Tech Info Library

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.

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Positioning
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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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