Open Transport 1.0.8: Future Directions Q & A (3/96)

Revised: 3/26/96
Security: Everyone

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Article Created: 27 October 1995
Article Reviewed/Updated: 26 March 1996

TOPIC -----

This article is a series of questions and answers on the future directions of Open Transport 1.0.8.

Open Transport 1.1 is now available, and Apple recommends upgrading to it. Also refer to Open Transport 1.1 Reference Questions and Answers Tech Info Library articles for the most recent information.

DISCUSSION -----

Question: How will Open Transport be made available to customers with 680x0 and NuBus-based Power Macintosh computers?

Answer: Open Transport v1.1 is planned to support 68030 and 68040 Macintosh computers, as well as NuBus-based Power Macintosh systems. This release is currently expected to be available in the second half of 1995:

- as a no-charge upgrade to customers with MacTCP software maintenance agreements;
- as a no-charge upgrade to customers with system software maintenance agreements;
- as a component of a planned Mac OS system software system update;
- bundled with Apple and third party applications software that are Open Transport-ready;
- as a retail software product in single-user software package; and,
- from select Apple-licensed publishers and Internet Service Providers.

Question: Will Open Transport v1.1 include additional capabilities?

Answer: Yes. In addition to support for all targeted Mac OS systems and integration of all available bug fixes, Open Transport v1.1 should also:

- provide a basis of support for PPP-based AppleTalk and TCP/IP remote networking,
- provide a basis of support for modem and ISDN communications devices,
- offer tuning to optimize performance of high speed datalinks,
- offer tuning to support multi-client, multi-threaded server applications,
- provide display of the selected datalink Media Access Control address for ethernet and token ring networks,
- provide notification in the event duplicate AppleTalk or TCP/IP addresses are established,
- automatically convert users existing AppleTalk and MacTCP setting to Open Transport configuration files,
- offer improved Balloon Help text for System 7 users, and,
- include all bug fixes available to date.

Question: Will Open Transport v1.1 be available to PCI-bus Macintosh customers as well?

Answer: Yes, Open Transport v1.1 will support PCI-bus Macintosh systems, and will be included as a component of a planned Mac OS system software System Update, and with a future Mac OS system software release.

Question: What additional network interface options are planned to be available with Open Transport?

Answer: Open Transport v1.1 is planned to add support for existing NuBus NICs, as well as backwards compatibility support for SCSI-attached ethernet adapters for those Macintosh models that do not have built-in ethernet or ethernet expansion options.

Modem and ISDN support are to be available following the introduction of the next generation of Apple Remote Access products (incorporating Open Transport/PPP and Open Transport v1.1).

SCSI-attached ethernet adapters for PCI-bus Macintosh computers will require development of new DLPI drivers.

Question: How will backward compatibility for NuBus network interface cards be implemented?

Answer: For 680x0 and Power PC Macintosh systems with NuBus, Open Transport v1.1 will allow use of existing NuBus NICs and drivers. This compatibility is to be provided by software support mapping DLPI driver calls generated by new Open Transport protocols to corresponding calls to "classic" Mac OS LAP Manager, .enet and .tokn APIs.

Question: Will PPP connectivity be distributed as a bundled component of Open Transport v1.1?

Answer: AppleTalk and TCP/IP connectivity over Open Transport/PPP links will first be offered as a feature of the upcoming Apple Remote Access products. ARA products would include necessary Open Transport components.

Apple currently plans to fully merge ARA client and personal server capabilities with basic Open Transport capabilities to offer an integrated communications package for LANs, WANs, and remote networking. These integrated capabilities are also expected to be delivered as a part of a future update to Mac OS. This timetable has not been finalized; details will be announced at a later date.

Question: Will the planned Apple Open Transport/PPP solution truly be standard PPP?

Answer: Apple is developing a native implementation of PPP for Open Transport as a part of the next generation of Apple Remote Access products. Current plans call for full support of the following RFCs:

- RFC 1661 - PPP
- RFC 1662 - PPP in HDLC-like framing
- RFC 1570 - PPP LCP extensions
- RFC 1334 - PPP Authentication protocols
- RFC 1663 - PPP Reliable transmission
- RFC 1378 - ATCP AppleTalk Control Protocol
- RFC 1332 - IPCP Internet Protocol Control Protocol

Question: What about NetWare NCP/IPX? Will Apple or Novell deliver an Open Transport-based Macintosh client that uses IPX protocols as the transport layer?

Answer: Apple and Novell have publicly committed to making Macintosh a first-class NetWare client. An Open Transport-ready implementation of NetWare protocols and client services is currently under active investigation. The two companies are not ready to announce specific product plans or availability details at this time.

Question: What about IP version 6 (IPv6) support in Open Transport?

Answer: IPv6 is an proposed update of the current Internet Protocol (IPv4), part of the TCP/IP suite of protocols used to allow computers to communicate with each other over the Internet. The Internet Engineering Task Force (IETF) is in the process of specifying the standards for IPv6.

IPv6 is being designed to respond to the limitations of IPv4 -- including an upcoming shortage of new IP addresses -- to allow for the continued expansion of the Internet and deployment on corporate networks. IPv6 also incorporates new functionality to provide security, multimedia support, and plug and play capabilities, features necessary to usher the Internet into the twenty-first century.

At the October 1995 Networld+InterOp trade show, Apple Computer and Mentat Inc.

demonstrated a prototype implementation of Internet Protocol Version 6 running on Apple Open Transport. The demonstration showed the flexibility of the Open Transport environment -- with current IPv4 applications such as Fetch, Netscape, and Web*Star running unmodified with IPv6 support -- and showed the benefits of Open Transport's underlying standards-based architecture - facilitating code portability. The demonstration also included basic interoperability testing with IPv6 prototype implementations from DEC and HP, using standard IP utilities such as Ping and Telnet.

Apple and Mentat will continue to work together to ensure timely availability of IPv6 for the Mac OS once the standard has been completed.

Question: Will Open Transport v2.0 for Copland offer any new capabilities?

Answer: Yes. Open Transport v2.0 is being designed to take full advantage of the new microkernel services available in the Copland OS. As a result, Open Transport networking on Copland is planned as a set of multi-threaded, preemptively scheduled tasks running in protected memory.

To a user, this will mean that networking will be even more robust and higher performance. To a developer, this will mean that a rogue application running in another memory space will not be able to corrupt system level networking task.

In addition, Open Transport v2.0 is expected to incorporate a second generation update to the human interface introduced with Open Transport v1.0. Current plans call for this release to include support for features such as:

- Configuration selection will be integrated with system level workspaces and the location assistance toolbox;
- Advanced end-users and network administrators will be able to configure a protocol stack for simultaneous support of multiple network connections (multi-homing);
- Administrators will find additional trouble-shooting tools (such as Ping, trace route, local ARP cache, access to local routing tables, and others) integrated with the configuration utilities;
- Support for AppleScript; and
- Desktop aliases for network configurations to allow double-click reconfiguration of services.

Open Transport 2.0 is also planned to include integrated support for NetWare/IPX, X.25, ATM, and ISDN.

Question: What about the Apple Internet Router, ARA Multiport Server, and LaserWriter Bridge? Will they be revised for Open Transport?

Answer: Apple is not announcing future plans regarding these products at this time.

Question: What about MacSNMP? When will it be revised to work with Open Transport?

Answer: MacSNMP v1.5 is planned to be available in 1996. This release is designed to include support for MIB II statistics from the Open Transport/TCP stack, transport of SNMP data over Open Transport/TCP, and to add support in the Macintosh System MIB for both NuBus and PCI interface cards.

MacSNMP and the Mac System Agent are supported through Open Transport's backward compatibility services.

Article Change History:
26 Mar 1996 - Added statement on Open Transport 1.1 release.
06 Nov 1995 - Change distribution status.

Tech Info Library Article Number:18841