Name

Cygnet

Version

1.0

Description

Cygnet provides a transparent connection to a serial port of a Libra remote via a local serial port on the host PC. All data input to the remote serial port are output on the Cygnet COM port of the local PC, and all data input to the Cygnet COM port on the PC are sent out on the remote serial port. Data are transmitted either when a user-specified number of bytes has been received by the serial port, or when a user-specified timeout has occurred. Cygnet can be run on any Windows NT machine with an available serial port. Multiple instances of Cygnet can be run on one computer if more than one serial port is available, providing connections to various Libra units on the same computer.

Usage

Cygnet is started at the command line and configured using command-line parameters. The command line must contain 3 mandatory parameters specifying which local and remote port to use on which Libra unit, and may contain several optional parameters specifying other communication options.

Synopsis

cygnet port   hostAddress hostPort [-rBAUD] [-bSIZE] [-tMILLIS] [-pPASSWD] [-h] [-iINTERVAL]

Mandatory Parameters

These parameters must all be given in the correct order:

port	Specifies which serial port to use on the local PC. Permitted values are COM1, COM2, COM3 and COM4. The specified port must exist and must not be in use by any other program or service.
hostAddress	Specifies the IP address of the Libra remote to which to connect.
hostPort	Specifies the TCP port number of the Libra remote port to which to connect. This port of the Libra remote must be configured as interactive serial port.

Optional Parameters

To specify an optional parameter, provide the switch, followed by an appropriate value in most cases, with no space (e.g. -r38400). These parameters may be specified in any order.

-rNNNNN	Specifies the baud rate for the local Cygnet port. Supported baud rates are 2400, 4800, 9600, 19200 and 38400. The default baud rate is 9600.
-bSIZE	Specifies the send buffer size for the local port. This is the maximum number of bytes that will be buffered before being sent to the Libra remote port. Note that data may be sent before the buffer is full if a timeout occurs. Permitted values are 100 to 2048 bytes. The default buffer size is 1024 bytes.
-tMILLIS	Specifies the data buffering timeout in milliseconds. This is the maximum length of time that any byte will be buffered before sending it to the Libra port. Permitted values are 100 to 10000 milliseconds. The default timeout is 500 milliseconds. Using a shorter timeout can improve the system responsiveness, but may reduce overall transmission efficiency.
-pPASSWD	Specifies the password for connecting to the Libra remote port. This must be the same as the password specified for the desired port in the Libra configuration. If you do not specify the password in the command line,

	Cygnet will prompt you for a password which may then be entered without being displayed on the screen. If you want to start Cygnet automatically (e.g. with Watchdog), you must specify the password on the command line.
-h	Switches RTC/CTS hardware handshaking on/off on the local COM port of the PC. No handshaking is used when the switch is not present. Specifying -h enforces RTS/CTS usage on the COM port.
-iINTERVAL	Specifies the log reporting interval in seconds. Default is 1800 s. Log messages report the number of bytes received from and sent to the remote serial port.

Log file

The log messages are recorded in a log file placed in the current (or "Start in") directory. When a message is generated the log files is opened, the message is appended, and the file is closed. The file name is composed of the remote IP address and the TCP port, with Cygnet as file type.

Exiting the program

To quit the program properly (and have the final log messages recorded), type the CTL-Q character. Use of CTL-C is not recommended.

Example 1

This is an example of typical command-line arguments :

cygnet COM1 199.188.177.166 23

Here Cygnet's serial port is COM1, and it will connect to TCP port 23 on the Libra instrument that has an IP address 199.188.177.166. None of the optional arguments are given in this example, so Cygnet will use the default values : baud rate 9600, buffer size 1024 bytes, timeout 500 milliseconds, no RTS/CTS handshaking, log message interval 1800 s, and it will prompt for the password. The log file name is 199.188.177.166;23.Cygnet.

Example 2

cygnet COM2 199.188.177.166 23 -r38400 -b2048 -t800 -pPassword -h -i90

In this example, Cygnet will use COM2, and it will connect to TCP port 23 on the Libra unit with IP address 199.188.177.166. Cygnet will set the baud rate of the local port to 38400, it will use a buffer size of 2048 bytes with a buffer timeout of 800 milliseconds; it will use hardware handshaking on the COM port and it will log messages every 90 seconds.

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