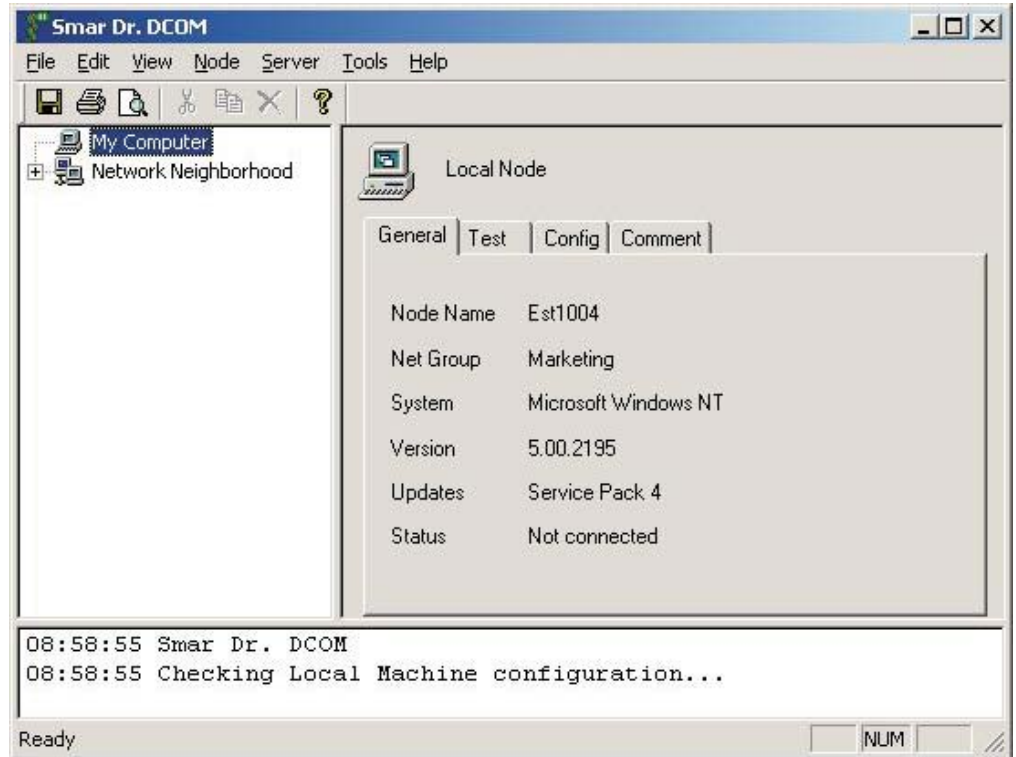


# Dr.DCOM

Smar  
First in Fieldbus

## Dr.DCOM Utility



MAY / 06  
Dr.DCOM  
VERSION 8





Specifications and information are subject to change without notice.  
Up-to-date address information is available on our website.

web: [www.smar.com/contactus.asp](http://www.smar.com/contactus.asp)

# TABLE OF CONTENTS

<b>INTRODUCTION</b> .....	<b>5</b>
PURPOSE OF DR. DCOM.....	5
ARCHITECTURE .....	5
OVERVIEW .....	5
STARTING DR. DCOM CONFIGURATION.....	5
MENUS.....	6
FILE MENU .....	6
EDIT MENU.....	6
VIEW MENU.....	7
SELECTING LANGUAGES.....	7
NODE MENU .....	8
SERVER MENU .....	8
TOOLS MENU.....	9
HELP MENU .....	9
CONNECTING TO OPC SERVERS .....	9
BROWSING OPC SERVERS.....	9
USING DR. DCOM DIAGNOSTICS .....	11
BROWSING NETWORK NODES .....	11
CONFIGURING DCOM WITH DR. DCOM .....	12
CONFIGURING NETWORK NODES.....	12
CONFIGURING OPC SERVERS .....	12
DCOM TROUBLESHOOTING UTILITIES .....	13
TRACEROUTE.....	13
OPTIONS.....	14
BROWSING TAB .....	14
OUTPUT TAB.....	14
CONSOLE TAB.....	15



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# INTRODUCTION

## *Purpose of Dr. DCOM*

With the introduction of the OPC Foundation's Plug and Play communications standard called OPC Data Access and recently the OPC Alarm / Events specifications, a universal diagnostics and analysis utility was needed by industry. Dr. DCOM helps you set up DCOM so that OPC servers and clients can easily and seamlessly work properly.

Dr. DCOM product consists of two components:

- The Dr. DCOM utility itself
- GenAgent utility

The GenAgent is an invisible COM component that is installed on every node in the network. It gathers information about the particular node and makes it available to Dr. DCOM.

The Dr. DCOM User Interface consists of three elements:

- A Tree view containing available nodes and servers
- A Dialog view with property pages of the currently selected object

The tabbed property pages contain:

- Generic information about the respective object
- Set-up tools
- An Output window

## *Architecture*

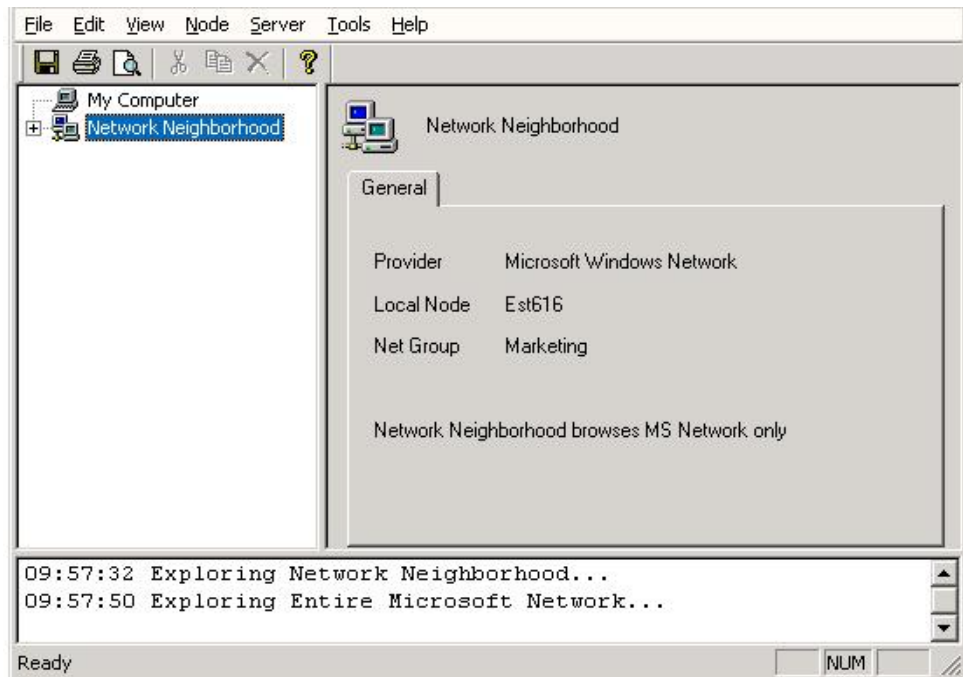
### **Overview**

Dr. DCOM is a diagnostic utility that performs two basic tasks:

- Gets the information about local and remote nodes and about OPC servers installed on them and analyzes that information. Dr. DCOM can check whether OPC would work properly with a specific network and DCOM configuration.
- Helps you set up DCOM and OPC servers so they will work in a network.

## *Starting Dr. DCOM Configuration*

To start the Dr. DCOM configuration, launch the Dr. DCOM Configurator from the Windows **Start** menu by selecting **Programs > Smar ProcessView > ProjectWorX > Dr. DCOM**.



*Dr. DCOM Configuration Utility*

## Menus

The menu bar of the Dr. DCOM Configurator contains the following menus:

- File
- Edit
- View
- Node
- Server
- Tools
- Help

### NOTE

You can also access many of the menu commands by right-clicking items in the tree control of the Configurator and selecting command functions from the pop-up menus

## File Menu

The **File** menu commands are listed in the table below.

### File Menu Commands

COMMAND	SHORTCUT KEYS	FUNCTION
Output Log File	CTRL+N	Creates a file for output log.
Save Output As		Saves the text in the output window as a text (.txt) file.
Print	CTRL+P	Prints the contents of the output buffer.
Print Preview		Displays the current database connection properties.
Exit		Closes the application.

## Edit Menu

The **Edit** menu commands are listed in the table below.

### Edit Menu Commands

COMMAND	SHORTCUT KEYS	FUNCTION
Cut	CTRL+X	Cuts the selected object from the view and places it on the clipboard.
Copy	CTRL+C	Copies the selected object to the clipboard.
Clear	DEL	Deletes the selected object.
Clear All		Deletes all objects.
Select All		Selects all objects in a list.

### View Menu

The **View** menu commands are listed in the table below.

#### View Menu Commands

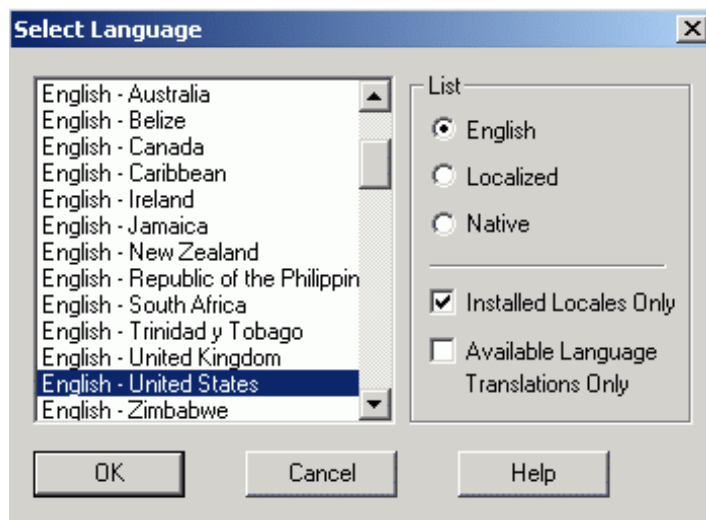
COMMAND	SHORTCUT KEYS	FUNCTION
Toolbar		Toggles the toolbar.
Status Bar		Toggles the status bar.
Output		Toggles the output window (bottom pane).
Logging		Starts/stops saving output information to a log file.
Explore	Enter	Displays information about the selected item.
Refresh		Refreshes only the data contained in the currently selected subtree.
Refresh All	F5	Refreshes the data for the entire tree control.
Select Language		Opens the <b>Select Language</b> dialog box. Choose the language you wish to use for your system and click <b>OK</b> . For navigation purposes, use the buttons and check boxes in the <b>List</b> section.
Output Window Font		Changes the font of the output window.
Options		Launches the <b>Options</b> dialog box.

### Selecting Languages

The **Select Language** function on the **View** menu allows you to choose which language to use in your display. Choosing **Select Language** from the **View** menu opens the Select Language dialog box, shown in the figure below.

#### NOTE

A language resource .dll is required for language switching.



Select Language Dialog Box

Define the parameters listed in the table below. Then click **OK** to return to the work area.

Select Language Parameters

PARAMETER	DESCRIPTION
List	Lists available languages. Depending on which item you have selected, the view on the left will change. If <b>English</b> is checked, the languages will appear as their English name. If <b>Localized</b> is checked, the languages will appear with the native country in parentheses (for languages with several dialects only). When <b>Native</b> is checked, the languages are displayed the way they would be written in that language.
Installed Locales Only	If this is checked, local languages appear in the box.
Available Language Translations Only	Checking this box allows you to choose from available language translations only.

Node Menu

The **Node** menu commands are listed in the table below.

Node Menu Commands

COMMAND	FUNCTION
Connect	Connects to a remote computer.
Disconnect	Connects from the remote computer.
Custom Connect	Connects to a remote computer using <b>GenAgent</b> , the node's <b>Registry</b> , or <b>OPCenum</b> .
Auto Config	Attempts to automatically configure DCOM settings for the connected computer.

Server Menu

The **Server** menu commands are listed in the table below.

Server Menu Commands

COMMAND	FUNCTION
Connect	Connects to an OPC server.
Disconnect	Disconnects from the OPC server.
Auto Config	Attempts to automatically configure the connected OPC server.



## Tools Menu

The **Tools** menu commands are listed in the table below.

### Tools Menu Commands

COMMAND	FUNCTION
DCOM Cnfg	Starts the Windows DCOM configuration utility.
RegEdit	Starts the Windows Registry Editor.
Ping	Pings a network computer by name or TCP/IP address.
Traceroute	Traces a network computer by name or TCP/IP address.

## Help Menu

The **Help** menu commands are listed in the table below.

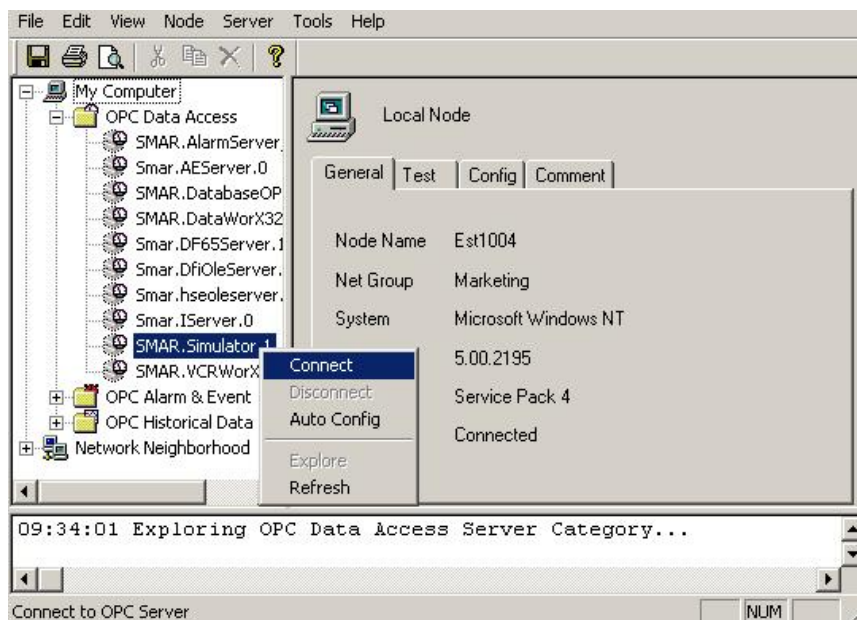
### Help Menu Commands

COMMAND	SHORTCUT KEYS	FUNCTION
Help Topics	F1	Launches the online Help for Dr. DCOM.
About Application		Launches the <b>About Box</b> , which contains information about the product version number, copyright, and available disk space. It also contains information about how to contact Smar.

## Connecting to OPC Servers

To connect to OPC servers on the local computer:

1. Right-click on **My Computer** in the tree control and select **Connect** from the pop-up menu. Dr. DCOM browses OPC servers on the local node and gets information about them.
2. To connect to a specific OPC server, right-click on the OPC server in the tree control and select **Connect** from the pop-up menu, as shown in the figure below.



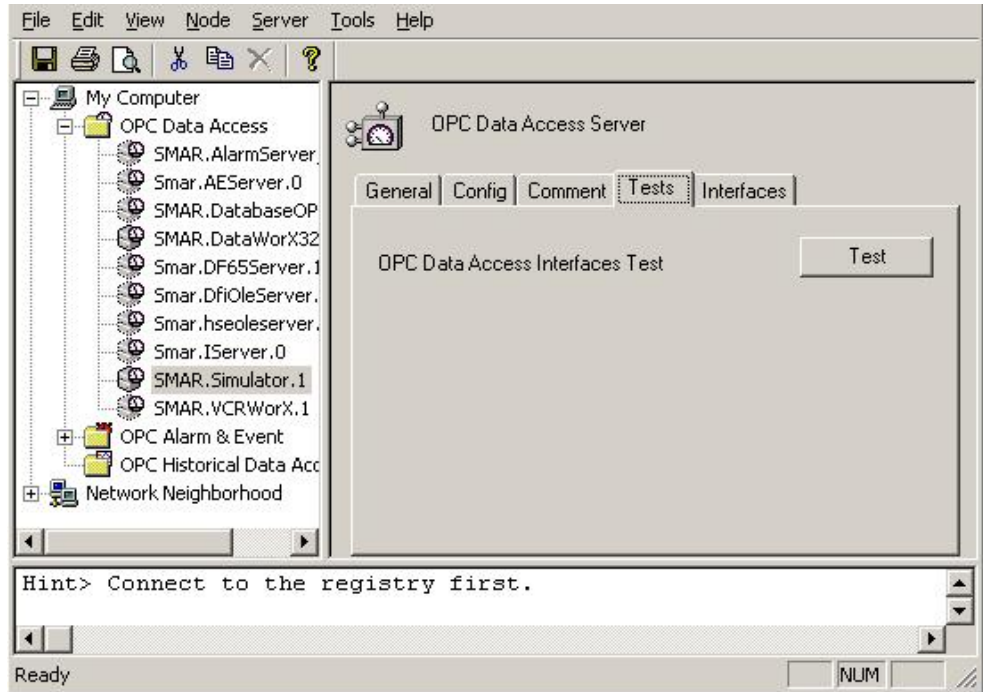
### Browsing OPC Servers

## Browsing OPC Servers

To get more information about a particular OPC server on the selected node, select the OPC server you want and choose **Connect**. Dr. DCOM will connect to the given OPC Server. Two new tabs will

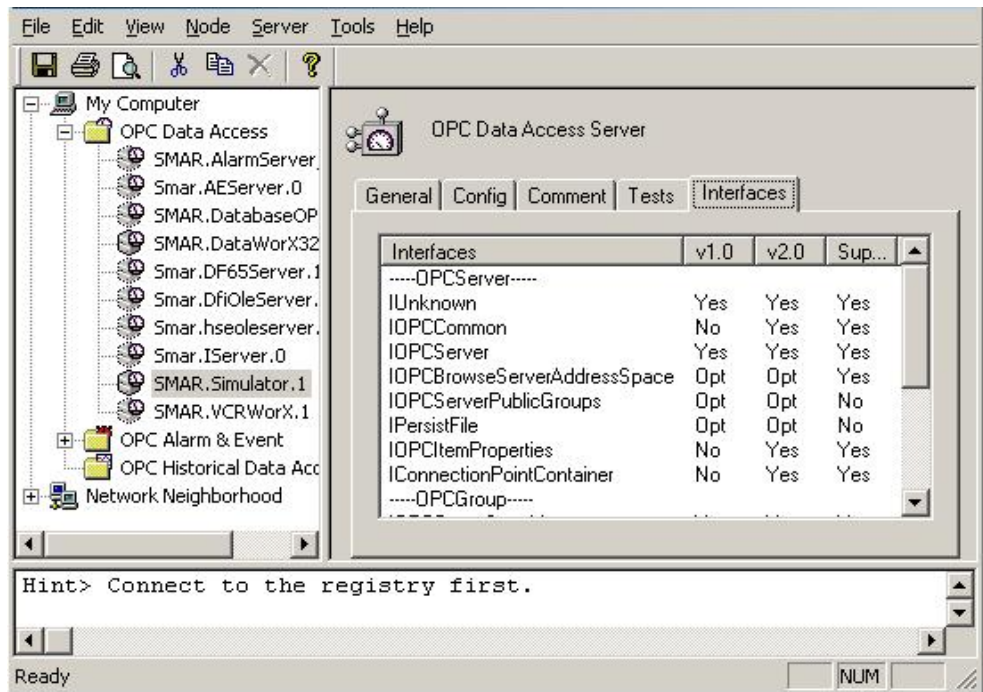
appear in the dialog view: **Tests** and **Interfaces**.

The **Interfaces** tab lists interfaces supported by the selected server. When you click the **Test** button, Dr. DCOM will check whether the selected server supports all interfaces needed for OPC 1.0 or 2.0. The results of the test are displayed in the Output window in the bottom pane of the Dr. DCOM configuration utility.



**Test Results in the Output Window**

Dr. DCOM shows interfaces supported for the selected OPC server, as shown in the figure below.



**Supported Interfaces**

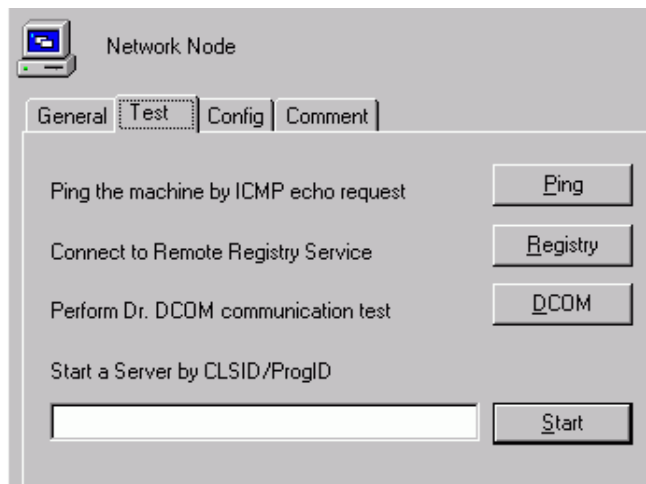
Dr. DCOM also contains tools for troubleshooting intranet and Internet networking issues, such as

PING and TRACEROUTE. It can connect to a remote node's registry and to its OPC servers using DCOM.

To get information about specific OPC servers on any particular network node, Dr. DCOM uses three different methods to acquire detailed information:

1. **GenAgent:** Dr. DCOM gets information from GenAgents installed on the network nodes. This is the preferred method since GenAgent gets information about both OPC 1.0 and 2.0 servers.
2. **OPCEnum Method:** A component similar to GenAgent. Since it was defined by OPC 2.0 it may not get the information about OPC 1.0 servers.
3. **Browsing remote registry:** Unlike the OPCEnum and GenAgent methods, some extra permissions must be set for accessing a remote registry.

Dr. DCOM contains network-troubleshooting tools, as shown in the figure below.



*Network-Troubleshooting Tools*

## Using Dr. DCOM Diagnostics

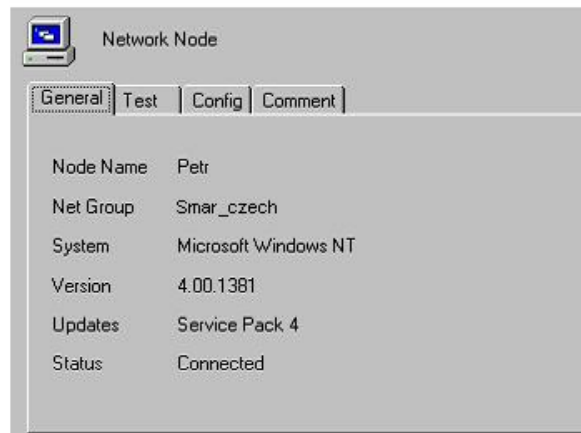
### Browsing Network Nodes

Dr. DCOM can obtain basic information from network nodes. To get the information, just connect to a node and select the **General** tab in the dialog view.

To connect to a node:

1. Select the node in the tree view.
2. Right-click the node and select either **Connect** to use the default method (GenAgent), or select **Custom Connect** and pick up a method you want.

You may also double-click the selected node, if this option is enabled. See the Options dialog.



**Network Node Information**

## Configuring DCOM with Dr. DCOM

### Configuring Network Nodes

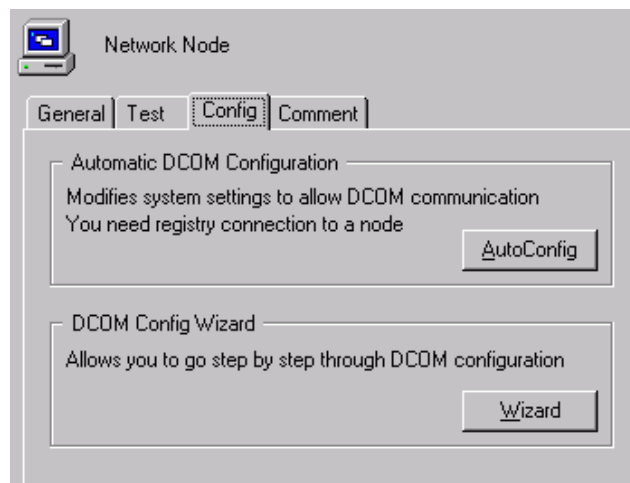
Dr. DCOM can configure your local and network nodes in order to work properly with OPC. Several things must be set up, depending on the operating system used, etc. For instance, Windows security must be properly set up.

Configure the settings that affect the whole node first.

1. Select a node, either local or remote.
2. Select the **Config** tab, as shown in the figure below.
3. Click either **AutoConfig** (this will set up the node with reasonable defaults) or **Wizard** (this will start a wizard that will guide you through the setup process).

#### NOTE

To set up the defaults you may also choose AutoConfig from the node's right-click menu



**Configuration Tab**

### Configuring OPC Servers

With Dr. DCOM you may also configure OPC servers. Dr. DCOM sets up everything that you would normally have to set up with DCOMCNFG utility (i.e. access and launch permissions for particular OPC servers, etc.)

AutoConfig and Wizard modes are available for configuring OPC Servers too. To configure a server, select it and follow the same steps as when configuring a node.

## DCOM Troubleshooting Utilities

The DCOM troubleshooting utilities are available on the **Tools** menu.

### DCOMCnfg

The DCOM Configuration Utility is a standard utility provided with Windows. Use it to view and/or tune the DCOM settings. However, Dr. DCOM does most of the configuration work for you.

### RegEdit

This command opens the standard registry editor provided with Windows.

### Ping

The ping command opens a utility for troubleshooting TCP/IP addresses. Use this utility to check whether the TCP/IP connection works properly. This utility uses the standard Internet ICMP protocol.

*Ping Parameters Dialog*

Enter the node name or IP address in the **Node** field. You may also modify other parameters. When you click **OK**, Dr. DCOM will start pinging the selected node. See the results in the output window. If the selected node replies, the Internet connection is OK.

```
15:56:21 Ping genesis.iconics.com (12.15.133.6): 128 ttl, 32 data bytes
15:56:21 ping> Reply from 12.15.133.6: bytes=32 time=370 ms ttl=41
15:56:23 ping> Reply from 12.15.133.6: bytes=32 time=531 ms ttl=41
15:56:25 ping> Reply from 12.15.133.6: bytes=32 time=731 ms ttl=41
15:56:26 ping> Reply from 12.15.133.6: bytes=32 time=530 ms ttl=41
```

*Ping Results*

### Traceroute

The traceroute utility is used to trace the number of steps messages take to reach their destination. It checks not only whether a selected node is available, but also checks the route to the node.

*Traceroute Parameters Dialog*

## Options

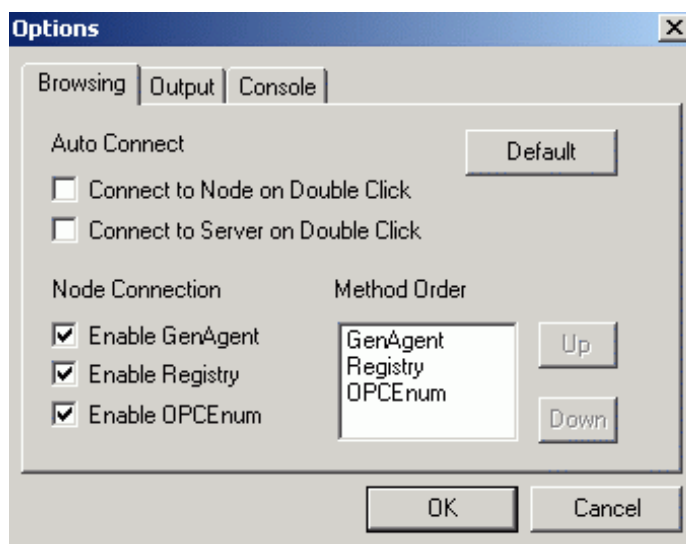
To set up options in Dr. DCOM, select **Options** from the **View** menu. This opens the **Options** dialog box, which contains the following tabs:

- Browsing
- Output
- Console

### Browsing Tab

In the **Browsing** tab of the **Options** dialog box, shown below, you may modify behavior of the tree view. In the **Auto Connect** section select whether you want to connect to a node or OPC server on a double-click.

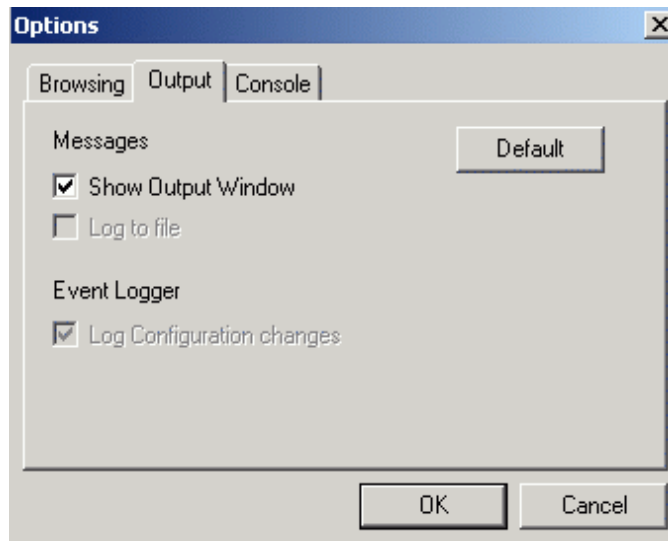
In the **Node Connection** section, specify what browsing method(s) should be used when obtaining information from nodes. You may also select order in which the methods will be used.



*Browsing Options*

### Output Tab

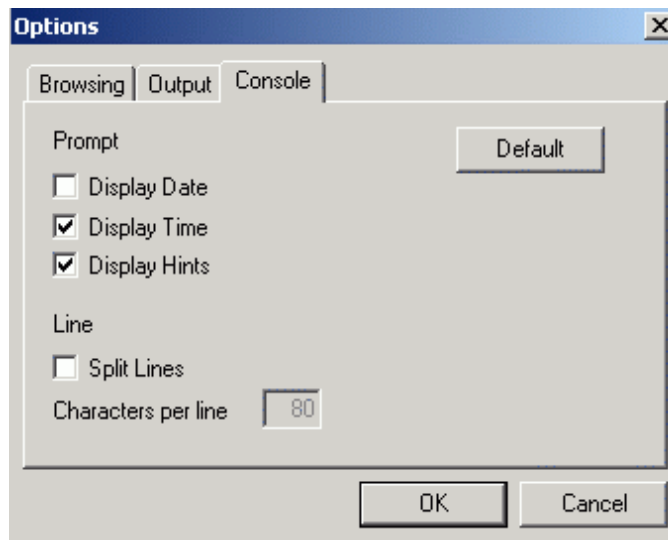
The **Output** tab of the **Options** dialog box, shown below, specifies shows/hides the output window in the Dr. DCOM Configurator.



*Output Options*

## Console Tab

On the **Console** tab of the **Options** dialog box, shown below, specifies display parameters, such as date and time.



*Console Options*

