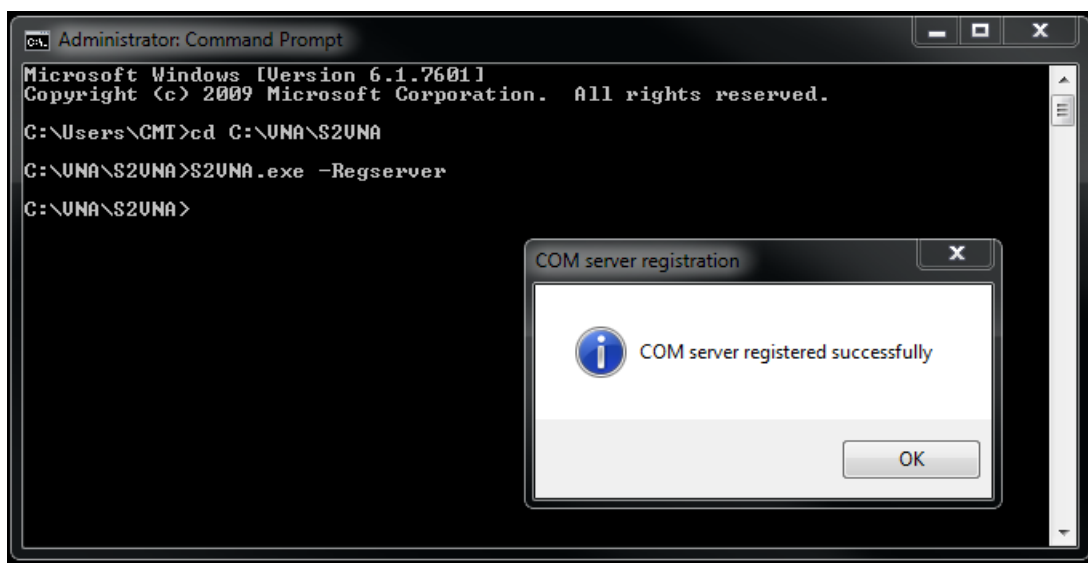


This example is guidance for configuring Distributed COM (DCOM) on your windows PC so that execute the VNA application on one PC and to host the automation environment on a second Windows PC is possible. The focus of this guide is to help with configuring Windows firewall and security settings, as well as LAN settings. It will probably be easiest to begin developing your application on the same machine as is running the VNA application (via a local COM interface) and once that's working, move toward automation over your network via DCOM.

Before starting, install the VNA software application and ensure that the COM server for the VNA you are using is registered during installation. The latest version of the VNA software is always available for download at www.coppermountaintech.com.

To register the COM server if the VNA software installation has already completed, open up a command prompt and execute the following commands:



(Note: this path is for the S2VNA. Check the programming manual for specific file paths of other instruments.)

This command will register or re-register the COM server and the confirmation dialogue box will appear. If an error occurs, be sure you have administrator privileges. For assistance, please contact support@coppermountaintech.com.

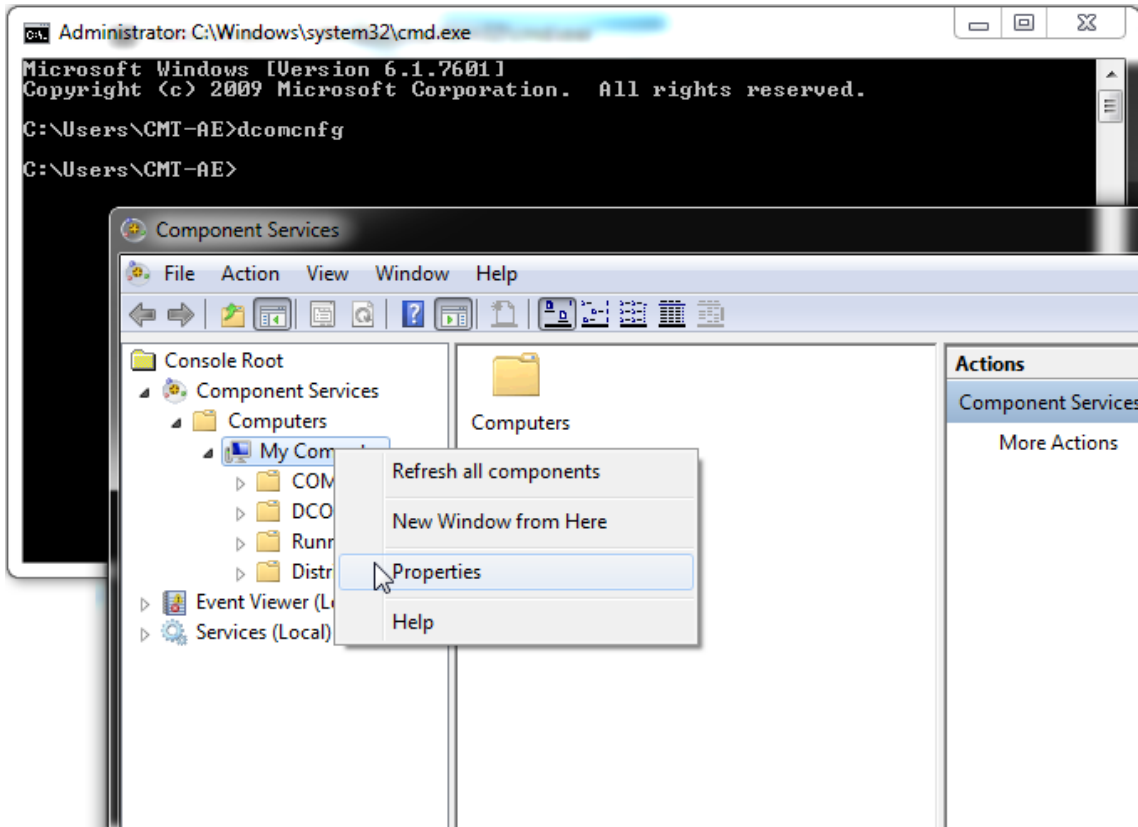
Firewall and Security Settings

Unless otherwise noted, all instructions in this section pertain to both the Server and Client machines. Windows 7 was used to create the steps and screenshots, but a similar process is involved for other versions of Windows.

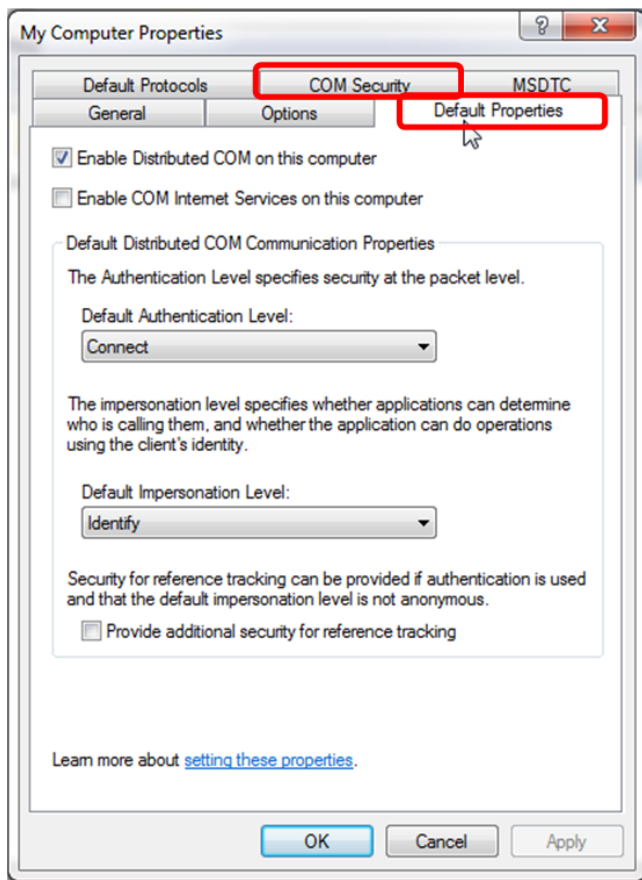
- 1) Disable Windows firewall or any third party firewalls you may have running on either machine.
- 2) Make sure an Administrator account exists on both machines with exactly the same username and password. Log in to both machines with the same credentials.
- 3) If a "Domain" is being used on both machines, this is sufficient to synchronize the credentials. If Workgroups are being used, instead, we suggest to join both PCs to a common "Homegroup".

Settings in Component Services related to DCOM

- 1) At a command prompt, type 'dcomcnfg' to launch the Component Services dialogue, the following window will pop up:



- 2) Right click on *My Computer* and select *Properties*. In "Default Properties" tab, make sure "Enable Distributed COM on this computer" is checked, set Default Authentication Level = Connect (or None), and set Default Impersonation Level = Identify

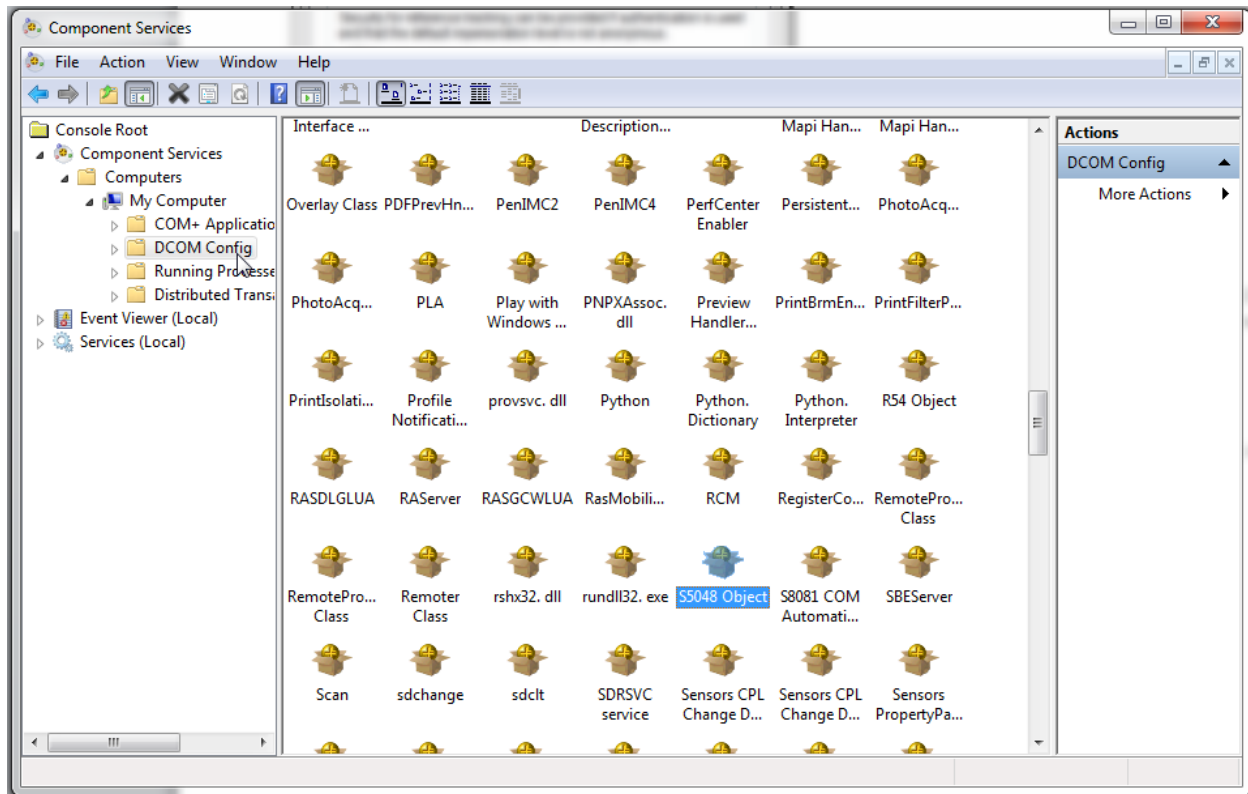


- 3) In "COM Security" tab, under *Access Permissions*, click *Edit Default*, make sure 'Everyone', 'Administrators', and SYSTEM are present and have both *Local and Remote Access permissions*. Under *Launch and Activation Permissions*, do the same, and make sure all four settings are enabled for these same users.

Change specific settings for the VNA application's object

- 1) Find the instrument's object (eg. R54, S5048, TR1300 – See Attachment A for detail) in the list under DCOM Config shown in the following screenshot:

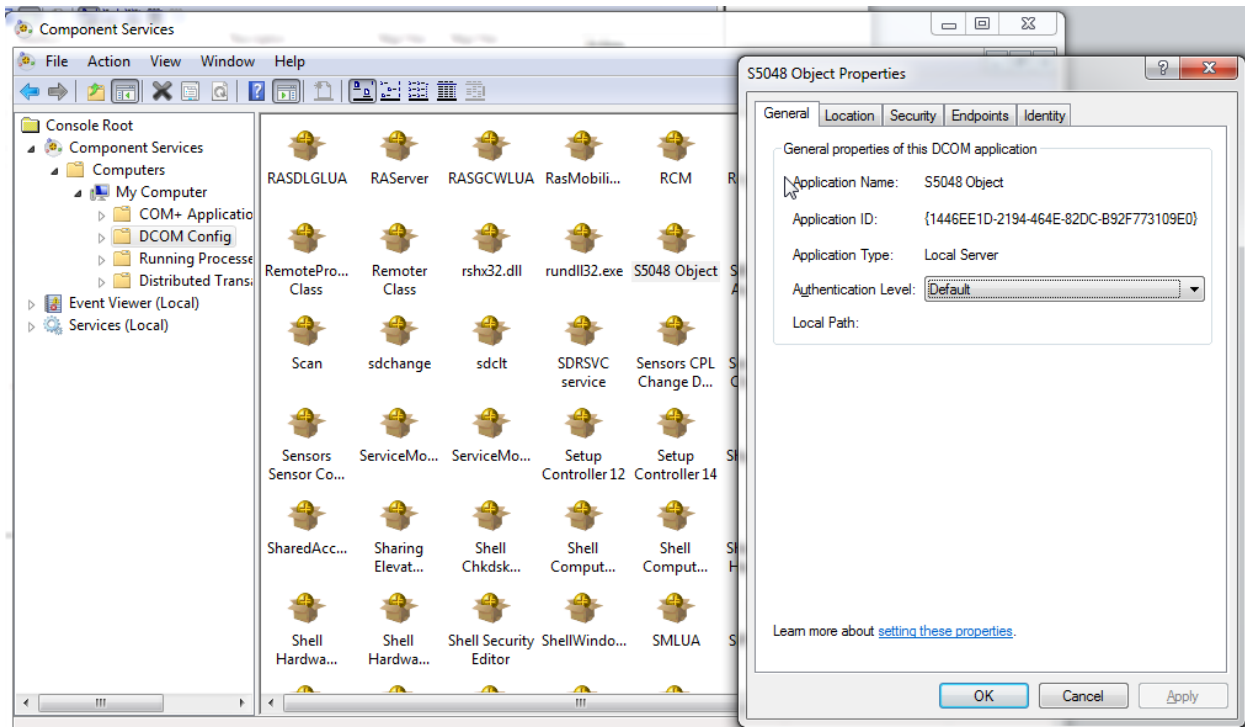
Note: If the instrument's object is not shown in the list of objects, try running 'mmc comexp.msc /32' instead (this is a Windows issue to do with 64 bit machines and 32 bit applications).



- 2) Right click the object and choose *properties*. On the *General* tab, confirm *Authentication level = Default*. On the *Security* tab, Launch and Access permissions should both = Use Default, and on the *Identity* tab select "The interactive user".

On the *location* tab of the Server PC (the PC connected to the instrument) make sure the box "Run application on this computer" is checked.

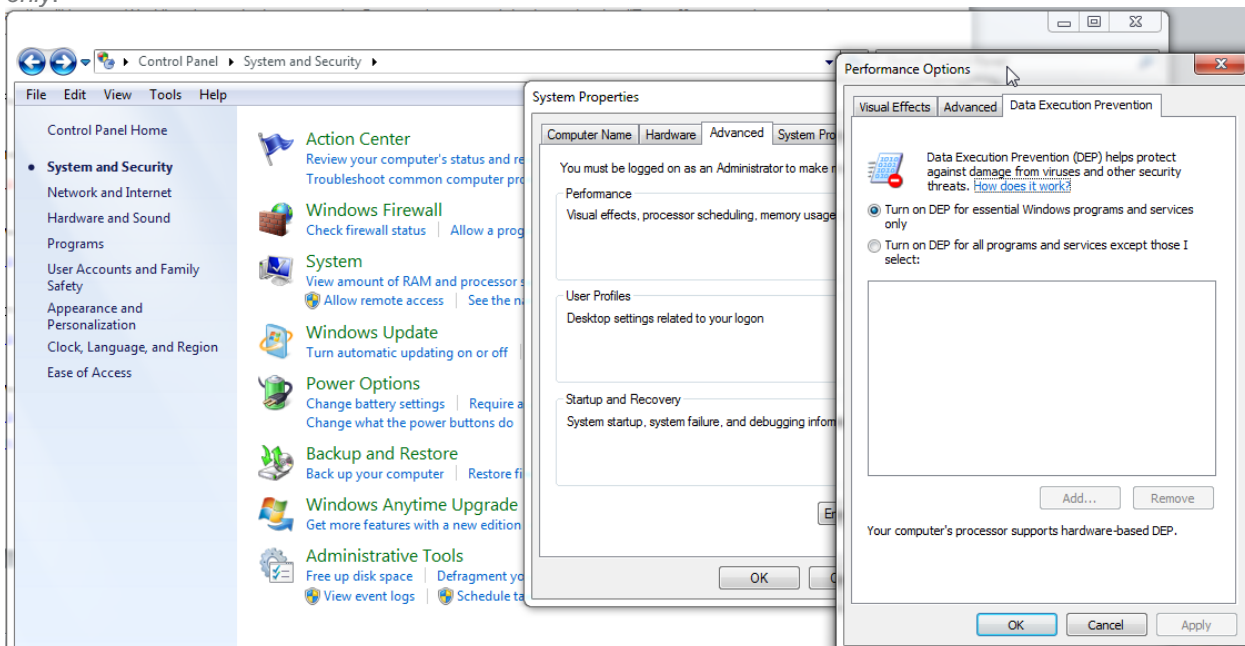
On the client PC (from which automation will be performed) make sure only the "Run application on the following computer" box is checked, with the computer name of the server entered in the field below.



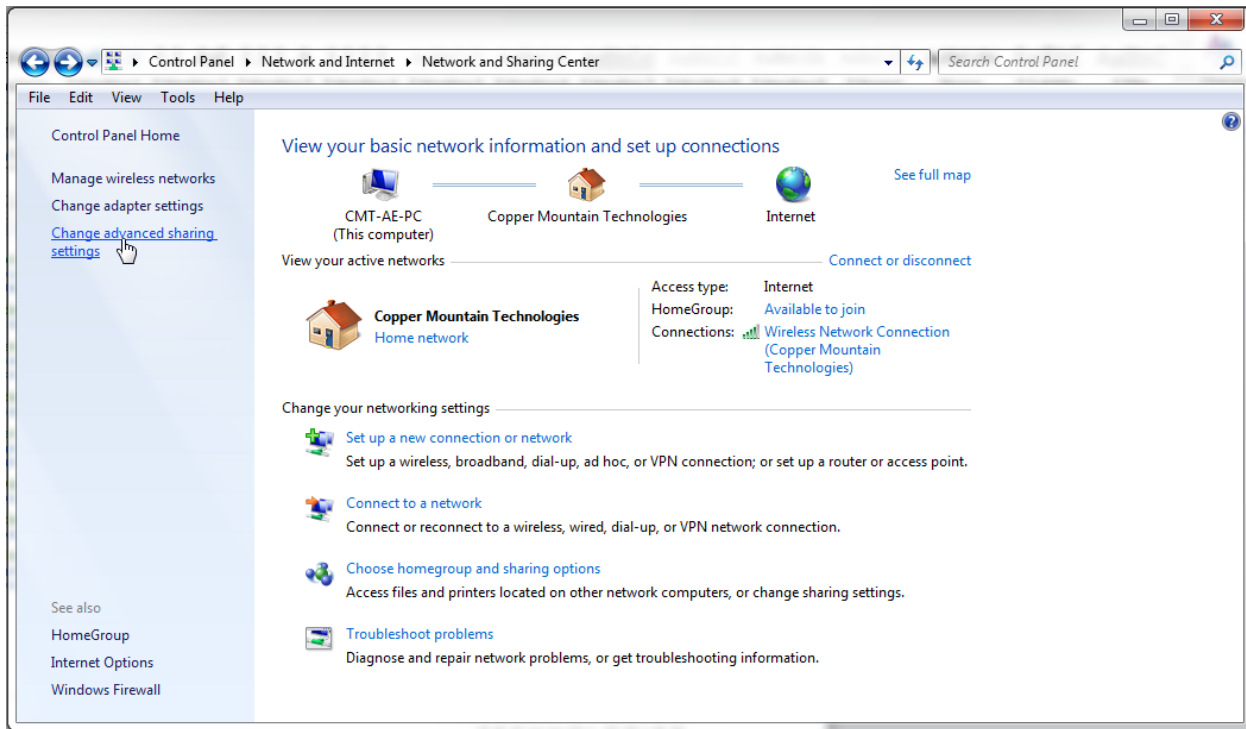
Since "Run application on this computer" is disabled on the PC from which automation is performed, it shouldn't be necessary to specify the IP address or machine name of the remote machine in your function call.

Other Settings

It may also be helpful to visit *Control Panel->System and Security->Allow Remote Access*, then on the *Advanced* tab, chose Performance settings and to confirm Data Execution Prevention is set = *Essential Windows programs and services only*.



Also try visiting *Control Panel->Network and Internet->Network and Sharing Center*, looking for *Change Advanced Sharing Settings*, expanding "Home or Work" and near the bottom under Password protected sharing selecting "Turn off password protected sharing".



References

What is the Workgroup & How to Change it in Windows?

<http://www.7tutorials.com/how-change-workgroup-windows-7>

How To Use Dcomcnfg for a Visual Basic DCOM Client/Server Application

<http://support.microsoft.com/kb/268550/EN-US>

Setting Process-Wide Security Using DCOMCNFG

[http://msdn.microsoft.com/en-us/library/ms678426\(VS.85\).aspx](http://msdn.microsoft.com/en-us/library/ms678426(VS.85).aspx)

How can I utilize MATLAB on a remote machine as a Distributed COM (DCOM) server?

<http://www.mathworks.com/matlabcentral/answers/95647-how-can-i-utilize-matlab-on-a-remote-machine-as-a-distributed-com-dcom-server>

SAMPLE: A Simple DCOM Client Server Test Application

<http://support.microsoft.com/kb/259011>

Attachment A:

Instrument's object Name in DCOM list

Product Name	Instrument's object Name in DCOM list
Planar R54	R54 Object
Planar R140	
Planar TR1300/1	TR1300 Object
TR5048	
TR7530	
S5048	S5048 Object
S7530	
Planar 304/1	
Planar 804/1	
Planar 814/1	
Planar 808/1	S8081 COM Automation Server