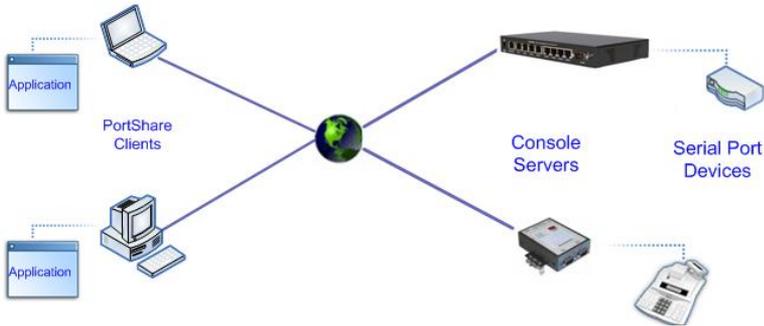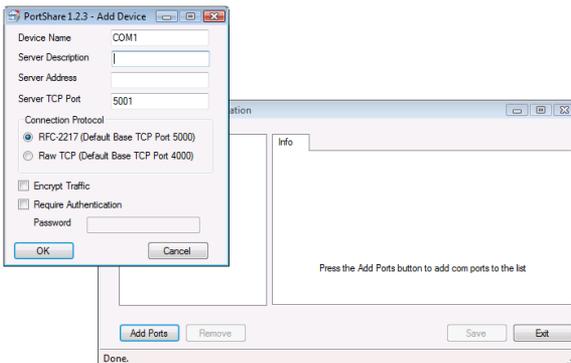# *PortShare*
Quick Start Guide

Port Share software delivers the virtual serial port technology your Windows and Linux applications need to open remote serial ports and read the data from serial devices that are connected to your *console server*.

PortShare is supplied free with each *console server* and you are licensed to install *PortShare* on one or more computers for accessing any serial device connected to a *console server* port. This Quick Start walks you through basic configuration. For more detail please refer to the *PortShare User Manual* on the CDROM.
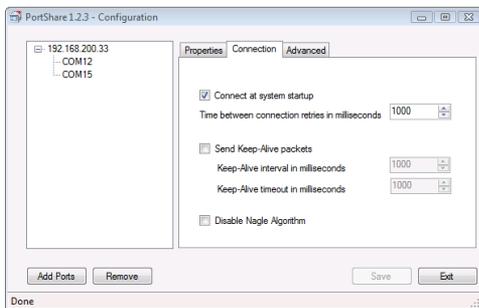
PortShare for Windows

➢ The *portshare_setup.exe* program is included on the CD supplied with your *console server* (or a copy can be freely downloaded from the ftp site.) Double click to start installation

➢ Click the *PortShare* icon on your desktop to start the client

- ➢ Click on *Add Ports* and enter the COM port on the Windows device that you are redirecting (COM1 to COM4096) in *Device Name*

- ➢ Specify a name to identify the connection in *Server Description* and enter the *console server's* IP address (or network name) and the *Server TCP Port* number that matches the port you have configured for that serial device on the remote *console server*.

  - o Telne*t RFC2217* mode is configured by default so the range of port numbers available on a 16 port console server would be 5001-5016
  - o Alternately check *RAW TCP* mode (4001- 4048 on a 48 port console server)
  - o Check the *Encrypt Traffic* box to enable SSL/TLS encryption of the data going to the port
  - o To enable authentication, check the *Require Authentication* box. You will be prompted to enter a Password

- ➢ Click **OK** and the specified redirected COM port connection will be added

Note: To reconfigure the *IP Address* or *TCP Port,* or change from RFC217 to Raw, or enable *Encryption* you will need to delete the port and re-add it with amended properties
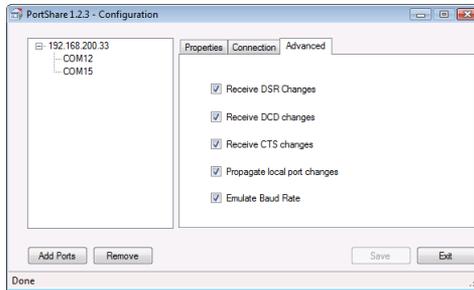
- ➢ Click on the desired COM port label in LH menu and go to the *Connection* and *Advanced* tabs for advanced configuration

- - *Connect at system startup*—When enabled *PortShare* will try to connect to the *console server* when the *PortShare* service starts (as opposed to waiting for the application to open

- - *Time between connection retries* specifies the number of milliseconds between TCP connection retries after a client-initiated connection failure. Valid values are 1000-255,000. The default is 1000 ms and *PortShare* will continue attempting to reconnect forever to the *console server* at this interval

- - *Send keep alive packets* option tests if the TCP connection is still up when no data has been sent for a while by sending keep-alive messages. Select this option and specify period of time (in ms) after which *Port Share* sends a command to remote *console server* in order to verify connection's integrity and keep the connection alive. The *Keep Alive Interval* specifies the number of milliseconds to wait on an idle connection before sending a keep-alive message. The default is 1000 ms. The Keep Alive Timeout specifies how long Port Share should wait for a keep alive response before timing out the connection.

- - *Disable Nagle Algorithm* — the Nagle Algorithm is enabled by default and it reduces the number of small packets sent by *PortShare* across the network

- - Check *Receive DSR/DCD/CTS changes* if the flow control signal status from the physical serial port on *console server* is to be reflected back to the Windows COM

port driver (as some serial communications applications prefer to run without any hardware flow control i.e. in "two wire" mode)

- The *Propagate local port changes* allows complete serial device control by the Windiws application so it operates exactly like a directly connected serial COM port. It provides a complete COM port interface between the attached serial device and the network, providing hardware and software flow control. So the baud rate etc of the remote serial port is controlled by the settings for that COM port on Windows computer. If not selected then the port serial configuration parameters are set on the console server.

- With the *Emulate Baud Rate* selected *PortShare* will only send data out at the baud rate configured by the local Application using the COM port

Note Ensure the remote serial device is connected to the nominated port on your remote *console server* and the serial port has been configured i.e.:

- set the RS232 Common Settings such as baud rate

- select *Console server* mode for the port and specify the appropriate protocol to be used (*RAW TCP* , *RFC2217* or *PortShare Secure* mode for encrypted communication)

- We recommend *single connection* mode be selected as this creates a much more predictable behavior. It limits the port to a single connection. So if multiple users have access privileges for a particular port only one user at a time can be accessing that port. If not selected, any new remote PortShare to connect to a port will drop any existing connection from an other user – and remote applications may fight over the one port.

-ensure you can access the console server and the selected TCP port isn't blocked by firewall

PortShare for Linux

The *PortShare* driver for Linux maps the console server serial port to a host *tty* port. Opengear has released the **portshare-serial-client** as an open source utility for Linux, AIX, HPUX, SCO, Solaris and UnixWare. This utility can be freely downloaded from the ftp site.

This PortShare serial port redirector allows you to use a serial device connected to the remote *console server* as if it were connected to your local serial port. The *portshare-*

serial-client creates a pseudo tty port, connects the serial application to the pseudo tty port, receives data from the pseudo tty port, transmits it to the *console server* through network and receives data from the *console server* through network and transmits it to the pseudo-tty port.

➢ You first need to setup the console server and attach and configure the remote serial port device i.e. ensure the console server IP configuration is ok and that you can access the unit (ping, telnet...) and configure the console server serial port to RAW or RFC2217 mode

➢ To install the PortShare serial client:
   1) Build and install the package (as root):
      $ ./configure && make && make install
      Note that the `--prefix=' option is ignored by configure.

   2) Configure the devices by editing */etc/portshare-devices* (sample configurations and the format is shown below)

   3) Start the portshare devices:
      /usr/local/sbin/portshare-serial-client start

➢ Examples showing the virtual port configuration and using a remote console serial port as a local *tty* port on the Linux host.:

/etc/portshare-devices

devname:rastype:rasname:physport:type:options   where :
   devname -> Device full pathname
   rastype -> Console server type (e.g. cm4008 or im4004 or acm5003)
   rasname -> Console server host name or IP address
   physport -> Physical port number on *console server*
   type -> Server type : rfc2217 or socket (raw TCP)
   opts -> per-port interface options (optional)

To connect via a secure ssh tunnel, use the '-P' parameter as part of "opts", and give the TCP port number used for the local end of the tunnel. e.g. "-P 22222" will attempt to connect to local TCP port 22222. Also set the rasname to "localhost". The ssh tunnel must already be setup for this to work.

❖ Connect to port 1 on a 48 port Console Server at IP address 10.111.254.1, using RFC2217:

   /dev/otty01:cm4148:10.111.254.1:1:rfc2217

❖ Connect to port 8 on a 8 port Console Server at IP address 10.111.254.2, using RFC2217:

   /dev/otty02:cm4008:10.111.254.2:8:rfc2217

❖ Create an ssh tunnel from localhost to a console Server. This tunnel connects to serial port 3 on the console server and uses rfc2217. The rfc2217 TCP port base on the console manager has been set to an alternate base of 9000. The local TCP port used for the tunnel is 12345:

   ssh -L 12345:10.111.254.3:9003 <username>@10.111.254.3 -N

   Now use this tunnel to make the connection:

   /dev/otty03:cm4008:localhost:3:rfc2217:-P 12345