

PCjr Gets Mixed Reaction

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NOW MICROSOFT DOES WINDOWS



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A leading software company has opened a second front in the developing window wars.

Less than two weeks after VisiCorp started shipping its long-awaited Visi On integrated software package, archrival Microsoft has fired an answering volley by introducing a lower-cost window manager with new features that both users and applications-program developers will love.

On November 10, in New York, Microsoft announced Windows, a window manager and graphical-device interface designed to integrate applications software running on the IBM Personal Computer and IBM PC-compatible computers. Microsoft is billing Windows as an extension of Microsoft's MS-DOS operating system.

Window managers offer personal-computer users the ability to view several programs or documents on the screen simultaneously. Users can move, resize and sometimes stack windows in order to focus on one document while referring to others. Window managers generally convey the metaphor of a desktop environment — stacks of paper on the desktop with a filing cabinet and wastebasket close by.

Microsoft's announcement drew together many IBM PC-compatible hardware manufacturers, including Compaq, Hyperion, Texas Instruments, Hewlett-Packard, Eagle, Zenith, Burroughs and Digital Equipment Corporation. The product also received blessings from manufacturers who are planning to introduce IBM PC-compatible machines shortly, including Apple Computer, Radio Shack and Mindset.

One corporation is conspicuously absent from the list of supporting hardware manufacturers — IBM itself. Because Microsoft developed the operating system (MS-DOS) that IBM has blessed for its Personal Computer, whether IBM plans to support Windows is a touchy subject for Microsoft. Company officials had no comment on IBM's plans to adopt Windows, but said that it will be available on the IBM PC when the program is shipped. Microsoft says that it will ship Windows to dealers in April (although development on a product like Windows is difficult to

addition to the window manager, Windows will include Microsoft's Graphics Device Interface (GDI), which would make it easier for software developers to make their application draw a line or scroll on the screen.

"The window manager is actually a small part of this announcement," said Leo Nikora, Microsoft Windows group manager. "Windows is actually an attempt to widen the development environment for MS-DOS so that applications can be graphically oriented."

The true meaning of Windows, Nikora

Window managers allow personal-computer users to view several programs or documents simultaneously

predict and may take longer), priced between \$100 and \$250.

Software publishers who've announced plans to offer application programs running under Windows include Lotus Development Corporation, Ashton-Tate, Software Publishing Corporation and Software Arts.

Additionally, Microsoft said that it was planning to modify its own applications, such as Multiplan and Microsoft Word, so that they would work under Windows. The announcement of support from other software publishers appears to give Microsoft a significant advantage in the race to provide integrated software for second-generation personal computers. In

said, was "complete device independence and a graphical interface for MS-DOS" that can permit the operating system to take full advantage of available peripherals such as high-resolution printers.

With Windows, Microsoft is claiming that software-application developers will be able to write programs without worrying about specific features of the hardware and that programs written to run under Windows will be portable to any personal computer that supports Windows. Microsoft is also making a strong commitment to bit-mapped graphics and the use of the mouse pointing device with the introduction of Windows.

Microsoft claims that Windows will

work on personal computers equipped with two floppy-disk drives and as little as 192K random access memory. Software development is such that it is difficult to predict exactly how a product will come out when it's finished. VisiCorp, for instance, claimed when it announced Visi On a year ago, that it would be able to run on two floppy-disk drives. Only recently did the company find that it couldn't make the product work without a hard-disk drive system. If Microsoft succeeds in keeping Windows a floppy-disk product, it will be able to run MS-DOS and "several significant applications," according to Nikora.

One simple program that will come with Windows is a "visual shell" intended to insulate users from some of the complexities of the operating system. A visual shell is a menu of options that allows you to select operating-system commands by pointing at them.

One piece missing from the puzzle so far is MS-DOS 3.0, the long-awaited, multitasking version of Microsoft's operating system that allows you to run several programs or tasks simultaneously. Microsoft has clearly designed Windows to take advantage of multitasking — all the partitions or windows in the program are active at the same time. Microsoft refused to comment on when the new version of MS-DOS would be released.

Although Microsoft went to some pain to emphasize that Windows is an "open system," it had to admit that third-party software must be "well behaved" in order to reside in an individual window on the screen.

According to Jerry Dunietz, Microsoft systems-software engineer, programs that circumvent MS-DOS, such as Lotus 1-2-3, will not run inside the window manager. Dunietz referred to these as "misbehaved" programs and admitted that a significant portion of MS-DOS software falls into this category and that such programs would use up the entire screen, instead of appearing in a window. Microsoft's own popular Flight Simulator program, which doesn't require MS-DOS at all, is one notable example of such a program.

In a demonstration for *InfoWorld* at Microsoft's offices in Bellevue, Washington, the company was not able to show any applications except for a simple demonstration painting program running under

the Windows package.

Microsoft's Windows constitutes a noticeable departure in appearance from other window managers previously introduced. The Xerox Star, Apple Lisa and window managers for the IBM PC, such as Visi On, DesQ, ConceptVP and InView, all permit overlapping windows (see related story page 35), with each displaying different programs or documents.

But Microsoft has chosen a "tiling"

functions automatically.

Bulmer claimed that the tiled approach to windowing is a more intuitive and predictable user interface. He says that a user can change window size or position with a single mouse click.

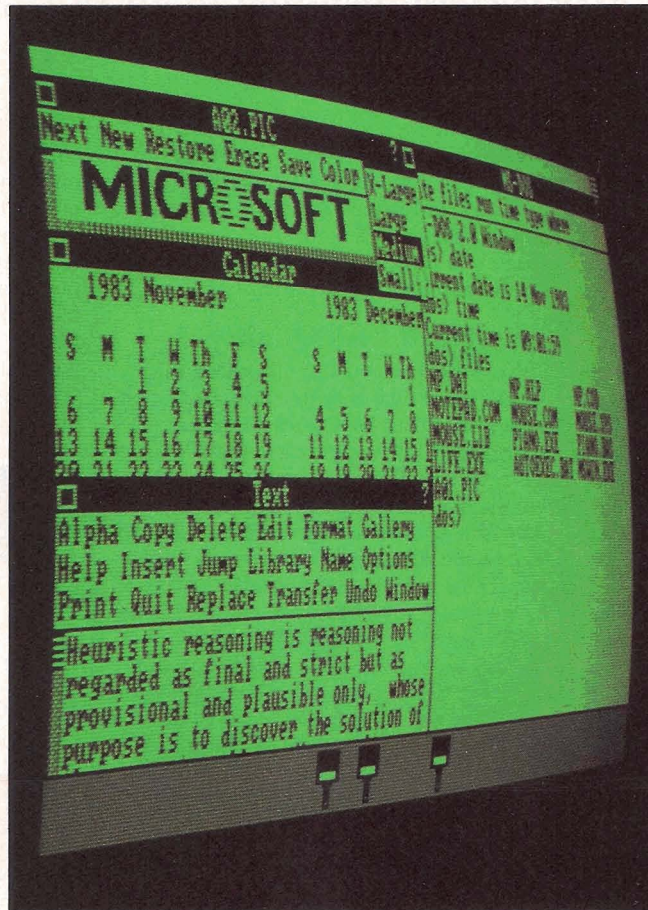
Microsoft's announcement of Windows could put the company in the driver's seat in the integrated software battle between major microcomputer software vendors.

Bulmer expects Microsoft Windows to easily compete with Visi On in the IBM PC and PC-compatible market. "It's a radically different approach than Visi On. VisiCorp has created a special purpose tool for its applications. We consider Windows to be an extension of the operating system. Our approach is that there is only going to be one winner," he said.

Software developers must use a Digital Equipment Corporation VAX minicomputer, which costs more than \$20,000, in order to write software for Visi On. In contrast, developing software to run with Windows only requires the Windows program and an IBM PC. As a result, Bulmer feels that Windows will end up having a wider base of applications software developed for it. "If 90% of the programmers have to develop on something different than the target machine, you don't have an open system," Bulmer said.

One software publisher that has decided to endorse Windows is doing so precisely because of Microsoft's approach of extending the operating system. Fred Gibbons, president of Software Publishers in Mountain View, California, said, "We had to make a decision between VisiCorp and Microsoft. We decided to go with Microsoft because we think windows should be part of the operating system. Today, Microsoft is the company in the operating system business."

Other observers have a wait-and-see attitude. Esther Dyson, editor of *RELease 1.0*, an industry newsletter, noted that the battle isn't over yet. "Simply announcing support for a particular window manager is not the same as actually using one," she said. Dyson said that although Windows has been announced, it is not yet ready for the market and does not yet have applications software. Visi On, after a year of development, is ready with applications software, she said. ●



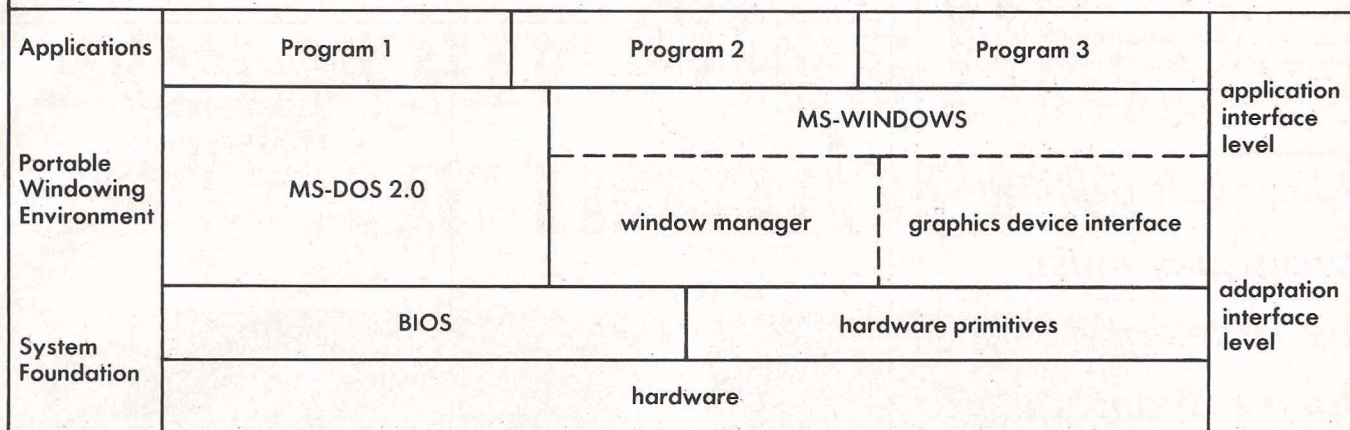
Microsoft's Windows running a painting program.

approach to windowing. In a tiling approach, the screen display is divided into columns, and the columns are broken into windows. Windows has a built-in "automatic window layout" feature that resizes all the windows when the size of any one window is altered, so that the windows never overlap. When one window is placed on top of another window, the covered window is instantly transformed into a pictorial representation or icon, and displayed at the base of the screen.

"It's the metaphor of the neat desktop," said Steve Bulmer, Microsoft vice-president for marketing. He said that after an extended internal debate about the philosophy of designing window managers, Microsoft had settled on a user interface that will handle many window-sizing

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MS-Windows System Architecture



Openness and Integration: What do they really mean?

Just as the personal-computer industry hasn't reached a consensus yet on which kind of mice or windows it favors, it also hasn't made up its mind on the questions of what *integration* and *open system* mean.

In the past month, *InfoWorld* has previewed four recently announced window managers for the IBM PC: Visi On, DesQ, Windows and Inview. A fifth company, New England-based Scientia, which has developed a window manager called ConceptVP, visited *InfoWorld's* offices last week.

After looking closely at all five systems, we noted that all five manufacturers insisted that their systems are "integrated" and "open". It's clear, however, that not everyone means the same thing.

Window managers are one approach in the most recent effort by software developers to expand the function and power of personal computers by integrating different and often conflicting application programs. In fact, integration as a whole is a hotly debated concept. Some developers, such as Lotus Development Corporation or Context Management Systems, feel that the best way to integrate applications is to build program integration — the ability to transfer data and use common commands — into the structure of an application itself, which is the so-called all-in-one approach.

Other developers, such as Apple Computer or VisiCorp, feel that separate application programs (on different diskettes or different areas of a hard disk) should be given a "universal environment" (called a *window manager*) through which data can be passed and

manipulated. Window managers allow personal-computer users to look at several sets of data and programs simultaneously and transfer or translate data. "Windows were an obvious solution to passing data back and forth," says Therese Myers, president and founder of Quarterdeck Software, designers of DesQ.

But what data can be transferred and how it can be moved varies from one window manager to another. From what we saw, the most impressive integration claims were made by VisiCorp who told us,

company has announced a "data interchange protocol." Windows, its window-manager product, will provide a set of predefined (but extendable) data types that will facilitate data interchange. Initially, these types will include "uninterpreted binary," "ASCII text" and "SYLK," Microsoft's data-exchange protocol for Multiplan. Software developers will be able to add customized interchange protocols for their own programs.

Microsoft uses two different techniques for communicating between windows. These techniques supply windows with "intelligence" that allows different windows to query each other to see if something has happened in another window that they should be aware of. Ultimately, this should mean that Microsoft Windows is able to attain the same level of "tight integration" demon-

Integration is a hotly debated concept among software developers, but it's clear that the term 'integration' does not mean the same thing to everyone.

for example, that when Query, its relational data-base manager, is available, the user will be able to select graph, spreadsheet or textual data with a mouse and then move that data simply by pointing to a field in the data base.

VisiCorp claims that data interchange between Visi On applications will be virtually universal. The company is now able to demonstrate data transfer between spreadsheet and graphing programs.

Microsoft, on the other hand, has no application programs ready to demonstrate its program integration, but the

strated by Visi On.

Other window managers, such as DesQ, ConceptVP and InView, achieve "loose," or less intelligent, integration by translating data between incompatible programs. DesQ, for example, can either transfer data directly by copying it from RAM or in a more complex fashion by using a "learn facility" which interprets data types from each program.

Openness also means different things to different manufacturers.

Visi On is perhaps least open, requiring that software developers engineer pro-

grams for Visi On on a VAX minicomputer. Microsoft says that MS-DOS compatible programs will run under Windows, but admits that programs must be redesigned to take advantage of Windows' special functions.

Quarterdeck says that a majority of the

Microsoft admits programs must be redesigned to take advantage of Window's abilities.

programs written for MS-DOS will run with DesQ without modification. In addition, the company will offer development tools for users that will allow the creation of pop-up menus for individual program functions. However, Quarterdeck is not supplying custom applications for DesQ and therefore can only offer "loose integration."

Like Quarterdeck, Scientia and InView are striving to make their environments as accessible as possible to existing applications, as well as attractive to software developers writing new programs. —JM

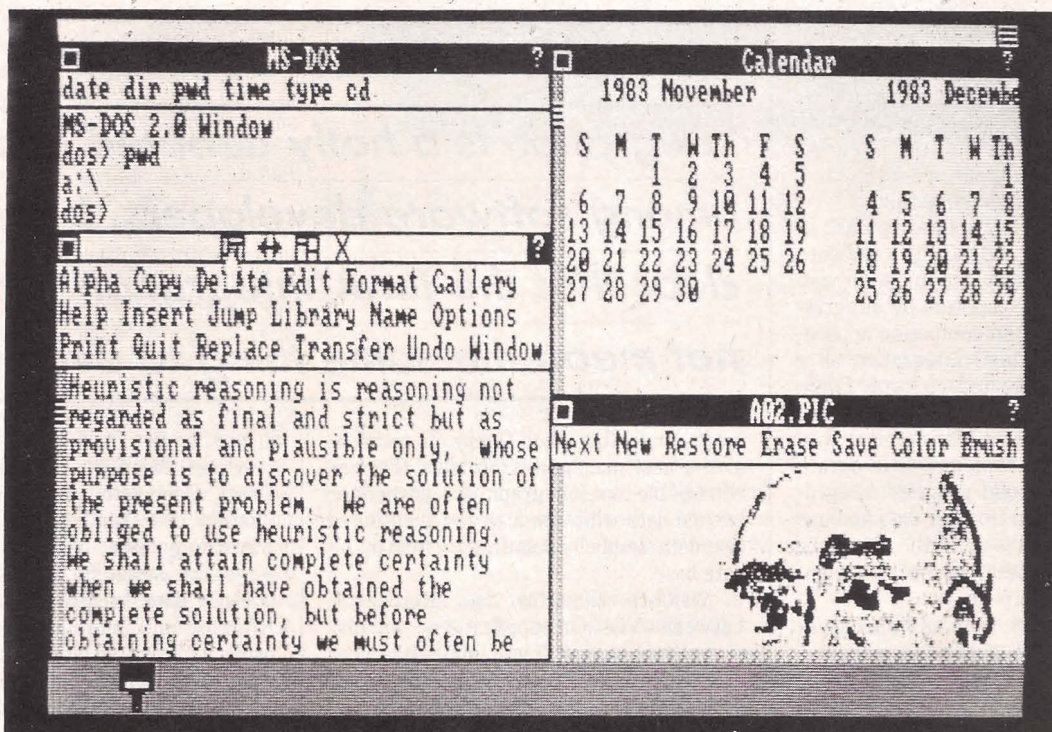
COMPANIES SUPPORTING MICROSOFT'S WINDOWS

HARDWARE

ALTOS
APPLE/RANA
BURROUGHS
COLOMBIA DATA
COMPAQ
CONVERGENT
DATA GENERAL
DIGITAL
EAGLE
HEWLETT-PACKARD
HONEYWELL
HYPERION
ITT
MINDSET
NBI
NCR
POLO
RADIO SHACK
SEEUQA
TEXAS INSTRUMENTS
WANG
ZENITH

SOFTWARE

LOTUS DEVELOPMENT
SOFTWARE PUBLISHING
SOFTWARE ARTS
ASHTON-TATE



The portion of a head in the lower right window on the screen was developed using a "painting" application.