



OPC Servers - DDE OPC Server Network DDE

APPLICATIONS NOTE

August 2004



Description: Instructions for using ICONICS DDE OPC Server

OS Requirement: WinNT 4.0, Win2000, and WinXP

General Requirement: When using Network DDE for remote DDE communications, both computers must be on the same domain or workgroup and you must be logged in with the same user and password.

The DDE OPC Server allows you to configure OPC Tags which acquire process data from DDE Servers. DDE is Dynamic Data Exchange which was used in the beginning of Windows era in order to allow inter process communications between various windows programs.

Capabilities:

- OPC Server acts as a DDE client in respect to the communications with a DDE Server.
- OPC Clients can connect to DDE links without even configuring the OPC DDE Server.
- Supports OPC DA Specification v1.01a and v2.0
- Configuration Export/Import CSV (comma separated variable format) for bulk editing tag lists in for instance Text Editors or MS-EXCEL.
- OPC tags can be scaled and have ranges
- Online configuration

Local DDE Data

The ICONICS DDE OPC Server can be used to connect to local DDE data or remote DDE data through Network DDE. When connecting to local DDE data, you must use links that comply with the following convention: **Server|Topic|Item**. For example, **Excel|Sheet1|R1C1** would connect to a local instance of Microsoft Excel and retrieve row 1, column 1, from sheet1. Open the ICONICS DDE OPC Server, add a new link, and fill in the information as shown below.

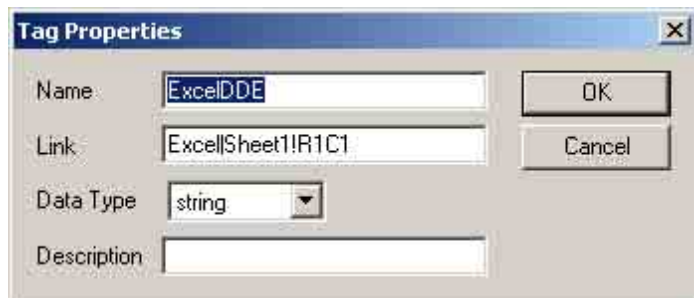


Fig.1 Tag Properties for DDE connection

Create a new MS Excel worksheet and save it as C:\Book1.xls. Leave the Excel worksheet running or you will not be able to connect to it through DDE. Once you have added a DDE tag, it will appear as shown below. After creating the Excel worksheet, go to View->Monitor to see the data provided by the

link. Notice that the DDE Server updates the data if you change the values in the Excel worksheet.

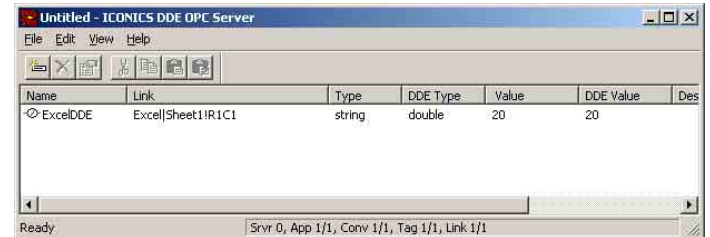


Fig.2 Local DDE OPC connection to MS Excel

Configuring DDESHARE

Before using Network DDE, you must first configure **DDESHARE** on the DDE Server machine. Do this by running DDESHARE from the Start->Run Menu. In the DDESHARE screen, select Shares->DDE Shares, to setup a new DDE share.



Fig.3 DDESHARE configuration

In the DDE Shares screen, select Add a Share to add a new DDE Share.

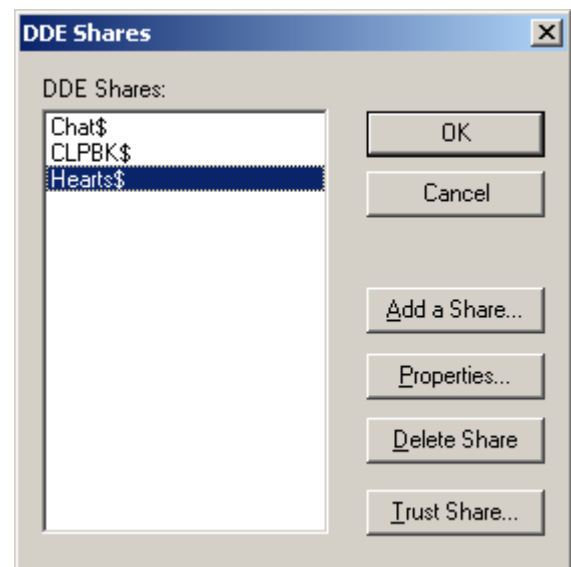


Fig.4 DDE Shares



Configure the DDE Share Properties as shown below, to connect to the MS Excel worksheet that you previously created. Make sure that the worksheet is still running or the data will not be available. As shown in the example, the Share Name generally ends in a dollar sign(\$), however this is not required. In the example below the Share Name is "DDETEST\$", the Application Name is "Excel", the Topic Name is "C:\[Book1]Sheet1", and the options for "Allow start application" and "Grant access to all items" are selected.



Fig.5 DDE Share Properties

After filling out the DDE Share Properties you must change the DDE Share Name Permissions, by pressing the Permissions button. Grant Full Control permission to Everyone.



Fig.6 DDE Share Name Permissions

Press OK to the dialogs shown in Figures 5 and 6. From the DDE Shares Menu (Figure 4) you will now see DDETEST\$. Highlight DDETEST and press the Trust Share button. Enable "Start" and "Initiate to" Application Enable as shown below:

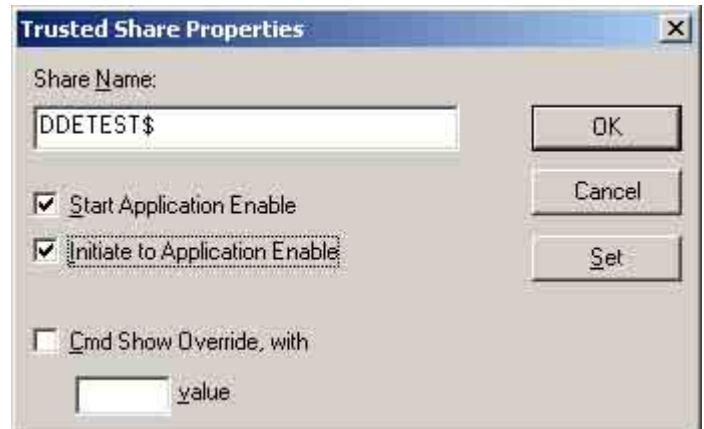


Fig.7 Trusted Share Properties

Press OK on the remaining windows. The server-side configuration is now complete.

Configuring Remote DDE Client

When using Network DDE to connect to remote DDE servers the following format must be used for DDE links: "[\\<Node>\NDD\\$|DDEShare>!<Item>](#)". To connect to the DDE Share that you setup on the DDE Server you would use the following link: [\\<Node>\NDD\\$|DDETEST\\$!R1C1](#) (where <Node> is the Node name of the DDE Server). This would connect to Row 1 Column 1 of the Excel worksheet. In the example below, the DDE Server resides on the network node named "Josh":

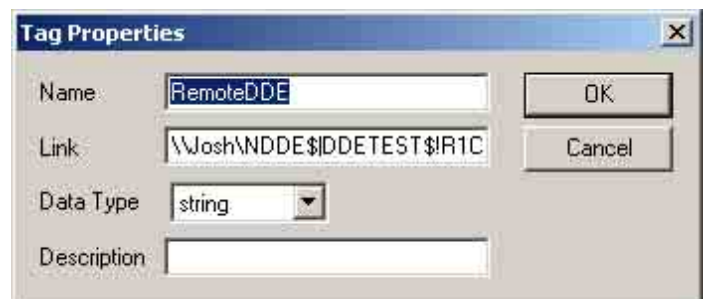


Fig.8 Configuring Remote DDE Tag

After creating the new DDE tag go to View->Monitor to connect and view the data.



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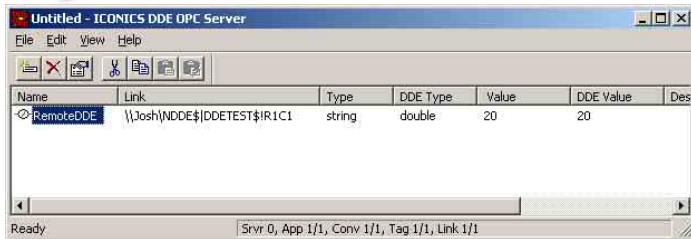


Fig.9 Connected to Remote DDE Tag.

Save the changes in the DDE OPC server by choosing File->Save. OPC Clients can now connect to the DDE OPC Server to read and write through the DDE link. For example, you can use the OPC Tag Browser to connect to the DDE OPC data as shown below:

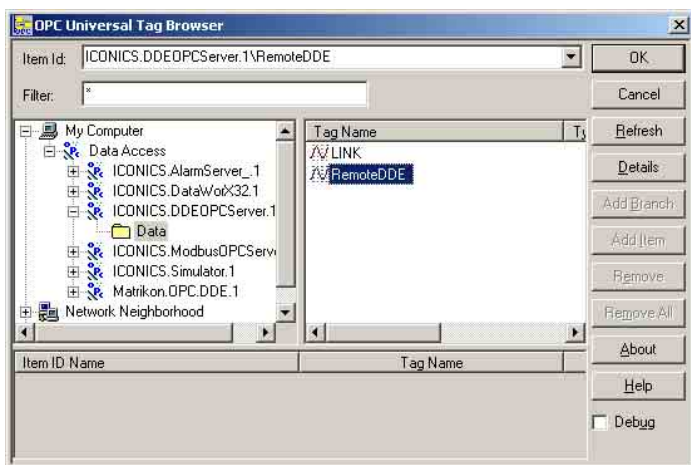


Fig.10 Connecting to DDE OPC data.

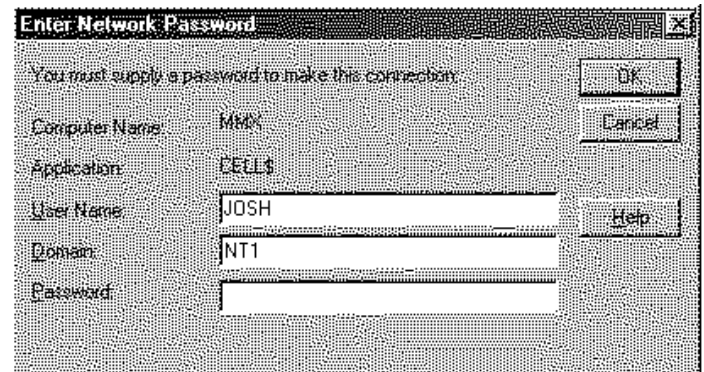


Fig.11 Windows 98 Client login

Workgroups vs. Domains

As mentioned in the previous section, if you want to make data available on a computer running Windows 98, the computer must be on the same domain as the client who is trying to access the data. For other operating systems (NT, 2000, and XP) you may use domains or workgroups, depending upon your preference. However, if you are using computers on a workgroup, you will be asked to login to connect to DDE data if you are not logged in as the same user and password. This login is not required if you are using domains or if you are logged in as the same user on both machines.

Windows 98 NetDDE

On Windows 98, NetDDE may not be installed on the computer by default and you may have to install it separately. One such application that provides NetDDE is called "NETDDE32 Flat Thunk."

To use a Windows 98 machine as a DDE Server, the computer MUST be logged into the network on the same domain as the client that is trying to connect to it. If the Windows 98 machine is logged onto a workgroup, then you will only be able to use this machine as a client. When a computer with Windows 98 is used as a client, you will be asked to login when connecting to remote data. A separate login will be required for each DDE Share, however, multiple items can be retrieved from the same share and you still only have to login once.