How to improve the connection between your computer and the Combat Box servers

From the Speed Guide website: "The TCP Optimizer is a free, easy Windows program that provides an intuitive interface for tuning and optimizing your Internet connection. There is no installation required, just download and run as administrator.

The program can aid both the novice and the advanced user in tweaking related TCP/IP parameters in Windows, making it easy to tune your system to the type of Internet connection used. The tool uses advanced algorithms, and the bandwidth*delay product to find the best TCP Window for your specific connection speed. It provides for easy tuning of all related TCP/IP parameters, such as MTU, RWIN, and even advanced ones like QoS and ToS/Diffserv prioritization. The program works with all current versions of Windows, and includes additional tools, such as testing average latency over multiple hosts, and finding the largest possible packet size (MTU).

The TCP Optimizer is targeted towards broadband internet connections, however it can be helpful with tuning any internet connection type, from dialup to Gigabit+ :) It is completely free, works with most Windows versions from XP to Windows 11, requires no installation, and has been downloaded over 10 Million times over the years."

Step 1: Download the free software here : <u>TCP Optimizer 4</u> (save in your download folder)

Step 2 : Identify your internet device (Task Manager -> Performance tab).

👰 Task Manager File Options View Processes Performance App history Startup Users Details Services CPU Ethernet Remote NDIS based Internet Sharing Device #4 8% 4.68 GHz Throughput 100 Kbps Memory 9.4/31.9 GB (29%) Disk 0 (G: M:) SSD 0% Disk 1 (C:) SSD 0% Disk 2 (D:) SSD 0% Disk 3 (F:) SSD 0% Ethernet Ethernet 2 S: 0 R: 0 Kbps Ethernet VirtualBox Host-O... S: 0 R: 0 Kbps GPU 0 NVIDIA GeForce R... 0% (44 °C) 60 seconds Adapter name: Send Ethernet 2 DNS name: net 0 Kbps Connection type: Ethernet Receive IPv4 address: 192.168.1.4 0 Kbps IPv6 address: fe80::3f8:79c0:3da4:4afe%24

In my case it's "Ethernet 2" as seen below.



Step 3 : Right-click "TCPOptimizer.exe" that you downloaded in step 1 and select "Run as administrator". On Windows 11 this may be located under "Compatibility" settings.

Click on the "MTU/Latency" tab, then click on the "Edit" button, and add "srs.combatbox.net", and click the "Ok" button":

SG TCP Optimizer - Windows 10 Home (64-bit) Build:19044 10.2	Template: internet \times
File Preferences Help	
General Settings Advanced Settings BDF MTU/Latency	
URLs Edit www.speedguide.net www.nordu.net www.berklev.edu	 Pings per URL: 3 ÷ Packet size : 32 ÷
srs.combatbox.net	
ОК	Cancel
Largest MTU Latency	Copy Clear Trace Stop
erecievicia.net	Exit

Now click the "Largest MTU" button, and the application will test various packet sizes to determine the optimal packet size between your computer and the Combat Box servers in the New York data centre. In my case it's **1380** bytes :

🔄 SG TCP Optimizer - Windows 10 Home (64-bit) Build:19044 10.2 Template: internet 🛛 🗙		
File Preferences Help		
General Settings Advanced Settings BDP MTU/Latency		
URLs : srs.combatbox.net Pings per URL: 3 ÷ Edit www.nordu.net v Packet size : 32 ÷		
Pinging [104.243.40.121] with 1500 bytes -> .fragmented Pinging [104.243.40.121] with 750 bytes ->bytes=750 time=122ms TTL=118 Pinging [104.243.40.121] with 1125 bytes ->bytes=1125 time=101ms TTL=118 Pinging [104.243.40.121] with 1312 bytes ->bytes=1312 time=99ms TTL=118 Pinging [104.243.40.121] with 1305 bytes -> Unknown error: 0 Pinging [104.243.40.121] with 1358 bytes -> .fragmented Pinging [104.243.40.121] with 1355 bytes ->bytes=1335 time=102ms TTL=118 Pinging [104.243.40.121] with 1355 bytes ->bytes=1335 time=102ms TTL=118 Pinging [104.243.40.121] with 1355 bytes ->bytes=1352 time=99ms TTL=118 Pinging [104.243.40.121] with 1355 bytes ->bytes=1352 time=98ms TTL=118 Pinging [104.243.40.121] with 1355 bytes -> .fragmented Pinging [104.243.40.121] with 1353 bytes -> .fragmented Pinging [104.243.40.121] with 1350 bytes -> .f		
Copy Clear Largest MTU Latency Trace Stop		
Exit		

Step 4 : Return to the "General settings" tab, select your network adapter, select the "Custom" radio button (located just above the Exit button), and enter the MTU/packet size that you obtained in the previous step, in my case 1380. Click on the "Apply changes" button, and let the application reboot your system. If the optimal value is 1500 (the default in Windows) I would recommend lowering it to 1200 and testing it for a few IL-2 sessions just to check if it improves your connection stability to Combat Box.

🚉 SG TCP Optimizer - Windows 10 Home (64-bit) Build:19044 10.2 Template: internet 🛛 🗙 🗙			
File Hereices Help			
General Settings Advanced Settings BDP MTU/Latency			
56 kbps 1 Mbps 5 Mbps 10 Mbps 20 Mbps 30 Mbps 50 Mbps 100+Mbps			
Hetwork Adapter selection			
Intel(R) Ethemet Connection (2) I219-V MTU : 1380			
Modify All Network Adapters			
IP address : 152.166.1.24			
TCP Window Auto-Tuning: normal Time to Live (TTL) : 64			
Windows Scaling heuristics: disabled ECN Capability: disabled			
Congestion Control Provider: CUBIC Checksum Offloading: enabled			
Receive-Side Scaling (RSS): enabled TCP Chimney Offload: disabled			
R.Segment Coalescing (RSC): disabled TCR 1222 Timortampo: disabled TCR 1222 Timortampo: disabled TCR 1222 Timortampo: disabled TCR 1222 Timortampo: disabled •			
TCP 1525 timestamps, juisabled			
Choose settings: O Windows Default O Current O Optimal O Custom			
Apply changes Exit			

Your internet connection should now be optimized between your computer and the Combat Box servers, and hopefully will avoid most disconnection issues while playing IL-2.