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# Installing CFX-5 on Windows Systems

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## Introduction

CFX-5.5.1 for Windows is supplied on one CD, which contains all of the files needed for a complete installation of CFX-5 on the Windows operating system only.

For the purposes of this documentation, 'Windows' refers to 'Windows NT' and 'Windows 2000'. Other versions of Windows are not fully supported, see [Supported Platforms \(p. 29\)](#) for details.

This chapter explains how to load the CFX software onto your system from the CFX-5.5.1 CDs, assuming that there is a CD drive attached to your system. If not, it should be possible to copy the files from CD into a directory on your workstation (using another networked workstation to read the CD), and install from this directory. It may also be possible to mount the CD on another system and share it with the system you want to install on.

You must have enough disk space to load the software you want to use. The requirements for disk space are discussed in [Disk Space Requirements \(p. 30\)](#).

The installation is a full graphical procedure based on the "Wizard" style common to many Windows applications. You will be prompted to make selections and provide input throughout the installation process, as described below.

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### Installing as Administrator

You should install the software using the `administrator` userid. Individual users will then need to be set up to use the software as described in [User Setup \(p. 137\)](#).

When you install CFX-5 you will get a warning if you are not `administrator`. If you ignore the advice given, the probable consequences are as follows:

- No changes will be made to add CFX-5 to a program group on the Start menu.
- No desktop shortcut will be created.
- You will not be able to install `rsh`.

- You may find that registry settings are not created correctly.

This is not recommended. However, you should be able to use most of the software.

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## Local and Domain login

CFX-5 works whether you are logged in locally to a workstation or into a Microsoft Windows Domain through your workstation.

CFX-5 has not been tested on a Novell network.

For installation of CFX-5 on a network, please see [CFX-5 Installation on a Network \(p. 99\)](#).

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## Before you Install the CFX-5 Software

Read the [Hardware and Software Requirements \(p. 27\)](#).

If CFX-5.5.1 is already installed, you should uninstall it before starting a new installation. See [Removing Installed Software \(p. 101\)](#).

The License daemon must be stopped (if you have a previous version of CFX-4 or CFX-5 installed) before upgrading the CFX Licensing Tools.

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### Enabling TCP/IP Networking

Even if you will not need to connect the network adapter on your computer to a network, you will still need to ensure that TCP/IP networking is enabled on your machine before the CFX software will run.

To check this:

- Log on as `administrator`.
  - On Windows NT: from the Start menu, select **Settings > Control Panel**. Double-click on the **Network** icon, and click on the **Protocols** tab.
  - On Windows 2000: from the Start menu, select **Settings > Control Panel**. Double-click on the **Network and Dial-up Connections** icon, then on the **Local Area Connection** icon and then click on the **Properties** button.
- If the TCP/IP Protocol is not installed, then choose to add it. During the course of the installation you will be asked to provide various information. If your machine is not connected to a network (and you do not intend to connect it) then we suggest you use the following responses. However, if your machine is or will be connected to a network, you should find out the correct information from your system administrator.

**Do you wish DHCP to provide the IP address?** We suggest you answer **NO**.

**IP Address.** If you do not wish to use your computer on a network, we suggest you give the value 192.168.1.1 . The reason we suggest this value is explained in the Internet Standards document called RFC 1918.

**Subnet Mask.** We suggest you accept the default value if you do not wish to use your machine on a network.

**Default Gateway.** We suggest you accept the default value (even if this is blank) if you do not wish to use your machine on a network.

**Adapter Card Primary WINS Server?** We suggest that you do not install this. You may then ignore any messages about the WINS Server being missing.

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## Installing CFX-5 with the Setup Wizard

- You must log into the Windows machine as the `administrator`.
- Make sure that you have exited from all other programs. On Windows 2000 you should make sure that Microsoft Outlook or Outlook Express is not running. It may not be sufficient to close the application window, you may need to end the process using the Windows Task Manager. To do this, click on the **Processes** tab in the Windows Task Manager. To close Microsoft Outlook, look for the process `OUTLOOK.EXE`, highlight it and then click **End Process**. If you do not do this, you may find that the Setup Wizard stalls and does not switch to the correct windows when required.
- Insert the CFX-5 CD into the CD drive. The installation program will automatically start up unless you have disabled Autorun on the CD drive. If the installation procedure does not start up, click on the **My Computer** icon, and then click on the **CD** icon.

After a brief introduction to the installation, a menu will appear with the following options:

- **Install Other Software**
- **Install CFX Software**
- **Visit our website**
- **Contact us**

You should first choose **Install Other Software** and install the software you need as follows:

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## Installing Adobe FrameViewer 5.5

If you do not already have Adobe FrameViewer 5.5 installed to view the on-line help, you should install it now.

**Note:** If you have Adobe FrameMaker 5.5 installed, you must still install FrameViewer to use the on-line help in CFX-5. After installing FrameViewer, you will have to reset your folder options using Start->Settings->Folder Options (or reinstall FrameMaker) if you wish documents with names ending `.fm` to be automatically opened in FrameMaker rather than FrameViewer.

We suggest the following information for the FrameViewer installation:

- **Welcome Screen:** Read the text and click on **Next**.
- **License Agreement:** Read the text and click on **Yes** if you agree to the terms and conditions.
- You should select a **Registered Owner Installation** and click on **Next**. Enter your Name and Company, click on **Next**. Click on **Yes** to confirm this information.
- **Language support:** **US English** is recommended. Click on **Next**.
- **Destination Directory:** Accept the default. If this directory does not already exist, you will have to confirm that you want the directory to be created. Click on **Next**.
- **Type of installation:** Choose a **Typical** installation by clicking on the **Typical** icon.
- **Program Folder:** Accept the default and click on **Next** to proceed.
- Check the information given, and click on **Next** when you are satisfied that it is correct. The installation of the required components of CFX-5 will then proceed.
- The FrameViewer will now be installed. When it has finished, click on **Finish**. A README file about FrameViewer will be displayed. Read the text and exit from the file browser.
- Click on **OK** on the warning message about restarting your computer.
- Click on **OK** on the message about configuring ATM.
- You may get a message which refers you to the MSC/PATRAN Installation and Operations Guide. This message can be ignored.

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## Modifying the Monitor Size

After installation of FrameViewer is complete we recommend modifying the initialisation file, `FMVIEWER.INI`, located in the FrameViewer installation directory. This will allow the help pages to fit onto your monitor without the need to scroll up and down to view each page.

- Open the file `FMVIEWER.INI` (located by default `c:\Program Files\Adobe\FrameViewer5.5`) in a text editor such as Notepad, and find the line which specifies the monitor size. It should read:

```
MonitorSize=Default
```

If you change this line to specify a smaller monitor size, then the online help pages will appear larger; if you specify a larger monitor size then the on-line help pages will appear smaller. A size of 21 inches will allow the help pages to fit onto most screens (including lap tops).

- Edit the line to read:

```
MonitorSize=21in
```

- To allow the change to take effect, save the `FMVIEWER.INI` file, and exit FrameViewer. When you next start the viewer, you will be able to see the change.

You can alter this setting to a different value if you would like the help pages to appear a different size.

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## Installing Adobe Acrobat Reader With Search

Adobe Acrobat Reader With Search can be used to view and search the CFX-5 documentation in PDF format. It is also required to view the CFX-Post documentation. See [CFX-5 Documentation in PDF Format \(p. 272 in Installation & Introduction to CFX-5\)](#). **It is highly recommended that you install Adobe Acrobat Reader with Search when you install the CFX-5.5.1 software.** You will need to provide the following information for the Adobe Acrobat Reader installation:

- **Welcome screen:** Read the text and click on **Next**.
- **License Agreement:** Read the text and click on **Accept** if you agree to the terms and conditions.
- **Destination Directory:** Accept the default. If this directory does not already exist, you will have to confirm that you want the directory to be created. Click on **Next**.

**Important:** The Adobe Acrobat Reader will now be installed. When it has finished, choose **NOT to restart your computer**, and then click on **Finish**.

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## Installing the CFX License Manager

The License daemon must be stopped (if you have a previous version of CFX-4 or CFX-5 installed) before upgrading the CFX Licensing Tools.

Use the **back** button from the **Install Other Software** screen to return to the main menu, and choose **Install CFX Software**.

The CFX License Manager is used to set up and test the licensing for installed CFX products. If you already have the CFX License Manager from a previous CFX-4 or CFX-5 installation, it is not necessary to upgrade it, although the version shipped with CFX-5.5.1 may contain bug fixes and improvements, and we recommend that you upgrade it.

To install the CFX License Manager, click the relevant button.

The following responses are recommended:

- **Welcome Screen:** Read the text and click on **Next**.
- **License Agreement:** Read the text and click on **Yes** if you agree to the terms and conditions.
- **Information:** Read the information given and then click on Next.
- **Installation Folder:** Accept the default. If this directory does not already exist, you will have to confirm that you want the directory to be created, and then click on **Next**. Note that if you wish to run a license service from this machine, you must install the license tools on a local disk. The tools should not be installed in the directory where you plan to install CFX-5.5.1.
- **Program Folder:** Accept the default and add CFX-5 to a Program Group called **CFX** on the Start menu. The Program Group will be created if it does not already exist. Click on **Next** to proceed.
- Click on **Finish** to complete the installation.

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## Installing CFX-5.5.1

You can now use the Install CFX-5.5.1 for Windows button to install CFX-5.5.1 software. The following responses are recommended:

- **Welcome Screen:** Read the text and click on **Next**.

- **License Agreement:** Read the text and click on **Yes** if you agree to the terms and conditions.
- **Installation Folder:** Accept the default directory unless you wish to install CFX-5 in a different directory. This directory will be known as **<CFXROOT>** throughout the rest of this documentation. Note that you must install CFX-5.5.1 in a different directory to any other CFX products such as CFX-4 or CFX-TASCflow. The directory name must not contain any spaces. Click on **Next** to proceed.
- **Type of installation:** Select whichever type of installation suits your expected use of CFX-5.5.1 on this system (if you aren't sure, we suggest that you choose a **Typical** installation). Click on **Next** to continue.
- **Program Folder:** Accept the default and add CFX-5 to a Program Group called **CFX** on the Start menu. The Program Group will be created if it does not already exist. Click on **Next** to proceed.
- Check the information given, and click on **Next** when you are satisfied that it is correct. The installation of the required components of CFX-5 will then proceed.

If you have selected a Solver Parallel Slave installation, click on **Finish**. The rest of this section does not apply and you can skip straight to [Parallel Setup \(p. 89\)](#).

- **Shortcut:** Create a shortcut to CFX-5 on the Desktop: click on **Yes** to proceed.
- The installation is now complete. If you are prompted to restart your computer, do so and follow the steps below to finish setting up CFX-5.5.1 for your system.
- Before you can use your software, you will need to set up licensing. Instructions for setting up licensing can be found in [CFX-5 Licensing \(p. 105\)](#).

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## Setting up the Adobe FrameViewer

If you have installed Adobe FrameViewer for viewing the on-line help documentation, then you should do the following to ensure that the on-line help can find the fonts it needs.

- Select **Programs>Adobe>Adobe Type Manager>Adobe Type Manager** from the Start menu. Enter your name and organisation in the panel which opens.
- Select the **Fonts** tab, and change the directory to `C:\Psfonts\Pfm`.
- Select the **ZapfDingbats** font, and click on **Add**.
- Exit the Adobe Type Manager.

When using the Adobe FrameViewer, you may still find warnings in the FrameViewer console about some fonts being substituted for unavailable fonts. However, this should not noticeably affect the appearance of the on-line help documents.

You may find that the help text is consistently too big or too small for your monitor. [What to do if the FrameViewer On-Line Help Text does not fit on a Page \(p. 278 in Installation & Introduction to CFX-5\)](#) gives details on how to change the help text size.

If you want to print from the viewer to a printer, you must set up a default printer for your Windows workstation (if you do not already have one). This can be done by selecting **Settings>Printers** from the Start menu, and clicking on the **Add Printer** icon. If you do not set a default printer, you will get error messages whenever the FrameViewer is opened:

```
Can't find a compatible default printer. Try reconfiguring  
your printer setup in the control panel.
```

These messages can safely be ignored, but you will not be able to print any of the help text.

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## Setting up Parallel

If you have purchased licenses to run CFX-5 in parallel, you will need to follow the instructions in [Parallel Setup \(p. 89\)](#) to set it up.

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## Creating a Shortcut

As part of the installation procedure described above, you were asked if you wanted to create a shortcut to CFX-5 on the Desktop. If you answered **Yes**, then a shortcut will have been created automatically.

If you later need to create a shortcut manually (for example, if your original shortcut is accidentally deleted), you can do this by dragging the `cfx5launcher.exe` icon from the Windows Explorer onto the Desktop (this can be found in the `<CFXROOT>\bin\<release>` directory). You will then need to edit the properties of the new shortcut (click the right mouse button over the icon and select **Properties**) to add the `-NoConsole` option to the shortcut command (i.e at the end of the **Target:** description). You should also set the **Run:** option to **Minimized**.

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## Parallel Setup

CFX-5 allows users to run the CFX-5 Solver in parallel so that a calculation may be spread over several different machines or over different processors in the same machine, if you have a multi-processor machine. Each parallel run requires a single “master” process which controls the other processes, known as “slaves”.

If you have purchased the parallel option you will need to do the following to ensure that users can execute CFX-5 jobs in parallel. When setup as described below, CFX-5 should always use its own version of the PVM software and never a version installed elsewhere.

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### General Requirements

The following should be noted:

- Both the CFX-5 Solver and the PVM software (and `rsh` in most cases) must be installed on each system on which the CFX-5 Solver is to be run in parallel. These components will automatically be installed as part of a **Full**, **Typical** or **Solver Parallel Slave** installation type, or a **Custom** installation which includes either the Required Files or Solver Parallel Slave files (see [Installing CFX-5 with the Setup Wizard \(p. 82\)](#) for more details).
- Remote access must be available from the PVM master nodes (systems on which parallel runs will be started) to PVM slave nodes (systems on which the CFX-5 Solver will actually run as a slave process).

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### Testing rsh

You can test the rsh for a Windows node using the command:

```
rsh winhost cmd /c echo working
```

On UNIX platforms, use the command:

```
rsh unixhost echo working
```

Note that you will must have the same user name on all Windows and UNIX machines involved in a parallel run.

---

## PVMhosts File

The file `PVMhosts` must exist in the `<CFXROOT>\config\<release>` directory of the CFX-5 installation on the PVM master node and made readable by all users of the software. This file is a database containing information about where CFX-5, and consequently the PVM software, have been installed on each system. It is consulted when PVM is started to determine where PVM is located on each slave node.

### Defining a Windows node

An entry for each Windows slave node like the one below should be entered into the `PVMhosts` file:

```
&<slave> dx=<CFXROOT>/tools/CYGWIN32_NT/pvm3.4/lib/win32/pvmd3.exe
```

where `<slave>` is the name of the PVM slave node and `<CFXROOT>` is the location of the CFX-5 installation on the PVM slave node.

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**Important:** Forward slashes must be used to enter filepaths in the `PVMhosts` file, even if you are entering the filepath for a windows node.

### Defining a UNIX slave node

Similarly, if you are setting up a UNIX slave node, an entry for each slave node like the one below for a UNIX system should be entered:

```
&<slave> dx=<CFXROOT>/tools/pvm3.4/lib/pvmd
```

where `<slave>` is the name of the slave node and `<CFXROOT>` is the location of the CFX-5 installation on the slave node. If CFX-5 is installed in the same location on all UNIX nodes only a single line is needed:

```
* dx=<CFXROOT>/tools/pvm3.4/lib/pvmd
```

**Note:** If you choose to define the UNIX nodes using `* dx` remember that you must still define your Windows machine separately using the `&<machine>` command.

**Note:** On some architectures this entry may not work correctly and you may get an error message of the type 'cannot find node'. If this is the case, you must use an individual entry for each slave using the above method.

You will also need to create a .rhosts file on each UNIX slave which references the master Windows host. See [Individual user setup \(p. 72\)](#) for details.

## Combining Entries

You can also combine the above so that, for example, if most nodes are on a UNIX system but one node is on a windows system, you may enter:

```
* dx=<CFXROOT>/tools/pvm3.4/lib/pvmd
&<slave> dx=<CFXROOT>\tools\CYGWIN32_NT\pvm3.4\lib\win32\pvmd3.exe
```

Any nodes that are defined individually will take precedence over the general settings.

If a PVMhosts file does not exist when the software is installed one containing an entry like the one above will be created automatically. You can then modify this file with your favourite text editor.

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## hosts.ccl File

In order to use the **Distributed Parallel** ([Distributed Parallel Setup \(p. 53 in CFX-5 Solver and Solver Manager\)](#)) mode of CFX-5, the file `hosts.ccl` must exist in the `<CFXROOT>\config\<release>` directory of the CFX-5 installation on the master node and be made readable by all users of the software. This file is a database containing information about the available nodes and where CFX-5 has been installed on each of them. The file is used by the CFX-5 Solver Manager when constructing a parallel run.

This file is written using the CFX Command Language. It defines a set of HOST DEFINITION objects, one for each available node. For example:

```
EXECUTION CONTROL:
  PARALLEL HOST LIBRARY:
    HOST DEFINITION: kangaroo
      Installation Root = E:\CFX-5.5.1
    END
    HOST DEFINITION: wallaby
      Installation Root = /usr/local/cfx
      Host Architecture String = sgi_r12k_irix6.5
      Number of Processors = 16
      Relative Speed = 1.7
```

```
END
HOST DEFINITION: koala
  Installation Root = C:\CFX\CFX-5.5.1
  Host Architecture String = intel_p3_winnt4.0
END
HOST DEFINITION: mypc
  Remote Host Name = my_pc
END
END
END
```

None of the values for each host are mandatory, and the following empty host definition is perfectly valid:

```
HOST DEFINITION: parakeet
END
```

Host names are limited to the set of valid CCL object names. In particular, they must not contain periods (.) or underscores (\_) and must start with a letter. See [Remote Host Name \(p. 93\)](#).

For most installations, however, it will be necessary to supply the `Installation Root` parameter, which should point to the `<CFXROOT>` directory in which CFX-5 is installed. Any other parameters which are required for a parallel run, for example the system type of the remote host, will be determined automatically by CFX-5 if they are not set. A little time may be saved at startup by giving these values explicitly. The available parameters are:

`Installation Root`

Set to the `<CFXROOT>` installation directory on this host. If it is set to the special string `none`, this indicates that there is no CFX installation on the remote host, which can sometimes be useful if only the solver binary is available. Note the direction of the slashes to specify directory paths in the above example. Windows machines use back slashes, while UNIX machines use forward slashes.

### Host Architecture String

This should be set to the actual architecture `<arch>` of the remote host. CFX-5 will use this value to select the most appropriate solver executable for this node. These strings can be obtained by giving the command `<CFXROOT>\bin\cfx5info -arch` on the node in question. If the shorter `<os>` values (for example `solaris`) are given in this position, the generic solver executable will always be used for this host.

### Number of Processors

As implied, the number of processors on the machine.

### Relative Speed

The relative speed information does not influence partition sizes. When executing the CFX-5 Solver through the CFX-5 Solver Manager, these values are used for display purposes only and may be safely omitted. If provided, they will be included in the list of hosts when setting up a parallel run.

### Remote Host Name

To include hosts in the parallel run with names that contain, for example, underscore characters, you can add the “Remote Host Name” parameter to the HOST DEFINITION with the correct network name for the host and use a readable alias as the name of the object.

### Solver Executable

A solver executable may be supplied explicitly if necessary. This is usually only required when using `Installation Root = none`, and is recommended for advanced users only. The following substitutions are made on the string:

|                 |                                       |
|-----------------|---------------------------------------|
| <code>%v</code> | CFX-5 version string (e.g. 5.5.1)     |
| <code>%a</code> | architecture of the executable to run |
| <code>%p</code> | parallel suffix for the executable    |

If it is not supplied, this parameter has the default value `<Installation Root>\bin\%v\%a\solver%p.exe`

If no file of this name exists already when CFX-5 is installed, one will be created containing the installation host. You can modify this file with a text editor.

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## Setting up the rsh Service

If you want to be able to run parallel processes such that the master process runs on a different machine to the slave process, then you must install an `rsh` service on each of the slave machines. You do not need to install an `rsh` service on a machine which is only going to be used as a master process (where the slaves are all running on other machines), or if you are going to use the same machine for both master and all the slaves (for instance, if you have a 2-processor machine).

If you already have an `rsh` service installed on your computer, you may be able to use the existing service to run CFX-5 in parallel. However, if you experience difficulty in running in parallel, you will need to stop the old service, uninstall it, and then install the `rsh` service provided with CFX-5 instead, as described below. Note that CFX-5 uses the same `rsh` service as CFX-TASCflow, and so you will not need to replace a CFX-TASCflow `rsh` service with the one shipped with CFX-5.

**Important:** This section contains important information about the security implications of using an `rsh` service.

The CFX-5 Parallel Solver requires an `rsh` service for its inter-process communication when master and slave processes are running on different machines. An `rsh` service is a standard feature on UNIX systems but not on Windows. CFX-5 includes its own implementation of `rsh` that can be installed to allow the CFX-5 Solver to run in parallel over a network. Alternatively, you may obtain and use a commercial or public domain implementation of an `rsh` service (note that not all implementations of `rsh` will be suitable for use with CFX-5).

The `rsh` service supplied with CFX-5 has the following features:

- When installing the `rsh` service, a username must be nominated to own the service. We will refer to this user as the “`rsh` owner” in the following text.

- When you install the `rsh` service, users on any other system which is connectly directly to your network (including users of the Internet, if your network is connected directly to the Internet) can run any commands that the `rsh` owner can run, access any data that the `rsh` owner can access, and write to any files that the `rsh` owner can write to.
- For this reason, we recommend that you create a special account on any system on which you want to run `rsh`, solely for the purposes of being the `rsh` owner. You should restrict the privileges of this user to the minimum possible. However, in order to run the CFX-5 Solver in parallel, the user must be able to run it and must be able to write to `C:\TEMP`.
- By default, the `rsh` service is run as the system user. Unless you want remote users to have system privileges (NOT recommended), you **MUST** change the user running the `rsh` service to a different user (preferably a specially-created user account as described in the last paragraph). Instructions for how to do this are included as part of the installation procedure as described below.
- By default, any user on any system can use the `rsh` service. You can restrict access to specific hosts and specific users by creating the file `C:\winnt\system32\drivers\etc\hosts.equiv`. This file should contain lines with the following format:

```
hostname
```

If this file exists, then the use of the `rsh` service is restricted to the specified hosts. The effectiveness of this restriction is dependent upon the security policies on your network, and it may be relatively straight-forward for experienced users to bypass this restriction.

If the information above causes you concern, we recommend that you do not install the `rsh` service. Your use of the CFX-5 Solver in parallel will then be restricted to running several processes on one machine.

The `rsh` service can be installed as follows (please ensure that you have read and understood the security implication of installing an `rsh` service, as described above, before installing): Instructions are given for Windows NT; Windows 2000 filepaths will be slightly different.

- Log on to the machine on which you want to install the `rsh` service as administrator.
- Copy the file `<CFXROOT>\bin\<release>\winnt\rshd.exe` to the system directory `C:\winnt\system32\rshd.exe`.
- Open a Windows command prompt and change directories to this system directory by typing

```
cd C:\winnt\system32
```

at the prompt.

- At the prompt, type

```
rshd /install
```

to install the `rsh` service. Do NOT start the service yet.

- Close the prompt window.
- Now select **Settings>Control Panel** from the Start menu, and double-click on the the **Services** icon.
- In the **Services** panel, double-click on the **Remote Shell (RSH) Service** line. A **Service** window will pop up. The **Startup Type** should be set to **Automatic**. Change the **Log On As** setting from **System Account** to **This Account**. Enter the name of the user account which will own the `rsh` service (NOT the administrator account), the password and the confirmation of the password. When you have finished, click on **OK**.
- If you want to create a `hosts.equiv` file (described in the security warning above), you should do this now.
- Make sure that the **Remote Shell (RSH) Service** is still selected in the **Services** panel. Press **Start**. A popup window should indicate that the `rsh` service is attempting to start. This panel should quickly close and the **Status** of the **Remote Shell (RSH) Service** should now indicate that it is started.
- You will need to check that the correct version of `rsh` is being used. Check that your path lists the `C:\winnt\system32` directory before any Exceed directory (and any other directory containing an `rsh` executable) to ensure that the correct version of `rsh` is being used. You can check and set your path by selecting

**Settings>Control Panel** from the Start menu, selecting the **System** icon and the **Environment** tab, and looking at the settings of the `PATH` variable. If any directory containing an `rsh` executable precedes the `C:\winnt\system32` directory, you will need to swap the order in which these directories appear.

- Re-boot your workstation now. This is necessary in order for the `rsh` service to function correctly.
- After re-booting your workstation, test the functionality of the `rsh` service. Open a Windows Command Prompt window and type the command

```
rsh <machine_name> cmd /c set
```

where `<machine_name>` is substituted for your computer's network name. The command should echo back a number of environment variables that are set for the user account given in the **Service** panel of the Remote Shell (RSH) Service.

The `rsh` service has now been successfully installed.

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## Loading CFX-Build CAD Access Options

CFX-Build supports the import of various CAD options, which are listed in [CAD Access Support \(p. 184\)](#). These options are licensed separately by AEA Technology plc.

The files necessary for the CFX-Build IGES, EUCLID 3, Pro/ENGINEER, STEP and Parasolid access options are included in the CFX-Build support files subset on the Windows CD. These files are loaded during the standard installation of CFX-5.

All files required for EDS/Unigraphics, CATIA, ACIS CAD and CADD5 CAD import are also provided on the Windows CD. These options require more disk space and are not installed during a typical installation.

See [CAD Access Options for CFX-Build \(p. 183\)](#) for licencing information for each CAD option.

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## CFX-5 Installation on a Network

For simplicity, and to obtain the maximum performance from CFX-5, we recommend the local installation of CFX-5 on the system on which it will be run whenever possible. However it is possible to install CFX-5 on a shared drive on a Windows server or on a UNIX system running SAMBA server (see below for more details). In both cases the installation procedure is the same:

- Login to your Windows workstation as a user who has write access to the directory you want to use on the file server.
- Use the Windows Explorer to find the appropriate directory on the network and map it to a network drive.
- Insert the CFX-5 CD and follow the usual procedure, except that you must specify a directory on the mapped network drive for the installation location rather than the default on C: .
- Set up licensing as described in [CFX-5 Licensing \(p. 105\)](#).

Some components of CFX-5 must always be installed locally:

- If you are going to use your workstation as the license server then you must install the CFX Licensing Tools on a local drive. This is because the CFX-5 License Service runs as a service that is started at boot time, when network drives are not mapped.
- If you are going to use your workstation as parallel slave with another workstation as the master than you must install the Solver Parallel Slave files on a local drive. This is because the `rsh` service is started at boot time, and we recommend that it is run by a special account with minimal privileges. Because this user does not login and because different users may choose different mappings for network drives the solver parallel slave needs to be installed on a disk that will always be available.

Each user of CFX on the workstation will also need to map the appropriate directory to a network drive using the Windows Explorer, and create a desktop shortcut to

`<CFXROOT>\bin\<release>\cfx5launcher.exe`. This can be done by dragging the `cfx5launcher.exe` icon from the Explorer onto the desktop. You will then need to edit the properties of the new shortcut (click the right mouse button over the icon and select

**Properties**) to add the `-NoConsole` option to the shortcut command (i.e at the end of the **Target:** description). You should also set the **Run:** option to **Minimized**. Alternatively, you can login as `administrator` and set this up for all users of each system.

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## Location of your Working Files

Provided you have appropriate permissions on your network, your working files (CFX-Build Databases, CFX-5 Definition Files, etc.) can, in general, reside on a local disk drive, or on a shared drive on another Windows system, or on a UNIX system running the SAMBA server. The only known exception to this is that CFX-Build Unigraphics import requires datafiles to be on a local NTFS partition.

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## SAMBA Configuration

Depending on how your SAMBA server is configured, you may have to login to your UNIX server and change the case of several files in order to get CFX-5 to work. On our SAMBA server, we have the following settings, which required this step.

```
mangle case = yes  
case sensitive = yes  
preserve case = yes
```

If you have the default settings (shown below), this step should not be necessary:

```
mangle case = no  
case sensitive = no  
preserve case = yes
```

If you install CFX-5 on a SAMBA server which is case-sensitive and have difficulty getting it to work, please contact your CFX Support representative.

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## Removing Installed Software

You should be logged on as `administrator` to uninstall the CFX-5 software. Ensure that no CFX-5 processes are being used before attempting to uninstall CFX-5.

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### CFX-5

To remove CFX-5 from your machine:

- Select **Settings>Control Panel** from the Start menu.
- Select **Add/Remove Programs**, and click on CFX-5.5.1 in the list of programs.
- Click on **Add/Remove**, and follow the instructions given.
- If any files have been added to your installation directory since CFX-5 was installed, these files will not be deleted by the installation process. In this case, you will be warned by the installation procedure that some files have not been removed. You can delete these files manually if you do not want to keep them.

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### Adobe FrameViewer, Adobe Type Manager and Adobe Acrobat Reader.

To remove the Adobe FrameViewer and Adobe Type Manager:

- Select **Settings>Control Panel** from the Start menu.
- Select **Add/Remove Programs**, and click on **Adobe FrameViewer v5.5** in the list of programs.
- Click on **Add/Remove**, and follow the instructions given.
- Select **Add/Remove Programs**, and click on **Adobe Type Manager 4.0** in the list of programs.
- Click on **Add/Remove**, and follow the instructions given.
- Select **Add/Remove Programs**, and click on **Adobe Acrobat 4.0** in the list of programs.
- Click on **Add/Remove**, and follow the instructions given.

- You can now also go to the the C:\Program Files\Adobe directory and delete the FrameViewer 5.5 folder.
- You should also remove Adobe FrameViewer from the path. Go to **Start>Settings>Control Panel**. Double click on **System** and click on the **Environment** tab.
- Click on the **Path** item, and its contents will be shown in the **Value** window.
- Remove the filepath that leads to FrameViewer. By default this path is C:\Program Files\Adobe\FrameViewer5.5\
- Click **OK** to save the settings and exit.

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## rsh Service

The instructions here apply for Windows NT.

- Log in as `administrator`.
- Select **Settings>Control Panel** from the Start menu, and double-click on the **Services** icon.
- Click on **Remote Shell (RSH) Service** in the list of processes, and then on **Stop**.
- Open a Windows command prompt and change directories to this system directory by typing

C:

```
cd \winnt\system32
```

at the prompt.

- At the prompt, type

```
rshd /remove
```

to remove the `rsh` service.

- Delete the file C:\winnt\system32\rshd.exe.

After finishing all of the uninstalling, it is advisable to restart your workstation.

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## CFX Licensing Tools

If no CFX products which use the licensing tools are installed (e.g. CFX-4.4), you can now remove them as follows:

- Log into your license server as `administrator`.
- Start the CFX License Manager.
- Select **Server>Stop**.
- Select **Server>Service>Remove**.
- Exit from the License Manager.
- Now open the **Control Panel** (available from **Start>Settings**) and use **Add/Remove Programs** to remove the licensing tools.

