

# Virtual CD v10

Network Management Server | Manual





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# Introduction

Thank you for choosing Virtual CD Network Management Server—"Virtual CD NMS" for short.

Virtual CD NMS is a powerful tool for centralized administration of the Virtual CD clients in your network. With Virtual CD NMS, you can assign licenses to individual virtual CDs to ensure that only the permitted number of instances can be used at any one time. Other features let you analyze usage data to optimize this licensing. Functions such as locking and releasing both virtual and physical drives give you selective control over the use of CDs, which is especially useful in schools, for example.

This documentation gives you a detailed description of how Virtual CD NMS works, and how you can work with it.

The documentation is divided into the following sections:

**Introduction** – Overview and general information.

**Installation and Configuration of the Network Management Server** – Installation and basic configuration of the individual components of Virtual CD NMS.

**Working with Virtual CD NMS** – Descriptions of authentication services and details on further configuration of all the tasks Virtual CD NMS can carry out.

## Legal Notices



If you use Virtual CD with CDs that are under license, then creating multiple virtual images from a given CD or 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 optical medium in question. Make sure to check your licensing agreements for detailed information.

Copyrights on the software, the Virtual CD trademark and all corresponding documentation are owned by H+H Software GmbH. In the US, Microsoft and Windows are registered trademarks of Microsoft Corporation. The product names mentioned in this manual are used for identification purposes only and may be protected by copyrights owned by the respective companies.



## What Virtual CD NMS can do for you

Virtual CD Network Management Server gives you an extensive array of features for centralized control of Virtual CD program functions on the client stations in your network.

- **Virtual CD NMS Administration:** The central administration program shows you at a glance who has inserted which virtual or physical CDs in which CD drives. It also lets you insert and eject virtual CDs.
- **License control for registered virtual CDs:** The license control feature lets you restrict the usage of virtual CDs to a defined number of users.
- **Profiles:** You can assign binding profiles to users, stations and user/station groups. For example, you can specify which virtual CD drives are available for particular clients under Virtual CD TS.
- **Usage data list:** Virtual CD NMS can keep track of who uses which virtual CDs when, and for how long. You can switch this feature on and off as desired.
- **Virtual CD drive monitor:** The data throughput monitor charts the data currently being read by a virtual CD drive on a selected client station. In other words, VCD NMS lets you monitor the activity of virtual CD drives.
- **Virtual CD client distribution:** The Virtual CD NMS Client Distributor installs Virtual CD on client networks.
- **Virtual CD client license code distribution:** Virtual CD NMS can distribute Virtual CD program licenses to clients.
- **Group control of Virtual CD clients:** Certain operations can be made dependent on station or user group membership.
- **Direct access to the main Virtual CD programs:** The main VCD programs can be started directly from NMS Administration.
- **Microsoft Windows Server 2008 and Microsoft Windows 7:** Version 10 of Virtual CD and Virtual CD NMS supports the latest Microsoft operating systems.

## New Features in Virtual CD v10 NMS

For those of you who are already familiar with an earlier Virtual CD NMS version, the new features added to Version 10 are listed in the following:

### *System Architecture of Virtual CD NMS*

- **Active Directory support:** Virtual CD NMS reads out data from your Active Directory environment. You can assign user privileges to AD objects. The Client Distributor can be set to show your ADS rather than the classic Group view (NetBIOS browsing list).
- **New operating systems:** Virtual CD NMS supports Microsoft Windows Server 2008. Windows 7 is supported as a client OS.

### *NMS Administration*

- **User privileges in Active Directory:** User privileges for license codes and CD licenses can now be allocated to objects in your AD environment. Profile can also be assigned AD users, stations and OUs.
- **CD groups:** NMS v10 lets you combine virtual CDs in groups. Then you can allocate user privileges that apply for all images in a group.
- **Simultaneous NMS administration on multiple stations:** You can run multiple instances of NMS Administration on multiple stations simultaneously. Operations such as inserting virtual CDs can be performed simultaneously. Changing the NMS settings is the only operation that is restricted to a single station.
- **New interface:** The interface of the NMS Administration program has been completely revised and simplified. Where the earlier versions had a menu bar and a toolbar, v10 puts all controls together in the new Ribbon.
- **Export function:** A new export function lets you export data on license and CD usage in the form of CSV files; for example, to create Excel charts from the data evaluated.

### *NMS Client Distributor*

- **Reading data from Active Directory:** A detection method has been added to the Client Distributor that lets you read out your ADS.
- **Display of the AD:** Once you have read out your ADS, all objects from the Active Directory are shown in an AD view.
- **Virtual CD v10 support:** The Client Distributor supports Virtual CD v10, and can deinstall Virtual CD v9 clients.
- **Installation log on client stations:** The Client Distributor gives you direct access to the installation log on the client station; for example, for troubleshooting in case of errors during installation.

- **Client reboot status:** You can reset the reboot status of client stations. This is useful, for example, if the reboot status indicates that a reboot is required before further operations can be carried out, but you know the reboot is not necessary.

### ***NMS Profile Editor***

- **Virtual CD v10 support:** The Profile Editor has been expanded to support all of the functions in Virtual CD v10. Support for earlier functions remains available as well.
- **New interface:** The Profile Editor interface has been revised, and adapted to the new interface in NMS Administration. All functions are now available through the versatile Ribbon.

## Document Conventions

For added clarity in these texts, this documentation uses the following conventions: Texts quoted from the program (buttons, menu items, dialog texts, etc.) are in bold type.

Information that is particularly important is marked by one of the symbols shown below. These notes contain information that is essential for trouble-free operation of the software.



Notes or procedures that are especially important are marked by the “exclamation point” symbol you see here.



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



Detailed explanations and definitions of terms are marked by the symbol shown here.



Notes that pertain only to the Windows Server 2008 are marked by the “2008” symbol shown here.



Notes that pertain only to the Microsoft Windows Vista operating system are marked by the “VISTA” symbol shown here.



Notes that pertain only to the Microsoft Windows 2000 operating system are marked by the “2000” symbol shown here.

In some cases, step-by-step examples are given of certain tasks or configuration procedures. The individual steps are marked as follows:



Step 1



Step 2

## Virtual CD NMS Licensing

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

This licensing applies specifically to the VCD NMS service. This is why a license code must be entered during the installation of the Virtual CD NMS Service. If you do not specify a license code at the time of installation, the installation is halted.

Virtual CD NMS is available in two versions: a full version and a test version (demo); the latter is valid for a limited time. The demo version of Virtual CD cannot be converted into a full version by entering a license code. You can, however, install the full version on top of the demo, so that all of your settings remain unchanged.



Licenses for Virtual CD client stations must be purchased separately; they are not included in the Virtual CD NMS package. The number of Virtual CD clients that can log in on NMS, while theoretically infinite, is limited by the number of client licenses purchased.

## System Requirements

The following system specifications are required for running Virtual CD NMS:

### Virtual CD NMS Service

- Windows 2000 Server, or
- Windows Server 2003, or
- Windows Server 2008

### Virtual CD NMS Administration

- Windows XP Professional with at least 256 MB RAM, or
- Windows Vista Business with at least 512 MB RAM, or
- Windows 7 Professional with at least 512 MB RAM
- The latest Service Pack available for the operating system used
- Microsoft Internet Explorer version 7 or later
- Display resolution: 1024 x 768 or higher

**Virtual CD installation on the client station(s) (NOT included with the Virtual CD NMS software). Virtual CD NMS v10 supports all of the following versions and editions:**

- |                                |                     |
|--------------------------------|---------------------|
| • Virtual CD v5.0.4 or later   | • Virtual CD v8     |
| • Virtual CD v6.0.0.0 or later | • Virtual CD v9     |
| • Virtual CD v6 FS             | • Virtual CD v9 FS  |
| • Virtual CD v6 TS             | • Virtual CD v9 TS  |
| • Virtual CD v7.0.0.0          | • Virtual CD v10    |
| • Virtual CD v7 FS             | • Virtual CD v10 FS |
| • Virtual CD v7 TS             | • Virtual CD v10 TS |



Virtual CD Network Management Server is made for use with Virtual CD program versions 5.0.4 and later. We recommend using the latest Virtual CD version available, however (currently v10), to ensure that you can use the full array of functions offered by Virtual CD NMS. This is particularly important when running Virtual CD NMS on Windows Vista and Windows 7. We cannot guarantee that pre-v9 versions will perform correctly running on Windows Vista, nor that pre-v10 will perform correctly running on Windows 7.

## Technical Support

If you have any problems with Virtual CD, please check this manual and our continuously updated Web pages for information:

- **Virtual CD Online:** (<http://www.virtualcd-online.com/>)
- **Knowledge Base:** (<http://www.virtualcd-online.com/kbase>)
- **Support Forum:** (<http://www.virtualcd-online.com/support>)

Your opinion is important to us, as are your questions, suggestions and criticism. Please use the Virtual CD Support Forum to let us know what you think, and to ask any question you may have.

We are continuously developing the Virtual CD software. We offer service packs and new program versions on our website as they become available, so you can keep your software up to date. If you activate the automatic update check function in your Virtual CD program, the program will automatically check our site regularly for updates at intervals that you define. The **Information** page in NMS Administration contains links to all the Internet pages mentioned above, as well as the automatic update function.





# Installation and Configuration of the Network Management Server

Because Virtual CD NMS is a client/server application, there are two components to install: Virtual CD NMS service and Virtual CD NMS Administration.

To install VCD NMS, place the installation CD in a CD drive and wait a moment for Windows to detect it and open the AutoPlay dialog. If the AutoPlay function is switched off in the computer, or if you are installing from a downloaded file, run the EXE file to start installation.

On the client side, installation of a Virtual CD program version as specified under "System Requirements" is required. You can install Virtual CD on client machines after installing NMS, using the Virtual CD NMS Client Distributor.

In client installations, you need to enter the name of your NMS, specify the port to be used for communication and specify whether the client machine will obtain its Virtual CD user license from Virtual CD NMS or has its own license number stored locally.

Installation and configuration must be carried out in the following order:

1. Install the Virtual CD NMS Service
2. Install the Virtual CD NMS Administration program (whether on the same computer as the service or on a different machine)
3. Configure NMS Administration
4. Configure Virtual CD clients

## Update

Updating an earlier version of Virtual CD NMS to v10.

### Installing NMS on an Existing NMS v7/v8/v9 Installation

1

Install Virtual CD NMS v10. While setting up NMS system components, the installation program detects your earlier NMS version.

2

A window opens prompting you to specify whether to use the existing data with the new version. The existing (earlier version) Virtual CD NMS service is automatically set to “manual” and deactivated, after which NMS v10 launches automatically and is ready to operate with VCD clients.

3

After installation you can delete the old database share to prevent confusion.

4

The first time you run CD Control Center following this update, you are prompted to configure the connection data for use with the Virtual CD NMS v10 server.

5

All stations that had connected to the earlier version now automatically connect to Virtual CD NMS v10, provided the same port is specified.



Once you determine that your system runs smoothly with the new version, deinstall the earlier version to avoid difficulties. Versions 7 and 9 are not compatible with v10; specifically, NMS Administration v7 cannot run on Virtual CD NMS Server v10

## Installation

Virtual CD Network Management Server consists of two components: Virtual CD NMS Service provides services, and Virtual CD NMS Administration gives you a graphic interface for configuration of the NMS Service. Installation of Virtual CD NMS requires installation of both components. You can install the two components on separate machines, in which case shows a server provides the services for Virtual CD NMS (NMS Service), while you manage the program from your choice of workstations (NMS Administration). Thus the following installation options are available:

- **Service and Administration are installed on one server, and you use the server console for administration of the Virtual CD NMS program. For details on this method, see Method 1: Service and Administration on one Server“ below.**
- **Install the NMS Service on a server optimized for the purpose, and the NMS administration program on a workstation of your choice (assuming it meets the system requirements). For details on this method, see Method 2: Service and Administration Installed Separately“ below.**



Following installation, you can install NMS Administration on any number of additional workstations in order to manage Virtual CD NMS from those other locations as desired. NMS Administration can run in multiple simultaneous instances. The NMS Settings, however, can be configured only on one station at a time.



During installation of the NMS Service, the NMS data directory and NMS script directory are shared automatically and the Service is entered in the Windows firewall with the required communication shares. Since the structure of user privileges on Windows Server 2008 is changed in the process, be sure to check the data directory and script directory shares if you run into any problems. Both directories are in the following path on your server: “C:\ProgramData\Virtual CD v10.” (Hidden folders and files must be shown.) Once you install the service, you are assigned the “Owner” account in Windows Server 2008 and have full rights. Other users may be assigned only limited privileges; you might find it necessary to add certain privileges for these users. In the event of difficulties, check the firewall settings to make sure they are appropriate for your network.

## Method 1: Service and Administration on one Server



With this method, service and administration are installed on one server. This is the typical installation form; with this scenario, you manage the Virtual CD NMS on the same server on which the service is installed. If desired, you can add installations of the administration program on other workstations at a later point, and then manage NMS from those machines as well.



On Windows 2000, you can install only the service. The administration program no longer supports Windows 2000. If your server runs Windows 2000, you have to run the administration program from a separate workstation. For details on installing the service and the administration program on two separate machines, see “Method 2: Service and Administration Installed Separately”.



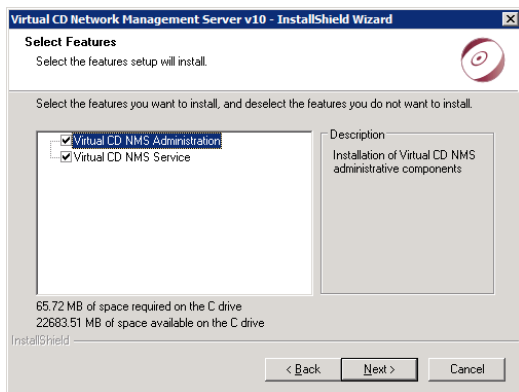
Run the installation program.



Confirm the license agreement and select the installation path.

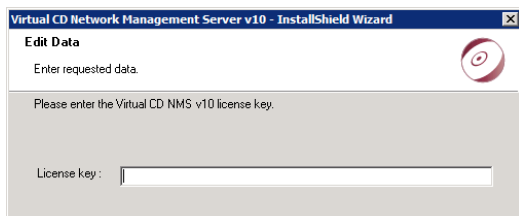


Select the option to have both Virtual CD NMS Administration and the Virtual CD NMS Service installed and click on **Next**:



4

Enter the license code—otherwise the installation will halt at this point—and click on **Next**:



**Virtual CD Network Management Server v10 - InstallShield Wizard**

**Edit Data**

Enter requested data.

Please enter the Virtual CD NMS v10 license key.

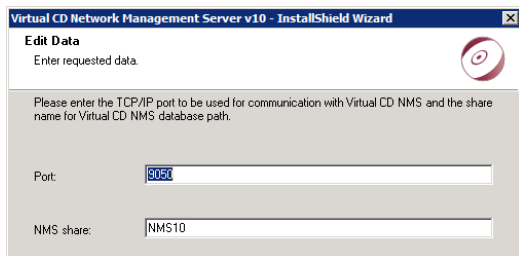
License key :

5

Define the port used for communication between the Virtual CD NMS Service and your Virtual CD clients and Virtual CD NMS Administration program. The default setting is port 9050:



Make sure the port you select for communication is accessible in all areas of your network. Changing the port later may be a sizable task, just depending on the number of clients in your network.



**Virtual CD Network Management Server v10 - InstallShield Wizard**

**Edit Data**

Enter requested data.

Please enter the TCP/IP port to be used for communication with Virtual CD NMS and the share name for Virtual CD NMS database path.

Port:

NMS share:

The same page also prompts you to name a network share to be used for communication between NMS Administration and the NMS Service.



Write privileges in the data directory are required for editing or deleting scripts, as well as for creating or editing profiles in Virtual CD NMS Administration.

Use the default or enter a different name in the **NMS share** field and click on **Next**.

## 6

Click on **Install** to run the installation program. The NMS Service is entered as a Windows service with the designation **Virtual CD NMS**. You can change the settings for the Virtual CD NMS service in the Windows Control Panel, under **Virtual CD v10 NMS Service**.



The Virtual CD NMS Service uses the system account. No other permissions are required. Make sure the system account has full access rights in the Virtual CD NMS folder so that the service can read and write data.



After installation, the NMS Administration has to be configured for operation with the NMS Service. For details on configuring NMS Administration, see “Configuring NMS Administration”.

## Method 2: Service and Administration Installed Separately



You can install the NMS Service on a server and the NMS Administration program on a different server or other workstation. In the following example, first the service is installed on the NMS Server, and the administration program in the subsequent step.



On Windows 2000, you can install only the service. The administration program no longer supports Windows 2000. If your server runs Windows 2000, you have to run the administration program from a separate workstation.

1

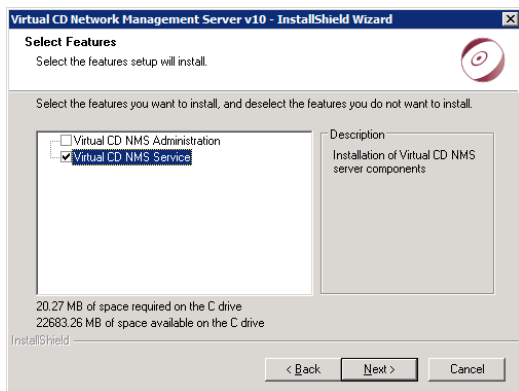
Run the installation program.

2

Confirm the license agreement and select the installation path.

3

Select the option to have the Virtual CD NMS Service installed, and click on **Next**:





Enter a valid license code and click on **Next**:



Define the port used for communication between the Virtual CD NMS Service and your Virtual CD clients and Virtual CD NMS Administration program. The default setting is port 9050:



Make sure the port you select for communication is accessible in all areas of your network. Changing the port later may be a sizable task, just depending on the number of clients in your network.

The same page also prompts you to name a network share to be used for communication between NMS Administration and the NMS Service.



Write privileges in the data directory are required for editing or deleting scripts, as well as for creating or editing profiles in Virtual CD NMS Administration.

Use the default or enter a different name in the **NMS share** field and click on **Next**.





Click on **Install to begin installation**. The NMS Service is now entered as a Windows service, with the designation **Virtual CD NMS**. You can change the settings for the Virtual CD NMS service in the Windows Control Panel, under **Virtual CD v10 NMS Service**.



The Virtual CD NMS Service uses the system account. No other permissions are required. Make sure the system account has full access rights in the Virtual CD NMS folder so that the service can read and write data.

## Installing NMS Administration



You can install Virtual CD NMS Administration on as many machines as you wish, and run any number of instances. The program settings, however, can be changed only in one instance. Additional attempts to open the Settings program of NMS administration result in an error message indicating that the settings program is already running on a different station.



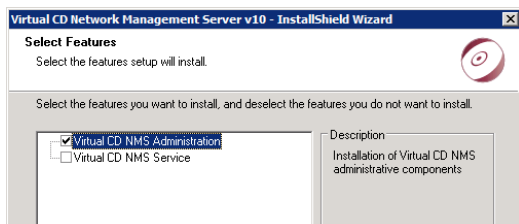
Run the installation program on the server or workstation you wish to use for Network Management Server administration.



Confirm the license agreement and select the installation path.



Select the option to have the Virtual CD NMS Administration installed, and click on **Next**:



Click on **Install to begin installation**.



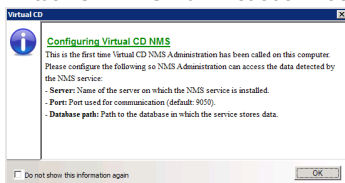
After installation, the NMS Administration has to be configured for operation with the NMS Service. For details on configuring NMS Administration, see „Configuring NMS Administration“.

## Configuring NMS Administration

The first time you run NMS Administration, it needs to be configured for use with the Virtual CD NMS Service.

1

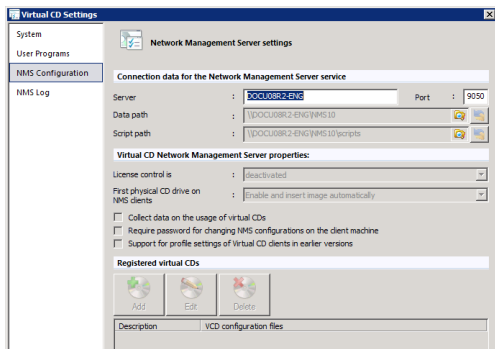
Double-click on the desktop icon to open NMS Administration. A dialog opens to inform you that this is the first time Virtual CD NMS Administration has been opened, and letting you know which settings need to be configured before you continue:



Click on **OK**.

2

The **NMS Configuration** page of the setting program opens if this is the first time you have launched NMS Administration:



If you have installed the service and the administration program on the same server, all of the required values will have been entered automatically and you do not need to change anything.

The following values are defined here:

**Server.** The server on which the NMS Service is installed.

**Port.** Communication port for the NMS Service.



The data path and script path are retrieved from the server once you have specified the server name and communications port and clicked on **OK** to confirm. If any problems occur, open the **NMS Configuration** of the Settings program and check the following settings:

**Data path.** UNC share for the NMS data directory.

**Script path.** UNC path to the NMS script directory.



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

## Registering Virtual CDs

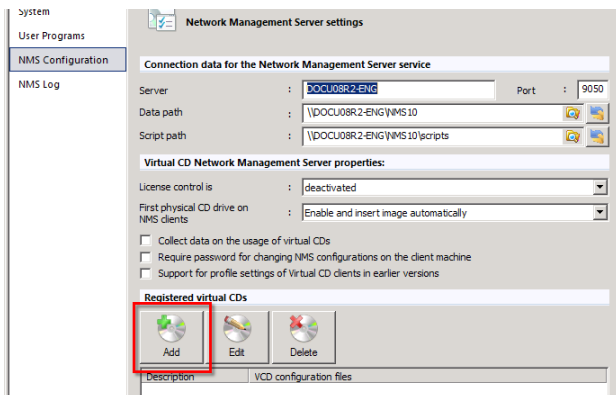
In order to manage your virtual CDs with the NMS, you need to register them in the NMS Settings.



In the Ribbon of the NMS Administration program, select **Settings**.



In the NMS Settings, select **NMS Configuration**:



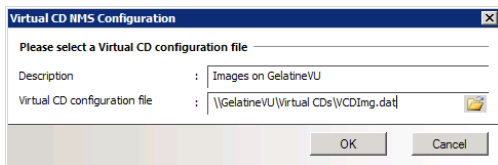
Under **Registered virtual CDs**, click on **Add**.

3

In the **Select configuration file** dialog, enter a description and the UNC path for the configuration file for your images:



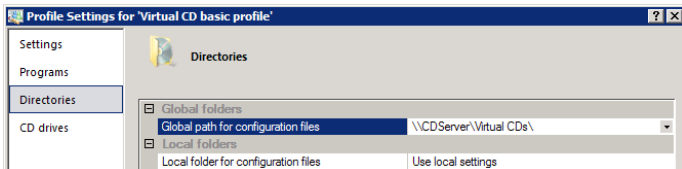
Always use UNC syntax when entering the path for the configuration file, even if the images are stored on the same server that NMS is installed on.



Your Virtual CD configuration file is the **VCDImg.dat** file in a local Virtual CD installation on any image server, or on the NMS server.

4

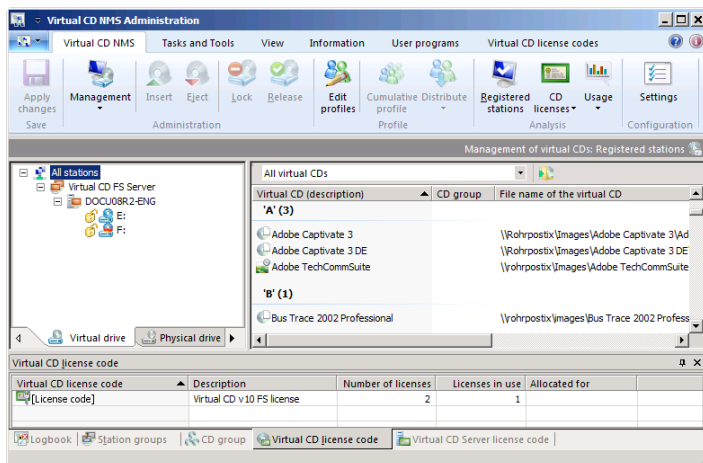
If you use NMS to insert all images centrally, then no further steps are required for client configuration. If you wish to make virtual CDs accessible on client machines, however, you need to publish the global configuration path. To do this, allocate a profile to the client(s) in question. In the example given here, the basic (default) profile has been adapted to publish global virtual CDs:



We recommend using a profile that is adapted to the specific needs of your clients. For details on creating and assigning profiles, see the section entitled “Profiles.”

## After Installation

Once you have completed the basic configuration steps and registered one Virtual CD client, your Virtual CD NMS Administration window should look something like this:



Please check all of the specified data (server name, communication port) before you begin installing additional clients. Any changes you make in the NMS will have to be made individually in each client, so the sooner changes are made, the less work is involved.

## Configuring Virtual CD Clients

Once you have completed the installation and configuration of the Virtual CD NMS components, you can configure Virtual CD on the client stations so they can connect to Virtual CD NMS.

There are two ways to configure Virtual CD clients:

**Manual configuration of clients:** Install Virtual CD manually on each client station and connect each installation with Virtual CD NMS. For details on manual installation and configuration, see „Client Configuration“.

**Distribution of a Virtual CD Client Setup using the Client Distributor:** The Client Distributor is a component of Virtual CD NMS that lets you install Virtual CD clients directly from NMS. For details on use of the Client Distributor for installing and configuring clients, see „Virtual CD NMS Client Distributor“.

## Client Configuration



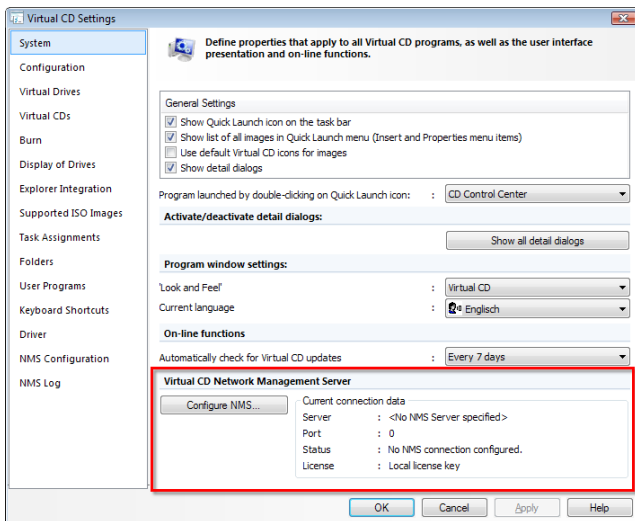
Prerequisite for this step is the prior installation and network integration of Virtual CD on the client machines. For detailed information on configuration, see the documentation on the Virtual CD product you are using. If Virtual CD has not yet been installed on your client machines, this can be done quickly and easily using the Virtual CD NMS Client Distributor. For details on the use of the Virtual CD NMS Client Distributor, see “Virtual CD NMS Client Distributor”.



To register a client in Virtual CD NMS, open the Settings program. In the Virtual CD Starter, click on **Configure settings**.



In the Virtual CD Settings, select **System**:







In the **Virtual CD Network Management Server** section, click on **Configure NMS**. In the dialog that opens, enter the data for connecting to your Network Management server and click on **OK**:



Make sure the data matches that entered for NMS configuration in the NMS Settings on the **NMS Configuration** page, under **Connection data for the Network Management Server service**.

**Establish a connection with a Virtual CD Network Management Server.** Creates a connection to the Virtual CD NMS.

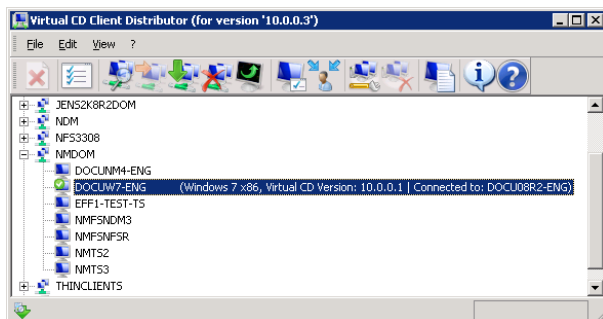
**Server.** The name or IP address of the NMS.

**Port.** The communications port for the NMS.

**Virtual CD licensed by the Network Management Server specified above.** With this option, Virtual CD retrieves a license code from NMS rather than using a local license. Prerequisite for this option is entering licenses in NMS. For details, see „Managing Licenses.“

## Virtual CD NMS Client Distributor

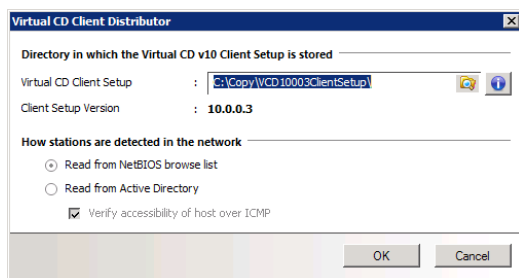
The Virtual CD NMS Client Distributor Management lets you manage the Virtual CD installations on your network clients. To run the Client Distributor, open NMS Administration and click on **Distribute Virtual CD clients** in **Tasks and Tools**:



In Windows Server 2008, the network browsing service is deactivated by default. If you are operating NMS on a single server and the Client Distributor is not displayed correctly in your Network Neighborhood (or My Network Places) open on **Control Panel/Administration/Services** and select the **Computer browser service**.

## Settings

To open the Client Distributor settings, click on the **Settings** button in the toolbar. In the settings you can define which Client Setup is distributed and how your network is searched for client stations.



**Virtual CD Client Setup.** Path to your Virtual CD Client Setup.

**Client Setup Version.** The version number of the Client Setup is automatically updated by Virtual CD NMS.

**Read from NetBIOS browse list.** Uses the NetBIOS browsing list to read out the client stations in the network.

**Read from Active Directory.** Reads out your AD to display the clients in the network.

**Verify accessibility of host over ICMP.** With this option, accessibility of the client is checked using the Internet Control Message Protocol before it is shown in the list of stations. Stations not available at the time of the search are not displayed.

### *Functions*

**Virtual CD Client Distributor can be used to perform the following functions:**

- **Check**
- **Install**
- **Update**
- **Uninstall**
- **Restart**
- **Configure network settings on a client**
- **Enter user ID**
- **Define IP range**
- **Delete IP range**
- **View log file**

### **Check**

To check any object in the Client Distributor's network list, select the object and click on the **Check** button in the toolbar. If you select a node, all objects under that node are automatically checked. NMS checks the station's permissions, operating system and Virtual CD version, as well as the NMS to which the Virtual CD version is connected. The following symbols indicate the state of a station.



Station not checked



Station checked; a current version of Virtual CD is installed.



Station checked(red screen); an earlier version of Virtual CD is installed.



Station check failed.



Station is ready for installation of Virtual CD.



Station needs to be restarted.

## Install

You can install Virtual CD on any station that is marked as being ready for installation. Click on the **Install** button in the toolbar. The setup files are copied, after which the installation is carried out. It is not necessary to restart the station after installation; Virtual CD is ready to use. For details on installing clients, see „Installing Clients.“

## Update

Updates are performed only within a given version; in other words, you can update Virtual CD v10.0.0.2 to v10.0.03, but you cannot use the NMS v10 Client Distributor to update Virtual CD v 9 to v10, for example. If a station is marked as being ready for update, click on the **Update** button in the toolbar. For details on updating clients, see „Updating Clients.“

## Uninstall

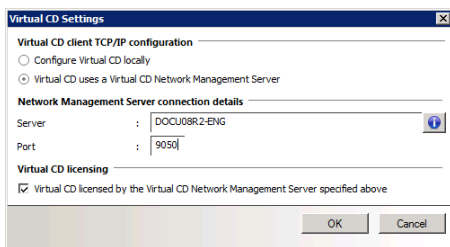
You can use Virtual CD NMS v10 to uninstall Virtual CD client versions v9 and v10. Server versions cannot be uninstalled by the Client Distributor. Click on the **Uninstall** button in the toolbar to deinstall a client station. For details on deinstalling clients, see „Uninstalling Clients.“

## Restart

Following deinstallation, the client needs to be restarted. You can do this centrally using the Client Distributor. Click on the **Restart** button in the toolbar.

## Configure network settings in a client

You can use the Client Distributor to define the network settings of each client in your network. For example, you can connect stations to your NMS that were previously locally configured or connected to a different NMS. Click on the **Virtual CD Client Settings** button in the toolbar:



Changes in the settings are not applied until the next user login or station restart. To restart a station using the Client Distributor, click on the **Restart** button.

For more details on configuring clients, see „Configuring Virtual CD clients.“

## Enter user ID

If a station's state cannot be checked, this might indicate that the Client Distributor does not have user privileges in the client station. In this case, switch accounts or change settings so that the Client Distributor has the necessary privileges. The account must have rights in the "Admin\$" share on the station. Click on the **User ID**:

**Connect as.** Enter a domain or NT station name, if necessary, and the user ID.

**Password.** Enter the password for the user account.

**Display....** Click here to view the password entered.

## Define IP range

If one or more stations are not found using name resolution, you can use the Client Distributor to define specific IP addresses or IP address ranges. These remain valid in the Client Distributor until you delete them. To define an IP address range, click on the **IP address(es)** button:

In the **IP address(es)** field, enter the first IP address. The **to** field is filled in automatically. If you only want to define a single IP address, you do not need to change anything else here. To define a range of addresses, enter the desired address in the second field. Activate the **Verify accessibility of host over ICMP** option to have only those stations displayed that respond to a ping.



If the address range is very broad, activating the **Verify accessibility of host over ICMP** option may considerably increase the time it takes to read out the list of client stations.

### Delete IP range

When you manually specify IP addresses in the Client Distributor, they remain effective until you delete them. To delete IP addresses from the Client Distributor, click on the **Delete IP address(es) button**. The selected IP address or address range is deleted.

### View log file

You can access the installation path on your Virtual CD client. Click on the **Log file** button in the toolbar. The log file shows the processes and their output, sorted by time and date.

### Installing Clients

Before you can manage clients with Virtual CD NMS, Virtual CD must be installed on the client machines. Virtual CD NMS has a client distribution program, called Virtual CD NMS Client Distributor, that you can use to install Virtual CD on the client stations working from one central workstation.



To install Virtual CD on your clients using the Client Distributor, you need a Client Setup. The Client Setup can be created using a local Virtual CD installation on any workstation in the network, as long as “Custom” installation was selected and the option to install the Client Distribution wizard was activated. If “Typical” installation was selected, the distributor wizard is not installed. Virtual CD v10 NMS can only distribute setups that were created using Virtual CD v10. Server versions of Virtual CD cannot be distributed.



Use Virtual CD v10 to create a Client Setup. For details on creating a Client Setup, read the Virtual CD documentation. If both Virtual CD and Virtual CD NMS Administration are installed on the server or workstation, you can run the Client Setup program using controls in the Virtual CD Ribbon: in the **Tasks and Tools** tab, under **Client Setup**, click on **Create**.



The following conditions are required for distributing the setup program:

- The client stations must be switched on.
- The client stations must be running NT-based operating systems (Windows XP or later; Windows NT/2000 is not supported).
- You must have administrative rights on the client workstations.

- You must have access to the 'Admin\$' system share on the clients, which administrator accounts have by default in standard Windows installations.



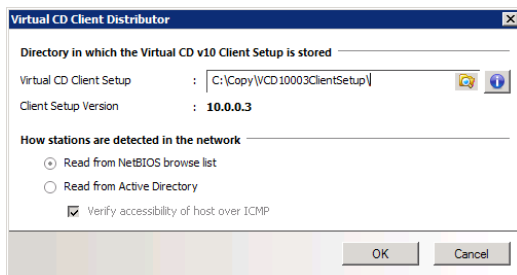
If you use Windows Vista or later, keep in mind that the User Account Control feature has changed the conditions for user privileges. This generally does not affect access to the network, as long as you have administrator rights on the target stations. When running NMS Administration in Windows Vista or later, make sure you have full administrator rights.

3

Run the Client Distributor from the NMS Administration Ribbon: in the **Tasks and Tools** tab, **Client Setup** section, click on **Distribute Virtual CD clients**.

4

The first time you run this program, the Settings dialog opens. Specify the path to your Client Setup:



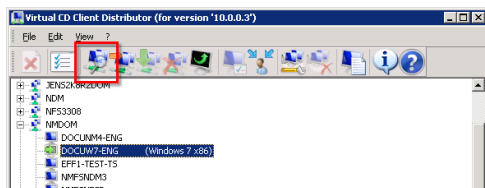
The version number of the Setup is updated automatically. If you have an Active Directory environment, select **Read from Active Directory**. If you do not have AD, select the other detection method: **Read from NetBIOS browse list**. Activate the **Verify accessibility of host over ICMP** option to include only active stations in the list.



If you do not select a Setup in the Setting dialog, the main window will still open when you click **OK**. You can check the Virtual CD versions running on your client stations, but you cannot distribute Virtual CD installations until you have selected the desired Client Setup. To open the Settings dialog, click on the **Settings** button in the toolbar.

5

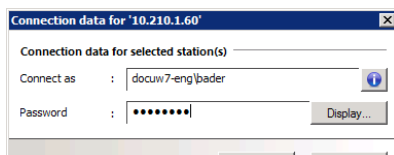
The main window now shows all groups and stations in the network. To check a station or group of stations, select the desired station(s) and click on the **Check** button in the toolbar:



To check an entire workgroup or domain, select it in the main window of the Client Distributor and click on the **Check** button.

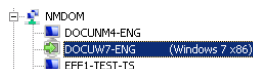


If the operation fails, check the log file; you will most likely find that the user rights were insufficient. If so, change the user account on the stations you wish to check. To do this, click on the **User ID** button in the toolbar and enter login data for an account that has the required rights.



6

Once a station has been checked successfully, a symbol is shown to indicate its status:



Click on the **Install** button in the toolbar to install Virtual CD on a station using the selected Client Setup. The Client Distribution program copies the required files to the workstation and then starts a service that processes the installation automatically. Once the installation is completed, Virtual CD is ready for use on the workstation.



## Updating Clients

The Client Distributor has an update function that you can use to make sure each workstation has the latest release of its Virtual CD version.



The update function is available only for Virtual CD v10 clients.



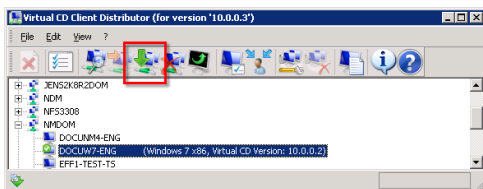
This function updates only the Virtual CD software. Settings that were modified in a Client Setup are not stored in the updated version. If you have created a Client Setup with modified settings, you will need to reinstall the client.



Run a check on the client station.



If a more recent Setup has been selected for installation than the version currently on the client machine, the Client Distributor prompts an update. Click on the **Update** button in the toolbar:



Whenever an updated release of Virtual CD becomes available, you can make a new Client Setup to update your Virtual CD clients.

## Uninstalling Clients

The Client Distributor can also be used to remove Virtual CD from your network workstations.



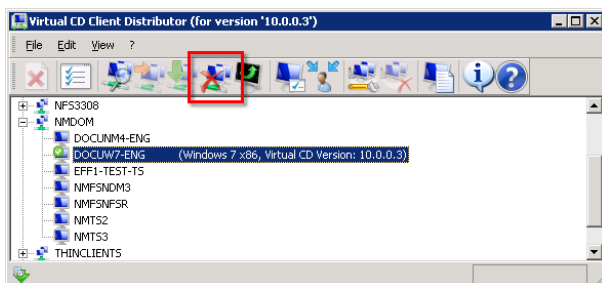
The Client Distributor in NMS v10 can only deinstall Virtual CD v10 and v9 clients. The Client Distributor can neither install nor deinstall earlier versions. Server editions cannot be deinstalled in any version.



To deinstall a client station, select the station in the main window of the Client Distributor.



Click on the **Uninstall** button in the toolbar:



Following deinstallation of Virtual CD, the workstation has to be restarted. In the main window of the Client Distributor, a yellow monitor symbol is shown to indicate that a restart is needed. Click on the **Restart** button in the toolbar.

## Virtual CD NMS with Virtual CD FS

Virtual CD FS Versions 6, 7, 9 and 10 can be integrated in your Virtual CD NMS v10 system. The advantages of using the two programs together include:

- Expanded licensing functions for all virtual CDs
- Administration of server licenses (v9 and v10)
- Centralized management

### Notes on Installation of Virtual CD FS

Virtual CD FS versions 9 and later can retrieve license codes from NMS. This feature is configured during installation. If you are using an earlier version of Virtual CD FS, you need to enter a license code manually. The Virtual CD FS service that makes virtual CD drives available requires this license code.



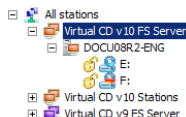
The setup program will not continue until a Virtual CD FS license code has been entered. Virtual CD FS v10 does not have a demo mode. A separate test version of the program is available for demonstration purposes. It is not possible to activate the full range of functions by entering a license code in a test version.



For details on the installation and configuration of Virtual CD FS, please refer to the Virtual CD FS documentation.

If you use Virtual CD FS Server in conjunction with Virtual CD NMS Administration, the Virtual CD FS server is automatically allocated to the default group, **Virtual CD FS Servers**.

You can assign the server to a different group, if desired.



### Functions that can be used for the Virtual CD FS Server:

For the most part, you can use the same functions for Virtual FS servers as those that are available for your Virtual CD client stations.

The following functions are not available for Virtual CD FS:

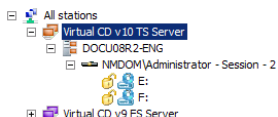
- Distribution of scripts
- Allocation of profiles



When using Virtual CD FS in conjunction with Virtual CD NMS, we recommend locking the drives on the file server. This prevents users who connect over Virtual CD NMS from inadvertently ejecting the CDs that are in file server drives.

## Virtual CD TS and Virtual CD NMS

Virtual CD TS versions 6, 7, 9 and 10 can be integrated in your Virtual CD NMS system. When you run Virtual CD TS v10 in conjunction with Virtual CD NMS, the Virtual CD TS server is automatically added to the default **Virtual CD TS Servers** group when it registers in Virtual CD NMS.



The display shows the existing TS server and active sessions. You can change these assignments at any time. For example, you can create groups to suit your requirements and assign Virtual CD TS servers to them as desired.

The advantages of using Virtual CD NMS and Virtual CD TS together include:

- Centralized management
- Central management of TS server licenses using NMS
- The functions available for NMS client stations are also available for clients in Virtual CD TS sessions.
- Every client station that logs on in a terminal server session is automatically assigned a profile.

If you add a Virtual CD TS installation without changing any other settings, clients that log on in terminal server sessions are assigned the Virtual CD basic profile.

However, we recommend creating a separate profile for TS clients. In addition to configuring security settings and other features in the profile, you can also specify virtual drives for TS clients. The drives are mapped when a session is opened. For more information on profiles, see “Profiles” in this manual.

### Assigning licenses for Virtual CD TS clients:

You can have Virtual CD NMS assign license codes for Virtual CD TS. After you have entered your license in Virtual CD NMS, all clients that connect to Virtual CD TS are assigned licenses automatically as long as licenses are available. Each terminal server session takes up one VCD TS license, starting when a virtual CD is inserted during the session.



Due to the new licensing model implemented in Virtual CD TS v10, you can no longer bind a Virtual CD TS v10 server license to a specified server. On the **Virtual CD Server license codes** page of the TS v10 license properties, the **Server** page is no longer available. Previous versions of TS v10 can still be bound to particular servers.



For details on the installation and configuration of Virtual CD TS, please refer to the Virtual CD TS documentation.

## Virtual CD NMS Settings

Virtual CD NMS is configured using the NMS Settings program. Immediately following installation, the configured options are grouped by topic in the Settings program on the following pages:

**System.** Defines general options for the display and program operation.

**User Programs.** Lets you integrate third-party programs in Virtual CD NMS.

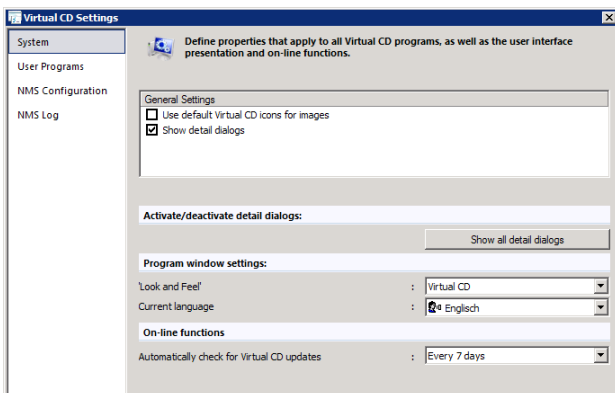
**NMS Configuration.** Configures the Network Management Server.

**NMS Logbook.** Defines which messages are output to the NMS logbook.



After installation of any Virtual CD version on the NMS server, the settings of both Virtual CD programs are combined. The Virtual CD NMS Settings program then shows additional pages pertaining to the Virtual CD installation.

### System



The **System** page contains settings for general configuration of Virtual CD NMS.

#### General Settings

**Use default Virtual CD icons for images.** With this option, the default Virtual CD symbol is used for all images rather than the icons supplied with the CDs.

**Show detail dialogs.** Activates or deactivates all information texts and messages in Virtual CD NMS.

**Activate/deactivate detail dialogs:**

**Show all detail dialogs.** Click here to have all detail dialogs shown; i.e., reactivates those that had been deactivated. This option requires prior activation of the „Show detail dialogs“ option.

**Program window settings**

**‘Look and Feel’.** The design of the Administration program. You can choose from the following: Virtual CD, Standard (XP/Vista), Office 2003, various Office 2007 versions (Luna, Obsidian, Aqua, Silver) and Carbon.

**Current language.** The language active when Virtual CD NMS Administration is launched.

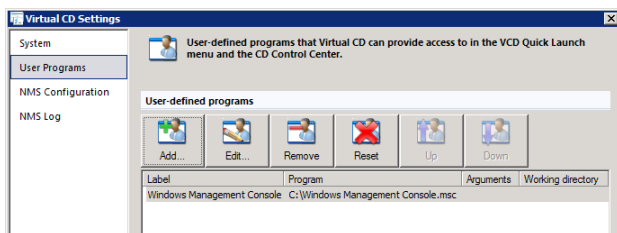
**On-line functions**

**Automatically check for Virtual CD updates.** Determines how often Virtual CD NMS checks for updates:

- Never
- Daily
- Every 7 days
- Every 14 days



After installation of any Virtual CD version on the NMS server, the settings on this page are expanded to include the settings in that Virtual CD installation. The settings then apply for both programs.

**User Programs**

On the **User Programs** page, you can integrate programs from other manufacturers in Virtual CD NMS. For example, this feature lets you launch essential administrative programs directly from the NMS Administration interface.

**Add.** Adds a program.

**Edit.** Lets you edit entries.

**Remove.** Removes the selected entry.

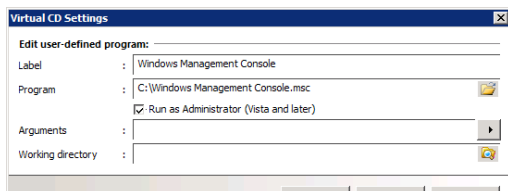
**Reset.** Removes all entries from the list.

**Up.** Moves an entry up. The order in which entries appear in this list determines the order in which they are shown in the „User Programs“ tab.

**Down.** Moves an entry down.

### Adding user programs

Click on the **Add...** button and enter the program parameters in the subsequent dialog:



**Label.** The name shown in the „User Programs“ tab.

**Program.** The program path.

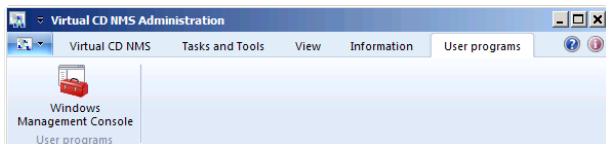
**Run as Administrator (Vista and later).** If User Account Control is active, select this option to have the program execute using the administrator account.

**Parameter.** Adds the %image% (to run the program for a selected image) or %drive% (to run the program for a selected drive) argument to the program call.

**Working directory.** Directory in which the program is executed.

**Test.** Tests the program execution.

The integrated user programs are shown on the Virtual CD Ribbon in the **User Programs** tab:

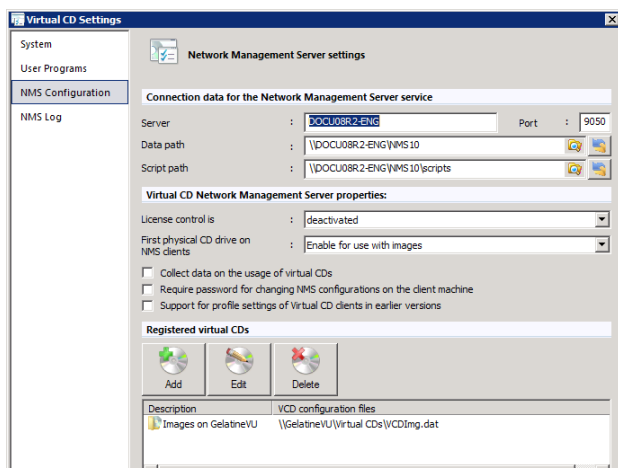


The **User Programs** tab is not shown unless one or more programs have been integrated.



When you install another Virtual CD edition on your server, in addition to Virtual CD NMS, the user programs integrated in the two Virtual CD versions are available in both VCD programs.

## NMS Configuration



### Connection data for the Network Management Server service:

**Server.** Name of the server on which the Virtual CD NMS service is installed.

**Port.** Number of the port used for communication (default: 9050).

**Data path.** UNC designation of the directory in which the databases used by the Virtual CD NMS service are stored. A share is set up for this directory by the installation program.

**Script path.** UNC path to the script directory. With the default settings, it is under the data directory.



The access data for the Network Management Server service is decisive for communication with the client. The same server and port settings entered on this page must be entered in the Virtual CD settings to enable communication between NMS and clients.

### Virtual CD Management Server properties:

**License control is.** Activates or deactivates license control. For details on the NMS license management feature, see „License Control for Virtual CDs“. The options are:

- deactivated
- active for virtual CDs with registered licenses (i.e., if you have assigned licenses to control usage of any virtual CDs, license management is active for those images.)
- active for all virtual CDs





If you activate license control for all virtual CDs, you have to enter the number of user licenses for each virtual CD. If no number is entered, this is interpreted as 0 licenses, and the virtual CD cannot be used at all.

**First physical CD drive on NMS clients.** Defines usage of the first physical drive on the client. The options are:

- Do not enable for use with images (the first physical client drive is not used for images.)
- Enable for use with images (images can be inserted in the first physical client drive.)
- Enable and insert image automatically (the first physical client drive is treated as the first available drive when inserting an image; for example, when you drag-and-drop an image to a station.)

**Collect data on the usage of virtual CDs.** Activates data logging to monitor on virtual CD usage. This setting must be selected to have Usage View displayed. For details on analysis of usage data, see „Collecting Virtual CD Usage Data“.

**Require password for changing NMS configurations on the client machine.** With this option, a password must be entered before NMS configuration settings on a client (name of the NMS, communications port, etc.) can be changed. This helps you protect your client configurations from unauthorized access.

**Support for profile settings of Virtual CD clients in earlier versions.** Profile settings are applied to earlier Virtual CD client versions. After installation, however, only the settings supported by Virtual CD v10 clients are supported. Activate this option if you want to have the settings in earlier versions supported as well (for example, affecting the Virtual CD Sidebar, or the Job Editor).

### **Registered virtual CDs**

This is where virtual CDs are registered in Virtual CD NMS. It is important that the Virtual CD configuration files (vcdimg.dat) are specified. Each network installation of Virtual CD has its own vcdimg.dat file stored in its global configuration path. This file contains a list of the virtual CDs accessible over the network.

**Add.** Adds a configuration file.

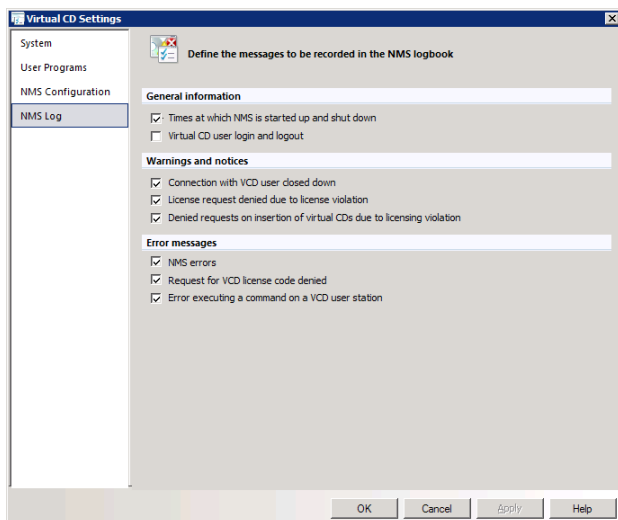
**Edit.** Lets you edit entries.

**Delete.** Deletes an entry.



To ensure that the Virtual CD configuration files are accessible, it is essential that the path is entered in UNC syntax.

## NMS Log



The Logbook Properties define which types of message are recorded in the logbook:

### **General information:**

**Times at which NMS is started up and shut down.** Logs the times at which NMS was launched and shut down

**Virtual CD user login and logout.** Records user logins and logouts.

### **Warnings and notices:**

**Connection with VCD closed down.** Logs halted connections between Virtual CD NMS and VCD users.

**License request denied due to license violation.** Logs denials due to unavailability of licenses.

**Denied requests on insertion of virtual CDs due to licensing violation.** Logs denial due to insufficient permissions.

### **Error messages:**

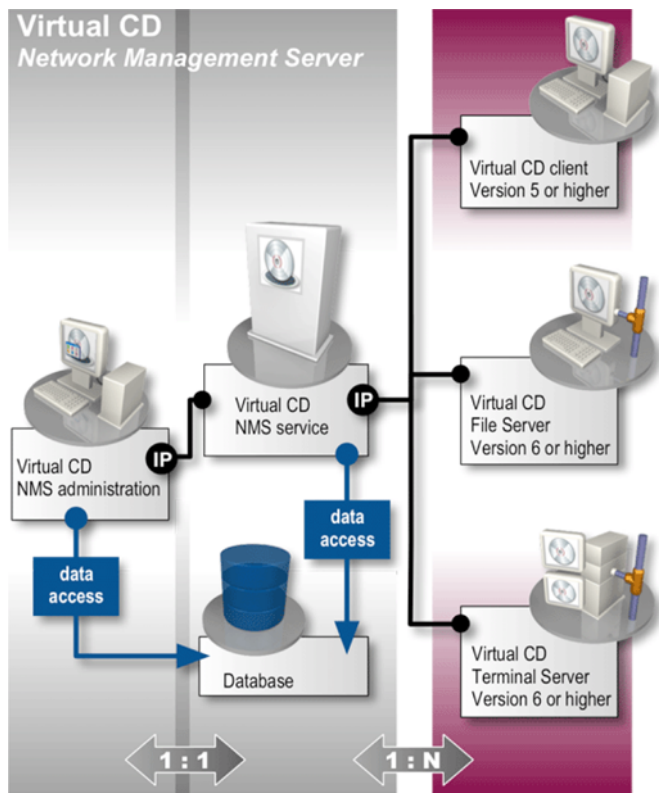
**NMS errors.** Logs errors in the service that occur during operation of NMS.

**Request for VCD license code denied.** Logs denials of requests for VCD license codes; for example, if no further license codes are available.

**Error executing a command on a VCD user station.** Logs errors that occur while executing commands on the client station (for example, when inserting a virtual CD).

## Working with Virtual CD NMS

Virtual CD NMS is a client/server application that lets you manage a variety of features on your Virtual CD client stations. With Virtual CD NMS, all Virtual CD clients are registered centrally on the Virtual CD Network Management Server, enabling management of virtual and physical CD drives, inserted virtual CDs, and other functions on the client machine using the Virtual CD NMS Administration program.



As illustrated above, all Virtual CD clients communicate with the Virtual CD NMS Service directly over TCP/IP, so that direct data access is not necessary. The Virtual CD NMS Administration program also accesses the Virtual CD NMS Service over TCP/IP. To enable the optimum data access speed, Virtual CD NMS Administration reads some of the data directly from the databases written by Virtual CD NMS Service. That is why the NMS Service

installation program sets up a share for the database folders that it creates. This share is automatically entered in Virtual CD NMS Settings when the NMS Administration program is installed. (For details, see "Configuring NMS Administration".)

To understand how Virtual CD and Virtual CD NMS work together, it helps to keep in mind which tasks are performed by each of these two programs:

- Virtual CD manages the existing virtual CDs
- Virtual CD NMS administrates the Virtual CD clients in the network

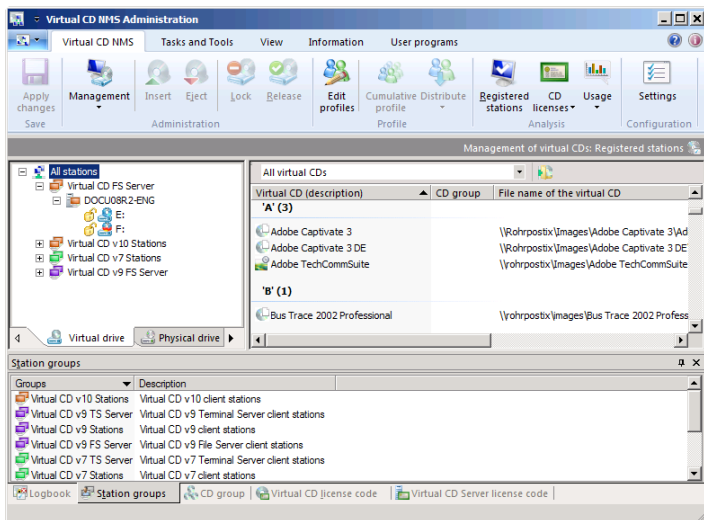
## Before you continue...

The following elementary points will help you to understand and get the most out of Virtual CD NMS:

- **New settings must be saved!** Changes in configuration settings for Virtual CD NMS, or in certain parameters for virtual CDs (e.g., license control settings) are not effective until you explicitly save them. Your configuration data is not sent to the server—i.e., to the Virtual CD NMS service—until you select the command to save changes.
- **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 applied 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.

## Virtual CD NMS Administration

Virtual CD NMS Administration offers central access to all administrative functions, and gives you a convenient interface for configuring the Virtual CD NMS Service:



NMS Administration is divided into three views. On the left is the Administration view. This view shows your entire NMS environment with the registered clients. On the right is the Image view. This view lists all available images. At the bottom is the Environment view, which has several dialog pages and shows, for example, information licenses and groups. For details on the views in NMS Administration, see “Views”.

The following tasks are performed in CD NMS Administration:

- Central administration
- License control for Virtual CDs
- Collecting virtual CD usage data
- Monitoring Virtual CD drive activity
- Distributing Virtual CD software to clients
- Distributing Virtual CD license codes
- Creating and allocating profiles for users/stations
- Logbook functions

## Views

Virtual CD NMS Administration has the following views:

- Environment view
- Image view
- Administration view
- Station view
- License view
- Usage view



You can drag-and-drop views to arrange them as desired.

### Administration View

The Administration view is the interface for managing your client stations and their drives. The Administration view in turn has two different views, which you can toggle in the Ribbon:

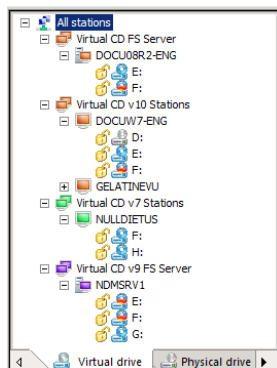
**Active stations.** Shows all stations currently logged in on NMS. The stations are sorted into groups. This part of the view lets you access each individual drive on a station.

**Active drives.** This part of the view shows all drives currently logged in on NMS, sorted by drive letter. Like the stations, the drives are also divided into groups. In this view, for example, you have access to all the „D:“ drives on stations in the „Library“ group.

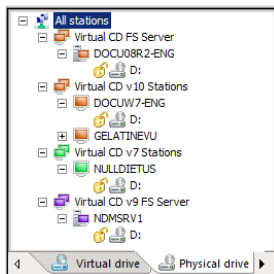
### Active stations:

The “Active stations” view shows your Virtual CD NMS environment in a tree diagram:

The “Active stations” view has two dialog pages: **Virtual drives** and **Physical drives**. The „Virtual drives“ tab shows all drives in which a virtual CD can be inserted. This can include physical drives, if the clients are configured accordingly.



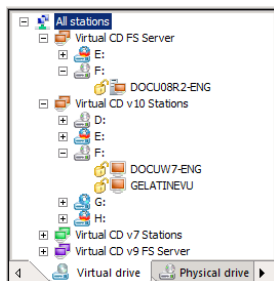
The „Physical drives“ tab shows all physical drives on the client:



### Active drives:

The “Active drives” view shows the drives in your NMS environment in a tree diagram:

This view, too, has dialog pages for virtual and physical drives.



Which views use at any given time depends on the task you wish to execute. To insert a virtual CD on a certain station, for example, you will likely use the “Active stations” view, because this view is sorted by stations. To insert a virtual CD in a particular drive for an entire group, you will probably want the “Active drives” view, because this view is sorted by drives. To insert a virtual CD in all stations in a group, regardless of which drives are used, you might use either one of these two views. In both views you can drag-and-drop an image to a group, and the image is automatically inserted in the first drive on all stations in the group.

### Functions in the Administration view:

The following commands are available for CD drives:

**Insert.** Insert a virtual CD. Your virtual CDs must be registered in your VCD NMS system before this command can be applied. An image can be inserted in a physical drive only if the client is configured accordingly.

**Eject.** Eject a virtual or physical CD.

**Lock.** Lock the drive.



**Release.** Unlocks a locked drive.

**Data throughput.** The throughput rate of the selected drive is shown.



When you use VCD NMS to insert a CD that is password-protected, the password is prompted before the NMS Administration program can insert the virtual CD. This lets you provide access to this CD for users on client stations without giving users the password.

### Locking a drive

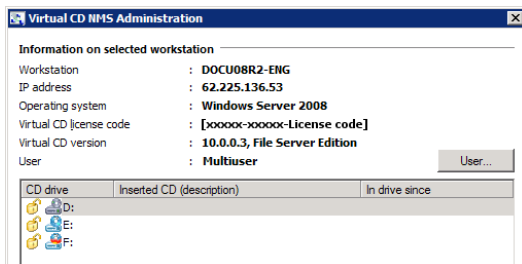
To prevent any user actions affecting a drive, you can lock the drive. Users cannot insert drives in a locked virtual drive on a client station. As administrator, on the other hand, you can insert or eject virtual CDs to and from locked drives in NMS Administration. When you release a CD drive that had been locked, the drive is once again available for use on that station. The “padlock” symbol displayed next to a drive letter indicates the current status (“locked” or “unlocked”) of the virtual drive. If the padlock is closed, the drive is locked. You can also lock a physical drive on a Virtual CD client station. In this case, a physical CD can still be inserted in the physical drive but it is immediately ejected. No programs can be run or installed from physical CDs in that drive. When you unlock a physical CD drive that had been locked, the drive is once again available for use on that station.

The following commands are available for specific stations:

**Show cumulative profile.** Shows the station’s cumulative profile. A cumulative profile contains all profile settings that applied to the station.

**Properties.** Shows the station properties.

### Station properties:



Select the **Properties** menu item to open the station properties. The properties include information on the selected station such as IP address and license code assignment. Click on **User** to see which user is currently logged in on the station.

The following commands are available for station groups:

**Assign profiles.** Assigns a profile to all stations in the group.

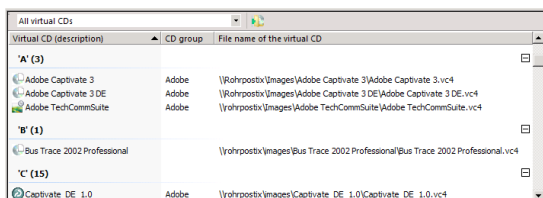
**Distribute script.** Distributes a specified script to all stations in the group.



Select the root entry, **All stations**, to assign a uniform profile, or distribute a script, to all stations and groups.

## Image View

The Image view shows a list of all available images:



At the top of the list is a filter feature. The list box lets you select which virtual CDs are shown. “All virtual CDs” shows images from all sources listed in the Settings, under **Registered virtual CDs**. Alternatively, you can select one of the sources entered here for images. Click on the **Registered Virtual CDs** button to open the Virtual CD NMS Settings and register more images.

For each image, this view shows the description, group membership and file name. With the default settings the images are sorted and grouped by description. Open the shortcut menu to adapt the sorting and grouping to your requirements.

The following functions are available for images in the Image view:

**Insert.** Inserts the selected image in the specified drive on a station, or on all stations in a group.

**Eject.** Ejects the image from all drives in which it is inserted.

**Properties.** Opens the Image properties.

**Open data storage location.** Opens the path to the image in the Windows Explorer.

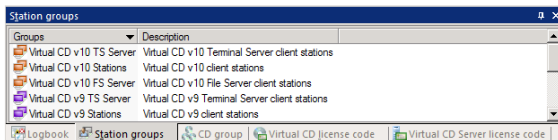
**Group membership.** If groups had been defined, you can use this function to assign an image to an existing group.

### Insert image:

The simplest way to insert an image is to drag-and-drop it to a drive, station or group. Alternatively, you can select **Insert** from the shortcut menu or in the Ribbon.

## Environment View

The Environment view lets you carry out a wide variety of administrative tasks. The commands and functions in this view are divided into the following dialog pages:



### Logbook:

On the “Logbook” page you can view the messages logged in Virtual CD NMS. You can have notices, warnings and error messages logged. Which types of message are shown is configured in the NMS Settings, on the NMS Log page.

### Station groups:

The “Station Groups” page shows the station groups. Immediately following installation, default groups are available for all Virtual CD versions; the stations in the Administration view are sorted into these groups. These default groups cannot be deleted, because they are required for correct functioning of Virtual CD NMS. If desired, however, you can create new station groups on the “Station Groups” page and re-allocate stations as desired. Station groups are administrative units that you can use, for example, for assigning profiles. For details on creating station groups, see “Creating Station Groups”.

### CD groups:

The “CD groups” page shows all existing CD groups. Immediately following installation, there are no CD groups. You can create new groups as desired. CD groups are administrative units to which you can assign access permissions if desired. For details on creating CD groups, see “Creating CD Groups”.

### Virtual CD license code:

The “Virtual CD license codes” page shows all license codes entered in NMS. Virtual CD clients can retrieve these licenses from NMS. Thus you do not need to enter license codes locally on client machines. Immediately following installation, there are no licenses entered here. Once you purchase license codes for Virtual CD clients, enter them on this page. For details on entering licenses, see “Managing Licenses”.

### Virtual CD Server license codes:

The functions on the “Virtual CD Server license codes” page correspond to those of the Virtual CD license code page. Only the server licenses are shown here, for a clear overview.



You can define which pages are shown in the Environment view. In the Ribbon, open the **View** tab. In the **Views** section you can activate or deactivate dialog pages in the Environment view.

## Station View

The Station view is an additional view that can be displayed in place of the Administration view. To open the Station view, select the **Virtual CD NMS** page in the Ribbon and click on **Registered stations** in the **Analysis** section. The Station view shows all stations logged on in Virtual CD NMS:

Workstation	IP address	Operating system	User	Active since	Virtual CD license code	In use since	VCD version
DOCU08R2-ENG		Windows Server 2...	DOCU08R2-ENG...	11/24/2009 12:50:04		11/24/2009 12:50:...	10.0.0.3
DOCU08R2-ENG (FS ...)		Windows Server 2...	NT AUTHORITY\...	11/24/2009 12:49:17		11/24/2009 12:49:...	10.0.0.3
DOCUW7-ENG		Windows 7 Enterp...	DOCUW7-ENG\ba...	11/24/2009 12:49:35		11/24/2009 12:49:...	10.0.0.1
GELATINEU		Windows Vista Ult...	HH-ZFRK\pader	11/24/2009 12:49:37		Local license key	10.0.0.3
NMSRVI (FS service)		Windows 2003 Ser...	NT AUTHORITY\...	11/24/2009 12:49:50			9.2.0.0
NULLDIETUS		Windows XP	HH-ZFRK\pader	11/24/2009 12:50:19		11/24/2009 12:50:...	7.0.0.0

The information shown includes station name, IP address, operating system, license code in use and Virtual CD version. The following commands are available in the shortcut menu:

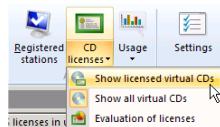
**Properties.** Shows the properties of the selected station in a separate dialog.

**Assign profile.** Assigns a specified profile to the selected station.

**Distribute scripts.** Executes a VB script on the selected station.

## License View

The License view is an additional view that can be displayed in place of the Administration view. To open the License view, select the **Virtual CD NMS** page in the Ribbon and click on **CD licenses** in the **Analysis** tab. A menu opens giving you a choice of License views:



### Show licensed virtual CDs

Shows only virtual CDs for which a number of licenses has been specified:

Virtual CD (descripti...	Number of licenses	Licenses in use	Number of FS licenses	FS licenses in use	File name of the virtual CD
Adobe Captivate	2	0	2	0	\\Rohrpostix\Images\Adob...
Adobe Captivate	2	0	2	0	\\Rohrpostix\Images\Adob...
Adobe TechCommSu	2	0	2	0	\\Rohrpostix\Images\Adob...
Captivate_DE_1.0	2	0	2	0	\\Rohrpostix\Images\Captiv...
DotNetPro	25	0	25	0	\\Rohrpostix\Images\Collect...
L08DXLRD1	1	0	1	0	\\Rohrpostix\Images\W...

### Show all virtual CDs

Shows all virtual CDs. The table shows whether and which type of licenses have been entered, and the number of licenses in use:

Virtual CD (descripti...	Number of licenses	Licenses in use	Number of FS licenses	FS licenses in use	File name of the virtual CD
2X Software Ltd	-	-	-	-	\\Rohrpostix\Images\WDM ...
Adobe Captivate 3	2	0	2	0	\\Rohrpostix\Images\Adob...
Adobe Captivate 3 DE	2	0	2	0	\\Rohrpostix\Images\Adob...
Adobe TechCommSuite	2	0	2	0	\\Rohrpostix\Images\Adob...
Bus Trace 2002 Prof...	-	-	-	-	\\Rohrpostix\Images\Bus Tr...

If no licensing has been assigned for a virtual CD, no number is shown (-) . If a zero (0) was entered, the virtual CD is locked.

## Evaluation of licenses

Shows all denials of access to virtual CDs:

Virtual CD (description)	Denials of access	File name of the virtual CD
Adobe Captivate 3	0	\\Rohrpostix\Images\Adobe Captivate 3\Adobe Captivate 3.vc4
Adobe Captivate 3 DE	0	\\Rohrpostix\Images\Adobe Captivate 3 DE\Adobe Captivate 3 DE.vc4
Adobe TechCommSuite	0	\\Rohrpostix\Images\Adobe TechCommSuite\Adobe TechCommSuite.vc4
Captivate_DE_1.0	6	\\Rohrpostix\Images\Captivate_DE_1.0\Captivate_DE_1.0.vc4
DotNetPro	0	\\Rohrpostix\Images\Collections\DotNetPro.vco
Microsoft Encarta 2008	0	\\ROHRPOSTIX\Images\Microsoft Encarta 2008\Microsoft Encarta 2008.vc4

Which commands are available in the shortcut menu depends on which License view is shown:

**Properties.** Shows the properties of a virtual CD. You can enter the number of licenses in the Properties window.

**Reset license.** Resets the license for the selected virtual CD.

**Print.** Prints the distribution and usage of licenses.

**Details.** Shows details on denials of access to a virtual CD.

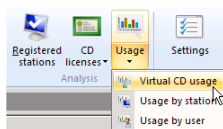
**Export.** Exports the denials of access to a CSV file, which you can process, for example, in Microsoft Excel.

**Distribute scripts.** Executes a VB script on the selected station.

For details on licenses in Virtual CD, see „License Control for Virtual CDs“.

## Usage View

The Usage view is an additional view that can be displayed in place of the Administration view. To open the Usage view, select the **Virtual CD NMS** page in the Ribbon and click on **Usage** tab, click on **Analysis** button. A menu opens giving you a choice of Usage views:



**Virtual CD usage.** Shows the usage data pertaining to the virtual CDs.

**Usage by station.** Shows usage data pertaining to the stations on which virtual CDs run.

**Usage by user.** Shows usage data pertaining to the users running virtual CDs.

Each of these views shows the time and duration of the most recent usage. For stations, the Virtual CD version in use is shown as well. The following commands are available in the shortcut menu:

**Properties.** Shows the properties of the selected station in a separate dialog.

**Print.** Prints the usage data.

**Export.** Exports the usage data to a CSV file, which you can process, for example, in Microsoft Excel.

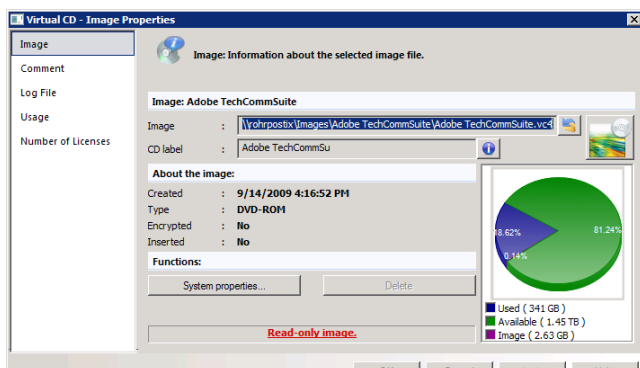
For details on the analysis of usage data, see „Usage Data for virtual CDs“.

## Image Properties

The image properties page can be opened from the Image view or the License view in NMS Administration, by activating the **Properties** function for an image. The image properties show all the information available about an image on the following dialog pages:

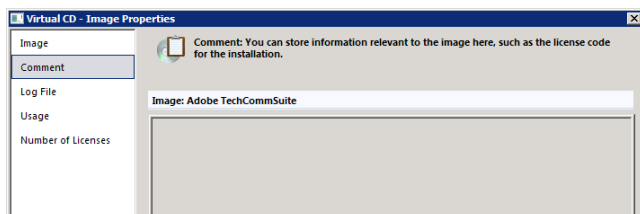
- Image
- Comment
- Log File
- Usage
- Number of Licenses

### Image



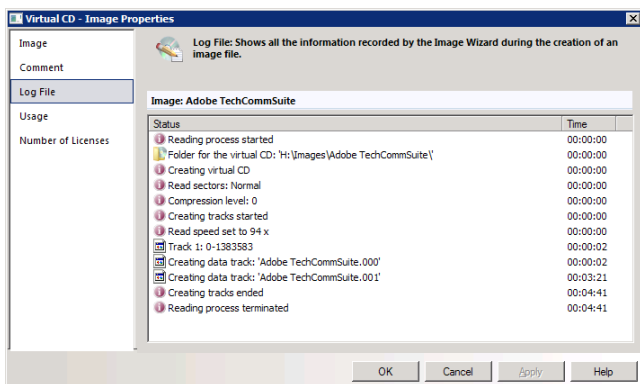
The **Image** page contains general information on the image, such as description, label and size. Click on **System properties...** to open the standard Windows properties dialog. Click on **Delete** to delete the image.

### Comment



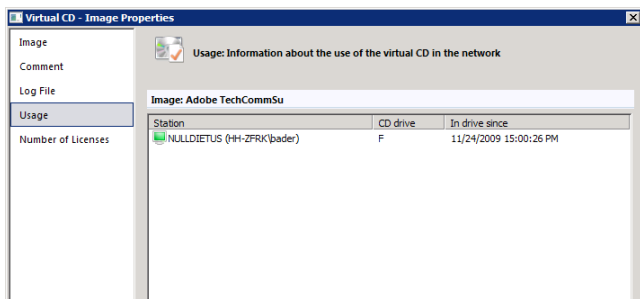
On the **Comment** page, you can store important information about the image, such as a detailed description of the contents, or serial numbers.

## Log File



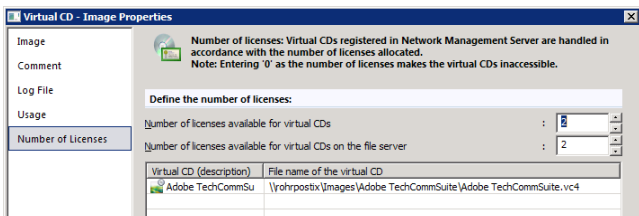
The **Log File** page of the image properties shows the information logged during creation of the images. This page gives you fast access to information such as whether the image file is particularly large, or whether the image was stored in multiple component files. Log files are not available for all images. For example, no log file is written for ISO images, nor for images created in the Virtual CD Editor. The data logging function can also be deactivated in the Image Wizard while creating an image.

## Total Use



The **Usage** page shows the current usage of a virtual CD. The list shows the stations currently using the image, as well as the drive in which the image is inserted and the time at which it was inserted.

## Number of Licenses



The Number of Licenses page shows the number of licenses allocated to an image. You can assign a number of licenses for the image on this page, or edit the existing number. For details on licensing virtual CDs, see “License Control for Virtual CDs”.

## Ribbon

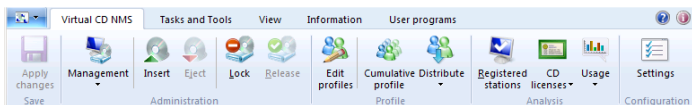
All of the commands available in NMS Administration are available in the **Ribbon**. These commands are in sorted by topic into the following tabs:

- **Virtual CD NMS** – Contains commands primarily used for working directly with virtual CDs and stations.
- **Tasks and Tools** – Most Virtual CD NMS programs are gathered here.
- **View** – The commands here affect only the layout of the Views and the elements shown in them.
- **Information** – Click here to access detailed information about Virtual CD (web pages, program development history, and documentation). If updates are available, that information appears here as well.

In addition to these tabs, which are visible at all times, there are a number of contextual tab that appear as needed:

- **User Programs** – Virtual CD NMS lets you integrate your choice of programs (for example, server administration tools). This is configured on the „User Programs“ page of the Settings. Programs entered on that page are shown in the “User Programs” tab.

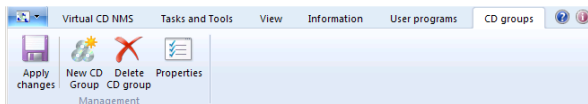
Ribbon in NMS Administration; the “User Programs” tab is open





- **Dialog pages in the Environment view** – The Ribbon automatically opens the tab that corresponds to the page currently active in the Environment view. The following pages cause additional tabs to open:
  - Logbook
  - Station groups
  - CD groups
  - Virtual CD license codes
  - Virtual CD Server license codes

Ribbon in the NMS Administration with environment-specific (or “contextual”) tab: “CD groups:”

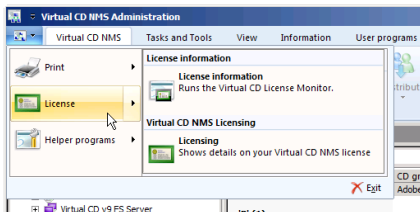


The **Information** tab shows important information. For example, it may show that you are using a demo version of Virtual CD, or that an update is available for download. The display of information is similar to the contextual tabs, and like them, is highlighted in color when new information becomes available.

## Main Menu

The main menu in the CD Control Center provides access to a number of program functions:

The main menu is divided in two sections. Categories are listed on the left, and the commands available within each category are shown on the right. The categories in the main menu of NMS Administration are as follows:



- **Print** – Prints output from an active program, such as NMS Logbook or license distribution for images.
- **License** – You can enter a license number here. As a rule, however, license numbers will have been entered during installation. This category also contains a command that starts the license monitor.
- **Helper Programs** – Contains commands for starting the Diagnostics program. This program creates the diagnostics file required for technical support inquiries.

## Keyboard Shortcuts

A number of the functions available in Virtual CD NMS Administration can be activated using keyboard shortcuts ("hotkeys"). The table below gives an overview of the available keyboard shortcuts.

- F1**      Opens the on-line program documentation.
- F5**      Updates the active display.

## Registered 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). CDs can be registered on the **NMS Configuration** page of the NMS Settings, under **Registered virtual CDs**. Virtual CDs are registered by naming them in virtual CD configuration files (called VCDImg.dat). You can specify one or more configuration files in this dialog to register them in your NMS system. Configuration files are stored in the global configuration path specified for this purpose in the Settings, on the **Network** page (Virtual CD v9 and earlier) or the **Configuration** page (Virtual CD v10). (For details on configuring the clients, see „Configuring Virtual CD clients in this manual.)

These configuration files list the virtual CDs that are registered in your Virtual CD system and are available globally (e.g., over the network). Any time you add or remove virtual CDs the corresponding DAT file is changed accordingly, which means changes are automatically reflected in the Virtual CD NMS system. Virtual CDs must be registered (i.e., published in the specified global configuration file) before Virtual CD NMS can insert them. The same prerequisite applies for the assignment of licenses and identification of usage data.



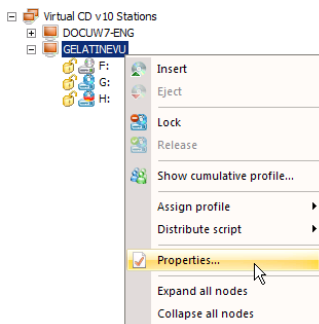
If you move a virtual CD from one folder to another on your hard drive, the path name will change and Virtual CD NMS will no longer recognize that CD as being registered. Settings in VCD NMS relating to the virtual CD, such as licensing, will be reset and have to be configured again.

## Objects and Their Properties

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

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

Most functions are applicable to more than one object. The function for displaying the properties of an object, for example, can be applied to virtual CDs and client stations.



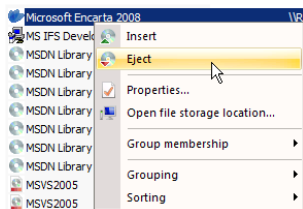
There are other functions you can apply to other objects as well. The **Insert** function, for example, can be applied globally; to all groups, all stations, all drives or all images.

## Location is “Central”!

NMS Administration gives you a variety of options that affect the virtual and physical CD drives on client stations. To facilitate intuitive operation, the manner in which a given function is executed always depends on the “location,” or the position within the program, from which that function was called. When you right-click on an object (e.g., a client station, virtual CD or drive) in this window, a shortcut 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 in the following examples:

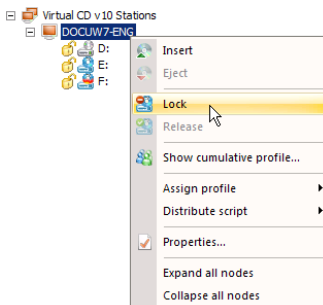
### Example 1: Ejecting a virtual CD from all virtual CD drives

Say you want to eject a particular virtual CD from all client stations, regardless of which drive letters the different machines are using for that CD. To do this, select the virtual CD in the Image view, right-click on it and select **Eject** from the shortcut menu:



### Example 2: Locking all virtual CD drives on a client station

In certain situations, it may become necessary to prevent access entirely to virtual CDs on a given station. To do this, select the “Lock” function in the Environment view for the desired client station. Virtual CD NMS locks all virtual CD drives on that client station:



Other methods can be used to carry out such functions as well; for example, using drag-and-drop, Ribbon commands or the main menu commands. Make sure you select the desired object, so that the function will be carried out correctly.

## Global Functions

There are certain functions that can be applied globally, as well as to individual objects. These are:

- Inserting a virtual CD
- Ejecting all virtual CDs
- Locking all drives
- Releasing all drives
- Assigning profiles
- Distributing scripts

For example, functions can be applied globally to create a uniform operating state on all client stations in the network. This is particularly 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 with whom you are currently working.

To apply a function globally, select the root entry, **All stations**, right-click on it to open a shortcut menu, and select the desired function.

## Print/Export

Virtual CD NMS has a printing/data export function that can be applied to various data. This lets you print data or export it to a file. You can print/export the following:

- Logbook
- CD licenses
- Usage data
- Profile settings

You can start the printing function from the main menu by selecting the **Print** category and then choosing the desired option. Alternatively, you can right-click in the corresponding view to open the shortcut menu, and select **Print** or **Export**.

### Print

Opens the **Print** dialog. The default communication media is **Printer**. Click on **Customize** to select the right printer and start the printing operation by clicking on **Start**.

### Export: Logbook

When you select **Export**, the default file format is **Adobe PDF**. Alternatively, you can export data to a **Rich Text Format (RTF)** file, or the **XML format**. Click on **Start**. In the subsequent dialog, choose the path in which the file will be stored and click on **Save**. The data is stored in the specified file.

### Export: Usage data and license analysis

If you activate the **Export** function in the Usage view or the Evaluation of licenses view, you can store the data in a CSV file. This can be processed in Microsoft Excel, for example to create graphs of the exported data.



The Profile Editor has a print/export function as well. In the main menu of the Profile Editor, select either **Print all profiles** or **Print selected profiles**. In the **Print the profile** dialog, select the desired printer. To export profile settings to a file, select a file format under **Output to/as**, such as **Adobe PDF**.

## Manage Licenses

A central component of Virtual CD NMS is the management of license codes for Virtual CD client stations and Virtual CD servers. Virtual CD NMS can distribute licenses to stations, stations groups, users, and user groups. Server licenses can be deployed explicitly on servers in the network.



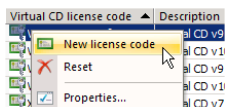
Virtual CD NMS can distribute license codes for Virtual CD versions v5, v6, v7, v8, v9 and v10. For users, user groups and station groups, licenses can be assigned only to Virtual CD products in version 6 and later. A new feature in Virtual CD v10 is the distribution of licenses based on AD membership (AD users or AD stations).

### Entering License Data

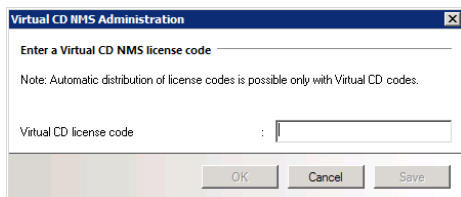
You can enter license codes in Virtual CD NMS and then have the client machines retrieve licenses automatically as needed. This is configured as follows:



Run Virtual CD NMS Administration and enter your Virtual CD license codes. The codes can be entered in the Environment view, for example, on the **Virtual CD license codes** page. (To enter a new server license code, open the **Virtual CD Server license codes** page.) Right-click to open the short-cut menu and select **New license code**:



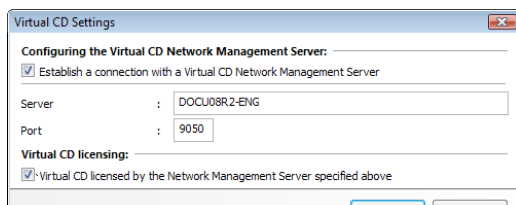
In the **Enter a Virtual CD NMS license code** dialog, enter the license code under **Virtual CD license codes**. Virtual CD NMS automatically detects the program version from the license code entered.







To have client stations retrieve their licenses from NMS, you need to configure them accordingly. To do this, open the Virtual CD Settings and activate **Virtual CD licensed by the Virtual CD Network Management Server** specified above:



Where you will find the setting for NMS configuration depends on which version of Virtual CD is installed on the client. In versions 9 and earlier, this configuration option is found on the **Network** page; click on the **Configuration** or **Configure NMS** button. In version 10, open the **System** page and click on **Configure NMS**.

Once these steps have been completed, the client stations in your network that log on to Virtual CD NMS draw their licenses from VCD NMS on startup, and release the license when the station is logged out again. This saves you the trouble of entering license codes on each workstation separately.

At runtime, Virtual CD NMS will distribute Virtual CD licenses to each station that logs on until the number of licenses purchased are all in use. If another client attempts to log on and requests a license when none is available, an error message is shown. If no licenses are available, Virtual CD cannot run on additional stations. To check which workstations are using license codes distributed by Virtual CD NMS, open the **Registered stations** view.

If you want to use the automatic license distribution feature in Virtual CD NMS for all license distribution, we recommend the following procedure:

1. Configure all client stations as described under Step 3 above.
2. Do not enter any license codes locally on client stations.
3. 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 they are not connected to the network. Rather, enter license codes locally on laptops, notebooks and the like. Locally entered codes cannot be distributed by Virtual CD NMS.



Once a license code has been entered in Virtual CD NMS for distribution, that code cannot be used locally (i.e., assigned explicitly on a particular machine).

## Server Licenses

Versions 9 and later have a feature that lets you use Virtual CD NMS to distribute server license codes, in addition to those distributed to clients. To make this function even easier to use, a separate dialog page, **Virtual CD Server license codes**, has been added to the Environment view. This page shows only server licenses. This is why the same license that your server uses will appear again on the **Virtual CD license codes** page, since the license package with the server license also includes user licenses for the Virtual CD program. The server license window, on the other hand, shows only information on the base license; there are no „Number of licenses“ or „License in use“ columns. There is, however, an additional column in this window, **In use by the server**, which indicates which server is using the license.



In NMS v10, you can no longer bind a Virtual CD TS v10 server license to a specific server. This is due to a change in the licensing scheme for Virtual CD TS v10. On the **Virtual CD Server license codes** page of the TS v10 license properties, the **Server** page is no longer available. Previous versions of TS v10 can still be bound to particular servers.

## Allocating Licenses

In addition to automatic assignment of Virtual CD license codes, you can also allocate licenses to stations, station groups, users or user groups. Starting with version 10, these can include AD users and AD groups as well.



The options for allocating licenses are available only for versions 6 and later of the Virtual CD program.

In NMS Administration, you can view the license codes entered in Virtual CD NMS in the Environment view, on the **Virtual CD license codes** page:

Virtual CD license code	Description	Number of licenses	Licenses in use	Allocated for
[License code]	Virtual CD v7 license	5	1	
[License code]	Virtual CD v10 license	25	1	
[License code]	Virtual CD v10 license	5	0	
[License code]	Virtual CD v9 FS license	2	0	
[License code]	Virtual CD v10 FS license	2	1	
[License code]	Virtual CD v10 TS license	5	0	

Logbook | Station groups | CD group | **Virtual CD license code** | Virtual CD Server license code



Server licenses are additionally shown in the **Virtual CD Server license codes** window. This does not affect the assignment of licenses to servers. You can allocate server license codes to servers, stations, station groups, users and user groups in both windows. Virtual CD automatically distinguishes between the base license (server license) and user licenses.

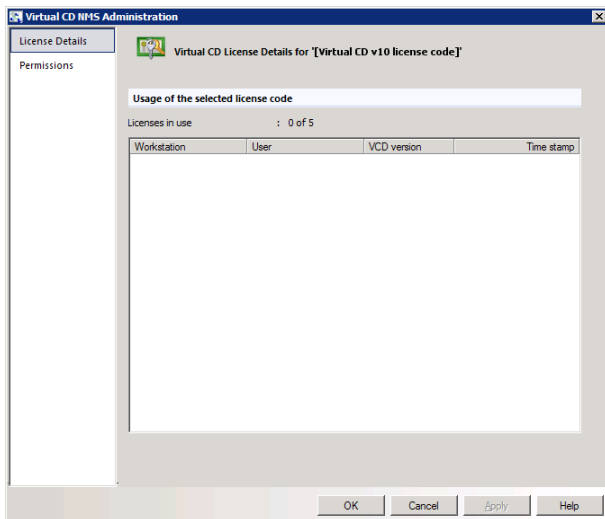


Due to the altered licensing scheme in Virtual CD TS v10, you can no longer bind licenses to specific servers. The new Virtual CD TS licensing features licenses each session; the TS service is no longer bound to a license. Thus in the latest version, Virtual CD TS no longer has a basic license and supplementary licenses, but rather a fixed number of session licenses. The session licenses are managed by NMS, as before. Previous v10 versions remain unchanged.

The following example illustrates the procedure for allocating a 5-user license to Virtual CD v10 client stations:



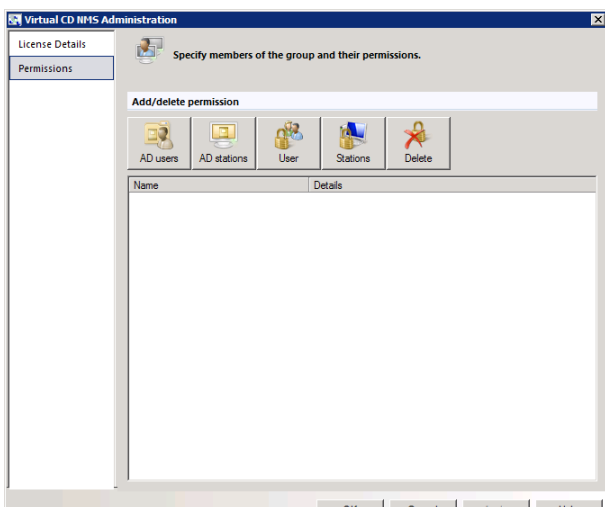
Double-click on the desired license code on the **Virtual CD license codes** page; this opens the **Assign VCD license code** dialog:



None of the 5 licenses enabled by this code have been assigned up to now.



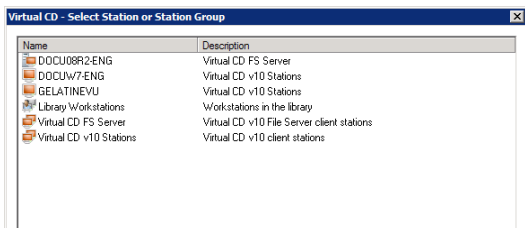
To assign the licenses to 5 explicit stations, open the **Permissions** page:



The buttons on this page let you select define whether the licenses will distributed to AD users/stations, NT users/stations or corresponding OUs/groups.



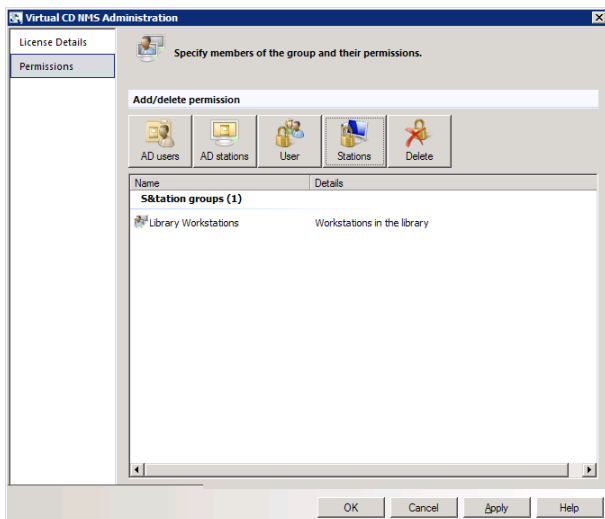
In our example, we will have the licenses distributed to an NT-based station group called „Library.“ Click on **Stations**:



In the **Select Station or Station Group** dialog, select the station group called „Library“ and click on **OK**.

4

On the **Permissions** page, you can see that the license code has been assigned to the station group called „Library:“



Click on **OK**.

5

On the **Virtual CD license codes** page, the **Allocated for** column shows that the 5-user license has been assigned to the station group called „Library:“

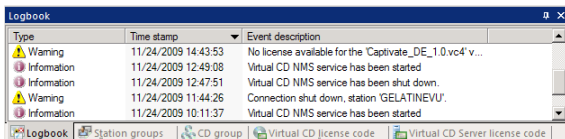
Virtual CD license code				
Virtual CD license code	Description	Number of licenses	Licenses in use	Allocated for
[License code]	Virtual CD v7 license	5	1	
[License code]	Virtual CD v10 license	25	1	
[License code]	Virtual CD v10 license	5	0	Library Workstations
[License code]	Virtual CD v9 FS license	2	0	
[License code]	Virtual CD v10 FS license	2	1	
[License code]	Virtual CD v10 TS license	5	0	



The licenses are explicitly assigned to the stations in the “Library” group. Even when none of these stations is logged on in NMS, these licenses are not available for use on other stations.

## Logbook

If you have any difficulties with Virtual CD NMS, open the Environment view and check the **Logbook**:



All system events are shown here, divided into 3 categories:

**Information.** Shows uncritical system events that took place as expected.

**Warning.** These are semi-critical events; i.e., they are unexpected, but do not directly interfere with the proper functioning of the system.

**Errors.** These are critical system events that interfere with or prevent proper functioning of the system.

If a given function was not carried out correctly, logbook entries can help locate the source of the error. For example if a station attempts to connect to NMS when no licenses are available, this fact is recorded in the logbook. This problem can be located and eliminated on the server, precluding the need for troubleshooting on the client machine.

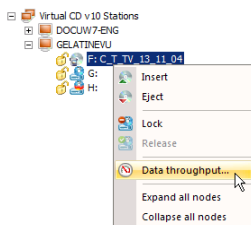
Which events are shown here is configured on the **NMS Log** page of the NMS Settings.

## Monitoring Virtual CD Drive Activity



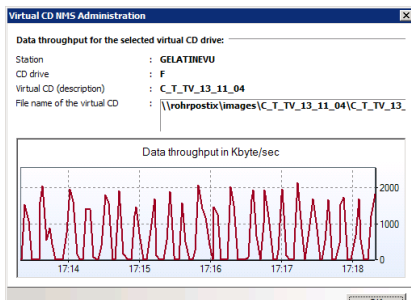
All drives in which virtual CDs can be mounted count as virtual drives. Thus you can also view the throughput rate of a physical drive if it currently contains a virtual rather than a physical CD.

If you have a problem with a virtual CD, you can open the Data Throughput Monitor to determine whether the drive in which it is mounted is actually being accessed. To open the data throughput monitor, open the **Management of Virtual CDs** view, select the drive containing the virtual CD and right-click to open the shortcut menu. In the shortcut menu, select **Data throughput**:



The user interfaces show whether a virtual CD is inserted in a given drive, but not whether the CD in the drive is being used. This is why we developed the throughput monitor, which shows whether the virtual CD data is actually being read.

Similar to the Windows Task Manager panel showing system performance data, 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:



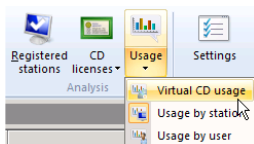
The data throughput monitor cannot show the throughput for more than one CD drive at a time.

## Usage Data for Virtual CDs

To collect data on the usage of your virtual CDs, Virtual CD NMS can accumulate usage data from the following sources:

- Virtual CDs
- Stations
- Users

To open the Usage view, click on “Usage” in the Ribbon, on the **Virtual CD NMS** tab:



This opens the **Usage** menu, from which you can select the desired view. Each Usage view shows the duration of use of virtual CDs and the most recent use, in relation to the chosen object. The duration of use shown here is a cumulative value. In other words, if a virtual CD was used simultaneously on two client stations for 1 hour, the usage time logged amounts to 2 hours.

Virtual CD usage:

Virtual CD (description)	Duration of use	Most recent use	File name of the virtual CD
Adobe Captivate 3It	00 : 00 : 35	11/25/2009 11:38:...	\\Rohrpostix\Images\Adobe Captivate 3\Adobe Captivate 3.vc4
Adobe TechCommSuite	00 : 00 : 21	11/25/2009 11:37:...	\\Rohrpostix\Images\Adobe TechCommSuite\Adobe TechCommSuite.vc4
Bus Trace 2002 Professional	00 : 00 : 17	11/25/2009 11:37:...	\\Rohrpostix\Images\Bus Trace 2002 Professional\Bus Trace 2002 Professional.vc4
C_TV_TV_13_11_04	00 : 00 : 19	11/25/2009 11:38:...	\\Rohrpostix\Images\C_TV_TV_13_11_04\C_TV_TV_13_11_04.vc4
Microsoft Encarta 2008	00 : 00 : 00	11/25/2009 11:39:...	\\ROHRPOSTIX\Images\Microsoft Encarta 2008\Microsoft Encarta 2008.vc4

Usage by station:

Workstation	VCD version	Duration of use	Most recent use
GELATINEVU	10.0.0.3	00 : 03 : 30	11/25/2009 11:39:00 AM
NULLDIETUS	7.0.0.0	00 : 04 : 24	11/25/2009 11:39:00 AM

Usage by user:

User	Duration of use	Most recent use
HH-ZFRK\bader	00 : 07 : 54	11/25/2009 11:39:00 AM



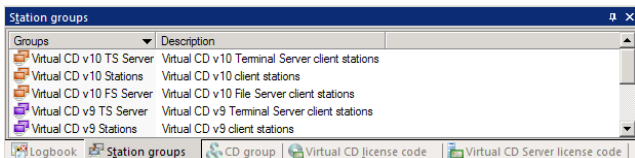
The usage data that is logged relates to inserted virtual CDs. If a client station logs on to Virtual CD NMS but does not insert any virtual CDs, no usage data is collected for that station. Neither the workstation nor the user logged in on that station are included in the display of usage data.

Select **Delete data records** from the shortcut menu, and confirm the prompt, to remove all entries from the databases. When data logging continues, all values begin again at zero.



## Station Groups

To facilitate management of the client stations logged on to Virtual CD NMS, it can be very useful to group stations that have certain similarities. For example, you can put together all of the stations that are used in a particular department of your company, or all the stations that use Virtual CD, in groups. All existing groups are shown in the Environment view, on the **Station groups** page, in Virtual CD NMS Administration:



Immediately following installation, Virtual CD has the following basic groups:

- Virtual CD v5 Stations
- Virtual CD v6 Stations
- Virtual CD v6 TS Stations
- Virtual CD v6 FS Stations
- Virtual CD v7 Stations
- Virtual CD v7 TS Stations
- Virtual CD v7 FS Stations
- Virtual CD v8 Stations
- Virtual CD v9 Stations
- Virtual CD v9 TS Servers
- Virtual CD v9 FS Servers
- Virtual CD v10 Stations
- Virtual CD v10 TS Servers
- Virtual CD v10 FS Servers

Virtual CD clients are automatically added to one of these groups the first time they log on to Virtual CD NMS. These pre-defined groups cannot be deleted. You can, however, assign the stations in them to any other group, as desired.

Groups are displayed in the Environment view only if at least one member of the group is logged on to Virtual CD NMS. This applies to the base groups as well as user-defined groups.

You can execute certain actions centrally for groups. Actions that can be applied to entire groups include, for example, inserting and ejecting virtual CDs, distributing scripts, and locking CD drives.

Furthermore, you can assign licenses codes and user profiles to cover entire groups.

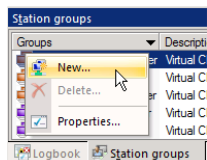
You can create additional groups as needed, at any time. For details on creating station groups, see “Creating Station Groups”.

## Creating Station Groups

Proceed as follows to create a new station group:

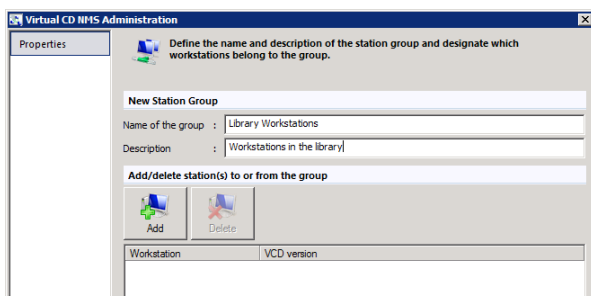
1

In the Environment view of NMS Administration, right-click on the **Station groups** page to open the shortcut menu, and select **New**:



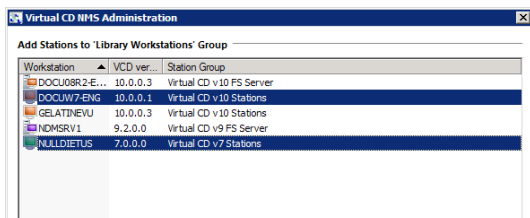
2

On the station group's **Properties** page, enter a name and a description for the new station group:



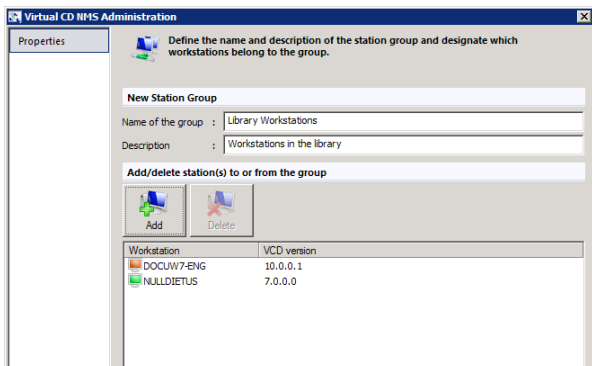
3

Click on **Add**; this opens the **Adding Stations** dialog. Select the stations you wish to add to the group and click on **OK**:



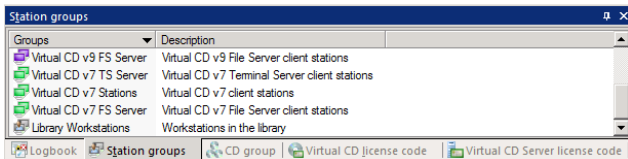
4

The stations are added to the group. To confirm creation of the group, click on **OK**:

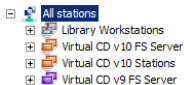


5

The new group is displayed on the “Station groups” page...



...and under **Management of virtual CDs: Registered stations**:



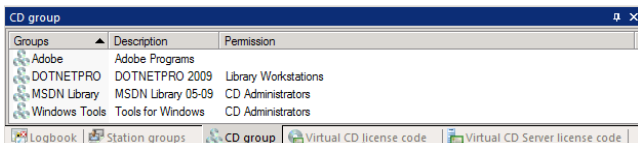
You can now perform the usual operations on this station group, such as inserting/ejecting virtual CDs or assigning a profile.



Each station can belong to only one group.

## CD Groups

Like stations, Virtual CD NMS lets you group virtual CDs as well. For example, you might create a group to contain all the CDs in a multiple CD installation set for a program. This has the advantages that you do not need to assign access privileges for each of the CDs individually to enable user access. Virtual CD groups are shown in the Environment view, on the **CD groups** page:



Groups	Description	Permission
Adobe	Adobe Programs	
DOTNETPRO	DOTNETPRO 2009	Library Workstations
MSDN Library	MSDN Library 05-09	CD Administrators
Windows Tools	Tools for Windows	CD Administrators

Logbook | Station groups | **CD group** | Virtual CD license code | Virtual CD Server license code

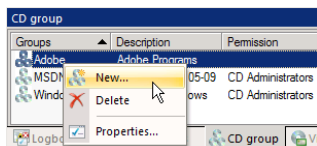
The **Permission** column shows the privileges assigned in each group. For details on creating groups and assigning user privileges to them, see „Creating CD Groups and Assigning Privileges“.

### Creating CD Groups and Assigning Privileges

Proceed as follows to create a CD group and allocate user privileges to it:

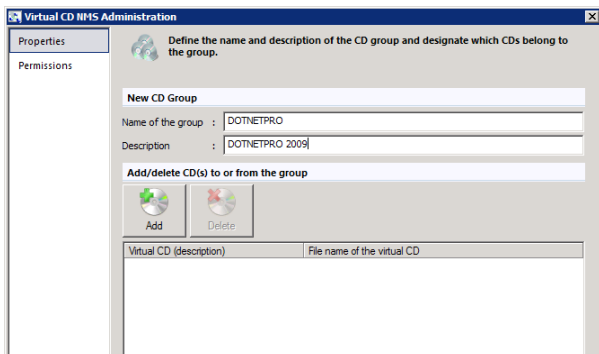


In the Environment view of NMS Administration, right-click on the **CD groups** page to open the shortcut menu, and select **New**:



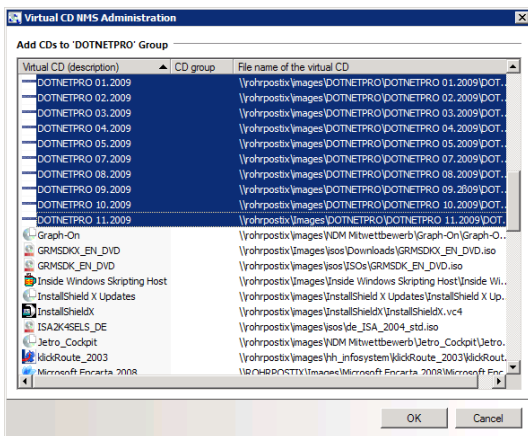
2

On the **Properties** page of the CD Group settings, enter a name and description for the new group:



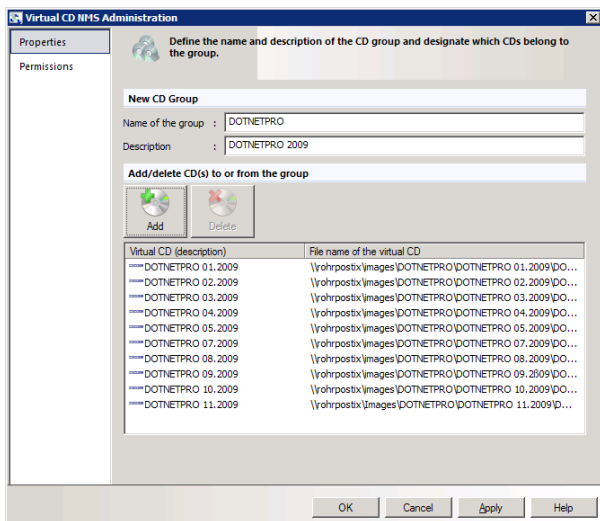
3

Click on **Add**; this opens the **Add CDs** dialog. Select the images you wish to add to the group and click on **OK**:

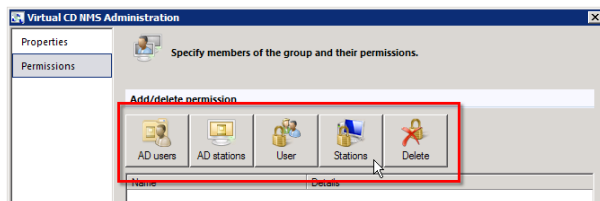




The CDs are added to the group. To confirm creation of the group, click on **OK**:

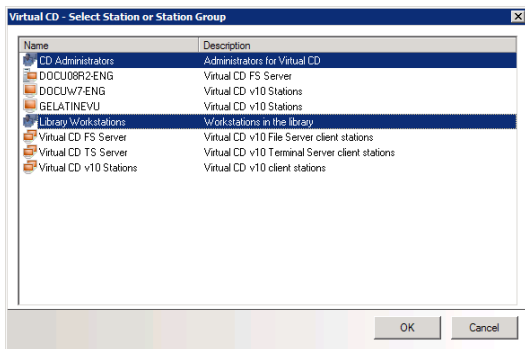


Open the **Permissions** and use the buttons to select the type of permission you wish to assign. In our example, we allocate privileges for station groups, and thus click on **Stations**:



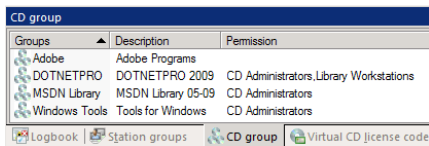
6

In the **Select Station or Station Group** dialog, select the group to which you wish to grant permission and click on **OK**:



7

In the CD Group settings, confirm creation of the new CD group by clicking on **OK**. The new CD group is created and displayed, with the allocated permissions, on the **CD groups** page:



## Allocating Scripts

In addition to assigning profiles and grouping stations, Virtual CD NMS also offers function controls implemented by scripts. In Virtual CD NMS Administration, you can assign scripts during run time for individual client stations or station groups.

For example, you can have a script insert multiple virtual CDs in virtual CDs drives on client stations. With the Virtual CD Script Generator, you can create scripts quickly and easily in just a few mouse clicks. Alternatively, you can write scripts with a Visual Basic program. For details on scripts that insert or eject virtual CDs, please refer to the Virtual CD API documentation. For a link to this documentation, open the Virtual CD folder in your Windows Start menu.

Before you can allocate a script to an object, the script must be published in NMS. For details on publishing scripts, see “Publishing Scripts”.

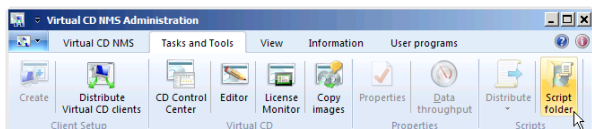
Published scripts can be assigned to NMS objects. For details on distributing scripts, see “Distributing Scripts”.

### Publishing Scripts

Proceed as follows to publish a script in Virtual CD:



Before you can use a script in Virtual CD NMS, it has to be copied to the script folder. The script folder is opened from the Ribbon. Open the **Tasks and Tools** tab in the Ribbon and click on **Script folder** in the **Scripts** section:

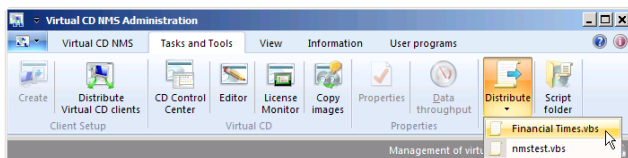


Copy your script to the script folder.



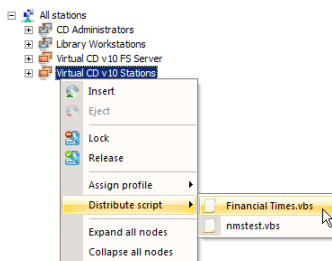


Scripts in the script folder are shown in the Ribbon, in a menu that opens when you click on **Distribute scripts**:



## Distributing Scripts

Scripts that have been published in NMS can be distributed using commands in the Ribbon or in the shortcut menu opened for a specific Virtual CD client station or group:

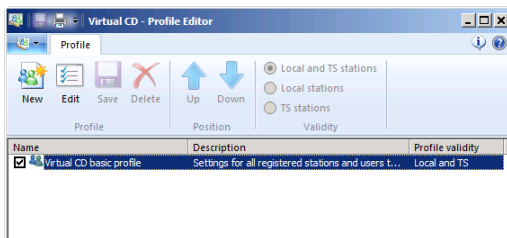


The benefits of scripts can be seen, for example, when using Virtual CD NMS in a teaching or training environment: you can create a script that inserts the same virtual CD(s) on all client stations at one time. This saves time and trouble, and all participants are quickly and easily provided with same resources.

## Profiles

In a network with a large number of Virtual CD client stations, it may be useful to define settings that are applied to certain clients or groups of clients; for example, to specify which functions may be used and which security settings are active. You can do this by creating and assigning profiles. Profiles define “conditions of use” for stations logged on to Virtual CD NMS.

Profiles are defined and edited using the Profile Editor. The Profile Editor is opened from the Ribbon in NMS Administration as follows: On the **Virtual CD NMS** tab, in the **Profiles** section, click on **Edit**. This opens the Profile Editor, with the main window showing all of the existing profiles. The first time you open the Profile Editor, only the default profile is shown: „Virtual CD basic profile.“ Every Virtual CD client station is assigned a profile when it logs on to NMS. If you have not specified a profile for a particular client, that client continues to use the Virtual CD basic profile:



Profiles cannot be defined for Virtual CD FS, to prevent the risk of allowing non-administrative users to access drives on the file server. In conjunction with Virtual CD TS, on the other hand, profiles can be used to their fullest extent.

The first time you run Virtual CD NMS, the basic profile does not impose any limitations on users.

When you change a profile, the new settings are active only after:

- the changes have been saved, and
- a new session is opened.



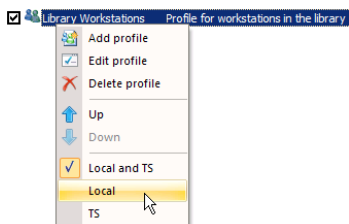
It is a good idea to back up your profile data regularly so that you always have a recent version available in case of emergencies. The definition of a profile is stored in a PRF file that has the same name as the profile. Profiles are stored in the “Profiles” subdirectory of the Virtual CD NMS data directory.

The Profile Editor distinguishes two types of profile:

- **Virtual CD basic profile.** Default profile; cannot be deleted; is automatically applied to all users for whom no profile has been explicitly assigned.
- **User profiles.** Can be assigned to station groups. Every client station must be assigned a profile so that user settings can be loaded. If no user profile is specified, the settings defined in the „basic profile“ are applied.

### Validity of profile:

When you create a profile, you are prompted to define its area of validity. A local profile is applicable only to stations that are registered locally; a TS profile applies for stations that register in NMS during a terminal server session. You can also define the area of validity at a later date, in the profile's shortcut menu:



The area of validity for the basic profile is “Local and TS;” this cannot be modified. This ensures that there is always at least one valid profile available.

**Local and TS.** The profile applies for both local stations and stations in Terminal Server sessions.

**Local.** This profile is assigned only to users that register locally; i.e., not in a terminal server session.

**TS.** This profile is assigned only to users in Terminal Servers sessions.

Whether a station is registered locally or in a terminal server session can be an important difference for certain administrative decisions. For example, you might want to give local users broader permissions, allowing them capabilities such as creating virtual CDs or locking drives, while preventing users in terminal server sessions from using these features.

### Virtual CD Basic Profile

The basic profile lets you define the configuration status for all client stations that log on to Virtual CD NMS and for whom no profile is explicitly designated. You can use the basic profile, for example, to deny Virtual CD access for un-

known client stations or to restrict them to a specified subset of functions. The basic profile differs from your customized profiles in the following respects:

- It cannot be applied simultaneously with any other profile. (If you assign a customized profile, more than one profile can be applied.)
- It is applied by default; i.e., to any client station for whom no other profile has been allocated.
- It cannot be assigned to users or user groups.
- It cannot be deleted or deactivated.



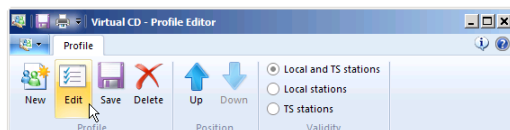
Directly following installation, the basic profile permits access to all functions in Virtual CD.



If you want all stations that log on to Virtual CD NMS to use the same configuration settings, we recommend configuring the basic profile for this purpose.

## Profile Settings

Profile settings define which options in Virtual CD will be available on client stations. The Profile Settings program is opened from the Ribbon in the Profile Editor. In the **Profile** section, click on **Edit**:



The title bar of the Profile Settings window shows the name of the profile opened for editing. This lets you see at a glance which profile is being edited at a given moment.



Of all the programs in the Virtual CD suite, the Profile Editor has probably undergone the most changes since the earliest Virtual CD versions. A great many new settings options have been added, and care has been taken to ensure downward compatibility. Some of the settings that you may have been familiar with in earlier versions, however, may have different functions now, and some have not been included in the new version. The descriptions below specifically point out changes, additions and deletions. The differences between v10 and the earlier versions are listed in table form at the end of this chapter.

The profile settings are divided into the following pages:

- **Settings.** Defines which Virtual CD functions are available on the client stations.
- **Programs.** Determines which Virtual CD programs can be executed on the client.
- **Directories.** Determines which paths Virtual CD uses for its folders.
- **CD Drives.** Enables management of virtual (and, in some cases, physical) drives on the client.
- **Permissions.** Assigns users and groups to the profile.
- **Virtual Drives.** Determines the function of the client drives, as virtual drives or virtual burners.



For the basic profile, you can modify options only on the **Settings**, **Programs**, **Directories** and **CD Drives** pages. Because the basic profile is automatically used by any station for which no other profile is designated, you cannot explicitly assign any users, stations or groups to this profile.

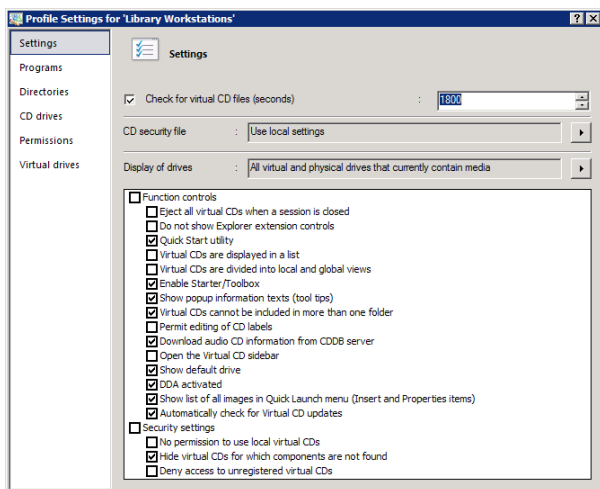


If changes in a profile do not have the desired results, be sure to check the cumulative profile for the station. To open the cumulative profile, right-click on the station in the NMS CD Management and select “Show cumulative profile...” from the shortcut menu. If the station is assigned to another profile that has different settings, your changes might have no effect. For details on cumulative profiles, see “Cumulative Profiles”.



The first time you run Virtual CD NMS, all function control options and all programs are enabled in the basic profile.

## Settings



**Check for virtual CD files (seconds).** Defines the intervals (in seconds) at which the program checks for virtual CDs registered in the system.

**CD security file.** Defines which security file is used. You can load the local settings for use in NMS, specify a particular file, or reset security settings to the default values.

**Display of drives.** defines which drives are displayed by dynamic desktop icons:

- **All drives.** Shows all drives at all times.
- **Show only virtual drives.** Shows only virtual drives and drives in which virtual media can be mounted.
- **All virtual and physical drives that currently contain media.** Shows all drives in which a medium is mounted.

### Function controls

Function control defines the Virtual CD user interface in the client and determines which Virtual CD functions are available. Function control is available only for Virtual CD v9 and v10. Because v10 contains a number of new elements, not all of the elements in VCD v9 are available.

**Eject all virtual CDs when a session is closed.** When the session is closed, all virtual CDs in that session are ejected.

**Do not show Explorer extension controls.** The Virtual CD Explorer extension is deactivated. The Explorer extension adds Virtual CD controls and functions to shortcut menus opened in the Windows Explorer.

**Quick Start utility.** The Virtual CD Quick Start utility is available in the Windows taskbar.

**Virtual CDs are displayed in a list.** CDs are shown in a „CD overview“ in the CD Management program.

**Virtual CDs are divided into local and global views.** Virtual CDs displayed in the CD Management program are divided into global and local views.

**Enable Starter/Toolbox.** Activates the Virtual CD Toolbox or, in Virtual CD v10, the Virtual CD Starter. Whether this window opens or not when the program launches can be configured by the user in the Virtual CD Settings.

**Show popup information texts (tool tips).** Activates the popup texts that explain the function of a button when the mouse hovers on that button.

**Virtual CDs cannot be included in more than one folder.** Prevents duplicates from being stored in a single folder.

**Permit editing of CD labels.** Enables editing of CD labels by the user.

**Download audio CD information from CDDB server.** Track titles and artist information are downloaded from the Internet. If CDDB Internet access has not been configured, a dialog opens prompting this configuration.

**Open the Virtual CD sidebar.** The Virtual CD sidebar is loaded automatically when the Virtual CD program is opened.

**Show default drive.** The default drive designated for a virtual CD is shown in the Quick Start menu when that CD is listed.

**DDA activated.** Activates dynamic desktop icons.

**Show list of all images in Quick Launch menu (Insert and Properties items).** When the „Insert“ or „Properties of“ function is selected, a list of available images opens. If you have a large number of images, opening this list could cause some delay.

**Automatically check for Virtual CD updates.** Activates the automatic update function.

### **Security settings**

Defines security policies for working with virtual CDs:

**No permission to use local virtual CDs.** You can prevent access to local virtual CDs; in this case, only virtual CDs available over the global configuration path can be accessed.

**Hide virtual CDs for which components are not found.** If there are any virtual CDs that are classified as „not found“ when Virtual CD starts up, those CDs are not shown if this option is selected.

**Deny access to unregistered virtual CDs.** CDs that are not specified in the Virtual CD NMS configuration file cannot be used.

## Programs

On the **Programs** page you can specify which programs are available on the stations that belong to the profile. You can deactivate programs that you do not want to allow users to execute. Deactivated programs are not available to users. For example, if you deactivate the Toolbox, the CD Control Center (rather than the Toolbox) opens when the profile member double-clicks the desktop shortcut. In earlier Virtual CD versions, programs could not be activated or deactivated individually. This feature is fully operational only on clients running Virtual CD v9 or later. For clients running an earlier version, the following applies: If any item within a given group is deactivated, the entire group is deactivated.

The programs are grouped according to function. You can grant or deny permission to run the following programs:

- **Administration.** Activates access to administrative tools. You can grant or deny permission to run each of the programs under „Administration“ individually:
  - Administration
  - CD properties
  - Drive properties
- CD search
- Catalog search
- Starter/Toolbox
- Quick Start utility
- Command line program
- **Create virtual CDs.** The programs under „Create virtual CDs“ have to do with making virtual CDs. You can grant or deny permission to run each of these programs individually:
  - Editor
  - Image Converter
  - Quick Copy editor
  - Copy Template editor
  - Collection Wizard (available only with the Virtual CD FS Edition)
  - Copy Wizard
  - Image Wizard
- Smart Virtual CD Burner
- 1:1 Copy Wizard
- Eraser Wizard
- Blank Media Wizard



- **Changing settings.** This section defines whether users can edit settings in Virtual CD. You can grant or deny access to the following configuration dialogs individually:
  - Settings
  - CD Security editor
- **Administrative programs.** This section defines whether users can run administrative programs. You can grant or deny access to these programs individually:
  - Script Generator
  - License Monitor
  - Profile Editor
  - Drive Editor
- Explorer extension
- Diagnostics
- Creating a Client Setup
- Comparison Wizard
- Job Editor
- Virtual CD sidebar
- **Internal functions: Permission to change folders.** When this option is active, the user can change the working directories specified for the local Virtual CD installation.

	v10	v9	v8 *	v7 *	v6
Administration	yes	yes	yes	yes	yes
Administration	yes	yes	Deactivation of the entire 'Administration' group	Deactivation of the entire 'Administration' group	Deactivation of the entire 'Administration' group
CD Properties	yes	yes	Deactivation of the entire 'Administration' group	Deactivation of the entire 'Administration' group	Deactivation of the entire 'Administration' group
Drive properties	yes	yes	Deactivation of the entire 'Administration' group	Deactivation of the entire 'Administration' group	Deactivation of the entire 'Administration' group
CD Search	not available (integrated in the CD Control Center)	yes	no	no	no
Catalog search	yes	yes	no	no	no
Starter/Toolbox	yes (Starter)	yes (Toolbox)	yes (Toolbox)	yes (Toolbox)	yes (Toolbox)
Quick Start utility	yes	yes	yes	yes	yes
Command line program	yes	yes	yes	yes	yes

Create virtual CDs		yes	yes	yes	yes	yes	yes
Create virtual CDs	Editor	yes	yes	yes	Deactivation of the entire 'Create virtual CDs' group	Deactivation of the entire 'Create virtual CDs' group	Deactivation of the entire 'Create virtual CDs' group
	Image Converter	yes	yes	yes	Deactivation of the entire 'Create virtual CDs' group	Deactivation of the entire 'Create virtual CDs' group	Deactivation of the entire 'Create virtual CDs' group
	Quick Copy editor	yes	yes	yes	Deactivation of the entire 'Create virtual CDs' group	Deactivation of the entire 'Create virtual CDs' group	Deactivation of the entire 'Create virtual CDs' group
	Copy Template editor	yes	yes	yes	Deactivation of the entire 'Create virtual CDs' group	Deactivation of the entire 'Create virtual CDs' group	Deactivation of the entire 'Create virtual CDs' group
	Collection Wizard	yes	yes	yes	Deactivation of the entire 'Create virtual CDs' group	Deactivation of the entire 'Create virtual CDs' group	Deactivation of the entire 'Create virtual CDs' group
	Copy Wizard	yes	yes	yes	Deactivation of the entire 'Create virtual CDs' group	Deactivation of the entire 'Create virtual CDs' group	Deactivation of the entire 'Create virtual CDs' group
	Image Wizard	yes	yes	yes	Deactivation of the entire 'Create virtual CDs' group	Deactivation of the entire 'Create virtual CDs' group	Deactivation of the entire 'Create virtual CDs' group
	Burn Smart virtual CDs	yes	yes	yes	yes	yes	yes
1:1 Copy Wizard		yes	yes	no	no	no	no
Eraser Wizard		yes	yes	no	no	no	no

<b>Blank Media Wizard</b>	yes	yes	Not included	Not included	Not included
<b>Changing settings</b>	yes	yes	yes	yes	yes
Settings	yes; this setting also deactivates creation of Client Setups	yes; this setting also deactivates creation of Client Setups	Deactivation of the entire 'Change settings' group	Deactivation of the entire 'Change settings' group	Deactivation of the entire 'Change settings' group
Security Editor	yes	yes	Deactivation of the entire 'Change settings' group	Deactivation of the entire 'Change settings' group	Deactivation of the entire 'Change settings' group
<b>Administrative programs</b>	yes	yes	yes	yes	yes
Script Generator	yes	yes	Deactivation of the entire 'Administrative programs' group	Deactivation of the entire 'Administrative programs' group	Deactivation of the entire 'Administrative programs' group
License Monitor	yes	yes	Deactivation of the entire 'Administrative programs' group	Deactivation of the entire 'Administrative programs' group	Deactivation of the entire 'Administrative programs' group
Profile Editor	yes	yes	Deactivation of the entire 'Administrative programs' group	Deactivation of the entire 'Administrative programs' group	Deactivation of the entire 'Administrative programs' group
Drive Editor	yes	yes	Deactivation of the entire 'Administrative programs' group	Deactivation of the entire 'Administrative programs' group	Deactivation of the entire 'Administrative programs' group
<b>Explorer extension</b>	yes	yes	yes	yes	yes
<b>Diagnostics</b>	yes	yes	no	no	no

Create a Client Setup	yes	yes	no	no
Comparison Wizard	yes	yes	Not included	Not included
Job Editor	Not included	yes	Not included	Not included
Virtual CD sidebar	Not included	yes	yes	Not included
Internal functions: Permission to change folders	yes	yes	no	no

\*NMS is available in v7 (7.2), but not in v8. Version 7 supports v8 stations as well, which is why these settings are identical.



Stations in v5 cannot be assigned profiles. These stations support only controls that are available directly in NMS Administration, such as inserting virtual CDs.

## Directories

On the **Directories** page, you can configure the paths to be used for the program directories required by Virtual CD:

- Use the path defined locally for Virtual CD (Use local settings)
- Use the installation path
- Specify a path (Select a path)

With the default settings, the path defined in the local settings is used.



Not all directories that you can define for v10 can also be defined for earlier versions of Virtual CD. Settings defined in profiles that cannot be defined for a given program version are ignored by that program. The table below shows the settings to which this applies:

	v10	v9	v8	v7	v6
Global folder for configuration files	yes	yes	yes	yes	yes
Default path for new global virtual CDs	yes	No	No	No	No
Global folder for new virtual CDs	No	yes	No	No	No
Local folder for configuration files	yes	yes	No	No	No
Default path for new global virtual CDs	yes	No	No	No	No
Local folder for new virtual CDs	No	yes	No	No	No
Default path for new new virtual CDs	yes	No	No	No	No
Folder for copy templates	yes	yes	yes	yes	yes
Folder for Quick Copy files	yes	yes	yes	yes	yes
Folder for scripts and jobs	yes	yes	yes	yes	yes
CDDb database folder	yes	yes	yes	yes	yes
Folder for catalog files	yes	yes	yes	yes	yes
Folder for temporary files	yes	yes	yes	yes	No
Folder for VCD Editor project files	yes	yes	No	No	No
Folder for layout files	yes	yes	No	No	No
Folder for log files	yes	yes	No	No	No

## CD Drives

On the **CD Drives** page, you can define certain drive settings for the profile. For example, you can specify that CD drives are locked by default for members of this profile, or you can have a particular virtual CD inserted.

Begin by specifying in the **List** field whether your settings shall be applied to virtual drives, virtual drives in the Terminal Server edition, or to physical drives.

Click on **Action** to assign an action to the selected drive type. You can choose from the following actions:

**Release.** If the selected drive had been locked, this action releases it.

**Lock.** The selected drive is locked for profile members by default.

**Eject inserted CD.** When the profile is loaded, the CD in the selected drive is automatically ejected.

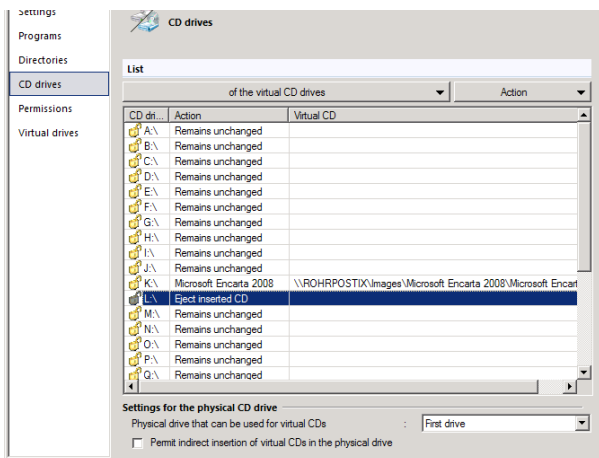
**Remains unchanged.** No action is performed. This is the default setting for all drives.

**Insert a virtual CD.** This action inserts a virtual CD when the profile is loaded.

**Map drive in a session.** Activates the selected drive for use in terminal server sessions. This action is available for use only with Virtual CD TS.



Please note that for physical drives, only the “Release” and “Lock” actions are available.



In this example, any virtual CD in inserted the L: drive is automatically ejected, and the virtual CD specified here is automatically inserted in the K: drive.

Under **Physical drive that can be used for virtual CDs** you can specify a particular physical drive for use with virtual CDs.

**Permit indirect insertion of virtual CDs in the physical drive** lets you insert a virtual CD in the physical drive by double-clicking on the desired virtual CD.



Drives for terminal server sessions are designated on the CD Drives page. This is evident when a profile applies only to TS sessions, because the Virtual Drives page is not available for such profiles, and “of the virtual CD drives (Virtual CD TS)” is the only list that can be selected.



Virtual drives defined locally are not affected by these settings. Any virtual drives defined locally are still available in the session; drives defined in the VCD TS profile are additional virtual drives.

### Permissions

On the **Permissions** page you can allocate users and groups to profiles. The following users and groups can be allocated to profiles:

- AD users
- AD stations
- Users
- Stations



In your Active Directory, you can also assign profiles to OUs.

Users and groups to which the profile applies are shown in the list. Click on **Delete** to delete the selected entry from the list. For details on allocating profiles, see „Creating and Assigning Profiles“.

### Virtual Drives

On the **Virtual Drives** page, you can define the function of a virtual drive. Specifically, you can define whether or not a given virtual drive is a virtual burner.



Altered settings are not applied to the client station until the client has been restarted. If drive settings defined in a profile conflict with local drive settings, the local settings are overwritten.



You can use the Virtual CD NMS script distribution feature to save changes in drive settings. To do this, create a script that restarts the computer and store it in the Virtual CD script folder. Then locate the script in the NMS Administration program and use drag-and-drop to run it on the desired station.

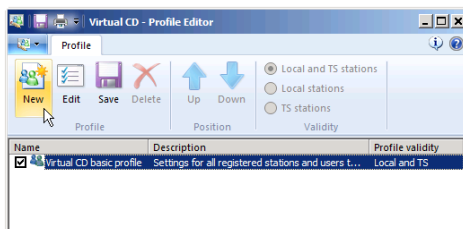


## Creating and Assigning Profiles

The following example illustrates the procedure for creating a user profile that is applicable for Virtual CD Administration. This profile will be assigned to the client stations used for managing the virtual CDs that are available over the network. This example presupposes prior configuration of a station group called “CD Administrators.”

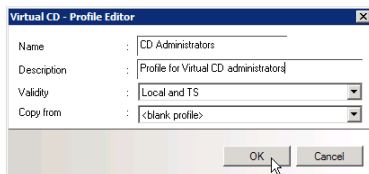
1

Run the Profile Editor and, in the Ribbon, click on **New** to create a new profile:



2

Under Description, we recommend entering a descriptive text so you will be able to recognize the purpose of the profile after some time has passed. **Validity:** Defines the area in which the profile is valid. Under **Copy from** you can specify an existing profile to use its settings as the basis for the new profile:



To create a profile with all options enabled, select <blank profile> in the **Copy from** field.

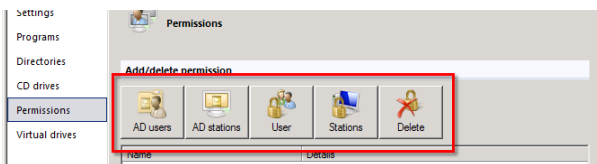
Confirm your settings by clicking on **OK**.

3

At this point, no client stations have been assigned to the profile. To assign client stations, begin by double-clicking on the new profile.

4

In the Profile Settings, open the **Permissions** page. Use the buttons to specify the objects that will be assigned to the profile:



**AD users.** The profile is applied to AD users and OUs that contain users.

**AD stations.** The profile is applied to AD stations and OUs that contain stations.

**Users.** The profile is applied to NT users and user groups.

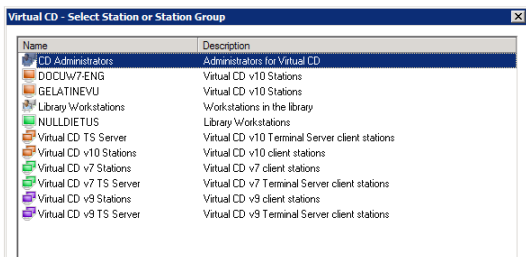
**Stations.** The profile is applied to NT stations and station groups.

**Delete.** Deletes an assignment.

Since the „CD Administrators“ group is a station group, we click on **Stations**.

5

In the **Select Station or Station Group** dialog, we select the „CD Administrators“ group and click on **OK**:



This concludes the procedure. All members of the “CD Administrators” group now use the profile of the same name.

## The Best way to Use Profiles

The first step is to decide which functions and settings should be applied to which users. In a network environment with a large number of client stations, it can be useful to group those stations that have similar requirements, and then assign profiles to these groups. Afterwards, you might want to modify the basic profile so that users and stations to which it is applied have only restricted access to Virtual CD. Keep in mind that the basic profile is automatically assigned to all users and all stations for which no profile is explicitly defined.

The following example illustrates some of the many options made possible by the use of profiles:

We shall create two profiles for use in a company: one for the Development department and one for Accounting. Afterwards, we modify the basic profile so that it permits only very limited use of Virtual CD. In the first step, we group client stations by the departments in which they are used. Each group will then be assigned its own profile. For details on creating and assigning profiles, see “Creating and Assigning Profiles”.

### “Development” Profile

This profile does not require any restrictive settings, but we do want the frequently-used virtual CDs to be immediately available when these clients log in. Additionally, we want the virtual CD that is used most often by this group to be inserted upon login.

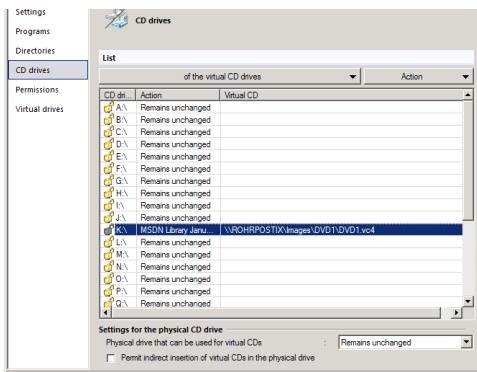
On the **Settings** and **Programs** pages, all the default settings remain unchanged, to allow the developers the widest possible range of actions.

- ☐ Function controls
  - ☐ Eject all virtual CDs when a session is closed
  - ☐ Do not show Explorer extension controls
  - ☒ Quick Start utility
  - ☐ Virtual CDs are displayed in a list
  - ☐ Virtual CDs are divided into local and global views
  - ☐ Enable Starter/Toolbox
  - ☒ Show popup information texts (tool tips)
  - ☒ Virtual CDs cannot be included in more than one folder
  - ☒ Permit editing of CD labels
  - ☒ Download audio CD information from CDD8 server
  - ☐ Open the Virtual CD sidebar
  - ☒ Show default drive
  - ☒ DDA activated
  - ☒ Show list of all images in Quick Launch menu (Insert and Properties items)
  - ☒ Automatically check for Virtual CD updates
- ☐ Security settings
  - ☐ No permission to use local virtual CDs
  - ☐ Hide virtual CDs for which components are not found
  - ☐ Deny access to unregistered virtual CDs

On the **Directories** page, the global configuration path is set to the directory containing the relevant virtual CDs:

Global folders:	
Global path for configuration files	\\CDServer\\Virtual CDs\\
Default path for new global virtual CDs *	\\CDServer\\Virtual CDs\\
Local folders:	
Local folder for configuration files	Use local settings
Default path for new virtual CDs	Use local settings
Default folders for user-specific files	
Default folder for new virtual CDs	Use local settings
Folder for copy templates	Use local settings
Folder for Quick Copy files	Use local settings
Folder for scripts	Use local settings
CDD database folder	Use local settings
Folder for catalog files	Use local settings
Folder for temporary files	Use local settings
Folder for VCD Editor project files	Use local settings
Folder for layout files	Use local settings
Folder for log files	Use local settings

On the **CD Drives** page, we specify a virtual drive that is available on all client stations and configure it so that a particular virtual CD is inserted when the client station is launched:



Selecting a virtual CD drive that exists on all stations will help keep your management tasks as uncomplicated as possible.

On the **Permissions** page of the Profile Settings, the new profile is assigned to the „Developers“ group.

### “Accounting” Profile

This profile will be somewhat more restrictive than the “Development” profile. It will permit users to work with the CD Control Center, but not to create virtual CDs or burn Smart Virtual CDs.

To prevent access to those functions, we deactivate the entire set of options in the **Creating virtual CDs** section of the **Programs** page, as well as the **Burning Smart Virtual CDs** function.

On the **Directories** page, the global configuration path is set to the directory containing the relevant virtual CDs.

To prevent access to CDs that are not in the global configuration path, we open the **Settings** page and, in the Security Settings, we activate **No permission to use local virtual CDs** and **Hide CDs for which files are not found**. Local use of physical CDs, on the other hand, remains unrestricted.

To assign the profile, we open the **Permissions** page and select the „Accounting“ group.

Now that all of the client stations in our example have been assigned customized profiles, in the next step we will modify the basic profile. The basic profile is automatically assigned to all client stations that log in on Virtual CD NMS and are not explicitly assigned a profile.

### Basic Profile

Clients that use the basic profile (in its modified form) shall be permitted to run the CD Control Center and to use certain specified virtual CDs, but all other functions will be inaccessible.

On the **Settings** page, in the Security Settings section, we activate **No permission to use local virtual CDs** and **Hide CDs for which files are not found**. Again, local use of physical CDs remains unrestricted.

On the **Programs** page, we deactivate options except the **CD Control Center** section.

On the **Directories** page, we specify the global configuration path, which defines the only access permitted to any virtual CDs. All other paths are defined here as well, so that no local settings are used.

### Summary

In any environment, you can define customized groups and profiles. This helps to ensure trouble-free management of both client stations and virtual CDs stored on the network, even if you have a large number of clients in your Virtual CD NMS Administration system.



Settings defined in the profile for a given station remain active even if that station loses contact with Virtual CD NMS. The settings remain valid until a different profile is assigned.

### Cumulative Profiles

In some cases, you might find it necessary or useful to assign a certain profile to one station individually, even though that station is a member of a group that uses a different profile. For example, you might want to block off access to locally stored virtual CDs on a particular client station. To do this, you can assign that station a profile that blocks this access.

- ☐ Security settings  
☒ No permission to use local virtual CDs

Keep in mind with cumulative profiles that a positive setting (option enabled) in one profile always takes precedence. Even if other profiles assigned to the same station have a “No” setting for the particular option, a single “Yes” setting takes precedence.

For client stations that are assigned more than one profile, you can view the sum total of all settings, known as the cumulative profile, in NMS Administration. To do this, select the desired station and, in the **Virtual CD NMS** section of the Ribbon, click on **Cumulative profile**. This opens a profile window showing all of the settings active for the selected station.



Opening the cumulative profile of a station is a good way to check which settings are actually applied to that station. If the allocation of a profile did not have the results you expected, checking the cumulative profile can help you detect and eliminate conflicting settings.

## Ground Rules for Using Profiles

The Profile Editor makes it easy to manage your profiles. Easy as it is to use, there are a couple of points that you need to keep in mind to make sure your profile specifications have the desired effects:

### First save, then test!

Do not forget to save your changes before you test a profile. Profiles do not apply new settings until you have stored them.

### No login, no effect:

When you modify a profile, the new settings are not effective until the next time the affected clients log in on Virtual CD NMS.

### Activation is essential:

In the list of profiles shown in your Profile Editor, the profiles can be activated and deactivated. Remember: only activated profiles are processed at login.

If you find that Virtual CD does not behave as expected on a given client, even though you saved the desired profile settings and the client logged in afterwards, check whether there are multiple profiles assigned, with a “sum total” of settings that differs from the settings you have just stored—in other words, check the cumulative profile for the station in question. To keep things as simple as possible, remember the old saying: “Less is more!” Do not create and assign more profiles than you really need.



Use the “Print” function in the Virtual CD NMS Profile Editor to print hardcopies of your profiles. This makes it easier to keep track of your settings.

## 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 NMS is equipped with special tools to help you control usage and protect your legal security.

With the default settings, the license control feature is not active. If you wish to use this feature, activate it as follows: In the NMS Settings, open the **NMS Configuration** page. You can choose between the following license control settings:

### Option 1: Deactivate license control for virtual CDs

This is the default setting, active when you first install Virtual CD NMS. This setting is fine if you do not need to use the Virtual CD NMS 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 setting 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 NMS (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 enables full license control applied to all virtual CDs in NMS. 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 NMS (e.g., that exist only on one client workstation) cannot be inserted.

## Defining the Number of Licenses for Virtual CDs

To activate the Virtual CD NMS license control function for a given virtual CD, you need to define a number of licenses for that CD. Licenses are assigned in the **Licenses** view. This view is opened from the Ribbon: On the **Virtual CD NMS** tab, click on **Licenses**. The Licenses view shows the licenses available and licenses in use. To set the number of licenses for one or more virtual CDs, select **Edit license**. The **Define Number of Licenses** dialog shows the selected licenses. Simply enter the desired number of licenses.



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 station. This ensures that you can process the virtual CD (for example, replace it with a newer version) with no risk of conflicts.

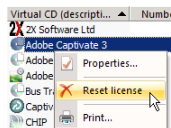
After defining virtual licenses quantities, you can toggle the display between a list of all virtual CDs and a list showing only licensed virtual CDs. Use this filter function for a quick overview of the virtual CDs that are subject to licensing controls.

In the **Show licenses for virtual CDs** view, the **Number of licenses** columns shows the number of licenses defined. (If file server share licenses have been defined, these are listed in the appropriate column as well; see „Special Case: Virtual CD FS“ for details.)

Virtual CD (descripti...	Number of licenses	Licenses in use	Number of FS licenses	FS licenses in use	File name of the virtual CD
2X ZX Software Ltd	-	-	-	-	- \\rohrpostx\images\NDM ...
Adobe Captivate 3	2	0	2	0	0 \\rohrpostx\images\Adob...
Adobe Captivate 3 DE	2	0	2	0	0 \\rohrpostx\images\Adob...
Adobe TechCommSuite	2	0	2	0	0 \\rohrpostx\images\Adob...
Bus Trace 2002 Prof...	-	-	-	-	- \\rohrpostx\images\Bus Tr...
Captivate_DE_1.0	1	0	1	0	0 \\rohrpostx\images\Captiv...

To remove the license from a virtual CD, right-click on the CD and select **Reset license** from the shortcut menu:

The value you enter for number of licenses affects the execution of the “Insert” command on the client station. Assuming the license control feature is active, the number of licenses can have the following effects:



- No input (-) for number of licenses: Access to the virtual CD is unrestricted or, if **License control is active for all virtual CDs** is selected, access is completely blocked.
- 0: The virtual CD cannot be inserted at all.
- A number greater than 0: The virtual CD is inserted if a license is available.



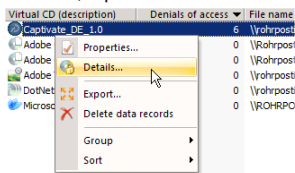
The values you enter for numbers of licenses remain stored when license control for virtual CDs is deactivated. The number of licenses is not applied, however, until you explicitly reactivate the license control function.



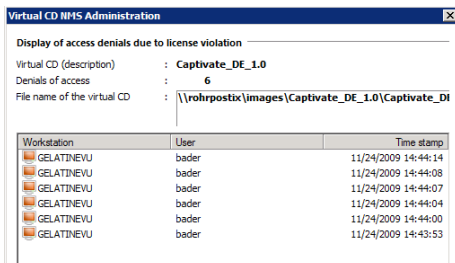
## Analysis of License Control

When license control is active, the programs logs any attempt to insert a virtual CD when no license is available.

You can view this log under **Evaluation of licenses**. For each Virtual CD for which you have assigned a number of licenses, open the **Denials of access** view to see how often there were insufficient licenses available. For detailed information on the individual license violations, right-click on a virtual CD and select **Details** from the shortcut menu:



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



This information can help you decide whether you have enough licenses for the CDs in your network. A high number of access denials indicates that the number of licenses should be increased.



To prevent violation of a software licensing agreement, the number of licenses defined in Virtual CD should match the number of existing program 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.

## Setting up Share Licenses for Virtual CD FS

Virtual CD File Server (FS) edition enables access to virtual CDs over the network for any number of users. The virtual CDs are made accessible by sharing the virtual drives that the Virtual CD FS program sets up on the file server, and then inserting the desired virtual CDs in these drives.

Virtual CD NMS gives you the option of limiting the number of file server shares. In this case, the shares for virtual CDs are referred to as file server share licenses.

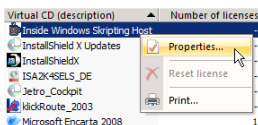
The procedure for assigning file server share licenses is very simple; a step-by-step description is given below. The virtual CDs must be registered in Virtual CD NMS before you begin.

1

Open the 'Licenses for virtual CDs' view in Virtual CD NMS Administration.

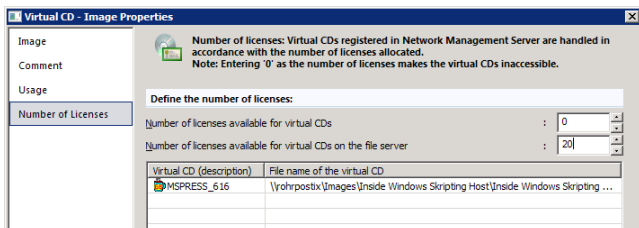
2

Select the virtual CD to which you wish to assign a file server share license, right-click on it and select **Properties...**:



3

On the **Number of Licenses** page, under **Number of licenses available for virtual CDs on the file server** enter the desired number of file server share licenses. In the example shown here, the number is 20:



4

Click on **OK** and save your settings.

The License View shows the number of file server share licenses:

Virtual CD (description)	Number of licenses	Licenses in use	Number of FS licenses	FS licenses in use	File name of the virtual CD
Inside Windows Scripting Host	0	0	20	0	\\rohrpostix\images\Inside...
InstallShield X Updates	-	-	-	-	\\rohrpostix\images\Install...
InstallShieldX	-	-	-	-	\\rohrpostix\images\Install...

The **FS licenses in use** column shows how many licenses are in use.

## Virtual CD Clients

The table below gives an overview of how Virtual CD NMS works with the various types of Virtual CD client, which options and functions are available in the different clients, and the differences between clients. The following VCD versions can be connected to NMS:

- Virtual CD v5
- Virtual CD v6
- Virtual CD TS v6
- Virtual CD FS v6
- Virtual CD v7
- Virtual CD TS v7
- Virtual CD FS v7
- Virtual CD v8
- Virtual CD v9
- Virtual CD TS v9
- Virtual CD FS v9
- Virtual CD v10
- Virtual CD TS v10
- Virtual CD FS v10



Virtual CD TS v6, v7, v9 and v10 apply all profile settings on a per-session basis.



You cannot assign profiles in Virtual CD FS, because the risk is too great that the profile would eject images, give users the opportunity to insert or eject images on the file server, or in some other way inadvertently have a negative effect on the operation of Virtual CD FS.



Physical drives are not displayed in Virtual CD v5, nor can profiles or scripts be assigned.

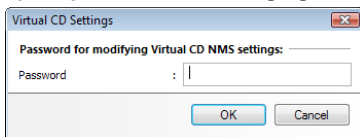
Function	VCD v5	VCD v6/ v7	VCD TS v6/v7	VCD FS v6/v7	VCD v8	VCD v9	VCD TS v9	VCD FS v9	VCD v10	VCD TS v10	VCD FS v10
Insert /eject virtual CDs	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Lock/release virtual drives	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Show cumulative profile	no	yes	yes*	yes*	yes	yes	yes*	yes*	yes	yes	yes
Properties	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Assign profiles	no	yes	yes	no	yes	yes	yes	no	yes	yes	no
Distribute scripts	no	yes	yes	no	yes	yes	yes	no	yes	yes	no
Show virtual CD drives	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Eject physical CDs	no	yes	no	no	yes	yes	no	no	yes	no	no
Lock/release physical drives	no	yes	no	no	yes	yes	no	no	yes	no	no
Deploy Client Setups	no	no	no	no	no	yes	no	no	yes	no	no

\* Session-specific

## Changing the NMS Configuration of a Client Station

As administrator, you need to have access to the NMS configuration settings on client stations; for example, to switch the automatic distribution of the license code on or off. At the same time, you generally need to prevent others from having access to configuration settings. To prevent users from changing settings, as they may try to do, for example, if they are unable to access a certain image, keep the following in mind:

- The global Virtual CD settings that affect client stations are stored in the following Registry key: HKEY\_LOCAL\_MACHINE\SOFTWARE\H+H Software GmbH\Virtual CD 10\Settings. Make sure users do not have any privileges that would allow them to change this key.
- Even without permissions in the Registry, users could change Virtual CD settings temporarily; i.e., changes would be active until the client station is shut down or restarted. To prevent this, you can assign a password to protect your NMS configuration. In the NMS Settings, open the NMS Configuration page and select **Require password for changing NMS configurations on the client machine**. From this point on, settings cannot be modified until the correct password has been entered:



### Special Case: Client Station not Connected to Virtual CD NMS

Under certain circumstances you may find that one or more of your client stations cannot connect to the Virtual CD NMS Service; for example, when a network laptop is used outside the company, or if the server that runs the Virtual CD NMS Service is temporarily unavailable.

To ensure that Virtual CD NMS license control is maintained, VCD NMS 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 NMS Properties page

**License control for virtual CDs is deactivated:** Any virtual CD can be used.

**License control is active for virtual CDs with a number of licenses specified:** Locally stored CDs are accessible; CDs stored on the network are not accessible.

**License control is active for all virtual CDs:** No virtual CDs can be used.



Regardless of the license control settings, Virtual CD cannot run on a client station that is not connected to the Virtual CD NMS Service unless the station in question has its own license for the Virtual CD program.



# Appendix

## Logbook Messages

### *Information: Service has been started/shut down*

The Virtual CD NMS service has been started/shut down. The NMS service consists of the server components that manage the connection with client stations.

### *Information: Connection established/shut down on station...*

Virtual CD NMS has connected to the workstation named, or the connection to the workstation has been shut down.

### *Warning: No license available for virtual CD on station...*

The workstation in question has attempted to insert a particular virtual CD but the action could not be executed.

This error can be caused by one of the following circumstances:

- All licenses available for this CD are currently in use.
- In the Virtual CD Settings, the license control option Active for all virtual CDs is selected but no number of licenses was entered. When license control is active for all CDs, only CDs for which a positive number of licenses has been specified can be inserted.

### *Error: No Virtual CD license available station...*

The attempt by this workstation to access the Virtual CD program has failed because there is no Virtual CD license available for the station.

This error can be caused by one of the following circumstances:

- All Virtual CD program licenses managed by Virtual NMS are in use.
- No licenses are distributed by Virtual CD NMS.

### *Error: License code in use*

The licensing code entered in the Virtual CD NMS program you have tried to run is already being used by another workstation.

**Error: Open the socket on port...**

An error has occurred while attempting to open the socket on the port indicated. This error code is displayed when another program is running on the port specified for Virtual CD NMS Service communication.

**Error: Connection shut down, station ...**

The connection between NMS and the workstation indicated has been shut down, due to one of the following reasons:

- The network connection has been interrupted (e.g., due to a defective network cable).
- The workstation has crashed (e.g., no regular login/logout).

**Error: Port for NMS Service not configured**

No port has been configured for use by the Virtual CD NMS Service in communicating with client stations. Configure this setting in the Virtual CD NMS Settings program.

**Error: Creating virtual CD profile for station...**

The profile could not be created for the station indicated, due to one or more of the following:

- Profile data not defined in the Profile Editor.
- The profile file has been deleted.
- The "NMS data" directory, in which profile files are stored, has not been shared.

**Error: Assigning the profile**

The profile could not be assigned to the workstation indicated because the station is not connected (e.g., due to faulty network communication).

**Error: Insertion of CD: station...**

An error has occurred while attempting to insert the virtual CD on the workstation. Possible reasons are:

- Workstation cannot access the image file.
- In FS versions: the FS service is not running with the correct account (i.e., no permission to access the virtual CD).
- The Virtual CD image is not valid
- The path to the image file was not found (e.g., no path defined).



- Access to image files was denied because the workstation does not have permission in this file.
- The CD is password-protected, and the correct password has not been entered.
- The image file is corrupt and cannot be opened.
- The Virtual CD demo version that had been running on the workstation has expired.
- Virtual drive not found.
- Communication problem between NMS service and the workstation; e.g., because the network is not functioning properly.
- The Virtual CD player on the workstation does not run because it is a test version.

### *Error: Ejection of CD: station...*

An attempt to eject a virtual CD from the indicated drive has failed. Possible reasons are:

- The Virtual CD demo version that had been running on the workstation has expired.
- Virtual drive not found.
- Communication problem between NMS service and the workstation; e.g., because the network is not functioning properly.
- The virtual drive is locked.

### *Error: Ejecting all virtual CDs*

An error has occurred while attempting to eject all virtual CDs on the station(s) indicated. Possible reasons are:

- Network not functioning properly; e.g., the network cable to the client station is defective.
- Drive not found.

### *Error: Ejecting all physical CDs*

An error has occurred while attempting to eject all physical CDs on the station(s) indicated. Possible reasons are:

- Network not functioning properly; e.g., the network cable to the client station is defective.

**Error: Lock/release drive: station...**

An error has occurred while attempting to lock or release the drive on the station indicated. Possible reasons are:

- Network not functioning properly; e.g., the network cable to the client station is defective.

**Error: Set number of licenses: station...**

An error has occurred while attempting to set the number of licenses for the station indicated. Possible reasons are:

- Network not functioning properly; e.g., the network cable to the client station is defective.

# Glossary

## B

### Basic group

The basic groups defined in Virtual CD NMS Administration cannot be deleted. These are: Virtual v6 TS Servers, Virtual CD v6 FS Servers, Virtual CD v7 TS Servers, Virtual CD v7 FS Servers, Virtual CD TS v9 Servers, Virtual CD FS v9 Servers, Virtual CD TS v10 Servers, Virtual CD FS v10 Servers and groups for Virtual CD stations running versions 5 through 10. The first time a client station logs on, it is automatically assigned to the corresponding group.

### Basic profile

This is a profile applied to all users for whom you have not designated a specific profile. There is only one instance of this profile, and it cannot be deleted.

## C

### CDDb

CDDb is a free database service offered at FreeDB.org. You (or your Virtual CD program) can request data (artist, track titles, etc.) pertaining to music from this service over the Internet.

### Client Distributor

A component of Virtual CD NMS that enables installation of Virtual CD on client stations from a central NMS location, using --> Client Setup.

### Client Setup

A Setup program that you configure, for installing Virtual CD on your network stations.

### Configuration file

The configuration file (vcdimg.dat) lists all virtual CDs registered in the program, with their paths.

## F

### Functions

The actions and operations that can be performed on objects in Virtual CD NMS are referred to as functions. Locking a drive, for example, and inserting virtual CDs are functions.

**G****Global configuration path**

If you designate a directory for this path, you can distribute access to virtual CDs over the network. This adds a "global view" to each workstation display of CDs.

**L****Logbook**

You can define whether or not errors, warnings and/or messages concerning actions executed are logged.

**O****Objects**

Objects in Virtual CD NMS are elements in the Administration view on which functions can be carried out; these include, for example, drives and station groups.

**P****Profile**

Profiles are used to configure the settings (such as virtual CD drives, program functions, etc.) that are active when a particular user logs in on Virtual CD NMS.

**Profile file**

Data defining the profiles is stored in the profile file, called 'Profile.vcd,' in the Virtual CD NMS data directory.

**Properties**

Dialogs for viewing object properties can be opened from almost any window in Virtual CD NMS. This permits fast access to detailed information on a selected object.

**S****Station groups**

Client stations can be grouped for easier management. You can assign profiles or licenses to groups.

**U****User profile**

Data processed at login (such as user privileges and other settings) defining which data the particular user is allowed to access over the network, and how the data is accessed. If a specific user profile is assigned to a given user, the basic (default) profile is not applied for that user.

## V

**Virtual CD Clients**

Virtual CD clients are stations in the network on which Virtual CD is installed and which are linked to the Network Management Server.

**Virtual CD NMS Administration**

Virtual CD NMS Administration is the program used for administration of Virtual CD clients in the network.

**Virtual CD NMS Service**

This is the server component of Virtual CD NMS. The Virtual CD NMS Service implements communication between Virtual CD client stations and Virtual CD NMS Administration.



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