# Using OPC90 with DBDOC / Bailey Composer or WinCAD

DBDOC by G. Michaels Consulting Ltd - contact 866.438.2101 from the United States and Canada or Phone (+1) 780.438.2101 - can use the OPC90 MUXCIU block (see MUXCIU for more details) to gain access to all Bailey interface types. It is especially well suited for the SCSI and RS232 port of the INICI03 (INICT03A / IMMPI01 cards). This document provides a general overview on how to set up OPC90 and DBDOC to accomplish this task. Note a second MUXCIU block is often added to support simultaneous communication with ABB Composer or WinCAD software along with DBDOC.

Let's setup OPC90 first. Run OPC90 and select File->Open. Select the file called DBDOC.CFG found in the CFG subdirectory. Current users of OPC90 just need to add a MUXCIU block (named DBDOC for this example) to their existing database. The OPC90 program window will look something like:
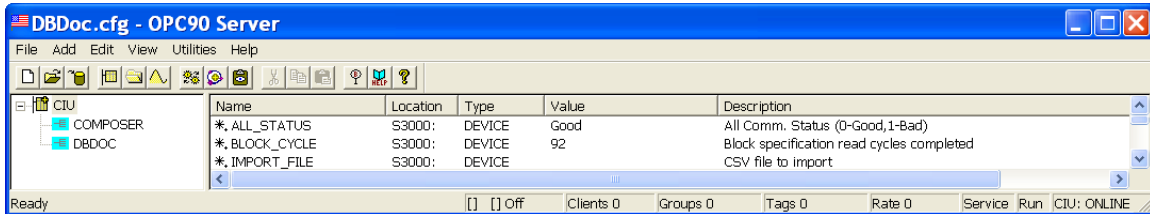
Next right click on the CIU block and select properties. The following dialog will be displayed:
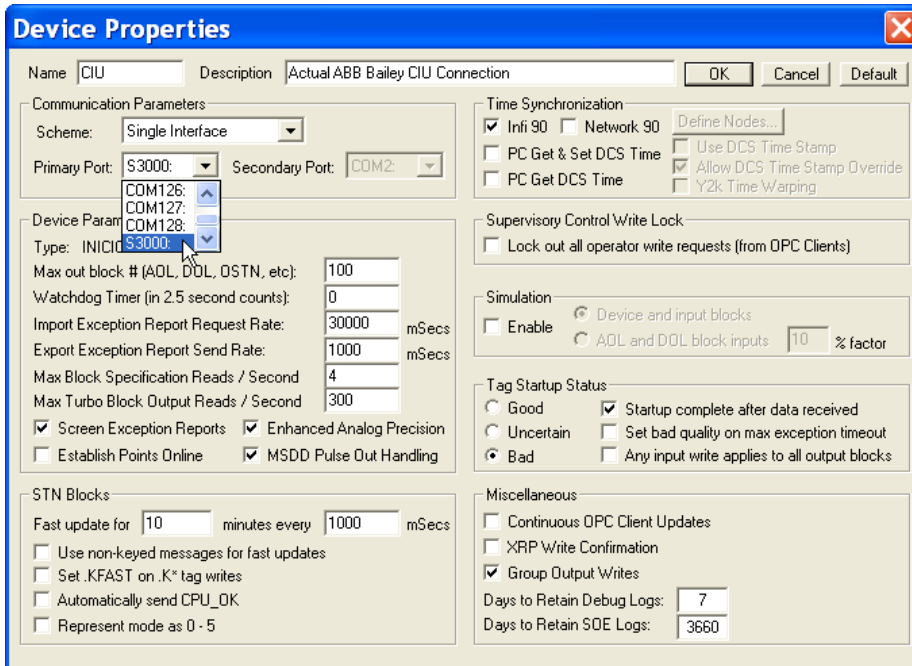
Set the following Device block properties:

- Primary Port - either the serial port for the CIU, or the SCSI port identified by SCSIScan.
- Change: Import Exception Report Request Rate from 1000 (ms) to 30000 (ms), assuming you are not using any OPC tags in this application.
- Set "Exhanced Analog Precision" on

This dialog allows selection of the communication port OPC90 uses to communicate with the ABB Bailey interface (CIU). It defaults to COM1: and needs to be changed to match the PC port currently cabled to the CIU. This example shows the port setting being changed to S3000: which represents SCSI ID 0. Note that the SCSI port selections are only included in the list box when OPC90 is started after the Bailey SCSI interface is powered up and attached to a PC SCSI card (see the sections on "Add" devices and DEVICE block in the OPC90 documentation for more information). Click on OK to save the port selection. Make sure these changes are made permanent by selecting File | Save.

If the selected port is a PC COM port, the baud rate setting for that port must be set to match the setting of the CIU port. If the selected PC port is SCSI, this step is not required. For maximum throughput, RoviSys recommends setting the CIU port to its maximum available rate which is 19200 baud. If your CIU speed is less than 19200, it may be that you have long or poor communication lines, so do not change the speed.

Select Edit->Ports which brings up the following dialog:
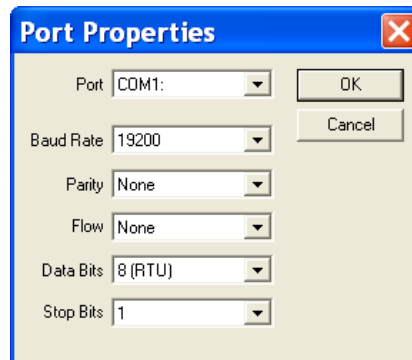
Use this dialog to match the PC COM port settings to the CIU port settings. Generally only the baud rate setting needs to be adjusted.

Next verify the OPC90 "Run as Service" and "Startup In Runtime" option are selected. Existing users that have OPC clients attached to OPC90 do not need to enable these options. Select View and verify a check mark is next to these options:
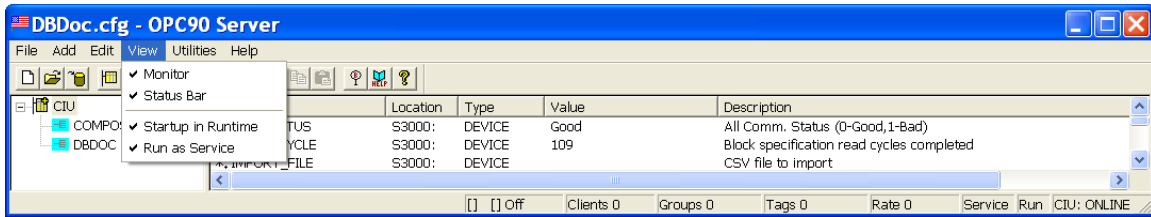
The last step is to configure the MUXCIU block, (called DBDOC in our example) to select a PC COM port that will be used to communicate with the DBDOC CIUMON program and one for COMPOSER. These ports will respond to CIUMON and COMPOSER as if they are the actual ABB Bailey CIU. Right click on the OPC90 block named DBDOC and select properties to see the following dialog:
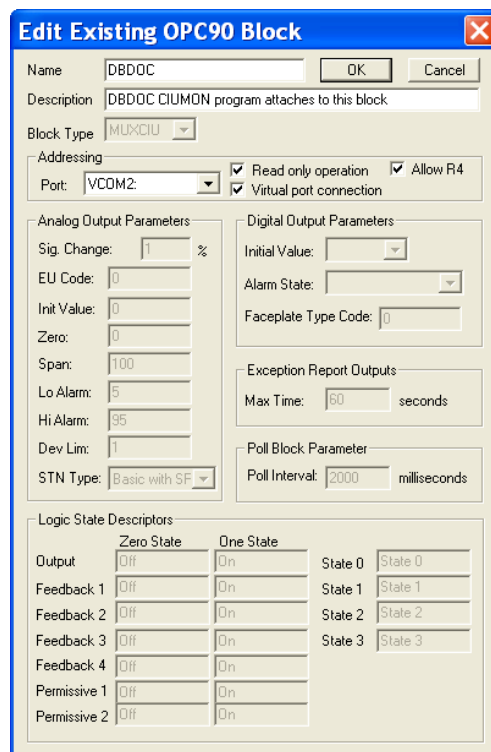
Set the following MUXCIU block properties:

- Leave name as DBDOC
- Leave Block Type as MUXCIU
- Choose a serial port that is not the port used by the CIU
- Check Read only operation
- Check Allow R4
- Check Virtual port connection [The port will change from COMn to VCOMn, and you might have to change to another value "n"]
- Save the setup again

Add a second MUXCIU block to be used by ABB Composer. Composer does not support the OPC90 virtual port communication so do not check virtual port connection. A null modem cable needs to be connected from the Composer PC COM port to the COM port specified in the MUXCIU block.

Now it is time to setup the DBDOC CIUMON program. In general you want the following settings:

- Do NOT install Virtual Serial Ports unless you have Composer Version 5 on the same computer. VSPs are not needed for CIUMON and OPC90Server on the same computer or network
- CIUMON / Options / CIUMON Settings / Communication Modes
    o Check - Connect to RoviSys OPC90
    o Destination Computer Information
        ▪ Defaults are valid for OPC90 and CIUMON on same computer
        ▪ "CIU.DBDOC" is correct for Device named "CIU" and Block named "DBDOC"
- Do not use "Comm and Flow Control Settings"
- Configuration - you can set ICI03, but it is not needed.
- You can set logging to a file.

Note the new option default "Only log when an error occurs" - disable that to log lots of data

Run CIUMON by selecting Start->Programs->GMCL DBDOC->Start CIUMON Online Data Server.   Select Options->CIUMON Options->Configuration and the following configuration dialogs will be displayed:
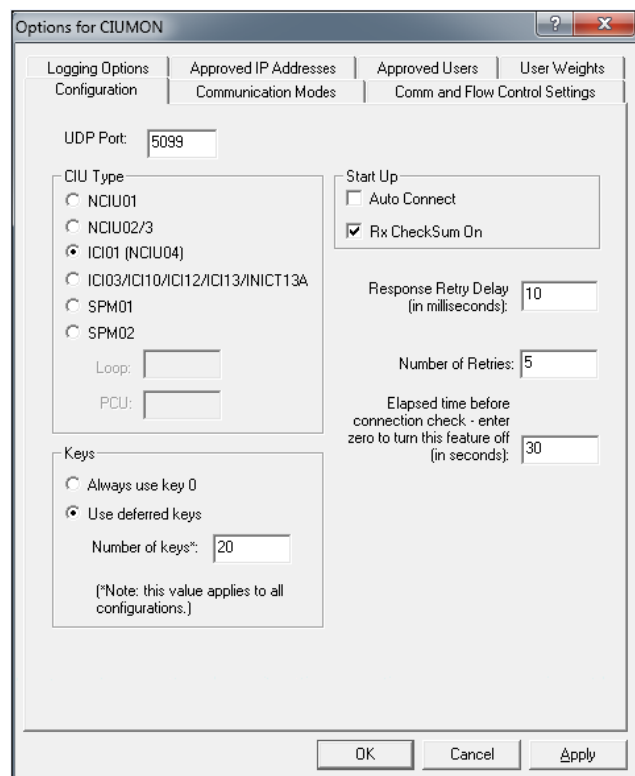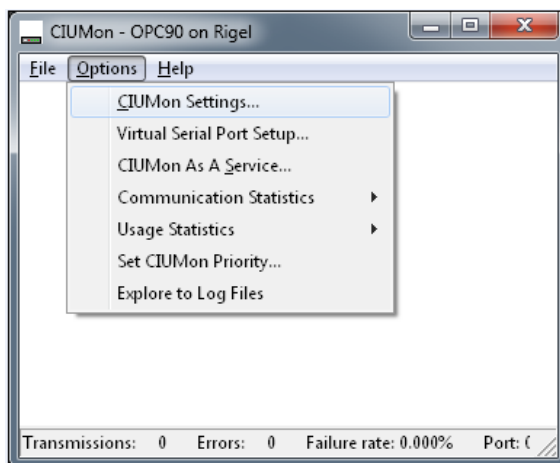
Fill in the UDP port (consult DBDOC documentation) and select the CIU type that best fits the type attached to OPC90. If the system is Network 90 the selected type is NCIU02/03. If the system is Infi 90 the selected type is ICI03 (SCSI CIU) or ICI01. Fill in the other fields as shown. Next select Options->Communication Modes which will bring up the following dialog:
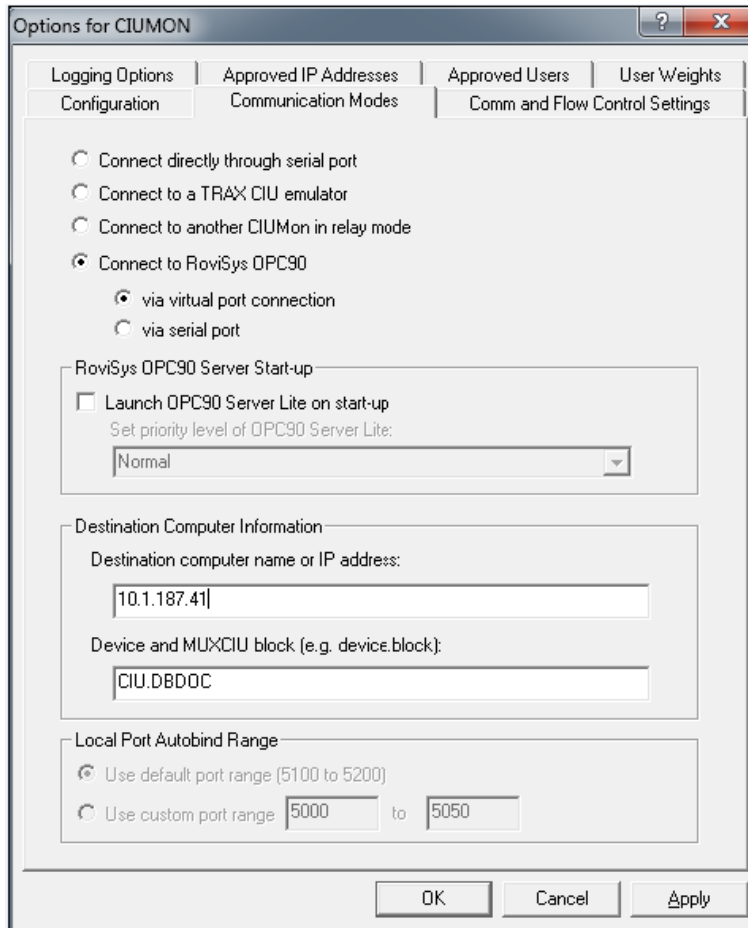
Select Connect to RoviSys OPC90 via virtual port connection, fill in the IP address or computer name of the PC running OPC90 and the name of the OPC90 Device block and MUXCIU block (CU.DBDOC in our example). Set the data characteristics shown by this example which concludes setup of CIUMON.

Setting up OPC-90 to support Composer or WinCAD is just as easy. You must use a pair of serial ports connected with a null modem cable and keep the speed limited to 19200 baud, as that is all they can manage. Also, note that both Composer and WinCAD only can work with COM1 through COM4.