



# Microsoft<sup>®</sup> Business Solutions FRx<sup>®</sup> 6.7 – Report Design Essentials I – Virtual PC Setup Guide

Course Number: 8399A

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## Introducing Microsoft Virtual PC 2004

This hands-on lab is designed using Microsoft Virtual PC 2004. Virtual PC is a technology that allows a single computer to act as a host for one or more virtual machines. The virtual machines each run in a separate window on your host computer.

The Microsoft® Windows® software that is installed into the virtual machines is unmodified, full version software which operates exactly the same as it does when it is installed on a physical computer.

The following definitions will help you with the remainder of this document.

- **Virtual PC:** An application from Microsoft that allows you to install and run other operating systems. Virtual PC is not included with this hands-on lab, but it can be acquired from your MSDN® subscription or purchased retail.
- **Host computer:** This is the physical computer on to which an operating system and the Virtual PC application have been installed.
- **Host operating system:** This refers to the operating system that is running on the physical computer.
- **Virtual machine:** The virtual machine is the computer that is running inside of Virtual PC. In this document Virtual PC refers to the application running on the host and virtual machine refers to the guest computer that is running in the application.
- **Guest operating system:** This is the operating system that is running inside of the virtual machine.

**Note:** To issue the CTRL+ALT+DEL keyboard combination inside a virtual machine, use <RIGHT>ALT+DEL instead.

## Host Machine Requirements

The hardware of the host computer must be on the Microsoft® Windows® hardware compatibility list. You can view this list by going to <http://www.microsoft.com/hwdq/hcl/>.

The student computer requires the following hardware and software configuration.

### Hardware

The following hardware is the minimum required for the student computer:

- Intel Pentium III 1 GHz
- PCI 2.1 bus
- 1 GB of RAM (1.5 GB of RAM will provide better performance)
- 18-gigabyte (GB) hard disk
- 512-kilobyte (KB) L2 cache
- DVD player
- Non-ISA network adapter (10/100 Mbps full duplex required)

- 8-MB video adapter
- Super VGA (SVGA) monitor (17 inch)
- Microsoft Mouse or compatible pointing device
- Projection display device that supports SVGA 800x600, 256-colors

## Software

The following software is required for the student computer:

- A default installation of Microsoft Windows XP Professional.
- The latest Windows XP Service Pack and all the current security updates must be installed.
- A default installation of Microsoft Virtual PC 2004.

## Setup Overview

Each host computer for the student will contain **2** virtual machines. The virtual machines are based on standard Microsoft Learning base virtual hard disks (VHD) files.

The following base virtual hard disk files are needed:

- **Base04c.vhd** (Microsoft® Windows XP® base virtual hard disk)

The following virtual machines are used:

- **London01**, running Windows XP (based on FRx67.vhd)

## Activation Overview

The Windows operating systems installed in the virtual machines are not activated. You must activate Windows in each virtual machine, before you can setup the virtual machines on the student computers.

To activate and set up the virtual machines on the student computers requires three steps:

1. Obtain a product key that you will use to activate the virtual machines.
  - **Note:** You will only have to do this one time. You can use this product key to activate virtual machines in any other course that requires activation.
2. Activate each of the virtual machines.
  - **Note:** You will only have to activate each virtual machine in a course one time. You can use the activated virtual machines to set up all the student computers every time you deliver the course.
3. Install the activated virtual machines on the student computers.

The steps are explained in more detail below.

## Step 1: Obtaining Product Keys for Activation

To receive product keys that you will use to activate the virtual machines, contact Microsoft Learning.

- Send an e-mail to [mslpkd@microsoft.com](mailto:mslpkd@microsoft.com).  
The e-mail must contain your program ID (MCT, CPLS, or Certified Partner number).
- Within 24 hours, you will receive a response e-mail to the e-mail address that is stored with your program record, indicating the steps you must follow to obtain your product keys.

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**Note:** You will only need one product key for each operating system (Windows XP Professional, Windows Server 2003, or Small Business Server 2003). You can use the product keys to activate virtual machines in any other course that requires activation.

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## Step 2: Activating the Virtual Machines

You need to activate each virtual machine with the product key that you obtained in the previous step.

Once you have activated the virtual machines, you can set up those activated virtual machines on each of the student computers every time you deliver the course.

To activate the virtual machines, you need to perform the following steps:

- Install the base virtual hard disk files.
- Extract the virtual machines.
- Register and configure the virtual machines, so that changes can be saved.
- Start each virtual machine, use your product key to activate the virtual machine by using the telephone, and then shut down the virtual machine.
- Configure the virtual machines again, so that students cannot save changes.

These steps are explained in more detail below.

### Extracting the Base Virtual Hard Disk Files

1. Extract the following base virtual hard disk files to the **C:\MBS** folder.
2. Browse to the folder on your instructor DVD that contains the compressed Virtual PC virtual machines.
3. Double-click the **Base04c.exe** file.
  - a. **Base04c.vhd** (Windows XP base virtual hard disk)  
**C:\MBS\BASE**
4. Click **Accept** the End-User License Agreement (**EULA**).
5. Ensure that **C:\MBS\Base** is listed in the **Destination folder** text box, and then click **Install**.
6. When the WinRAR Self-Extractor has fully extracted the file the status screen will disappear.

- **Note:** If the base image is to be reused with other courses browse to the **Base04c.vhd** file located under C:\MBS\Base and change the properties to **Read-Only**.

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**Important:** You must repeat these steps on all student computers.

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## Extracting the Virtual Machines

1. Browse to the folder on your instructor DVD that contains the compressed Virtual PC virtual machines.
2. Double-click the **FRx67.exe** file.
3. Click **Accept** the End-User License Agreement (**EULA**).
4. Ensure that **C:\MBS\FRx67** is listed in the **Destination folder** text box, and then click **Install**.
5. When the WinRar Self-Extractor has fully extracted the file it will automatically register the image in the Virtual PC Console and boot the image.
6. When the machine is booting up you will be asked to associate the image file with the Parent image. Click **Change** and select the base image located under **C:\MBS\BASE** and click **OK**.

Extracting the virtual machines may take a few minutes.

## Activating the Virtual Machines

1. When the **Welcome to Windows** dialog box appears, press <RIGHT>ALT+DEL (instead of CONTROL+ALT+DEL).
2. In the **Log On to Windows** dialog box, complete the following information:
  - User name: **Administrator**
  - Password: **P@ssw0rd**
  - Click **OK** to log on to the virtual machine.
  - After logon, a message box appears explaining that you must activate this copy of Windows with Microsoft.
3. In the **Windows Product Activation** message box, click **Yes** to confirm that you want to activate Windows now.
4. On the **Let's activate Windows** page, select **Yes, I want to telephone a customer service representative to activate Windows**, and then click **Next**.
  - **Note:** You cannot activate the virtual machine over the Internet. The current TCP/IP configuration of the network adapter in the virtual machines makes it impossible to connect to the Internet. Also, the virtual machine may not have all available security updates installed.
5. On the **Activate Windows by phone** page, click **Change Product key**.

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**Important:** You must change the product key to the one you received from Microsoft Learning. You cannot activate Windows with the currently configured product key that Microsoft Learning used to create the virtual machine. That product key does not allow activation.

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6. On the **Change product key** page, in the **New key** text boxes, type the product key that you received from Microsoft Learning for this operating system, and then click **Update**.
7. On the **Activate Windows by phone** page, in the **Step 1** drop-down list box, select your location.
8. Dial the telephone number that is displayed in **Step 2**.
9. Follow the telephone instructions to activate Windows. This will take a few minutes.
  - After you have completed the activation process. You are logged on to Windows.
10. On the **Start** menu, click **Shut Down**.
11. In the **Shut Down Windows** dialog, complete the following information:
  - What do you want the computer to do: **Shut down**
  - Comment (if displayed): **Activated Windows** and then click **OK** to shut down Windows.
  - Windows shuts down, and the virtual machine window closes.

## Configuring the Virtual Machines to Enable Undo Disks

**Note:** This may cause a performance decrease depending upon your hardware configuration. Using the Undo Disk feature can be used to go back to a previous instance of the image before changes had been made.

1. In the Virtual PC Console window, select **FRx67**, and then click **Settings**.
2. In the Settings for FRx67 dialog box, change the following settings:
  - **Undo Disks** setting: **Enabled** (select the **Enable undo disks** option)
  - **Close** setting: **Automatically close without a message and: Turn off and delete changes**
3. Click **OK** to close the Settings dialog box.

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**Important:** Make sure that you store the (activated) virtual hard disk files plus the settings file (FRx67.vmc) from the **C:\MBS\FRx67** folder, so that they can be used later.

Each time the course is delivered, you can install the same activated virtual machines on the student computers.

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## Step 3: Installing Activated Virtual Machines on Student Computers

The following steps need to be performed on each student computer.

### Installing the Base Virtual Hard Disk Files

1. Extract the following base virtual hard disk files to the **C:\MBS** folder.
2. Browse to the folder on your instructor DVD that contains the compressed Virtual PC virtual machines.
3. Double-click the **Base04c.exe** file.
  - b. **Base04c.vhd** (Windows XP base virtual hard disk)  
**C:\MBS\BASE**

7. Click **Accept** the End-User License Agreement (**EULA**).
8. Ensure that **C:\MBS\Base** is listed in the **Destination folder** text box, and then click **Install**.
9. When the WinRar Self-Extractor has fully extracted the file the status screen will disappear.

## Installing the Activated Virtual Machines

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**Note:** The steps below require the files from the virtual machines that you activated earlier. Do not extract the virtual machine from the instructor DVD (**FRx67.exe**), because it has not been activated.

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1. On the student computers, copy the following files to the **C:\MBS\FRx67** folder:
  - **FRx67.vmc** (settings file for the London FRx67 virtual machine)
  - **FRx67.vhd** (virtual hard disk file, activated earlier)
2. Double-click on the **FRx67.vmc** file to Register the image file in the Virtual PC console. This will automatically register the image in the console boot the virtual image.

## Starting a Virtual Machine

1. On the student computer, on the **Start** menu, point to **All Programs**, and then click **Microsoft Virtual PC**.
  - If the Virtual PC Console window does not appear, then right-click the Virtual PC icon in the notification area (system tray), and click **Show Virtual PC Console**.
2. In the **Virtual PC Console** window, select the virtual machine that you would like to open, and then click **Start**.
  - **Note:** Depending on your time zone, the first time you start each of the virtual machines, you may receive an error message that the parent virtual hard disk appears to have been modified. You can ignore this message.
3. The virtual machine will start up in a new window.

## Closing a Virtual Machine

1. On the student computer, in the virtual machine window, on the **Action** menu, click **Close**.
  - **Note:** To avoid accidentally closing the virtual machine during the lab, the **Close** button in the top right corner of the virtual machine window is disabled in the lab virtual machines.
2. The virtual machine window will close. All changes to the virtual hard disk are discarded.