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Mac OS 8: Open Transport 1.2 Read Me

TOPIC

This article is the Open Transport 1.2 Read Me article that is installed when you install Mac OS 8.

DISCUSSION

Introduction

This Read Me document contains late-breaking information about Open Transport compatibility, add-on software, and solutions to known problems with third-party software. For instructions about how to use the Open Transport control panels (AppleTalk and TCP/IP), see the Open Transport User's Guide. For additional technical information about Open Transport, see the Open Transport Technical Info file that came with Open Transport.

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What's new in Open Transport 1.2 - General

- Fixes a TCP/IP crash often referred to as the Ping of Death.
- Provides improved TCP protection against denial-of-service attacks, otherwise referred to as SYN-attacks
- Improves overall performance of TCP when operating in a slow-link environment. This provides significant improvements for Web Servers where clients are using a modem to connect to an Internet Service Provider. This obsoletes the OTSlowLinkTuneUp Patch.
- Fixes a problem which could occur when AckSends were used without using

OTData

structures. While the data would be sent accurately, the buffer could be modified during the

operation, making the buffer unavailable for reuse. This problem was documented and

worked around in the OTVirtualServer sample code.

Fixes crashes which could occur with TCP applications, such as Netscape, when AppleTalk

was turned off. This problem was first noticed by America Online (AOL).

This fix obsoletes

AOL's extension OpenOT.

Fixes a problem between native PAP and some HP LaserJet postscript printers.

Fixes a problem on some hardware platforms that would not permit multiple MDEVs located

in the Extensions folder to be initialized.

Fixes a problem where ADSP used via the native OT API could truncate outbound data if

some data was unsent when OTSndOrderlyRelease was called.

Fixes a rare crash in AppleTalk which could occur when a STREAMS buffer was freed twice.

Added support for the CompuServe PPP MDEV.

Multiple fixes to increase stability of AppleShare and AppleShare IP servers with more than

80 concurrently connected users.

Network Interface Options

Open Transport 1.2 supports PCI bus, NuBus, communications slot, and PC Card network interface

cards, as well as built-in LocalTalk, Ethernet, and Token Ring network adapters. For supported

computers without expansion options, Open Transport 1.2 also supports a SCSI-attached network

adapter. Third party network interface options available for Open Transport include Fast Ethernet, ATM, and FDDI.

General compatibility

Open Transport is compatible with:

existing applications that use AppleTalk as specified by Apple Computer, Inc.

existing applications that use MacTCP as specified by Apple Computer, Inc.

existing devices (such as printers) that you select in the Chooser
existing NuBus network interface cards for the Mac OS

Computers running Open Transport can be added to an existing AppleTalk or TCP/IP network

without upgrading other computers on the network.

Apple product compatibility update

At Ease version 2.x or 3.x may encounter problems when starting up with Open Transport. At

Ease Update 1.0 will update non-Workgroup versions of At Ease 2.x or 3.x to include Open

Transport compatibility. If you are using At Ease for Workgroups, you should upgrade to

version 3.0.2 or later. Both can be found on Apple Software Update sites on the Internet and

selected online services.

Assistant Toolbox version 1.2 is not compatible with Open Transport, and will result in

AppleTalk being turned off each time you restart your system. System 7.5 update 2.0 and

7.5.5 include Assistant Toolbox version 1.3 or later that is compatible with Open Transport.

The Apple PCI Token Ring Card (M3904Z/A) works with Open Transport 1.1.1 and later. The

Apple PCI Token Ring card is compatible with Power Macintosh 7200/120, 7300, 7500,

7600, 8500, 8600, 9500 and 9600 computers; it is not compatible with 7200/75 and 7200/90

computers.

Apple LaserWriter Bridge and LocalTalk Bridge 2.1 or later are compatible with Open

Transport.

Apple Internet Mail Server 1.1 or later software is compatible with Open Transport 1.1 and

later.

Apple Remote Access (ARA) Multiport Server 2.1, ARA Client 2.0.1, and ARA Personal Server

2.0.1 are compatible with Open Transport 1.1 and later.

Apple PCI-based Workgroup servers (Application, AppleShare, and Internet) are compatible

with Open Transport 1.1 or later.

Computers running the current versions of Apple IP Gateway and AppleTalk Internet Router

must not be updated to Open Transport; these products are based on classic networking.

These products do, however, interoperate with computers using either classic or Open

Transport networking. Apple has not yet announced plans regarding future versions of these

products.

Apple's MacTCP Ping is not compatible with Open Transport; no update is planned. MacPing

from Dartmouth, available at <ftp://www.dartmouth.edu/pages/softdev/>, OTTool from Neon

Software, available at <ftp://ftp.neon.com> and Mac TCP Watcher v2.0 from Peter N. Lewis &

Stairways Software available at <ftp://ftp.share.com> are Open Transport-compatible

alternatives.

ZapTCP is a classic networking tool and is neither compatible nor needed with Open

Transport. Functionality similar to ZapTCP is built into Open Transport.

Dialup network connectivity - AppleTalk

For dialup connectivity to AppleTalk networks, Open Transport supports Apple Remote Access

version 2.0.1 or later.

Dialup network connectivity: TCP/IP

For dialup connectivity to TCP/IP networks (including the Internet) Open

Transport supports

third-party extensions known as MDEVs. Serial Line Interface Protocol (SLIP) and Point to Point

Protocol (PPP) connectivity are provided in this manner. Not all versions of all MDEVs are

compatible with Open Transport 1.1 and later.

Open Transport 1.2 recognizes and is compatible with the following MDEVs. When properly installed

they appear in the Connect via pop-up menu in the TCP/IP control panel.

FreePPP version 1.0.5 or later

FreePPP is shareware and can be found on the Internet, typically at info-mac mirror sites in the

comm/tcp/conn directory. A list of info-mac mirror sites can currently be found at:

<http://www.pht.com/info-mac/mirror-list.html>.

Some sites where FreePPP can be found currently include:

<ftp://mirrors.aol.com/pub/info-mac/comm/tcp/conn/>, and

<ftp://mirror.apple.com/mirrors/Info-Mac.Archive/comm/tcp/conn/>.

FreePPP versions prior to 2.5 may experience problems when running with virtual memory turned

on (including RAM Doubler). If you have problems using FreePPP with VM, either update to FreePPP

2.5, or temporarily turn VM off. The current version of FreePPP is 2.5v3.

MacPPP version 2.1.4 or later (MacPPP 2.5 is recommended)

MacPPP versions prior to 2.5 may experience problems when running with virtual memory turned on

(including RAM Doubler). If you have problems using MacPPP with VM, either update to MacPPP 2.5,

or temporarily turn VM off.

An Open Transport-compatible version of MacPPP (MacPPP 2.5) is included in the Open Transport

Extras folder. For more information, please refer to the MacPPP Read Me document.

InterPPP version 1.2.9 or later; InterPPP II version 1.1 or later

InterPPP and InterPPP II are commercial software products. For availability and

ordering information

in the U.S., contact InterCon Systems at 800-468-7266 or 703-709-5500.

MacSLIP version 3.0.3 or later

MacSLIP is commercial software developed by Hyde Park Software. It supports both SLIP and PPP.

For availability and ordering information in the U.S., contact TriSoft at 800-531-5170 or

512-472-0744. For more details see the MacSLIP Web page at

<http://www.zilker.net/~hydepark/>.

Sonic PPP version 1.0.2 or later

SonicPPP is commercial software developed by Sonic Systems, Inc. For availability and ordering

information in the U.S., contact Sonic Systems at 408-736-1900 (voice)

408-736-7228 (fax). For

more details see the Sonic Systems Web page at <http://www.sonicsys.com/>.

NTS PPP version 2.0 or later

NTS PPP is commercial software developed by Network Telesystems, Inc. For availability and

ordering information in the U.S., contact Network Telesystems at 408-523-8100 (voice)

408-523-8818 (fax). For more details see the Network Telesystems Web page at

<http://www.ntsi.com/>.

SAT/SAGEM PPP version 1.02b1 or later

SAT/SAGEM PPP is commercial software developed by SAT/SAGEM. For availability and ordering

information in the US, contact SAT/SAGEM at 408-446-8690 (voice) 408-446-9766

(fax). For more

details see the SAGEM Web page at <http://www.satusa.com/>.

CompuServe PPP

CompuServe PPP is commercial software developed by CompuServe. For availability and ordering

information in the U.S., contact CompuServe Customer Service at 1-800-848-8990.

For more details

see the CompuServe Web page at <http://www.compuserve.com/>.

LeoTCP version 2.0.1 or later

LeoTCP is commercial software developed by Hermstedt GmbH. For availability and ordering

information in the U.S., contact Hermstedt USA at 1-800-828-5522 (voice). In

Europe contact

Hermstedt GmbH at +49 621-76500 (voice) +49 621-7650100 (fax).

T-Online CSLIP version 1.0.3 or later

T-Online CSLIP is commercial software developed by Computer Consulting GbR. For availability

and ordering information in Europe, contact format network & communication at +49 2206-95840.

For more details, contact format network & communication at info@format.de.

University of Michigan ISDN version 2.0.6 or later

In addition to these, there are a number of other MDEVs (examples include those from Pacer, FCR, and Tribe) which are indistinguishable from one another to Open Transport. When installed, these appear in the Connect via pop-up menu as TCP/IP PPP.

Native dialup network connectivity: TCP/IP

Open Transport supports extensions that use the STREAMS architecture. OT/PPP version 1.0 or later is available on the Apple Software Update sites on the Internet and requires Open Transport 1.1.1 or later.

Tips for SLIP and PPP configurations

Some MDEVs are known to be incompatible with other MDEVs. If you experience problems, remove unused MDEVs so that only one MDEV is installed on your computer at a time.

Users who dial into a TCP/IP network or Internet Service Provider (ISP) may have been assigned a router (gateway) address that is not a part of their local subnet. This was an accepted but technically invalid configuration for MacTCP. Open Transport users should not enter a value for the router address or subnet mask; Open Transport/TCP generates correct values for these fields automatically. In unusual circumstances, these supplied values can be overridden using the Administration mode of the TCP/IP control panel.

If BootP is used over SLIP or PPP for interface configuration, and if BootP returns additional default router addresses, Open Transport will automatically add those addresses to the list of default routers.

When Open Transport is installed on a computer that previously had MacTCP configured for a server configuration, the initial configuration method (the selection in the Configure pop-up menu in the TCP/IP control panel) is set for the use of a BootP server. This default may not be the appropriate choice for you; please verify.

If your computer was previously configured for MacTCP server addressing and you experience connection difficulties using PPP or SLIP after installing Open Transport, follow these steps:

1. Open the TCP/IP control panel.

2. Choose Using PPP Server or Using SLIP from the Configure pop-up menu.
3. Close the TCP/IP control panel, and save changes when prompted.
4. Try connecting again.

If your computer was previously configured for MacTCP manual addressing and you experience connection difficulties using PPP or SLIP after installing Open Transport, follow these steps:

1. Open the TCP/IP control panel.
2. Choose Manual from the Configure pop-up menu.
3. Verify that the correct IP address is entered in the Address field.
4. Close the TCP/IP control panel, and save changes when prompted.
5. Open the configuration utility supplied with your SLIP or PPP software, and verify that it also reflects the correct IP address in the appropriate location. Refer to the documentation supplied with your SLIP or PPP software for further information on how to enter an IP address, and how to save an updated configuration.
6. Try connecting again.

Note: In MacPPP's Config PPP control panel, this setting is entered in the IPCP dialog box. Refer to the documentation that came with MacPPP or FreePPP for additional information.

Known limitations and other issues

PowerBooks

The AppleTalk control panel displays separate printer and modem ports on the PowerBook 190.

LocalTalk will only work correctly when the modem port is selected in the AppleTalk control panel.

The software that dims the screen of PowerBook Duo computers when the PowerBook is docked

and idle is not compatible with Open Transport. Use a third-party screen saver in place of the Apple-provided module.

In some cases, on a PowerBook 190 configured to use the Infrared Port in the AppleTalk Connect via pop-up menu, networking services may become disabled following a sleep/wake or restart. If this happens, try putting the computer to sleep and waking it up again, or use the AppleTalk control

panel to temporarily select the modem/printer port before switching back to the infrared port.

Desktop Computers

On a IIfx or a Quadra 950, Open Transport can only use the compatible mode setting in the Serial Switch control panel. Do not use the faster mode setting with LocalTalk.

On 68030 and 68040 computers, changes in AppleTalk configurations can cause systems running Meeting Maker 3.5 or 3.5.1 to crash. This can occur when changing AppleTalk links, turning AppleTalk off, or bringing ARA connections up or down. This problem will occur on classic networking as well. Apple is working with ON Technology to resolve this problem.

Open Transport

Open Transport generally requires more memory (RAM) than MacTCP. To conserve memory, you might try some of the following:

Rename or re-order one or more third-party extensions (INITs), to change the order in which memory is allocated when your computer starts up. If you use extensions from Global Village, try renaming those extensions so that they load last. Especially on PowerPC-based computers, turn on virtual memory. This may affect performance.

TCP/IP

When TCP/IP is set to Load only when needed (in the control panel's Options window), pinging an Open Transport workstation will fail if TCP/IP is not currently being used. To make sure your computer is pingable at all times, turn off the Load only when needed option (open the TCP/IP control panel and click the Options button, then click the Load only when needed checkbox to remove the X) and restart your computer.

When TCP/IP is set to Load only when needed (in the control panel's Options window), the first TCP/IP application opened will cause Open Transport to load into memory. Some older applications do not cause Open Transport to load, and then report errors similar to those encountered when MacTCP is not installed. If this is a problem, turn off the Load only when needed option (open the TCP/IP control panel and click the Options button, then click the Load only when needed checkbox to

remove the X) and restart your computer.

The TCP/IP control panel is able to obtain and utilize multiple gateway and name server addresses from DHCP and BootP servers. However, it will currently display only the first one in the list. This should be addressed in a future release.

Generally, you should turn on the Load only when needed option in the TCP/IP control panel when using a modem. If TCP/IP is always loaded (Load only when needed is not checked), your modem may attempt to initiate a dialup connection at startup. Some MDEVs require more system heap memory than is available at startup, which may cause the computer to hang. Also, some Internet service providers charge by connect time, so you may be charged for the connection, even if you were not using it.

You should only specify use of 802.3 framing in the TCP/IP control panel if you have been directed to do so by your network manager, or if you are sure that all other stations on your network segment, including your IP router(s), are also configured to use 802.3 and not Ethernet version 2.0 framing.

MacSLIP

If you use MacSLIP, you should likewise not configure the MacSLIP control panel to initialize MacSLIP at system startup time. As stated above, this may require more system heap memory than is available at startup, which may cause the computer to hang.

If you are experiencing problems when using MacSLIP with virtual memory on, increasing your virtual memory size may give you better results. (Use the Memory control panel to increase virtual memory.)

Netscape

If you are using Netscape, 16MB or more of built-in memory (RAM) is recommended.

MacTCP

Some MacTCP-based applications will not function correctly unless the MacTCP DNR file is in its original location at the root level of the System Folder.

Claris EMailer

Claris EMailer version 1.1 v3 or later and Claris EMailer Lite version 1.1 v4 or later is compatible with Open Transport 1.2. Earlier versions of Claris EMailer may not be

compatible with Open

Transport's Load only when needed configuration option. If you experience a system crash 2-3 minutes after quitting EMailer, turn off the Load only when needed option. (Open the TCP/IP control panel and click the Options button, then click the Load only when needed checkbox to remove the X.)

MacTraceRoute Ethernet LAP

The current version of the MacTraceRoute Ethernet LAP does not work on computers running Open

Transport. This utility only works with Classic networking. Open Transport compatible alternatives

include Mac TCP Watcher v2.0 from Peter N. Lewis & Stairways Software, available at

<ftp://ftp.share.com>, and IP NetLink from Sustainable Softworks, available at

<http://www.sustworks.com/~psichel/>.

NFS/Share

NFS/Share versions 1.4.4 or later are compatible with Open Transport.

Netware Client

When using Netware Client version 5.11 configured for NetwareIP service, the first login may yield a

Netware Configuration error message. To avoid this error, open the NetwareIP control panel and

change the value under Domain SAP Server (DSS) Retry Attempts from 1 to 2. You can also change

OpenTransport TCP/IP control panel to always load TCP/IP into memory (open the TCP/IP control

panel, click the Options button, and click the Load only when needed box to remove the X).

eXodus

eXodus 5.2.2 and later are compatible with Open Transport.

Anarchie

Versions of Anarchie prior to 1.6 have a data corruption problem when used with Open Transport.

Make sure you are using Anarchie 1.6 or later.

Apple Remote Access

If an Apple Remote Access (ARA) user is on a non-routed, extended (Ethernet) network, and there

are devices on the local network with the same network number as devices on the remote network,

the user will not be able to see the local devices. This problem can be fixed by installing a router.

Another workaround is to clear the PRAM on the ARA computer. (Hold down the Command, Option,

and PR keys simultaneously while starting up the computer). Clearing PRAM causes the computer

to start up with a new network number, which should not conflict with the remote

network number.

Daemon

Daemon 1.0.0 & Daemon Killer 1.0 are not compatible with Open Transport.

MudDweller

MudDweller 1.2 is not completely compatible with Open Transport. You can open new connections, but the reconnect choice does not work correctly.

NetPresenz

The system will crash during launch of NetPresenz if Open Transport TCP/IP is configured to use MacIP and the selected zone has no MacIP server.

VersaTerm SLIP

Current versions of VersaTerm SLIP are not compatible with Open Transport.

KeyServer

Problems can occur with old versions of the KeyServer package from Sassafras Software when TCP/IP is configured to Load only when needed (in the control panel's Options window). Contact Sassafras for the latest revisions at <http://www.sassafras.com>.

Open Transport/LocalTalk Bridge/Global Village Toolbox/GlobalFax

The combination of Open Transport 1.2, LocalTalk Bridge 2.1f2, Global Village Toolbox and GlobalFax extensions causes a crash. This also happens when using classic networking. The workaround is to move the LocalTalk Bridge file to the Extension folder, renaming it to aLocalTalk Bridge. You can make an alias and rename the alias as desired. Put the alias wherever you want, including the Control Panels folder. This will allow the LocalTalk Bridge to load before Global Village and avoid the cause of the crash.

CSI Hurdler

To use the CSI Hurdler serial card with Open Transport, contact CSI to get a copy of their preference file patch. This will enable the card to be compatible with Open Transport 1.2.

MPW

The current official release of the MPW shell will hang the system when used with virtual memory and Open Transport. When using the MPW shell and Open Transport, turn off virtual memory. The ETO #21 pre-release MPW shell, version 3.4.2b2, fixes this problem.

Apple, the Apple logo, AppleShare, AppleTalk, LaserWriter, LocalTalk, MacTCP, Performa, Power

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