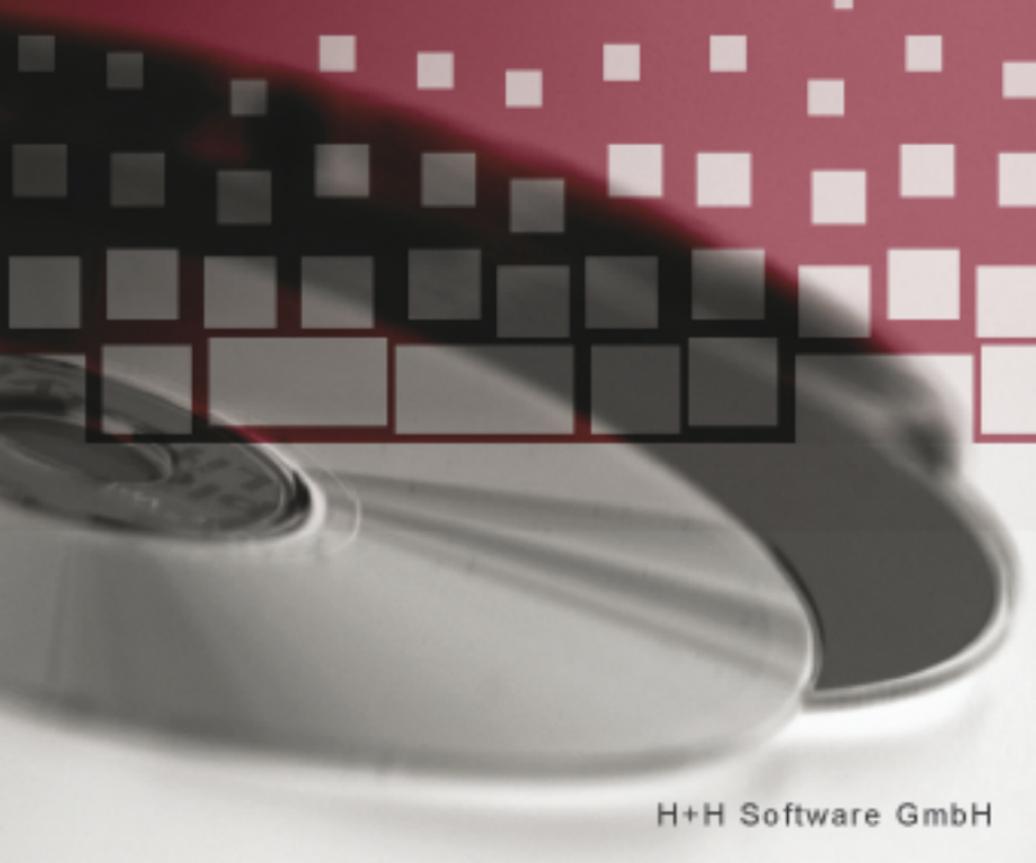


Virtual CD v10

File Server | Manual



H+H Software GmbH

Table of Contents

Virtual CD FS	1
Introduction	3
<i>Document Conventions</i>	4
<i>What Virtual CD FS Can Do for You</i>	5
<i>New Features in Version 10</i>	6
<i>Virtual CD FS Licensing</i>	7
<i>System Requirements</i>	8
<i>Technical Support</i>	9
Installation.....	11
<i>Notes on Installation</i>	12
<i>After Installation</i>	13
<i>Virtual CD FS Services</i>	14
<i>Configuration for Network Access</i>	15
<i>Repairing or Deinstalling Virtual CD FS</i>	18
Virtual CD FS Step by Step.....	19
<i>Serving a Virtual CD over the Network</i>	20
<i>Collections</i>	27

Virtual CD FS

Thank you for choosing Virtual CD File Server Edition. Virtual CD FS expands the classic Virtual CD program by a number of features that turn a file server into a full-fledged CD-ROM server solution—without requiring additional hardware.

As a supplement to the standard Virtual CD documentation, the following describes the additions to, and special features in, the FS edition as well as the differences between FS and the classic Virtual CD edition. Like the main documentation, this manual can either be read straight through for a close look at how the program works and how you can work with it, or used as a reference for looking up specific points as you need them. The information provided here is divided into the following sections:

- **Introduction** – Provides an overview and general information.
- **Installation** – Describes the procedures for installing and configuring your Virtual CD FS program on a file server.
- **Virtual CD FS Step by Step** – Explains special features that are particular to the FS edition and gives step-by-step instructions for distributing virtual CDs over a network.



This documentation describes the special functions that are available only in the File Server Edition of Virtual CD. For details on features that are available both in the basic Virtual CD program and in the FS edition, please refer to the standard Virtual CD documentation.



This documentation was written on the basis of a full Virtual CD FS version installed on Windows Server 2008. If you use a different operating system or have already changed some of the Virtual CD settings, the windows displayed and the controls available may not be the same as those shown here.



The examples given in this documentation often describe only one of several possible methods for executing a particular task. Once you know your way around the program, you may find other techniques for activating the functions you need.



Some of the instructions in this manual refer to administrative functions in a Windows network. The reader is presumed to be familiar with these functions in the network in which Virtual CD FS is installed. If you have any questions about these administrative functions, please refer to the documentation on your network system.

Introduction

This section supplies some very basic information about Virtual CD FS, including a list of the new features in v10, the system requirements and details on obtaining technical support.

Legal Notices



If you use Virtual CD with CDs that are under license, then creating multiple virtual images from a given CD, or running the Virtual CD program with a given virtual CD on more than one computer at a time, may constitute a breach of the software licensing agreement you entered into with the manufacturer of the CD 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. Microsoft and Windows are registered in the US as trademarks of Microsoft Corporation. The names of products mentioned in this manual are used for identification purposes and may be trademarks or registered trademarks of their manufacturers.

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**.

Passages that are particularly significant are 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 lightbulb symbol shown here.



Features or procedures in which the FS edition differs from the standard edition and which particularly important are marked by the 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

What Virtual CD FS Can Do for You

With Virtual CD FS you can insert a virtual CD in a virtual drive, and then make it available to all your users by sharing the drive in the network. All you have to do is install Virtual CD FS on a file server – no additional hardware or extraneous components are required! That is why we say: **Virtual CD FS is the CD-ROM server solution for your network.**

And this is not just an empty claim—Virtual CD FS provides a range of features that make it a truly unique CD-ROM server solution.

For example, Virtual CD FS:

- requires no client installation for distributing access to virtual CDs.
- enables the use of up to 5865 virtual CDs simultaneously (using virtual CD “collections”)
- supports applications that can access CD data displayed in directory trees.
- is seamlessly integrated as a system component on your file server.
- lets you control access by granting or denying permissions to virtual CD shares.
- gives you a clear view of all the CDs in a collection thanks to the new Collection Viewer.
- can be operated when no users are logged on.
- comes with a second user license so you can create and test virtual CDs on a workstation of your choice.
- employs familiar network mechanisms so you can start using it right away, without a time-consuming learning phase.
- supports 64-bit operating systems in the Windows series.
- stores collections in UDF format. This removes a great many limitations imposed by the Joliet format (for example, restrictions on file name length).
- supports virtual burners. You can use this feature to provide network shares that users can write in.



Virtual CD FS uses network shares to provide access to data stored on virtual CDs. This means CD-ROM-specific properties (such as playing audio CDs, certain copy-protection issues, etc.) that work only in conjunction with a CD drive cannot be utilized.

New Features in Version 10

If you have already used an earlier version of Virtual CD FS, you will notice that the Virtual CD FS program has been redesigned and adapted to the classic edition of Virtual CD. All of the new features that affect file server operation are listed here:

- The completely revised Collection Wizard puts the most important elements for creating collections in the foreground.
- The new Collection Viewer gives users fast access to the CDs in your collections.
- Support for Server 2008 R2

In addition to the file server-specific improvements and additions listed above, Virtual CD FS includes all of the new features that have been integrated in the standard edition of Virtual CD v10.

Virtual CD FS Licensing

Virtual CD FS is licensed on a per-computer basis. In other words, you need one license code for each server on which Virtual CD FS is installed. A Virtual CD FS license code enables the following:

- **Installation of Virtual CD FS on one file server:** e.g., for use as a virtual CD-ROM server with access to virtual CDs by sharing drives or folders and allocating permissions accordingly.
- **Installation of the standard Virtual CD edition on one workstation.** You can use the standard Virtual CD edition for creating and testing your virtual CDs before they are stored on your file server for general access.

The license code must be entered during program installation. If no license code is entered when prompted, installation will be cancelled. You can have Virtual CD FS retrieve its license from Virtual CD Network Management Server.

If you wish to test the Virtual CD FS program, please download the **30-day test version** from the Virtual CD Web site.



When you purchase Virtual CD your license code is included in the packaging, or will be transmitted to you electronically.



It is **not** possible to upgrade a test version to a full version by entering the license code.

System Requirements

The following system specifications are required for running Virtual CD FS v10:

- Windows Server 2003 (any version) with the latest service pack, or
- Windows Server 2008 (any version) with the latest service pack
- 100 MB hard disk space for installation of the Virtual CD FS software
- Windows Scripting Host version 5.6 or later



Virtual CD FS must be installed on a Windows-based file server that meets the minimum requirements. You can store the configuration files and your virtual CDs on a network server that uses any platform (Windows, Novell, Linux, etc.) if desired, as long as the Virtual CD FS server can access this data.



How much hard disk space you will need in addition to the 100 MB required for installation of the Virtual CD FS program depends on how many virtual CDs or DVDs you create and the volume of data they contain.

Technical Support

If you have any problems with Virtual CD FS, please check the manual, the Help program and our continuously updated Web pages for assistance:

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

You might find that your question has already been answered. You are also welcome to publish your own questions in the support forum.

The Virtual CD software is under continuous development. 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.

Both this setting and a link to our website are available the Ribbon of the CD Control Center.

We are always interested in hearing from you, whether you have questions, suggestions or criticism. After all, we make this software for you, so it's important that we know what you want! Please use the Virtual CD Support Forum to let us know what you think.

Installation

Once the setup program starts, the installation of Virtual CD FS is almost entirely automatic. The process is similar to the installation of the classic Virtual CD edition. The file-server specific functions are available immediately at the conclusion of installation. No special configuration settings are required during setup.



If you are updating an earlier version of Virtual CD FS, please make sure you deinstall the older version and then restart the server before installing the new Virtual CD program.

Place the installation CD in a drive and wait a moment for Windows to detect it and run the Setup program.

If installation does not start automatically, select **Start -> Computer** in the Windows Explorer and then double-click on the icon representing the drive in which you have inserted the installation CD.

When the program starts up, select "Installation" to run the Setup program. If you access the CD content directly, or have downloaded your Virtual CD program over the Internet, you need to run the Setup program manually.

Follow the instructions as the Setup Wizard guides you through the installation procedure. After you enter the license code, you can configure certain settings and define the number of virtual CD drives.



All of the settings configured during installation can be changed at a later point. If you are not sure which settings you should choose, simply accept the default values for the time being and continue reading this manual for more information on the options available.



Virtual CD comes with a "plug & play" driver, which means you do not have to restart the computer after the virtual drives are set up, or after changing the number of virtual drives at a later stage. In some cases, however, you might be prompted by the Windows operating system during VCD installation to restart your computer. It is important that you do not restart the computer before the installation has been completed, regardless of any operating system messages. Otherwise, the installation will not work.



With the default settings, two drives are installed; one virtual drive and one virtual burner. If you plan to use your Virtual CD FS installation as a CD-ROM server, however, you will probably need more virtual drives. You can configure the settings during setup to install a higher number of drives, or add drives later using the Virtual CD Settings program.

Notes on Installation

Please observe the following when installing Virtual CD FS:

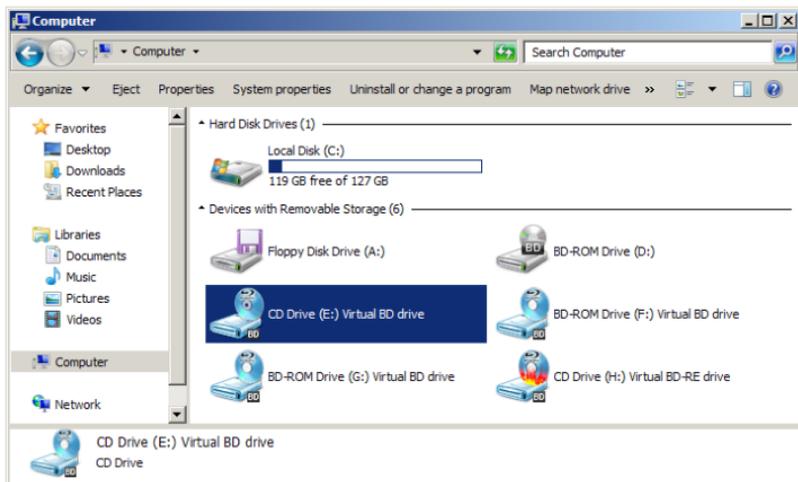
- **Demo to full version:** It is not possible to upgrade a demo version to a full version by entering the license code. The demo version and the full version are two different and mutually independent programs. The demo version does not need to be de-installed before installing the full version. The full version setup detects the demo version and automatically executes an upgrade.
- **Virtual CD FS and Virtual CD Network Management Server:** If you already have a license code for Virtual CD FS, enter it during installation of the full version. If no license code is entered when prompted, installation will be cancelled. You can have Virtual CD FS retrieve a license code from Network Management Server. To do this, you need to enter the name of the server on which NMS is installed, and the communications port, during installation.
- **Creating virtual CDs on your own workstation:** The Virtual CD FS license code permits a separate single-user installation on one workstation. This is intended to allow you, as administrator, to create and test virtual CDs before making them available over the network. This single-user version cannot be installed using the Setup program that installs Virtual CD FS. You need the standard Virtual CD v10 Setup, which is included on your Virtual CD installation CD or can be downloaded over the Internet.



For details on the installation and configuration of Virtual CD v10, please refer to the Virtual CD documentation.

After Installation

Following installation, you can see the virtual drives in your Windows Explorer. The view shown in your program window depends on the drive letters you selected for your virtual drives.



In this example, D: is the physical CD drive, E: through G: are virtual CD drives, and the H: drive is a virtual burner. For easy recognition, a special "Virtual CD" icon is shown next to the drive letter of virtual CD drives (unless there is a CD in the drive, in which case the CD might provide its own icon)...



and virtual burners:



In our example, the virtual CD drive is empty since the program has just been installed and no virtual CDs have been created yet. In a way, installing the Virtual CD program is roughly equivalent to installing a hardware CD-ROM drive in your computer, ready to use as soon as media is inserted.



In some cases, the special "Virtual CD" icon might not be shown until after the next computer restart.

Virtual CD FS Services

All Virtual CD programs install a service called the **Virtual CD v10 Management Service**. Virtual CD FS installs another service as well, called the **Virtual CD v10 FS Service**, on the computer on which Virtual CD FS is installed. The two services have the following tasks:

- **The Virtual CD v10 Management Service** provides many of the functions for managing the virtual CD drives.
- **The Virtual CD v10 FS Service** provides a number of functions for managing virtual CD drives specifically in the file server environment. One of its main tasks is to make virtual drives accessible when there are no users logged on to the file server. In addition, this service ensures access to virtual CDs stored on other servers in the network.



Both services are set to start automatically. If either service is not running, a number of important Virtual CD FS functions will not be available, which in turn will result in errors.

Configuration for Network Access

If you plan to store all your virtual CDs on the same file server on which Virtual CD FS is installed, no further steps are necessary to complete the installation procedure. On the other hand, if you will be providing access over the network to virtual CDs stored on other servers, you need to configure a few more settings first.

When a user is logged on to the file server, that user's account—or the “user context”—is what defines the permissions and makes it possible to access virtual CDs. To insert a virtual CD, the user in question must have “read” privileges covering the desired CD. When the user logs off of the file server, the Virtual CD Service takes over control of the virtual CD drives and any virtual CDs inserted in them. Directly following logoff, the user context is still active and can be used by the server to enable access to the drives. This user context will become inactive at some stage, however; for example, when the user's computer is restarted. Without the user context the virtual CDs can no longer be published, since the **Virtual CD v10 FS service**, which is responsible for this task, has rights only in the local system which do not permit access to data over the network.

To solve this problem, we recommend creating a special user account, called a “gateway user,” to provide a user context that grants “read” privileges for all virtual CDs in the network. The procedure for configuring and using this account is described in the following.



The easiest method is to create the gateway user account in a domain or ADS. If there is no domain nor ADS available, however, you have to create more than one instance of this user account: one as a local user on the file server on which Virtual CD FS is installed, and another on the server on which your virtual CDs are stored. It is essential that these accounts all use the same password.



Create a user for image access

Create a gateway user account and give it “read” privileges in all directories in which virtual CDs are stored. In our example, this account is called **vcdgateway**.

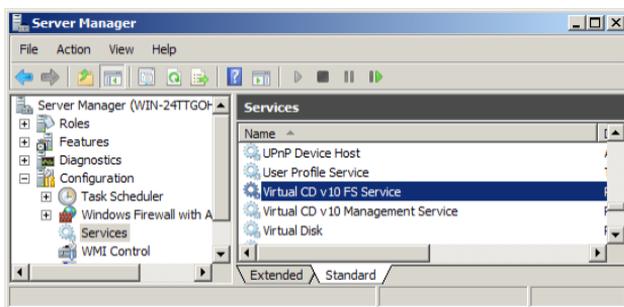


To check whether the assigned privileges are effective, log in on a network station using this account and make sure you can see all virtual CDs in the Explorer.

2

Select the Virtual CD v10 FS service

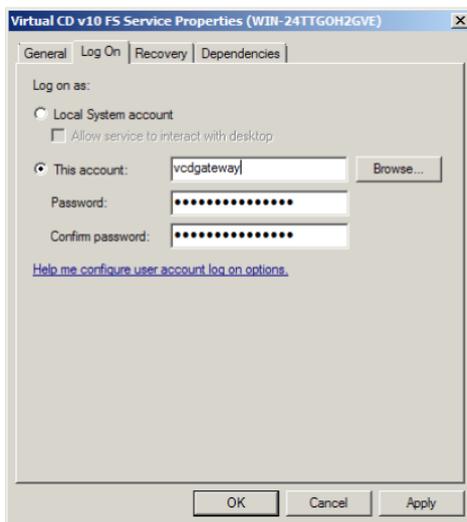
Now open the **Server Manager**, select **Services** and find the **Virtual CD v10 FS service**. Double-click to open the **properties** of the service.



3

Set up the Virtual CD v10 FS service

Select the **Login** page and enter your new gateway user, with password, under **This Account**.



Before this user context can be used to access data over the network, the service must be shut down and then started again. From this point on, all

virtual CDs that the gateway user account can read are available through this service, regardless of who is logged on to the file server or whether the server has been restarted or not.



When you create a new directory for storing virtual CDs, remember to grant “read” privileges in that directory for the gateway user account; otherwise the **Virtual CD v10 FS service**—and thus your users—will not be able to access virtual CDs in that directory.



If you do not perform this step, Virtual CDs that are stored on the network **cannot** be used, even if they are visible to users.

Repairing or Deinstalling Virtual CD FS

If you have a problem with your Virtual CD program, or if you need to remove the program from your computer, select **Control Panel -> Programs -> (Programs and Features->) Uninstall a program**. Select "**Virtual CD v10 FS**" and begin the deinstallation. A dialog opens offering the following choices:

- **Repair:** The Setup wizard restores the Virtual CD installation to its initial state. If you have a problem with Virtual CD, use this option to reset Virtual CD to a defined state.
- **Uninstall:** The Setup wizard removes all components of the Virtual CD program from your computer. Afterwards, your computer needs to be restarted. If you want to remove Virtual CD configuration files as well, you need to select the corresponding options.



Configuration files contain references to registered virtual CDs and the tree structure. Do not remove these elements unless you are certain they are not in use.

Virtual CD FS Step by Step

This section describes the expanded functions for working with Virtual CD on a file server. Among other things, this section contains the following information:

- **Serving a Virtual CD over the Network** - Information on working with VCD shares.
- **Collections** - Describes the creation and use of collections of multiple virtual CDs.



In some instances, reference is made to standard Virtual CD features. For details on these functions, please refer to the standard Virtual CD documentation.

Serving a Virtual CD over the Network

Virtual CD FS 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 installs on the file server. When a virtual CD is inserted in a shared virtual CD drive, the data on the CD is available to all users who have access to that share.

One of the main differences between Virtual CD FS and the standard Virtual CD edition is that the CD data is accessed over a share rather than a virtual CD drive. This method has the following advantages:

- It provides you with a CD-ROM server solution that enables centralized administration and control of all available virtual CDs.
- The data on your CDs is available to your users immediately; no further installation is needed on the network client stations.
- You can use Windows network mechanisms to control access to the data on your virtual CDs.
- The data can be accessed by any number of users.

Aside from these advantages, the fact that no virtual drives are installed on the users' machines also entails some limitations. Specifically, Virtual CD FS does not work with the following:

- Applications that require a local CD drive (e.g., as a copy-protection technique).
- CD contents (such as audio files) that require a local CD drive.



If you use both data CDs and CDs that run applications requiring a local drive, we recommend a mixed Virtual CD solution. In other words, you can use Virtual CD FS to provide central access to your data CDs, and install the classic Virtual CD edition on workstations that run applications requiring a local CD drive. Thus Virtual CD lets you tailor access to CDs over the network to fit your specific needs.

Sharing a Virtual CD

The procedure for sharing virtual CDs is very simple. A step-by-step description follows.



Insert a virtual CD

If you do not have any virtual CDs, please create one now and insert it.



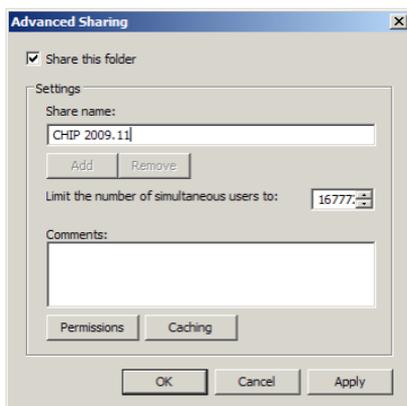
During the process of creating a virtual CD, the Image Wizard lets you define a number of properties for the virtual CD, (such as start program, keyboard shortcut, etc.). Many of the settings available here will have no effect when the virtual CD is run from a share rather than from a virtual drive on a workstation. If you define a keyboard shortcut, however, you can use it to insert the virtual CD when you are working at the file server console.

Insert the virtual CD you wish to publish over the file server into a virtual drive. If a program starts automatically when the CD is detected, it shuts down again.



Share the inserted virtual CD

To publish the contents of the CD in your network, right-click on the drive and select **Properties**. On the **Share** page of this dialog, select **Advanced sharing**. Then select the **Share this folder** option and, in the Share name field, enter the **description** to be used when addressing the virtual CD drive as a share.



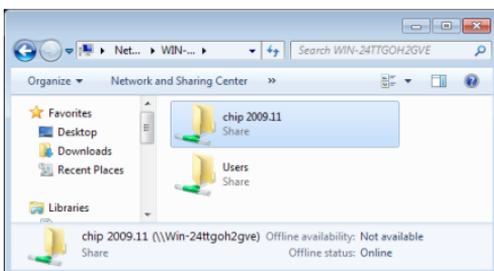
The **share name** is not entirely user-definable. Enter a meaningful description that conveys information about what can be accessed under that share.

Click on **OK** to close this dialog and activate the share.



Test access to the share

This CD content is now available to all workstations in the network, and can be accessed in the share you have defined. Here is an example, showing a Windows 7 workstation:



That's it! - You have created your first virtual CD share for publication over the Virtual CD file server.

Sharing a Recordable Virtual CD

Virtual CD FS supports virtual CD burners. This means you can provide a recordable medium over the network that has all the advantages of a virtual CD. For example, you can store data on an encrypted virtual DVD-RAM to protect it from unauthorized access.



In addition to DVD-RAM, you can serve other re-writable media as well. The DVD-RAM, however, offers special features; for example, you can directly block the “write” function. That is why we recommend choosing the DVD-RAM for writing data.

The procedures for creating and sharing an encrypted DVD-RAM are described in detail in the following.



Serving a virtual DVD-RAM

If you have not yet created a virtual DVD-RAM for use as an (encrypted) hard drive, please do so now.



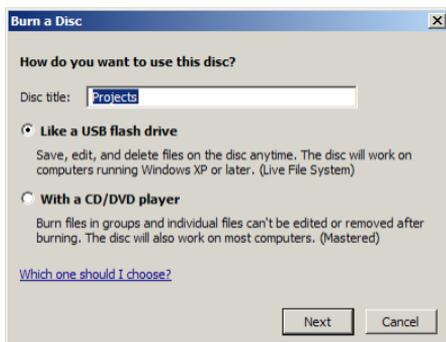
While creating a virtual blank using the Virtual CD Blank Media Wizard, you can—or, if you are creating a data safe, you have to—define a password that protects the DVD-RAM. The password serves only to restrict access to the DVD itself; in other words, the DVD cannot be inserted unless the password is entered. To prevent unauthorized access to the DVD-RAM when it is in a drive, assign user privileges to the share accordingly.

Now insert the virtual DVD-RAM in a virtual burner, to share the blank in the Virtual CD file server. If a program starts automatically when the CD is detected, it shuts down again.

2

Format the medium

Once the DVD has been inserted, it needs to be formatted. You are automatically prompted to format the medium when it is inserted. Confirm the prompt and, if a password has been assigned, enter the password. The formatting dialog opens.



Enter a name in the **Disc title** field and make sure you select the **Like a USB flash drive** option. The CD is subsequently formatted with the UDF file system.



Which file systems are available depends on the Windows version you use. UDF permits the most flexible use, but is available only in Windows Vista and later. For FAT32 formatting the data medium must have at least 192 MB disk space. FAT is not supported by Windows Server 2003. The FAT32 system limits the volume label length to 8 characters.



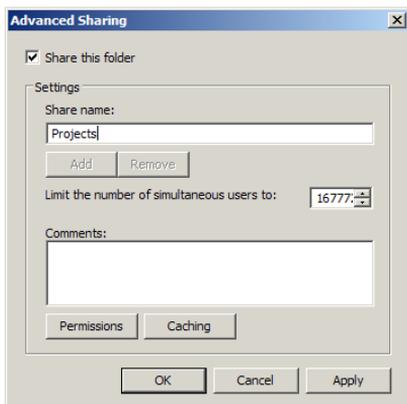
If you wish to format a data medium with less than 192 MB, simply use a different operating system to perform the formatting. Your Virtual CD FS software includes a workstation license for a Virtual CD installation that you can use, for example, for testing your new DVD-RAM.

3

Share the inserted virtual CD

To publish the contents of the DVD-RAM in your network, right-click on the drive and select **Properties**. On the **Share** page of this dialog, select **Ad-**

vanced sharing. Then select the **Share this folder** option and, in the **Share** name field, enter the description to be used when addressing the virtual CD drive as a share.

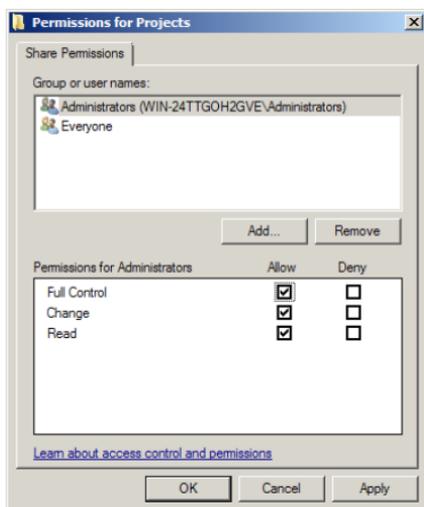


Users who are allowed to write in this drive require both “read” and “write” privileges. Click on the **Permissions** button to configure the corresponding settings.

In our example, the **Everyone** group is accorded “read” privileges and the **Administrators** group is granted **Full control**, which includes “write” privileges.



You can assign both “read” and “write” privileges using the permissions defined for the Windows share. Exercise caution and grant permissions in accordance with your requirements.



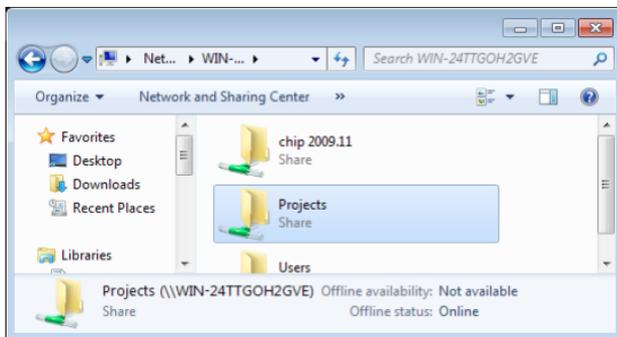
Do not add a recordable blank to any collection, as this would make the medium non-recordable.

Click on **OK** to close this dialog. the DVD-RAM is now available in your network for use as a “data safe.”

4

Test access to the share

The share is now available for reading and writing on all workstations in the network (depending on permissions). Here is an example, showing a Windows 7 workstation:



That's it! - You have published your first recordable DVD-RAM using the Virtual CD file server.

Important Notes on Managing Shares

Creating shares to distribute access to your virtual CDs over the Windows network interface is a very simple procedure. It is so easy, in fact, that you may soon find you have a huge number of shares, all of which require management. This is why we recommend adhering to the old adage: "Less is more!" In other words, make sure you create only the shares you really need. When you are sharing a resource, you can select a virtual CD drive or the content of the virtual CD (i.e., a folder) that is in a virtual drive.



The share you create is effective for the virtual CD drive, even if you select a folder on the virtual CD, rather than the drive. When you share CD content (as opposed to the virtual drive), the drive in which that CD was inserted will only be accessible when it contains that particular CD.



When you change the number of virtual CD drives in your file server, existing shares may become invalid. Any time you add or remove one or more drives, be sure to check all of your shares.

A share remains effective—i.e., visible to all users—until you remove it, regardless of whether the virtual CD required by the share is inserted or not. Furthermore, your users can see all shares, regardless of any restrictions on

user access privileges. This is why we recommend observing the following, to help keep share management as simple as possible:

- Enter meaningful texts for share names and descriptions, so your users can tell what is available in each share.
- Change the share name when the you change the content of the share.
- Remove shares from virtual CDs that are not available—even if the virtual CD will be unavailable for only a short time.
- Let your users know which shares they can access and which they cannot (e.g., if there are shares in which they do not have privileges).



The more your users know about the shares they can use, the fewer questions you will need to field.



It might sound like a lot of work, but in the long run it will save you a great deal of time and trouble. If your users know which virtual CDs they can—and, more importantly, cannot—access, they are less likely to find themselves faced with cryptic Windows error messages that they need to ask you about.

Collections

The number of virtual CD drives that Virtual CD FS can install on your file server is limited. The FS edition of Virtual CD, however, lets you extend the number of virtual CDs that you can insert in a given drive, by putting virtual CDs together in what we call a collection. A collection is a number of virtual CDs and can be inserted like a single CD. A virtual CD collection is characterized by the following properties:

- A collection can contain up to 255 virtual CDs.
- Only data CDs or DVDs that are neither encrypted nor password-protected can be added to a collection.

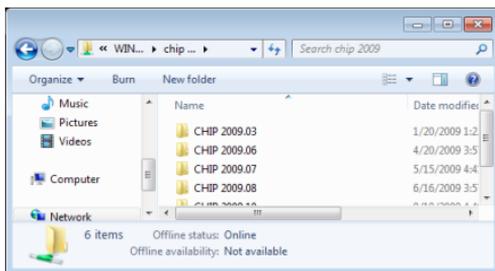


It is **NOT** possible to add images in ISO format, nor images of multisession CDs, to a collection.

- Collections use the UDF format, which means the CDs it contains are not subject to the restrictions imposed by the Joliet format, such as limits on the file name length.
- Collections can be used only with the FS edition of Virtual CD.
- Virtual CDs must be registered in Virtual CD FS—i.e., visible in the CD Control Center program—before they can be added to a collection.
- When you insert a collection in a virtual drive, it is displayed as a directory that contains one folder for each virtual CD in the collection. The folder names are derived from the CD labels.

Collections are particularly practical for use with applications that have data distributed over a large number of CDs, requiring a directory tree to make all data the available at one time. Collections can also be used simply to make multiple virtual CDs available simultaneously in a single virtual drive.

The icon displayed in the CD Control Center for a collection shows a stack of virtual CDs.



Collections are also displayed, but cannot be used, in other Virtual CD editions. That is why we recommend storing collections in such a way that they are visible only in Virtual CD FS and, if desired, in Virtual CD NMS.

How to Turn 23 into 5865

Under optimum conditions, Virtual CD FS can set up 23 virtual CD drives on your file server—assuming the server has only one floppy disk drive, one CD drive and one hard disk drive. This generally makes 23 virtual CDs available over the network. Twenty-three CDs, however, are too few for a viable CD-ROM server solution, and even for some applications.

That is why we developed virtual CD collections. A collection can consist of up to 99 virtual CDs; thus if you have 23 virtual drives, you can insert up to 2277 virtual CDs at one time.



This value is just given as an example, and can be implemented only under optimum conditions. Most file servers have more than one hard drive, and many have more than one physical CD drive. Thus it is not always possible to have 23 virtual CD drives on a file server. Still, with only 10 virtual CD drives you can serve 2550 virtual CDs at one time. Even with just one virtual drive, you can serve far more CDs simultaneously than you could with any solution that uses only physical drives.

Creating a Virtual CD Collection

Collections are created using the Collection Wizard. All you need for a collection is more than one virtual CD. The procedure is described in detail below.



The Collection Wizard is available only with a Virtual CD FS installation on a file server. This program does not exist in Virtual CD installations on workstations; collections must be created on the file server.



Load the collection

Double-click on the **Virtual CD v10** desktop icon to run the Virtual CD Starter and click on **Manage images** to open the CD Control Center.



In the Ribbon of the CD Control Center, open the **Tasks and Tools** tab and click on **Collection**.



The Collection Wizard opens.

2

Define the properties of the collection

Enter a **description** of the new collection. The other properties (label and target file) are automatically assigned names based on the description entered. These can be edited if desired.



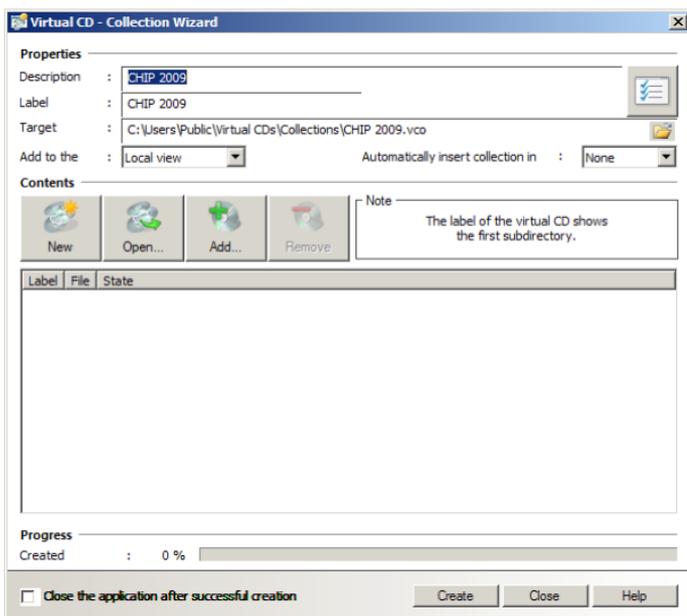
Enter descriptive texts that convey information about the purpose of the collection and the CDs it contains.

In the **Target file** field, **<folder for new virtual CDs>\Collections** is the default. This ensures that collections are automatically stored in a central folder.



Collections are distinguished from virtual CDs by their file name extension: **.vco**. Do not enter a different file name extension for a collection; otherwise, the collection will not be correctly recognized by all Virtual CD programs.

In our example, we group several virtual CD containing issues of the CHIP magazine from 2009, and call the collection **CHIP 2009**.

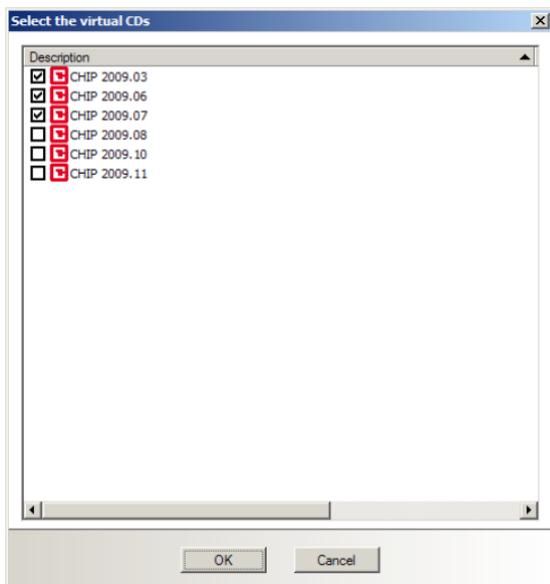


3

Add virtual CDs to the collection

Now you can add virtual CDs to the collection. Click on **Add** to open the Select the virtual CDs dialog. The list shows all virtual CDs that can be added to the collection.

In our example, we select the first 3 items in the list.



Click on **OK** to confirm your selection and add the virtual CDs to the list in the Collection Wizard.

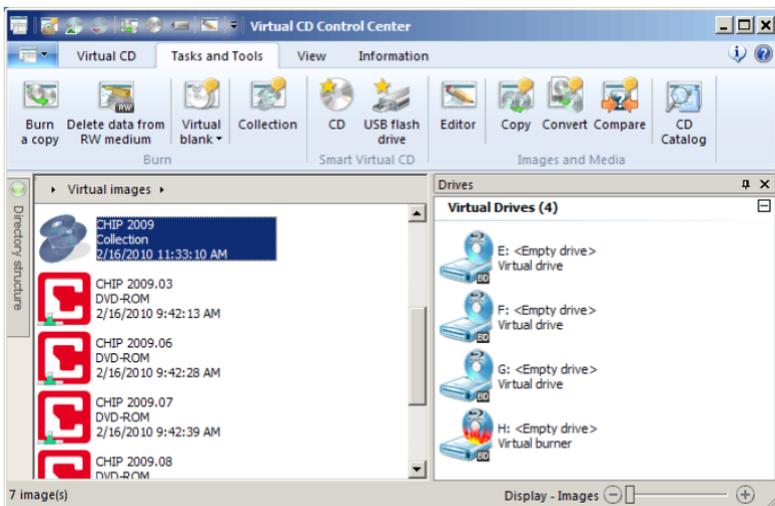


This procedure is even simpler if you select the desired virtual CDs in the CD Control Center first, then right-click on your selection and open the Collection Wizard from the shortcut menu. The Collection Wizard automatically loads the selected CDs when it opens. If any CDs were selected that you find you do not wish to add, click on **Remove** to remove them from the list.

4

Create the collection

Once you have finished defining the collection, click on Create to complete the process. The new collection is automatically added to the specified view in the CD Control Center and is ready for use.



How long the creation process takes depends on the number of virtual CDs selected and the volume of data they contain.

5

Test the new collection

That's it! - You can now test the collection by inserting and using it.

Editing a Collection

To edit an existing collection, open the CD Control Center and select **Collection Wizard**.



You cannot edit a collection while it is in a virtual drive.

1

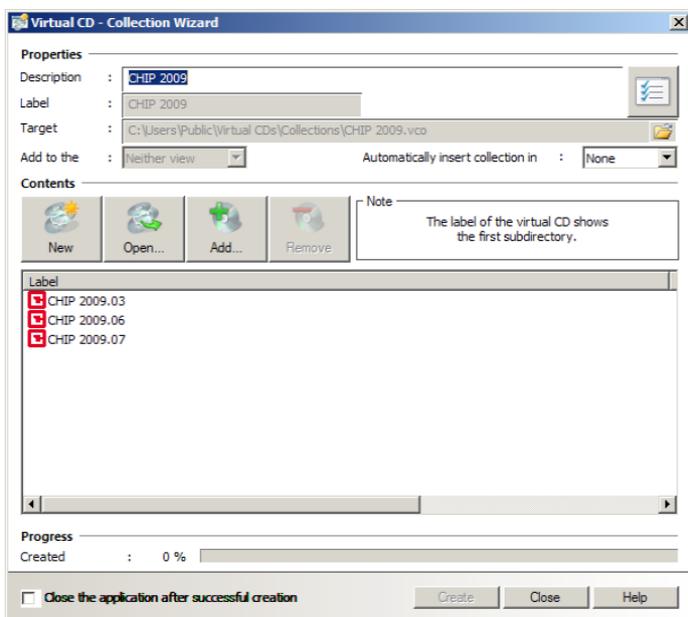
Run the Collection Wizard

This is similar to the procedure for creating a virtual CD collection: double-click on the Virtual CD v10 desktop icon to run the Virtual CD Starter and click on Manage images to open the CD Control Center. Before running the Collection Wizard, select the collection you wish to edit. In the Ribbon in the CD Control Center, open the Tasks and Tools tab and select click on Collection.

2

Load the collection

The Collection Wizard opens and loads all files in the selected collection. Modify the collection as desired and click on “**Create**” to write your changes. In our example, we loaded the **CHIP 2009** collection.

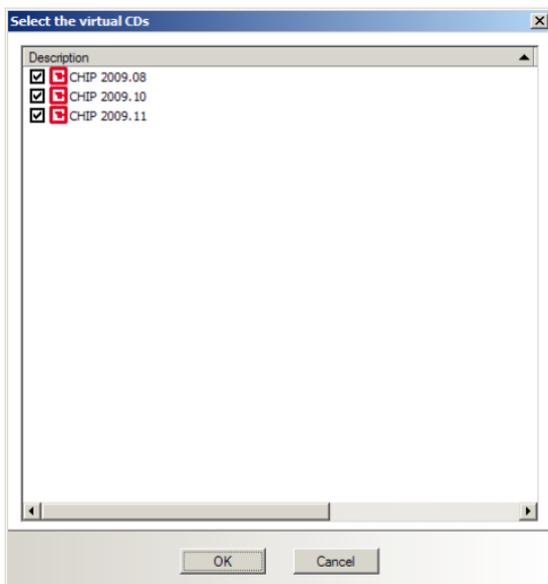


When editing an existing collection, not all properties can be changed. The label, the target file, and the view to which the collection will be added can be defined only the first time you create the virtual CD collection.

3

Add images to the collection

In our example, we now add more virtual CDs to our collection. Click on **Add** and select the desired virtual CDs in the Select the virtual CDs dialog.



The Select the virtual CDs shows only the virtual CDs that do not belong to any collections.

Click on **OK** to confirm your selection and add the virtual CDs to the list in the Collection Wizard.

4

Create and test the collection

Once you have finished editing the collection, click on **Create** to complete the process.

That's it! - Once the process has been completed, the collection can be inserted and the changes tested.



To create another collection at this point, click on **New** to reset the Collection Wizard and enter new data.

Updating Collections

A collection is comprised of references to the contents of the virtual CDs that belong to it. When changes are made in one virtual CD, the entire collection needs to be updated.

To **update a collection**, begin by opening the Collection Wizard. The procedure is remarkably easy.

First, open the collection in the Collection Wizard, as you would to edit the collection. Click on **Create** without making any changes in any of the settings. This stores the latest changes in the virtual CDs in this collection and updates the collection, which can now be inserted again.



When a virtual CD that belongs to a collection is modified, the collection will not function properly until after it has been updated.



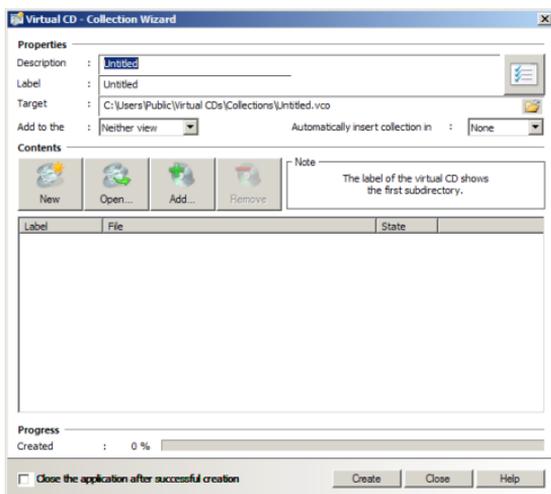
The “Status” column in the Collection Wizard shows whether a virtual CD in the collection has been modified.

Collection Wizard

The **Collection Wizard** lets you put virtual CDs together in collections, which in many ways are handled like single virtual CDs. For example, you can “insert” a collection in a virtual CD drive to make all CDs in the collection available at one time. When a collection is in a drive, it is displayed in the Explorer as a root directory with one folder for each of the CDs it contains. The CD labels provide the folder names. The Collection Wizard enables both creation and editing of collections.

You can open the Collection Wizard from the Ribbon of the CD Control Center by clicking on Collection in the **Tasks and Tools** tab, or from the Quick Start utility menu.

Enter the data required for creating a virtual CD collection in the main window of the Collection Wizard. This window shows both the collection properties, such as the

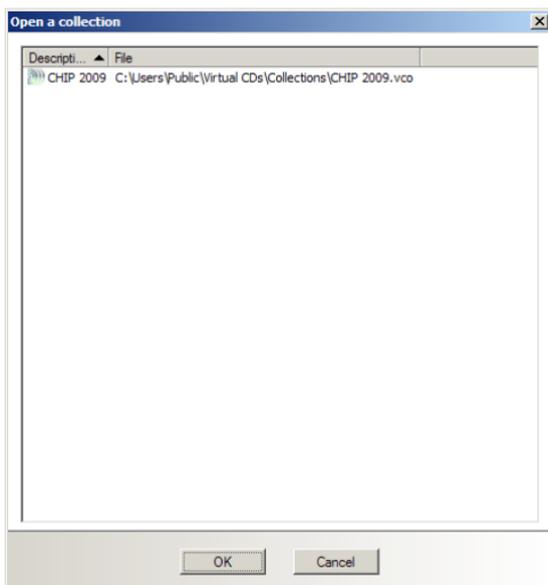


description, label, target file and view, and the virtual CDs that belong to the collection. In addition to the main window, the Collection Wizard has the following dialogs for other information:

- Open a collection
- Select the virtual CDs
- Advanced collection properties

Opening a Collection

The “Open a collection” dialog lists all existing collections that are registered in Virtual CD and can be loaded in the Collection Wizard. To open this dialog, click on **Open** in the Collection Wizard.



Select Virtual CDs

The “Select the virtual CDs” dialog lists all virtual CDs that are registered in your Virtual CD program and can be added to a collection. To open this dialog, click on **Add** in the Collection Wizard.



Virtual CDs that already belong to collection are not shown in the list.

Advanced Collection Properties

The advanced collection properties include a number of settings that may be familiar to you from the classic Virtual CD edition.



Click on this button, next to the Description and Label buttons in the Collection Wizard, to open the advanced properties.

In this dialog, you can define a **password**, an **application** to be launched when the collection is inserted, a **keyboard** shortcut for inserting the collection, and a **comment**.



Keep in mind that these values are applied only on the file server, and thus affect only tasks carried out locally with the collection. When the collection is accessed through a share, these settings have no effect.

Collections and Virtual CDs

Collections have a lot in common with virtual CDs. For example, they have the same types of properties (CD label, keyboard shortcuts, etc.), and they are managed in the same manner (insertion, ejection, etc.). There are a couple of decisive differences, however, besides the fact that a collection consists of multiple virtual CDs:

- You cannot create catalogs for collections. Catalogs can be made for individual CDs; not for collections.
- Any time you modify a virtual CD that is in a collection, that collection has to be rewritten. This fact can help you decide whether or not you wish to

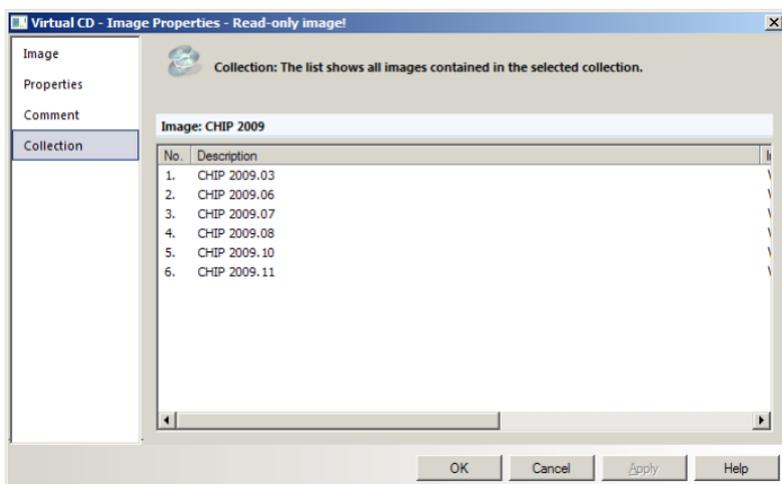
add a particular virtual CD to a collection. If you have a virtual CD that is frequently updated, for example, you might prefer not to have it in any collection, since both the CD and the collection have to be updated.



If you run the creation process again to re-write a virtual CD that is in a collection, the collection must be updated; otherwise, the collection will contain invalid references and will not function properly.

Properties of a Collection

You can open an image properties dialog for a collection, analogous to the properties dialog for a virtual CD. In addition to the dialog pages familiar from virtual CD properties, this dialog has a **Collection** page.



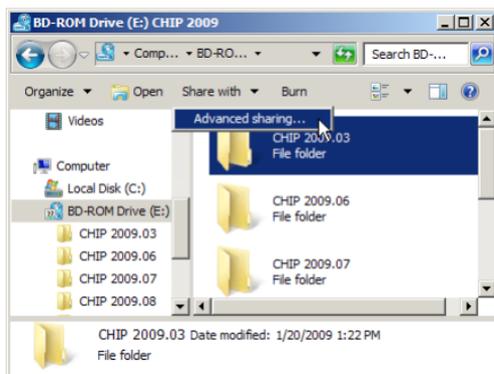
This page shows a list of the virtual CDs currently in the collection.

Sharing a Collection

You can share a collection in the same manner as you share a virtual CD. When a collection is inserted in a shared virtual CD drive, the CDs it contains are displayed in a directory tree on the network workstations.

This can cause difficulties, since some applications cannot work with CDs that are in directory trees. When a share on the workstation is assigned a drive letter, applications that look for data directly below the CD drive letter will not function properly, because they detect folders rather than the expected data.

To share a particular CD in a collection, just share the folder displayed for that CD.



In this case, the CD content is available on the workstation just as if the CD itself was shared.

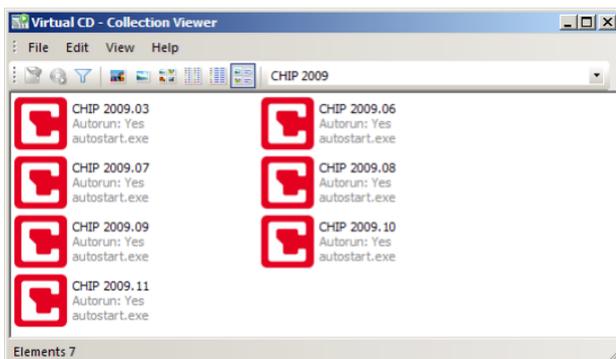
When deciding whether to share individual virtual CDs in a collection or share the entire collection, it is important to consider the application and how it handles its data.



It is not possible to share folders on CDs using the Share Wizard. We recommend switching off the use of the Share Wizard in the Windows Explorer “**Folder Options**,” or selecting “**Advanced Sharing**” in the properties dialog.

Collection Viewer

Collections can contain a large number of files, which can make it difficult to keep track of all your data if you only use the Explorer view. That is why Virtual CD FS has a special Collection Viewer that gives users direct access to the CDs in a collection.



The Collection Viewer shows all CDs that currently belong to the collection and enables access to the data they contain. As far as possible, it presents a view of the CDs that permits access as if the CD itself were in a drive. Double-clicking on a CD in this viewer executes the CD's autorun program. If the CD does not have an autorun program, the Explorer is opened to allow access to the data.

The Collection Viewer is stored in the <VCDFS>\SystemViewer directory, and consists of the following files:

- vc10collview.exe - The Collection Viewer.
- vc10collview.ger - The language file.
- vc10collview.cfg - The central configuration file.

Configuration and Execution

Configuration and execution of the Collection Viewer can be customized by editing the configuration file. There are two ways to do this:

- Open the central configuration file by clicking on it in the Explorer
- Use the command line (see below for details)

Configuration File

The central configuration file, **vc10collview.cfg**, "tells" the Collection Viewer where to read the collection data. If the Collection Viewer is launched without command line arguments that indicate otherwise, it loads its settings from this configuration file. Immediately following installation, this file is empty (except for a few comments) and the Collection Viewer opens with an empty window.

Proceed as follows to specify a path in the **configuration file** that contains the collections you want to open in the Viewer:

```
[ShareN]
Path=<share containing the collection>
Name=<description>
```

For each path you enter, you need to create a "[ShareN]" section; for "N", enter "1" for the first path, "2" for the second, and so on (without quotation marks).

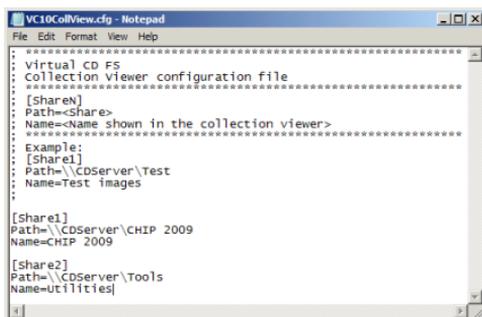
The following example illustrates the definition of two paths.

1

Edit the configuration file

This is a simple text file, which you can process using the Windows “Notepad” editor, for example. In the “Path=” line, enter the name of a share in your system. The names entered in our examples are for demonstration purposes only.

When you have finished, save your changes.



```

Virtual CD FS
Collection Viewer configuration file
-----
[Share0]
Path=<Share>
Name=<Name shown in the collection viewer>
-----
Example:
[Share1]
Path=\\CDServer\Test
Name=Test images

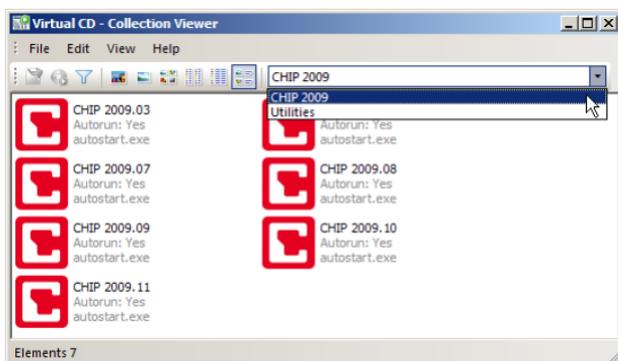
[Share1]
Path=\\CDServer\CHIP 2009
Name=CHIP 2009

[Share2]
Path=\\CDServer\Tools
Name=Utilities
  
```

2

Test the configuration

Run the Collection Viewer by double-clicking on the `vc10collview.exe` file. The program should list the CDs contained in the first collection, and show both collections for selection in the drop-down list.



If there are any collections missing from the list, check the configuration file and make sure the user account has permissions in the corresponding shares.

Editing these configuration files can easily be kept to a minimum, since changes in collections are automatically loaded the next time the Collection

Viewer is opened. Manual editing is required only for adding and deleting collections.



If you have a large number of CDs, you might want to write separate configuration files for various users—for example, according to area of application—and use the command line to pass the desired file to the Collection Viewer.

Command Line

The Collection Viewer has a number of command line arguments available for use with the program call:

```
Vc10CollView.exe [/lng:<ID>] <share> | <configuration file>
```

Arguments:

- **/lng:<ID>** - Optional argument for defining the language. Possible values for <ID> are **GER** (for German) and **ENG** (for English). You do not need this argument unless you wish to force a language. Normally the program selects the language automatically.
- **<Share>** - Share in which the collection is published (for example, \\CD-Server\CHIP_2009).
- **<Configuration>** - Configuration file in which the configuration data for the collection is stored.

You can use the command line to open the Collection Viewer with a specific collection displayed, for example.

User Access

There are a number of different ways to provide users with access to the Collection Viewer. The easiest way is to share the folder in which the Collection Viewer is stored and, if possible, set up a shortcut to it on users' desktops. It can also be called from within other programs. Which method is the best depends on your particular environment.



The Collection Viewer does not have any other dependencies, and can be distributed in the network and called as desired.

Important Points to Consider

With Virtual CD FS, you can make a very large number of virtual CDs available in your network quickly and easily. To keep your Virtual CD FS system from becoming too complicated, please be sure to observe the following tips:



Store your virtual CDs in centralized locations. The easiest way to do this is to create one directory for all your virtual CDs (make sure the hard disk has sufficient space available for this purpose). The fewer different locations you have for storing virtual CDs, the easier it will be to keep track of them and to carry out all administrative tasks. If you use a global configuration path, for example, we recommend storing your “local” virtual CDs in one location and your “global” CDs in another.



Re-organize your virtual CDs regularly. Virtual CDs take up a lot of disk space. It is a good idea to take stock, so to speak, on a regular basis and delete any CDs you no longer need. Otherwise, you might be in the middle of making a new virtual CD when you discover that there is not enough space for it.



Keep track of your shares. You can share CD drives, folders in CD drives, and the folders shown for individual virtual CDs in a collection. Since shares are not automatically removed when shared CDs are ejected, make you remove each share as soon as it is no longer needed. Otherwise, you will have to remember which virtual drive a particular CD must be inserted in to enable use of its share.



Do not use the Share Wizard. This wizard will not let you share all of the elements that Virtual CD FS can use as shares (such as directories located in a CD drive). We recommend disabling the Share Wizard in the Windows Explorer “Folder Options,” or selecting “Advanced sharing” in the properties dialog.



Collections only work with the Virtual CD FS edition of Virtual CD. If you have defined a global configuration path in your Virtual CD FS program—for example, in order to share virtual CDs with workstations that use the standard edition of Virtual CD—it is possible to allocate collections to the “global” view. Since collections are used only by Virtual CD FS, however, they should either be stored locally or protected by allocation of permissions.



Make sure the gateway user account for the Virtual CD v10 FS service has “read” and, if necessary, “write” privileges for all virtual CDs. This ensures that the virtual CDs and any associated shares are automatically available immediately following a server restart, before any users have logged on to the file server.



When you publish a large number of CDs using collections, it is a good idea to categorize them by topic and use the Virtual CD Collection Viewer to present them to your users. This provides a far more user-friendly solution than access through the Windows Explorer can offer.

