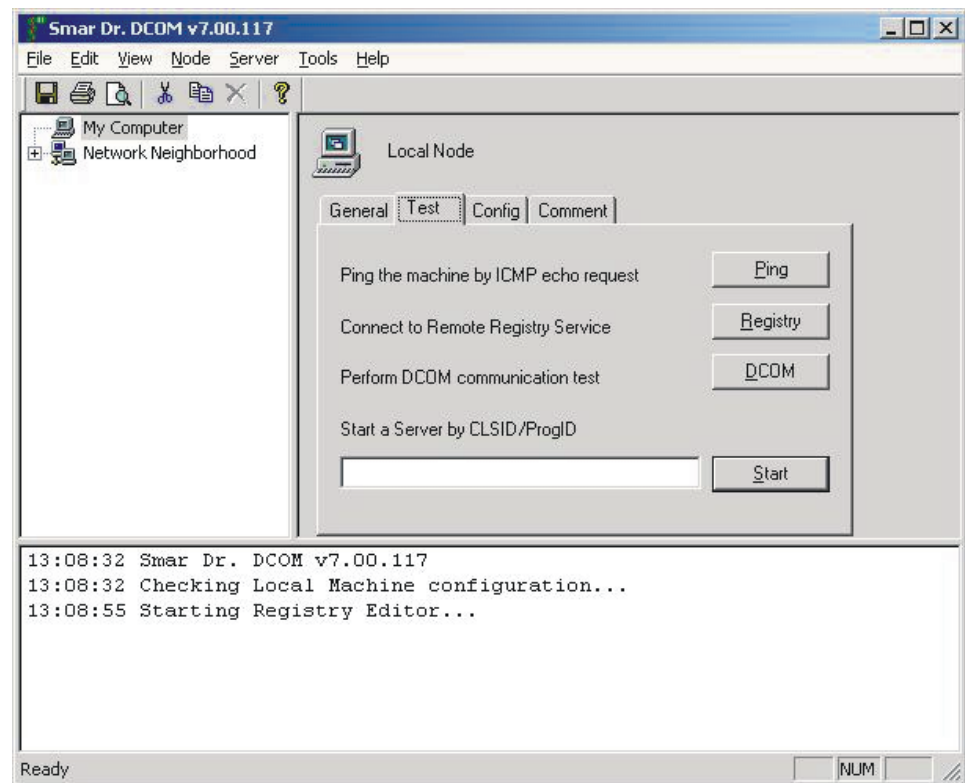


Dr.DCOM Utility





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

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Dr. DCOM

Introduction

Purpose of Dr. DCOM

With the introduction of the OPC Foundations 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 the user to set up DCOM so OPC Servers and Clients can easily and seamlessly work properly.

Dr. DCOM product consists of two components:

- **The Dr.DCOM utility itself**
- **ProcViewAgent utility**

The ProcViewAgent 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.

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**

Smarter Dr. DCOM is a standard part of all Smarter OPC-to-the-CORE products, including the following:

- **ProcessView Enterprise Edition Products**
- **OPC ToolWorX – Advanced OPC Toolkits**

SMAR Dr. DCOM Utility allows users to create test applications and supports the following Microsoft Operating Systems:

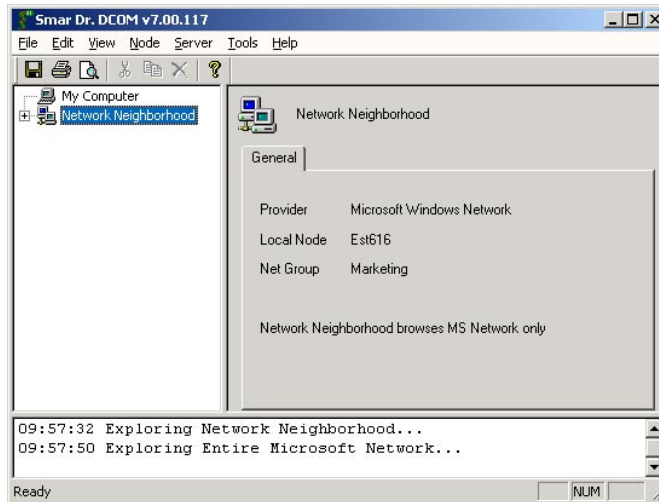
- **Windows NT**
- **Windows 2000**
- **Windows 98**
- **Windows CE – Future Version special Pocket Dr. DCOM**

Architecture

Overview

Smar' Dr. DCOM is a diagnostic utility that has two basic tasks:

- Get the information about local and remote nodes and about OPC servers installed on them and analyze that information. Dr.DCOM can check whether OPC would work properly with a specific network and DCOM configuration.
- Help user to set up DCOM and OPC server so they will work in a network. To fulfill this task Dr.DCOM uses the formerly obtained information.



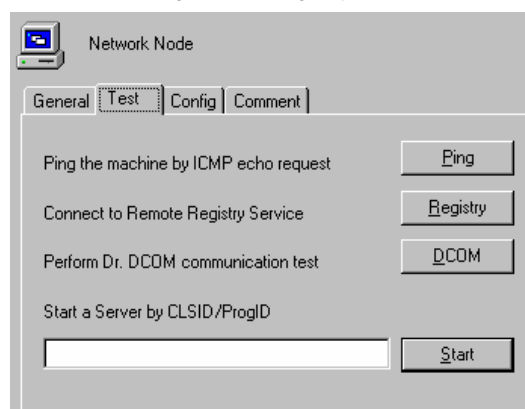
Dr.DCOM Browsing OPC Servers

Dr.DCOM browses OPC Servers on the local node and gets information about them.

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. **ProcViewAgent** – Dr.DCOM gets information from ProcViewAgents 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 ProcViewAgent. 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 remote registry.



Network-troubleshooting Tools

Dr.DCOM contains network-troubleshooting tools.

Using Dr. DCOM Diagnostics

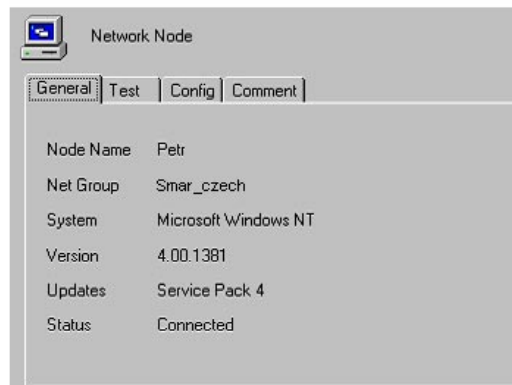
Browsing Network Nodes

The 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.

Connecting to a node:

- Select the node in the tree view
- Right-click it to open the context menu
- 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

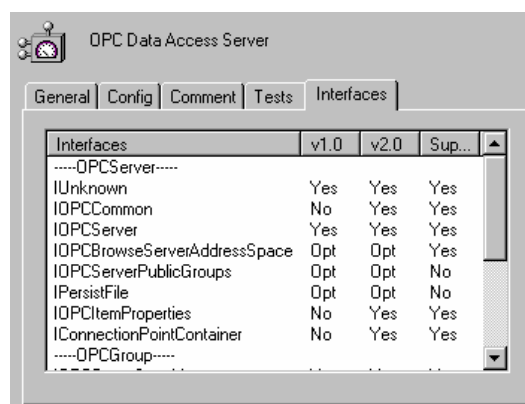
Browsing OPC Servers

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*.

In the *Interfaces* tab are listed 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.

```
14:15:44 Disconnecting from GenAgent browser...
14:15:47 Exploring OPC Data Access Server Category...
14:15:56 test> Server ICONICS.Simulator.1 OPC v1.0 test... PASSED
14:15:56 test> Server ICONICS.Simulator.1 OPC v2.0 test... PASSED
```

Test results in the Output window



Supported Interfaces

Dr.DCOM shows interfaces supported for the selected OPC Server.

Configuring DCOM with Dr. DCOM

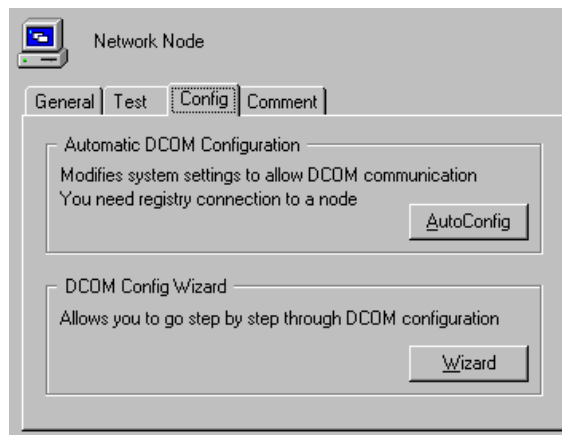
Configuring Network Nodes

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, User Level or Share Level Security must be properly set up under Win95/98.

Configure the settings that affect the whole node first.

- Select a node, either local or remote.
- Select the *Config* tab
- Click either AutoConfig – this will set up the node with reasonable defaults,
- Or click 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

Choose either AutoConfig or the Wizard to configure nodes

Configuring OPC Servers

With Dr.DCOM you may also configure OPC Servers. Dr.DCOM sets up everything what 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 in the Tools menu.

DCOMCnfg

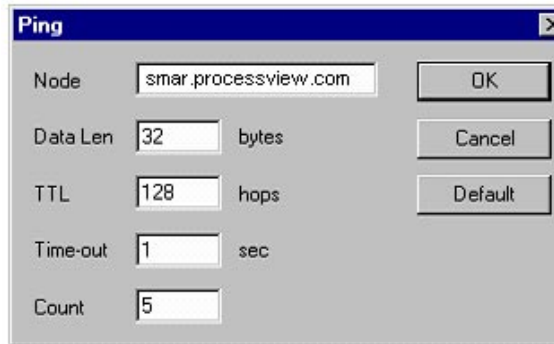
This is a standard utility provided with Windows NT or with DCOM for Win95/98. Use it to view and/or tune the DCOM settings. However, Dr.DCOM makes most work for you.

RegEdit

Standard registry editor provided with Windows.

Ping

Utility for troubleshooting TCP/IP addresses. Use this utility to check whether the TCP/IP connection works properly. This utility uses 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.

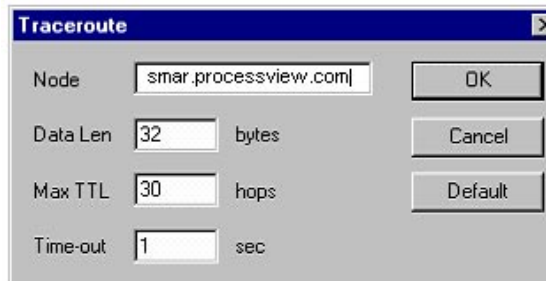
```
15:56:21 Ping genesis.icons.com (12.15.133.6): 128 ttl, 32 data bytes
15:56:21 ping> Reply from 12.15.133.6: bytes=32 time=370 ms ttl=41
15:56:23 ping> Reply from 12.15.133.6: bytes=32 time=531 ms ttl=41
15:56:25 ping> Reply from 12.15.133.6: bytes=32 time=731 ms ttl=41
15:56:26 ping> Reply from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

Ping Results

The Ping results. The selected node replies, thus the Internet connection is OK.

Traceroute

Familiar TCP/IP Utility for tracing the number of Hops messages take to reach their destination. Trace route utility does not only check whether a selected node is available, but also the route to it.

**Trace Route Parameters Dialog**

Advanced Dr. DCOM Features

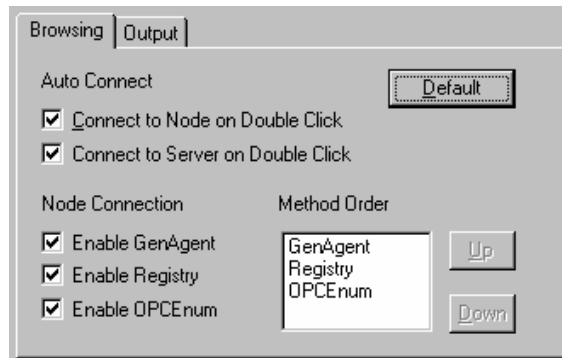
Dr.DCOM Options

To set up options in Dr.DCOM, select View | Options. A tabbed dialog box will appear.

Browsing Options

On the *Browsing* tab 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.

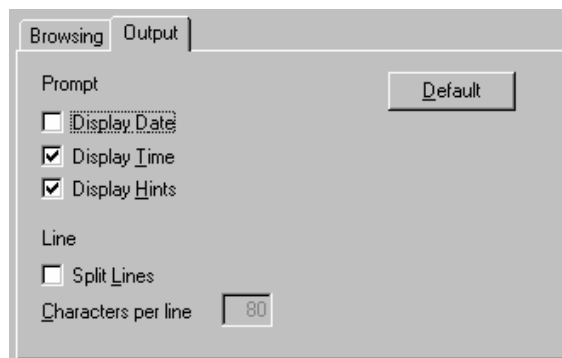
In the Node Connection section specify what browsing method(s) should be used when obtaining information from nodes. You may also select order that the methods will be used in.



Browsing Options

Output Options

On the *Output* tab specify how the output messages should look like.



Output Options

Output Logging

Dr.DCOM can log output messages into a text file. Select View | Logging to specify a log file.