TECHNICAL INFORMATION SHEET – NUMBER 208, Issue 1

TITLE: iTools EuroMBus OPC Server Startup Registry Settings

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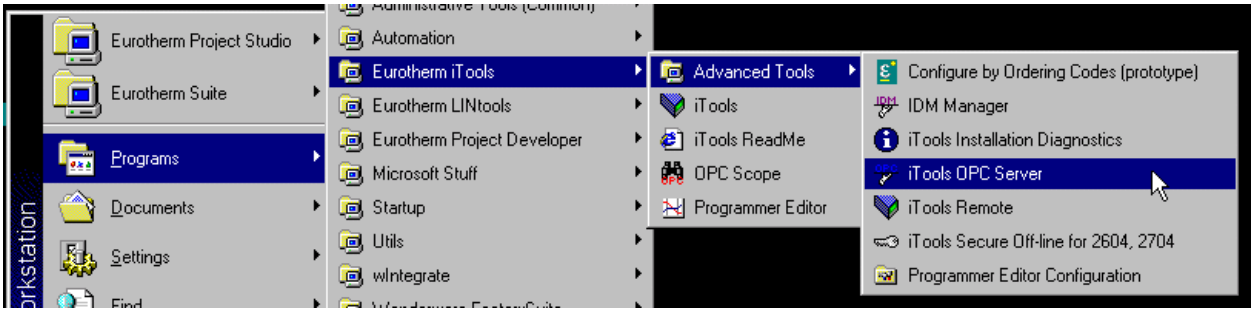
This Technical Information Sheet (TIS) describes how to configure the iTools EuroMBus OPC Server startup file. It also describes how to start EuroMBus, auto-detect Series 2000 instruments connected to a PC and save that address space as a UIS file. You would need this capability when using an OPC client expecting a pre-configured address space for one or more instruments in EuroMBus server and you do not want to manually scan for connected instruments whenever EuroMBus is re-started.

OPC clients are typically software packages such as Wonderware's InTouch, Intellution's FIX32, Rockwell Automation's RSView 32 and many others. The OPC clients could also be the iTools Series 2000 controls running in an OPC Client container application.

Requirements: Eurotherm iTools – STANDARD or OPEN edition, Version 4 or greater.

EuroMBus is a standalone executable program fully compliant with the OPC Data Access Custom Interface Specifications 1.0 and 2.0. To start EuroMBus, go to Start/Programs/Eurotherm iTools/Advanced and select "iTools OPC Server" as shown in the picture below. EuroMBus is capable of auto-detecting any Series 2000 instrument any version with Modbus communications. By default, the parity in the instrument must be None, while the baud rate may be 4800, 9600 or 19200. The address may be anything from 1 to 255.

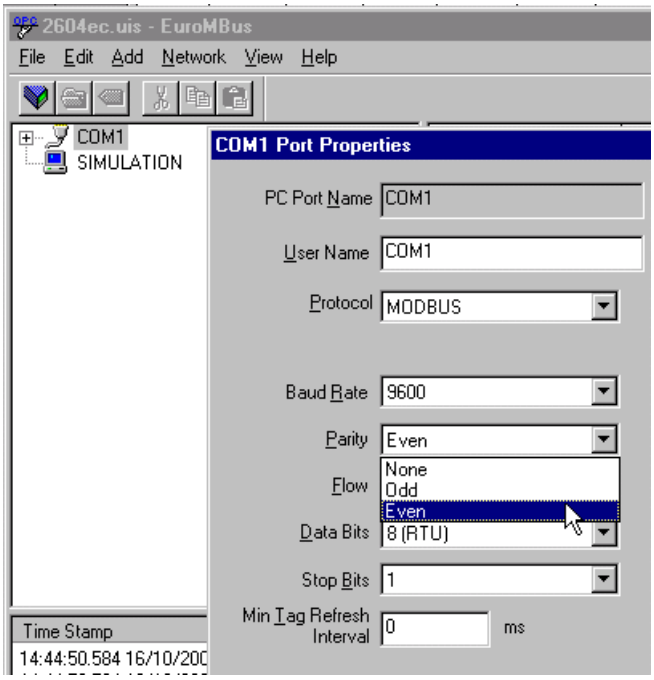


To auto-detect a connected instrument, from the EuroMBus menu bar, select Network/Start One Shot Scan – or press shortcut key F5. EuroMBus detects the instrument and automatically builds the address space for the recognized Series 2000 instrument as shown in the picture bottom of next page. In the example shown using COM1 of the PC, EuroMBus has detected a 2604, version 3 (V300) at address 1 (ID001).

What can be done if the instrument parity is not None? Start EuroMBus and before scanning is started, right click on the serial port icon – COM1 in this example - and click on properties. This brings up the COMx Port Properties dialog box where x is the COM port number as shown in the picture on the next page. From the Parity drop-down list box select the parity required and click on OK. Start scan.

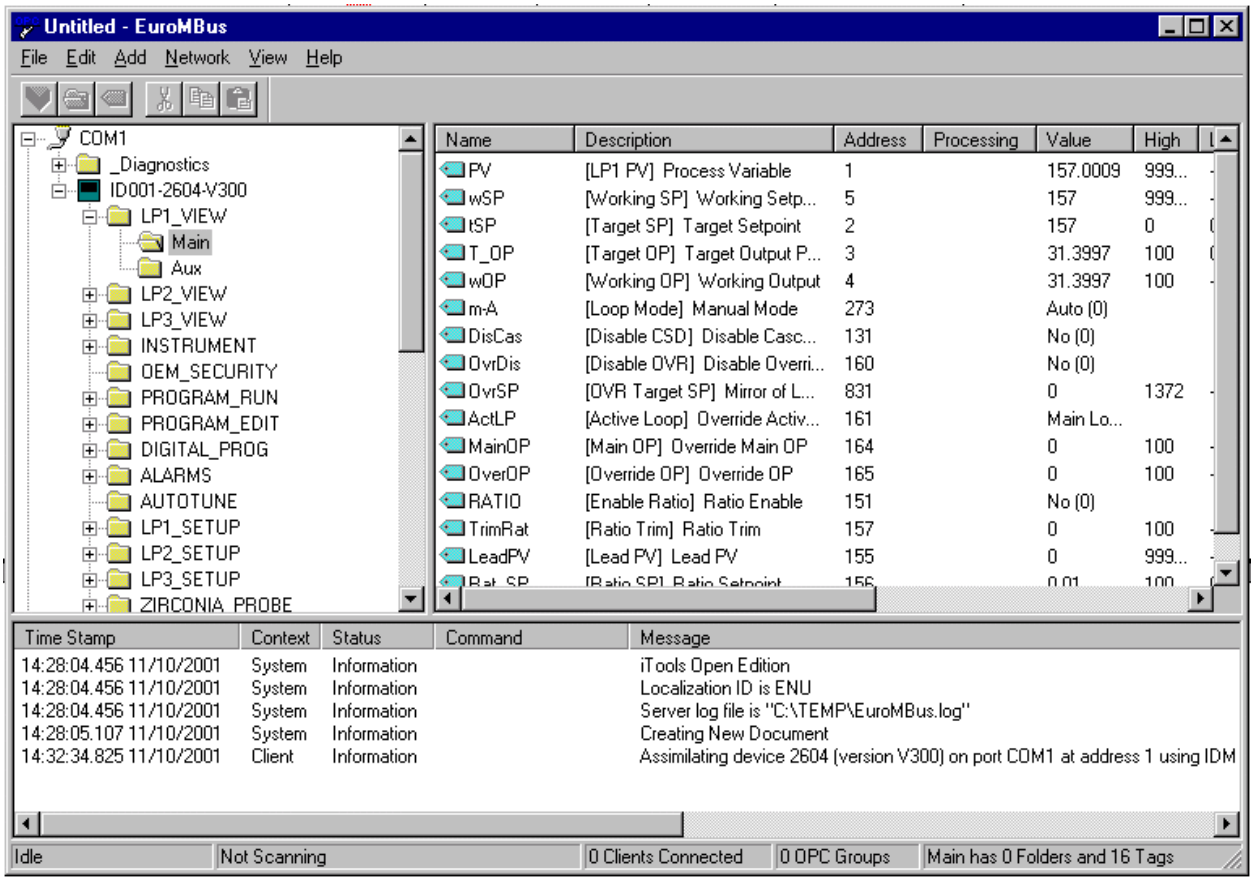
How many instruments can be connected to EuroMBus? While there are no imposed limits there are practical limits. The amount of memory the PC has is a practical limit. Typically

each additional device loaded into EuroMBus address space takes 1-5MB (2100 through 2500/2600/2700).



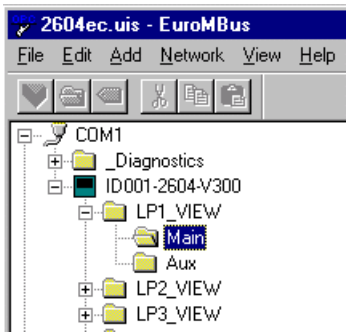
Another limit is the amount of data that can be pushed through a serial Modbus RTU network - typically about 100 parameters per second at 9600 baud. So if there are 32 controllers, wanting to poll 20 parameters per device, the maximum refresh rate would be about 10 seconds. This assumes that nothing else is happening, such as active mirroring, writing, cloning or communications errors.

EuroMBus active mirroring mode – where EuroMBus automatically refreshes parameter values can be disabled to improve throughput. Go to Edit/Server Settings… and select the General tab. Remove the default check in both check boxes. Restart EuroMBus for the change to take effect.

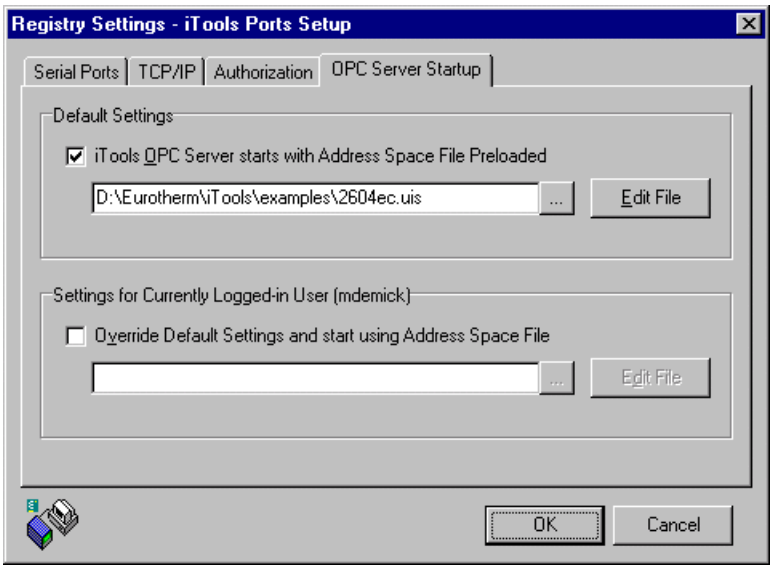


The EuroMBus address space is saved as a UIS file type – EuroMBus Server's Address Space file. From the EuroMBus menu bar select File/Save. Enter in the file name in the directory desired and click the Save button. The 'untitled – EuroMBus' message in the title bar is replaced by the name of the loaded address space file as shown in the picture below - '2604ec.uis'.

The next step is to enable EuroMBus to automatically load an address space – UIS file – whenever EuroMBus starts. From EuroMBus select Edit/iTools Control Panel. Or from Start select Settings/Control Panel and double click on the iTools icon. This brings up the Registry Settings – iTools Ports Setup dialog box. Select the OPC Server Startup tab.



As shown in the picture below, check the 'iTools Server starts with Address Space File Preloaded' check box. Then click on the ellipsis button to browse to the directory where the UIS file is stored or type in the path and filename. Restart EuroMBus for these changes to take effect.



Now, whenever iTools is started, it will reload the address space for the Series 2000 instrument(s) that were stored in the UIS file. Or, if EuroMBus is not running and an OPC client attempts to connect to EuroMBus, EuroMBus will automatically start and respond to address space requests. It is not necessary to have an instrument connected to EuroMBus for address space browsing by an OPC client. Instrument(s) connected are necessary however, if real-time data is needed.