Setting up Remote Access Services (RAS)

APPLICATIONS NOTE

August 2004

Description: *How to setup a RAS connection for use with GENESIS32*
OS Requirement: *Windows XP/2000/NT, 9x/Me.*
General Requirement: *What are requirements in this app note*

What is Remote Access Service?

Remote Access Service (RAS) is a Microsoft Windows NT/2000 service, enabling you to create connections between two computers via dialup modems. This type of communication can be used with the ICONICS GENESIS32 product family and specifically for the WebHMI.

After the dialup connection is established a RAS computer will act as any other computer on the remote network.

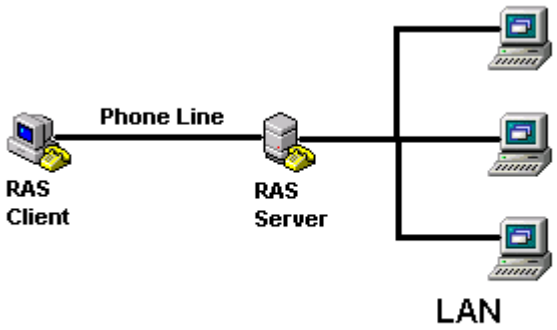


Fig. A typical Remote Access Connection

The RAS communications need to be configured for TCP/IP communications and the ICONICS GenBroker communications technology will then communicate OPC real-time data, alarms and trend data.

GenBroker communications technology allows fast and reliable communications between client and server applications.

GenBroker supports the following types of communications:

- **OPC using Windows Standard DCOM**
- **OPC using Gen Broker directed DCOM channel**
- **OPC using Gen Broker directed TCP/IP channel**

This applications note is focused on how to set up connections via the GenBroker TCP/IP channel..

First the network connection between the server and client computer needs to be established. For this we install the RAS service on the server computer and Dialup Networking on the client computer.

Setup RAS on the Client Computer

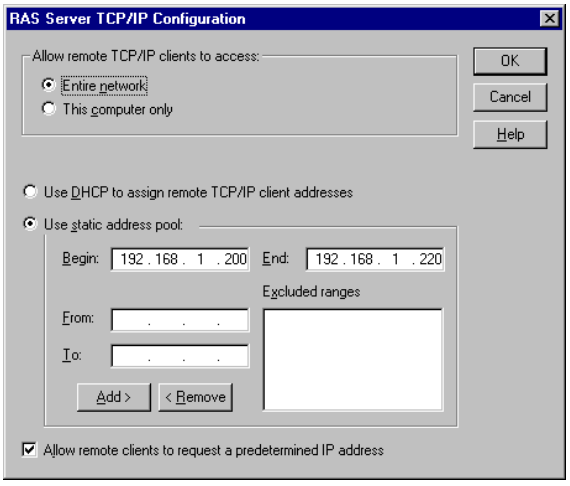
First of all you have to install the RAS service. The installation of the client is easy. Please follow these steps

1. Install your modem
2. Click on: Start – Settings – Control Panel – Network – Services – Add
3. In list of services you should find **Remote access service** and click on properties
4. Click on Configure button and check **Dial out only**
5. Click OK
6. Click on Network button and make sure if TCP/IP is checked.
7. Click OK and then the Continue button.
8. Exit the network configuration and
9. Restart Windows

Setup RAS on the Server Computer

Configuration of the RAS server is a bit more complicated. Please follow these steps:

1. Install your modem
2. Click on: Start – Settings – Control Panel – Network – Services – Add
3. In list of services select **Remote access service** and click on properties
4. Click the **Configure** button and check **Receive calls only**. Then Click OK
5. Click the **Network** button and make sure that TCP/IP is checked.
6. Click **configure** beside the TCP/IP check button
7. Configure your IP addresses. These IP addresses will be assigned to client computers that dial-in



Windows RAS TCP/IP Configuration

8. Click OK
9. Change encryption setting to *Allow any authentication including clear text*
10. Click the OK and Continue button and exit the network configuration
11. Restart Windows

Now you should first try the connection between the client and server computer. Establish the connection and try to **ping** your RAS server. Your Windows installation automatically installs the Ping.exe utility.

Note: Enable **IP forwarding** on your RAS Server.

GenBroker Configuration & Setup

The Gen Broker Configuration is divided into a client and a server part. Clients (e.g. GraphWorX32) are consumers of OPC Data. Servers are providers of OPC Data (OPC Servers, Alarm Servers, Trend Servers).

Setup GenBroker on Server Computer

On the OPC server computer you install Gen Broker, either by installing GENESIS32 v6.1 or DataWorX32 v6.1. To configure GenBroker click *Start, Programs, ICONICS GENESIS-32,Tools, GenBroker Configuration*.

Select the *GenBroker Server* tab and verify that the check box is set for **Enable OPC over TCP/IP communications to this computer**

That's all. GenBroker only needs to be started by either running it as an NT Service, or by starting it from the ICONICS GenTray system tray.

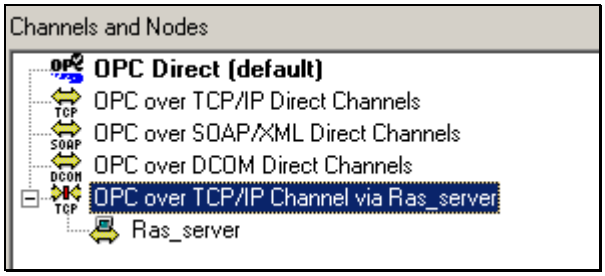
Setup Gen Broker on Client Computer

On the client computer you install GENESIS-32 or DataWorX32. Start GenBroker Configurator and select *GenBroker Communications* from the client tab.

1. Click the *New…* button
2. From the menu select, *Channel, Add TCP/IP Channel…*
3. Type a node name or IP address of the RAS Server For example the server is called **RASServer**

Node Name Selection

4. Click on OK
5. If required, configure the channel properties
6. Right-Mouse Click the newly created channel and select *Set As Default.*

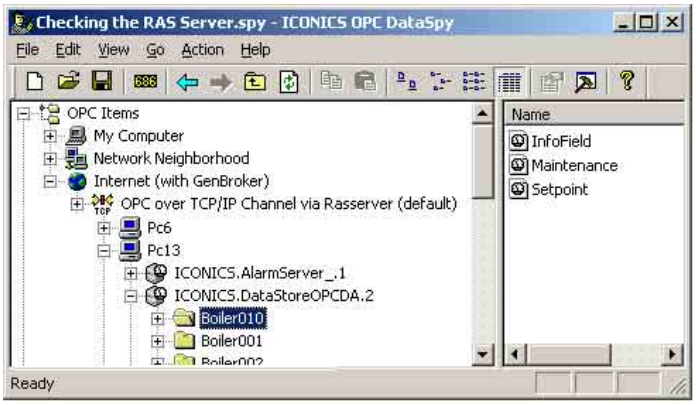


GenBroker TCP/IP Direct Channel Configuration

7. Click the *Save & Close* button and specify a name for the configuration file
8. Click on OK

ICONICS Tag Browser & DataSpy

Microsoft RAS and ICONICS Gen Broker are configured. This would be a good moment to start ICONICS Data Spy. If the two computers are connected through RAS, Data Spy and Gen Broker technology will allow you to monitor OPC data across the dial-up network.



ICONICS Data Spy in action on client computer

The DataSpy Utility can get to the OPC Servers running on the remote computers, you can start GENESIS32 and browse the same OPC data using the built-in Tag Browser.