Fleet Manager 2002 *Professional* Network Configuration Guide

Overview

The VDO Fleet Manager Professional utilises an advanced three-tier client-server model and is designed to scale from running on a single stand-alone computer to running on multiple computers on a local area network (LAN) or wide area network (WAN).

This document describes the procedure required to configure the VDO Fleet Manager Professional for network operation. It is intended for network administrators and assumes that the reader has an in-depth understanding of the networking of Microsoft operating systems. Administrative access to the network is required in order to make the configuration changes documented below.

Components

The VDO Fleet Manager Professional utilises a technology called Distributed Component Object Model (DCOM). This model provides a great deal of flexibility and caters for a wide variety of client-server configurations. This document describes a typical client-server configuration and does not cover all possible configurations.

The VDO Fleet Manager Professional system consists of a number of components, which perform discrete functions and interact with one another. The table below lists these components and provides a brief description of their functions:

Component	Filename	Functions
Client	FMCli7.EXE	Provides the VDO Fleet Manager Professional user interface including all windows, dialogs, menus, toolbars etc.
Database Server	FMSvr7.DLL	Retrieves data from the database and passes it to the Client. Receives data from the Client and updates the database.
Reports Server	FMRpt7.EXE	Receives report requests from the Client. Manages the report queue. Controls the Report Engine. Informs the Client about report generation progress. Transfers completed report files to the Client.
Report Engine	FMRpt.mde	Generates report files.
Database		The Microsoft SQL Server or Microsoft Database Engine (MSDE) is used to store the data.

In a stand-alone configuration, these components all run on a single computer. The installation set installs the VDO Fleet Manager Professional to run in stand-alone mode.
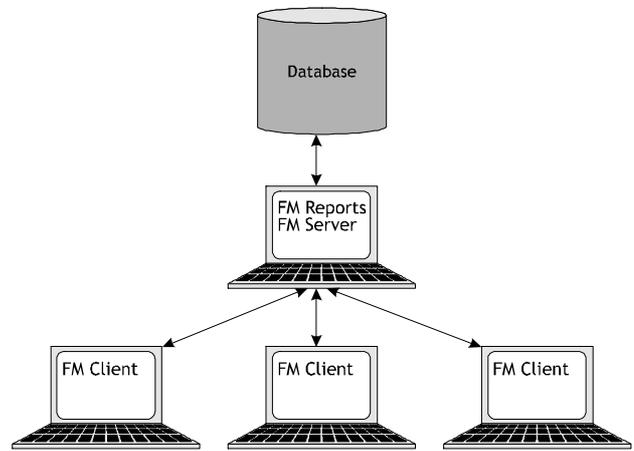
Configurations

There are two methods to configure the VDO Fleet Manager Professional software to access one database in a networked environment. The first method (Multiple Connection to the Database), involves each client having the

FMSvr7.DLL component connecting to the single database. The second method (Multiple DCOM connections to FMServer), is to have the FMSvr7.DLL component on one computer with multiple clients accessing this single server.
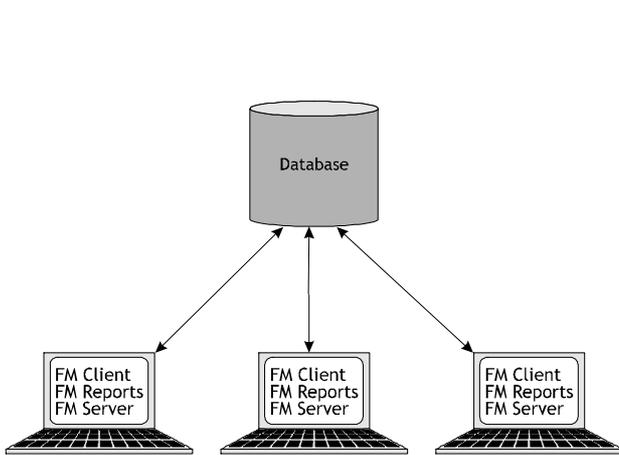
Multiple Connection to database.

Multiple DCOM connections to FMServer.

Comparing Configurations

The two methods of setting up VDO Fleet Manager Professional in a network environment both have advantages and disadvantages. The person responsible for installing the VDO Fleet Manager Professional system should discuss each point with the local network administrator and agree on the correct approach for the site.

Multiple Connection to the database	Multiple DCOM connections to FMServer
Advantages:	
1) Initial configuration is simpler, as the FMAdmin can be used to set up the network connection.	1) Long term maintenance is easier. If the database parameters need to be updated (server, database or security settings), the change can be made in one place.
	2) Database user credentials are only entered once on the server and not on each client.
	3) The database connections are shared across all clients connected via the same FMSvr7.DLL. This has a performance benefit.
	This will also allow more than two clients to use the system concurrently when MSDE is used for the database server.
	4) As most of the processing is performed at the server, the client computers can be of a lower specification and still have adequate performance.
	5) The client computers do not need to have any SQL server or SQL client components installed as the server handles the database interface.

Multiple Connection to the database	Multiple DCOM connections to FMServer

Multiple Connection to the database

Disadvantages:

1) Each client has it's own database connections. There will be a performance degradation if more than two clients connect to a MSDE database server.

2) Long term maintenance is more difficult as any change to database parameters have to be applied to each client computer.

3) Database user credentials have to be entered on each client computer.

4) All client computers need to be of a higher specification as each will be performing the server processing.

5) All computers need to have the SQL Server client access components installed.

Multiple DCOM connections to FMServer

1) The initial configuration of the system is more complicated due to the extra components that need to be configured on each computer.

Multiple connections to the database

Requirements

To configure the VDO Fleet Manager Professional for client-server, the following is required:

1. Server - Microsoft SQL Server 7.0. Please see the Installation required for the Microsoft SQL Server 7.0 installation.
   NOTE: The VDO Fleet Manager Professional uses the Microsoft SQL Server 7.0 database engine to store the fleet data. If you do not have a copy of Microsoft SQL Server 7.0, the installation for VDO Fleet Manager Professional will ask to install the Microsoft Database Engine (MSDE). This is a subset of the Microsoft SQL Server 7.0 and is optimised for 5 simultaneous connections.
   The FMSvr7.dll and FMRpt7.exe each use a separate connection, so it is advised that the MSDE is not used when the VDO Fleet Manager Professional is to be set-up in client server mode with more than two client computers.

2. Client - a Pentium III 450 MHz or higher personal computer running Windows 98 SE, Windows ME, Windows NT 4.0 (Service Pack 5 or higher), Windows 2000 or Windows XP Professional with at least 256 MB of RAM and at least 1 GB of available disk space.

Configuration

In order to configure each VDO Fleet Manager Professional installation to use the correct database, the SQL Server Client Access tools and SQL-DMO must be installed on the client computer. This is installed as part of the MSDE installation. Please refer to the Microsoft SQL Server 7 documentation for more information when Microsoft SQL Server is used.

1.

Microsoft SQL Server can use several different protocols to communicate with the database. It is advisable to configure both the server and the client machines to use the TCP/IP protocol as the default Name Pipes is not supported for Windows 98 or Windows Me.

The Client Network Utility can be used to change this. The program shortcut is available from the Microsoft SQL Server 7.0 program menu.
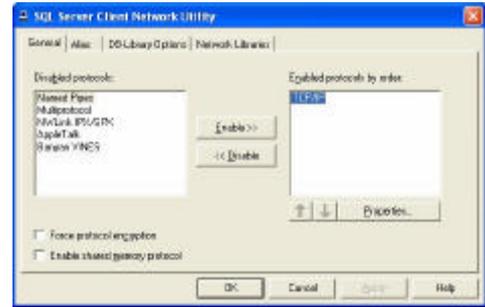
For MSDE installations click on the "Start" button, select "Run", and enter "CLICONFG.EXE" and click the "Ok" button

This should be done on the database server and on each client computer that will access the database.

2.

If Microsoft SQL Server 7 is to be used on the database server, install the Client Components onto each client computer. The only component that should be installed, is the Client Connectivity component.

It is important that only the "Client Connectivity" components are installed – a full install will waste disk space and complicated connectivity to the database server.

3.
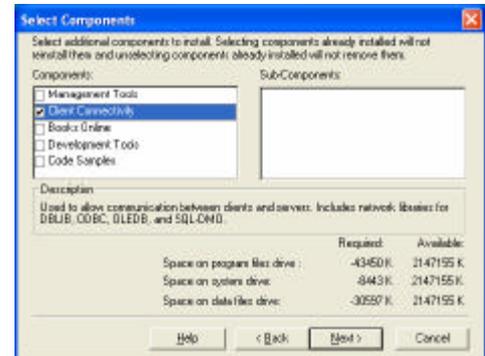
Install the VDO Fleet Manager Professional software onto the client machines. A copy may be installed on the server if so desired, but it is not necessary. The install set prompts to install the MSDE if a SQL database engine is not found on the computer. If you have the SQL Client Components installed, you should select to **not** install the MSDE.

4.

At the end of the installation the database program runs automatically, and a dialog screen with language options will be displayed. The process should be cancelled at this point.

5.	On each client computer, run the Fleet Manager Administrator (found in Control Panel).

Double click on the Connection Icon to open the Database connection properties. Enter the Computer name where the SQL database is, the log on information and the name of the database.

NOTE: If a password is specified, this will be stored in an encrypted format to prevent the password from being viewed.

The first client computer will create the database. The second and subsequent computers should wait until the database has been created before setting up the connection.

Multiple connections to FMServer component

Requirements

To configure the VDO Fleet Manager Professional for client-server, the following is required:

1. Client - a Pentium III 450 MHz or higher personal computer running Windows 98 SE, Windows ME, Windows NT 4.0 (Service Pack 5 or higher), Windows 2000 or Windows XP Professional with at least 256 MB of RAM and at least 500 MB of available disk space.

2. Server - a Pentium III 1 GHz or higher personal computer running Windows NT 4.0 (Service Pack 5 or higher), Windows 2000 or Windows XP Professional with at least 512 MB of RAM and at least 2 GB of available disk space. Note: The amount of RAM required on the server is dependent on the number of applications running on the server as well as the number of Client connections.

3. Microsoft Transaction Server must be installed on the Server computer if the operating system is Windows NT 4.0. This is part of the NT 4.0 Option Pack, which is available from Microsoft. Windows 2000 or Windows XP professional must have the COM+ service installed which is part of the standard Professional and Server installations.

4. Network - any network infrastructure supported by the version of Windows on the Clients and Server.

5. TCP/IP - the TCP/IP protocol must be installed and configured on each Client computer as well as the Server computer.

6. Administrative access - you must have administrative access to the network as well as to each Client computer and the Server computer in order to make the configuration changes documented below.

7. User-level access control - DCOM makes use of the user-level access control security model. Windows 98 SE computers must be configured for user-level access control and NOT for share-level access control. Please consult the appropriate Windows documentation for more information on configuring user-level access.

Before you begin, ensure that the network is fully functional by logging into each Client computer with administrative access. Check that each Client computer is capable of connecting to a file-share on the Server computer.

Configuring the Server

The following steps should be performed on the Server computer:

1.	Log into the Server with administrative access.

| 2.	Install either SQL Server on the server. If SQL Server is not installed, you can choose to install MSDE from the FM2002 setup.

3. Install the VDO Fleet Manager Professional by following the instructions provided in the software package.

4. Run the VDO Fleet Manager Professional and confirm that it is functioning correctly in stand-alone mode. (This involves testing that plug downloads work, and that reports can be generated).

5. Close the VDO Fleet Manager Professional.

6. Make sure the Microsoft Transaction Server (MTS) is installed on the server for Windows NT4.0. This is available from the NT 4.0 Option Pack available from Microsoft.

    In Windows 2000 or Windows XP Professional, make sure that the Component Services are installed.

7. In Windows NT 4.0, run the Microsoft Transaction Server by clicking "Start", "Programs", "Windows NT 4.0 Option Pack", "Microsoft Transaction Server", "Transaction Server Explorer".
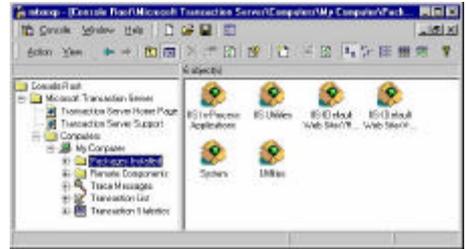
    Select Computers\My Computer\Packages Installed from the main tree.

    a   Click "Action", "New", "Package" to start the Create New Package wizard.

    b   Click Install pre-built packages.
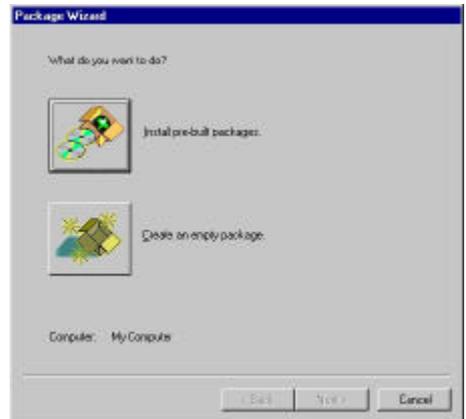
    c   Select the FM2002_MTS.PAK file located in the DCOM folder of the Fleet Manager Professional CD-ROM. The DCOM folder can be found in FMOffice\Fleet Manager 2002 Professional\Setup Files\Dcom.

        Click next to move to the next step.
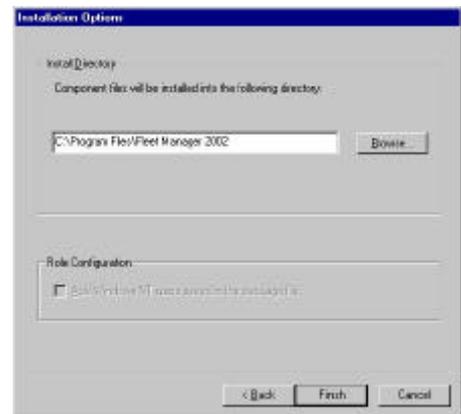
| | d | Make sure that the Interactive User is selected, then click Next. | |

Windows NT d — Make sure that the Interactive User is selected, then click Next.

Windows NT e — Select "Specific directory:" and enter, or Browse, to the directory where the VDO Fleet Manager Professional is installed and then click Finish.


8. In Windows 2000 or Windows XP Professional, click "Start", "Settings", "Control Panel", "Administrative Tools", "Component Services". Expand the tree to show the "COM+ Applications" for "My Computer".

Windows 2000
Windows XP

9. a Start the COM Application Wizard by clicking "Action", "New", "Application". Click next on the wizard start page.

Windows 2000
Windows XP

b Click on the Install pre-built application(s).
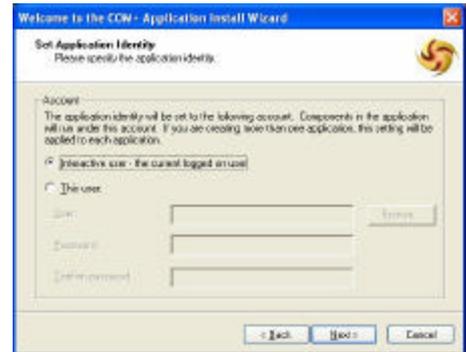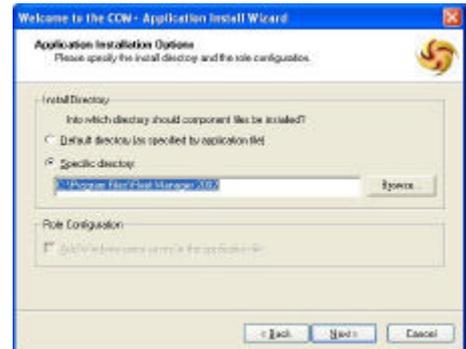
Windows 2000
Windows XP
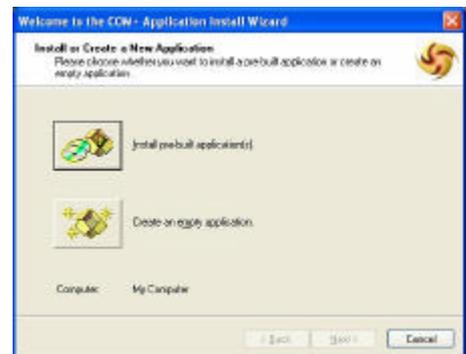
|		
	c	Browse to the DCOM folder on the VDO Fleet Manager Professional CD-ROM and open the FM2002_COM+ file. Click next to continue in the wizard.
	d	Make sure the Interactive User is selected and click Next.
	e	Select "Specific directory:" and enter, or Browse, to the directory where the VDO Fleet Manager Professional is installed and then click Next. The Wizard will confirm to overwrite a file. Click OK. The finish message will be displayed. Click Finish to complete the wizard.
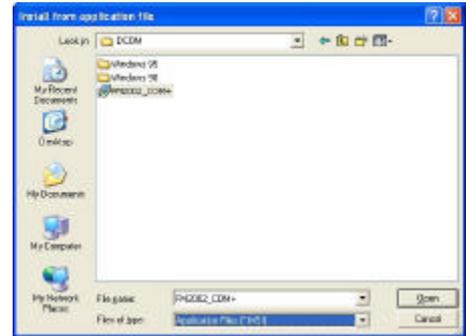
10. For Windows XP Professional, select the "My Computer" node in the left hand tree, then click "Action", "Properties" to open the default properties for DCOM.

For the other versions of Windows, run the DCOM configuration utility by clicking on the "Start" button, selecting "Run", and entering "DCOMCNFG" and clicking the "Ok" button.
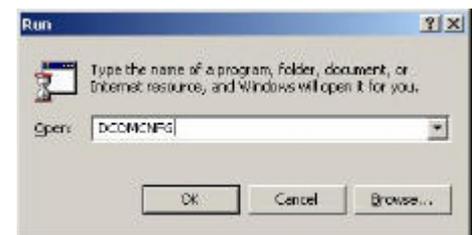
11.	Click on the "Default Properties" tab. Ensure that the "Enable Distributed COM on this computer" option is checked. Set the default authentication level to "(None)". Set the default impersonation level to "Identify".
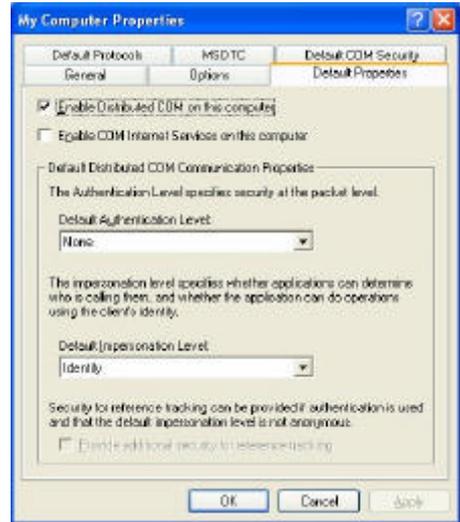
12.	Click on the "Default COM Security" tab. Ensure that the "Enable remote connection" check box is checked.

The "Default Security" tab will look similar to the image on the right. Click the appropriate "Edit Default" button and set the Access Permissions to grant access to "Everyone". Click the appropriate "Edit Default" button and set the Launch Permissions to allow launching by "Everyone".

If you are not using Windows XP Professional, click the appropriate "Edit Default" button and set the Configuration Permissions to allow "Everyone" read permissions. |
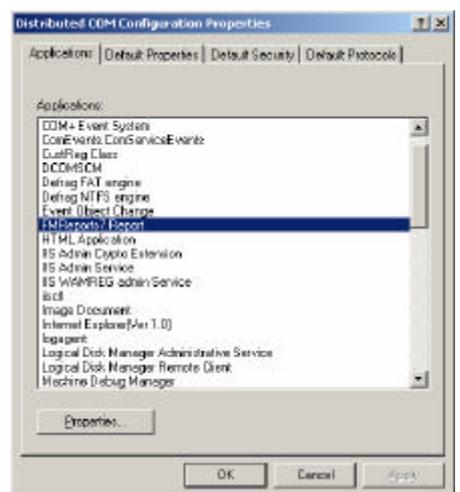
13.	For Windows XP Professional, close the Property dialog and select the "DCOM Config" node in the left hand tree, then find the "FMReports7.Report" icon in the right hand view. Open the Properties for this item.

For the other versions of Windows, click on the "Applications" tab. Select the "FMReports7.Report" entry in the applications list and click "Properties"
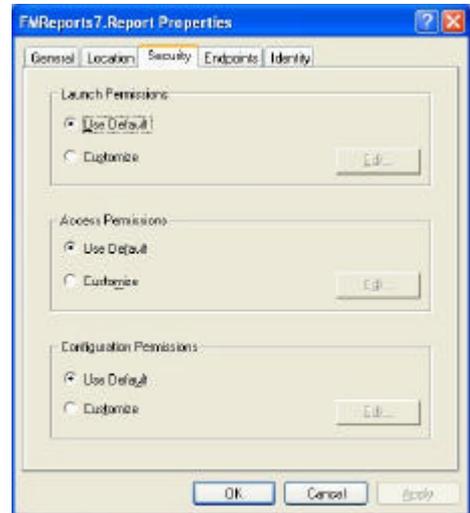
| 14.	Click on the "Location" tab. Ensure that the "Run application on this computer" checkbox IS checked. Ensure that the "Run application on the computer where the data is located" and "Run application on the following computer" checkbox are NOT checked.
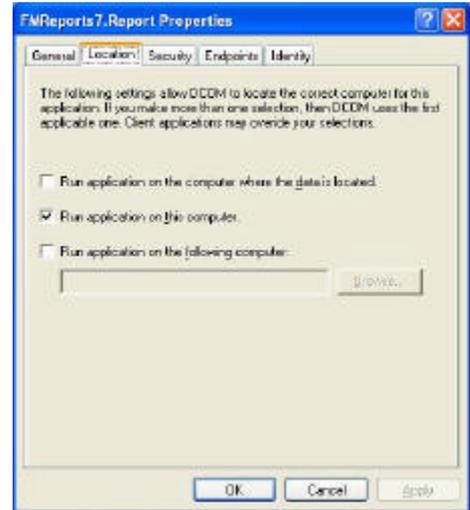
15.	On the Security tab, make sure that the Default Access Permission is selected. Make sure that the Default Launch and Default Configuration are selected.

16.	Click on the "Identity" tab. Ensure that the "Interactive User" option is selected.
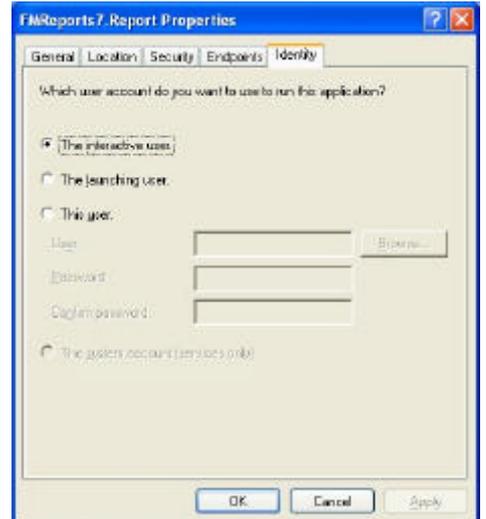
17. Click the "Ok" button to close the application properties dialog, and then click the "Ok" button to close the DCOM configuration utility. Restart the computer if prompted to do so.

18. The Server computer must be left logged in, in order for Clients to establish connections to the Database and Report servers. When the server is logged off, Clients will display an error message when attempting to connect to the Database and Report Servers.

19. Once the Server has been configured, run the VDO Fleet Manager Professional client to ensure that the system is still functioning correctly on the server.

Configuring the Clients

The following steps should be performed on each Client computer:

1. Log into the Client with administrative access.

2. If the Client is running Windows 98 SE, Install the DCOM configuration utility by running DCM98CFG.EXE from the Fleet Manager 2002 Professional\Setup Files\DCOM\Windows 98 folder on the VDO Fleet Manager Office CD-ROM.

3. Run the DCOM configuration utility by clicking on the "Start" button, selecting "Run", and entering "DCOMCNFG" and clicking the "OK" button.
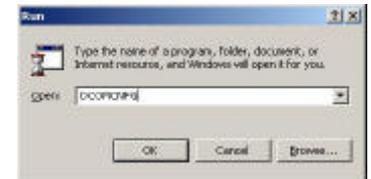
For Windows XP Professional, this will open Component Services. Expand the Components Services node in the tree until the "My Computer" is shown, then click Action, Properties.
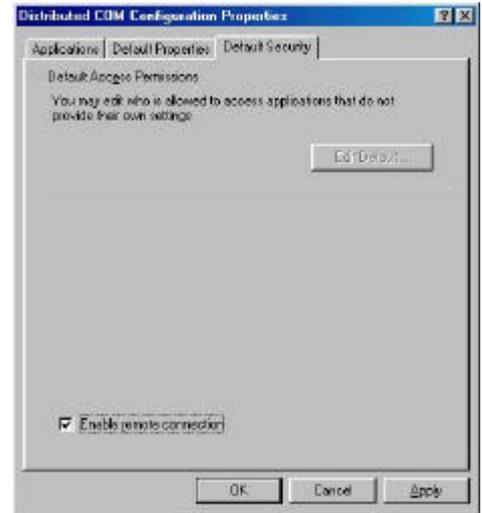
4. Click on "Default Properties". Ensure that Enable Distributed COM on this computer is checked, and set the Authentication and Impersonation levels to the same levels as selected for the Server configuration.

(When using WindowsXP as client, ensure that you click Apply as well as OK after setting these levels).
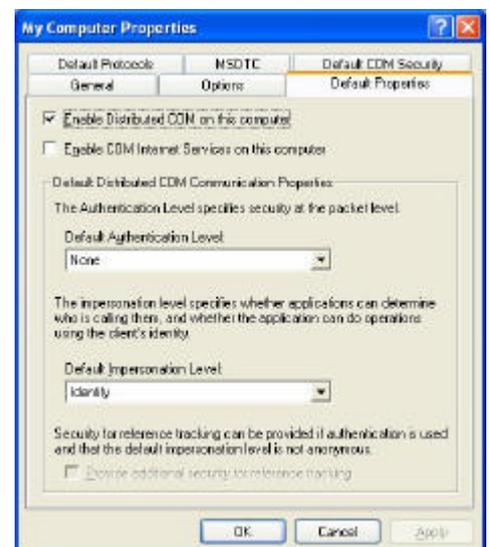
5.	Click on "Default Security" ("Default COM Security" on Windows XP). Ensure that the default Access permissions allow "Everyone" or "The World" access.
	For Windows 98 SE, ensure that the "Enable remote connections" option is checked.
6.	Click the "Ok" button to close the DCOM configuration utility. Restart the computer if prompted to do so.
7.	Install the VDO Fleet Manager Professional by following the instructions provided in the software package. The MSDE does **not** have to be installed when prompted.
8.	If the database program starts after rebooting the computer, stop this creation. When the computer restarts after installation, a message may be displayed that the client components of Microsoft SQL Server are required in order to execute. This is the database creation program, which is not required on the client computer.
9.	Run the VDO Fleet Manager Professional. The software will report a warning connecting to the database server. Click OK to select another server.
10.	The Connect To Server dialog will open. Type in the name of the computer that has been configured as the Fleet Manager server. Click OK to continue. The Fleet Manager client should now open.