Cinegy Cinegize 20

© Cinegy GmbH

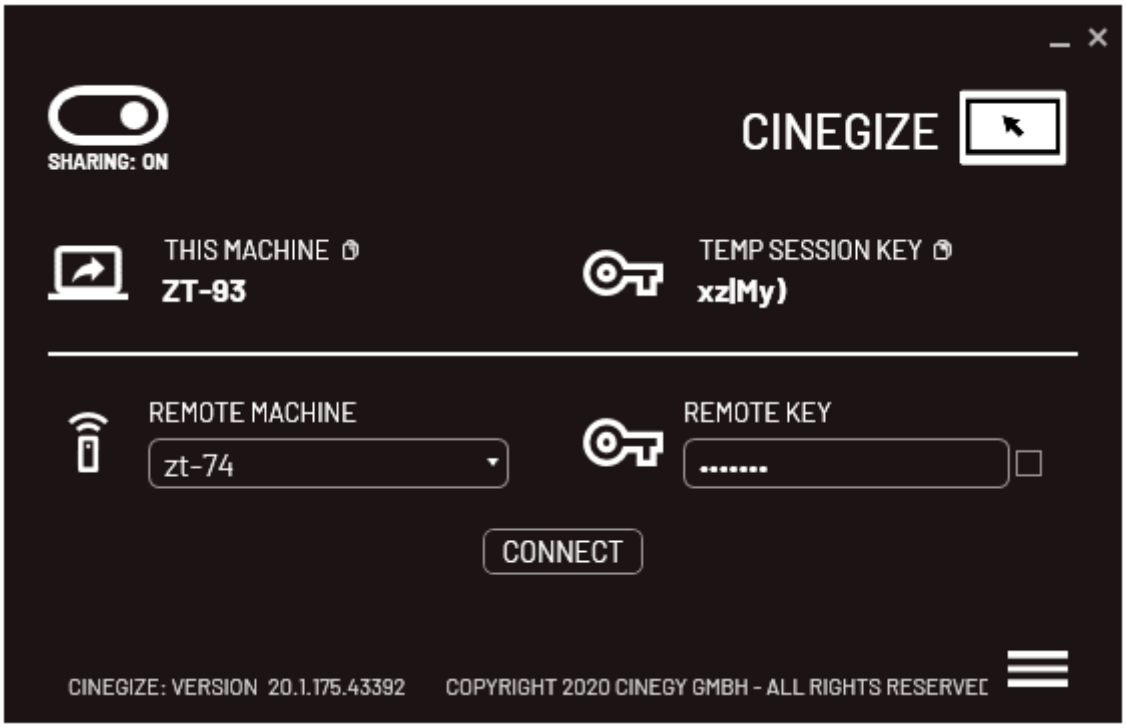
Document version: 9d83090

Table of Contents

Preface . . . 1
User Manual . . . 2
1. Installation . . . 3
1.1. License Management . . . 9
2. Interface . . . 11
2.1. System Tray . . . 11
Dashboard . . . 12
Settings . . . 12
Exit . . . 12
3. Settings . . . 13
3.1. General Settings . . . 13
3.2. Quality Settings . . . 14
3.3. Ports Settings . . . 16
3.4. Service Settings . . . 17
3.5. Info . . . 18
4. Operating . . . 20
Client Mode . . . 20
Host Mode . . . 22
4.3. Windows Service Mode . . . 23
System Recommendations . . . 24
.1. Software Only . . . 24
.2. Disclaimer . . . 24
.3. No Damage . . . 25

Preface

Cinegize is an encrypted software-only KVM solution for remotely viewing or accessing computers over an existing LAN infrastructure, providing the highest quality and lowest-latency access possible. It is specifically designed to deal with high resolutions, high frame rates and full screen A/V playback while having minimal impact on both the host and client machines. The host can be broadcast using IGMP multicast to viewers, or keyboard / mouse and clipboard integration can be added over a dedicated control channel allowing interactivity with the host.



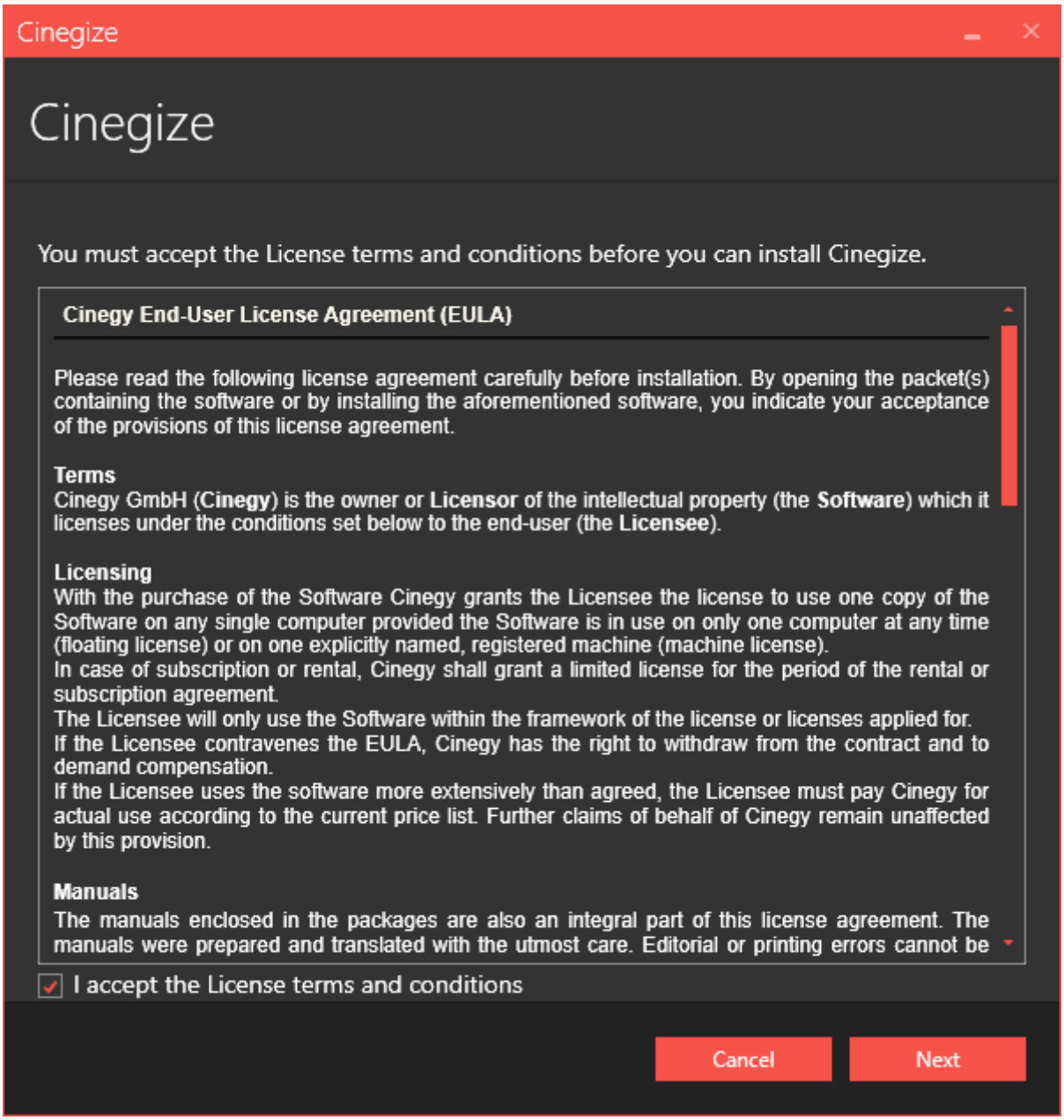
User Manual

Chapter 1. Installation

Cinegize is currently an early beta version, and access is currently provided at no cost pending release. Visit the official Cinegize website to review the most important features and download the latest version.

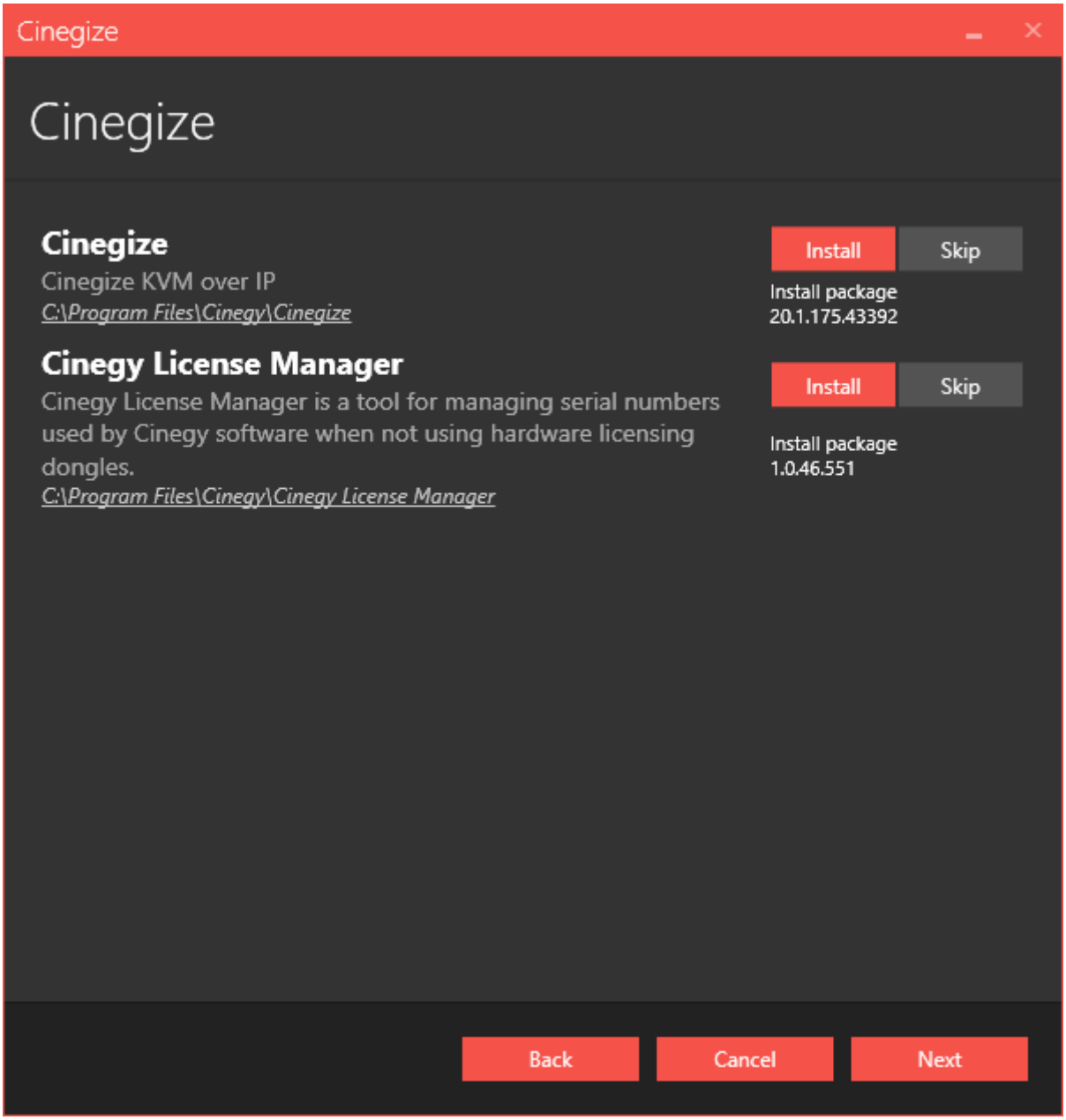
Administrator rights are required to complete the installation, but this ensures that any host sessions will allow full access to any elevated application windows.

To start the installation, run the Cinegize-Installer.exe file. The setup wizard will be launched:



Read and accept the license agreement and press "Next" to proceed with the installation.

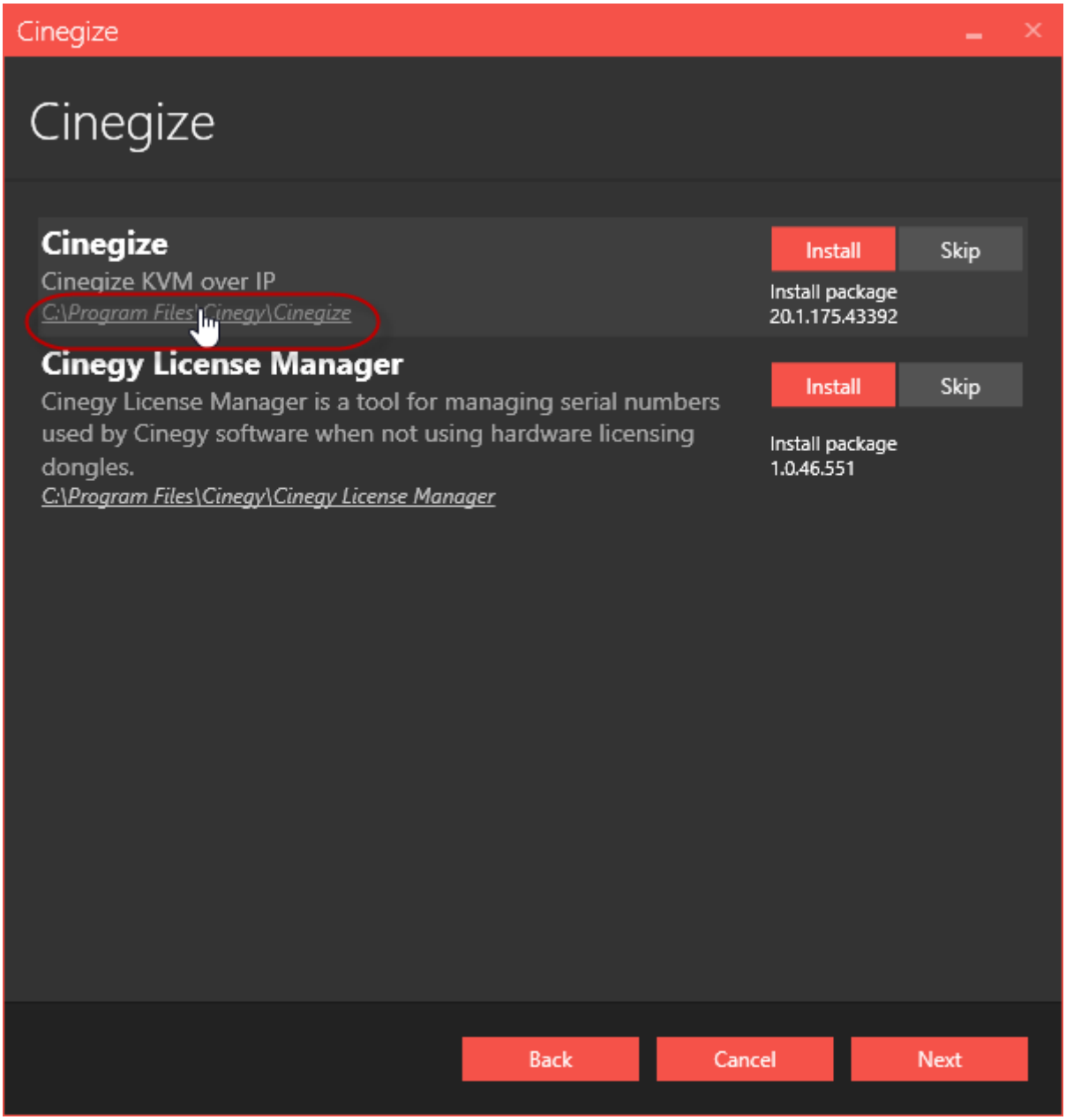
All available components are listed in the following dialog:



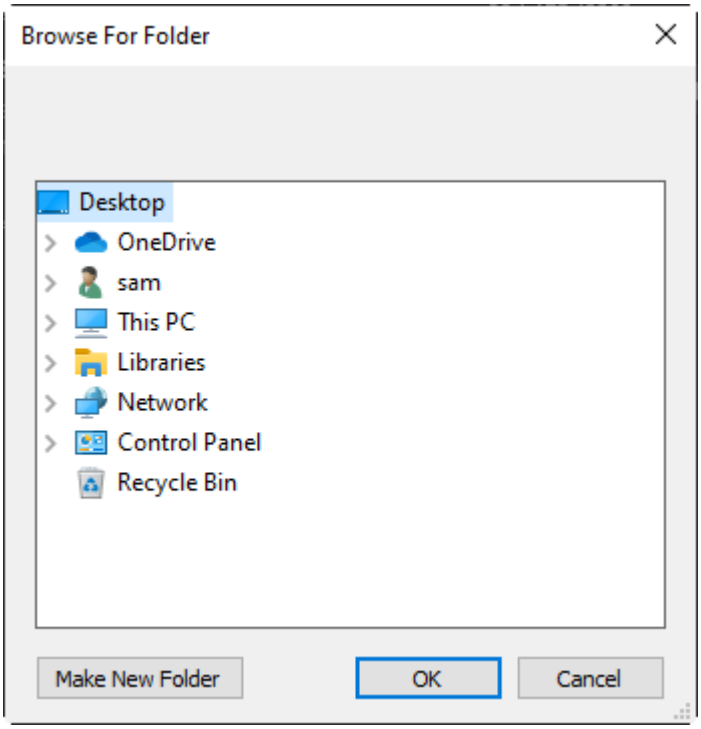
Install — Enabled installation of the package component(s) is indicated by the "Install" option selected and highlighted with red.

Skip — Select the "Skip" option next to the relevant component to disable its installation.

The default installation directory, which is indicated underneath the package component name, can be changed by clicking the path:



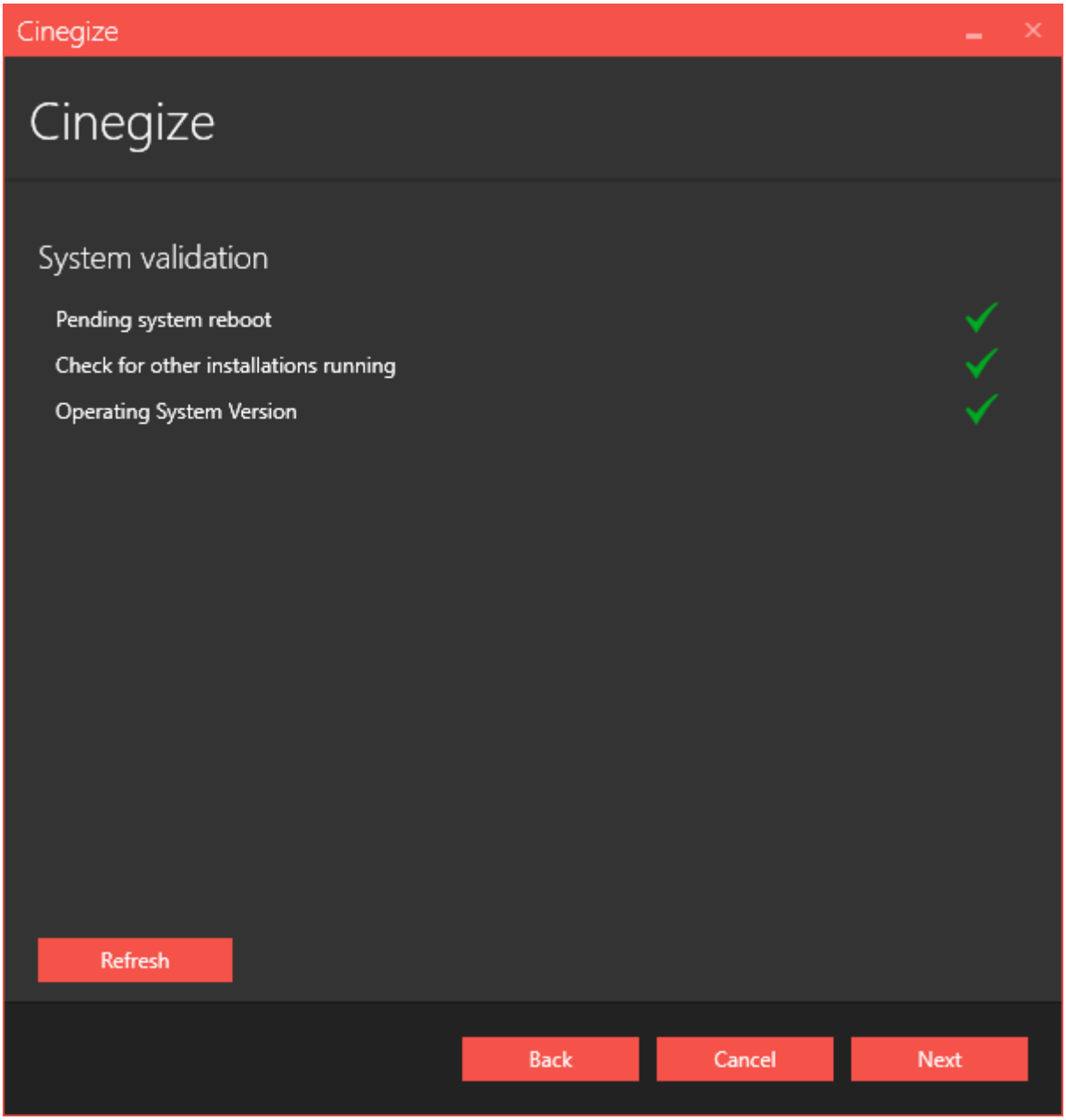
In the "Browse for folder" dialog that appears, select the required folder for your installation:



Make New Folder You can also create a new folder by pressing the "Make New Folder" button and entering a new folder name. Once the folder is selected, press the "OK" button.

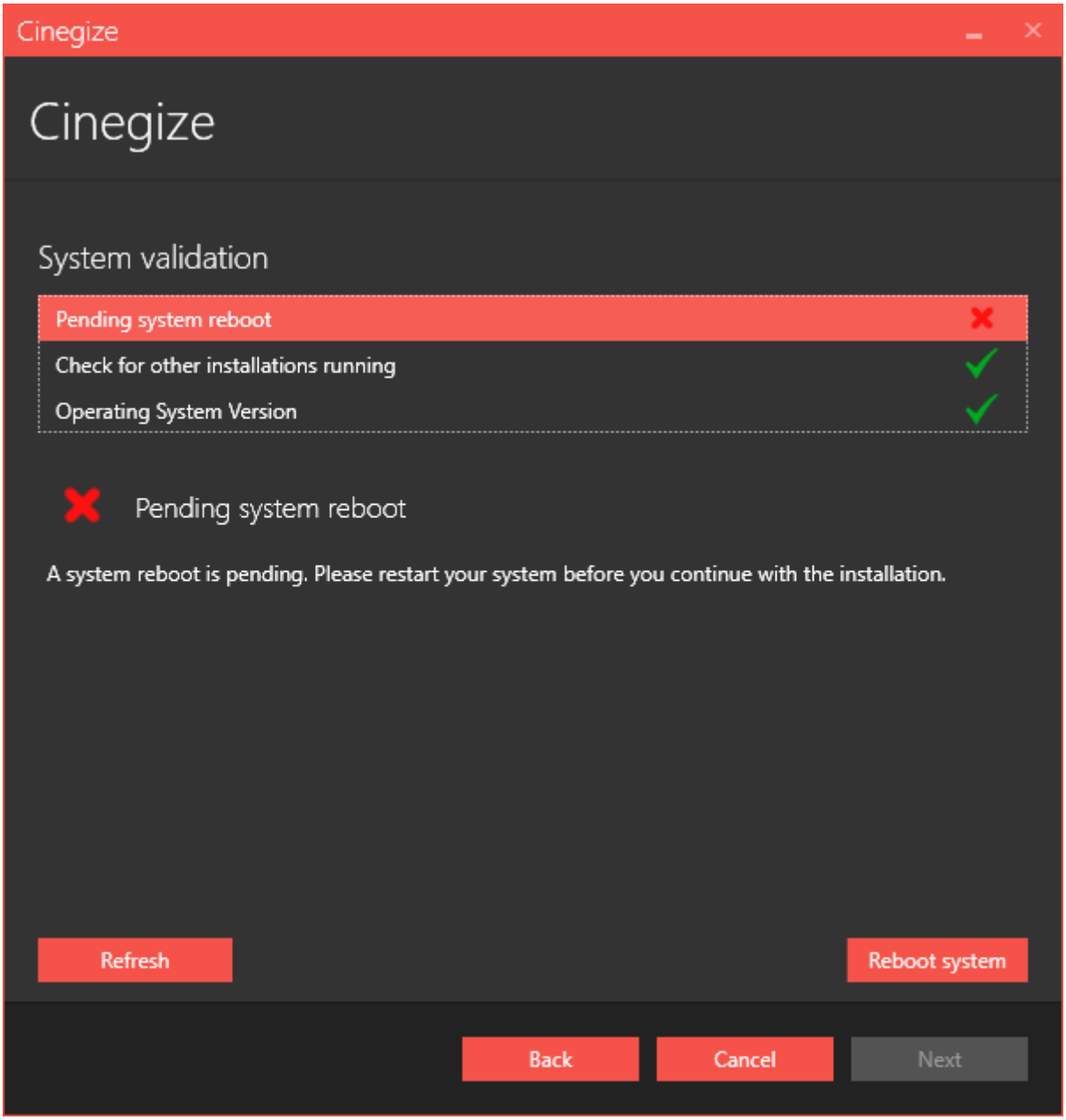
Press the "Next" button to proceed with the installation.

Check whether your system is ready for installation in the following dialog:



The green tick indicates that the system resources are ready and no other processes may prevent the installation. Clicking the validation entry field displays its detailed information.

If any validation reveals that installation cannot be started, the respective field becomes highlighted and the red cross is displayed with the detailed information on the failure reason below.



The explanation differs depending on the reason why the installation cannot be proceeded.

Refresh Press the "Refresh" button for the system to recheck installation availability. Once the reason of prevention is excluded, you can proceed with the installation.

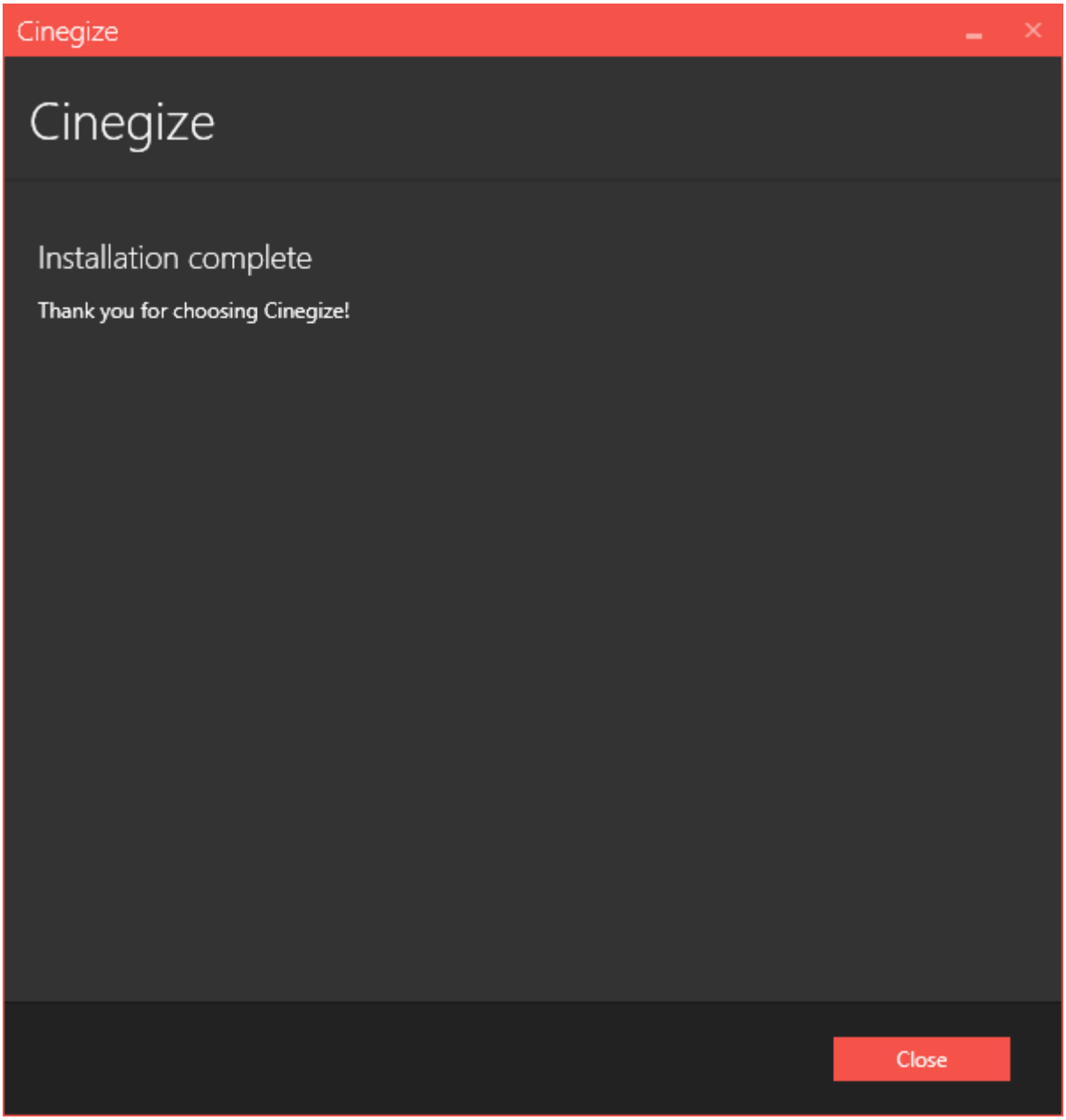
Back Press the "Back" button to change the installation settings.

Cancel Press the "Cancel" button to abort and exit the setup wizard.

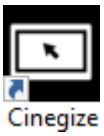
Next Press the "Next" button to begin the installation.

The progress bar indicates the progress of the installation process.

The following dialog informs that the installation is completed successfully:



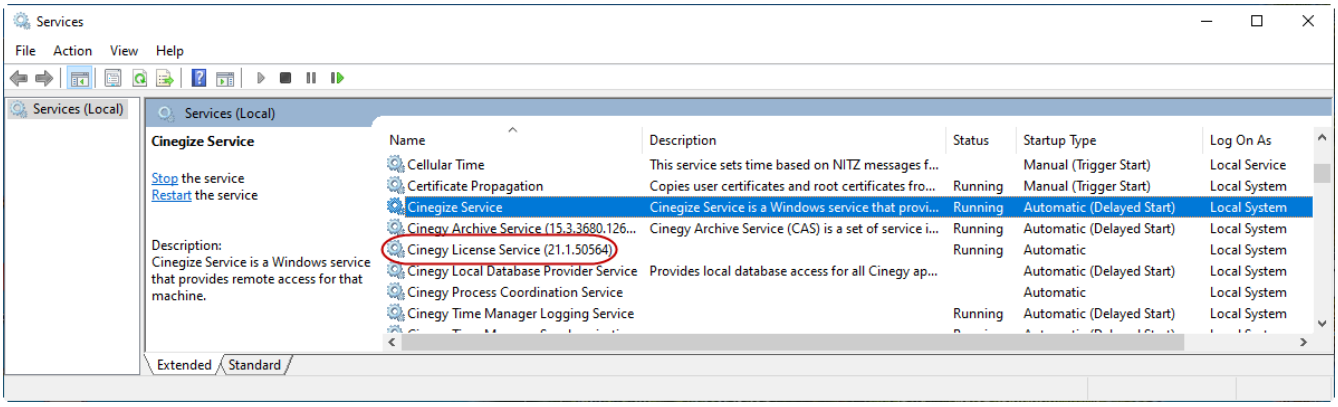
Close Press the "Close" button to exit the setup wizard.



After the installation, the Cinegize icon appears on your Windows desktop. Double-click it to start the application.

1.1. License Management

The Cinegize installer contains the Cinegy License Manager application intended for managing serial numbers and the resultant software licenses used by Cinegy applications when no license dongles are used. If installed, the Cinegy License Service will be installed as a Windows service:



The software license is activated by the system automatically during Cinegize installation.

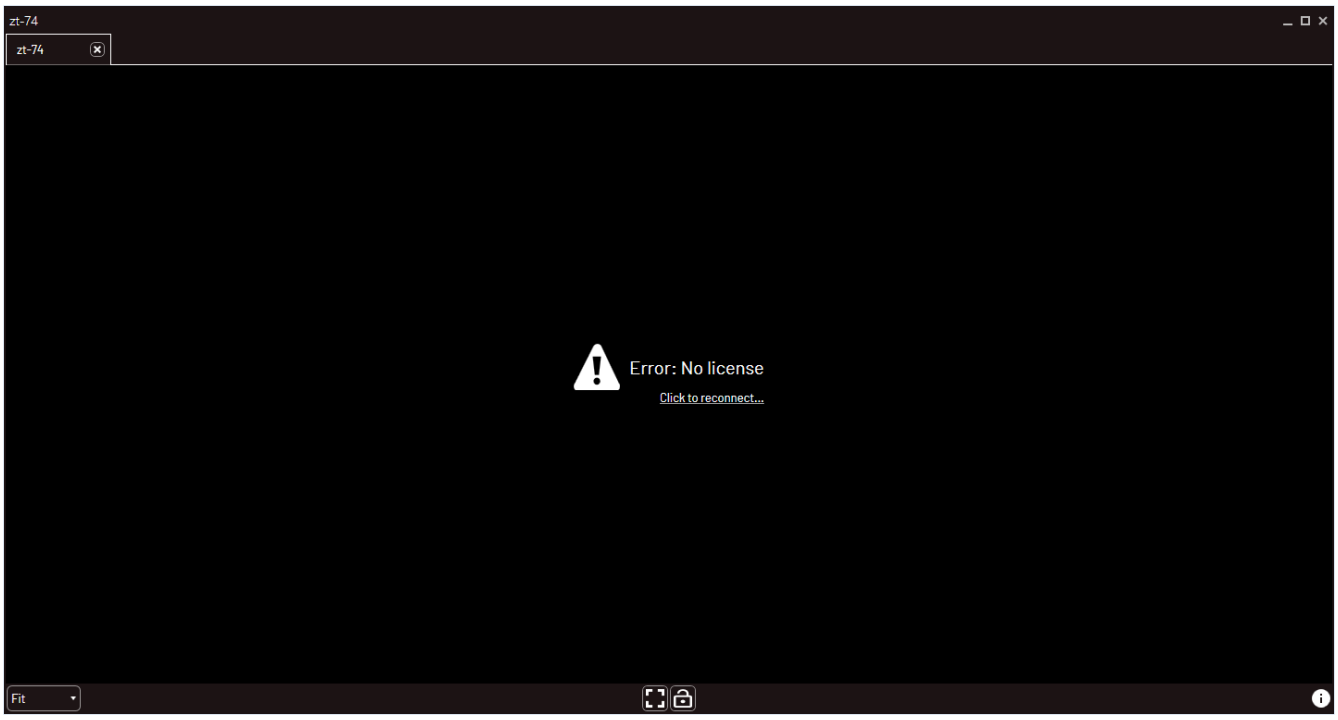
After installation, the license file is automatically placed by the installer to the following location on your computer:

C:\ProgramData\Cinegy\Software Licenses

Cinegize searches for software licenses first, but when no local software license is found, it reverts to using the normal licensing mechanism used by other Cinegy applications through the Cinegy License Service.

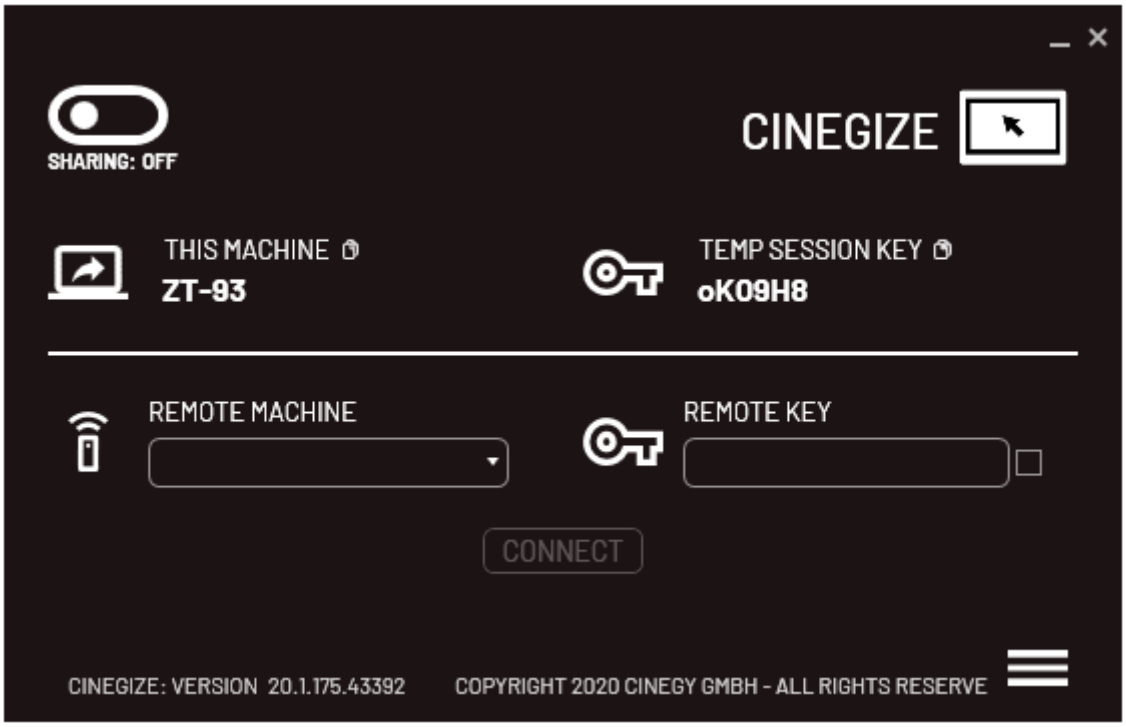
The license is required when host is running – either in application mode or as a service.

If the host machine is running without a license, the client machine cannot connect to the host and the corresponding error is displayed:



Chapter 2. Interface

Cinegize started for the first time looks as follows:



- **Sharing** – in the "ON" position this slider is used for working in host mode, while client mode requires the slider to be in the "OFF" position.
- **This machine** – indicates the name or IP address of the currently operated machine.
- **Temp session key** – randomly generated session key used for access to the currently operated machine.
- **Remote machine** – indication of the remote machine name or IP address.

> The drop-down list contains names / IP addresses of the most recently connected clients.

- **Remote key** – a key to connect to the remote machine in client mode. This password is one-time session password, effective until Cinegize is closed.

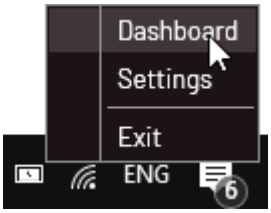
Press this button to open the Cinegize configurator.

Refer to the **Settings** article for details on how to set up Cinegize.

2.1. System Tray

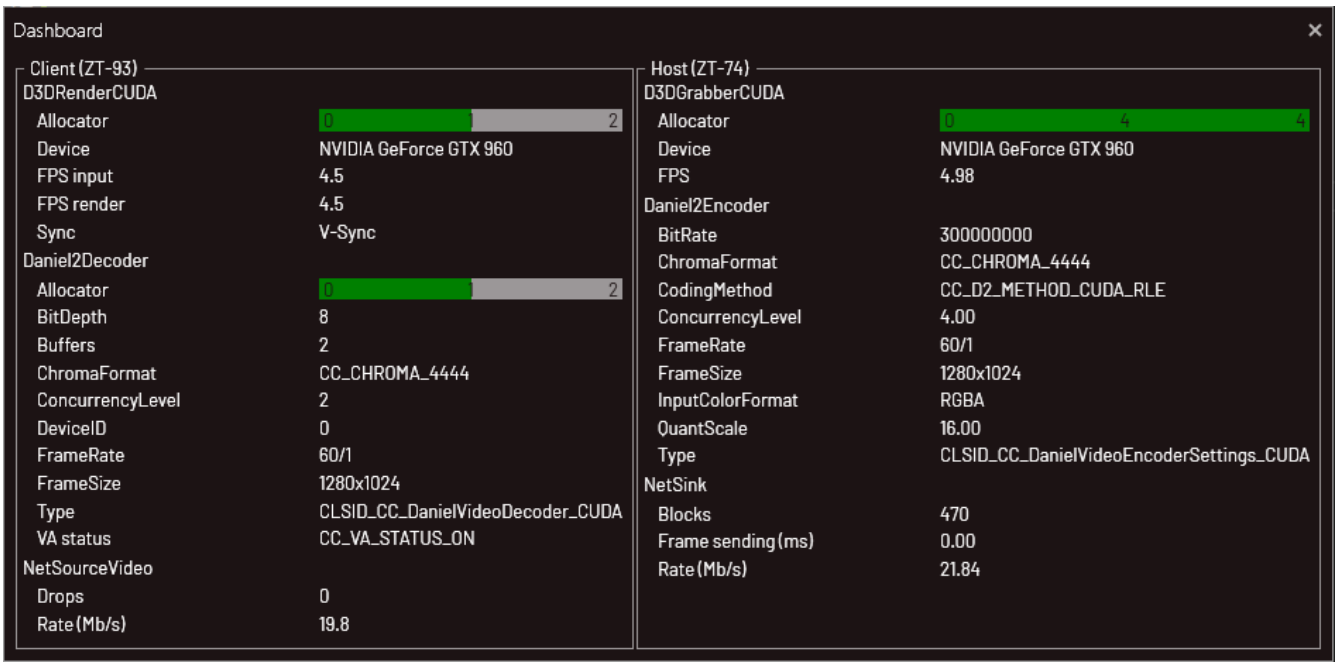
Once Cinegize is launched, the application icon appears in the notification area of the taskbar and remains there, even if the application is minimized to the system tray using the button.

Right-click on the system tray icon opens the following menu:



Dashboard

Use the "Dashboard" command to open the "Dashboard" window. When the connection is established, the detailed information about the Client and the Host current settings is displayed:

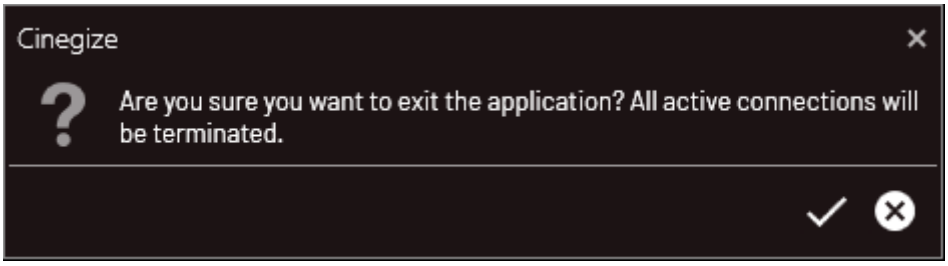


Settings

The "Settings" command navigates to the "Settings" menu when the current settings need to be changed.

Exit

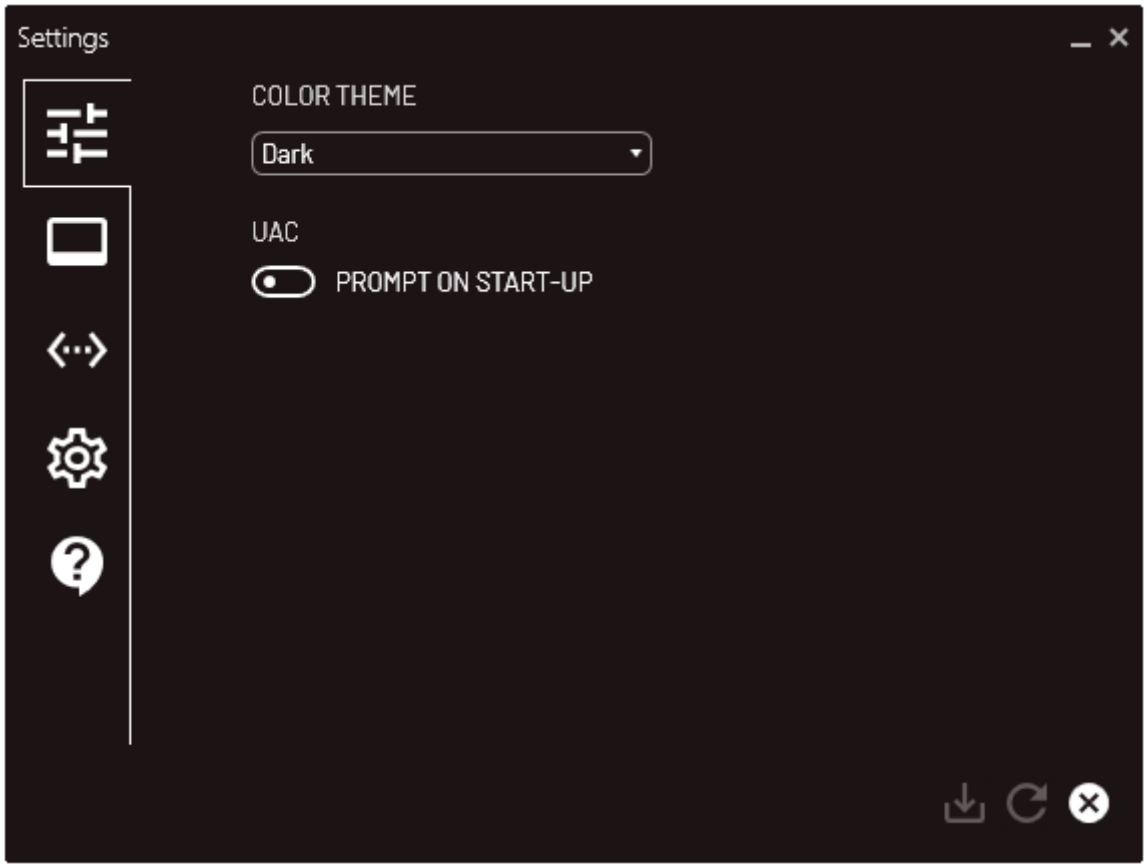
The "Exit" command prompts to close the application with the following confirmation message:



Chapter 3. Settings



To open the configurator, press this button. The following "Settings" dialog appears:



The "Settings" menu contains five configuration tabs. In the right lower corner of each tab there is a set of buttons:



To apply the changes, press the "Apply" button.

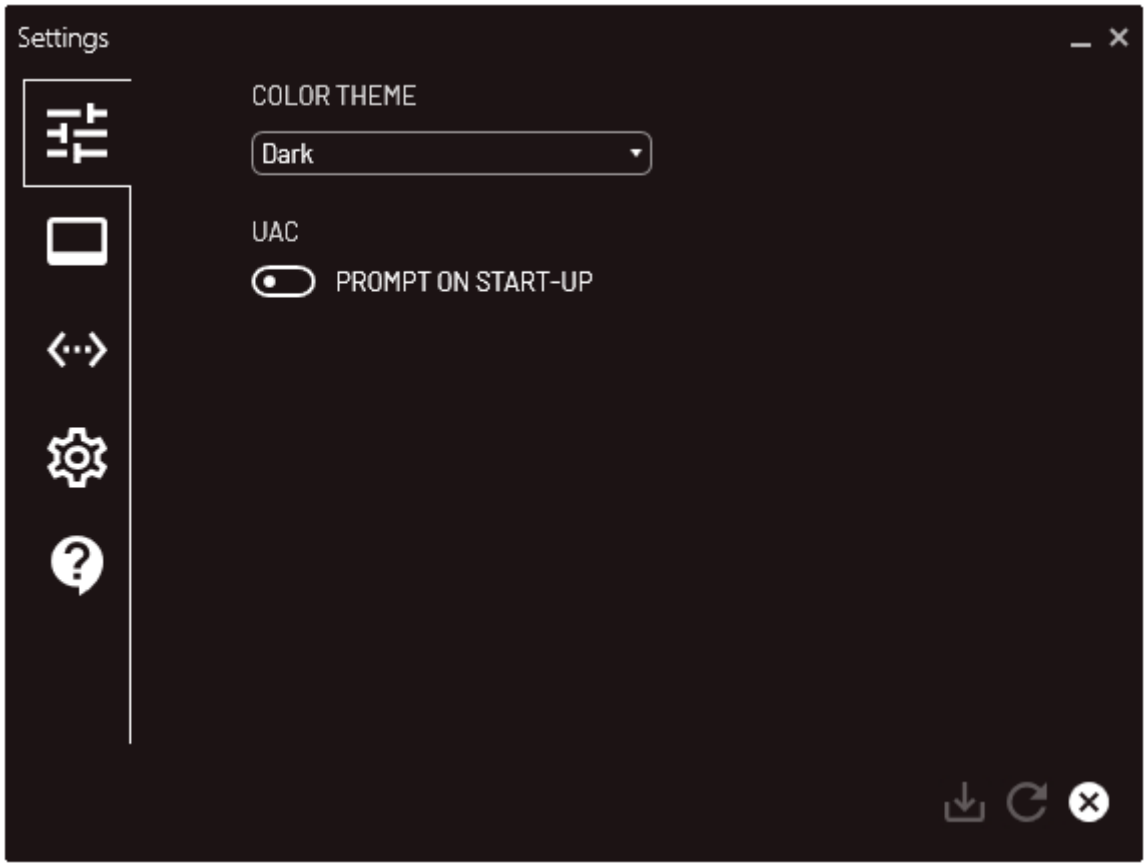


To discard the changes, press the "Discard" button.



To close the "Settings" menu, press the "Close" button.

3.1. General Settings



- **Color Theme** – select the "Dark" or "Light" application color theme.
- **UAC** – activate this switcher to receive notification about User Account Control settings on start-up.

3.2. Quality Settings

Cinegize allows manual adjustment of the video quality parameters, allowing adaptation to meet requirements.

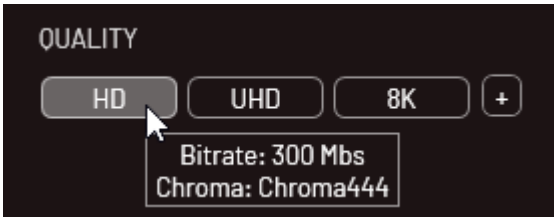
In the host settings, encoding mode allows selection of 4:2:2, 4:4:4 and RGB color as well as specification of a maximum ceiling bitrate.

The encoding works with self-contained frames, meaning error recovery times are always low whilst the transmission runs at a variable bitrate between 5 and 60 frames per second as the required by host screen updates. This ensures quick updates and no tearing effects whilst saving up to 90% bandwidth at idle.

The "Quality" tab provides the opportunity to select necessary quality preset:



By default, HD, UHD and 8K preset qualities are available. Hovering the cursor over the preset name shows the current preset settings – the bitrate and the chroma format:



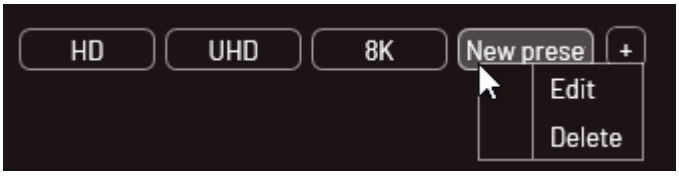
To add a new preset, press the  button.



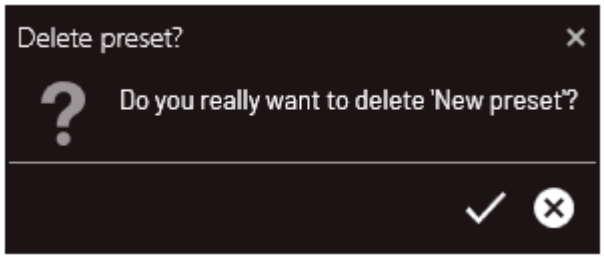
In the "Create preset" dialog box that appears define a new preset name, maximum bitrate, chroma format (RGBA, 422 or 444), and grabber mode.

Having made all the necessary changes, confirm your choice by pressing the ✓ button.

When it is necessary to make changes to the existing preset or remove it, use the "Edit" or "Delete" command from its context menu:



Deletion of existing preset requires additional confirmation:



The use of audio is determined by the corresponding switcher and is enabled by default.

Define the number of encoders by using the ▲▼ buttons or entering the desired value via the keyboard in the corresponding field.

3.3. Ports Settings



By default the "TCP general port" is set to 51140. To change this value, as well as to define the "UDP video port" and "UDP audio port" on the host machine, use the buttons or enter the desired value via the keyboard in the corresponding field.

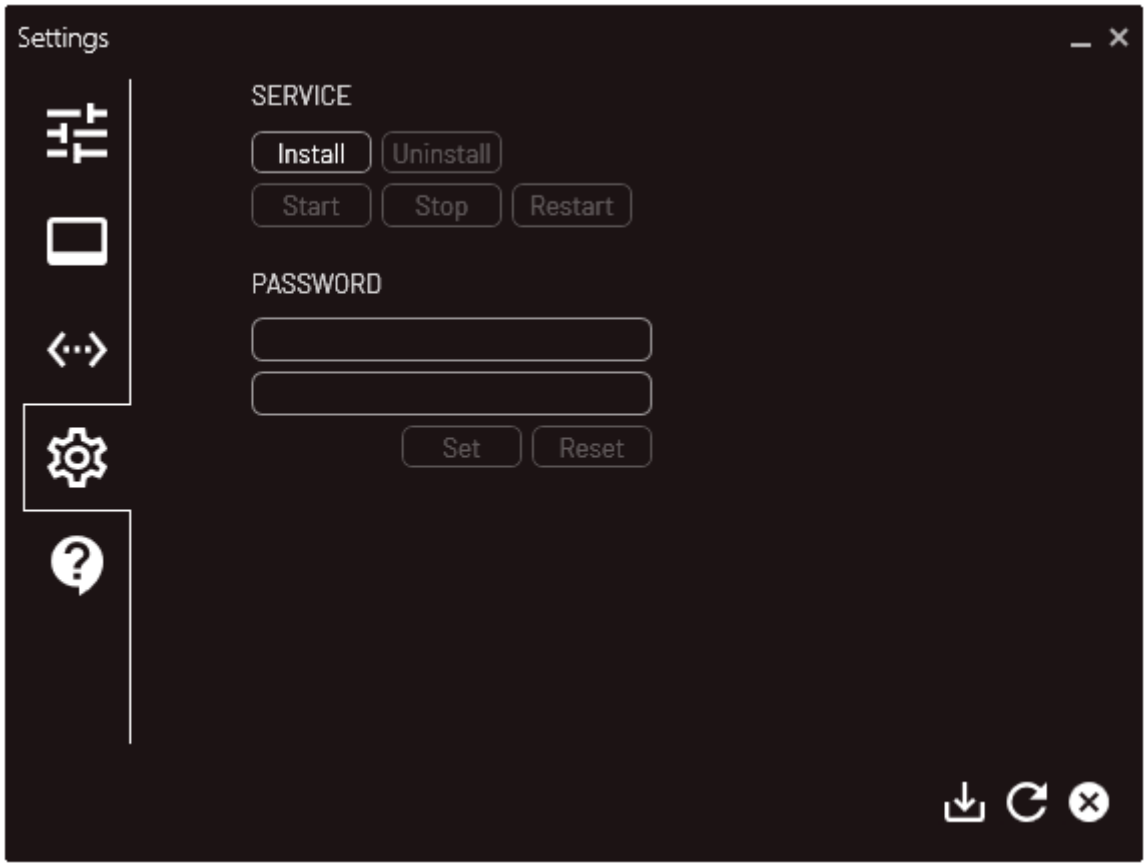
For proper work of Cinegize the TCP general port value on the client machine must be the same as on the host machine.

If the specified ports are blocked on application startup, the appropriate error is logged to log files for service mode, or reported to the console for application mode.

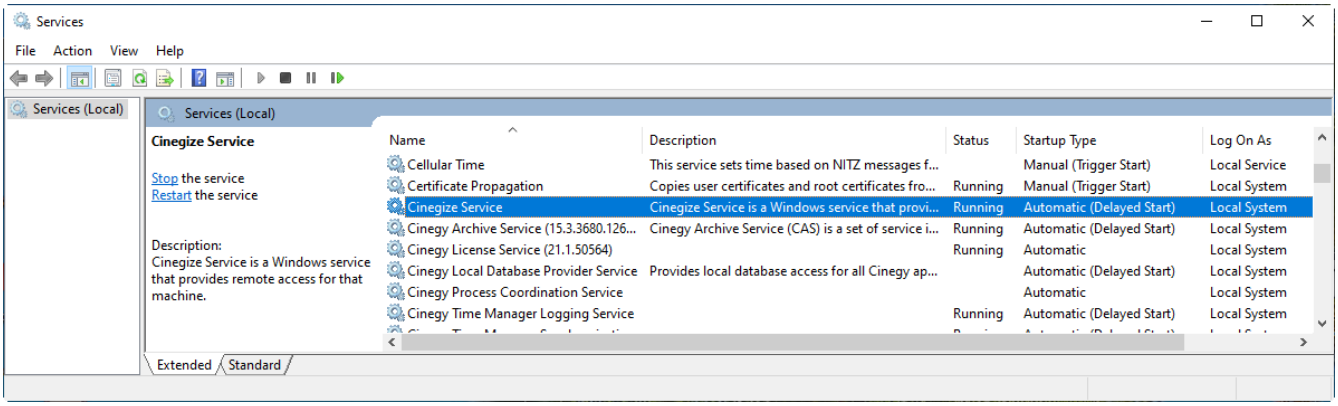
3.4. Service Settings

To manage the service, the user must have administrator rights and Cinegize must be launched using the "Run as administrator" command.

Cinegize can operate as a Windows service. This mode provides automatic hosting after machine startup.



In the "Service" tab, press the "Install" button to install the Cinegize service as a Windows service. Then press the "Start" button to start the service:



The service can be uninstalled, stopped or restarted by pressing the corresponding buttons in the "Service" tab of Cinegize.

In the "Password" field, set a personal password for unattended access when Cinegize operates in host mode.



Refer to the **Windows Service Mode** paragraph for details on operating Cinegize as a Windows service.

3.5. Info

The "Info" tab contains copyright and licensing information:



Cinegize configuration settings are stored in the settings.xml file, accessible by the following path: *C:\ProgramData\Cinegy\Cinegize*.

Chapter 4. Operating

Cinegize is the logical step of standard software replacing proprietary hardware. It is replacing traditional, high-end hardware-based KVM-over-IP solutions or expensive VDI solutions, which fail doing high-end graphics and video anyway.

Cinegize provides the same high-quality experience you have using a high-end 3D modelling or video editing workstation being sat physically in front of a directly connected monitor, but being remotely connected via the local network running the Cinegize client software on an ordinary Windows PC.

This is not using H.264 or HEVC hardware compression with its known issues and problems but an advanced massive parallel processing video codec designed to run on GPUs natively (please visit the **Cinegy's Daniel2 website** for more information). Resolutions like UHD, 8K or 16K are not a problem for Cinegize, no matter what color depth or frame rate.

For proper work of Cinegize the client and the host machines should be in the same domain!

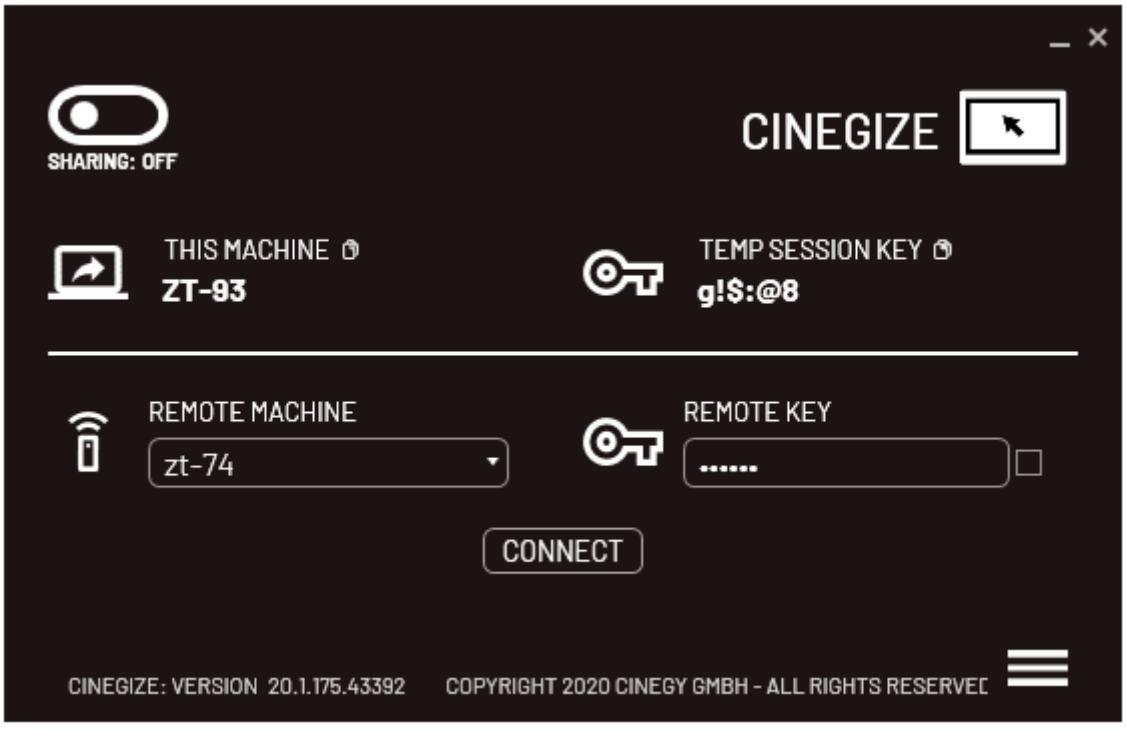
Cinegize is not an Internet remote access or support software like TeamViewer or AnyDesk. It is for use within a local network or a private, high-speed WAN. Think of Cinegize as a virtual, high-end KVM-over-IP replacement.

Cinegize can operate in two modes: as a host and as a client.

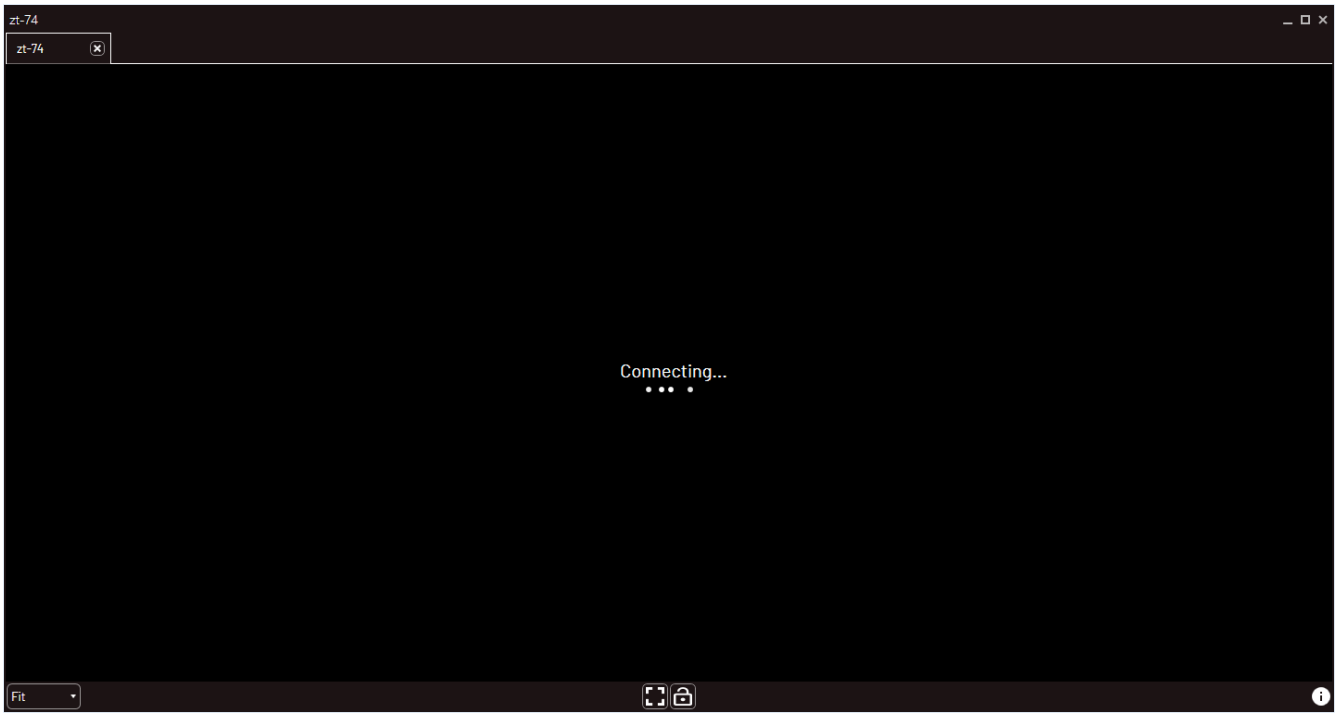
Client Mode

No license required to work in client mode.

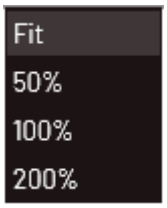
Make sure that the switcher "Sharing" is in the "OFF" position for work in client mode. There is no need to install and run the Cinegize service for working in this mode. In the corresponding fields of the main window insert the remote host machine name/IP address and the remote key generated on the host machine:



After pressing the "Connect" button, the connection process is displayed:



In the status bar underneath the client console window, you can adjust the display scale of the application by selecting the desired scale from the "Fit" drop-down list in the lower left corner:





Use this button to expand the application window to full screen. You can also switch to full-screen mode by clicking the window title bar or using the `AltGr+F` keyboard shortcut.



This button sends the `Ctrl+Alt+Del` command to the host machine to unlock its console. You can also use an alternative key combination `Ctrl+Alt+Ins`.



Hovering over this icon displays a pop-up window with useful information (such as framerate, bitrate, etc.). The shortcut for this action is `AltGr+I`.



If no connection can be established, an appropriate error message is displayed, indicating the reason of the failure.

In the result of successful connection, the "Cinegize" pane appears on the right side of the host machine desktop:



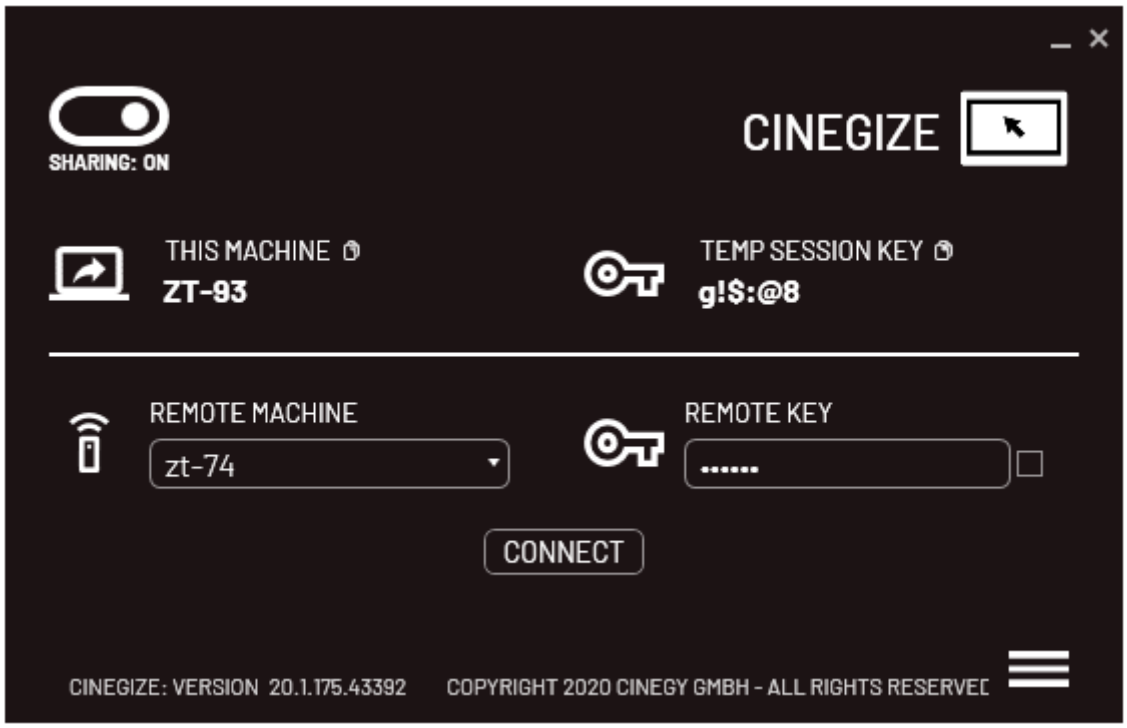
Click the button and the following window will appear with a list of connected clients:



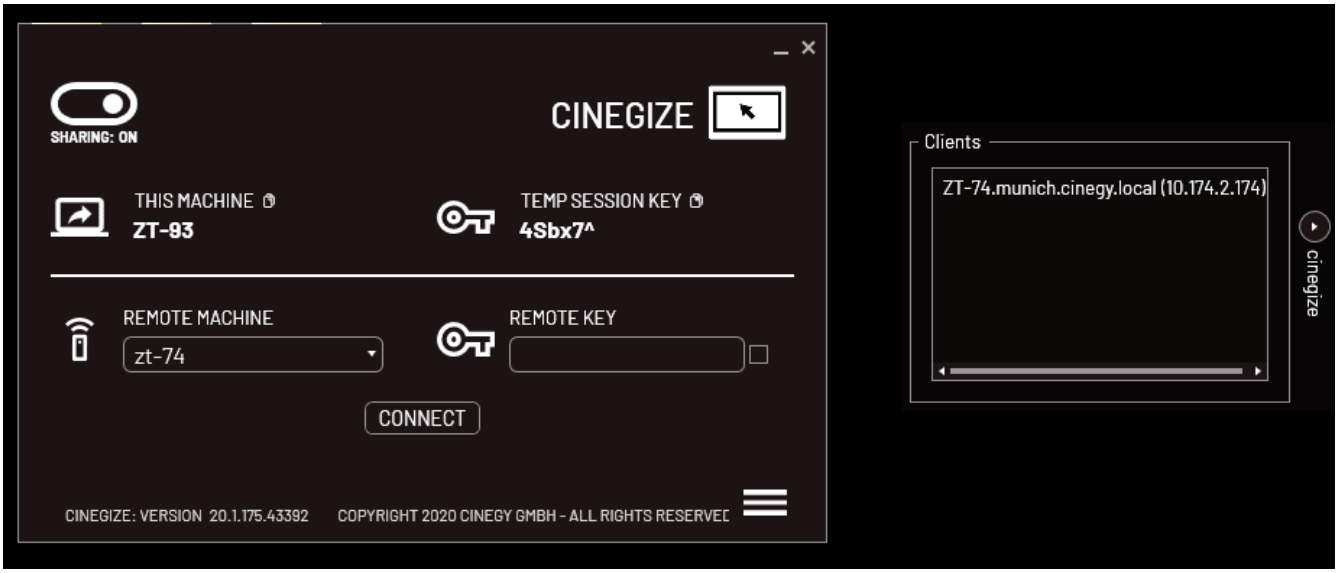
Host Mode

The host machine requires a license to allow connection from the client machine.

Set the "Sharing" switcher to "ON" position.



Upon successful connection, the "Cinegize" pane on the right side of the host desktop reveals the following:



Cinegize supports multiple concurrent connections and each connected client appears in a separate tab.

Cinegize provides synchronization of plain text copied to the clipboard between client and host machines.

4.3. Windows Service Mode

This mode provides automatic hosting after machine startup.

To operate in this mode you should install and start Cinegize service as described in the **Service Settings** paragraph.

Once installed, the Cinegize service will automatically start as a host when the machine boots, allowing the user to connect to the login screen as if he was physically sitting in front of it. This is perfect for providing remote access to a virtual workstation hosted in a LAN-connected datacenter, or for using centralized equipment that is physically isolated from an operator workstation.

Detailed information on performance of Cinegize is available in the log files stored in the following path: *C:\ProgramData\Cinegy\Cinegize*.

System Recommendations

Cinegize was designed with the express goal of meeting exacting quality capabilities and at the same time having a minimal impact on the host. Using the massively-parallel Daniel2 codec allows ideal optimization running on GPU as well as modern multi-core CPUs with features such as AVX. Since any desktop remoting software is not an end goal alone, keeping the load added by this function as small as possible is a critical benefit of Cinegize.

.1. Software Only

No additional hardware needed – just the power of your graphics card, preferably a recent NVIDIA card. On the client side an integrated graphics card will do.

If you are using an NVIDIA graphics card, we recommend that you optimize its performance by setting the "Prefer maximum performance" value for the "Power management mode" parameter in the NVIDIA Control Panel.

Daniel2 GPU encoding and decoding are supported by NVIDIA video boards that have CUDA Compute Capability 3.5 and higher. If the NVIDIA video board has the CUDA Compute Capability of an earlier version, then use Daniel2 CPU encoding and decoding.

The minimal supported NVIDIA driver version is 456.81.

Please perform the process of NVIDIA drivers update only upon stopping Cinegy applications. For detailed instructions on installing NVIDIA driver, please refer to the NVIDIA Drivers installation article.

The required hardware largely depends on the video resolution to be played back at each machine running Cinegy Cinegize.

Video is transmitted with light-weight compression including rapid error recovery, offering a bandwidth efficiency of up to 20:1 compared to uncompressed. Cinegize requires a cabled LAN connection between sender and receiver with minimal network packet loss, operating at 1Gbps speed for up to UHD60 4:4:4 mode.

8K (7680x4320) resolutions at high quality mode require 5Gbps or higher network speeds.

Cinegize utilizes the GPU to compress or decompress in real time the video output where it is created, thus offloading the CPU.

The minimum requirements to install and/or run are Windows 10 64-bit (Enterprise, Home or Pro), 4GB of RAM, suitable CPU (dependent upon the host resolution and quality intended for transmission), and preferably a recent NVIDIA graphics card, which can be used to offload the encoding or decoding using NVIDIA's CUDA.

Users of NVIDIA Quadro GPUs can benefit from the NVIDIA Capture SDK (NVFBC) features available, allowing a further reduced host PC load.

Cinegize runs also without GPU acceleration creating minimum CPU load.

.2. Disclaimer

Cinegize is currently an early beta version, and access is currently provided at no cost pending release. This release is not meant for production use but only for evaluation and demonstration purposes.

.3. No Damage



Cinegy refuses any responsibility for any damages resulting from the use of Cinegize. For the avoidance of any doubt: Cinegy refuses any liability for any damage resulting out of the use of its Cinegize beta software.