



Technical Note

TN_177

USB Process Explorer

Version 1.0

Issue Date: 21-10-2022

This document shows how to use Microsoft's Process Explorer to identify which software has claimed the USB Port, which can inhibit users to use the port with their application or software. Sometimes PC software can grab or claim the USB port without the user knowing.

Table of Contents

1	Introduction	3
1.1	Overview	3
2	Microsoft Process Explorer Application.....	4
2.1	Operating Process Explorer	4
2.2	VCP Port Analysis	6
2.3	D2XX Port Analysis.....	7
3	Conclusion	8
4	Contact Information	9
	Appendix A – References	10
	Document References	10
	Acronyms and Abbreviations.....	10
	Appendix B – List of Tables & Figures	11
	List of Tables.....	11
	List of Figures	11
	Appendix C – Revision History	12

1 Introduction

1.1 Overview

Microsoft's Process Explorer can be useful to find out if some PC software has unwantedly claimed that the USB port is already in use.

This issue is quite apparent with some Lenovo PCs.

The error shown in Figure 1.1 demonstrates this problem. PuTTY terminal cannot open the port because some other software is already using the USB Port so gives an error.

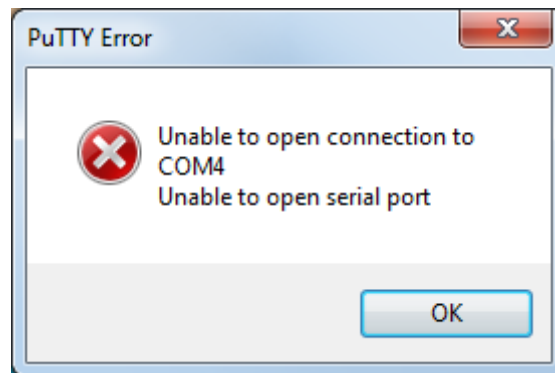


Figure 1.1 Unable to Open USB Connection

FTDI provide [VCP Drivers](#) and [D2XX Drivers](#). Application software can open the USB Port using either of these drivers. This Application Note covers checking both options to figure out what application has claimed the USB Port.

Process Explorer can be used for many other things, but this application note concentrates on using it for USB.

2 Microsoft Process Explorer Application

A free program called Process Explorer is available from Microsoft:

<https://docs.microsoft.com/en-us/sysinternals/downloads/process-explorer>

This allows users to find out the application process that has claimed the USB Port. The process could then be killed in Task Manager, or the software could be uninstalled to avoid the issue happening again.

2.1 Operating Process Explorer

Download and run process explorer and select Find → Find Handle or DLL as shown in Figure 2.1.

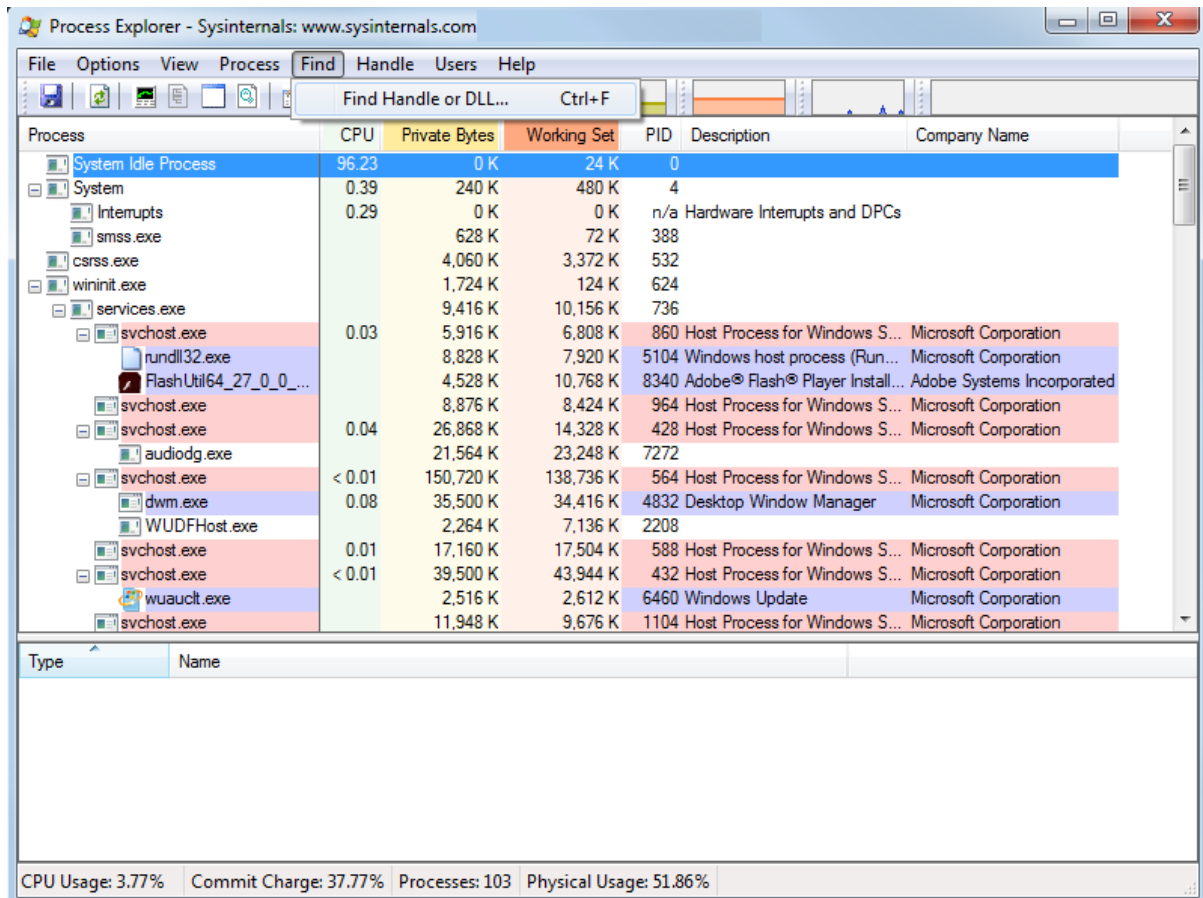


Figure 2.1 Process Explorer Application

This allows users to search for applications using the USB port as shown in Figure 2.2.

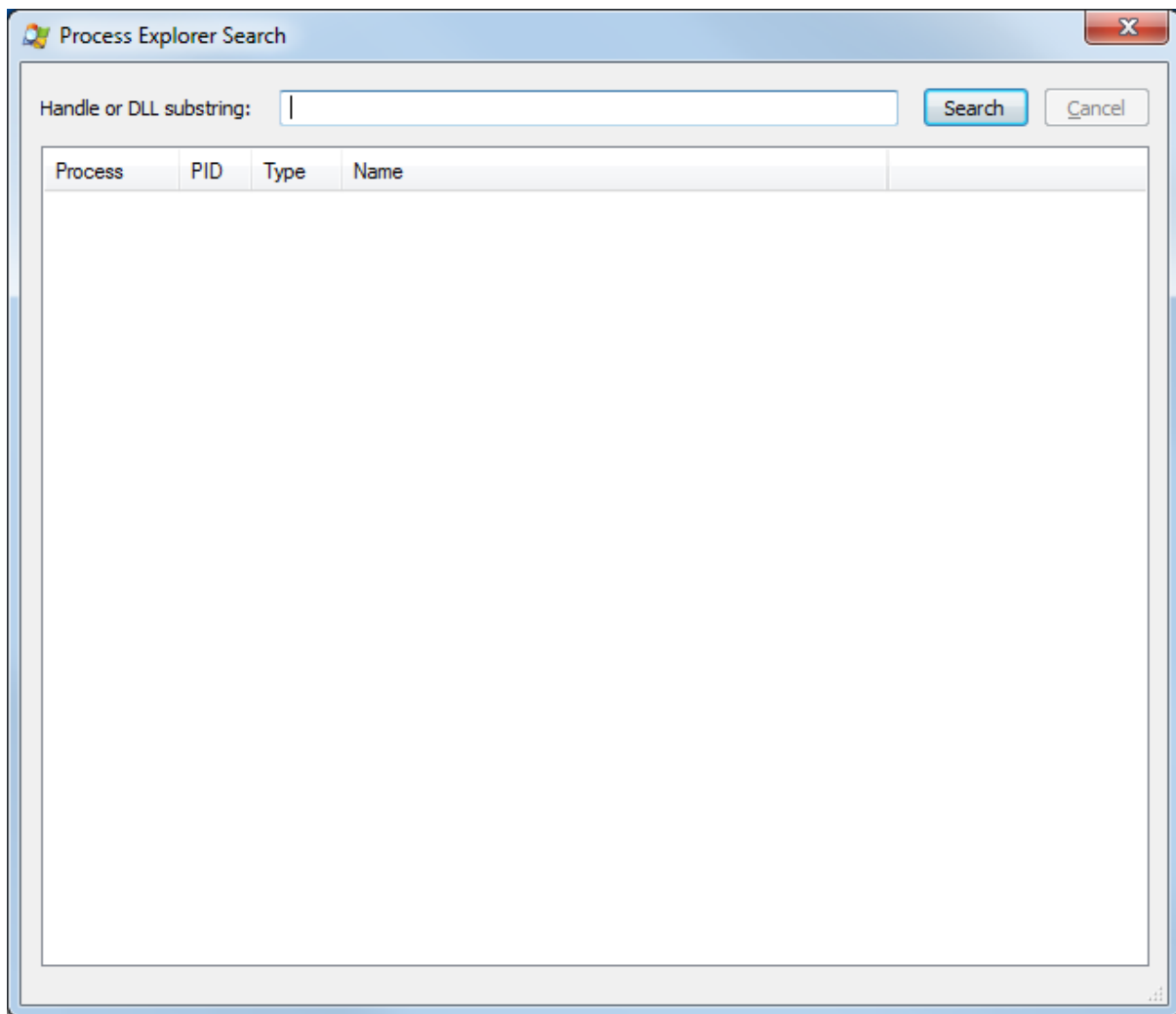


Figure 2.2 Process Explorer Search

2.2 VCP Port Analysis

To find out if an application has claimed the USB VCP Port, search `\Device\VCP` as shown in Figure 2.3. In this example, a terminal program called PuTTY is using the USB VCP Port.

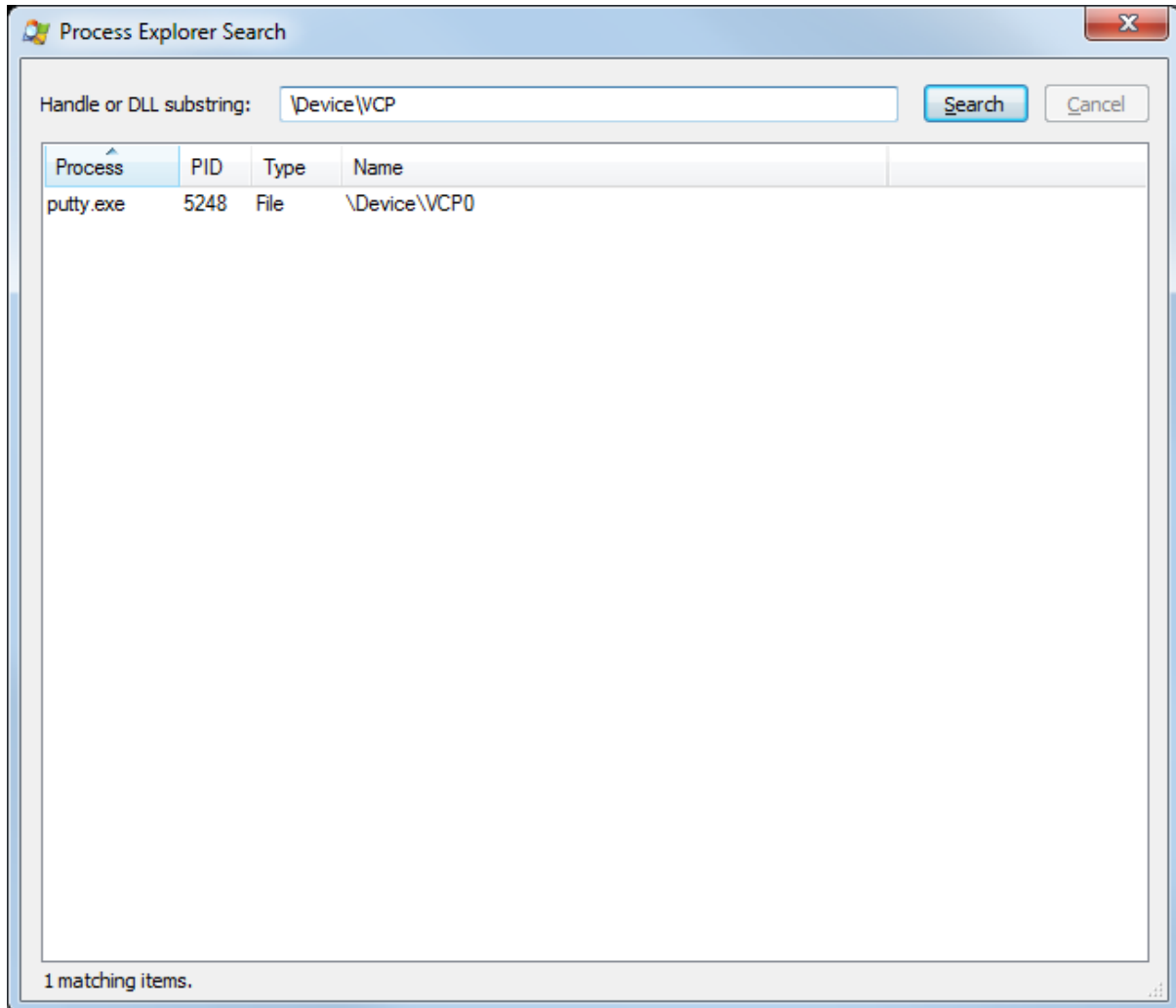


Figure 2.3 VCP Search

2.3 D2XX Port Analysis

To find out if an application has claimed the USB D2XX Port, search `\Device\USB` as shown in Figure 2.4. In this example, a terminal program called Multi-threaded TTY is using the USB D2XX Port.

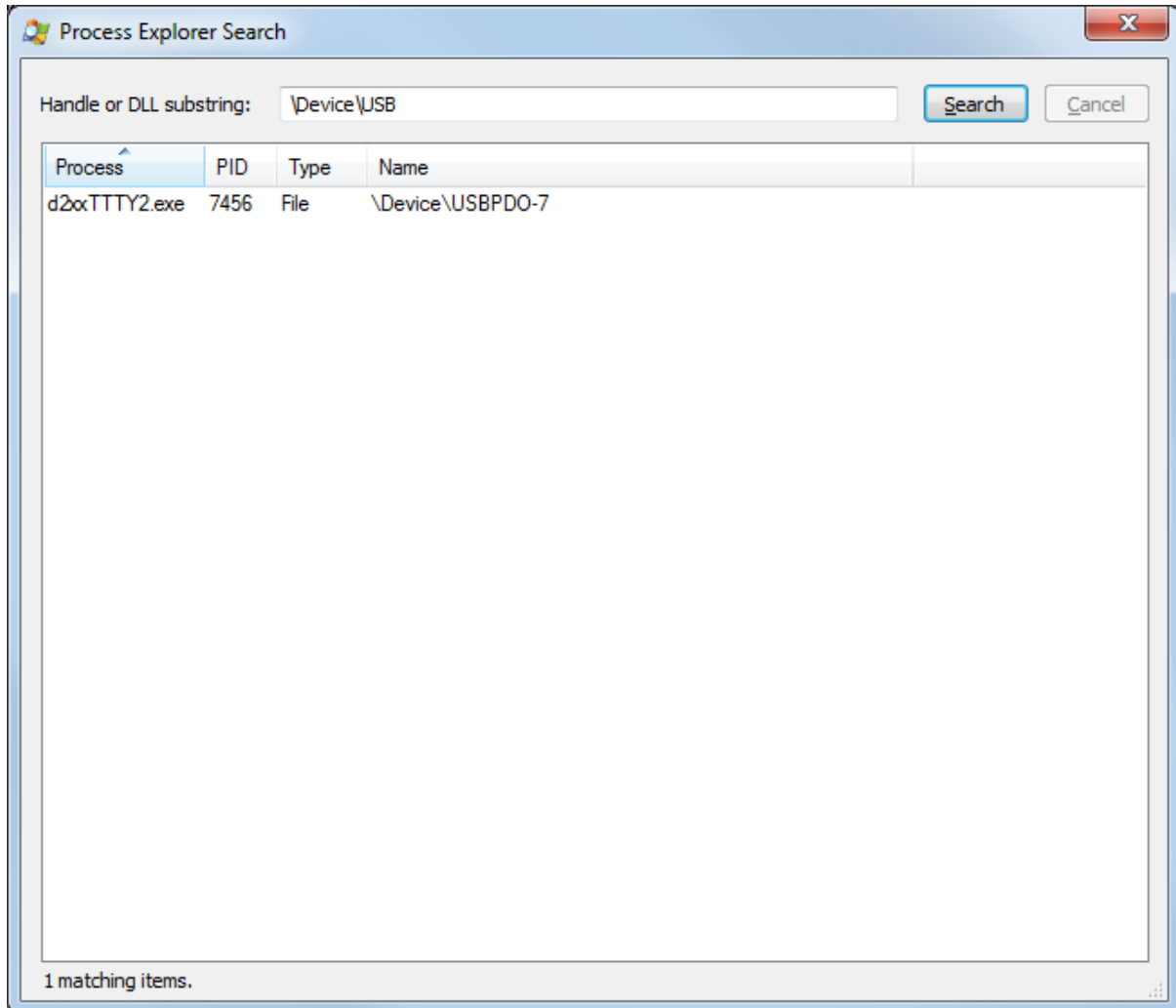


Figure 2.4 D2XX Search

3 Conclusion

The Process Explorer application from Microsoft can be easily used to establish what software has claimed the USB Port. Sometimes this happens without the user knowing, meaning that the port cannot be accessed. The user can now kill the process identified or uninstall the software causing the problem.

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Appendix A – References

Document References

[Microsoft Process Explorer](#)

[VCP Drivers](#)

[D2XX Drivers](#)

[PuTTY](#) Terminal

[Multi-threaded TTY](#) Terminal

Acronyms and Abbreviations

Terms	Description
USB	Universal Serial Bus
VCP	Virtual COM Port (driver)
D2XX	D2XX direct (driver)
PC	Personal Computer
DLL	Dynamic Link Library

Appendix B – List of Tables & Figures

List of Tables

NA

List of Figures

Figure 1.1 Unable to Open USB Connection	3
Figure 2.1 Process Explorer Application.....	4
Figure 2.2 Process Explorer Search	5
Figure 2.3 VCP Search	6
Figure 2.4 D2XX Search.....	7

Appendix C – Revision History

Document Title: TN_177 USB Process Explorer
Document Reference No.: FT_001433
Clearance No.: FTDI# 577
Product Page: <https://www.ftdichip.com/>
Document Feedback: [Send Feedback](#)

Revision	Changes	Date
1.0	Initial Release	21-10-2022