – settings are stored on Connection Server and are associated with the current teacher account on Connection Server.

## L. Installation of student components using Active Directory Group Policy Objects (GPO) and MSI packages

### Requirements

Windows Server 2003, 2008, 2012 or 2016 with Active Directory services installed, enabled; administrative privileges.

### MSI Packages

Special MSI package for the student module installation through Active Directory GPO and software installation services, is available free-of-charge for registered customers by request. This package is intended for the installation of the student module only, in default configuration and without any additional modification or configuration. Custom settings may be passed to the client module separately, using administrative templates for GPO, please see [Chapter M](#) of this manual.

### MSI Builder

Alternatively, a special MSI Builder utility is available for registered customers. This utility is intended for compiling custom MSI packages with some pre-defined settings. MSI Builder generates unsigned MSI packages.

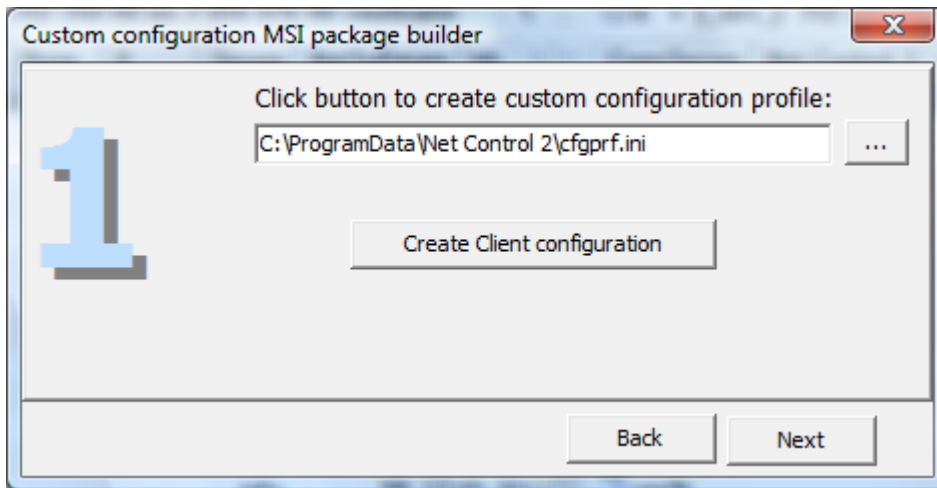
To request the package or MSI Builder program please contact us at <http://ask.netcontrol2.com>

MSI Builder program requires **Microsoft .NET Framework version 2.0** installed. .NET Framework version 2 is part of Windows 7 operating system and you should be able to compile MSI packages in this operating system without additional configuration.

For Windows 8/10 you need to enable .NET Framework version 3.5 component in Windows settings (Control Panel –Programs and Features – Turn Windows Features On or Off – enable .NET Framework version 3.5).

For Windows XP you need to download and install .NET Framework version 2.0 from Microsoft website.

Run MSI Builder from **Start -> All Programs -> Net Control 2 PRO -> MSI -> MSI Builder** menu.



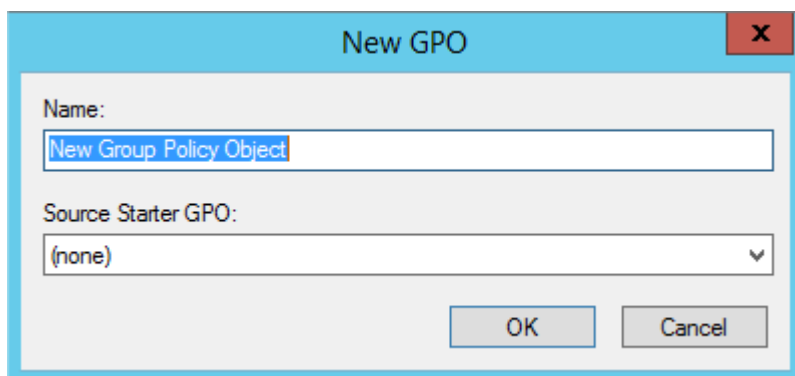
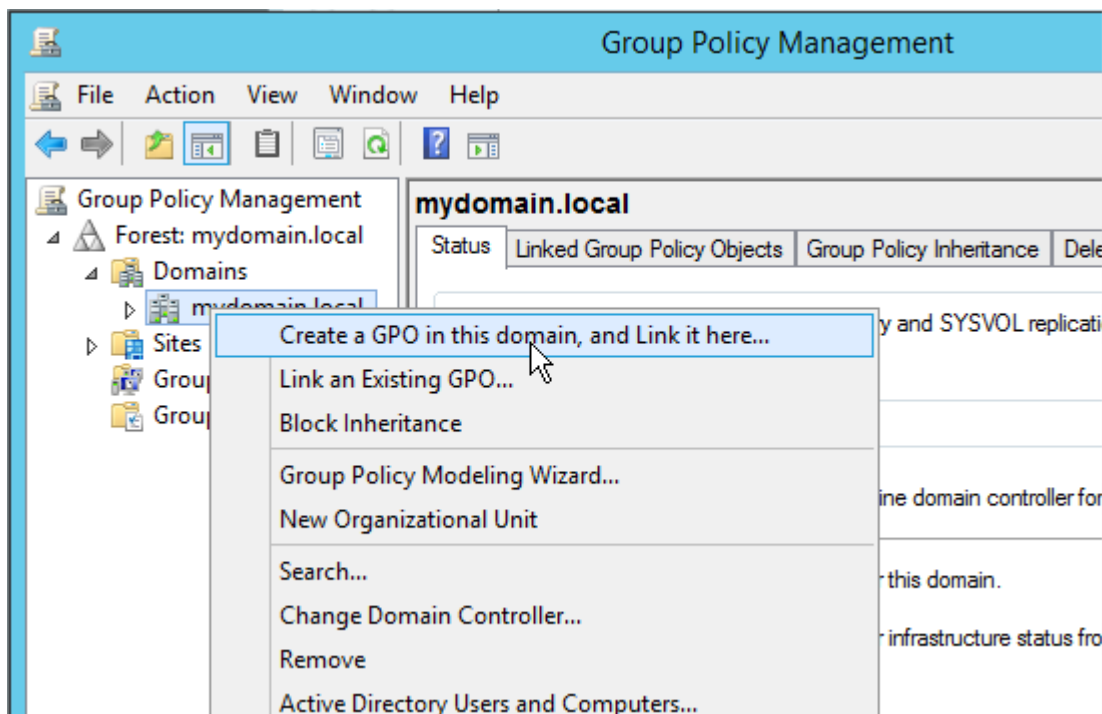
Click **Create Client configuration** button to create the default configuration.

Set up default settings for Net Control 2 Client. On next page, MSI Builder will compile your custom MSI package for deployment.

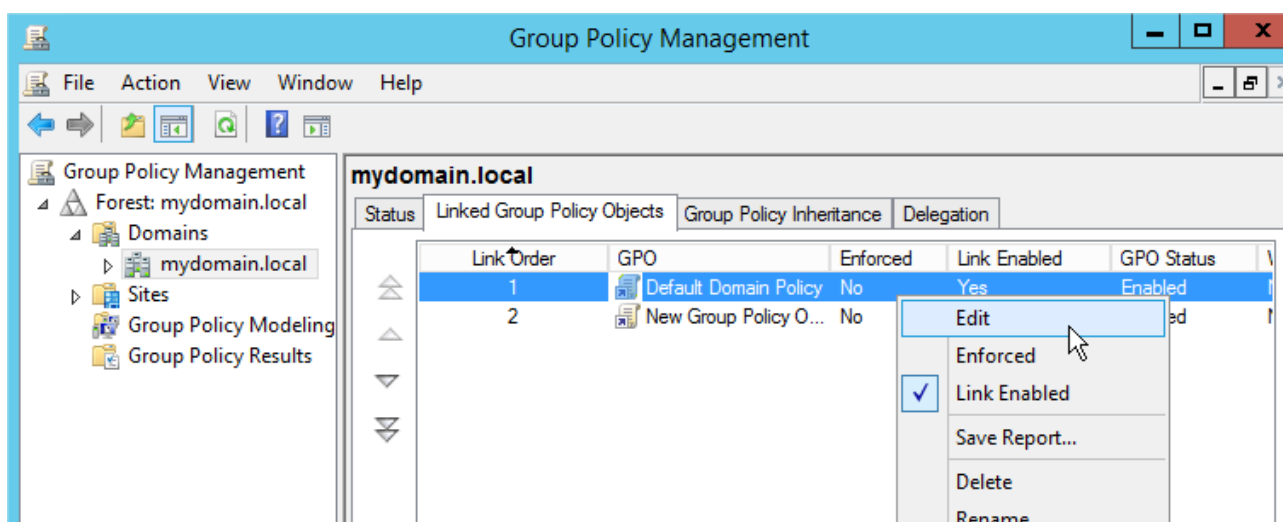
## Deployment

To install either the standard or custom MSI package:

1. Copy the MSI package to a shared folder on your network.
2. Log in to the Domain Controller with administrative privileges.
3. Open **Active Directory Users and Computers** applet.  
(For Windows Server 2012, click **Start -> Administrative Tools -> Group Policy Management**.)
4. On the left pane, browse and select a domain where you wish to deploy the package. Right click and select **Create a GPO in this domain**:

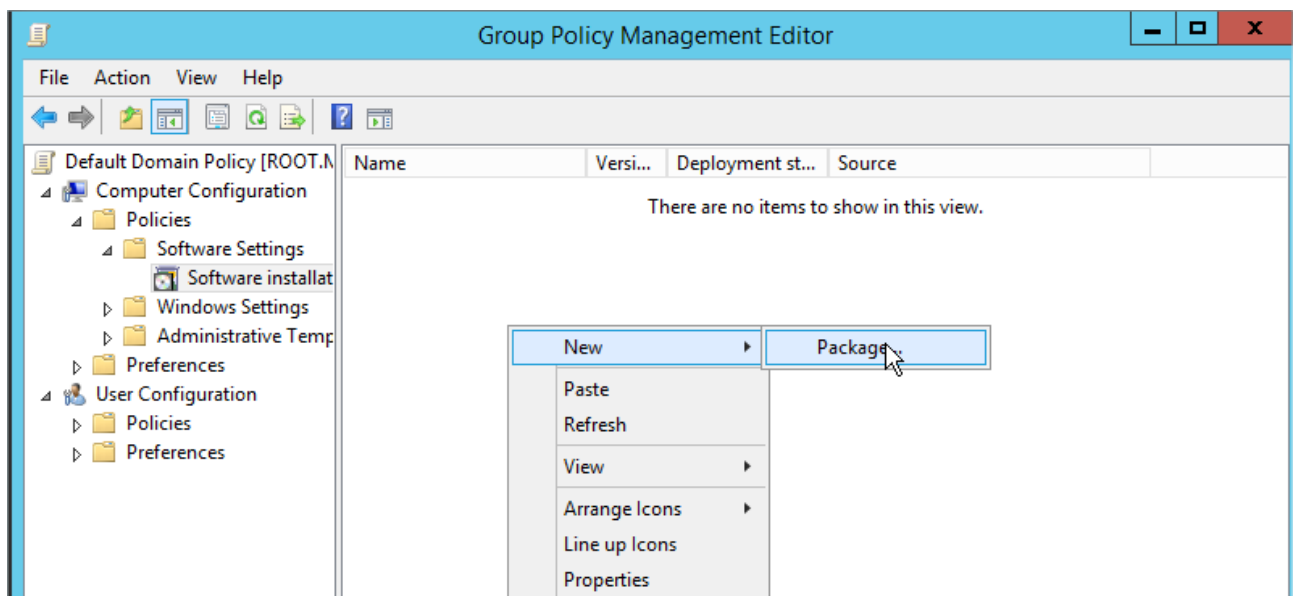


Or edit a default group policy object for the domain. Group Policies you can find on **Linked Group Policy Objects** tab:



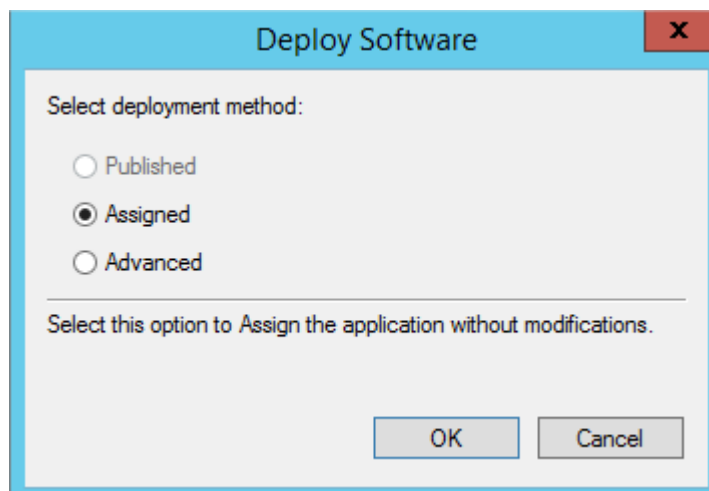
5. In the appeared **Group Policy Management Editor**, expand the left tree: **Computer**

**Configuration -> Software Settings -> Software Installation.** Right click within right pane area, and click menu command **New -> Package** from the context menu.



6. Browse for a network path to Net Control 2 Server MSI package, choose **"Assigned"** and click **OK**.

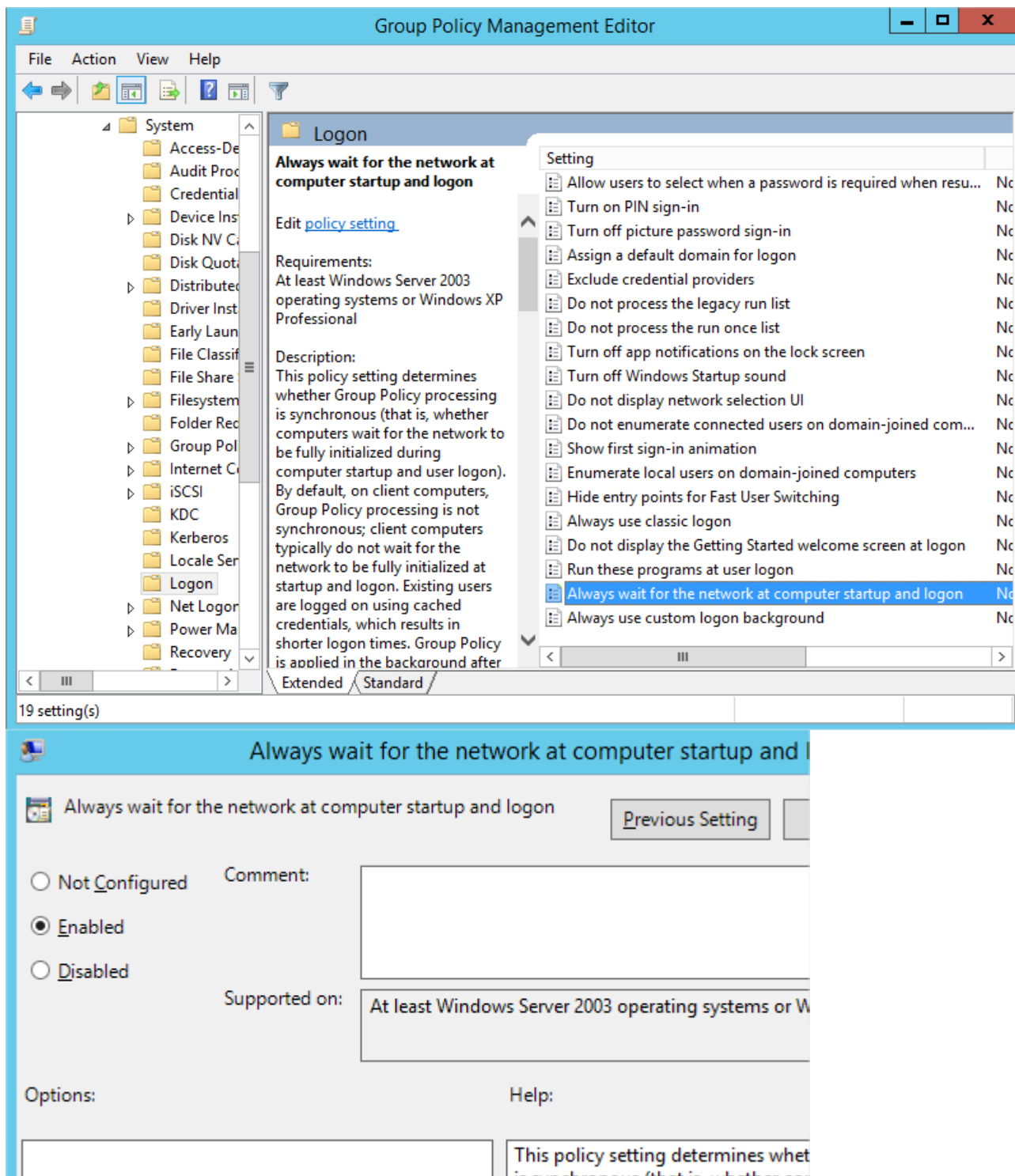
**Please note!** You need to specify a network path to the package exactly, in a network format `\\SERVER\SHARED_RESOURCE_NAME\PATH\msi`. This path should be valid and accessible for all user computers where the software will be installed. Most often MSI package installation fails due to the wrong path to the package.



7. The procedure of software installation through Active Directory GPOs requires availability of the package that is being installed, at the moment of GPO installation on student computers. This means that **"Always wait for the network at computer startup and logon"** policy must be enabled.

You can enable this policy in the same Group Policy Object. Open **Computer Configuration -> Administrative Templates -> System -> Logon -> Always wait for the**

network at computer startup and logon policy; enable it.



8. Close **Group Policies** and restart user computers.

Net Control 2 will be automatically installed when a User computer applies domain settings at Windows startup and logon.

To remove Net Control 2 software from user computers, simply remove the Net Control 2

package from the Software Installation list as described in p.5 of this chapter.

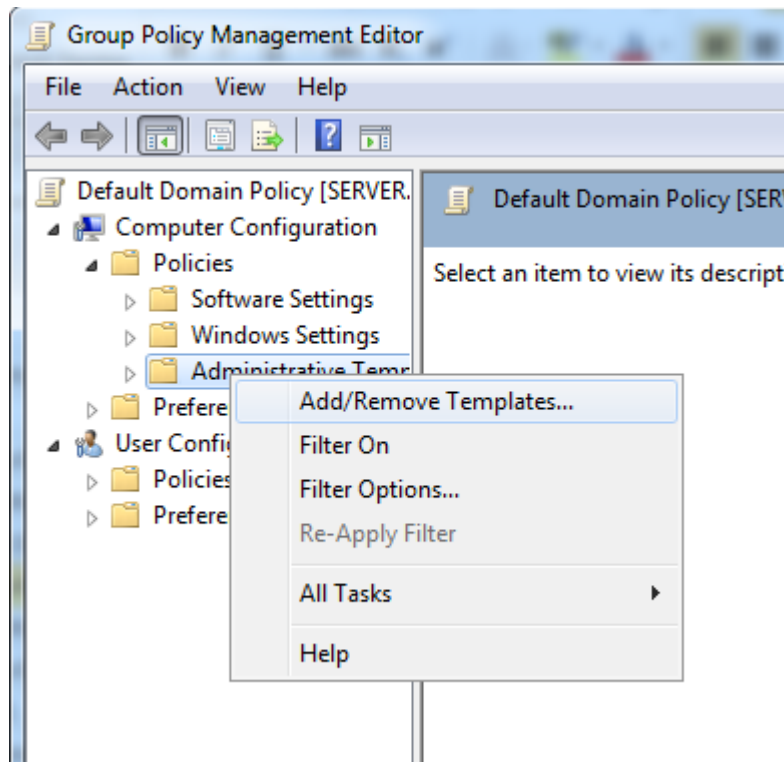
To update Net Control 2 software on user computers, remove the Net Control 2 package from the Software Installation list as described in p.5 of this chapter and add a new package.

## M. Setting up the Net Control 2 Client and Teacher settings with Active Directory Administrative templates

Several settings of Net Control 2 Client Module and Teacher module may be set up remotely using Active Directory Group Policies of Windows Server 2003-2016.

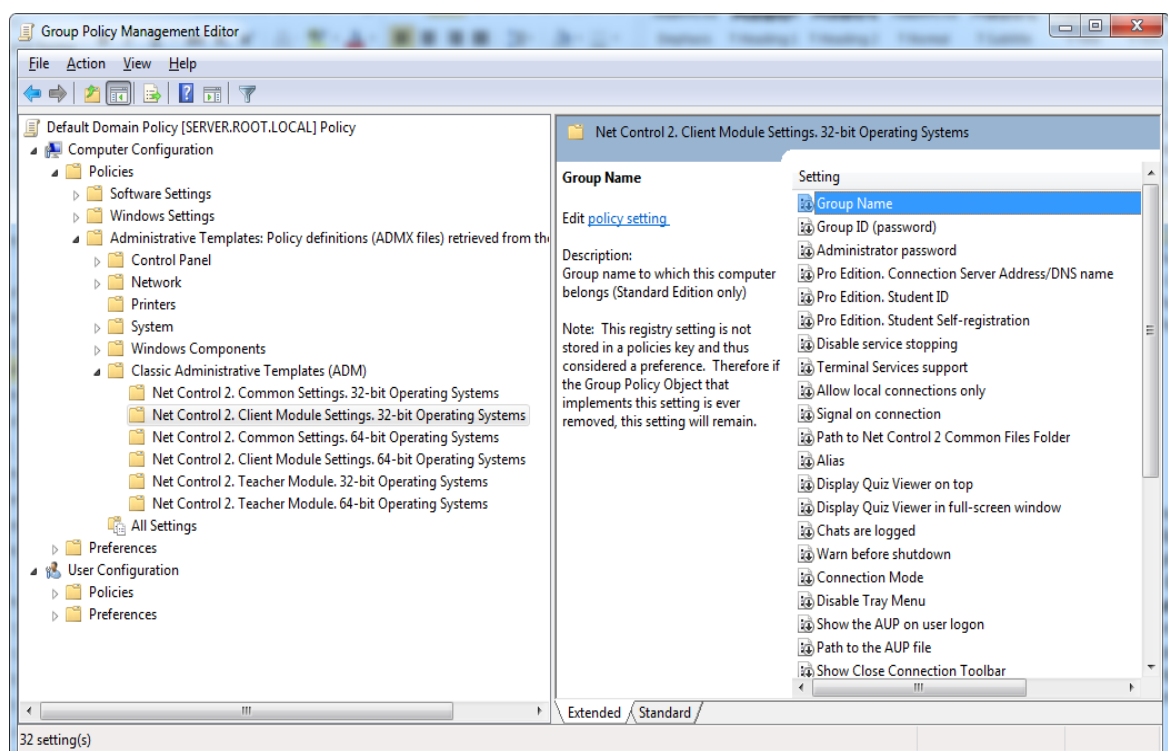
1. Download the administrative templates:  
<http://www.netcontrol2.com/getfile?id=nc2client.adm>  
and  
<http://www.netcontrol2.com/getfile?id=nc2teacher.adm>
2. Open the Group Policy Management console: for Windows 2008/2012 click Start -> Administrative Tools -> Group Policy Management.
3. Select a policy where the settings should be deployed. For example Default domain policy.
4. Right click it and select **Edit** menu command to open **Group Policy Management Editor**.
5. In the editor, at left pane open **Computer Configuration -> Policies -> Administrative Templates**.
6. Right click the **Administrative Templates** option and click **Add/Remove templates** menu command:





7. In **Add/Remove Templates** window click **Add** button to add Net Control 2 template files downloaded in p.1

8. When templates are imported you can change Net Control 2 settings in **Computer Configuration -> Policies -> Administrative Templates -> Classic Administrative Templates (ADM)** section. Settings in 32 and 64 bit operating systems are stored separately and therefore the administrative templates provide separate sections for 32 and 64 bit operating systems. If you have mixed computers with 32 and 64 bit operating systems, both sections should be configured.



## N. Script installation with standard installation package

The standard executable installation package provides a mechanism for a non-interactive centralized installation and deployment the package in large networks, Active Directory and SCCM environments with installation scripts.

**Please note!** The installation script must have administrative elevated or system privileges in the system, otherwise the package cannot be installed. Particularly, for Active Directory scripts you need to use Computer Configuration section of AD GPO, but not User Configuration (which may not have the necessary privileges).

Script installation is unavailable for **Demo-versions** of the software.

The installed package may be pre-configured in the process of installation by passing to the setup package special command line parameters:

**/SILENT** – a required for script installation option, runs the installer in a non-interactive mode, the setup program will display the progress of the installation on the screen but will not wait keyboard or mouse input from a user.

**/COMPONENTS="adm user serv comm drv lspm\ho"** - space-separated list of components, which should be installed. Possible values:

**adm** – Teacher Component

**user** – Student Component, install as service (default)

**serv** – Connection Server component;

**comm**– Common components (required)

**drv**– Install NC2 Video Hook Driver (required for Remote Desktop, Broadcast Desktop and Desktop Recorder tools)

**lspm\lsp**– Install Internet Control Engine in Mode 1: as Internet Explorer plugin and with internal control of Internet Explorer. In this mode Net Control 2 can control only websites visited in Internet Explorer browser, and cannot control other browsers like Firefox, Chrome or Safari. This mode is recommended if you experience issues with the default Mode 2.

**lspm\ho** – Install Internet Control Engine in Mode 2: as protocol layer module and Internet Explorer addon (this mode is recommended).

**/NORESTART** – Do not restart computer automatically after installation

Optional parameters:

**/USERCONNECT:teacher1;teacher2;192.168.1.11;** - for the student module installation, sets up teacher computers that will be connected to this student, teacher1, teacher2, 192.168.1.11 – are

network names and IP address of teacher computers. Names/addresses should be separated with a “;” sign.

**/BDCHANNEL:NN** – specifies Broadcast Desktop channel. Instead of NN please specify the number of Broadcast Desktop channel. When not specified, uses the default channel.

**/CSIP:Address** – IP address or DNS name of Connection Server.

**/TEACHERID:ID** – Teacher ID for Connection Server log in.

**/TEACHERPW:password** – Teacher password for Connection Server log in.

**/ADMPASS:password** – set up administrator password for the student module.

**/ADV:ShowMiniToolbar=0** – disables Net Control 2 toolbar on student computers.

**/ADV:ConnectByTeacherID=1** – for a student module, enables connecting teacher computers by Teacher ID

**Example 1.** To install the software, Student components only in default configuration, execute the following command line:

```
D:\Downloads\net1200r.exe /SILENT /COMPONENTS="user comm drv lspm\ho" /NORESTART
```

**Example 2.** To install Teacher components of the software only, execute the following command line:

```
D:\Downloads\net1200r.exe /SILENT /COMPONENTS="adm comm drv" /NORESTART
```

**D:\Downloads** should be replaced to the actual path to the installation package on a local computer.

---

## O. Student components installation using Net Deploy tool

### Requirements:

- A network with domain;
- User who is installing the software remotely must be an administrator of the computer where the software will be installed (have administrative privileges);
- The Administrative Shared Folder (Remote Admin, ADMIN\$) resource should not be disabled;
- Net Control 2 software is already installed on the Teacher computer;

### The Remote Admin resource.

Remote installation of Net Control 2 PRO software with built-in NetDeploy tool is possible only if Administrative Share ("ADMIN\$") resource is enabled on computers of the network.

#### 1. How to check whether Administrative share is enabled on client computer

On a student computer open Command Prompt window (press Win+R on the keyboard and type cmd.exe)

in the Command Prompt window type:

**net share**

verify that the ADMIN\$ shared resource is in list of resources.

## 2. How to enable Administrative share resource:

### Windows 7-10:

Add the following setting to the system registry of every client computer:

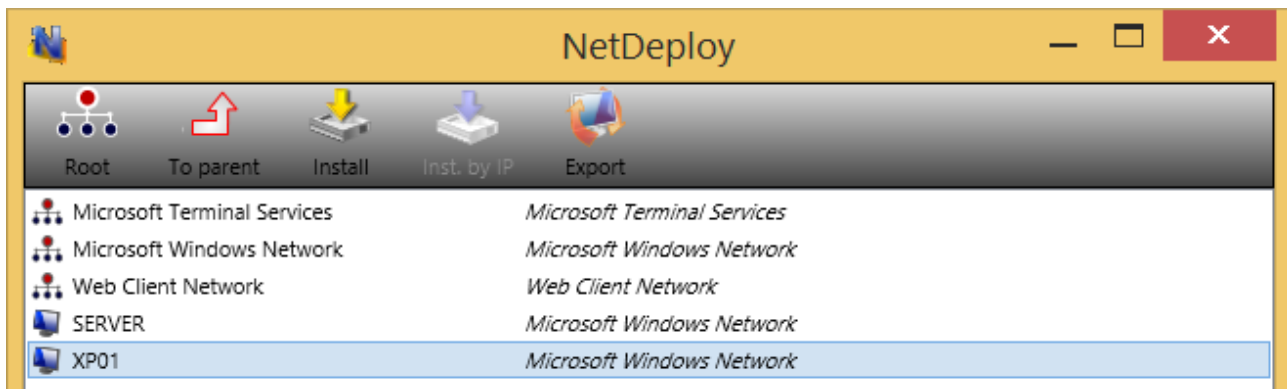
**Key:** HKEY\_LOCAL\_MACHINE\Software\Microsoft\Windows\CurrentVersion\Policies\System

**Value:** LocalAccountTokenFilterPolicy :**DWORD** = 1

To apply changes after altering this setting you need to restart the client computer.

### To install the software:

1. Run the teacher module of Net Control 2 PRO;
2. Click on Top toolbar's command **Net Deploy (Advanced Tools tab)**;
3. In **Network Neighborhood**, find and select computers where the software should be installed;



4. Click **Install (“Install Net Control 2 on Selected Computers”)** button on the top toolbar;
5. Specify local path to Net Control 2 Setup installation package;
6. Specify components of the software that should be installed;
7. Specify Advanced options when necessary;

The image shows a 'Installation options' dialog box with a yellow title bar and a red close button. It contains several input fields and checkboxes. The 'Path to the installer file:' field has a browse button. The 'IP address/host name:' field is empty. There are three checkboxes: 'User components of the software' (checked), 'Administrator components of the software' (unchecked), and 'Restart computer automatically' (checked). Below these are buttons for 'Advanced options', 'OK' (with a checkmark icon), and 'Cancel' (with an X icon). A red warning message states: 'Remote installation is possible only in a domain network environment, if you have administrative privileges in the system.' Below this is a link to 'More information: http://kb.netcontrol2.com/entry/58/'. At the bottom are fields for 'Group Name:', 'Group ID:', and 'Administrator password:'.

7. Click the **OK** button.

The program will try to connect to the remote computer and install the software. If the login name and password of the remote computer's administrator differs from the name and password of currently logged in user, Net Control 2 will prompt to enter the correct login name and password on the remote computer.

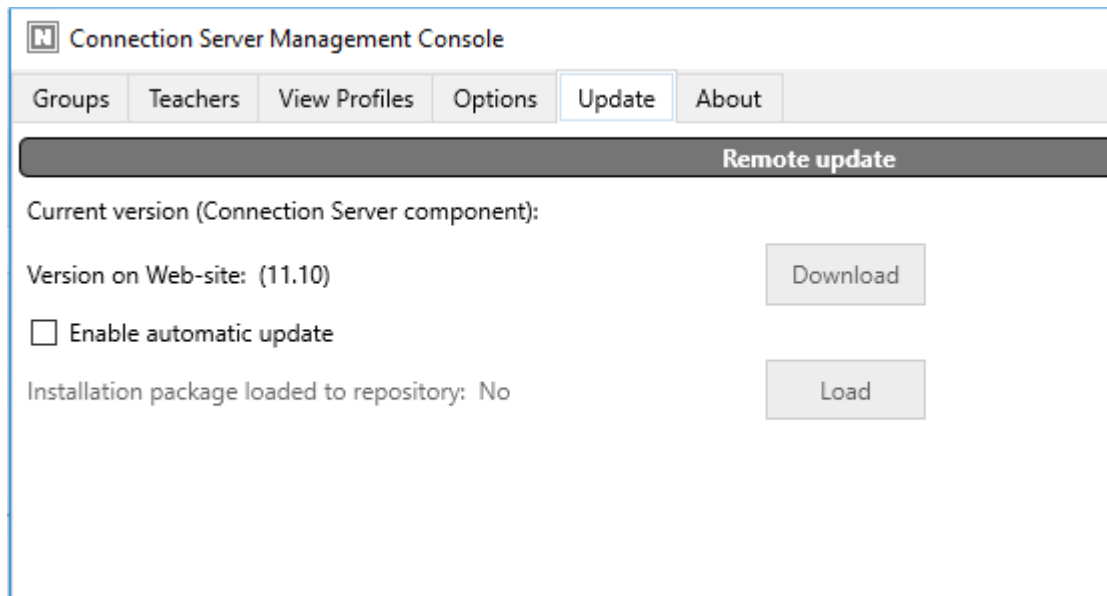
This method of installation will fail if:

- Your network does not have domain
- You do not have local administrative privileges on remote computer
- Provided login name and password of administrator is incorrect

---

## P. Update

**Remote update through Connection Server Update service:**



Using **Update** tab of Connection Server Management Console you can set up automatic update of connecting teacher and student computers to the latest version, loaded to the repository of Connection Server.

To push an installation package to the automatic update:

- Download the latest version of the software (standard .exe installation package, common for teacher and student components);
- On Update tab of Connection Server Management Console click **Load** and open the package.

Please note! It is assumed that Connection Server works with multiple computers at a time, to decrease the server traffic and load of your network resources, Connection Server limits number of simultaneous update requests. Therefore, the update procedure will be distributed in time and may take several days, if your network has thousands of computers.

Close **Connection Server Management Console** program to apply changes.

### **Manual update through the teacher module**

To update the teacher module of the software to a higher version, most often it is enough to close the teacher module, download the latest installation package from our website (please verify that you are downloading the same edition of the software), and install it over existing package without removal of the previous version.+

To update the student module remotely, from the teacher console:

- download the latest installation package or use the package that you have used for installation of the teacher module;
- in the teacher console of Net Control 2 PRO, select student computers that should be updated;
- click the main menu command **N ->Help and Support ->Update Client**
- specify a path to *Net Control 2 installation package* on your computer.

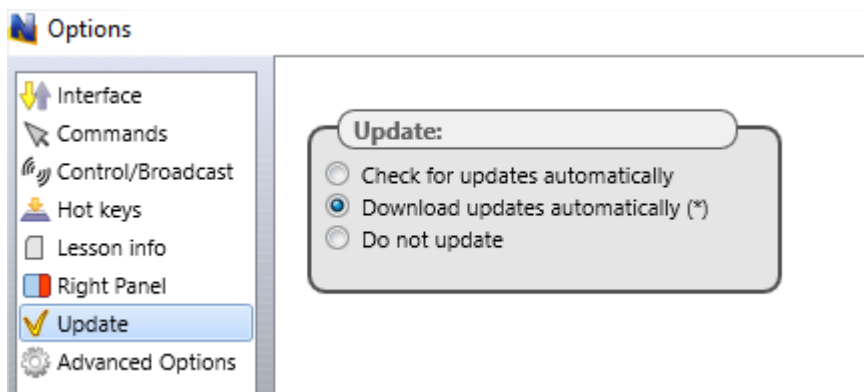
The package will be uploaded to the student computers and installed there.

## Automatic update

Automatic update provides a simple interface to update the software on teacher and student computers automatically.

Please note! Automatic update does not include all versions of the software, we reserve it for critical updates only. It is still possible that a newer version is available on our website and you can use it using manual update methods.

Automatic update feature must be enabled in the teacher module settings: **N ->Options ->Options, on Update page, Download Updates Automatically** option should be enabled



The software will check Net Control 2 update server every 14 days for available new versions. If any update is found, the program will download it to the teacher computer and will deploy it to the user computers as soon as they are connected to the teacher computer.

**Please note:** To change the Update options, the program should be started with administrative privileges in the system. For Windows 7-10, you need to run the program as follows:

- right-click on the Net Control 2 PRO icon on Desktop or in Start ->Programs menu
- click menu command **Run As Administrator**
- confirm execution



## MSI Packages

If the software was installed through **Active Directory Group Policies** and a MSI package, to update the software on student computers, remove the older package from the Group Policies Object, and install the new package.

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## Q. How to disable Groups tab of the teacher console

*This way provides a quick solution for disabling Groups tab in the teacher console. Server features of Professional Edition provide a more effective way of managing access privileges for teachers to access groups and containers. Please refer to [Chapter G](#) for more information.*

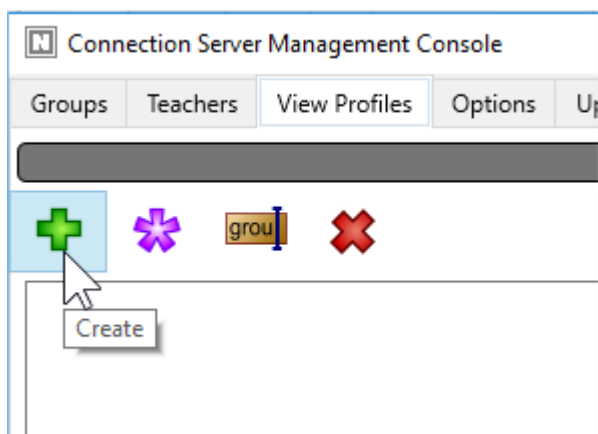
In several cases the Teacher may need to select some default group for a teacher and disable access for teacher to other groups. To prevent access to Groups tab and Groups functions:

- Select the default group, to which a teacher will have access;
- Click the main menu command **N -> Options -> Options**;
- On Interface tab, click the Lock Current Group button;
- Specify some password, which will be used for unlocking the Groups tab;
- Click OK.

To unlock Groups tab, in the same manner click the Unlock Current Group password on Interface tab of the Control Options.

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## R. How to forbid access to some teacher module features



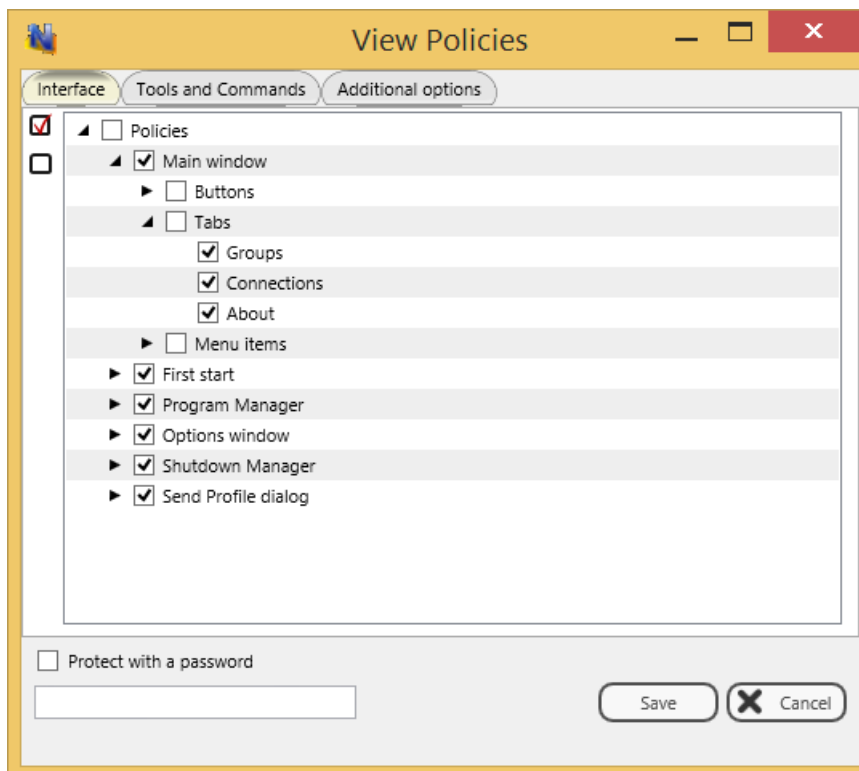
**View Profiles** provide a simple way of adjusting Net Control 2 Teacher module features, it is

possible to disable or limit access to some features of the teacher console for groups of teachers. **View profiles** determines what menu commands and toolbar buttons will be available for a teacher. Disabling certain user elements, you can limit functionality of the teacher module.

In Professional Edition, *View Profiles* are set up on *Connection Server* computer in *Connection Server Management Console*, on **View Profiles** tab. Once created, the profile may be assigned to particular teacher accounts on **Teachers** tab.

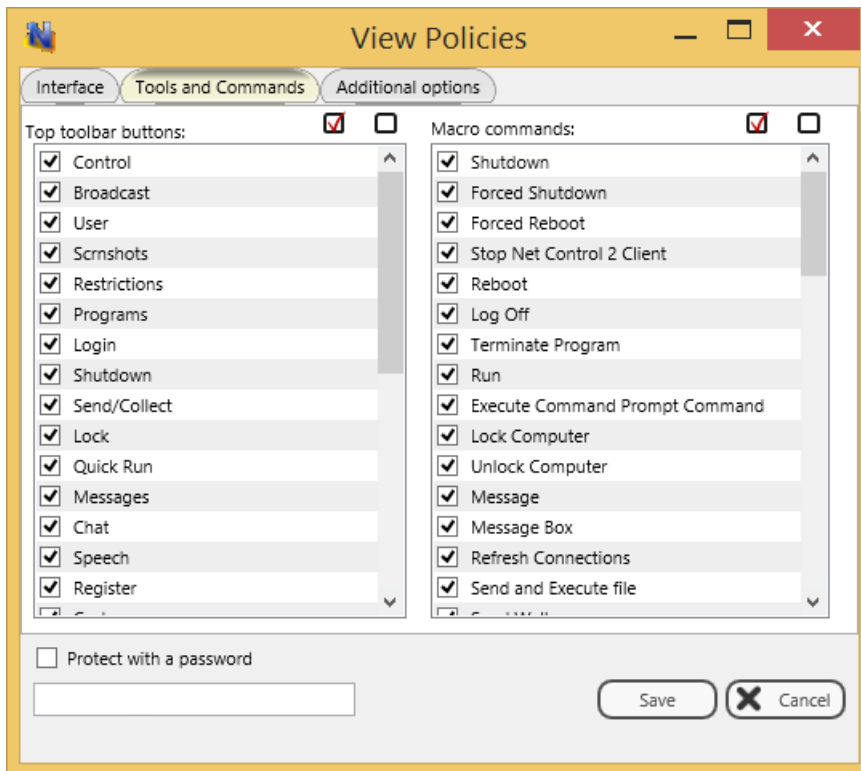
To create a profile click **Create** button on top toolbar, to modify a profile click **Modify** button, to rename a profile click **Rename** button and to delete any profile select it and click **Delete** button.

In profile editor:



On **Interface** tab uncheck elements, which should be hidden.

On **Tools and Commands** tab you can set up buttons of top toolbar that should be visible or hidden.



Click **Save** button to save the profile.

To assign a view profile to teacher accounts:

On **Teachers** tab, in **Teachers** section select one or several teacher accounts, click **Assign View Profile** button and select the profile from the list.

## S. How to protect access to Net Control 2 PRO modules with a password

To protect access to Net Control 2 Teacher, click the menu command **N -> Options -> Interface -> Lock password**, specify the password, and click **OK**.

To prevent stopping Net Control 2 Student service or configuring its settings on the Student computer, you need to enable the Administrator password:

- click **N** (Net Control 2) icon in the **System Tray**, then click **Configure** button. In the **Configuration** window, on **Security** tab, in **Administrator Password** field, specify new password.  
**Please note:** The password will be applied and stored only in the registered version of the software. Particularly, this feature is not available in Public Trial version.