TCP/IP Options Control Panel Read Me (3/97)

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Security: Everyone

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TOPIC --------------------

This article is the TCP/IP Options Control Panel ReadMe file.

DISCUSSION --------------------

TCP/IP Options Control Panel Read Me

IMPORTANT: Do not use the TCP/IP Options control panel (previously called TCP/IP Path Discovery Control control panel) unless instructed to do so by your network administrator. TCP/IP Options is an unsupported utility developed by Apple Computer, Inc. It allows you to modify Open Transport/TCP's default behavior to disable the "Path MTU Discovery" feature and provide compatibility with certain third-party applications. (The one most commonly encountered is ATEX's MacText, a software terminal emulator for the ATEX/SysDeco Standard/Advanced Display Terminal.) Future releases of Open Transport (version 1.5 and later) will automatically disable Path MTU Discovery when appropriate. When you upgrade to Open Transport 1.5 or later, be sure to delete the TCP/IP Options control panel.

About the Path MTU Discovery Feature

Path MTU Discovery is an Internet standard implemented and automatically enabled in Open Transport/TCP. (This standard is not implemented in MacTCP.) Here's how it works:

• Unless a packet size is larger than the MTU for a network, Open Transport/TCP sets the "don't fragment" bit in an IP datagram header on transmission.

• When presented with a "don't fragment" packet that cannot be forwarded without fragmentation with the MTU size, intermediate routers send back an "ICMP can't fragment" error (required by current RFCs).

• When an "ICMP can't fragment" error is sent back, Open Transport/TCP moves to

the next smaller MTU size for that path, sets the "don't fragment" bit, and re-sends the packet. This process automatically results in using the largest supported MTU size for off-subnet traffic.

The standards document that describes Path MTU Discovery is available on the Internet at <http://ds.internic.net/rfc/rfc1191.txt>.

Why disable the Path MTU Discovery feature?

Path MTU Discovery works by sending datagrams with the "don't fragment" bit set. Some older routers don't handle this bit properly. Disabling Path MTU Discovery prevents the use of the "don't fragment" bit and may allow connections through older routers.

The TCP/IP Options control panel lets you disable the Path MTU Discovery feature to support older network routers which don't return the "ICMP can't fragment" error. Disabling the feature provides the same behavior as MacTCP. (Note that disabling the feature may introduce a performance penalty in some network configurations.)

WARNING: Misuse of the TCP/IP Options control panel may prevent Open Transport TCP/IP from operating properly.

Disabling the Path MTU Discovery feature

To install and use the TCP/IP Options control panel, follow these steps:

1. Drop the TCP/IP Options control panel onto a closed System Folder.

2. Open the Control Panels folder from the Apple menu.

3. Open the TCP/IP Options control panel.

4. To disable the path discovery feature to support older routers, click the "Disable IP path MTU discovery" checkbox to put a check in it.

5. Close the TCP/IP Options control panel.

6. Reboot your system in order for your setting to take effect.

Re-enabling the Path MTU Discovery feature

To revert to the normal Open Transport TCP/IP mode, uncheck the "Disable IP path MTU discovery" check box in the control panel and reboot your system.

WARNING: Simply removing the control panel from your Control Panels folder does not re-enable the IP path MTU discovery feature. You must uncheck the "Disable IP path MTU discovery" checkbox in the control panel.

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