ThinPATH SYSTEMS Inc.

ThinPATH Plus COM/LPT Basics
Quick Start Guide

Introduction

ThinPATH Plus provides a way for users on Windows NT/2000/2003 Terminal Server hosts to map virtual COM & LPT ports back to a local COM/LPT port on client PC's, Embedded NT & XP Thin Clients, CE legacy ThinSTAR Window Based Terminal's and Neoware CE Eon's & Capio's.

This is intended to help with first time setup and troubling problems using ThinPATH Plus COM/LPT port mapping Once you understand how configure ThinPATH Plus and how it makes TCP/IP connection from the server to the remote PC or WBT's you will understand how to resolve any related problems.

ThinPATH Plus COM/LPT Basics

ThinPATH Plus is a client/server application requiring a running program on each the Terminal Server host and the user's client PC. On the server side, it is launched by an application program connecting/opening the virtual port. On the users client PC it is started from a control panel applet. The NCD control panel applet causes the program "NCDserialD.exe" to run. On the remote PC the only requirement is this program must be running. There is no configuration UI, INI file or registry associated with NCDserialD.exe. The configuration is only controlled at the server when setting up the Virtual ports.

ThinPATH Plus COM/LPT port mapping communicates over TCP/IP using a number TCP ports. The selected local serial/parallel port on user's client PC ThinPATH Plus uses the following TCP/IP ports.

Local PC	TCP Port
Serial port 1	6461
Serial port 2	6462
Parallel 1	6464

ThinPATH Plus from the Client/Server point of view

The ThinPATH Plus server component initiates a connection to the client PC using TCP/IP network sockets. The key to resolving any problem is in knowing how ThinPATH Plus initiates the network connection. When creating Virtual ports, under ThinPATH Plus there is one setting that controls this, "Use Client Services". When this box is check the IP address is derived from one of two environment variable created when the RDP connection is established, CLIENTNAME or CLIENTADDRESS.

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To view these values, open the Terminal Services Manager window, and select the connection name associated with your RDP connection in the left pain. On the right pain select the tab "Information". If "CLIENTADDRESS" is defined this value will be used, otherwise it will use "Client name". ThinPATH Plus server uses this value to establish a connection. If there is an IP address in "CLIENTADDRESS", that address must be reachable through whatever is between the ThinPATH Plus server and the ThinPATH Plus client on the remote PC or WBT. If there is only a "Client name" value established the name must be resolvable by the PC using DNS or a host file lookup where ThinPATH Plus Server is running. On the Server use the command "ping" from a "DOS command window" to verify the name is resolvable.

ThinPATH Plus allows you to also hard code the IP address or host name to a specific value when creating the virtual ports. This is selected by un-checking "Use Client Services" box. Here the specified IP address or host name is directly used by the ThinPATH Plus Server to connect to the ThinPATH Plus client on the remote PC.

Installation

After downloading from:

http://www.tp-sys.com/index.php?modules=support&content=download

"NCDThinPATHPlus.exe" must run on the server PC and the client PC to install the server components and client components. The installation process will automatically determine the PC operating system and will install the correct ThinPATH Plus components. See document http://www.tp-sys.com/doc/PlusInstallGuide.pdf for full installation details.

Configuring Virtual Ports on the Server PC

A virtual port defined under ThinPATH Plus is used to create a virtual serial or parallel port for any existing Terminal Server application to attach. The virtual port definition includes the network address and specific local port to use on the client PC or WBT.

1. Open ThinPATH Plus Configuration window (Start->Programs->Administrative Tools (common)->NCD ThinPATH Plus->ThinPATH Plus Configuration).

2. Select COM(n) and click on "Edit Port", where (n) is COM port number.

3. Select "Use Client Services" or "Use Specified Client Hostname". Enter the Client PC's IP address if the latter was selected. Press Next to continue.

4. Select the Serial Port that will be used for the serial device connected at the Client PC. Press Next to continue.

5. Set the appropriate serial port parameters that match the settings for the serial device that will be used on the Client PC. Press Next to continue and press Finish.

This newly created virtual port will now be accessible for applications on the server PC to open as if it were a local COM port, but there are some limitations. Applications that open virtual ports will not be able do get status from serial port status lines and will not be able to set specific serial port parameters. If this is a requirement of the application,

then it may not work through the virtual port. The application should only try to open the virtual port to access in/out data.

If using a virtual LPT port two-way communications is not supported. Some printer drivers require two-way communications over the parallel port. If this is a requirement for the Printer on the client PC and the printer driver on the server PC then printing will not work.

Starting ThinPATH Plus COM/LPT Client

On the users client PC, from the control panel open the Plus Controls applet. Select "Enable Plus Comm/lpt ports" and press "OK". This causes the program "NCDserialD.exe" to run.

Troubleshooting Common Problems

1. Can you PING the client PC from the server PC using the WINS name of the PC? When selecting "Use Client Services" from the virtual port configuration, the RDP sessions value "CLIENTNAME" (which is a WINS name) is used to open a network connection. ThinPATH PLUS COM/LPT uses the traditional "DNS & host file" lookup to resolve the IP address. If the client PC's WINS name has not been added to a local host file or the DNS name server then it will not be able to connect. If this fails add the PC's name to DNS or the local host file on the server PC.

2. Is NCDserialD.exe running as a program on the client PC? Open Task Manager to see if the program is running. Open the control panel applet labeled "NCD Plus Controls" and enable COM/LPT port mapping to start the NCDserialD.exe program.

3. Use the free Windows NT tool called "portmon" to monitor COM & LPT port activity by running applications on both the Server PC and Client PC. Download "portmon" from http://www.sysinternals.com.