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MacWorkStation 3.1: Introductory Information

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MacWorkStation 3.1 is an upgrade to version MacWorkStation 3.0. The goal of the new version is to increase ease of use, make the software more powerful and robust, and add support for new hardware capabilities of the Macintosh, such as color and multiple monitors. MacWorkStation 3.1 also supports system software such as MultiFinder, hierarchical and pop-up menus, mixed font sizes and styles in text, and AppleShare permission values.

Apple has two utilities that can be used with MacWorkStation: Event Handler and Dialog Builder. These are described in the last section of this document.

MacWorkStation 3.1 is compatible with MacWorkStation 3.0. Developers will not need to change their programs, unless they want to take advantage of the new features of the 3.1 version. Current licensees of MacWorkStation 3.0 will receive free upgrades to 3.1.

Positioning

Apple is positioning MacWorkStation as an "application server," which provides Macintosh application services to client software running on a remote computer. When discussing MacWorkStation, Apple will now use the terms server and client in the same way that X Windows developers use these terms. The application server software is the MacWorkStation software that runs locally on the Macintosh, providing services to remote client software that will be written by customers and third party developers on a variety of host computers. Services offered by MacWorkStation include local printing, filing, and editing, and access to Macintosh user interface objects such as windows, pull-down menus, and dialog boxes.

Apple is re-positioning MacWorkStation as a developer tool, rather than a communications tool. MacWorkStation supports a variety of communications protocols, including RS-232, AppleTalk, Ethernet, 3270, etc. However, the communications abilities of MacWorkStation are not what make MacWorkStation such an important product. More significant is the fact that it provides a standard Macintosh user interface to client applications running on remote host computers. MacWorkStation is appropriate for customers who wish to develop Macintosh user interfaces to host programs, without doing any Macintosh programming. To use MacWorkStation, a host programmer must add software to the host program to send commands to the MacWorkStation

software running on a Macintosh. The MacWorkStation server software running on the local Macintosh presents menus, windows, lists, and other objects to the user based on the content of the commands sent by the client host software. The MacWorkStation software running on the Macintosh will also handle all local editing, printing, and filing.

MacWorkStation can run transparently over a variety of communication protocols because the low-level communications services are provided by Macintosh code segments (called communications modules) that are added to MacWorkStation at run time. Communications modules already exist for RS-232 and AppleTalk. Apple is working on additional modules for the AppleLine and 7171 protocol converters, LU 6.2, and TCP/IP. Third party developers are also working on communications modules. For example, both Avatar and DCA are working on 3270 communications modules.

Availability

MacWorkStation 3.1, Event Handler, and Dialog Builder are available from APDA. The communications modules is packaged as a separate APDA product.

Enhancements included in MacWorkStation 3.1

- Graphics support - RGB Color is supported in alerts, cursors, dialog boxes, dialog items, patterns, pictures, text, and windows. The MacWorkStation 3.1 graphics director provides faster redrawing and scrolling of complex pictures.

- HFS and AppleShare support - MacWorkStation 3.1 fully supports the hierarchical file system calls. In order to support AppleShare directories and files, permission values can be set and retrieved, and byte ranges in a file can be locked.

- Improved list management - The list director has been extended to provide field level editing in addition to the record level editing provided in older versions of MacWorkStation. A new command has been included to allow the remote application to read only those records that have been modified. The host can now specify that records be sorted in either ascending or descending order based on any field or combination of fields. The sort can also be done by a local menu command.

- Improved error detection at the presentation level - Earlier versions of MacWorkStation ignored invalid commands or parameters, making it difficult for developers to debug problems. MacWorkStation 3.1 provides optional command and parameter syntax checking. The host program can specify what action should be taken if any errors are encountered in the command data stream.

- Event locking and unlocking - Because MacWorkStation applications communicate with a remote host, sometimes the user will think that a mouse selection didn't work, when really the reaction from the host is just taking a long time to get to the Macintosh. In this case, users will often re-select or re-type a field, causing the host to have to do even more work. With MacWorkStation 3.1, the host can specify that MacWorkStation should make the cursor a watch to indicate

that the data is being processed. MacWorkStation will go into an "event lock" state until the host sends more data. This new feature of MacWorkStation 3.1 was added in response to problems reported by early users of MacWorkStation 3.0.

New Utilities

Event Handler is a new MacWorkStation Exec module which provides local nonprocedural scripting for responding to MacWorkStation events. Event Handler is an excellent utility for prototyping MacWorkStation programs. During the prototyping phase, a developer can use Event Handler to emulate what a host will do in the final version, without really having a host connected. It will also be very useful for final programs because it can respond to events generated by the user without sending a transaction to the remote host computer. This would be appropriate for standard and consistent events such as cancel buttons or help buttons, where host interaction isn't required. (Event Handler is an enhanced version of the beta Script Writer software that some early users of MacWorkStation may have already used. Event Handler may not be the final name that is chosen for this Exec module.)

Dialog Builder is a utility program that provides a powerful and easy method for quickly building dialog boxes for MacWorkStation 3.1. Users familiar with MacPaint or MacDraw will appreciate the object palette, which can be used to draw dialog boxes. The dialog box that is drawn can be stored in a MacWorkStation document for later recall by the remote client application. MacWorkStation dialog director commands can also be created and transferred to the remote host to be used when a MacWorkStation application is running. Dialog Builder is an enhanced version of the beta RezPaint software that some early users of MacWorkStation may already have used.
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