

**Manual**

**Option Pack Server**

**Virtual CD® OPS**



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*If you use Virtual CD with CDs or DVDs that are under license, then creating multiple virtual images from a given CD/DVD or running the Virtual CD program with a given virtual CD on more than one computer at a time may constitute a breach of the software licensing agreement you entered into with the manufacturer of the CD/DVD in question. Make sure to check your licensing agreements for detailed information.*

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# Introduction

## Foreword

Thank you for choosing Virtual CD Option Pack Server.

Virtual CD Option Pack Server is a powerful tool for centralized administration of all the Virtual CD clients in your network. With Virtual CD OPS you can assign licenses to control virtual CD usage, and analyze usage data to optimize licensing. Other specialized control features, such as functions for locking and unlocking virtual drives on client computers, are ideal for use in teaching or training environments, for example.

This documentation gives you a detailed description of how Virtual CD Option Pack Server works, and how you can work with it. If you prefer, you can simply use it for reference purposes, to look up specific points as you need them. The information provided here is divided into the following categories:

- **Introduction:** Provides an overview and general information.
- **Getting Started:** Describes the installation and basic configuration of all components.
- **Working with Virtual CD OPS:** Takes a closer look at how the program works and describes advanced settings for all Virtual CD OPS features.
- **Reference Section:** Detailed descriptions of individual components (Virtual CD OPS Service, Virtual CD OPS Management and helper programs).



*The examples given in this documentation were generated using a Windows XP Professional workstation and a Windows 2000 server. If you use a different operating system version, the appearance (dialogs, texts, etc.) as well as the organization and operation of system elements may differ from those shown here. In this case, it may be helpful to refer to the documentation for your operating system if anything in these instructions is unclear.*

## What Virtual CD Option Pack Server Can Do for You

Virtual CD Option Pack Server – or Virtual CD OPS, for short – gives you an extensive array of features for centralized control of Virtual CD program functions on the client stations in your network.

These features include:

- **Centralized Management:** The central management program shows you at a glance who has inserted which virtual CDs in which virtual CD drives. It also lets you insert and eject virtual CDs from a central network location, and provides functions for locking virtual CD drives so they cannot be used
- **License control for virtual CDs:** The license control features let you limit simultaneous usage of individual virtual CD can run in your network.
- **Usage data:** Virtual CD OPS can keep track of who uses which virtual CDs when, and for how long. You can switch this feature on and off as desired.
- **Activity check for virtual CD drives:** The data throughput monitor shows you the amount of data currently being read by a particular virtual CD drive on a given computer. This lets you check for activity on a virtual CD drive.
- **Automatic distribution of Virtual CD licenses to Virtual CD clients:** Virtual CD OPS can distribute program licenses for the use of Virtual CD. Simply enter your license key(s) in Virtual CD OPS, and let it license each client station as they register with the OPS program (i.e., when Virtual CD is started on the station).

## Virtual CD OPS Program License

Virtual CD OPS is licensed on a per-server basis. In other words, you can install one Virtual CD OPS Server in your network for each OPS license key you purchase.

This licensing applies to the VCD OPS service. The license key you purchase must be entered during installation of this service. If there is no license key available at the time of installation, you can leave this field blank for the time being. In this case, Virtual CD OPS will

run in demo mode for up to 30 days. To enter your Virtual CD Option Pack license key at a later date, open the **Help** menu and select **Registration...**



*If Virtual CD OPS is not properly licensed (e.g., if the demo period has expired), the Virtual CD OPS service will stop running. The next time Virtual CD OPS Management is started, a message informs you that the program is not licensed.*

*You can register as many clients as you wish in a single Virtual CD OPS installation.*

## Document Conventions

For added clarity in these texts, this documentation uses the following conventions:

**Bold** font indicates texts quoted from the program (buttons, menu items, dialog texts, etc.) and important notes.



**Notes that are especially important** are marked by the exclamation point symbol you see here. These notes contain information that is essential for trouble-free operation of your Virtual CD OPS program.



**Tips and tricks** for simplifying procedures are marked by the light-bulb symbol shown here.

## System Requirements

The following are the minimum requirements for installation and operation of the Virtual CD Option Pack Server:

### ***For the Virtual CD OPS Service:***

- ✓ Windows NT4 Server or
- ✓ Windows 2000 Server or
- ✓ Windows 2003 Server
- ✓ Latest Service Pack available for the server used

### ***For Virtual CD OPS Management:***

- ✓ Windows NT4 Workstation with at least 128 MB RAM or
- ✓ Windows 2000 Professional with at least 256 MB RAM or
- ✓ Windows XP Professional with at least 256 MB RAM
- ✓ Latest Service Pack available for the operating system used.
- ✓ Display resolution: 800 x 600 or higher.

### ***Virtual CD program installed on workstations (not included with Virtual CD OPS):***

- ✓ Virtual CD v5.0.2 or later.



*Virtual CD Option Pack Server is made for use with Virtual CD program versions 5.0.2 and later. For best results, we recommend using the latest Virtual CD version available.*

**Virtual CD Option Pack Server does not work with Virtual CD TS or Virtual CD FS.**

## **Technical Support**

If you have any questions or encounter any problems with the software, please refer to the following Web sites for help:

***Virtual CD Online:***

<http://www.virtualcd-online.com/>

***Knowledge Base:***

<http://www.virtualcd-online.com/kbase>

***Support Forum:***

<http://www.virtualcd-online.com/support>



# Getting Started

## Installation

Because Virtual CD OPS is a client/server application, there are two main components to install: Virtual CD OPS Service and Virtual CD OPS Management. If you have a Virtual CD OPS installation CD, the installation program runs automatically when the CD is inserted. If the “autorun” function is switched off in the computer, or if you are installing from a downloaded file, run the **SetupVCDOPS100.exe** file to start installation.

On the client side, all you have to do is enter the name and port number of the server running the Virtual CD OPS Service, and specify whether the client machine will obtain its Virtual CD user license from the Virtual CD OPS program, or has its own license number stored locally.

The basic configuration of the program must be carried out in the following order:

- Installation of the Virtual CD OPS Service
- Installation of the Virtual CD OPS Management program
- Configuration of Virtual CD clients

## Installing the Virtual CD OPS Service

As a rule, the Virtual CD OPS Service only needs to be installed once. It can be used by as many Virtual CD clients as you like. Installation and configuration of the Virtual CD OPS Service are described step by step in the following:

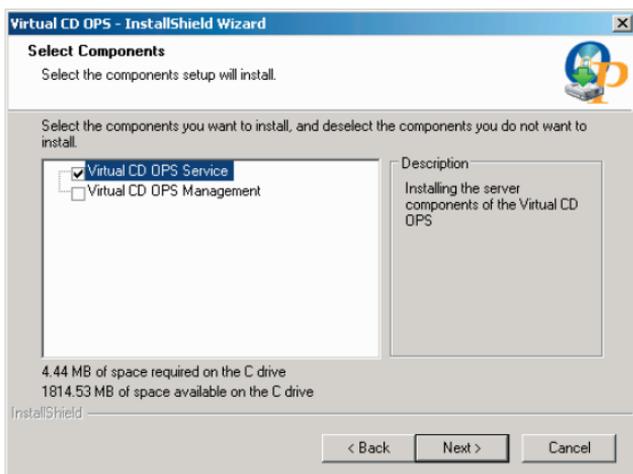
### Step 1:

Begin by selecting the server on which you wish to install the Virtual CD OPS Service. Then run the installation program on that server.

### Step 2:

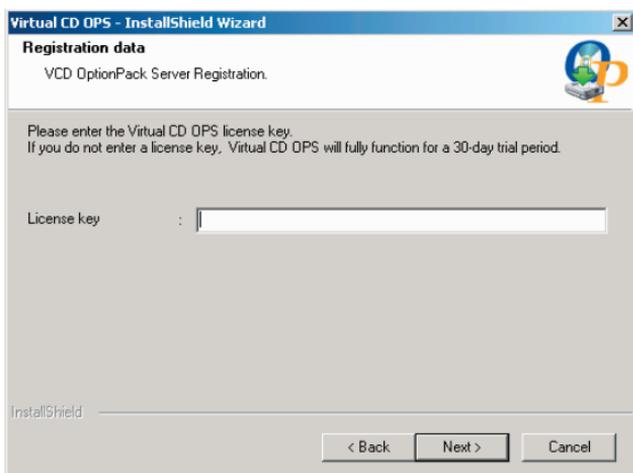
Once the setup has been initialized and certain basic information has been entered (language, installation directories, etc.), you are prompted to specify which components should be installed.

Select “Virtual CD OP Service” here.



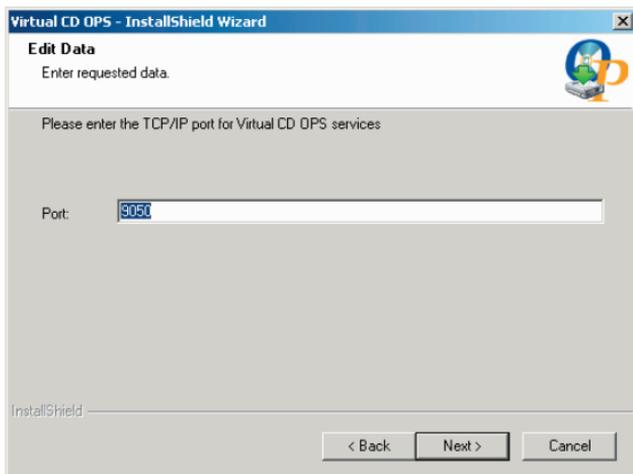
### Step 3:

The next dialog prompts you to enter the license key for your Virtual CD OPS program. If you do not have a license key yet, you can leave this field blank. In this case, Virtual CD OPS will run in demo mode for up to 30 days.



#### Step 4:

The last setting you need to configure is the number of the port to be used by the Virtual CD OPS Service for communication with your Virtual CD clients and Virtual CD OPS Management. The default setting is Port 9050.



*Make sure the port you select is available throughout your network. You can change this setting later, but since the port number must be entered on all VCD clients as well this could entail a lot of work, depending on the number of machines in your network that use Virtual CD.*

#### Step 5:

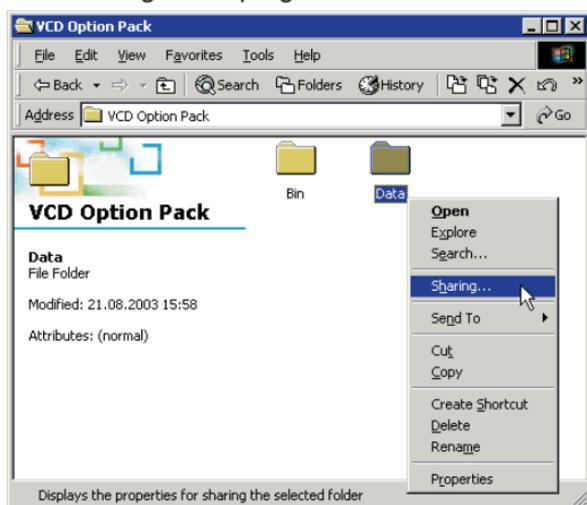
You can now proceed with the installation of the Virtual CD OPS Service. It is installed as a Windows service, with the designation “**Virtual CD OPS.**” If you need to change any of these settings, you can access the service from the Windows Control Panel in the usual manner.



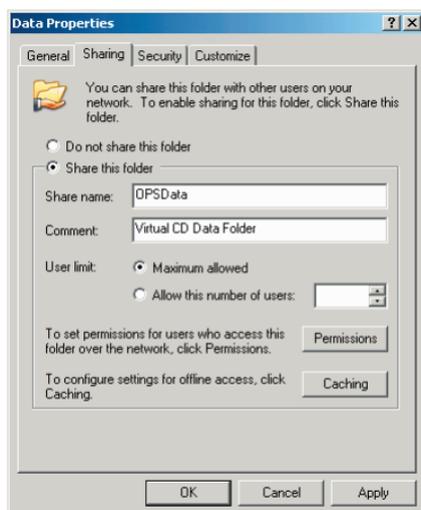
*The Virtual CD OPS Service runs under a system login. Make sure the system login has full access privileges in the Virtual CD OPS folder so that it can read and write data in that directory. No other permissions are required.*

**Step 6:**

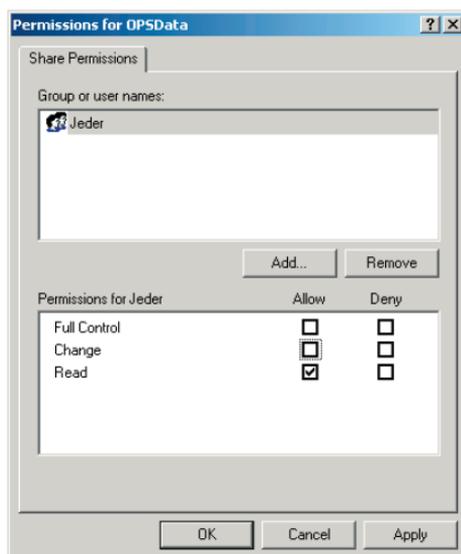
Following successful installation of the Virtual CD OPS Service, you need to share the <VCDOPS>\data folder so the service can work with the Virtual CD OPS Management program.



*The name you enter for the share must be subsequently assigned to the Virtual CD OPS data directory as well. Enter a description that identifies the share.*



Virtual CD OPS Management reads data directly from this directory. For this reason, network users that will be working with the Virtual CD OPS Management program must have “read” privileges in this shared directory.



## Installing the Virtual CD OPS Management Program

Once the service has been installed, you need to install and configure the Virtual CD OPS Management program. This procedure is described step by step in the following:

### Step 1:

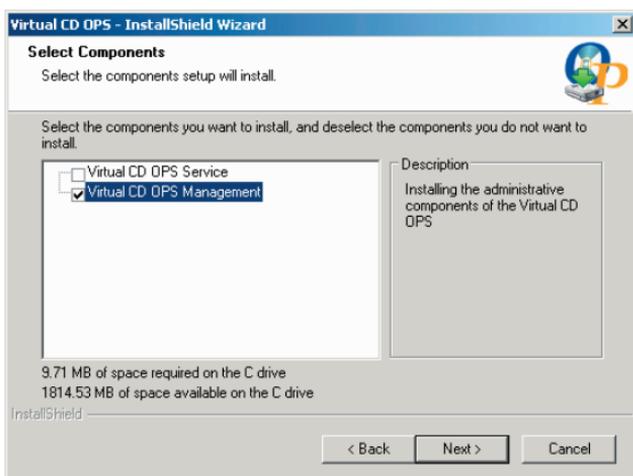
Select the workstation on which you wish to install Virtual CD OPS Management. If you wish to install this program on the same server that runs the Virtual CD OPS Service, you can install Virtual CD OPS Management at the same time you install the service. You also have the option of installing the Management program on any workstation, independent of the Virtual CD OPS Service.



*You can install Virtual CD OPS Management on as many machines as you wish, but it can only run in one instance per Virtual CD OPS Service. If Virtual CD OPS Management is already running when you try to start it, a message window opens to inform you of this fact; no second instance is opened.*

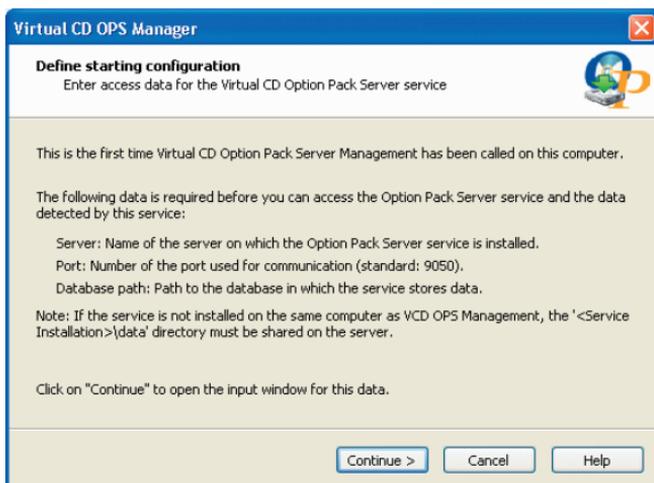
## Step 2:

Once the setup has been initialized and certain basic information has been entered (language, installation directories, etc.), you are prompted to specify which components should be installed. Select “Virtual CD OPS Management” here.



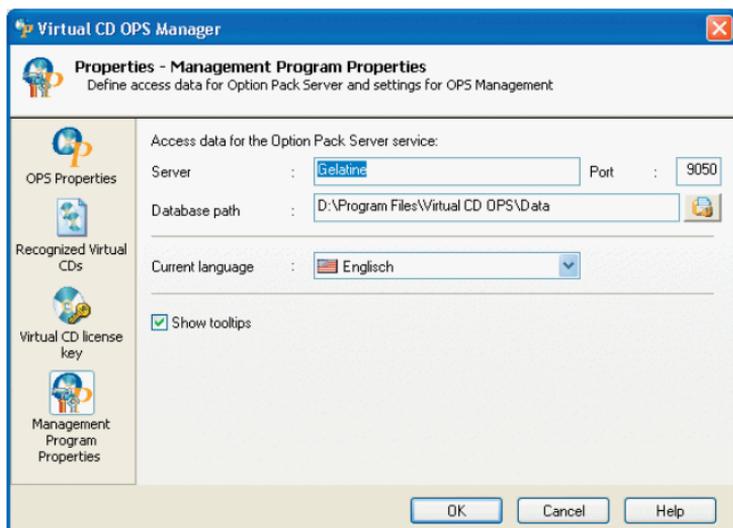
### Step 3:

Once it has been installed successfully, start the Virtual CD OPS Management program to continue the basic configuration procedure. A wizard prompts input of the missing data and then opens the Management Properties, where you can configure the settings you need.



The following values must be entered to ensure functional communication between Virtual CD OPS Management and the Virtual CD OPS Service:

- The server on which the Virtual CD OPS Service is installed.
- The port used for communication with the service.
- Path to the shared folder containing databases used by the service (see Installing the Virtual CD OPS Service).



*Enter the path to the database folder in UNC syntax to ensure accessibility.*

#### Step 4:

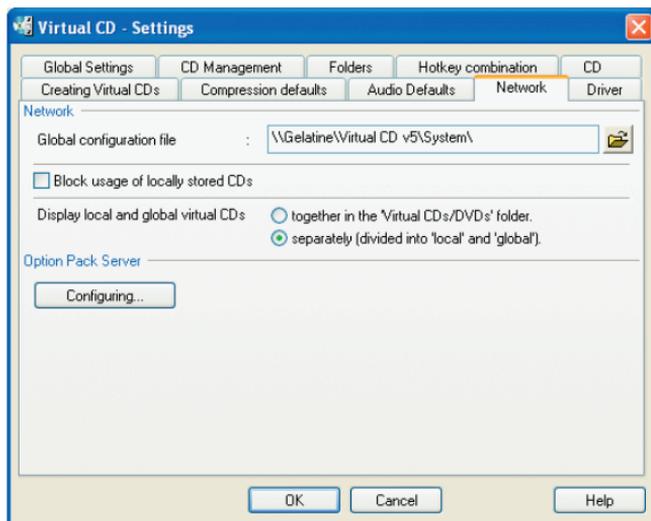
The last step is to “tell” Virtual CD OPS which virtual CDs it will be managing. Click on **New** to open a dialog where you can select the desired Virtual CD configuration file. The location of the configuration file is specified on the **Network** page of the Virtual CD Settings, under **Global configuration path**.



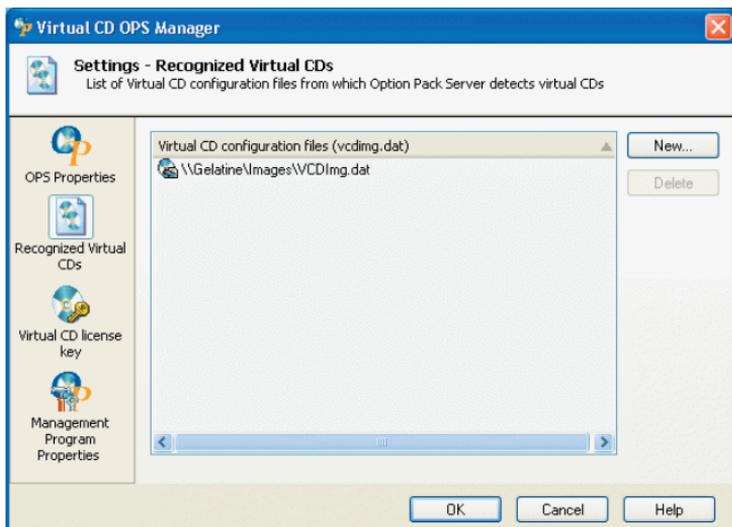
*Again, make sure the path to the Virtual CD configuration file(s) is given in UNC syntax; otherwise, accessibility might not always be ensured.*

*The configuration file you specify here must be stored in the global configuration path indicated on the **Network** page of the Virtual CD Settings. If it is not, this may cause errors in program operation!*

#### Global configuration path in the Virtual CD v5 Settings:



## Virtual CD configuration file specified in Virtual CD OPS Settings:



This concludes the basic configuration of the program. Now you can run Virtual CD OPS Management to register your first Virtual CD clients.

## Configuring Virtual CD Clients

Once you have installed and configured the Virtual CD OPS components, you need to configure certain Virtual CD settings on your client stations to integrate them into the Virtual CD OPS system.

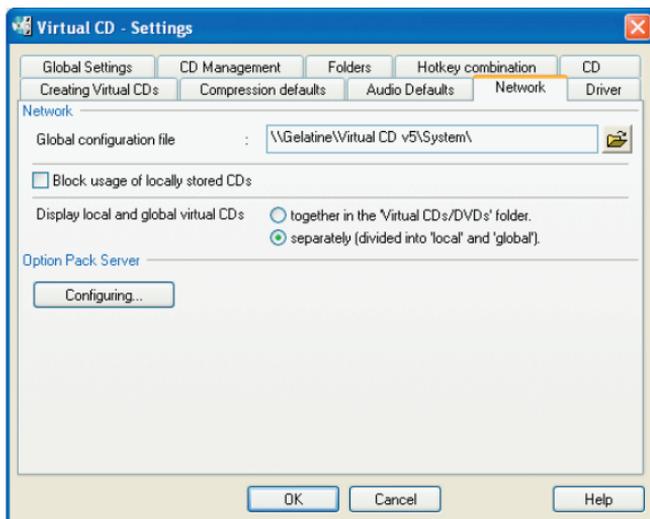


*Prerequisite for this step is the previous installation and network integration of Virtual CD on the workstations. If you have questions about the configuration of your Virtual CD program, consult the Virtual CD documentation.*

### Step 1:

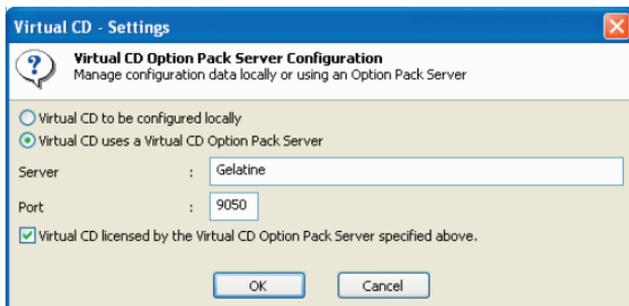
To register a Virtual CD client in Virtual CD OPS, begin by opening the Virtual CD Settings on the workstation, either from the **View** menu or the Quick Start button in the system tray.

Open the **Network** dialog page and click on **Configure...** under **Option Pack Server**.



## Step 2:

On the **Virtual CD Option Pack Server Configuration** panel that opens, select the setting: **Virtual CD uses a Virtual CD Option Pack Server**. This activates the subsequent input fields. Now enter the server and port through which the Virtual CD OPS Service can be reached.



The last option on this panel lets you have Virtual CD clients assigned Virtual CD licenses automatically. With this option, you do not need to enter any license key on the workstations. For more information on this topic, see “Virtual CD License Keys:.”

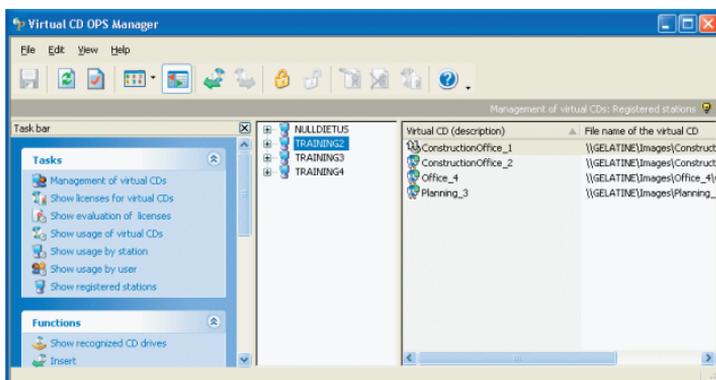
If you use the Virtual CD Client Setup feature to install Virtual CD on workstations, you can have pre-configure these Virtual CD OPS settings in the Client Setup.



*Virtual CD OPS is supported by the Client Setup feature in Virtual CD versions 5.0.3 and later. VCD OPS settings are not available in earlier program versions.*

## Notes on Installation

Once you have completed the basic configuration steps and registered at least one Virtual CD client, your Virtual CD OPS Management window should look something like this:



There are a number of other options available for advanced configuration of the program; these are described in the chapter entitled “Working with Virtual CD OPS.”

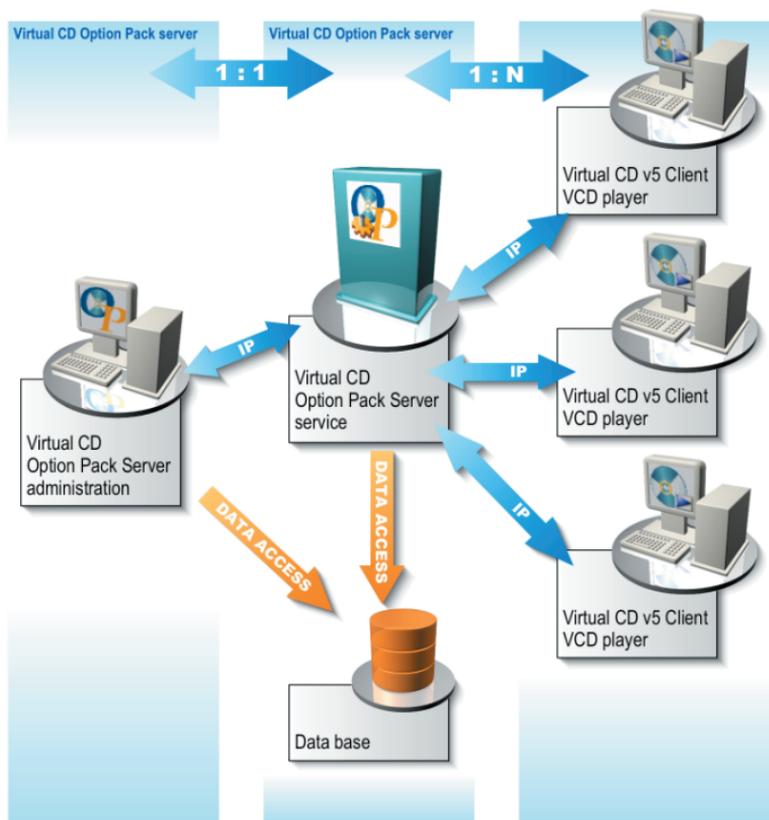


*We recommend double-checking the settings for server and port before you configure the client stations; if a mistake is made and must be corrected on every single station, this could add up to a lot of extra work. For example, if you configure 50 clients to work with Virtual CD OPS and then change the name of the OPS server, you have to enter the new name on every one of the 50 stations to enable communication between the clients and Virtual CD OPS.*

# Working with Virtual CD OPS

## How Virtual CD OPS Works

Virtual CD OPS is a client/server application for management of certain VCD functions on Virtual CD workstations. With this program, your Virtual CD client stations are registered with the central Virtual CD OPS Service and pass information to this service about the station's virtual CD drives, any virtual CDs inserted, and so forth.



As illustrated above, all Virtual CD clients communicate with the Virtual CD OPS Service directly over TCP/IP, so that direct data access is not necessary. The Virtual CD OPS Management program also

accesses the Virtual CD OPS Service over TCP/IP. To enable the optimum data access speed, Virtual CD OPS Management reads some of the data directly from the databases written by Virtual CD OPS Service. For this reason, the folder created for the databases must be shared once the Virtual CD OPS Service is installed. Afterward, when installing the Virtual CD OPS Management program, the name of this share must be entered in the Management Program Properties.



*Virtual CD OPS Management has a direct, 1-to-1 relationship with the Virtual CD OPS Service. In other words, you can install the Virtual CD OPS Management program on as many machines as you wish, but only one instance can run at any given time. If Virtual CD OPS Management is already running when you try to start it, a message window opens to tell you which station the program is running on. Only after that instance has been closed can the program be started again on another machine.*

The main tasks performed with Virtual CD OPS are accessible from the Virtual CD OPS Management window:

- Central management
- License control for virtual CDs
- Logging virtual CD usage data
- Checking activity of virtual CD drives
- Automatic distribution of Virtual CD program licenses

## **Before you continue...**

Before you go any further in this documentation, we would like to emphasize a few elementary aspects of the program that are essential to understanding and using Virtual CD OPS.

**New settings must be saved:** Changes in configuration settings that affect the Virtual CD OPS program or certain parameters for

usage of virtual CDs (e.g., for license control) are **not effective until you explicitly save them**.



*When you select the command to save configuration data, the data is sent the server – i.e., to the Virtual CD OPS service – and then the settings are activated.*

**Changes affecting a virtual CD are not effective until the next time that virtual CD is inserted:** Changes that affect virtual CDs (e.g., in license control settings) are not active until the next time the virtual CD in question is inserted. Virtual CDs that are in virtual drives (whether actively in use or not) when the changes are made are **not** affected.



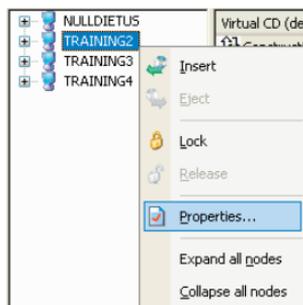
*If a given virtual CD is in a drive when you change settings that apply to it, the new settings are not effective for that CD until it has been ejected and then inserted again.*

## Objects and Their Properties

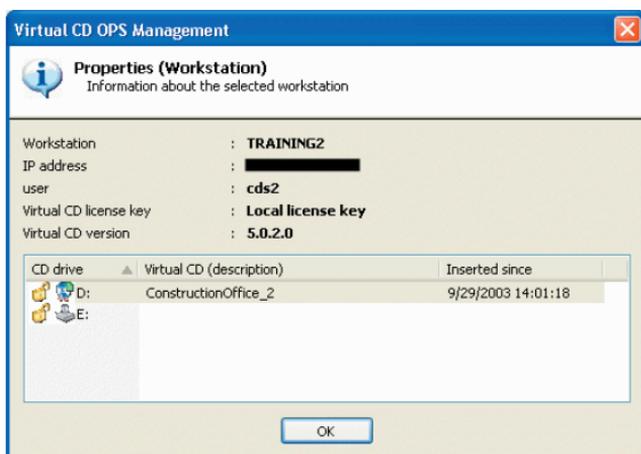
An “object” is an element of the Virtual CD OPS Management program which you can manipulate by activating certain functions. Specifically, Virtual CD OPS Management recognizes the following objects:

- Virtual CDs
- Virtual CD drives
- Workstations
- Users (these are passive objects; i.e., no functions can be applied)

Most functions are applied to one or more objects. The function for displaying the properties of an object, for example, can be applied to virtual CDs and workstations.



“Properties” provide information on objects that are assigned to a given object. For example, one or more virtual drives can be assigned to a given workstation. You can open a **Properties** window from almost any point within Virtual CD OPS Management, for fast access to key information about an object. The example below shows the properties of a virtual CD workstation, which can include network parameters, the virtual drives available on that station, and the virtual CDs currently inserted in drives on that station.



## Recognized Virtual CDs

To perform operations and routines on virtual CDs, the program must be able to identify the virtual CDs unambiguously, by some unique characteristic. The Virtual CD system identifies virtual CDs by their full name; in other words, by the file name of the virtual CD and its entire path (drive designation and folder names).

To simplify the process for loading virtual CDs, all virtual CDs known to your VCD system are listed in one or more DAT files, stored in the directory specified under **Global configuration path** on the **Network** page of the Virtual CD Settings. For your VCD OPS program, the file name(s) must also be entered under **Recognized Virtual CDs** in Virtual CD OPS Management (see “Configuring Virtual CD Clients”). These configuration files list the virtual CDs that are known to your Virtual CD system and are available globally (e.g., over the network). Once you specify a configuration file in Virtual OPS, the virtual CDs listed in that file are “known” to Virtual CD OPS. Any time you add or remove CDs in your Virtual CD Management program, the corresponding DAT file is changed, which means the change is automatically reflected in the Virtual CD OPS system as well.

Virtual CDs must be “recognized” (i.e., included in a specified global configuration file) before Virtual CD OPS can insert them. The same prerequisite applies for the assignment of licenses and identification of usage data in Virtual CD OPS.



*If you move a virtual CD from one folder to another on your hard drive, the path name will change and Virtual CD OPS will no longer recognize that CD. Settings in VCD OPS relating to the virtual CD, such as licensing, will be reset and have to be defined again.*

## Central Management

Centralized management includes functions for control over virtual CD drives and over the use of virtual CDs. The following commands are available here:

- **Insert:** Insert a virtual CD.
- **Eject:** Eject a virtual CD.

- **Lock:** Lock a virtual CD drive.
- **Release:** Release a virtual CD drive.

The **Insert** and **Eject** commands let you use Virtual CD OPS to insert and eject virtual CDs to and from the virtual CD drives in your system. (Your virtual CDs must be recognized by your VCD OPS system before these commands can be used.)



*When you use VCD OPS to insert a CD that is password-protected, the password is entered in the VCD OPS program. This means you do not have to give the password to users.*

You can prevent all usage of virtual CDs on a given station by using VCD OPS to **lock** that station's virtual CD drive(s). Once a virtual CD drive is locked, no virtual CDs can be inserted in that drive **on that workstation**.

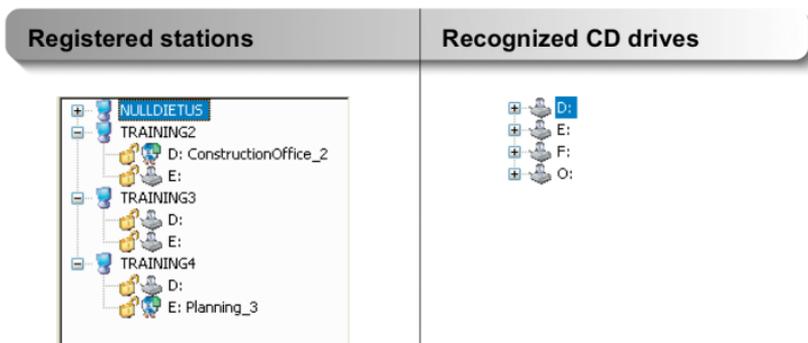
You can, however, insert and eject CDs in that drive using VCD OPS Management. When you **release** a virtual CD drive that had been locked, the drive is once again available for use at the workstation. The "lock" symbols displayed next to drive letters indicate the current status ("locked" or "unlocked") of each drive.

The central management window has a Task bar on the left and a window divided into two panes on the right, giving you a clear and compact overview of your Virtual CD system. The right-hand window pane shows a list of all virtual CDs known to the Virtual CD OPS system.

The pane on the left, between this list and the Task bar, shows a tree diagram of all virtual CD drives registered on your network's workstations. You can toggle the structure of this tree by selecting one of the following under **Management** in the **View** menu:

- **View stations:** With this setting, each workstation forms a node; when you expand a node (click on the plus sign), the lower branches show the drive letters of all virtual CD drives on that station.
- **View virtual CD drives:** With this setting, all of the drive letters used in your system to denote virtual CD drives are nodes.

When you expand a node, the list shows all workstations that have a virtual CD drive with that drive letter.



Depending on configurations and circumstances, you can use this function to access either a virtual CD drive on a particular station, or the virtual CD drives on multiple workstations that use a particular drive letter.

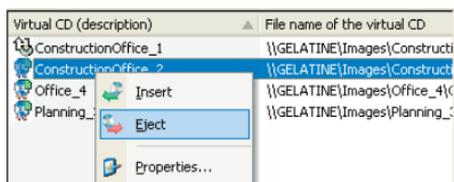
## Location is Central!

The central management window gives you a variety of options that affect the virtual CD drives on registered workstations. To facilitate intuitive operation, the manner in which a given function is executed always depends on the location from which that function was called. When you right-click on an object (e.g., a workstation, virtual CD or drive) in this window, a menu opens containing the functions that can be applied to that object. The function performed is always dependent on the object selected.

This is illustrated by the following examples:

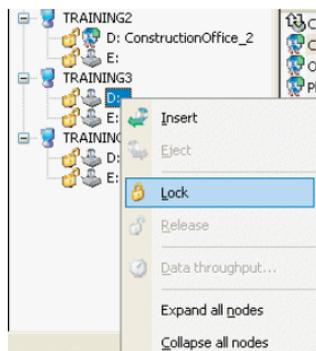
### Example 1: Ejecting a virtual CD from all virtual CD drives

Within a network, it may become necessary at some point to have a given virtual CD ejected from all drives in which it is currently inserted; for example, if you wish to delete or modify the virtual CD. To do this, select the virtual CD in the VCD OPS Management window, right-click on it, and select **Eject**. Virtual CD OPS searches the virtual CD drives on all registered workstations, and ejects the selected virtual CD from all drives in which it is found.



### Example 2: Locking all virtual CD drives on a workstation

In certain situations, it may become necessary to prevent access entirely to the virtual CDs on a given workstation. To do this, simply select the station and activate the **Lock** function. Virtual CD OPS locks all virtual CD drives on that workstation.



The techniques described above also apply when a function is activated by another method, such as Drag & Drop ("Insert" only) or through the Toolbar, a menu command, or the Task bar. The decisive factor is always the object that is selected when the function is called.

## Global Functions

In addition to the functions that can be applied to individual objects, there are a number of functions that can be applied “globally;” i.e., to all virtual CD drives on all registered workstations. To help make sure these functions are not activated inadvertently, they can be accessed only through the **Edit** menu. Global functions include the following:

- **Eject all virtual CDs**
- **Lock all drives**
- **Release all drives**

These functions can be used to create a uniform operating state on all workstations in the network, which can be useful in a teaching or training situation, for example. One method for this would be to first lock all drives and then eject all virtual CDs. Then you can permit access to a particular selection of virtual CDs for the group you are working with.

## License Control for Virtual CDs

When virtual CDs are distributed in a network, it can be difficult to make sure that software manufacturers’ licensing agreements are observed. Virtual CD OPS is equipped with special tools to help you control usage and protect your legal security. Before you can use the licensing tools in Virtual CD OPS, you need to select one of the following options on the OPS Properties panel of the VCD OPS Settings:

### **Option 1:** License control is deactivated

This is the default setting, active when you first install Virtual CD OPS. This setting is fine if you do not need to use the Virtual CD OPS license control functions. Properties of this setting:

- License control is not applied.
- Users can insert any virtual CDs.

**Option 2:** License control is active for virtual CDs with registered licenses

This settings allows flexible handling of license settings, because it enables license control for virtual CDs as required, while also letting you permit unlimited use of virtual CDs that are not subject to licensing restrictions. Properties of this setting:

- License control is applied for all virtual CDs for which you have defined a number of licenses.
- The virtual CDs for which no number of licenses has been defined can run in any number of instances.
- Virtual CDs that are not known to Virtual CD OPS (e.g., that exist only on one client workstation) can be used without restriction.

**Option 3:** License control is active for all virtual CDs

This is the most restrictive setting, and gives you complete control of virtual CD usage for all workstations registered in Virtual CD OPS. Properties of this setting:

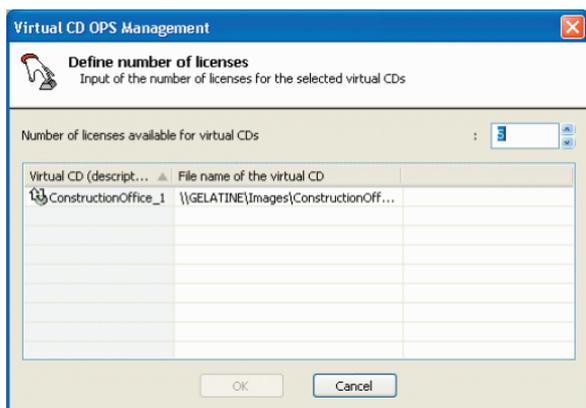
- License control is applied for all virtual CDs for which you have defined a number of licenses.
- Virtual CDs for which no number of licenses has been defined **cannot** be inserted.
- Virtual CDs that are not known to Virtual CD OPS (e.g., that exist only on one client workstation) **cannot** be inserted.

## Defining the Number of Licenses for a Virtual CD

To activate the Virtual CD OPS license control function for a virtual CD, you need to define a number of licenses for the CD. To do this, begin by selecting **Show licenses for virtual CDs** from the Task bar. The window listing virtual CDs now shows the number of licenses assigned for each virtual CD, as well as the number of licenses currently in use. To set the number of licenses for one or more virtual CDs, select the CD(s) in the list, click the right-hand mouse button, and select **Edit license** from the shortcut menu.



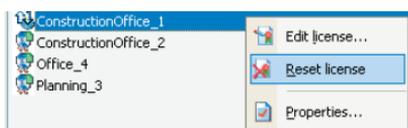
This opens a dialog showing the selected virtual CD(s). Enter the desired number of licenses here.



*If you activate license control and enter 0 for the number of licenses, this makes the virtual CD in question **inaccessible** for use. Once you have ejected the virtual CD, it will not be possible to insert it on any workstation. This is a practical way to temporarily block all access to a virtual CD; for example, if you want to update virtual CD files.*

After defining virtual licenses quantities, you can toggle the display between a list of all virtual CDs and a list showing only licensed virtual CDs. Use this filter function for a quick overview of the virtual CDs subject to licensing controls.

To deactivate the license control function for a virtual CD, right-click on the CD in the list and select **Reset license** from the shortcut menu.



When Show licenses for virtual CDs is active, the **Number of licenses** column shows how many licenses are available for each virtual CD.

Virtual CD (description)	Number of licenses	Licenses in use	File name of the virtual CD
ConstructionOffice_1	5	0	\\GELATINE\Images\Constru
ConstructionOffice_2	-	-	\\GELATINE\Images\Constru
Office_4	-	-	\\GELATINE\Images\Office_4
Planning_3	1	1	\\GELATINE\Images\Planning

The program's response to the "Insert" command is dependent on what you enter on the **Define number of licenses** panel. You have the following input choices:

- **(no input, or license has been reset)**: The virtual CD can be inserted at any time, or not at all, depending on whether license control is "active for all virtual CDs."
- 0**: The virtual CD cannot be inserted at all.
- <a number greater than 0>**: The virtual CD is inserted, if a license is available.



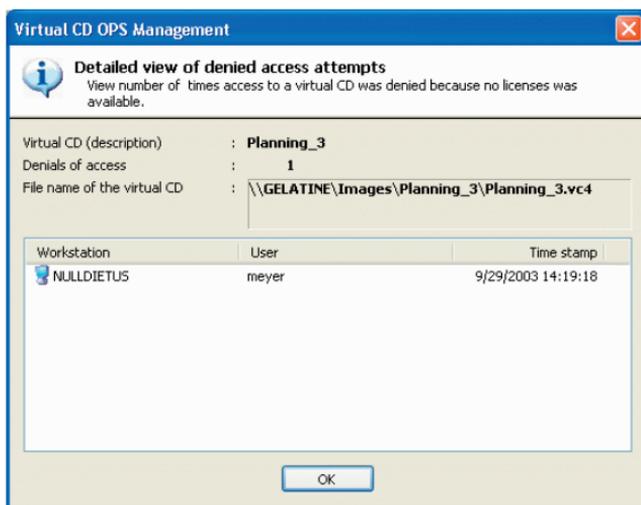
*The values you enter for numbers of licenses remain stored when license control for virtual CDs is deactivated. The number of licenses is not applied, however, until you explicitly reactivate the license control function.*

## Evaluation of License Control

Over a period of time, the Virtual CD OPS license control function will accumulate a quantity of detailed data relating to the number of times the “Insert” command failed due to a lack of available licenses. To view this data, click on Show evaluation of licenses or select **Evaluation of licenses** from the **View** menu. For every virtual CD that has a defined number of licenses, the **Denials of access** column shows the number of times the CD was requested but could not be inserted because all licenses were in use. To view details on failed access attempts for a given virtual CD, right-click on the CD in this list and select **Details...** from the shortcut menu.



The detailed view shows which workstations and users made the access attempts, as well as the time that access was denied.



This information can help you decide whether you have enough licenses for the CDs in your network. If the number of access failures is high, then the number of licenses might need to be increased.

Conversely, if no denials of access are recorded, it might be a good idea to decrease the number of licenses.



*The number given for denials of access is reset to 0 when:*

- the number of licenses for the virtual CD is changed, or
- the licensing for a virtual CD is reset.

## Logging Data on Virtual CD Usage

When you activate the function for **logging usage data** on virtual CDs, you can use the data collected for an evaluation of virtual CD usage in your system. The usage-data log lists:

- the virtual CD in question,
- the stations on which it was inserted, and
- the users who inserted it.

When you first install Virtual CD OPS, this data logging function is not active. To activate this feature, open the OPS Properties panel of the Virtual CD OPS Settings.



*If you try to select a usage data display before the logging function has been activated, a message window opens. Once the message window is closed, the selected display is blank.*

All output windows showing usage data display the duration of use and the most recent usage relating to the selected object. The duration of use shown here is a cumulative value. For example, if a virtual CD was used for one hour on each of two workstations, the duration of use displayed is 2 hours.

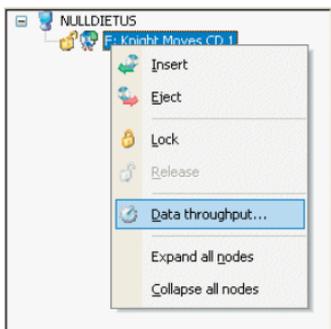


*The usage data that is logged relates to inserted virtual CDs. If no virtual CDs have ever been used on one of the stations registered in Virtual CD OPS, no usage data will be available relating to that station. Neither the workstation nor the user logged in on that station are included in the display of usage data.*

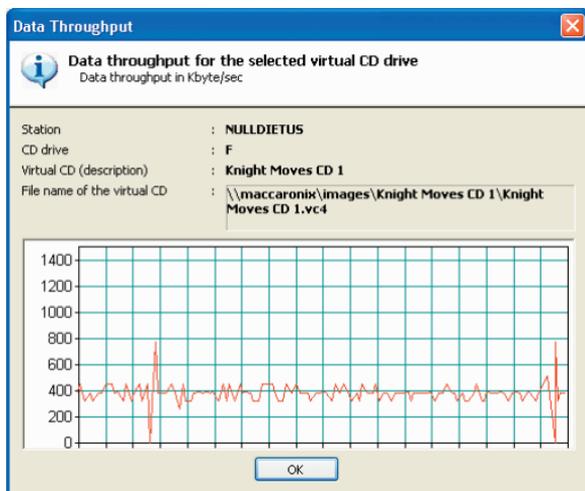
Select **Delete data records** to delete all entries from the usage database. When data logging continues, all values begin again at zero.

## Activity Check for Virtual CD Drives

If you are having a problem with a virtual CD, you can open the data throughput monitor to determine whether the drive it is inserted in is actually being accessed. To activate the data throughput monitor, right-click on a virtual drive (in which a virtual CD is inserted) in the **Management of virtual CDs** window, and select **Data through-put...** from the shortcut menu.



Similar to the Windows Task Manager panel on system performance, the data throughput monitor shows the data throughput detected on the selected virtual CD drive. Throughput is displayed in kilobytes per second. The following illustration shows the data throughput detected when a virtual video CD is played.



The data throughput monitor can only show the throughput for one virtual CD drive at a time.



*You can check the virtual CD drive itself to see whether there is a virtual CD inserted, but you cannot tell from the drive whether the CD it contains is being accessed. The throughput monitor, on the other hand, shows whether the virtual CD is actually being read.*

## Automatic Distribution of Virtual CD Program Licenses

In addition to managing activities on registered workstations, Virtual CD OPS can be configured to automatically distribute the licenses required for using the Virtual CD program. To do this, configure VCD OPS as follows:

**Step 1:** The Virtual CD license keys that you wish to distribute to registered stations have to be entered in the Virtual CD OPS Management program. To do this, open the **Virtual CD License Keys** panel in the Virtual CD OPS Settings. You can enter as many Virtual CD license keys as you wish to here.

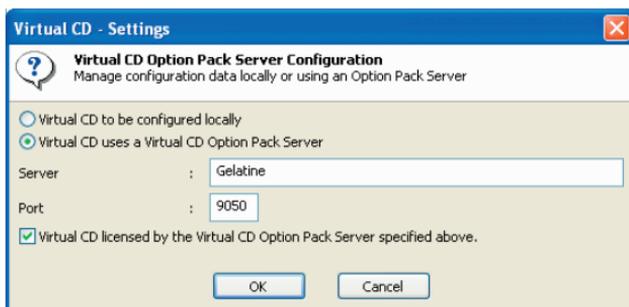


*Virtual CD OPS can only distribute licenses from Virtual CD Version 5 and later. License keys from earlier versions are not accepted.*



*Virtual CD license keys are not a component of Virtual CD OPS and must be purchased separately, in the quantity required.*

**Step 2:** Your Virtual CD workstations must now be configured to obtain their license keys from Virtual CD OPS. To do this, open the **Network** page of the Virtual CD Settings and click on **Configure...** under **Virtual CD Option Pack Server**. In the configuration dialog, activate the **Virtual CD licensed by the Virtual CD Option Pack Server specified above** option.



Once these steps have been completed, the workstations in your network that are registered with Virtual CD OPS draw their licenses from VCD OPS on startup, and release the license when the station is shut down again. This saves you the trouble of entering license keys in each workstation separately.



*Virtual CD OPS will distribute Virtual CD license keys until the number of licenses purchased are all in use. If a workstation is started up and requests a license when none is available, VCD will run in demo mode on that station, unless that station has a locally stored license key.*

In the Registered stations view, you can check which workstations are using license keys distributed by Virtual CD OPS.

When you use the automatic license distribution feature in Virtual CD OPS, we recommend the following procedure:

- Configure all workstations as described under “Step 2” above.
- Do not enter any license keys locally on your desktop network stations.
- Mobile computing devices such as laptops should not be included in the automatic licensing scheme, since they would not be

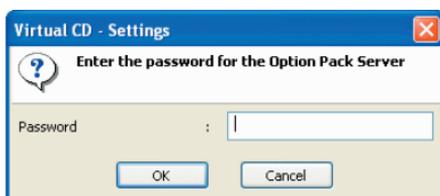
able to run Virtual CD when the network connection is not active. Rather, enter license keys locally on laptops, notebooks and the like. Locally entered keys cannot be distributed by Virtual CD OPS.

*Once a license key has been entered in Virtual CD OPS for distribution, it cannot be used locally (i.e., assigned explicitly on a particular machine).*

## Changing Virtual OPS Workstation Configurations

You may at some point wish to change the configuration settings for Virtual CD OPS on a workstation; for example, to activate or deactivate its use of the automatic licensing function. In order to prevent users from changing these configurations (to run a virtual CD for which no license is available, for example), the following two features have been incorporated:

- Global Virtual CD settings valid for workstations are stored in the Registry under the key: **HKLM\SOFTWARE\H+H Software GmbH\Virtual CD 5\Settings**. Make sure users do not have permission to change this key.
- Even without permission to change the Registry, users could make temporary changes in Virtual CD settings. The changes would be effective until the next time the computer is started. To prevent users from making such changes, you can assign a password in the **OPS Properties**, after activating the **Require password for changing OPS configurations on the client machine** option. Once a password has been defined, it must be entered before the **Virtual CD Option Pack Server configurations** can be edited.



## Special Case: No Connection between Workstation and Virtual CD OPS Service

Under certain circumstances you may find that one or more of your workstations are unable to connect to the Virtual CD OPS Service; for example, when a network laptop is used outside the company, or if the server that runs the Virtual CD OPS Service is temporarily unavailable.

To ensure that the Virtual CD OPS license control feature remains active, VCD OPS stores its license control settings locally; i.e., on each client machine. How the program operates in such cases depends on the following license control settings on the **OPS Properties** panel:

- **License control deactivated:** All virtual CDs can be used.
- **License control active for virtual CDs with registered licenses:** Virtual CDs integrated in the workstation can be used. Access to virtual CDs that are stored on the network is denied.
- **License control active for all virtual CDs:** No virtual CDs can be used!



*Regardless of license control settings, Virtual CD can only be used on a workstation that is not connected to the Virtual CD OPS Service if the station in question has its own license key for using the Virtual CD program.*



## Reference Section

### Virtual CD OPS Service

#### Overview

The Virtual CD OPS Service is the central component of Virtual CD OPS. The Service handles:

- data exchange with all registered Virtual CD clients, and
- communication with Virtual CD OPS Management.

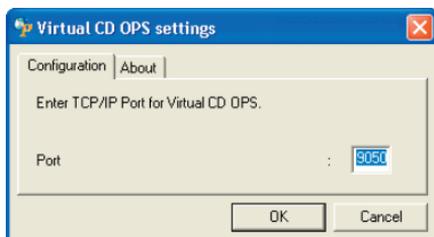
Even though the service plays such a central role, it requires no other interfaces aside from the settings for TCP/IP communication, as everything else is configured through the Virtual CD OPS Management program.

#### Settings for the Service

All you need to configure for the Virtual CD OPS Service are the settings for communication with Virtual CD OPS Management and Virtual CD workstations. To edit these settings, run the “Virtual CD Option Pack Service” extension in the Control Panel.



Open the extension and enter the port number for communication with Virtual CD OPS.





*Any time you change this port, the new port number must also be entered in:*

- The Management Program Properties, and
- the Virtual CD Settings on **all (!)** Virtual CD workstations that work with Virtual CD OPS.

All other settings for Virtual CD OPS are configured centrally, in the Virtual CD OPS Management program.

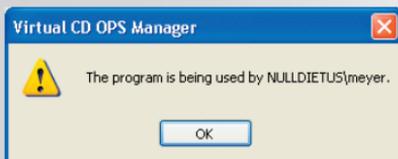
## Virtual CD OPS Management

### Overview

Virtual CD OPS Management gives you an interface to all functions available in Virtual CD OPS. These functions can be accessed in the main window, through various elements such as the Task bar, menus, and toolbar, just depending on your own preferences and habits.



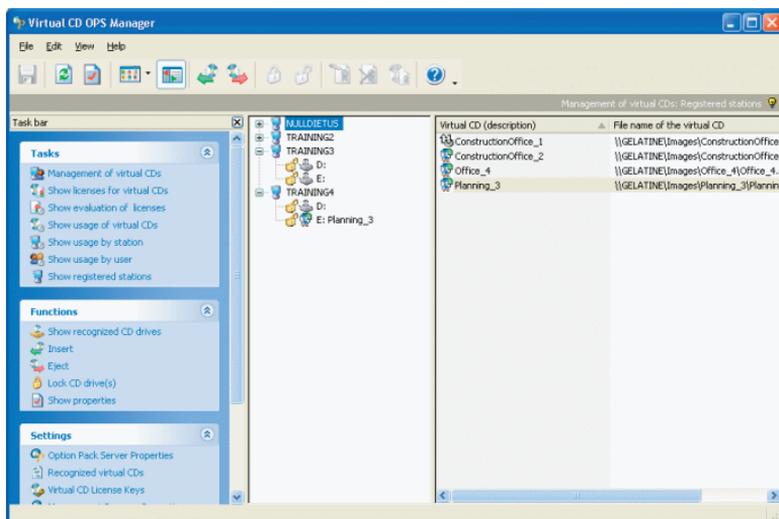
*You can install Virtual CD OPS Management on as many machines as you wish. Only one instance of the Management program, however, can communicate with the Virtual CD OPS Service. If the Management program is already running when you try to start it, the following message informs you of this fact and the instance you attempted to open is shut down:*



## Program Structure

### Main Window

The Virtual CD OPS Management program is an easy-to-use tool for configuring the Virtual CD OPS Service.



The main window is divided into two sections. The Task bar (on the left) lists the tasks, functions and settings that can be executed or configured. When you select an item in the Task bar, the window on the right shows the elements you can configure with the selected item. The information bar directly below the toolbar shows the task selected for the elements shown in this window. All functions that can be activated in the Task bar and/or toolbar can also be accessed from the menus.

## Task bar

The Task bar gives you direct access to the functions available for management tasks.

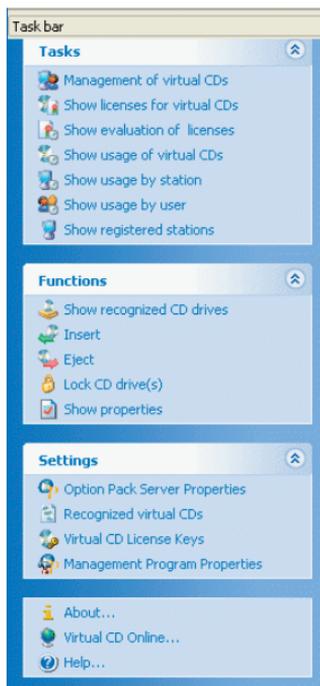
The elements listed here are divided into the following categories:

## Tasks

This section contains the tasks you can perform in Virtual CD OPS Management. When you select an item, the window on the right shows the relevant elements. The information bar (below the toolbar) shows the currently selected task.



*You can also open the desired view in the window by pressing the corresponding hotkey combination (key-board shortcut).*



## Functions

This section shows the functions you can execute on the currently selected object. When you select an object, this list is adapted to show only the functions available for that object.

## Settings

Select an item in this section to open the corresponding panel in the Settings program. This gives you instant access to your Virtual CD OPS settings.

The last section contains links to program information. Select an item here to open a window with the desired information.

## Menus

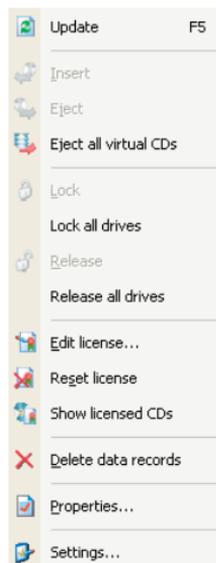
You can access the following functions in the menu:

### File Menu



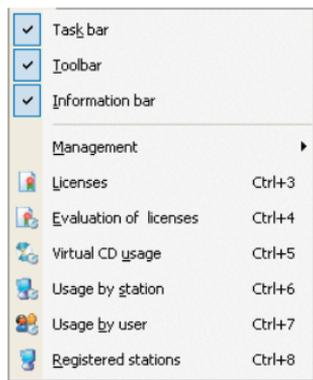
Command	Description
Save	Save the changes in configurations
Exit	Closes the program

## Edit Menu



Command	Description
Update	Updates the display
Insert	Inserts a virtual CD
Eject	Eject a virtual CD
Eject all virtual CDs	Eject all virtual CDs on all workstations
Lock	Locks a virtual CD drive
Lock all drives	Locks all virtual CD drives on all workstations
Release	Releases a virtual CD drive
Release all drives	Releases all virtual CD drives on all workstations
Edit license...	Lets you define the number of licenses for virtual CDs
Reset license	Removes a license from a virtual CD
Show licensed CDs	Filters the data to show only CDs that are under license
Delete data records	Deletes all usage data from the databases
Properties...	Opens a window showing the properties of the selected object
Settings	Opens the Settings program for Virtual CD OPS Management

## View Menu



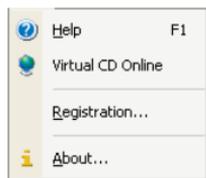
Command	Description
Task bar	Shows or hides the task bar
Toolbar	Shows or hides the toolbar
Information bar	Shows or hides the information bar
Licenses	Shows licenses assigned to virtual CDs
Evaluation of licenses	Shows evaluation of licenses
Virtual CD usage	Shows usage of virtual CDs
Usage by station	Shows virtual CD usage sorted by station
Usage by user	Shows virtual CD usage sorted by user
Registered stations	Shows registered stations

## Management Submenu



Command	Description
View stations	Management of virtual CDs window shows registered stations
View virtual CD drives	Management of virtual CDs shows virtual CD drives

## Help Menu



Command	Description
Help	Opens the program documentation
Virtual CD Online	Opens the default browser with a page containing links to Virtual CD Online
Registration...	For entering the Virtual CD OPS license key
About...	Shows information about the program

## Toolbar

The toolbar gives you direct access to the main functions in Virtual CD OPS Management.



Function	Description
Save	Save changes in configurations
Update	Updates the display
Properties	Showing the properties of the selected object
Task bar	Shows or hides the Task bar
Insert	Inserts the selected virtual CD(s)
Eject	Ejects the selected virtual CD(s)
Lock	Locks a virtual CD drive
Release	Releases a virtual CD drive
Edit license...	Lets you define the number of licenses for virtual CDs
Reset license	Deletes the number of licenses entered for a virtual CD
Show licensed CDs	Filters the data to show only CDs that are under license
Help	Opens the program documentation

## Keyboard Shortcuts

A number of the functions available in Virtual CD OPS Management can be activated through keyboard shortcuts (“hotkeys”). The table below gives an overview of the available keyboard shortcuts and their functions.

Keyboard shortcut	Description
F1	Opens the program documentation
F5	Updates the display
Ctrl + 1	Management of virtual CDs window shows registered stations
Ctrl + 2	Management of virtual CDs shows virtual CD drives
Ctrl + 3	Shows licenses assigned to virtual CDs
Ctrl + 4	Shows evaluation of licenses
Ctrl + 5	Shows usage of virtual CDs
Ctrl + 6	Shows usage by sorted by station
Ctrl + 7	Shows usage sorted by user
Ctrl + 8	Shows registered stations
Ctrl + S	Saves changes in configurations

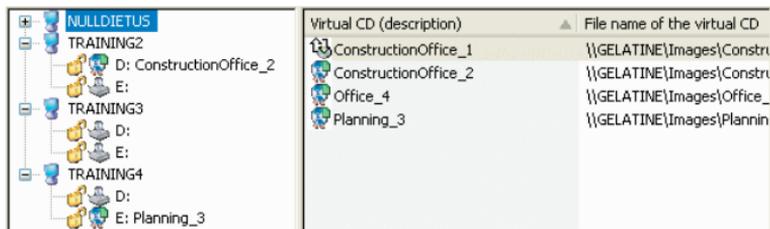
## Tasks

### Management of Virtual CDs

The **Management of Virtual CDs** window gives you access to a variety of functions relating to the virtual CDs and virtual CD drives on the workstations registered in your Virtual CD OPS system. For a clear overview of the functions you need, you have two options for the display of the virtual CD drives in your system. Whichever option you choose for the window pane on the left, the pane on the right shows the virtual CDs known to Virtual CD OPS.

## Show Registered Stations

Choose this option to view all registered workstations in the left-hand pane. When you expand a node (workstation), the virtual CD drives available on that station are listed.



*This view is especially useful for:*

- Direct access to particular virtual CD drives.
- A clear overview of the drives available on workstations.

## Show Virtual CD Drives

Choose this option to view a list of all virtual CD drives available in your system. When you expand a node (drive letter), the workstations that use that letter for a virtual CD drive are listed.



*This view is especially useful for:*

- Access to a particular virtual CD drive on multiple stations.

Both views allow access to the following functions:

**Inserting and Ejecting Virtual CDs** – These two central functions can be activated in a number of ways. The result depends on the object (workstation, virtual CD drive, or virtual CD) selected when the function is activated. This is illustrated by the following examples:

**Example 1:** To insert a virtual CD in a drive on a particular workstation, you can open the node (workstation) and use the mouse to “drag” the virtual CD from the right-hand pane to the desired virtual CD drive. Alternatively, you can select the virtual CD and the drive and then click on **Insert** in the Task bar.

**Example 2:** To eject a virtual CD on all workstations, regardless of which drive it is in, select the virtual CD, right-click on it, and choose **Eject** from the shortcut menu.

**Locking and Releasing Virtual CD Drives** – In some situations, such as a training or teaching environment, you may wish to block access to some or all virtual CD drives. To do this, use the “Lock” function to lock or release drives. The “lock” shown next to the drive indicates whether the drive is locked or accessible. Again, the execution of the function depends on the object selected.



*When you lock a virtual CD drive, this affects only the workstation selected. You can still insert and eject virtual CDs at any time using the Virtual CD OPS Management program.*

You can also view the properties of virtual CDs and drives here.

Some of the functions which affect all virtual CD drives on all registered workstations can be activated only through menu commands. These include:

- Ejecting all virtual CDs from all virtual CD drives.
- Locking all virtual CD drives on all workstations.
- Releasing all virtual CD drives on all workstations.



*These functions can take anywhere up to several minutes, depending on the number of workstations registered in your OPS system.*

## Show Licenses for Virtual CDs

Select **Show Licenses for Virtual CDs** to view the licenses assigned for virtual CDs in Virtual CD OPS. For a clear overview, you can set the filter in the Toolbar to **Show licensed CDs**.

### Display with Filter Activated

Only those CDs to which you have assigned licenses are displayed.

Virtual CD (description)	Number of licenses	Licenses in use	File name of the virtual CD
ConstructionOffice_1	5	0	\\GELATINE\Images\Constru
Planning_1	4	0	\\GELATINE\Images\Planning_1
Planning_3	1	1	\\GELATINE\Images\Planning

### Display without Filter

All virtual CDs known to your Virtual CD OPS program are shown. Virtual CDs for which no license is assigned have a dash (“-”) in the **Number of licenses** and **Licenses in use** columns.

Virtual CD (description)	Number of licenses	Licenses in use	File name of the virtual CD
ConstructionOffice_1	5	0	\\GELATINE\Images\Constru
ConstructionOffice_2	-	-	\\GELATINE\Images\Constru
Office_4	-	-	\\GELATINE\Images\Office_4
Planning_3	1	1	\\GELATINE\Images\Planning

To define the number of licenses for a given virtual CD, begin by marking that CD in the right-hand pane. Then select the **Edit number of licenses...** function.

If you select more than one CD, and the selected CDs all have different number of licenses already defined, the highest of these numbers is shown in the input field as a default value.

## Show Evaluation of Licenses

The **Show evaluation of licenses** window shows the number of times an “Insert” command failed because all licenses for the requested virtual CD were in use.

Virtual CD (description)	Denials of access	File name of the virtual CD
ConstructionOffice_1	0	\\GELATINE\Images\Constructor
Planning_3	1	\\GELATINE\Images\Planning_3\}

Select **Details...** from the shortcut menu to view details on the denied access attempts.



*This view shows only the virtual CDs for which a number of licenses has been defined.*

### Show Usage of Virtual CDs

The **Virtual CD usage** view shows the length of time during which each virtual CD known to Virtual CD OPS has been used. The **Duration of use** column shows the time elapsed while the virtual CD was inserted. **Most recent use** shows the time at which the CD was most recently inserted.

Virtual CD (description)	Duration of use	Most recent use
ConstructionOffice_2	00 : 00 : 00	9/29/2003 14:01:18 PM
Planning_3	00 : 00 : 54	9/29/2003 14:19:08 PM
RISM	00 : 20 : 07	9/29/2003 13:46:16 PM
RKE2002	00 : 28 : 14	9/29/2003 13:44:43 PM



*This usage data is logged only if this function is activated in the Management Program Properties.*

### Show Usage by Station

The **Usage by station** view shows the length of time during which virtual CDs known to Virtual CD OPS were used on a particular workstation. The **Duration of use** column shows the time elapsed while the virtual CD was inserted on that workstation. **Most recent use** shows the time at which the CD was most recently inserted on the workstation.

Workstation	Duration of use	Most recent use
NULLDIETUS	00 : 00 : 54	9/29/2003 14:18:07 PM
TRAINING2	00 : 07 : 14	9/29/2003 14:01:18 PM
TRAINING3	00 : 21 : 00	9/29/2003 13:44:43 PM
TRAINING4	00 : 20 : 07	9/29/2003 14:19:08 PM

This view lists all workstations for which the data logging feature is active. A “switched-off monitor” symbol next to the workstation name indicates that the station is not currently registered in Virtual CD

OPS. Select Show registered stations in the Task bar to view a list of the workstations currently registered.



*This usage data is logged only if this function is activated in the Management Program Properties.*

### Show Usage by User

The **Usage by user** view shows the length of time during which virtual CDs known to Virtual CD OPS were used by a particular user. The **Duration of use** column shows the time elapsed while the virtual CD was used by the particular user. **Most recent use** shows the time at which the CD was most recently inserted by that user.

User	Duration of use	Most recent use
cds2	00 : 07 : 14	9/29/2003 14:01:18 PM
cds3	00 : 21 : 00	9/29/2003 13:44:43 PM
cds4	00 : 20 : 07	9/29/2003 14:19:08 PM
meyer	00 : 00 : 54	9/29/2003 14:18:07 PM



*This usage data is logged only if this function is activated in the Management Program Properties.*

### Show Registered Stations

When you configure the Virtual CD program on a given workstation to work with Virtual CD OPS (on the **Network** page of the local Virtual CD Settings), that workstation is “registered” in Virtual CD OPS any time Virtual CD is started on the workstation. The **Registered Stations** view lists all the workstations that are currently registered in Virtual CD OPS.

Workstation	IP address	User	Registered since	Virtual CD license key
NULLDIETUS		meyer	9/29/2003 14:17:02	Local license key
TRAINING2		cds2	9/29/2003 13:41:07	Local license key
TRAINING3		cds3	9/29/2003 13:44:43	Local license key
TRAINING4		cds4	9/29/2003 13:45:30	Local license key

The following values are shown for each workstation:

Value	Description
Workstation	Name of the workstation
IP address	IP address of the workstation
User	User logged on at that workstation
Active since	Time at which the workstation was most recently registered
Virtual CD license key	License key used by this workstation
In use since	Time at which the license was granted
Virtual CD version	Version of the Virtual CD program installed on the workstation

The **Virtual CD license key** field can show one of two values:

1. **Local license key:** The Virtual CD license key is stored locally
2. **License key:** Shows the Virtual CD license key used by Virtual CD OPS to license this station.



*The **In use since** column shows the time at which the license was granted by Virtual CD OPS. If the license key is stored locally, no value is given in this column.*

## Option Pack Server Settings

### Virtual CD OPS Settings

Edit the settings in Virtual CD OPS Management to configure Virtual CD OPS for your requirements. The settings are divided by topic into the following categories:

- **Option Pack Server Properties:** These settings specify which information Option Pack Server exchanges with registered workstations.
- **Recognized Virtual CDs:** Open this panel to define which virtual CDs are “known” to your Virtual CD OPS program.
- **Virtual CD License Keys:** Virtual CD OPS can grant licenses to workstations as they register, on the basis of the Virtual CD li-

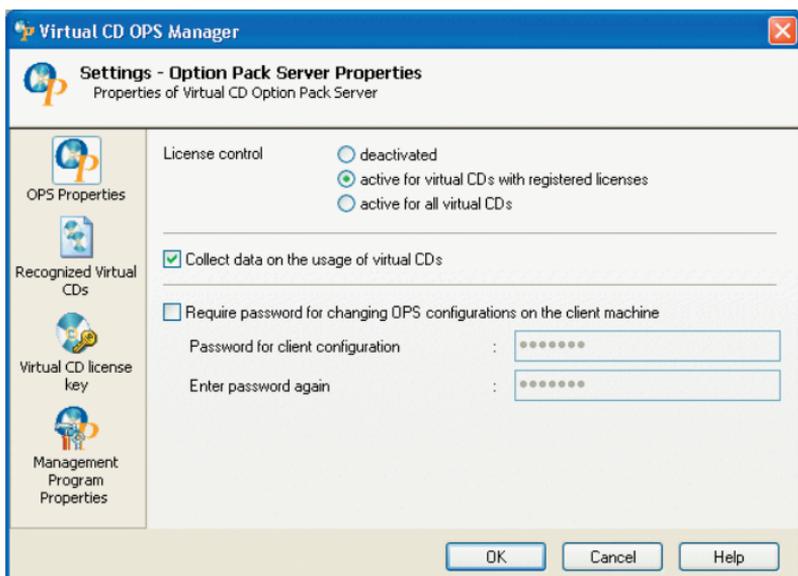
cense key(s) entered here.

- **Management Program Properties:** These settings define the configuration of your Virtual CD OPS Management program.

You can open each of these panels directly from the Task bar.

### Option Pack Server Properties

The three sections on the **Option Pack Server Properties** panel specify the information to be exchanged between the Option Pack Server and registered Virtual CD workstations.



The first section, **License control**, defines whether and how the license control feature is implemented for licensed virtual CDs.

#### If license control is

- **deactivated**, this means license control is not implemented; i.e., virtual CDs are not checked for available licenses before being inserted.
- **active for virtual CD's with registered licenses**, a license

check is run on every virtual CD for which you have assigned a number of licenses.

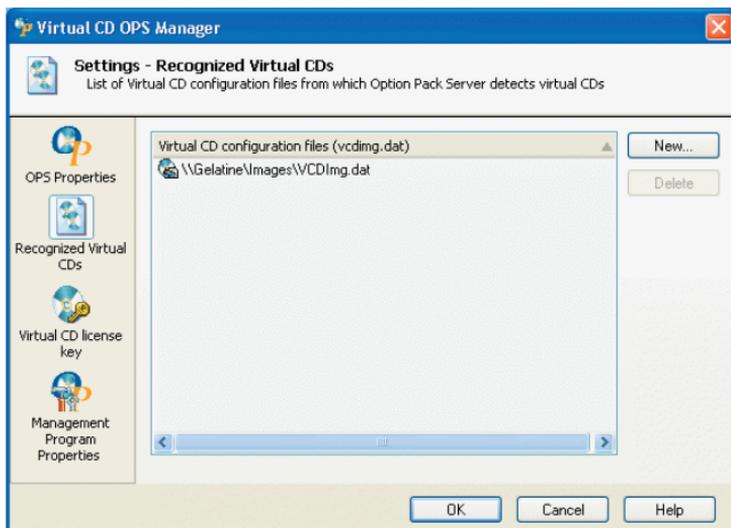
- **active for all virtual CDs**, only those virtual CDs for which a number of licenses has been defined, and for which a license is available, can be inserted.

The option **Collect data on the usage of virtual CDs** activates the Virtual CD OPS data logging feature. This option must be selected if you wish to view usage data, sorted by virtual CD, station or user, in the Management window.

The next section lets you prevent unauthorized users from changing the workstation settings for communication with Virtual CD Option Pack Server. To do this, activate the **Require password for changing OPS configurations on the client machine** option and enter a password in the **Password for client configuration** field. Enter the password again in the next field, to make sure it was entered correctly. This password must now be entered before the Virtual CD OPS settings on a workstation can be changed.

### **Defining Recognized Virtual CDs**

**Recognized Virtual CDs:** The file(s) you specify on this panel define(s) which virtual CDs are known to your Virtual CD OPS program.



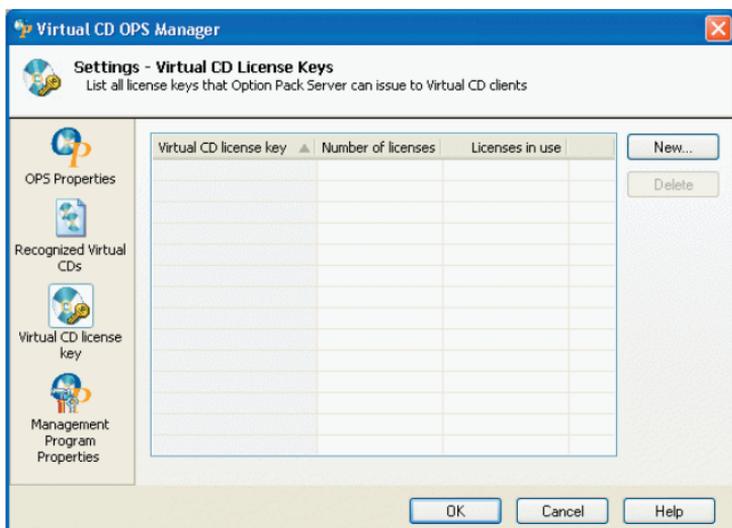
The Option Pack Server is “informed” of the virtual CDs in your system by one or more **Virtual CD configuration files**, called **vcding.dat** (see also “Recognized Virtual CDs”). Each installation of “Virtual CD for Networks” has its own “vcding.dat” file stored in its “Global configuration path.” This file contains a list of the virtual CDs stored on the network. The **New** and **Delete** keys let you add and remove files to and from this list.



*To ensure that the Virtual CD configuration files specified here are **always** accessible, make sure to enter the full file name using **UNC syntax**.*

### Virtual CD License Keys

Virtual CD OPS can automatically grant licenses for use of the Virtual CD program to your Virtual CD workstations. To enable this feature, enter your **Virtual CD License Key(s)** on this panel.



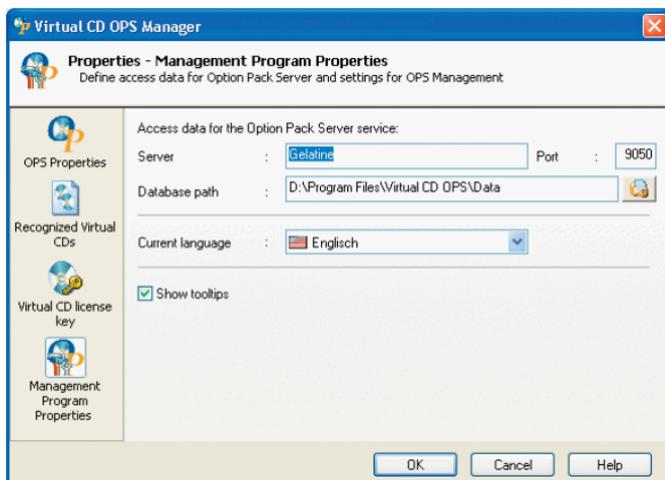
The buttons let you add new Virtual CD license keys and delete existing license keys from the list.



*Do not enter any license keys that have already been entered on an individual workstation, as this may result in an inaccurate evaluation of license availability.*

## Management Program Properties

The **Management Program Properties** define the configuration of your Virtual CD OPS Management program.



The main settings here, under **Access data for the Option Pack Server service**, define communication between the Virtual CD OPS Service and VCD OPS Management program. The following data is required here:

- **Server:** Name of the server on which the Virtual CD OPS Service is installed.
- **Port:** Number of the port used for communication (default: 9050).
- **Database path:** UNC designation of the directory in which the databases used by the Virtual CD OPS Service are stored.

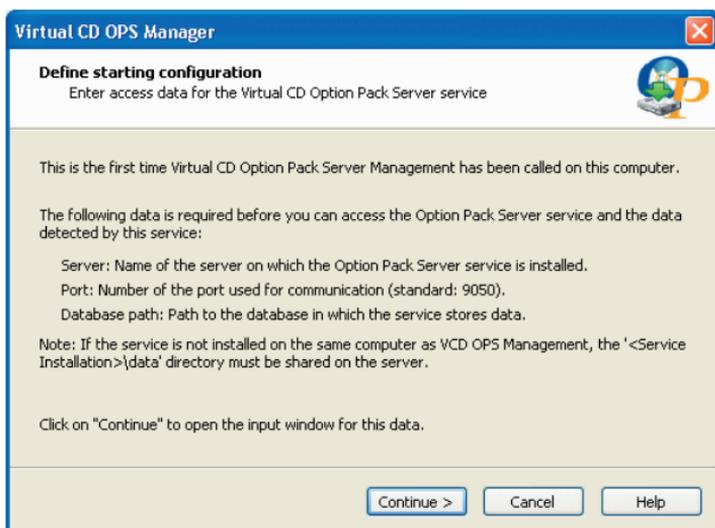
The other settings available here are for general configuration:

- **Current language:** The language used in the interface when Virtual CD OPS Management is started.
- **Show tooltips:** Activates the display of informational texts that appear when the mouse cursor rests on a control element in a program window or panel.

## Dialogs

### Start Wizard

The **Start Wizard** informs you that some of the data required for communication with the Virtual CD OPS Service is missing. This window opens when you finish installing Virtual CD OPS Management, and again any time the configuration data is deleted.



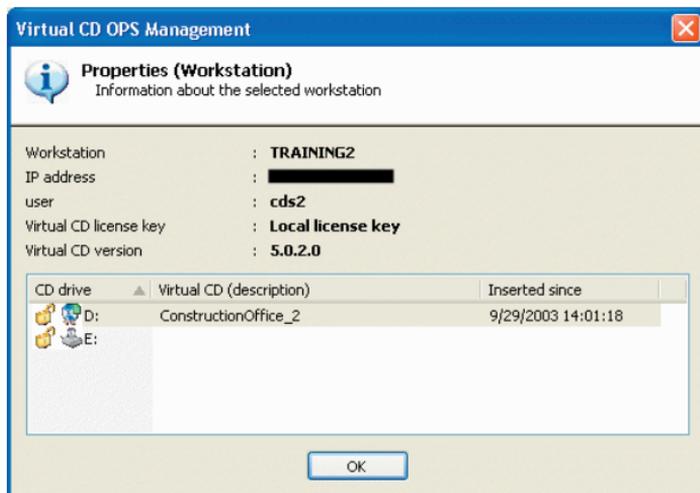
Click on **Continue** to open the dialog for entering the required data in the Management Program Properties.



*The program will not run without this communication data. If you click on **Cancel**, the program will shut down.*

## Workstation Properties

The **workstation properties** panel lists detailed information on the selected workstation.



The following information is shown:

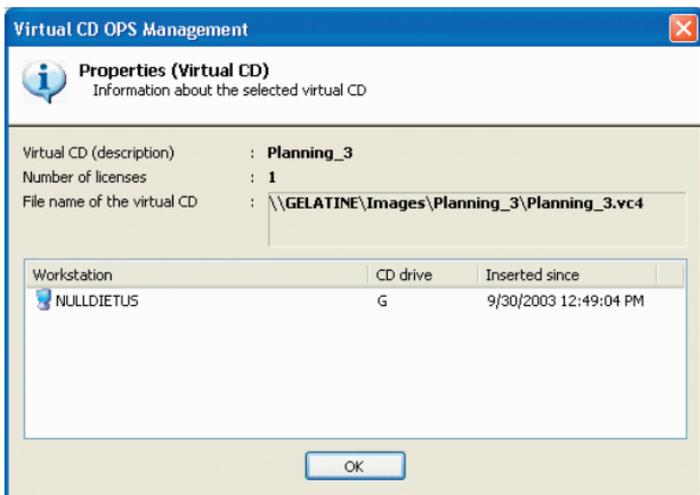
- **Workstation:** Name of the selected workstation.
- **IP address:** IP address of the selected workstation.
- **User:** Name of the user logged onto the selected station.
- **Virtual CD license key:** Virtual CD license key used to license the workstation.
- **Virtual CD version:** Version of the Virtual CD program running on the workstation.

The box below these fields lists the virtual CD drives on the selected workstation. The following information is shown for each virtual CD drive:

- **CD drive:** Designation of the virtual CD drive.
- **Virtual CD (description):** Name of the virtual CD inserted in the drive.
- **Inserted since:** Date and time the virtual CD was inserted.

## Virtual CD Properties

The **Virtual CD Properties** panel lists detailed information on the selected virtual CD.



The following information is shown:

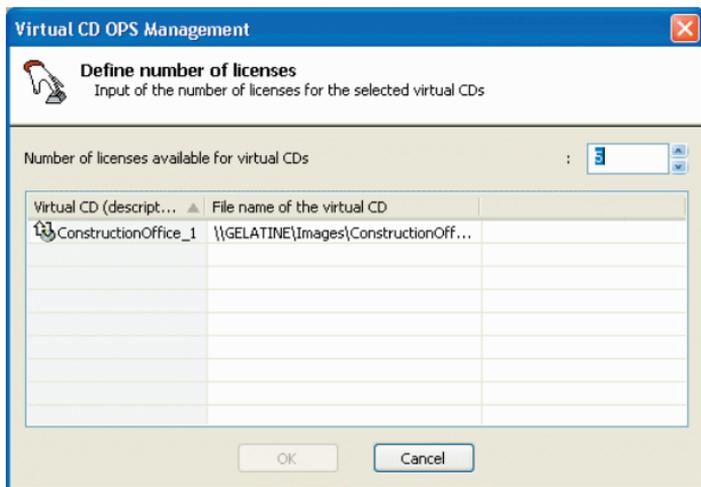
- **Virtual CD (description):** Name of the virtual CD.
- **Number of licenses:** Number of licenses assigned to the virtual CD.
- **File name of the virtual CD:** Unambiguous file name of the virtual CD.

The box below these fields lists the workstations on which the virtual CD is in use. The following information is shown for each virtual CD:

- **Workstation:** Workstation on which the virtual CD is in use.
- **CD drive:** Designation of the virtual CD drive.
- **Inserted since:** Date and time the virtual CD was inserted.

## Defining the Number of Licenses

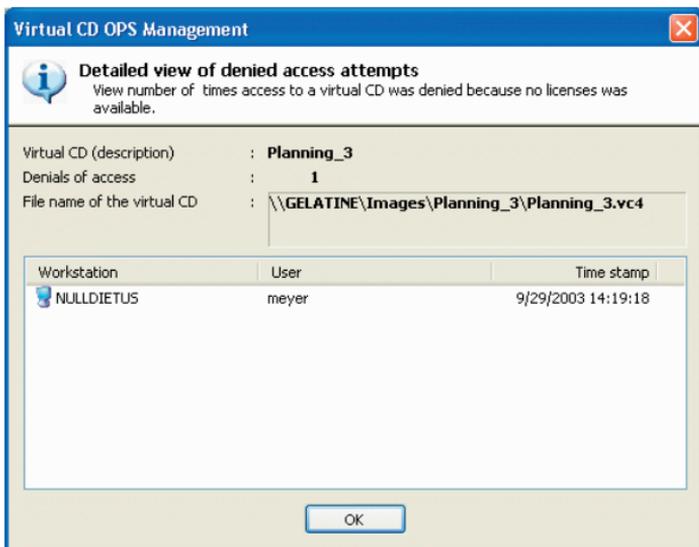
On this panel, you can **define the number of licenses available** for use of the selected virtual CD(s).



The list shows the virtual CD(s) selected in the Show licenses for virtual CDs window, with **description** and **file name**. The number of licenses you set is applied to all virtual CDs in this list.

### Details: Denied Access Attempts

This window gives you an overview of the occasions on which users attempted to insert a virtual CD for which no license was available.



The list shows the requesting **workstation** and **user**, together with the **time** at which access was attempted.

## Entering New Virtual CD License Keys

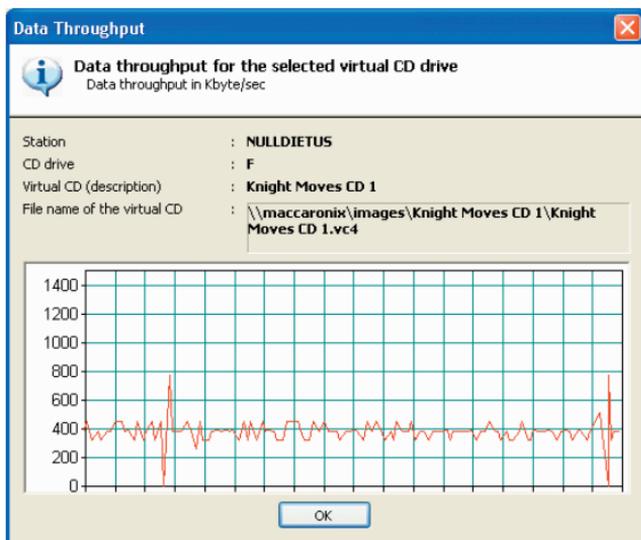
This dialog opens when you click on the **New** button on the **Virtual CD License Keys** panel. Enter a license key here.



*Virtual CD OPS will accept only license keys that come with **Virtual CD v5** or later.*

## Data Throughput

Run the **data throughput monitor** to check a selected virtual CD drive for activity.



The monitor window shows the **workstation name**, the **CD drive**, the virtual CD **description**, and the **virtual CD file name**, followed by a graph indicating the data being read on the drive in **kilobytes per second**. See also: "Activity Check for Virtual CD Drives".

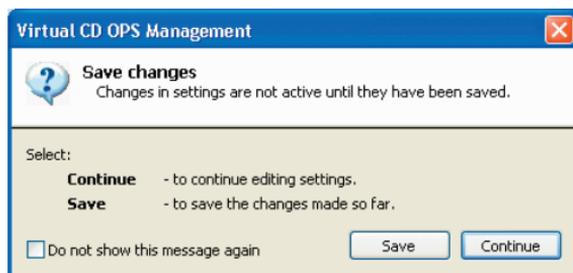
## Entering a Virtual CD OPS License Key

To enter a license key for your Virtual CD OPS program after the Virtual CD OPS Service has already been installed, select **Registration...** from the **Help** menu in your Virtual CD OPS Management program.



## Reminder Dialog

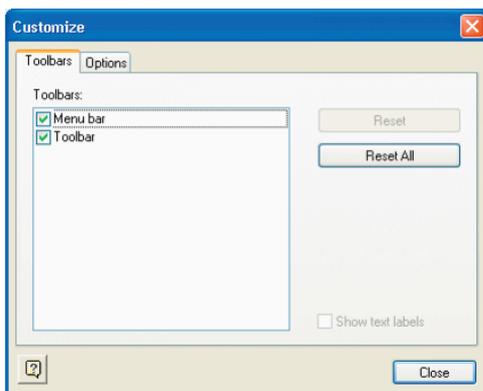
In certain situations, a particular action must be taken before a selected function can be carried out. When this is the case, Virtual CD OPS Management opens a Reminder Dialog.



When you are familiar with the workings of Virtual CD OPS Management, you might want to switch off this function by selecting **Do not show this message again**.

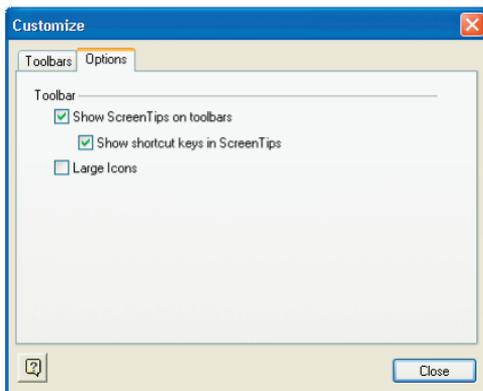
## Changing the Layout

You can **Change** the appearance of the Virtual CD OPS Management window by changing settings on the **Toolbar** and **Options** dialog pages.



On the **Toolbar** page you can define the following:

- Which toolbars and/or menu bars are shown or hidden.
- Whether the titles of toolbars are shown.
- Whether to reset these options to the original configuration.



On the **Options** page you can define whether:

- ScreenTips are shown for toolbars.
- keyboard shortcuts are shown in the ScreenTips.
- the toolbar displays large buttons.

# Helper Programs

## Overview

This section describes the helper programs that come with Virtual CD OPS. At present, these include the following:

- OPSDATA – Command line program for changing the configuration of a Virtual CD client.

## OPSDATA

OPSDATA is a command line program that lets you edit the configuration of Virtual CD OPS on workstations. Following installation of Virtual CD OPS Management, this program can be found in the <VCDOPS>\bin folder.

Use the following syntax to call this program: OPSDATA.exe [/? | /clear | /set [server=<Name> port=<Port> licence=0|1|2 data=0|1 password=0|1 getVCDLic=0|1] | /show]

Argument	Description
None	Displays program call options
/?	Displays program call options
/clear	Resets the settings for access to Virtual CD OPS
/set	Sets the options for access to Virtual CD OPS
/show	Shows the current settings for access to Virtual CD OPS

The /set argument lets you pass values for settings directly to the program.

You do not have to pass values for all settings; you can use this command to change only selected settings as desired.

Value	Description
server	Name of the Virtual CD OPS server
port	Port used for communication with Virtual CD OPS
licence	Sets the licensing-control level:  0 - Deactivates license control 1 - Activates license control for virtual CDs with registered licenses 2 - Activates license control for all virtual CDs
data	Switches data logging on (0) or off (1)
password	Switches password protection of Virtual CD OPS workstation settings on (0) or off (1)
getVCDlic	Switches automatic licensing of Virtual CD workstations by Virtual CD OPS on (0) or off (1)

If the set/ argument is not following by any settings, the program prompts input for each setting in turn.

```

C:\WINDOWS\System32\cmd.exe
D:\Programme\Virtual CD OPS\Bin>opsdata.exe /show
Virtual CD OPS name:
Virtual CD OPS port: 0
License control of virtual CDs: deactivated
Collect data on the usage of virtual CDs: no
Require password for changing Virtual CD OPS configurations: yes
Get the virtual CD licence from the Virtual CD OPS: no
D:\Programme\Virtual CD OPS\Bin>_
  
```

## Glossary

### D

#### **Duration of use**

*Length of time that a virtual CD registered in Virtual CD OPS was inserted.*

### E

#### **Eject**

*Eject a Virtual CD.*

### F

#### **Functions**

*Functions are commands in Virtual CD OPS that are applied to selected objects. The effect of a given function depends on the object selected when the function was called. All functions available for the object selected are listed in the corresponding section of the Task bar.*

### I

#### **Insert**

*Insert a virtual CD.*

### L

#### **Lock**

*Lock the selected virtual CD drive(s) on the client station. When a virtual CD drive is locked, users cannot insert or eject virtual CDs on that drive.*

**M****Most recent use**

*Time stamp of the most recent insertion of a virtual CD registered in Virtual CD OPS.*

**O****Object**

*Element in Virtual CD OPS Management (i.e., a virtual CD, virtual CD drive, workstation, etc.). All functions are applied to objects.*

**R****Release**

*Release selected virtual CD drive(s) on a client station. Once a virtual CD drive has been released, users can insert and eject virtual CDs as desired.*

**V****Virtual CD client**

*Network workstation on which Virtual CD is installed.*

**Virtual CD drive**

*Software-generated CD drive that emulates all properties of a physical CD drive as precisely as possible.*

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