Working with Multiple Network Connections in Windows 7 & 10

APA, DPA, Delta DSP, Dante

Introduction

Using more than one physical network can be the seemingly simple method of isolating audio and audio control from a corporate or general use network and preventing issues with unexpected behaviour or audio dropouts.

However, Windows management of multiple network adapters can be fraught with issues of its own, resulting in impacts on the non-audio network, and problems with AudioCore control.

This TechNote offers several pointers on what to check if you experience unexpected behaviour when attempting to work with more than one adapter.

Setting Network Card Metric

If you are having problems with internet access and outlook/email server access on a corporate network once a second network card is in play, the first thing to ensure is that you have chosen a network priority that means your non-isolated network connecting to the outside world is top of the list.

The process is the same in Windows & 10, but the journey to get there is slightly different!
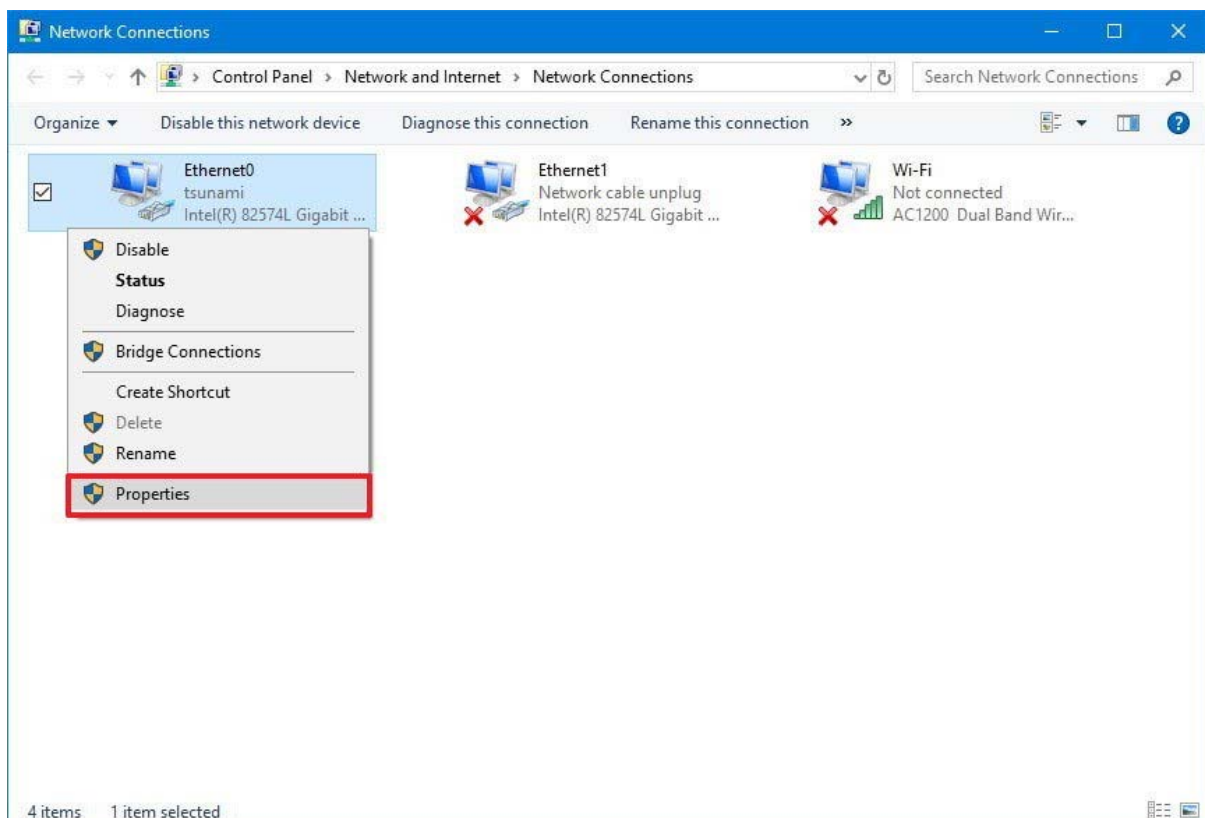
For Win 7, it is Start – Control Panel – Network and Sharing Centre to reach here:
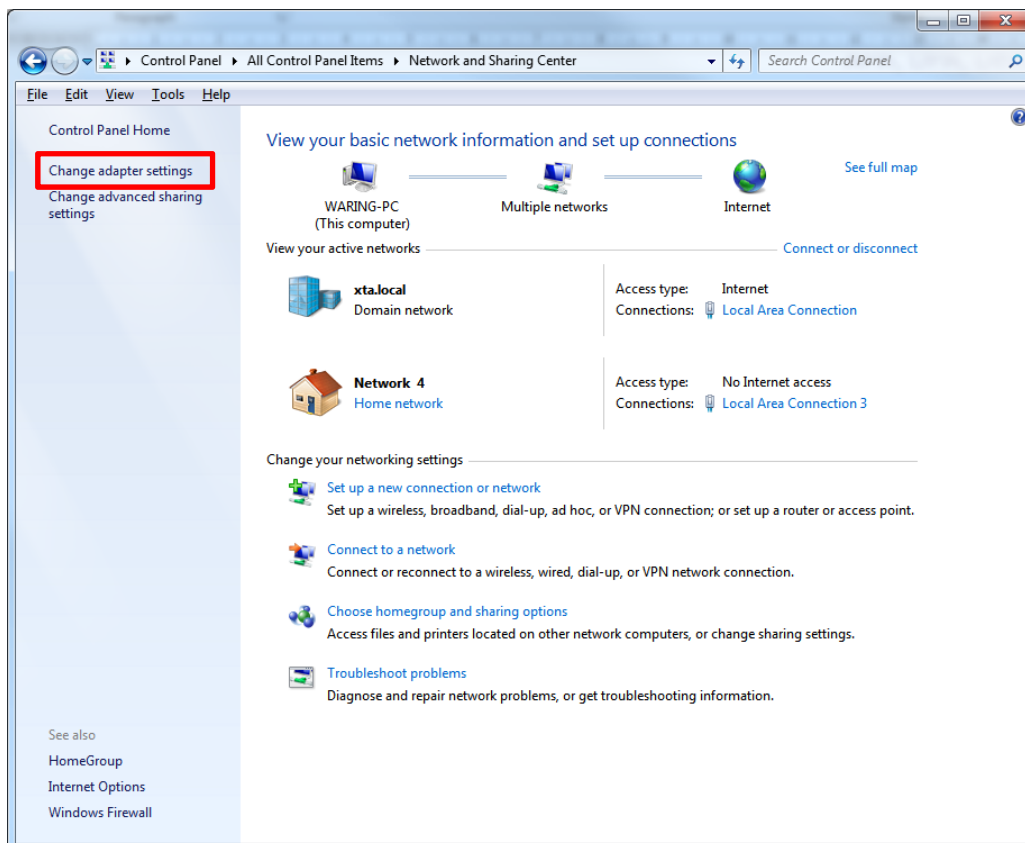
In Win 10, it's Start (or Windows Logo) – Settings – Network and Ethernet to reach here:
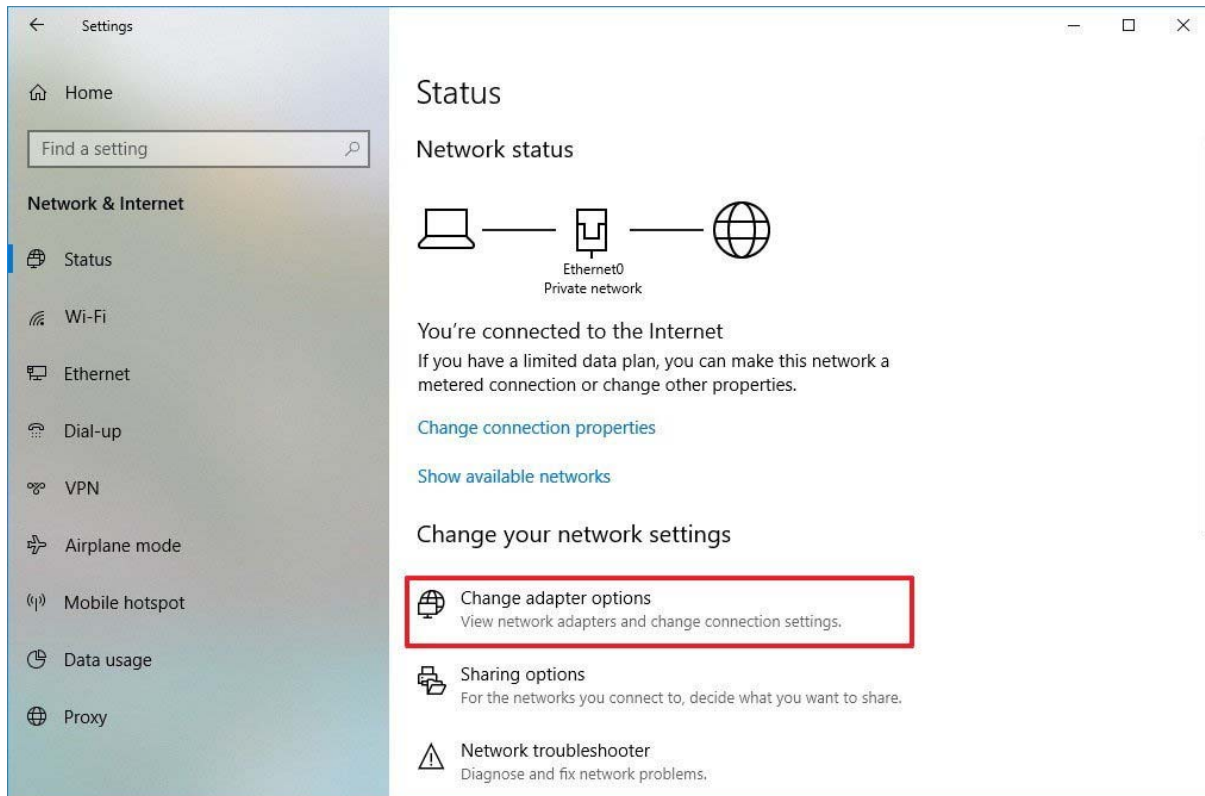
In both Win 7 and 10 it's the link highlighted – so change adapter settings or options to show (Win 10):
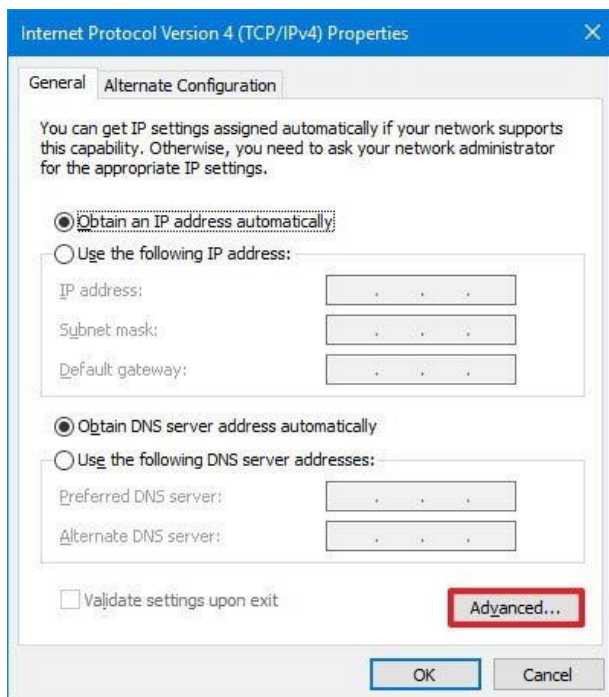
From now on the process is identical so only Win 10 screenshots will be shown.

Right click on the adapter you wish to prioritise and choose Properties.

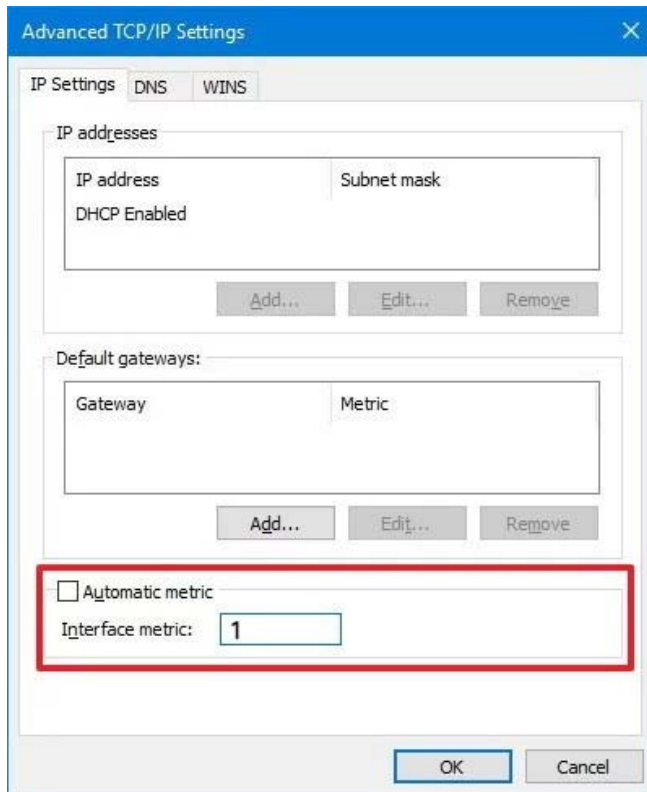Next, Select the **Internet Protocol Version 4 (TCP/IPv4)** item.
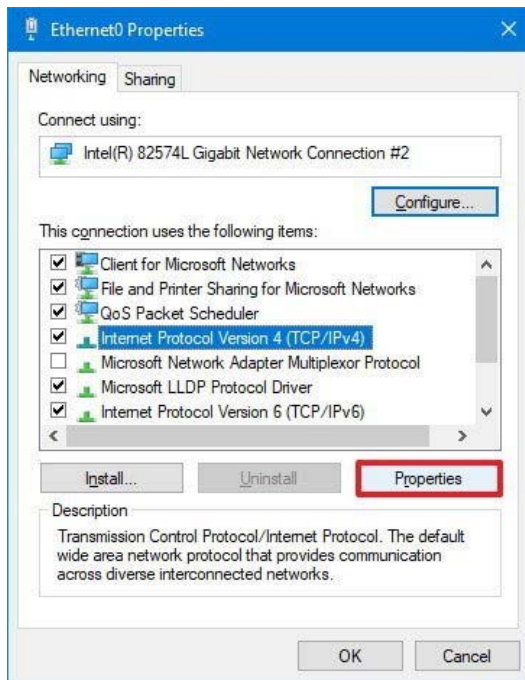
Click Properties below the list, and on the General Tab, click the Advanced button:

On the IP Settings tab, uncheck the Automatic metric option and enter a number for the Interface Metric – the lower the number the higher the priority – choose "1" to be sure this is the highest priority interface:

Click back though OK, OK, Close and you're done. Check that your internet access is working again, and the second adapter is still functioning for audio/control duties.

If there are still problems, is your "main" network a corporate or managed one with a network administrator? If so, read on about how to circumvent admin settings...

Working round Admin settings for the network adapter "Metric" value

If the network adapter you are trying to prioritise is part of a corporate network, then the network administrator can override any value you enter for the "Metric" on that adapter.
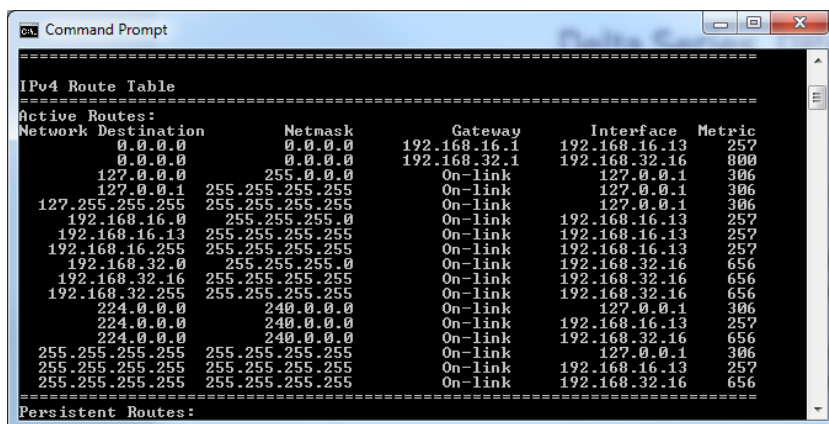To verify this, you'll need to check out what the setting is for the adapter, and as this can't be changed, just set the "other" adapter to a lower priority instead.

Open a command prompt in Windows – search for "Command" is the quickest method:
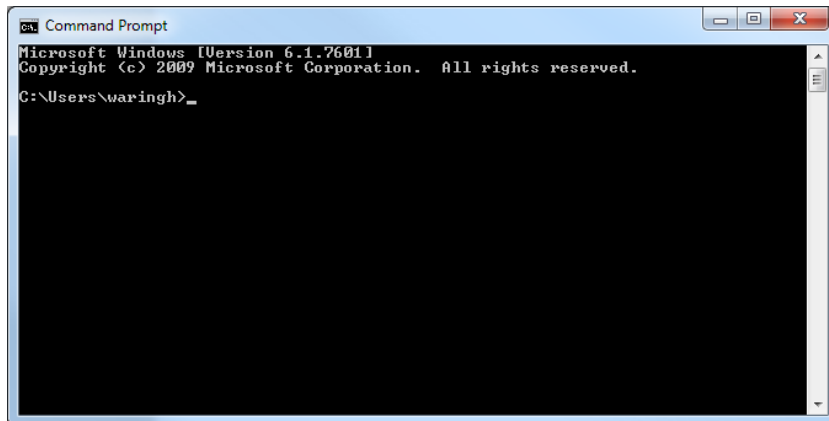
Type in "route print" and press Enter:
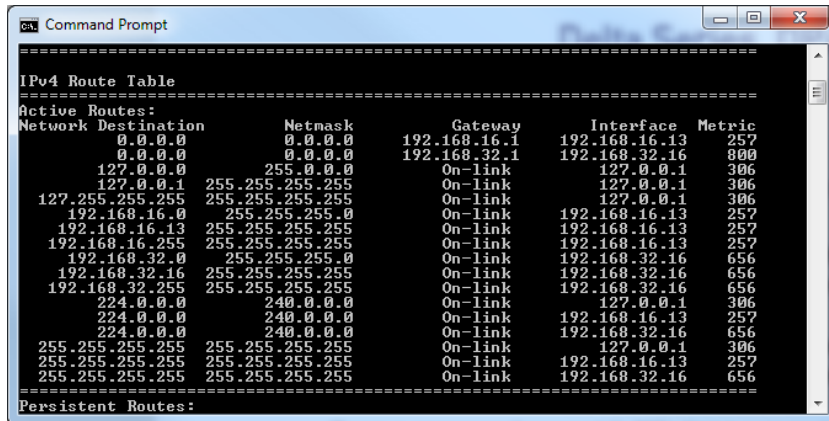Amongst all the text that appears, you should see IPv4 route table:

The right most column shows the metric assigned to the adapter under various routes – the top two Interface addresses are the IP addresses of the two network cards. To check which is which, type IPCONFIG on the command line and press ENTER:
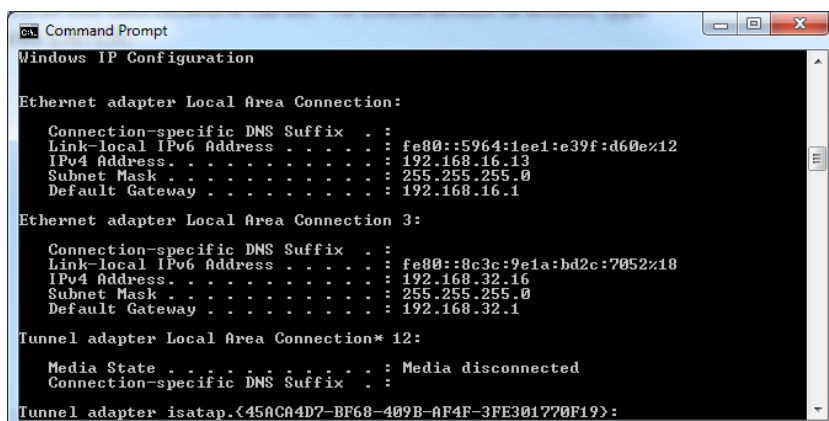
You should be able to work out from the connection names which adapter's information relates to which physical interface and make a note of the IPv4 Address.

Back to the route map details...

In this example, the corporate network interface card is the IP address ending 16.13 and has been assigned a Metric value of 257. The secondary adapter with IP address ending 32.16 is assigned a Metric of 800 – this has been assigned locally to circumvent the problem.

As you will see, this Metric value is also subject to change automatically, but making sure that it starts with a value well above that of the other adapter will normally prevent any issues.