

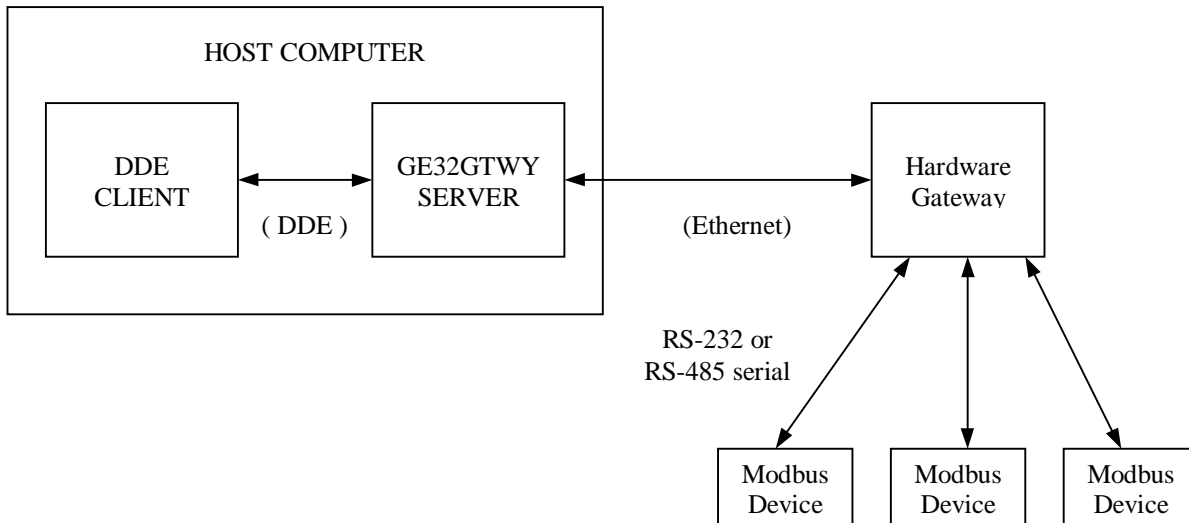
Application Note #82

Using the PMCS GE32GTWY DDE Server

This application note details the operation and configuration of the GE32GTWY DDE server as part of a PMCS system.

Overview:

GE32GTWY encapsulates Modbus messages within a TCP/IP envelope at the host PC. This TCP/IP packet is then routed across a LAN to a hardware gateway device. The gateway unpacks the Modbus message and transmits it serially to a connected power management relay or meter. Examples of hardware gateways are the EPM 7700 Xpress Card and the XYPLEX 1620 MAX SERVER.



GE32GTWY Network Diagram

Installation:

Beginning with the release of PMCS 6.7a, GE32GTWY is available with every PMCS catalog number that includes the GE32ENET DDE server. No additional serial numbers are required. See GEH-6514 or DEH-211 *Read This Book First* for instructions on installing PMCS software.

Features:

- Non-proprietary TCP/IP communications.
- Operates as a standard GE DDE server.
- Full event support.
- Full waveform support.

This server cannot be configured as a Windows NT Service.

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List of devices supported in GE32GTWY:

Device Firmware Revision Supported	
POWER LEADER EPM (commnet communications option)	1.06
(Modbus communications option)	3.40
POWER LEADER Meter	2.00
EPM 3710 Electronic Power Meter	3.0.1.1.b
EPM 3720 Electronic Power Meter	1.5.1.0
Power Quality Meter (PQM)	3.20
POWER LEADER MDP Overcurrent Relay	
(commnet communications option)	1
(Modbus communications option)	3.4
Spectra MicroVersaTrip™	5.16
Enhanced MicroVersaTrip™ C	4.13
Enhanced MicroVersaTrip™ D	4.13
Spectra ECM™ Electronic Control Module	7.20
239 Motor Protection Relay	2.30
269 Plus Motor Management Relay	D.6.0.4
SR469 Motor Management Relay	30D261A8.000
SR489 Generator Management Relay	32F131A8.000
565 Feeder Management Relay	VE2.71
735 Feeder Relay	25D152D1.000
SR745 Transformer Management Relay	2.40
SR750 Feeder Management Relay	3.60
SR760 Feeder Management Relay	3.60
POWER LEADER Modbus Concentrator Main Firmware	2.20
POWER LEADER Modbus Monitor	2.00
GE Fanuc MicroPLC Programmable Logic Controller	n/a
ALPS Advanced Line Protection System	V0004.00AA15
LPS Line Protection System	V0004.00AA15
DFP100 Digital Feeder Relay	4.40
DFP200 Digital Feeder Relay	2.01
EPM 7300 Meter	1.33
Schweitzer Engineering Laboratories SEL-251 Distribution Relay	R406
Schweitzer Engineering Laboratories SEL-321 Phase and Ground Distance Relay, Directional Overcurrent Relay and Fault Locator	R500
Schweitzer Engineering Laboratories SEL-351 Directional Overcurrent Relay, Reclosing Relay and Fault Locator	R103
Schweitzer Engineering Laboratories SEL-587 Current Differential Relay	R503
Universal Relay	1.80
System Monitor SM-3 Voltage Regulator	0309B

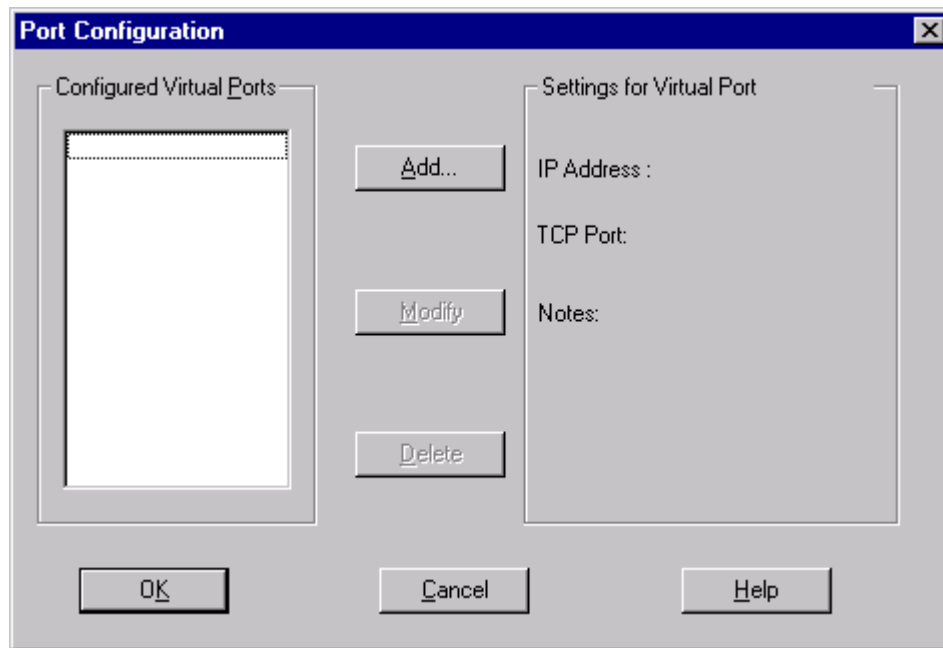
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Configuring the server:

The GE32GTWY server is nearly identical in operation to the GE32ENET server. Installation and configuration of GE32ENET is explained in GEH 6510, *PMCS Network and Device Configurator*. The primary operational difference between GE32GTWY and GE32ENET is in port configuration. Similar to the GE32ENET server, Virtual ports are configured in the server application which correspond to physical serial ports on remote hardware gateways. The GE32GTWY configuration only sets up the TCP/IP links between the computer and the gateway. The serial Modbus links between the gateway and its connected devices are configured within the gateway itself.

Port Configuration Dialog:

From the Configuration menu in the Server's main window, select **Configuration**, then **Ports...** The Port Configuration dialog appears:



Adding a port:

Click the **Add...** button to bring up the **Add/Modify Virtual Port** dialog.

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The screenshot shows a dialog box titled "Add/Modify Virtual Port". At the top, there is a dropdown menu for "Virtual Port" currently showing "NetCOM1". Below this is a "Gateway" section containing two input fields: "IP Address" with the value "3.46.9.220" and "TCP Port" with the value "7802". Underneath these fields is a list box containing the same IP address "3.46.9.220". At the bottom of the dialog is a "Notes" text area containing the text "Xpress Card serial port COM2". On the right side of the dialog, there are three buttons: "OK", "Cancel", and "Help".

Type a valid IP address into the **IP Address** field. This is the address of the hardware gateway servicing your serial devices.

Enter an appropriate port number in the **TCP Port** field. This is specific to the hardware gateway configuration and determines which serial port Modbus messages will be routed to at the gateway. In the example graphic, 7802 indicates the COM2 serial port on an EPM 7700 Xpress Card.

The screenshot shows a dialog box titled "Port Configuration". On the left, there is a list box labeled "Configured Virtual Ports" containing the entry "NetCOM1". To the right of this list are three buttons: "Add...", "Modify", and "Delete". On the right side of the dialog is a section titled "Settings for Virtual Port NetCOM1" which contains the following information: "IP Address: 3.46.9.220", "TCP Port: 7802", and "Notes: Xpress Card serial port COM2". At the bottom of the dialog, there are three buttons: "OK", "Cancel", and "Help".

Click OK to accept the settings and return to the main server configuration dialog.

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Additional hardware gateway configuration information :

- * Refer to technical note #68 for details on using the EPM 7700 Xpress Card.
- * Refer to PMCS Application Note #69 for details on using the Xyplex Terminal Server.
- * To connect to legacy Power Leader Gateway devices, continue using GE32ENET.
- * To connect to the PLENETG04 Systech Gateways, use GE32MODB. Refer to technical note #79 for details on this device and its use with PMCS systems.

Device and Device Type configuration:

Device and Device Type configuration for GE32GTWY is identical to GE32ENET. Refer to GEH-6510 for instructions.

Using GE32GTWY with the PMCS EventServer:

GE32GTWY is configured in the EventServer as a "GE DDE" type server.