WMDC + Windows Defender Firewall: RNDIS

Date: 9 December, 2019

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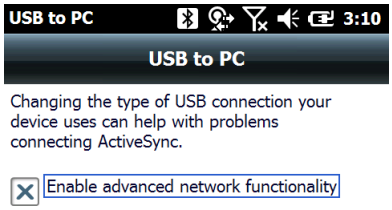
D:\GoogleDrive\Masters\Howay\T18\RNDIS\WMDC_RNDIS_008.docx

Thesis

If you have watched my video (https://youtu.be/VHI4dwVbGbI) and read the accompanying document (http://igage.com/v/bin/WMDC_Win10_CreatorsEdition_Fix_RevB.pdf) then you should have some idea that WMDC is disabled by default in Windows 10 and you have to 'do some stuff' to make it work again.

One of the steps in my list of 'stuff' is to uncheck the box 'Enable advanced network functionality':



When you uncheck the box, instead of using RNDIS the connection is made by a virtual serial port service.

> RNDIS is an embedded USB RNDIS host class driver provides a virtual Ethernet link over USB. **R**emote **N**etwork **D**river **I**nterface **S**tandard (RNDIS) is a Microsoft proprietary protocol.

Unchecking the box is easy and results in a working system most of the time.

However, checking the box makes data transfers MUCH more reliable and over 3 times faster in most instances.

The problem with checking the box is most firewalls actively block WMDC.

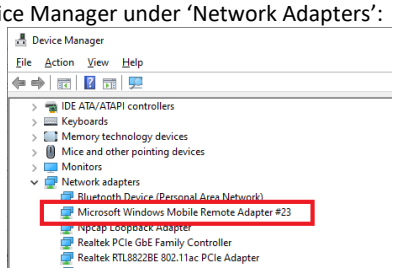
This document shows how to edit the Windows Defender Firewall to allow WMDC to work.

Getting Started

Disconnect your data collector from your computer.

Check the 'Enable advanced network functionality' check box:

Plug your data collector into your computer. Wait a while for the network driver to be installed, you can watch for it in Device Manager under 'Network Adapters':



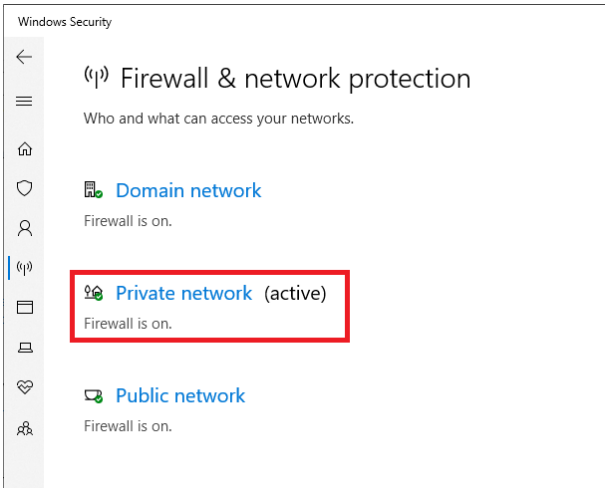
If you are not running a firewall or if your firewall already has an exclusion for WMDC then you will be able to start WMDC and see a connection:

If it can be started, you are done. No need for the rest of this document.

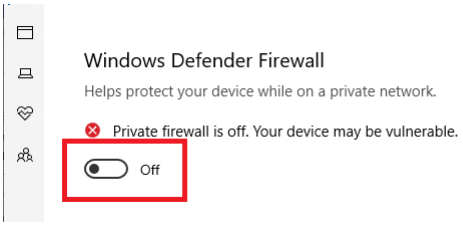
Verify that the problem is your Firewall

In preparation for briefly turning off your firewall, remove your computer from the internet by disconnecting the Ethernet cable and turning off Wi-Fi.

Turn off the firewall. In 'Windows Defender' this can be done by finding the active network:



Click on the active network (the blue text):



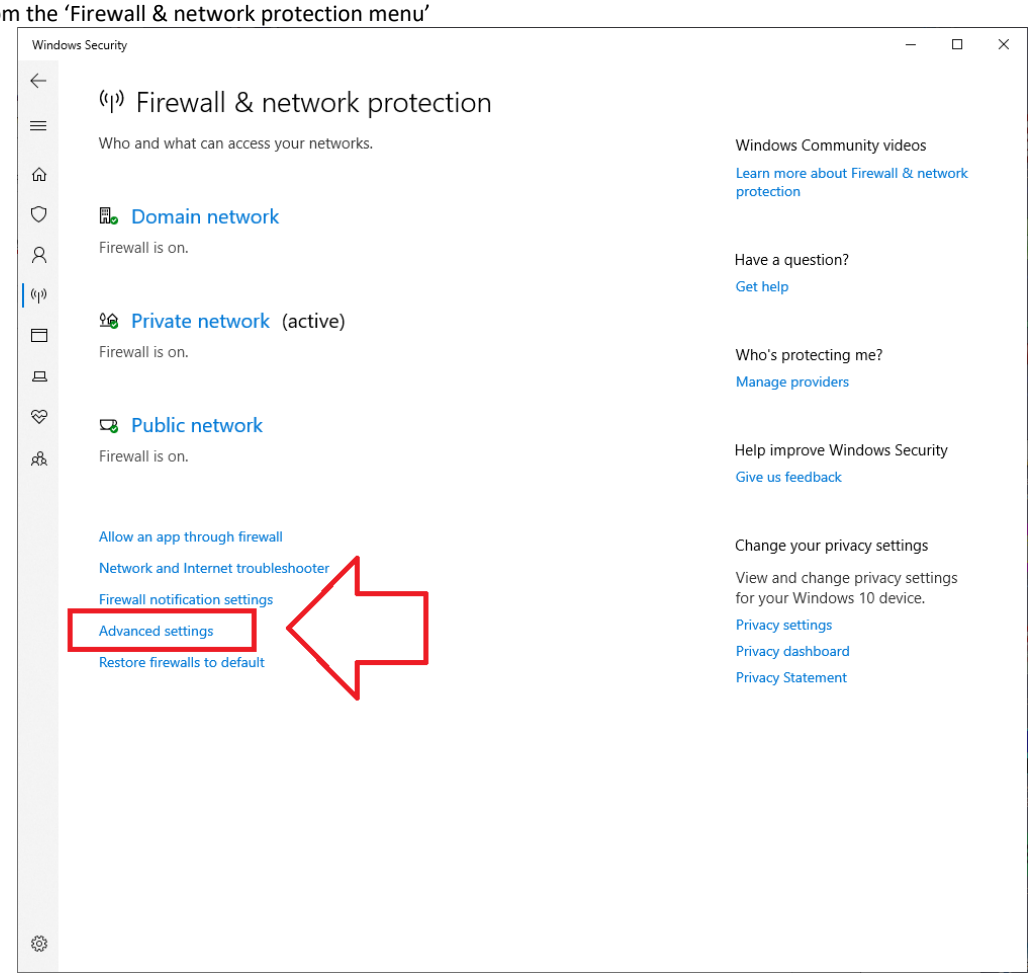
Turn off the Firewall.

Plug your data collector in and start WMDC on your computer desktop. If WMDC starts and connects, then your firewall is the problem. Continue with the rest of this document. If WMDC does not connect, then there is another issue beyond the scope of this document.

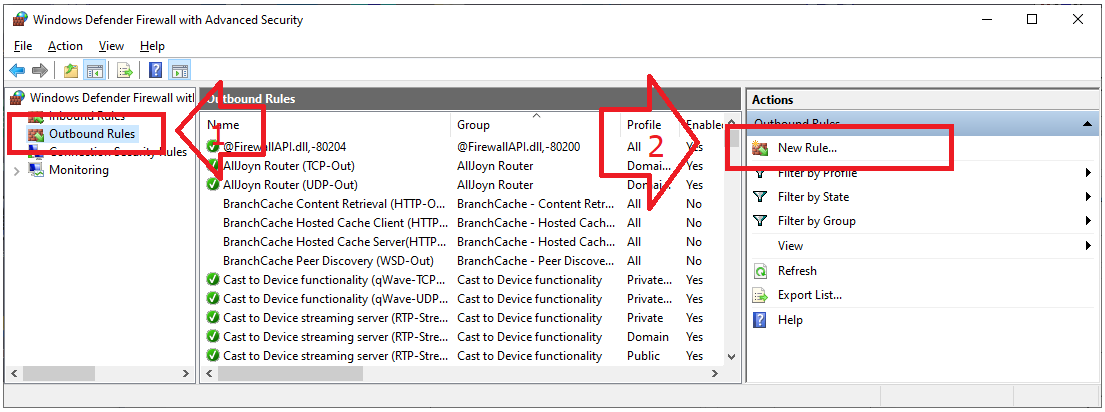
In either case, turn the firewall back on and connect your computer to the internet again.

Adding Exclusions to Windows Defender for WMDC

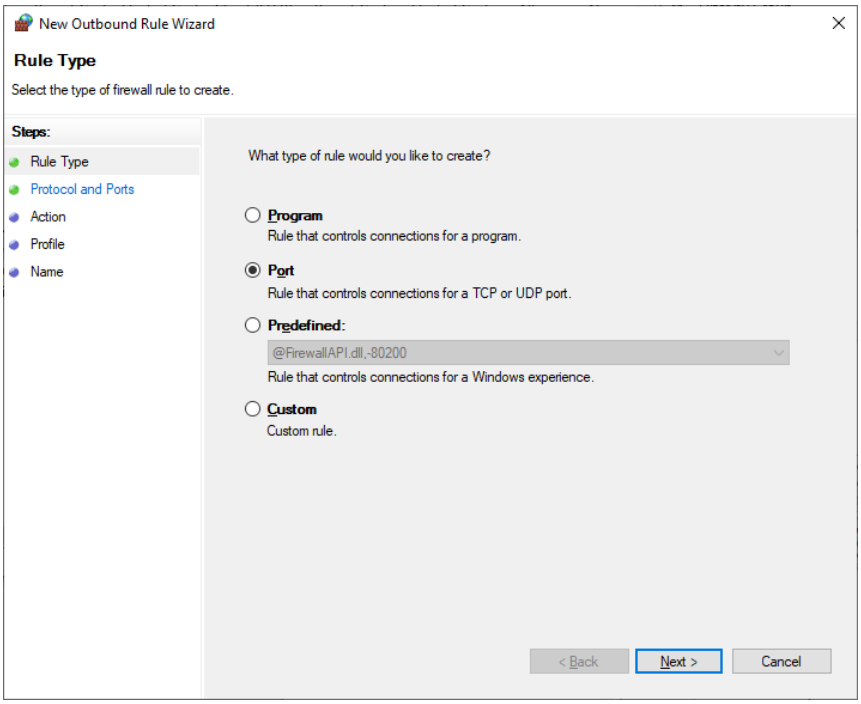
From the 'Firewall & network protection menu'



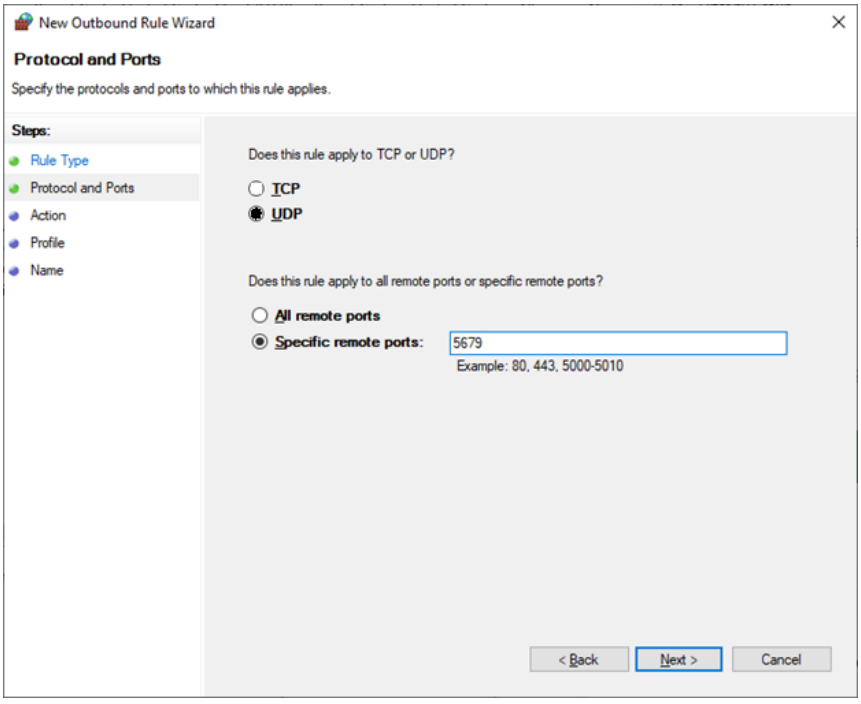
Click on 'Advanced settings'



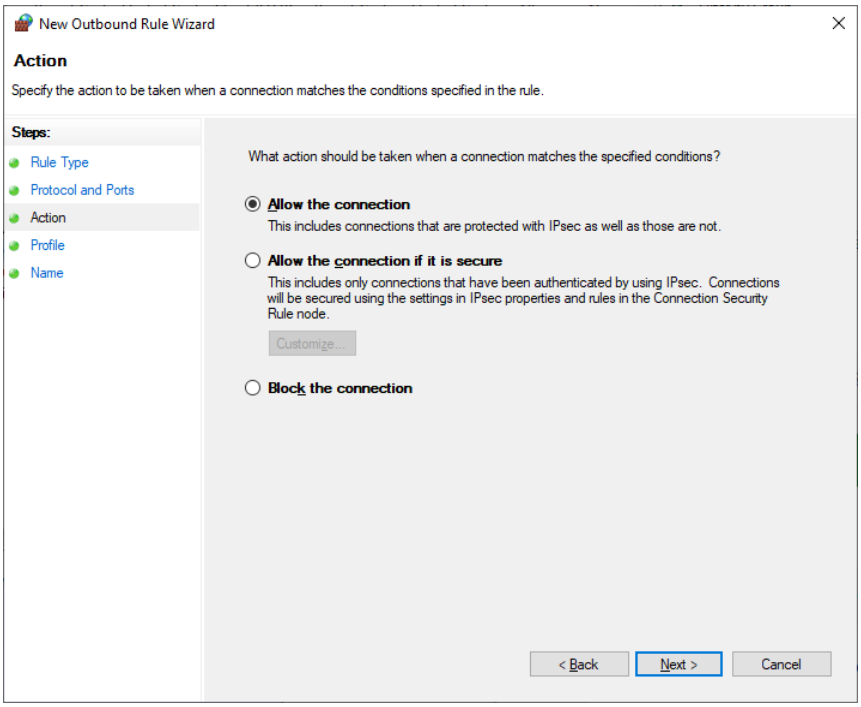
Click on Outbound Rules, then click on 'New Rule…'



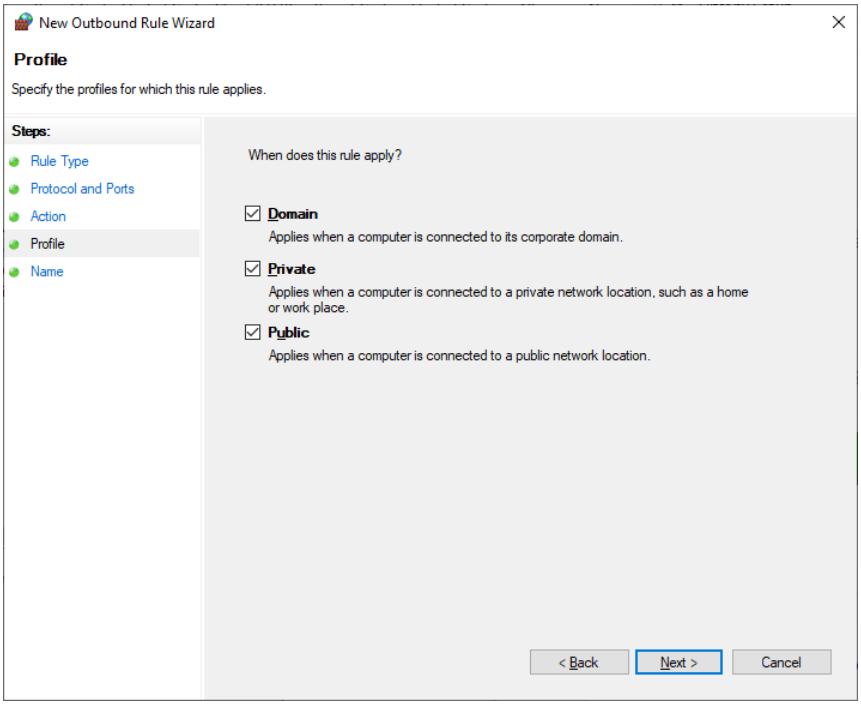
Click on Port, then Next



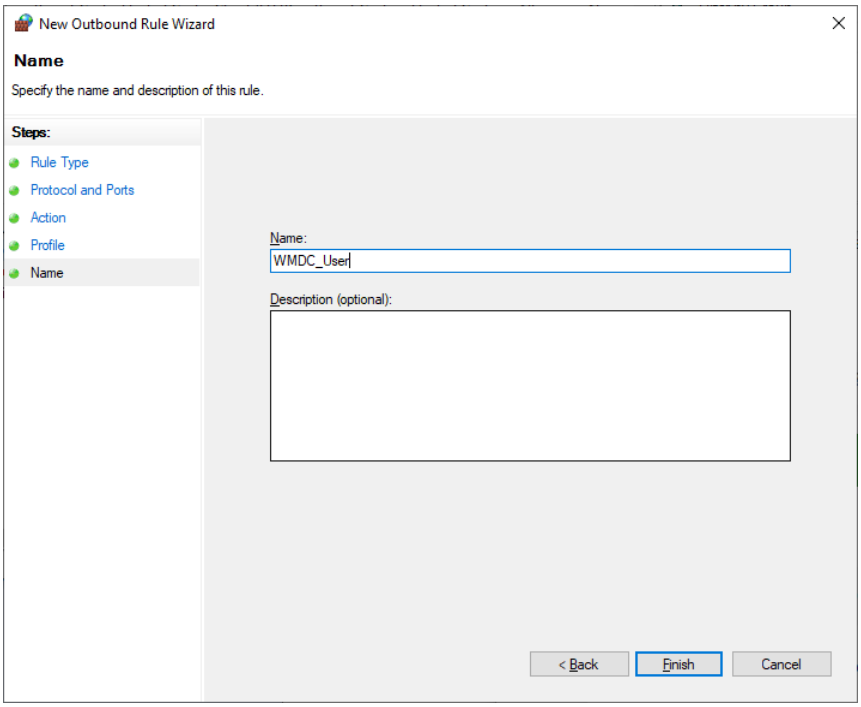
Select UDP; Specific remote port = 5679, then click on Next



Click on 'Allow the connection', then click Next

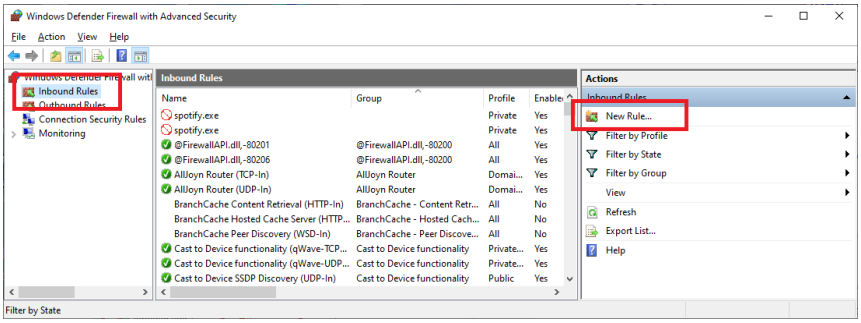


Select all three domains, then click on Next

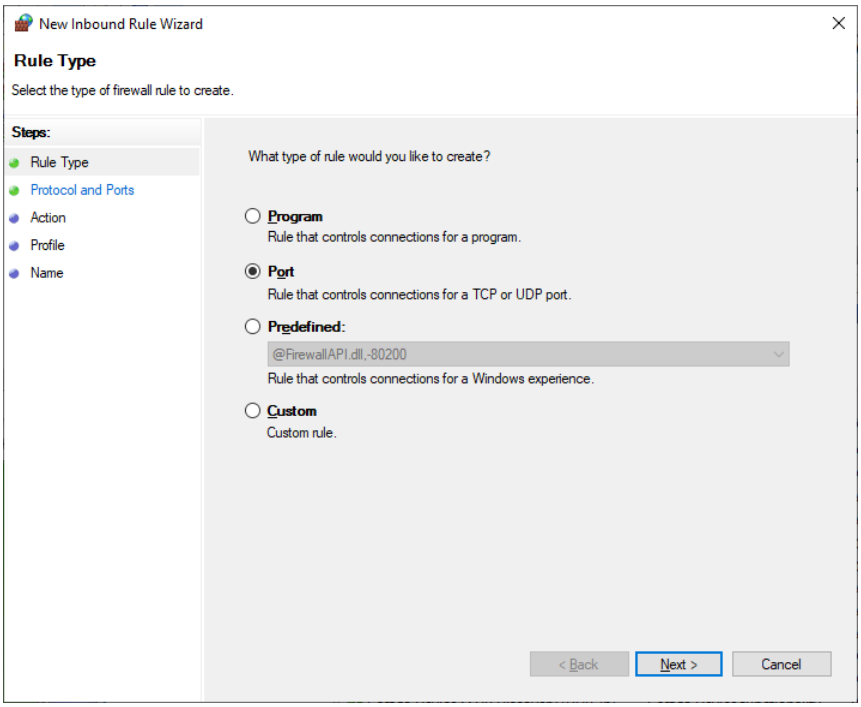


Enter an appropriate name “WMDC_User” then click on Finish.

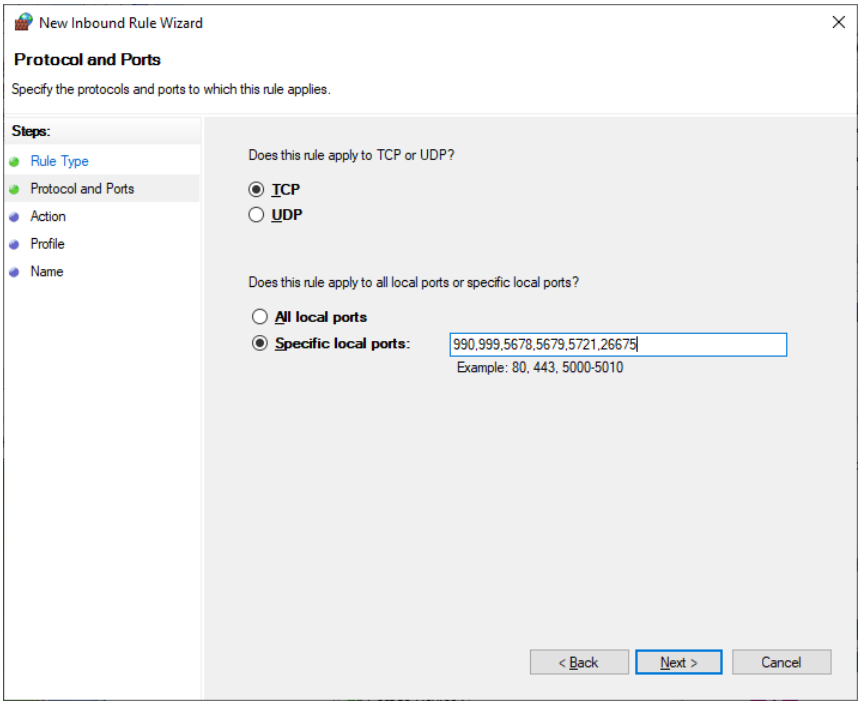
Next add a new Inbound Rule:



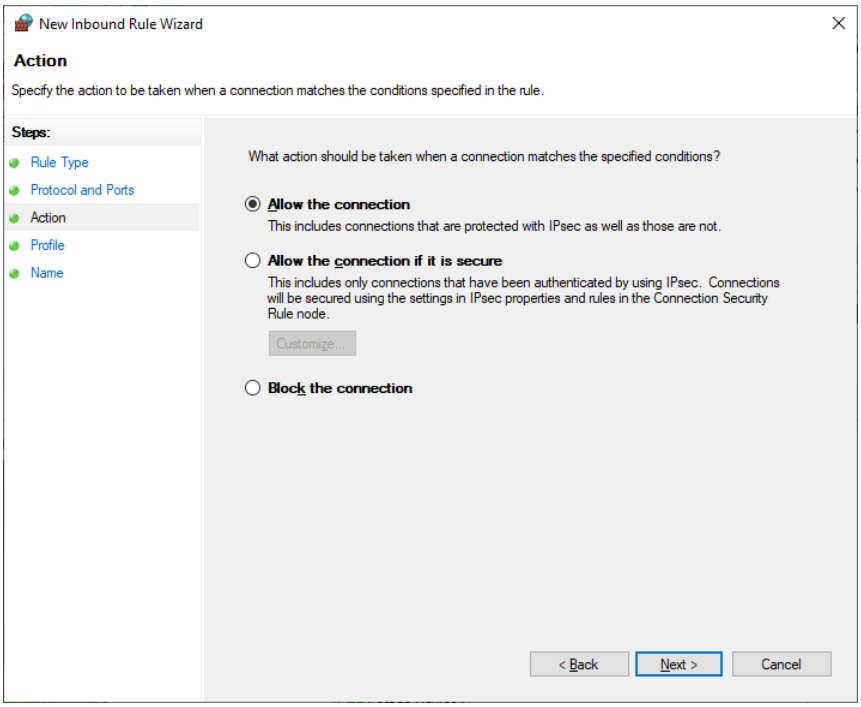
Click on Inbound Rules, then click on New Rule:



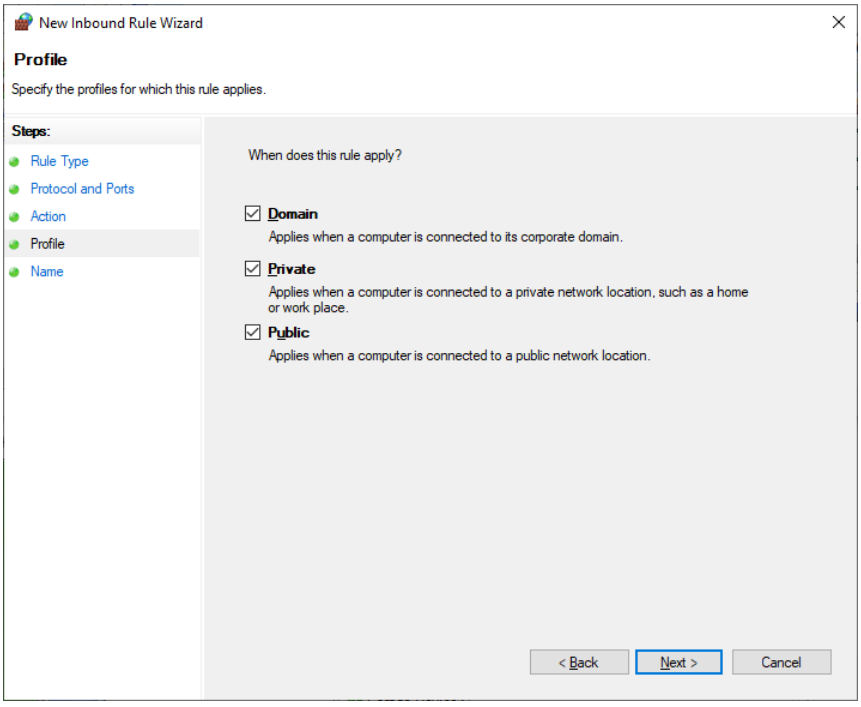
Click on 'Port', then click on Next



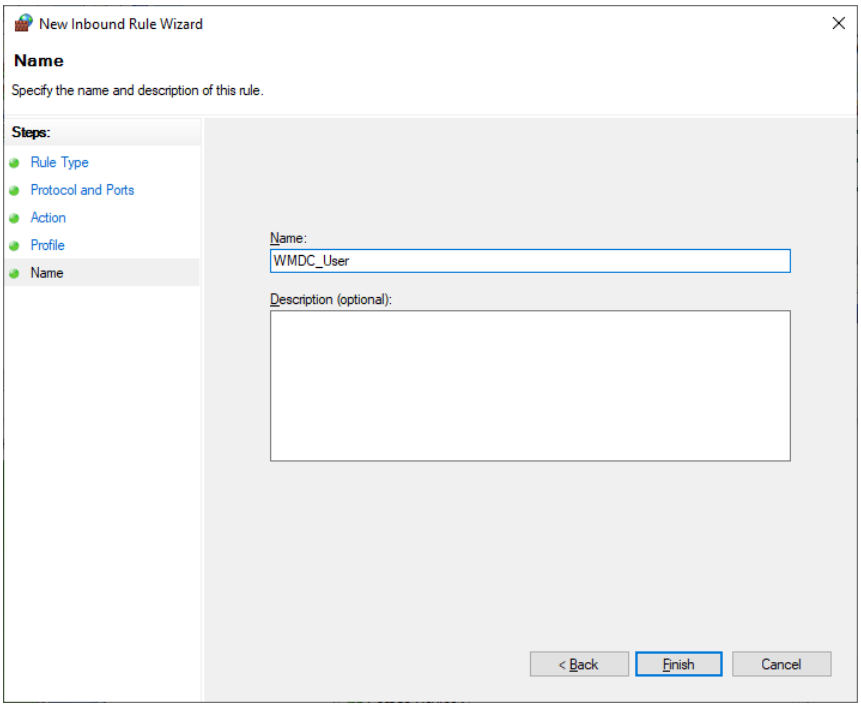
Select 'TCP'; enter these ports "990,999,5678,5679,5721,26675", click Next



Click 'Allow the connection', click on Next



Select all three domains



Enter an appropriate name, then click ‘Finish’

Unplug your data collector, wait 20 seconds and then plug it back in again.

Start WMDC.

WMDC should connect in high speed NRDIS mode.