



**COPADATA**  
do it your way

# zenon manual

## Monitor administration

v.7.11





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# 1. Welcome to COPA-DATA help

## GENERAL HELP

If you cannot find any information you require in this help chapter or can think of anything that you would like added, please send an email to [documentation@copadata.com](mailto:documentation@copadata.com) (<mailto:documentation@copadata.com>).

## PROJECT SUPPORT

You can receive support for any real project you may have from our Support Team, who you can contact via email at [support@copadata.com](mailto:support@copadata.com) (<mailto:support@copadata.com>).

## LICENSES AND MODULES

If you find that you need other modules or licenses, our staff will be happy to help you. Email [sales@copadata.com](mailto:sales@copadata.com) (<mailto:sales@copadata.com>).

# 2. Monitor administration

The monitor administration makes it possible to easily organize several monitors.

The tasks of the monitor administration are:

- ▶ **Operation:** Mixed operation of 1 and 2 monitor systems.  
For example, three monitors are used in a control room, two are used on a client and the maintenance technician's notebook only has one monitor.

- ▶ **Screen output:** Free output of a screen on any monitor and changing of the assignment of a screen -> monitor in the Runtime.  
All screen types (such as AML, menus) and functions (such as screen acknowledgement), that are assigned to this screen or this screen are accepted automatically.
- ▶ **Adjusting the resolution:** Inclusion of computers with different resolutions in one project.  
For example: The monitor resolution when configured is 1680 x 1050. The resolution on the target device is 1024 x 768. In this case, zenon automatically adapts the resolution correctly, but the circles become elliptical due to the different aspect ratio. So it is possible, in the monitor configuration, to correctly define the target resolution for the Runtime.

## SETTINGS IN ZENON AND WINDOWS

The monitor administration in zenon affects frames and screens. It is recommended that the size of the frame is adjusted to the size of the monitor displayed or the monitors to be displayed. Larger frames protrude into other monitors or are not shown in full.

Dialog boxes - even those in zenon - are subject to the Windows settings.



### Attention

The following is applicable when several projects are used:

- ▶ If more than one project is held in the memory, the active project determines the monitor settings for all loaded projects.
- ▶ If the active project is a single monitor project, no target monitor can be chosen in a multi monitor project.
- ▶ For multi-project administration, the settings of the integration project are always applicable in Runtime.



### License information

*Part of the standard license of the Editor and Runtime.*

### 3. Concept and requirements

Screens are switched to virtual monitors using monitor administration. Virtual monitors are assigned using real monitors. This assignment can be set individually using monitor profiles. Projects can therefore be individualized for different configurations.

The monitor administration relates to:

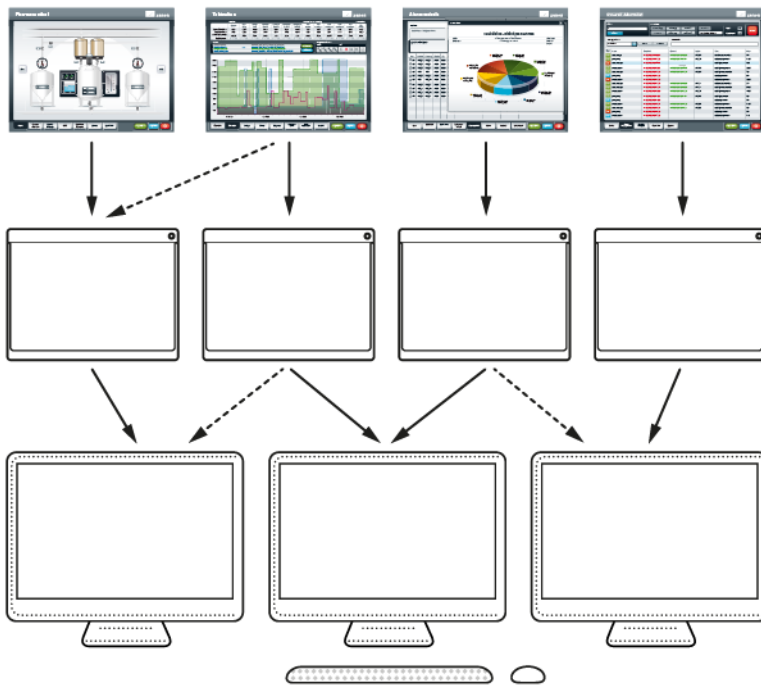
- ▶ Fixing the default resolution for a project.  
For example, 2048 x 768 for two monitors with a resolution of 1024 x 768 each.  
This is set and fixed for Runtime (on page 8).
- ▶ Naming of real monitors.
- ▶ Definition of virtual monitors that are assigned to the real monitors.  
With the virtual monitors, it is possible to display a 3-monitor system (3 real and 3 virtual monitors) on a single-monitor system (1 real and 3 virtual monitors), for example.
- ▶ There is the possibility to amend the assignment of virtual monitors to real monitors in the Editor and in Runtime.  
A virtual monitor can therefore be moved to a different real monitor instead of the configured one, for example.
- ▶ Overview window (on page 23) with a screen or monitor overview.  
This makes it possible to quickly select a monitor by selecting the desired screen area in the window. This can also be carried out with optional scrollbars.

#### PROCEDURE

When using several monitors:

- ▶ Screens are allocated to virtual monitors in screen switching
- ▶ Virtual monitors can be allocated to real monitors as desired

The project can therefore be correctly displayed on different systems with a different amount of monitors with the need for reconfiguration



## ENGINEERING

The monitor configuration has different effects:

- ▶ New projects (on page 11)
- ▶ Existing projects (on page 11)

**Recommended workflow:** With a new project, set up the monitor administration before you define frames and screens. Start by determining the resolution for Runtime (on page 8).



### Attention

*For the optimal display of zenon in Runtime, the value **Less than - 100 %** is recommended for the Windows **display**. Higher values can lead to graphic elements, symbols, texts, etc. not being displayed correctly.*

## 3.1 Requirements for the Runtime

The real monitor resolution has to be entered in `zenon6.ini`, so that the monitor administration works correctly in a multi-monitor system.

**Exception:** these settings are not necessary for zenon Web Client.

### INI ENTRIES

The following entries are necessary in the [DEFAULT] area:

- ▶ The entries `RT_CXMAINFRAME` and `RT_CYMAINFRAME` define the resolution of the size of the main window (sum of all monitors) in pixels.  
**Attention:** The numbers entered must be 1 pixel less than the actual monitor size, because counting starts at 0.
- ▶ The entries `RT_CXRESOLUTION` and `RT_CYRESOLUTION` define the reference resolution (resolution of the primary monitor) in pixels for the adaptation of the resolution to the target computer in Runtime. It is not necessary to subtract a pixel from this.



Entry	Meaning
[DEFAULT]	Section where the entry is made.
SCREENPROFILE=	<p>Selected monitor profile for current computer.</p> <p>Name of the configuration. For example:</p> <p><b>ScreenProfile=Standard</b></p> <p>Is defined on the configuration computer by means of Configuration of general settings (on page 12). This may need to be defined on other computers by means of a manual entry in zenon6.ini.</p>
RT_CXMAINFRAME=	<p>Width of the resolution of all monitors minus 1 pixel.</p> <p>For example, for two screens with a width of 1280 pixels each:</p> <p><b>RT_CXMAINFRAME=2559</b></p>
RT_CYMAINFRAME=	<p>Height of the resolution of all monitors minus 1 pixel.</p> <p>For example, for a screen height of 1024 pixels: <b>RT_CYMAINFRAME=1023</b></p> <p><b>Attention:</b> If the windows toolbar is shown, its height must be considered and more pixels must be subtracted accordingly.</p>
RT_CXRESOLUTION=	Width of the resolution of the target computer in Runtime in pixels, depending on the value of the RT_CXMAINFRAME property. It is not necessary to subtract a pixel from this.
RT_CYRESOLUTION=	Height of the resolution of the target computer in Runtime in pixels, depending on the value of the RT_CYMAINFRAME property. It is not necessary to subtract a pixel from this.



### Attention

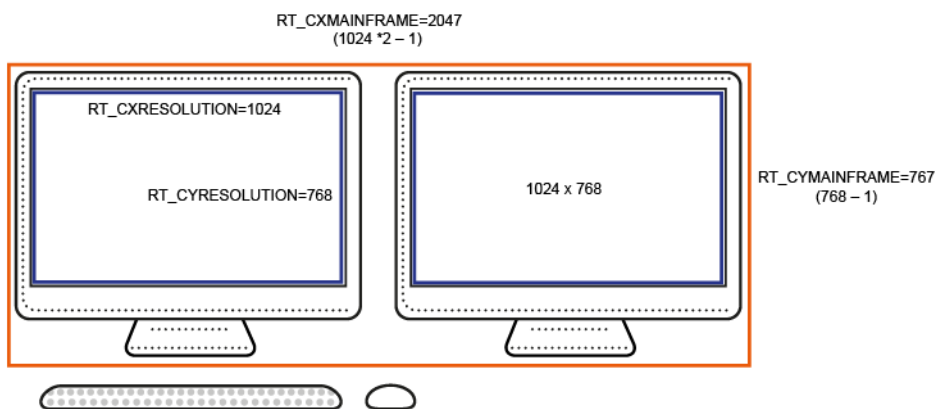
*The following configurations can lead to nothing being displayed or images only being displayed on the first screen:*

- ▶ If the values are greater than the area that is actually available, it is possible that nothing will be displayed.  
Solution: Correct the data in the INI file.
- ▶ If the Windows task bar is displayed in a fixed position, screens may only be displayed on the first monitor.  
Solution: Set Windows task bar to **Hide task bar automatically**.  
Or: Define RT\_CYMAINFRAME in such a way that nothing is displayed in the task bar, for example: **RT\_CYMAINFRAME=1023** instead of 1280.

### EXAMPLE

A project was configured for monitors with the resolution 1920x1080.  
The project is to be adapted to monitors with a resolution of 1024x768.

Resolution of target computer: Monitor 1 and monitor 2: 1024x768



To do this, the entries in **zenon6.ini** must be set as follows:

- ▶ RT\_CXMAINFRAME=2047      (1024 \* 2 - 1)
- ▶ RT\_CYMAINFRAME=767      (768 - 1)
- ▶ RT\_CXRESOLUTION=1024
- ▶ RT\_CYRESOLUTION=768

## 3.2 New project

Define the screen resolution before you start configuration. This resolution should not be subsequently changed, as this can lead to stretching of the screens if the width:height ratio of the resolutions is not the same.

When a new project is created, the screen resolution for the monitor configuration is automatically adjusted to the current screen resolution. If a project is to run on a computer with a different resolution, adjust the settings before starting the configuration.

To be able to assign screens from different real monitors (on page 17) in a different combination, you define as many virtual monitors (on page 18) accordingly.

## 3.3 Adapt existing project

If changes are made to monitor administration in existing projects, all screen switching must be adapted.

However, monitor administration can have advantages for existing products. For example:

- ▶ Suppression of double screens for different resolutions
  - ▶ Integration of computers with different numbers of monitors in one network project
- To keep the amount of changes that need to be made low, it is best to work in the overview screen (on page 23) for a low amount of monitors. This way, all monitors can be selected quickly.

# 4. Engineering in the Editor

In the Editor, you define the administration for:

- ▶ New projects (on page 11)
- ▶ Existing projects (on page 11)

To configure monitor administration:

1. navigate to the `Graphical design` node in properties

2. Click in the `Runtime` general subgroup in the `Monitor` administration property
3. The configuration dialog is opened
4. Define the general settings (on page 12)
5. Define the individual settings (on page 15) for different profiles

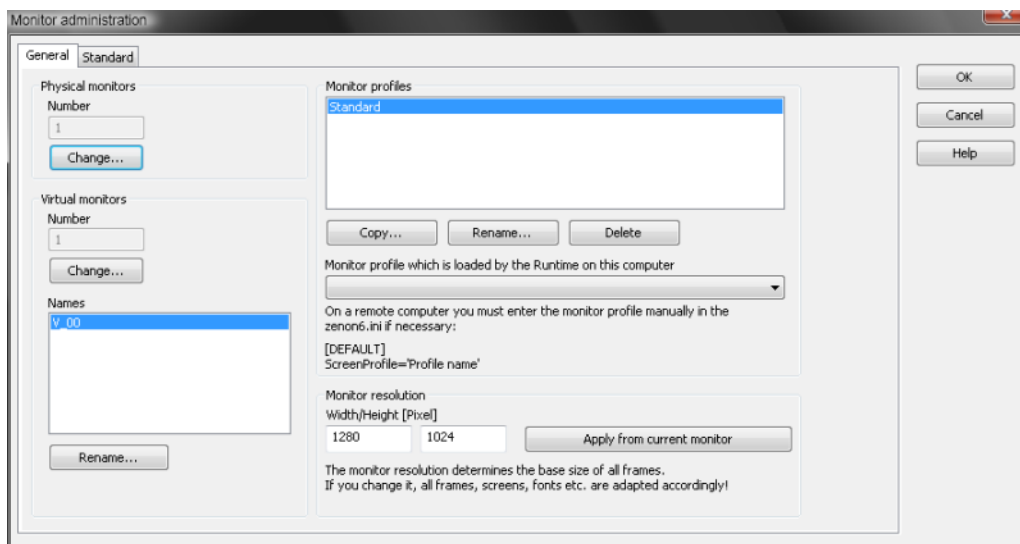
**Attention**

*The frame coordinates for absolute positioning always relate to the upper left corner of the main screen. This must be the monitor that is the furthest to the left.*

You can find an example for the configuration of a project with different monitor settings in the example configuration (on page 26) section.

## 4.1 General settings

Dialog for configuration of the general monitor properties:



Property	Description
Physical monitors	Number of real monitors available (hardware). You adjust the settings for the monitors on the profile pages. (see Individual settings (on page 15) and Configuration of real monitors (on page 17)).
Number	Shows the number of currently defined real monitors.
Virtual monitors	Number of virtual monitors. You adjust the settings for the monitors on the profile pages. (see Individual settings (on page 15) and Configuration of virtual monitors (on page 18)).
Number	Displays the number of currently defined virtual monitors as V_00 to V_nn. The first real monitor is configured as the standard monitor by zenon.
Change	Clicking on the button opens the dialog to configure the number of virtual monitors.
Names	List of the names of virtual monitors.
Rename...	Opens dialog to rename virtual monitors. Free text input with a maximum of 15 characters.
Monitor profiles	Defines central monitor profiles for Runtime.  Each monitor profile has its own tab for individual configuration (on page 15).  The configuration of monitor profiles for other computers may need to be carried out manually by means of an INI entry (on page 8).
Copy...	Creates a new profile based on the selected profile and opens the dialog for entering a name.
Rename...	Opens the dialog for renaming a profile.
Delete...	Deletes the selected profile without confirmation.
Monitor profile which is loaded by the Runtime on this computer	Opens the drop-down list for selecting the profiles which should be used in the Runtime.  <b>Note:</b> On a remote computer, you may have to enter the profile in the file <code>zenon6.ini</code> manually:
Screen resolution	Resolution in which the project is carried out in the Runtime. (see also Requirements for Runtime (on page 8) chapter)  <b>Hint:</b> Define these settings before you start engineering the project. Changes later on can cause distortion in the display if the relation width/height does not fit the resolution! <b>Standard:</b> Resolution of the current computer.

Apply from current monitor	Applies the resolution of the currently active monitor as resolution for the monitor profile.
OK	Applies changes and closes dialog.
Cancel	Discards changes and closes the dialog.
Help	Opens online help.



### Attention

*The first virtual monitor is configured as the standard monitor by zenon.*

## DEFINE MONITOR PROFILE ON RUNTIME COMPUTER

*If you have only the Runtime and not the Editor installed on a computer, you can define the desired monitor profile as follows:*

1. Open the file `zenon6.ini` with a text editor.
2. navigate to the `[DEFAULT]` area
3. add the following entry:  
`ScreenProfile=name of the monitor profile`
4. Save the file and close the text editor

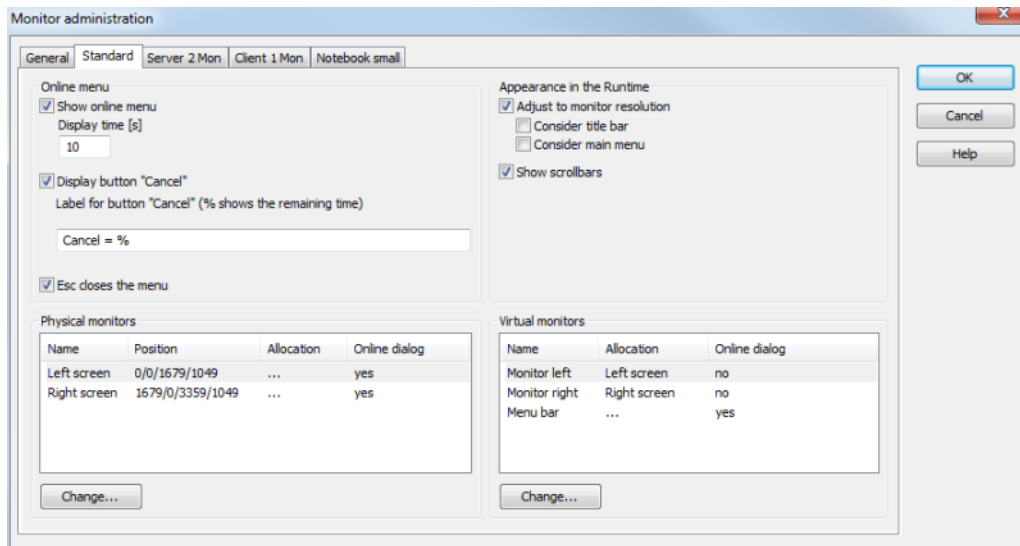


### Information

*The standard profile is always loaded by default on the zenon Web Client. However, you can stipulate a different monitor profile using the `SCREENPROFILE=` entry in `zenon6.ini`.*

## 4.2 Individual settings

Each monitor profile is represented in the configuration by its own tab. Here you define the settings for real and virtual monitors and the behavior in Runtime.



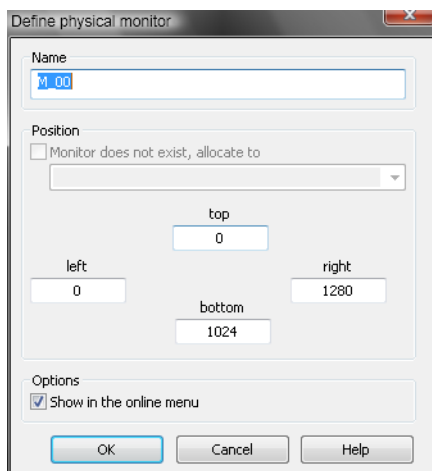
Property	Description
<b>Online menu</b>	Behavior of the online menu in the Runtime.
Show online menu	Active: The menu is displayed at a screen switch in the Runtime and offers the monitors for which the property Online menu (on page 18) was activated.
Display time	Time in seconds for which the online menu is kept open.
Change label for button "Cancel"	Active: Button used to close the online selection menu is displayed in Runtime.  Font of the button can be changed as desired.  % shows the remaining seconds until the automatic cancel.
Esc closes the online menu	Active: The online menu can also be closed by pressing Esc.
<b>Appearance of the Runtime</b>	Defines display options in the Runtime
Adjust display to monitor resolution	Active: The project resolution is adjusted to the monitor resolution of the current computer.  inactive: Here you can fix the resolution of the project, i.e. the resolution of the project is not adjusted to the current resolution.
Take the header into account when making the adjustment	Active: The title height is considered in the frame editor and in the runtime.  This property exists out of compatibility reasons and is usually not needed.
Consider main menu for the adjustment	Active: The menu height is considered in the frame editor and in the runtime.  This property exists out of compatibility reasons and is usually not needed.
Show scroll bar	Active: Scroll bars are displayed in the Runtime. These scroll bars make it possible to navigate in screens that exceed the monitor size.
<b>Physical monitors</b> (on page 17)	List with all physical monitors and the properties allocated to them.
<b>Change</b>	Opens the dialog (on page 17) for defining the individual properties of the selected real monitor.
<b>Virtual monitors</b> (on page 18)	List with all virtual monitors and the properties allocated to them.



	Screen switching relates to virtual monitors. Virtual monitors are assigned to real monitors in Runtime.
<b>Change</b>	Opens the dialog (on page 18) for defining the individual properties of the selected real virtual monitor.

### 4.2.1 Defining real monitors

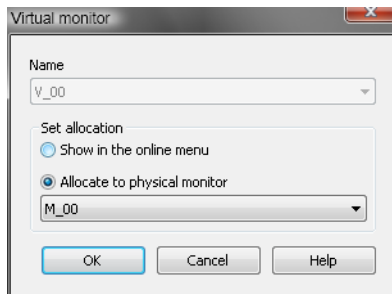
Clicking on the **change** button in the **Real monitors** section in the tab for the individual setting (on page 15) of a monitor profile opens the dialog to configure real monitors.



Parameters	Description
Name	Name of the monitor. Free text input with a maximum of 15 characters.
Position	Describes the position and resolution of the monitor. For example: Monitor left: 0/0/1680/1050 Monitor right: 1680/0/3360/1050
Monitor does not exist, allocate to	<b>Active:</b> Makes it possible to select another physical monitor from a drop-down list which is allocated to it, for example because it is not currently connected to the computer. The monitor is then displayed on the assigned one in Runtime. Scroll bars make it possible to scroll between both monitor screens.
Show in the online menu	<b>Active:</b> In Runtime, this monitor is offered in the menu each time a screen is switched to that enables individual selection of a monitor.

## 4.2.2 Defining virtual monitors

Clicking on the **change** button in the **virtual monitors** section in the tab for the individual setting (on page 15) of a monitor profile opens the dialog to configure virtual monitors.



Parameters	Description
Name	Display of the name. This can be changed in the General settings (on page 12) tab.
<b>Set allocation</b>	Settings for the allocation of the monitors.
Show in online menu	Active in Runtime, the online menu for selecting monitors is displayed each time a screen is called up that is allocated to this monitor.
Allocate to physical monitor	Allocated the virtual monitor to a physical monitor. In the Runtime you can change this allocation with the help of function <code>Monitor assign</code> .
<b>OK</b>	Applies settings and closes the dialog.
<b>Cancel</b>	Discards changes and closes the dialog.
<b>Help</b>	Opens online help.

## 5. Functions of the monitor administration

The monitor administration can be controlled in Runtime using zenon functions.

Available are:

- Settings for screen switching (on page 19): The dialog for screen selection is expanded with the settings for monitor allocation.

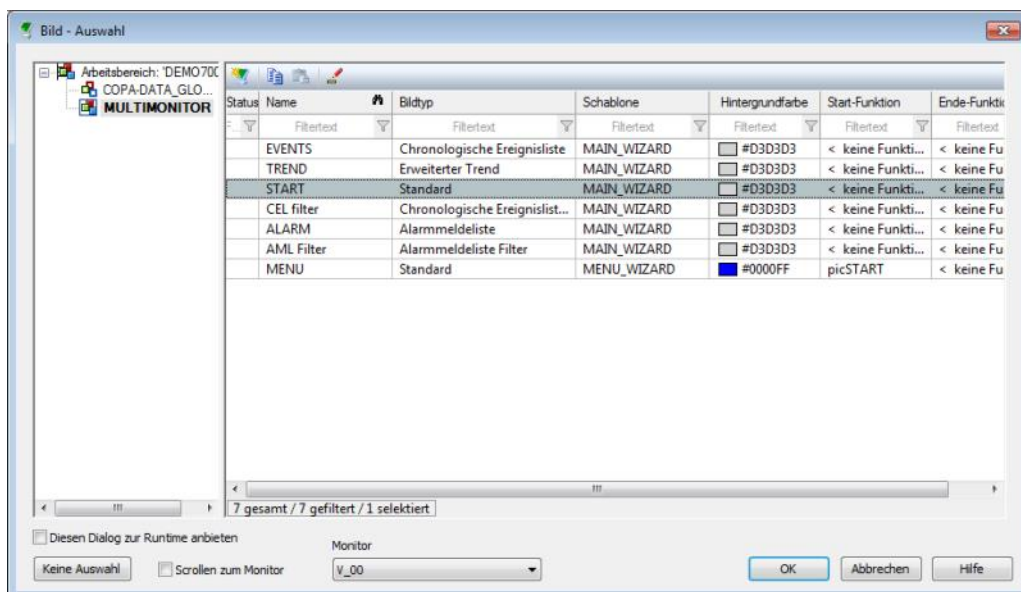
- ▶ Assign monitor (on page 21): Makes it possible to allocate a virtual monitor to a real monitor in Runtime.
- ▶ Display overview window (on page 23): Switches an overview window on in Runtime or closes it. The window shows all configured real monitors or frames and makes it possible to quickly select and switch these.

Settings for monitor selection are available for the following functions:

- ▶ Set focus to frame
- ▶ Close frame
- ▶ Screen : close

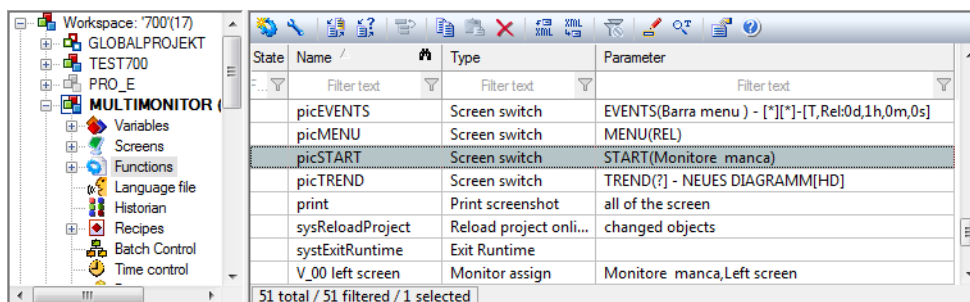
## 5.1 Settings for screen switching

As soon as monitor administration is configured for more than one monitor, there are additional options available for screen switching in the selection dialog for screens to select the monitor on which the screen is to be displayed:



Parameters	Description
Scroll to monitor	Active: Scroll bars are shown in Runtime, which make it possible to scroll to the monitor.
Monitor	<p>Selection of the monitor from the drop-down list.</p> <p>This contains all virtual monitors defined in the monitor administration plus the <b>Current monitor</b> entry.</p> <p><b>Virtual monitor:</b> The screen is switched to the monitor that is linked to the selected virtual monitor.</p> <p>If no real monitor was allocated to the virtual monitor during configuration (on page 18), but instead the option <b>Display online selection menu</b> was selected, the a selection window to select areal monitor is offered.</p> <p><b>Current monitor:</b> Always opens the screen on the monitor from which the call comes. For example: The button to open the AML is pressed on the left monitor, then the AML is switched to the left monitor. If the button to switch the AML to the right monitor is pressed, then the AML is switched to the right,</p>

In the function overview, the monitor on which the screen is displayed is shown in brackets.



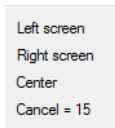
For example:

**START (v\_00)** means: Switching is effected on the **START** screen and this is displayed on the virtual monitor **v\_00**.

**REL** means display on the current monitor.

## ONLINE MENU

If a screen switching function is carried out with the `Display online selection menu` option activated, the menu to select a monitor is shown before the function is activated. The contents of the menu and the duration it is displayed are defined in the monitor configuration (on page 15).



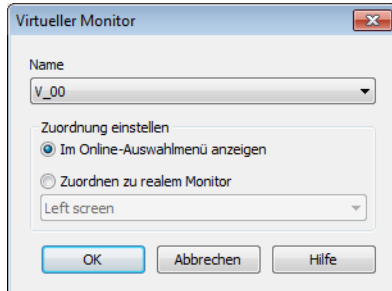
## 5.2 Monitor assign

With the `Monitor assign` function, virtual monitors can be assigned to real monitors in Runtime, regardless of the configured assignment.

To configure the function:

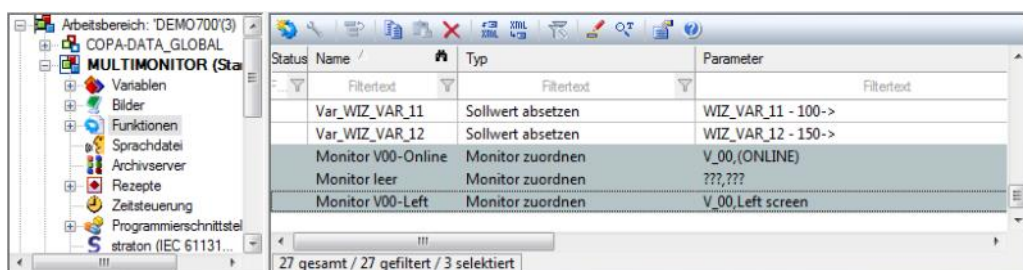
1. create a new function
2. navigate to node `Screens`
3. Select the `Monitor assign` function
4. The dialog to assign a virtual monitor to a real monitor is opened
5. Create an assignment
6. Close the dialog by clicking on OK
7. Allocate a button to the function

## MONITOR ALLOCATION DIALOG



Parameters	Description
Name	Selection the virtual monitor from the drop-down list. All virtual monitors configured in the monitor administration are listed.
<b>Set allocation</b>	Selection of the assignment by means of radio buttons:
Show in the online menu	Switches to a dialog in Runtime (on page 37) to select the desired real monitor.
Allocate to physical monitor	Allocates a virtual monitor to a real monitor. Monitor is selected from the drop-down list. This list contains all real monitors available in monitor administration.
OK	Accepts settings, closes dialog and creates functions with assignment.
Cancel	Discards settings, closes dialog and creates functions without actual assignment.
Help	Opens online help.

The functions are displayed in the detail view with the objective of allocation.



For example:

- **v\_00, (ONLINE)**: The virtual monitor v\_00 is assigned to a real monitor in Runtime using the online menu (on page 37).

- ▶ `???,???`: assignment dialog was discarded; no function was carried out.
- ▶ `v_00,Left screen`: The virtual monitor `v_00` is assigned to the real monitor `Left screen`.

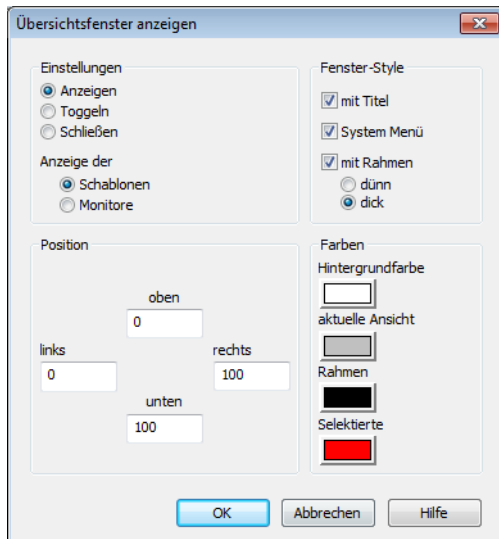
## 5.3 Show overview window

The `Show overview window` function displays the overview window in Runtime, which shows the real monitors or frames in a multi-monitor system (on page 4). A monitor and/or a frame can be activated by means of a mouse click.

To configure the function:

1. create a new function
2. navigate to node `Screens`
3. Select the `Show overview window` function
4. the dialog for configuring the overview window is opened
5. Configure the overview window
6. Close the dialog by clicking on OK
7. Allocate a button to the function

## DISPLAYING THE OVERVIEW WINDOW





Parameters	Description
<b>Options</b>	The function can either open, close or toggle the overview window. Selection is carried out by means of radio buttons:
Display	Active: The overview window is opened.
Toggle	Active: The display is switched between open and closed.
Close	Active: The overview window is closed.
<b>Display of</b>	Selection of display in the overview window. Either frames or monitors are displayed.
Frames	Active: The overview window divides the screen into frames.
Monitors	Active: The overview window divides the screen into monitors.
<b>Position</b>	Position of the overview window on the screen, calculated in pixels from the upper left edge for: <ul style="list-style-type: none"> <li>▶ top</li> <li>▶ below</li> <li>▶ Left</li> <li>▶ Right</li> </ul>
<b>Window style</b>	
With title	Active: The overview window has a Windows title bar.
System menu	Active: A system menu is displayed if the title bar is activated.
With frame	Active: Overview window is displayed with a border. The window size can be adjusted in Runtime by dragging the border. Selection of the border width by means of radio buttons:
▶ Fine	Active: Bold border.
▶ Bold	Active: Fine border.

<b>Colors</b>	Definition of the colors in the overview screen. Clicking on Color opens the palette.
Background color	Color of window background.
Current view	Currently displayed frames/monitors.
Frame	Color of border.
Selected	Selected frames/monitors.
<b>OK</b>	Accepts settings, closes dialog and creates functions with assignment.
<b>Cancel</b>	Discards settings, closes dialog and creates functions with standard settings.
<b>Help</b>	Opens online help.

## 6. Example configuration

In this example, you can see possible configurations for the following project requirements:

1. 1 server with 2 monitors with a resolution of 1680 x 1050 each
2. 1 client with one monitor with a resolution of 1680 x 1050
3. 1 notebook for the service team with a resolution of 1024 x 768

### GOAL

We are configuring the project so that a server with 2 screens can be visualized. For the client, we adjust the settings so that all tasks can be displayed on a single screen. We also change the resolution of the display for the service notebook. When in operation, the corresponding monitor profile must be selected on the corresponding Runtime computer in order to have the correct display.

### START CONFIGURATION

1. Configure the INI file in accordance with the instructions in the Requirements for Runtime (on page 8) chapter in order to set the resolution in Runtime.

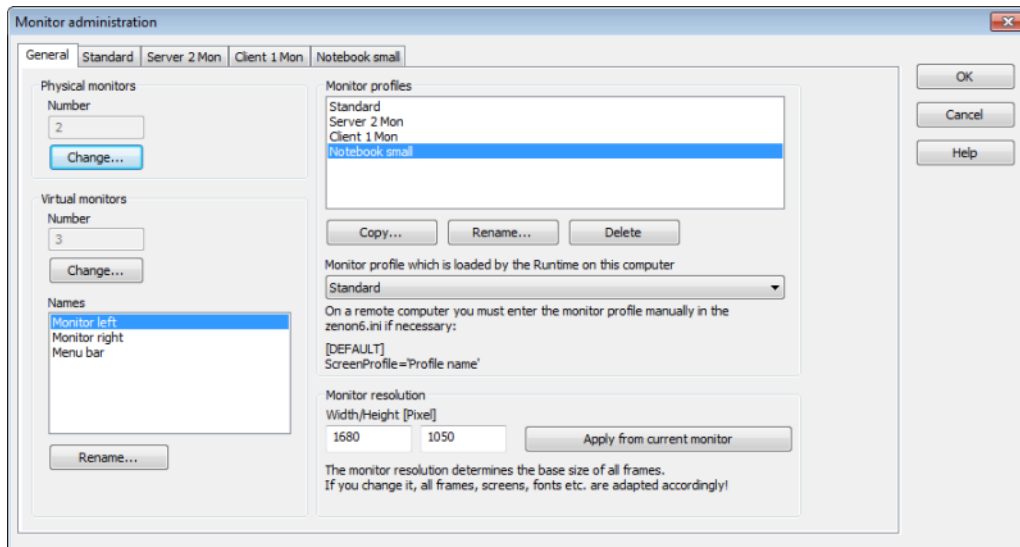
2. The basic configuration is set up in the monitor configuration:  
Navigate to Project Properties-> Graphical design -> Runtime general.
3. Click on the Monitor administration property.
4. The dialog for monitor configuration is opened
5. First configure the General settings (on page 27)
6. Then configure the individual settings for:
  - a) The server with 2 monitors (on page 29)
  - b) The client with one monitor (on page 33)
  - c) The notebook for the Service Team (on page 35)

## 6.1 General configuration

For configuration, the following takes place first of all:

- ▶ General settings defined, such as number of virtual and real monitors
- ▶ Profiles for the 3 different configurations are created

## GENERAL SETTINGS



## MONITORS

For our example, we define:

- ▶ 2 real monitors
- ▶ 3 virtual monitors:
  - One for each process screen
  - One for any desired switching of the menu bar: We can therefore decide whether the button bar should be opened on the left or right without affecting the process screens.

**Just to remind you:** Virtual monitors are the objective of screen switches. These are assigned to real monitors in Runtime. Now you have the possibility of routing between the real and the virtual monitors. If, for example, the second monitor does not exist, such as with the notebook, the screen output can simply be routed to the left monitor without having to change the definition of the functions.

## RESOLUTION

The resolution defined is another important factor. This is the reference size for adjustment. This is set once before configuration is started and should not be changed afterwards. If this setting is changed later on, all coordinates of the elements in the screens are newly calculated.

We enter our intended resolution of 1680 x 1050.

## MONITOR PROFILES

We create our own profile for each configuration in our example. In our example:

- ▶ Server 2 Mon
- ▶ Client 1 Mon
- ▶ Notebook small

To do this:

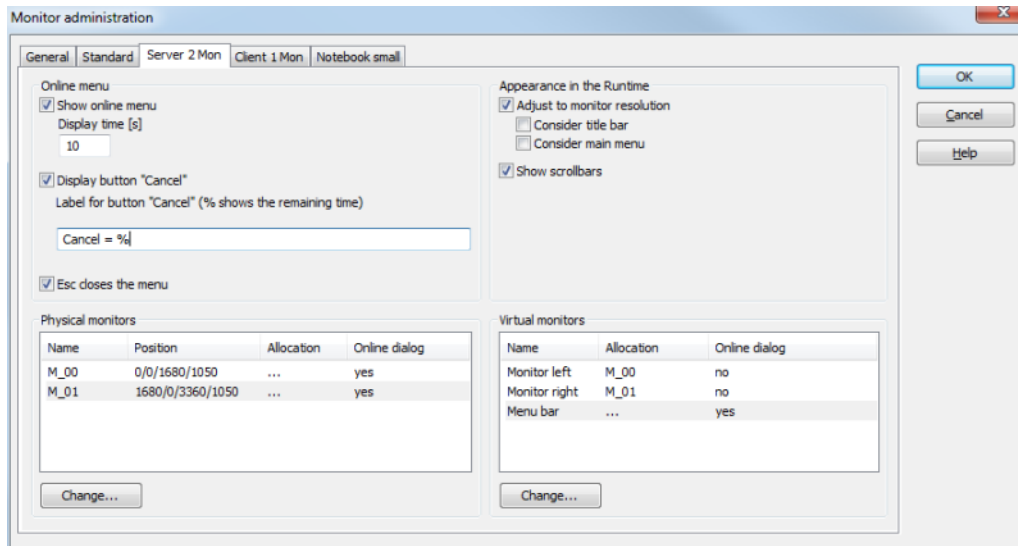
1. Highlight the **standard** profile
2. Click on Copy
3. The dialog for renaming will be opened
4. Enter the new name (the length is limited to 15 characters)
5. click on OK
6. Repeat the process for all other profiles

Each profile has its own tab in the monitor configuration for individual configuration.

We start with the Server 2 Mon (on page 29) tab.

## 6.2 Configuration with 2 monitors

The first configuration is for our server with two monitors.



We will configure:

- ▶ The online menu
- ▶ The appearance in Runtime
- ▶ The real monitors
- ▶ The virtual monitors

## ONLINE MENU

The online selection menu makes it possible to select the real monitor that a screen is switched to in Runtime. For this:

- ▶ The online selection menu must be activated
- ▶ In the allocation of the virtual monitor, `Display online menu` must be selected  
or

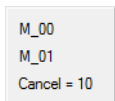
an allocate monitor (on page 21) function must be configured

For our example:

- ▶ Activate the option
- ▶ Select a `Display duration` of 10 seconds: If no action has been set by then, the menu disappears again
- ▶ Activate the `Label` option: this means that a `cancel` button will be offered in Runtime

- ▶ Label the button with `Cancel = %`: The remaining time until cancellation is thus shown in the menu
- ▶ Activate the `Esc key closes menu` option: this means that the menu can also be closed in Runtime using the `Esc` key

The menu is then displayed in Runtime when a switch to a virtual monitor with an online menu is made:



The real monitors `m_00` and `m_01` are available. There is still 10 seconds time to make a selection after cancelling. Clicking on `Cancel` or pressing the `Esc` button closes the menu immediately.

## SCREEN SETTINGS IN RUNTIME

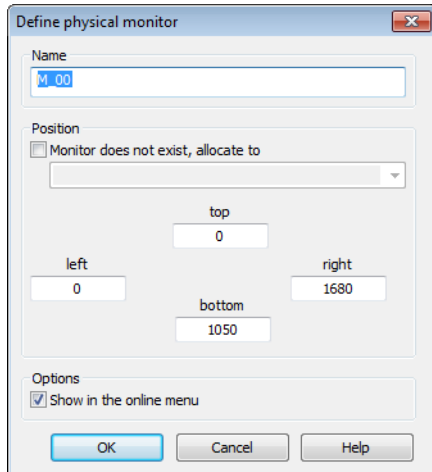
To display the screen in Runtime:

- ▶ Deactivate the `Adapt display to screen resolution` option: the display thus always remains in the configured size. (if this option is active, the display is adapted to the current resolution.)
- ▶ Activate the `Display scroll bars` option: this provides scroll bars in Runtime that make it possible to scroll through the screen

## CONFIGURATION OF REAL MONITORS

Two monitors are available on the server. The two real monitors from the example project are configured accordingly.

The second monitor, for example, receives the corresponding coordinates in order to connect to the first monitor on the right horizontally.



The name can be set for each configuration. To configure monitors:

1. Open each of the monitors in sequence by clicking on the **change** button
2. Give it a name; in our example this will simply be `M_00` and `M_01`
3. Deactivate the `Monitor does not exist...` option (we need this in the other configuration)
4. Enter the coordinates.  
The calculation is made from the upper left corner of the left monitor
5. Activate the `Display in online menu` option, so that the monitor is also available in Runtime

## CONFIGURATION OF VIRTUAL MONITORS

In this configuration, the virtual monitors are assigned to the real monitors.

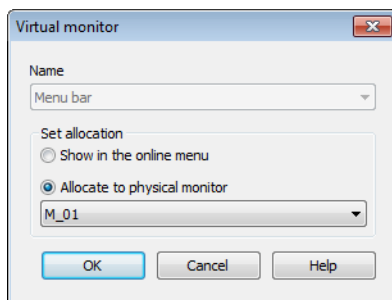
**Just to remind you:** Screen switches refer to real monitors. Assignment of virtual monitors decides the real monitor on which the screen is actually switched.

In our example, there are three virtual monitors available. The two first ones are each assigned to a real monitor. The third virtual monitor makes it possible to switch the menu bar on or off as desired. This is not assigned to a real monitor, but this allocation should be offered in the online menu.

To assign the first two virtual monitors:

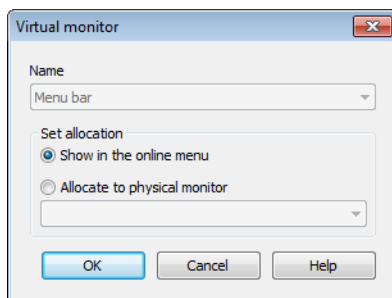


1. Open each of the monitors in sequence by clicking on the **change** button
2. The names are only displayed; they are the same for all profiles and can only be changed in the **General** tab
3. Select **Assignment** to real monitor
4. Select the desired real monitor from the drop-down list.
  - **M\_00** for **Left** monitor
  - **M\_01** for **Right** monitor



Configuration of the third virtual monitor is similar.

**Difference:** instead of **Assign** to real monitor, select the **Display** in online menu option.



The profile is therefore configured for the server with 2 monitors.

Now change to the **Client 1 Mon** (on page 33) tab.

## 6.3 Client configuration with one monitor

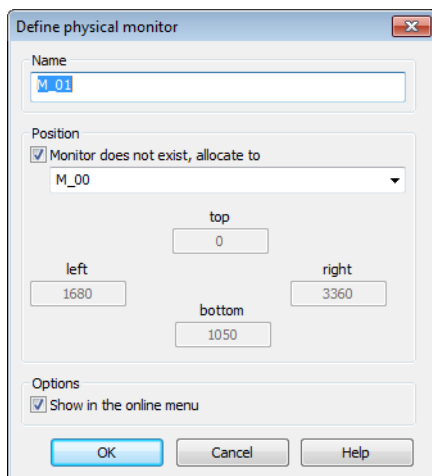
Configuration for the client with one monitor generally corresponds to server configuration. However, there is only one screen available here. This results in two significant differences:

1. The second real monitor must be mapped onto the first one
2. The online selection menu for the menu bar is superfluous; it is assigned directly

For the real monitors:

1. Open the configuration of the monitors **M\_01**
2. Activate the `Monitor does not exist`, therefore assign to `option`
3. Select from the **M\_00** drop down list

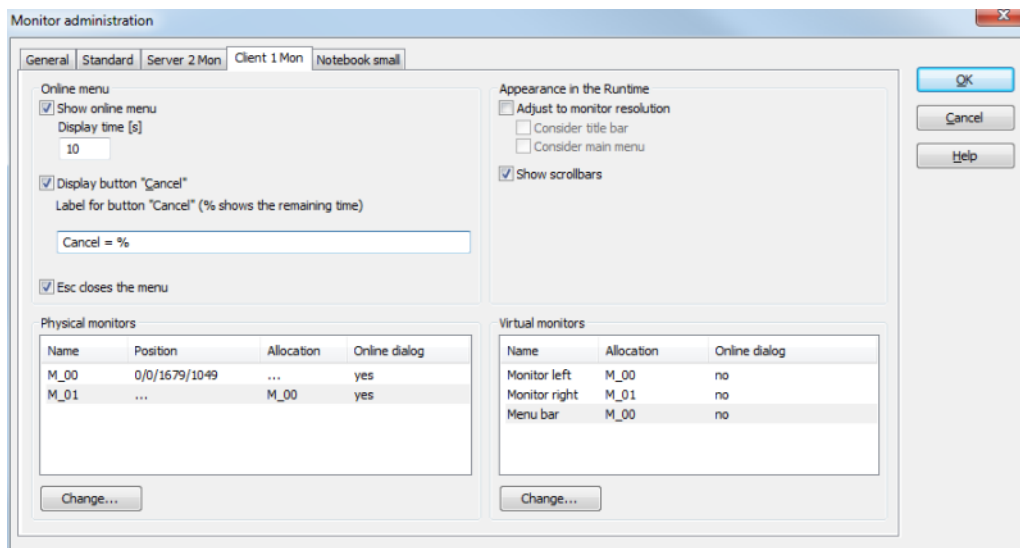
The online selection menu is not needed in Runtime, but you can leave the options active.



For virtual monitors:

1. Open the configuration of the monitor **Menu bar**
2. Activate the `Assign to real monitor` option
3. Select from the **M\_00** drop down list

The whole configuration for `client 1 Mon` now looks as follows:



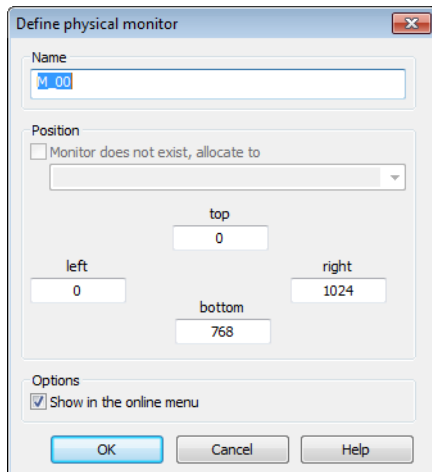
Now only the notebook configuration is missing from our example. Change to the Notebook small (on page 35) tab.

## 6.4 Configuration of Service Team notebook

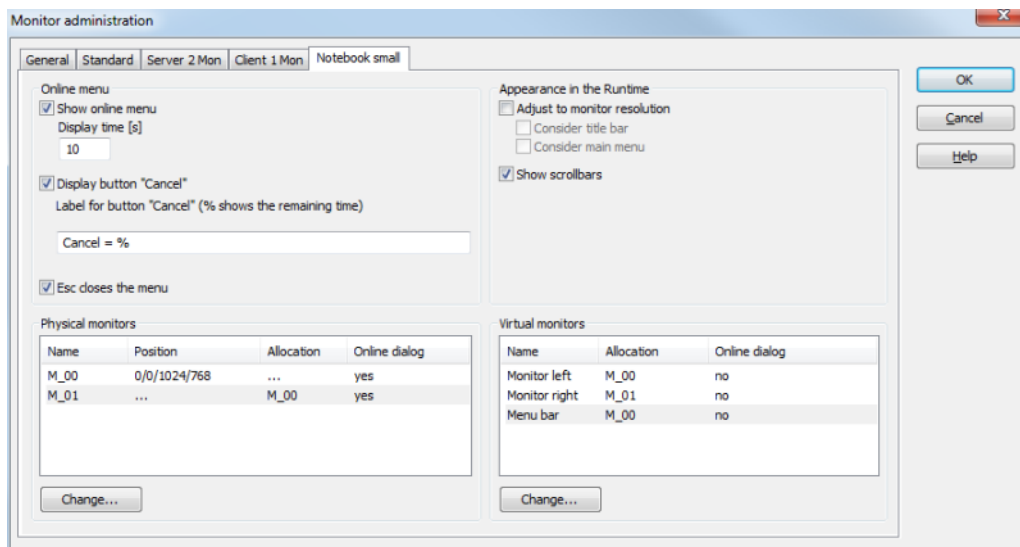
The configuration of the notebook for the service team corresponds to the configuration of the client computer with a monitor. The resolution is different however. This must be adjusted. To do this:

1. Open the configuration of the real monitor `M_00`
2. Enter the corresponding coordinates,  
in our example: `0/0/1024/768`

The resolution is now adjusted to the real resolution of the notebook and monitor **M\_01** is mapped to monitor **M\_00** as on the client. You will now have scrollbars in Runtime to be able to scroll the display.



All other settings correspond to those of the client computer:



Confirm the configuration by clicking on **OK**.

## 6.5 Other configuration

In the project, you must subsequently:

- For screen switches, select the virtual monitor that the screen is to be switched to

- ▶ Define the respective monitor profile (on page 8) to be used on the different computers (for the configuration computer, select the profile in monitor configuration (on page 12))
- ▶ For functions such as Set focus on frame, Close frame or Close screen decide the monitors for which the action is applicable
- ▶ If necessary, configure an Assign monitor (on page 21) function, to be able to assign virtual monitors to real monitors in Runtime (on page 37) regardless of the initial configuration
- ▶ Configure an overview window (on page 23) in order to be able to navigate (on page 38) easily in Runtime

## 7. Monitor administration in Runtime

There are different possibilities available in Runtime,

- ▶ for selecting monitors (on page 37)  
and
- ▶ navigating between monitors (on page 38)



### Information

*If Runtime is started via a Remote Desktop connection, the resolution of the Remote computer is used. The resolution may then possibly be different to that configured, whereby differences in the display may occur.*

*The resolution of the remote monitor can also be defined by means of an INI file (See **Setting monitor profile on Runtime computer** section in the General settings (on page 12) chapter).*

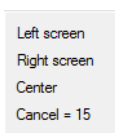
### 7.1 Monitor selection in Runtime

There are different options available for assigning virtual monitors to real monitors in Runtime:

- ▶ Online selection when being called up
- ▶ `Assign monitor` function

## ONLINE MENU

If a screen switching function is carried out with the `Display online selection menu` option activated, the menu to select a monitor is shown before the function is activated. The contents of the menu and the duration it is displayed are defined in the monitor configuration (on page 15).



## ASSIGN MONITOR FUNCTION

The `Assign monitor` (on page 21) function makes it possible to call up the online menu regardless of screen switching and to allocate virtual monitors to a real monitor.

## 7.2 Navigation in Runtime

Navigation between monitors is possible in Runtime by means of:

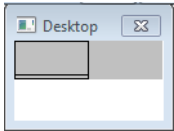
- ▶ Overview Window
- ▶ Scroll bars

### OVERVIEW WINDOW

Overview windows are configured as a function (on page 23). Either a specific function is created for displaying and closing the overview window, or you use the toggle function to switch between the window being switched on or off.

A window is shown in Runtime when the function is carried out. This shows the complete screen area available, divided into monitors or frames. Different functions must each be configured for the display of frames and monitors.

Monitors or frames are selected by clicking the mouse in the window.



## SCROLL BARS

Screens can be navigated quickly using scroll bars. Scroll bars are displayed if:

- ▶ The `Display scroll bars` property was activated in the monitor profile (on page 15)
- ▶ A real monitor or a different real monitor is mapped