Configuring DCOM for using of OPC UA COM Wrapper with OPC servers from SAE-Automation, Ltd.

The purpose of the article is to give answers and useful recommendations on the most frequently asked questions from our customers, which relate with DCOM and OPC UA COM Wrapper for OPC Servers on the local or remote computers.

Introduction

OPC is based on Microsoft's COM and DCOM technology for data exchange between applications. The architecture of OPC is a client-server model. OPC servers and OPC clients may be provided by different vendors (vendor independence).

The Unified Architecture (UA) is the next generation OPC standard that provides a cohesive, secure and reliable cross platform framework for access to real time and historical data and events.

Finally, this document should perform as a user guide which will lead you step-by-step through your DCOM configuration in order to establish reliable and secure OPC connection between OPC UA COM Wrapper and OPC Servers from SAE-Automation, Ltd.

This document goes out from the existing document Configuring OPC and DCOM for OPC server and client applications. There is a possibility to download mentioned document from the following link http://www.saeautom.sk/download/dcom_config.pdf

Configuration of general DCOM settings

The general DCOM settings affect all Windows applications that use DCOM, **including OPC UA COM Wrapper application**.

DCOM settings are possible to set through the DCOMCNFG utility which is supplied as part of operating system.

To start **DCOMCNFG** utility, please do the following (see Figure 1):

1. Click on the Windows Start ⇨ Control Panel ⇨ Administrative Tools ⇨ Component Services. (Or click on the Windows Start ⇨ Run and type DCOMCNFG.)
2. Click on OK button.

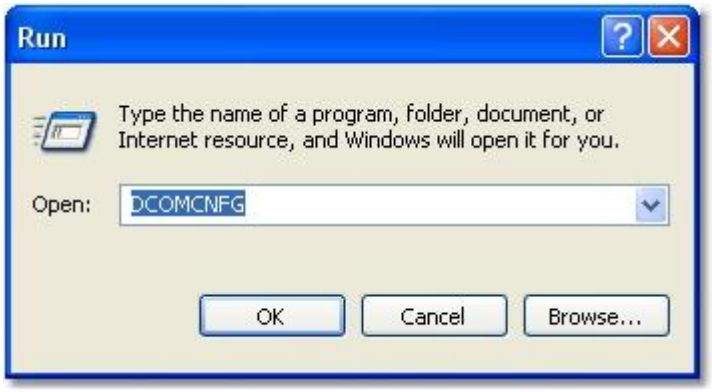

***Figure 1**: Start the DCOMCNFG utility.*

To open **My Computer Properties** dialog, please do the following (see Figure 2, Figure 3):

1. Right click on Console Root ⇨ Component Services ⇨ Computers ⇨ My Computer in dialog thee.
2. Click on Properties.

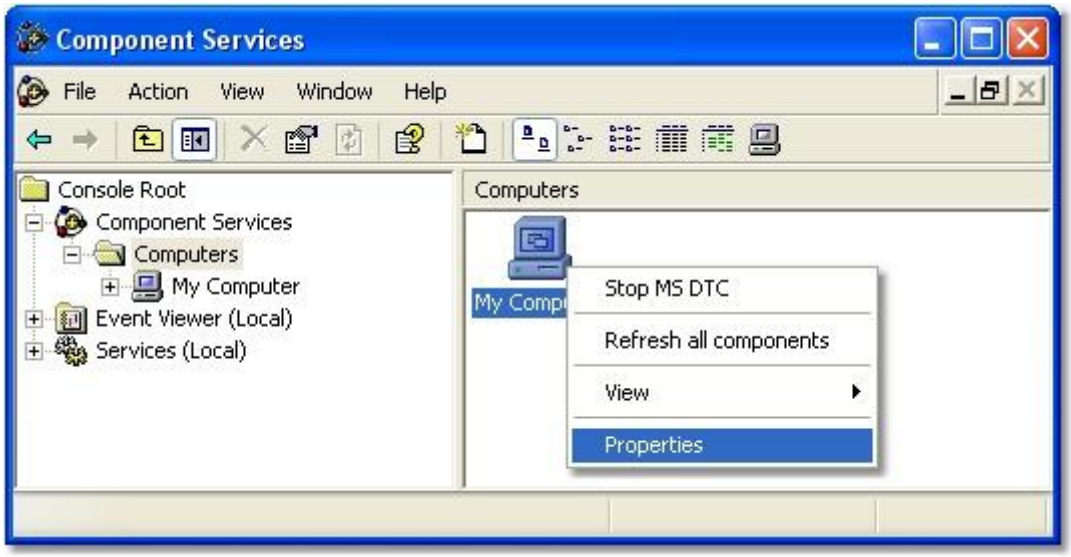

***Figure 2**: To open My Computer Properties dialog.*

STEP 1: Default Properties

To set up **Default Properties** as necessary, please do the following (see Figure 3):

1. Select Default Properties tab.
2. Select the Enable Distributed COM on this computer menu option. It specifies that DCOM is available for all COM applications installed on this computer. (Note that you will have to reboot the computer if you make changes to this checkbox).
3. Set the Default Authentication Level to Connect. There is possibility to use other settings in the list, but the Connect option is the minimum level of security that you should consider.
4. Set the Default Impersonation Level to Identify.

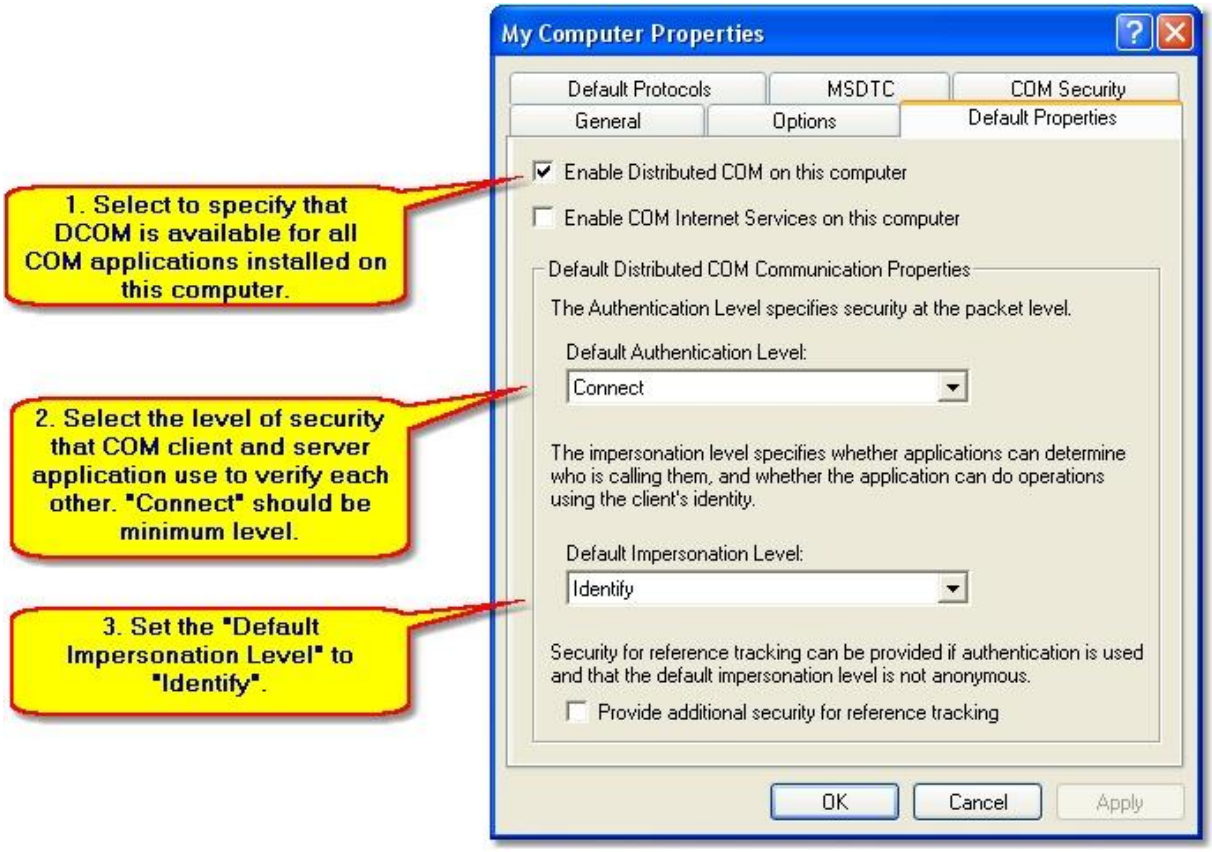

***Figure 3**: To set up Default Properties.*

STEP 2: Default Protocols

To set up **Default Protocols** as necessary, please do the following (see Figure 4):

1. Select the Default Protocols tab.
2. Set the DCOM Protocols to Connection-Oriented TCP/IP.

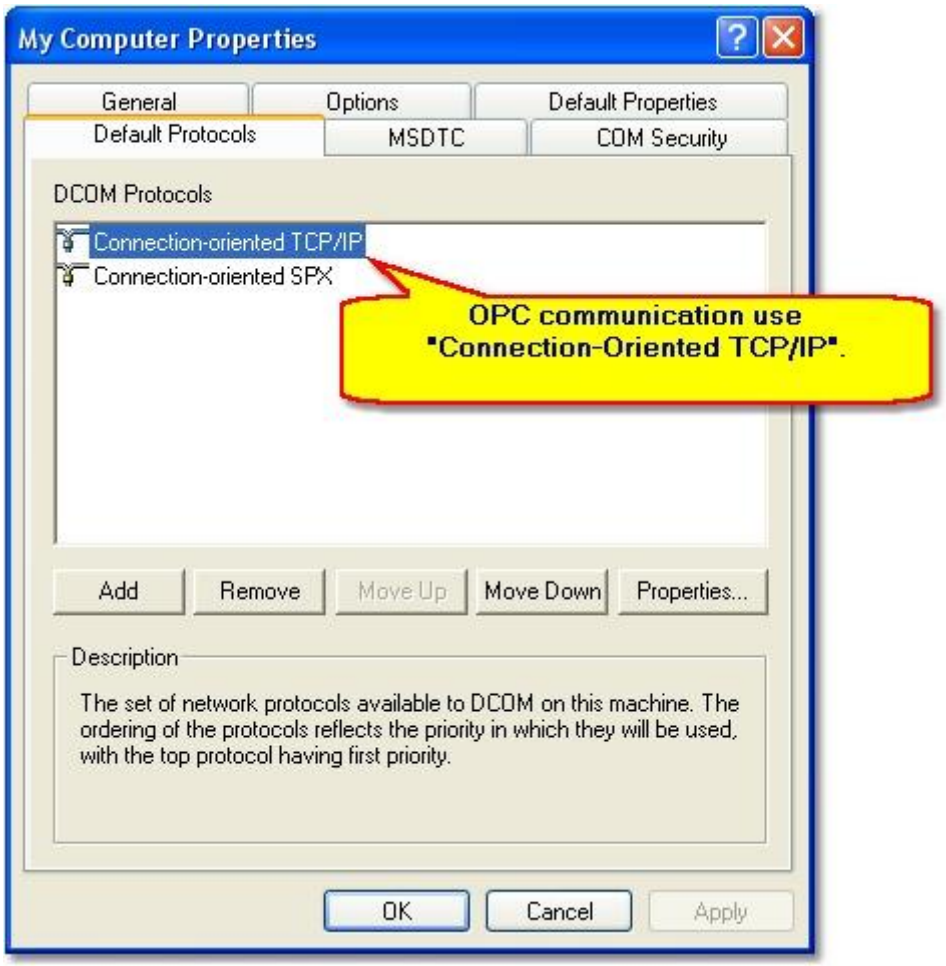

***Figure 4**: To set up Default Protocol to Connection-Oriented TCP/IP.*

STEP 3: COM Security

Windows uses the COM Security tab to set the system-wide Access Control List (ACL) for all objects. The ACLs define permissions on **Launch and Activation** and **Access** of applications.

To Add **Access Permissions** as necessary, please do the following (see Figure 5):

1. Select the COM Security tab.
2. Click on the Edit Default… button in the Access Permissions group.
3. Add the Everyone to the list of Group or user names.
4. Click on the OK button.

Note that on some systems is available the **Edit Limits**… button then please go on as follows (see Figure 5):

5. Click on the Edit Limits… button in the Access Permissions group.
6. Add the Everyone to the list of Group or user names.
7. Add the Anonymous Logon to the list of Group or user names. The Anonymous Logon account is required for the OPCEnum application.
8. Click on the OK button.

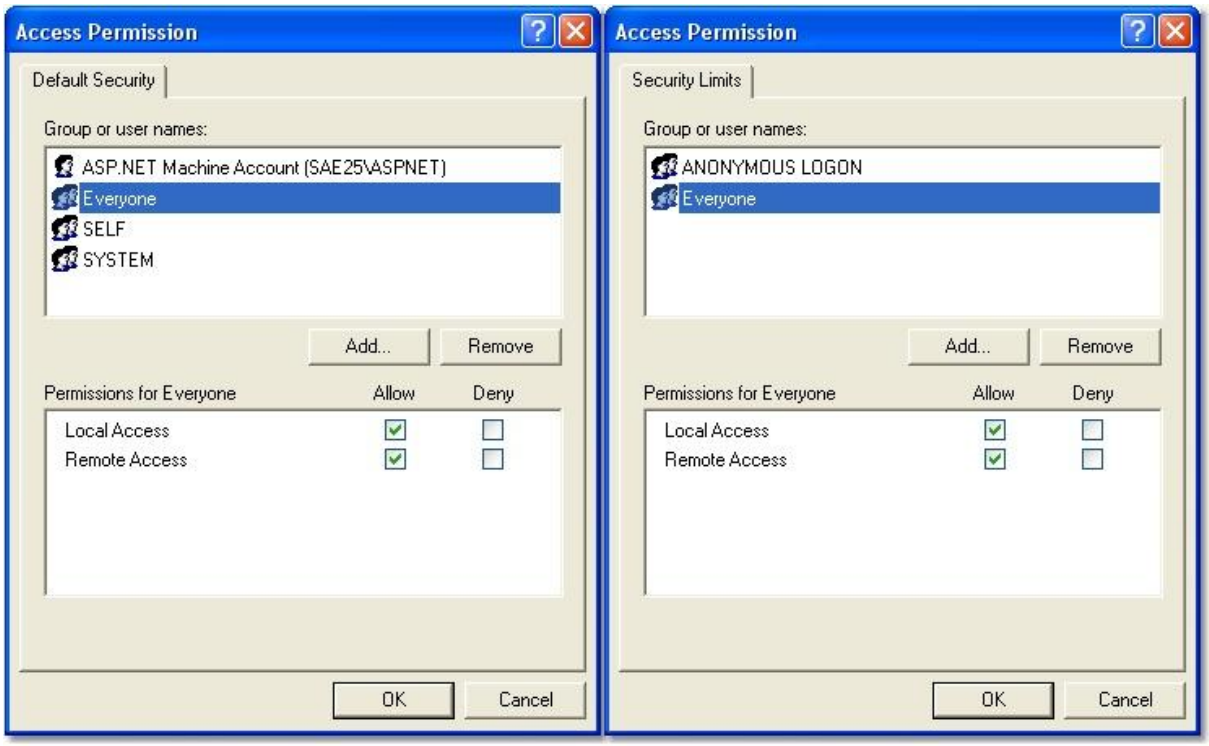

***Figure 5**: To set up Access Permissions of DCOM Security.*

To Add **Launch Permissions** as necessary, please do the following (see Figure 6):

1. Select the COM Security tab.
2. Click on the Edit Default… button in the Launch Permissions group.
3. Add the Everyone to the list of Group or user names.
4. Click on the OK button.

Note that on some systems is available the **Edit Limits**… button then please go on as follows (see Figure 6):

5. Click on the Edit Limits… button in the Launch Permissions group.
6. Add the Everyone to the list of Group or user names.
7. Click on the OK button.

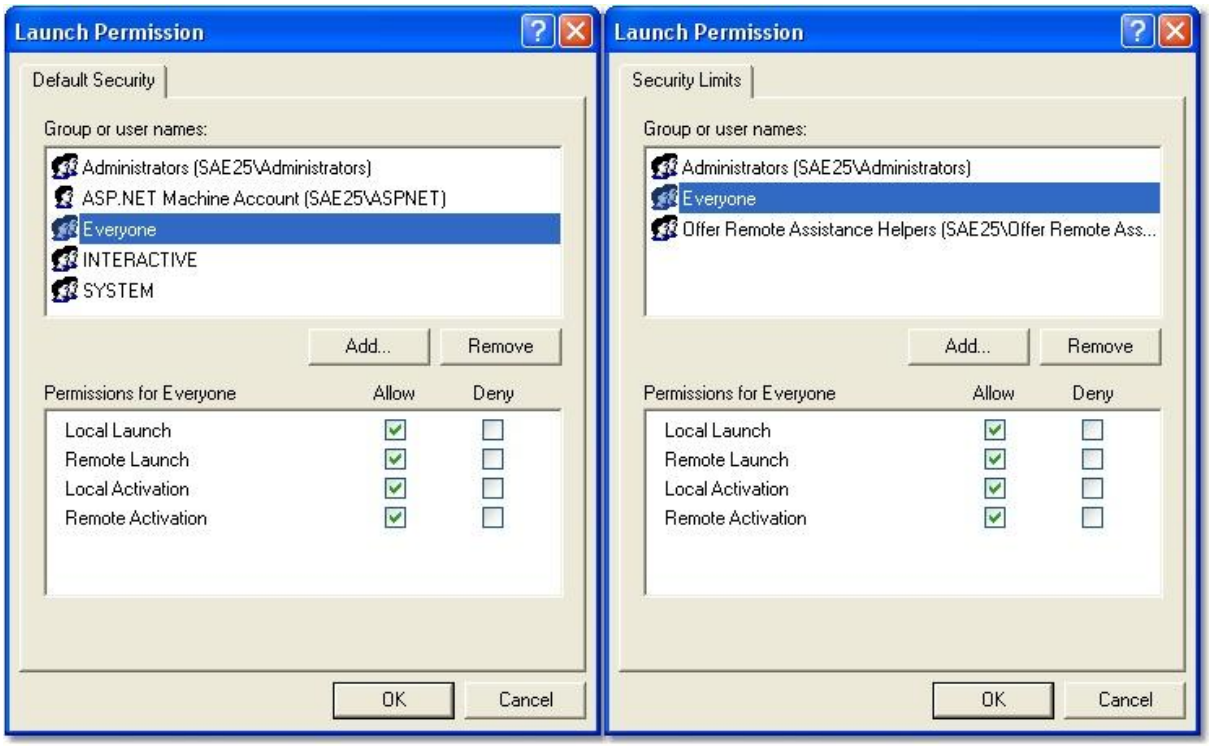

***Figure 6**: To set up Launch Permissions of DCOM Security.*

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