Optimizing Symetrix software MTU Settings on your PC

Windows OS uses MTU (Maximum Transmission Unit) which determines the maximum size of the protocol data packet unit (including the size of the transport header) that can be transmitted over the underlying network layer. MTU parameters usually appear in association with a communications interface (NIC, serial port, etc.), and can be configured separately for each network interface.

For optimum network performance and to prevent fragmentation, the MTU should be large enough to hold any IP datagram in a single frame. IP datagrams larger than the MTU are divided into fragments whose size is a multiple of eight octets. The fragments travel separately to the destination, where they are reassembled before the datagram is processed. As a result of this extra reassembly and overhead of transmitting multiple fragments, a low MTU value is not the best choice for optimal network performance.

For communication with Symetrix DSP’s, we recommend a setting of 1500 MTU and a minimum of 1492 if there is some reason to have it smaller than 1500. If the configuration file starts, but then fails part way through, then we suggest you check the MTU.

In this case, the main symptom is that pushing to Symetrix hardware fails part way through, but possibly works with a blank site file and the remote terminal log doesn’t show any errors. The main thing that differentiates this issue from firewall issues is that the ‘push’ starts to work and fails part-way through as opposed to failing immediately or not locating the device at all.

To find the current MTU setting, use the command line option “netsh int ip show int”. It should be quick and easy enough that it wouldn’t be a burden to try as an early troubleshooting step.

In the figure below, the MTU on the Local Area Connection is set to 1492.

If there is an issue and the MTU is below 1492, change the MTU, reboot, and then verify the change works by running the nets hint ip show int command again.

To change or set a new MTU value, execute the following command:

```
netsh interface ipv4 set subinterface "Local Area Connection" mtu=nnnn
store=persistent
```

Note: “Local Area Connection” (including quotation marks, as there is space in the name) is the name of the network connection on the computer, which is shown in the listing of network interfaces available. nnnn should be replaced with numeric value of the preferred size of MTU.
After the change, reboot and restart the computer for the change to take effect.

To verify the change of MTU has been successfully saved, use the following command:
netsh int ip show int

It may be necessary to inquire if the PC is under a corporate policy that is limiting MTU in some way. Sometimes these settings are set at log in by a system administrator.
This topic describes how to open a command prompt with full administrator permissions. If your user account is a member of the Administrators group, but is not the Administrator account itself, then, by default, the programs that you run only have standard user permissions. You must explicitly specify that you require the use of your administrative permissions by using one of the two methods described next.

**Administrative credentials**

To complete these procedures, you must be a member of the Administrators group.

To start a command prompt as an administrator

1. Click **Start**, click **All Programs**, and then click **Accessories**.
2. Right-click **Command prompt**, and then click **Run as administrator**.
3. If the **User Account Control** dialog box appears, confirm that the action it displays is what you want, and then click **Continue**.

To start a command prompt as an administrator (alternative method)

1. Click **Start**.
2. In the **Start Search** box, type **cmd**, and then press CTRL+SHIFT+ENTER.
3. If the **User Account Control** dialog box appears, confirm that the action it displays is what you want, and then click **Continue**.