New Microsoft DOS 5. Cures memory headaches fast.

Memory headaches can be a real pain for the PC user. Luckily, there is now an effective cure - the new MS-DOS 5 Upgrade.

Because it can 'load high' (together with network drivers and TSRs†) into upper memory, MS-DOS 5 frees the conventional memory to run all your large applications with greater ease and speed.

Equally important, MS-DOS 5 has been fully tested at over 7,000 sites and is highly stable. It also features a wealth of new utilities which make working with DOS even easier for all users. Plus, it's simple to install, making it possible to upgrade all* versions of MS and PC DOS in a matter of moments - even across a network.

Quite simply, there's never been a better opportunity to standardise all your PCs on one operating system throughout your company – with the added assurance of full software support from Microsoft.

MS-DOS 5 is available for the first time through your local software dealer. As an added bonus it comes with membership to Microsoft's exclusive customer support program, Communiqué. To find out more, simply call the MS-DOS 5 Information Line on (02) 870 2345.

This is the most important upgrade of DOS ever. Microsoft DOS 5. No PC should be without it.
MACINTOSH SPECIAL

APPLE JUICE ••• 8
For two years, Apple has been working on the latest version of its system software for its range of Macintosh computers. The result is System 7.0 — a complete rewrite of Apple’s Graphical User Interface (GUI).

NEVER A MISSING LINK ••• 12
Now that Apple has developed System 7, there is much more that Microsoft and other developers can do to offer applications integration. Microsoft will take advantage of both the standard applications integration capabilities and the foundation for extended integration provided by System 7.

AN EXECUTIVE PROMOTION ••• 17
When Fujitsu Australia decided to develop an Executive Information System for their top managers, they “clicked” on Excel.

PRODUCT LIBRARY ••• 19
Mail
Microsoft Mail for PC networks 2.1 gives you the advanced capabilities that will boost your office productivity today and keep pace with growth and changes tomorrow.

Visual Basic
The Visual Basic programming system combines a rich, event-driven programming model with the world’s most widely used programming language in a tightly integrated package.
June this year didn’t so much mark the beginning of the Winter of our discontent as the Winter of changes. First off, Microsoft moved to new their new offices in North Ryde. Please take note — if you didn’t last month — of the new address and telephone numbers below.

Moves seem to be the order of the day in this season of change; just about the time you receive this issue of Communiqué, Daniel Petre will be heading off to the US to head up the Office Automation team at Microsoft headquarters in Redmond. However, his departure overseas doesn’t necessarily mark the end of Petre’s Perspective, since he’s indicated that he’d like to make a regular contribution to Communiqué. Although his “perspective” in future issues may be from distant shores, in his new position he’ll be able to provide Communiqué with some real insights to workgroup computing strategies.

A departure always means an arrival. David Miller has been appointed as the new managing director of Microsoft Australia. Miller has had 20 years experience in sales and management roles in the computer industry, including managing director at Nixdorf.

So much for the changes and on to the issue in hand.

I was not entirely correct when I said that this was not the Winter of our discontent, for in truth some Communiqué readers who are also Macintosh users have indicated their discontent.

Periodically I receive letters asking for more Macintosh coverage. And at the risk of sounding as though “the lady doth protest too much”, we do endeavor to include Macintosh coverage in every issue of Communiqué. Also, bear in mind that many of the topics addressed in Communiqué are platform independent, for example, our May feature on software theft. Over the past year we’ve included tutorials on Microsoft Macintosh applications; reported on Macworld Expos (both here and in the US); covered the release of the low-end Mac range; and of course, Microsoft Mac product releases.

All that said, would the scales balance if Macintosh coverage and DOS, Windows and OS/2 where weighed? Frankly no. But I’d like to point out something and that’s Microsoft’s GUI crusade.

Microsoft is intent on promoting the benefits of graphical-based PC computing, and have been for quite some time. Microsoft intends to deliver on its vision of “information at your fingertips” and GUI computing is the foundation of that promise. This GUI crusade becomes, in the case of Macintosh users, pretty much a situation of “preaching to the converted”.

From the beginning, Mac users have had the benefits of GUI. With Windows 3.0, DOS users can have the benefits of ease-of-use and consistency DOS-based computing never had.

But that doesn’t mean there isn’t room for improvement and you can help. Take the time to write me and let me know what kind of Mac-related stories or information you’d like to see in Communiqué. I can best address your needs when I know them.

In the meantime, Mac users, this issue’s for you. Now I won’t mislead you and tell you this issue is totally about the Mac, but the scales weigh out in favour of Mac users for this round.
Opening the window on multimedia

Microsoft has announced details of its multimedia systems software products. Microsoft will deliver its multimedia systems software in two forms: a developers' kit, called the Multimedia Development Kit, and a set of operating systems extensions (which will generally be sold with multimedia hardware). This software is formally called Microsoft Windows graphical environment 3.0 + Multimedia Extensions 1.0, and informally known as the Multimedia Windows environment.

Multimedia Windows, which was publicly demonstrated for the first time last November at the Microsoft Multimedia Developers' Conference, will be shipped as a final adaptation kit in June to hardware companies, who will in turn provide the systems software as part of their Multimedia PCs and Multimedia PC Upgrade Kits. Multimedia PCs incorporate sound, animation, near-photo-quality imaging and the massive storage capability of CD-ROM, allowing them to run applications and titles that are more appealing and engaging than traditional PC applications. The first Multimedia PCs are expected to begin shipping later this year.

Open Tools strategy expanded

Microsoft is expanding its Open Tools strategy to add capabilities to the Microsoft Windows graphical environment and provide tools developers with technical documentation on Microsoft's object architecture.

Microsoft's object architecture is a set of information and formats for the object model that Microsoft will implement in its future development tools. There are two key components of Microsoft's object architecture: the first is the object mapping specification, which defines the implementation for classes and how they are laid out in memory.

The second component is the Microsoft CodeView 4.0 Object Module Format (OMF), which conveys information about object-oriented files for use by debuggers, linkers and other utilities.

By making Microsoft's object architecture formats available to tools developers, Open Tools will encourage better and more powerful object-oriented Windows development tools, and will promote compatibility and interoperability among those tools.

Microsoft's Open Tools strategy, announced Nov. 7, 1990, included giving developers access to the details of the Windows environment through technical documentation on internal Windows formats, as well as adding Windows application programming interfaces (APIs) specifically for writing tools. Tools using these APIs will create applications compatible with Windows version 3.0, and the APIs will continue to be updated to work under the Windows environment version 3.1.

The expanded Open Tools strategy allows tools vendors to licence for redistribution with their development products certain components of the Microsoft Windows SDK, including header files, symbol files, Windows help compiler, import library utility, resource compiler, object linking and embedding (OLE) client and server DLLs, and the dynamic data exchange (DDE) manager library.

Several other features for tools developers have also been added to the Open Tools strategy: an additional dynamic link library, including new APIs; guides for compiler and debugger writers on how to utilise these APIs, and documentation on Microsoft's object mapping layer and the Microsoft CodeView debugger formats.

Open LAN Manager Council formed

Twenty-four companies have formed the Open LAN Manager Council with the objective of insuring interoperability between OEM versions of Microsoft LAN Manager.


"The formation of the Open LAN Manager Council underscores the widespread commitment to LAN Manager as a major standard, with users standing to gain the real benefits of the multi-vendor co-operation," said Microsoft managing director, Daniel Petre.

Currently, users can operate a mixed, multi-vendor network of LAN Manager solutions, with interoperability between IBM LAN Server and LAN Manager OEM versions for OS/2, Unix and Vax/VMS operating systems. The council's formation is partly a result of corporate customers' expressed interest in helping ensure continued interoperability in these environments.

During the first meeting of the council, the members discussed how to better promote this interoperability and how to work together to help guarantee future interoperability. The meeting also discussed ways to promote the development of client-server applications that will run transparently on different versions of LAN Manager.
Doesn’t your PC deserve DOS 5.0

If you were “dozing” last month and missed the opportunity to pre-order the MS-DOS version 5.0 Upgrade through Communiqué then you’ll be glad to know that it’s available now through Communiqué upgrades or at your local retail outlet.

This upgrade lets you run larger applications, navigate more easily through files, and switch quickly among applications. And because it’s from Microsoft, you also get direct support from Microsoft.

The DOS 5.0 Upgrade won’t install on your computer if you don’t already have DOS, but it will upgrade your existing DOS — any version 2.11 or higher from any PC manufacturer. It installs quickly, even from a network, across different PC hardware.

Installing this operating system upgrade on any PC with an 80286 or higher processor automatically gives applications more room in which to work. You can run larger applications with more space for data, because MS-DOS automatically loads itself into extended memory, freeing up at least 45K of conventional memory for applications. On a PC with an 80386 or higher processor, you can also load network software, drivers and TSRs into the upper memory area.

A graphical shell makes interfacing with MS-DOS intuitive. And on-line Help from the graphical shell or the command line interface puts MS-DOS help at your fingertips. A full-screen editor with drop-down menus makes editing text files simple.

The upgrade is also loaded with new features designed to save time and keystrokes. You can recover critical files that have been deleted with the undelete command. You can format disks safely — and fast — with unformat and quick-format utilities. With the new task-switching capability, you can have multiple DOS applications open simultaneously, and with a single keystroke jump from one application to another. And GW-BASIC has been replaced with MS-DOS QBasic Interpreter, a subset of the fast, structured Microsoft QuickBasic programming system.

Recommended retail price: $135 (Licence Pak $108)
Communiqué price: $105 (Licence Pak $78)

DOS 5.0 Hotline
(02) 870 2345

The Postman always rings 2.1

Microsoft Mail has a new entry in the electronic mail category: Microsoft Mail for PC networks version 2.1. Microsoft Mail for PC networks takes full advantage of the Windows graphical environment.

The powerful messaging features in Microsoft Mail for PC networks let you communicate quickly and effectively. It offers seamless cross-platform support, especially when used with Microsoft Mail version 3.0 for AppleTalk networks, our Macintosh electronic mail package.

The enterprise-wide design of Microsoft Mail for PC networks means it’s easy to install and use on a network of virtually any size.

Microsoft Mail for PC networks comes in one server version and two client versions that support the Windows graphical environment and DOS systems.

Microsoft Mail for PC networks is the best way to make your organisation more productive today. See page 19 for more details about Microsoft Mail for PC networks.

It’s Basically the best

Microsoft has released Visual Basic, a powerful Windows-hosted programming system that combines graphical interface-design tools and a proven general purpose programming language. It is the fastest and easiest way to create and integrate real Windows applications, because you can just point, click, and drag to create graphical interfaces. You write code only for the functional core of your applications.

Visual Basic combines graphical form design tools, incremental compilation, integrated debugging, and a powerful, event-driven programming language to provide a high-productivity solution for developing Windows applications.

For a more in-depth look at Visual Basic see page 20.
Now the fastest way to write any Windows application is to draw it.

Introducing Visual Basic from Microsoft. A revolutionary new programming tool which allows you to create sophisticated Windows applications in record time.

Visual Basic cuts out the time consuming process of writing code for a graphical interface. By letting you draw it instead.

Now all you have to do is point, click and drag to draw the form. Then simply add controls and include code.

Nothing could be simpler or quicker.

What's more, Visual Basic is as flexible and powerful as you want it to be.

It's equally effective for writing complete Windows programs or for integrating applications through Dynamic Data Exchange or calling other applications through Dynamic Link Libraries.

Programs that once took days to complete now take a few hours. Isn't that reason enough to find out more?

For further details contact your local software dealer today. Alternatively, phone (02) 906 4366 or complete the coupon below and mail or fax it to us on (02) 906 4302 for your free Information Pack.

Please send me an Information Pack on Microsoft Visual Basic.
To: PO Box 583, Crows Nest, NSW 2065.

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Nature of Business 

Microsoft
Making it all make sense.
**A Harvard graduate**

Microsoft has announced the HG Translator, a new software utility for Microsoft PowerPoint for Windows presentation graphics program. This utility enables users to quickly and easily convert existing presentations created with Software Publishing Corporation’s Harvard Graphics software into editable PowerPoint presentations.

The HG Translator lets users translate one file at a time or many files at once. To take advantage of the PowerPoint program’s capabilities to combine many slides into a single presentation, the HG Translator allows users to select multiple Harvard Graphics files and automatically consolidate them into a single presentation. (In Harvard Graphics, each visual is a separate file.)

While the goal of the HG Translator is to faithfully translate Harvard Graphics files, it also allows users a wide range of editing choices once the translation process is complete.

Text, bulleted text, data charts, organisation charts, drawings and even templates are editable once converted to PowerPoint. Harvard Graphics template files used to create SHW (Show) batch files will translate to Master Slide elements within PowerPoint.

To use the Translator, the user simply selects the file(s) for translation, chooses a destination and a name for the new PowerPoint file, and initiates the translation process. Once converted to a PowerPoint file for Windows, the presentation can also be moved to the Macintosh version of PowerPoint by a separate translation utility.

The HG Translator is now shipping with Microsoft PowerPoint for Windows. The Harvard Graphics program does not have to be loaded on the user’s system in order to translate Harvard Graphics files. The HG Translator will also be available to licensees of earlier versions of PowerPoint for Windows in late July directly from Microsoft at a cost of $15.

**New campus, new courses**

The Microsoft Institute of Advanced Software Technology (MSI), now at its campus at Microsoft Park in North Ryde, has released its new course schedule running through September 1991. Three new courses have been added: LAN Manager Program Development, which teaches the process of writing a network application using the LAN Manager application programming interface; SQL Server Management, a course developed for systems engineers or SQL Server implementors who need to implement, administer and optimise Microsoft SQL Server; and Object-Oriented Programming in C++, designed for C programmers who work on DOS, OS/2, Unix, Xenix or VMS systems and who want to expand their knowledge of object-oriented programming through the study and application of C++. For additional information on all the courses and enrollment details, contact the registrar on (02) 870 2250 or fax 870 2255.

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**A core business solution**

The Microsoft Office version 1.5 for the Apple Macintosh won’t take a bite out of your budget, but it will take the bite out of handling arduous business tasks, because it combines four business applications in a single, economical package.

The four applications in The Microsoft Office address the essential software needs of general business users. Version 1.5 includes new releases of Excel version 3.0 and Mail version 3.0 for AppleTalk networks. In addition, the package contains Word version 4.0, the overall best-selling Macintosh application, and PowerPoint version 2.01.

Version 3.0 of Excel, the leading spreadsheet software for the Macintosh, takes full advantage of Apple’s System 7, including such features as Publish & Subscribe, Balloon Help, AppieEvents, virtual memory and TrueType scalable font technology.

Mail for AppleTalk networks version 3.0 provides enterprise-wide connectivity across AppleTalk networks of any size. The Microsoft Office contains only a client version of the software; at least one set of Microsoft Mail server software must be purchased separately and installed on a Macintosh workstation on the network.

Word version 4.0 is designed for ease of use by novices and power users alike. Word 4.0 has optional automatic repagination, editable WYSIWYG page view, a powerful table editor and the ability to flow text around prepositioned text or graphics on the page. It supports a wide variety of PC and Macintosh file formats, and provides automatic linking with Excel and Mail.

Microsoft PowerPoint version 2.01, the first presentation graphics program for the Macintosh, is designed for easy creation and management of slide and overhead presentations by business users.

The Microsoft Office contains disks and full documentation for each of the four products. The Microsoft Office version 1.5 for the Macintosh has a suggested retail price of $1,225. The Microsoft Office is also available in a multiple Microsoft Licence Pak version. Designed for companies that already have original manuals but need additional licensed copies of software, the Licence Pak is available for $980.
More fonts for your money

MoreFonts is a font scaling product that enables Windows 3.0 to create any size font you want with your choice of special effects. Your font selections are scaled "on-the-fly" as needed and can be used with Windows applications such as Word for Windows and Excel. It works with your Windows printer driver, so you can print your documents on everything from dot-matrix to PostScript laser printers.

The MoreFonts package includes 14 typefaces and you receive 11 additional fonts upon registering. All 25 typefaces may be scaled to any size possible on your printer. You can also select any number of special effects. There is a choice of 27 fill patterns, six outlines, eight shadows and 28 background effects.

MoreFonts is distributed by Data Image and has a recommended retail price (RRP) of $295. Display Faces, an optional package containing 26 additional typefaces is priced at $395. Users may purchase the two products bundled together for $590.

Data Image is making a special bonus offer available to Communiqué members. Members who purchase MoreFonts at the RRP of $295 will receive the Symbols I Set from Display Faces for free. This Set has an RRP of $99 and includes Zapf Dingbats, Greek, Math and Scientific characters. This offer is in effect through September 30, 1991. Communiqué members should contact Data Image at: Phone (02) 317 4511 • Fax (02) 317 4512.

Colour separations in sight

Insight Systems' Publisher's Prism, available locally from Alkira Electronics, is a Windows 3.0 compatible program that can colour separate any printable PostScript page, including composites of text, vector graphics, scanned images, and/or captured screens. It can produce colour separations on any Adobe PostScript engine, including high resolution imagesetters.

The packages allows both the novice and the professional to produce top-flight colour documents without having to sacrifice quality, and at a considerable saving in cost over conventional techniques, according to the company. Industry standard default settings are provided that enable even the novice user to produce professional quality results in most situations.

Implemented under Windows 3.0, Publisher's Prism provides automatic sequencing of dialog boxes and context sensitive help screens. The program is organised to parallel the way a user naturally thinks when doing colour separations. Help screens are presented with an active dialog box still present. The product also runs under DOS and in the DOS compatibility box of OS/2.

Publisher's Prism has a recommended retail price of $975, but Communiqué members can save $100 on the product. Alkira is offering this special price ($875) to Communiqué members through September 30, 1991. Communiqué members should contact Alkira Electronics at: Phone (02) 975 4423 • Fax (02) 975 4909.

A Windowing combination

Microsoft has combined the Microsoft C Professional Development System 6.0 and the Microsoft Windows Software Development Kit (SDK) into a single package. The package will also include the recently released single-monitor CodeView for Windows debugger and extended-memory compiler. It includes all the tools you need, including the Windows debug kernels, that make debugging Windows applications easier. The package also includes tuning tools, such as Spy and Heap Walker, that assist in making your product perform.

The combined package will sell for a recommended retail price (RRP) of $1195, as compared to the RRP of the two individual products at $1550. This represents a 22 percent saving.

Minimum system requirements for the dual product package are an 8MHz 80286-based computer or higher running DOS; 640K memory (550K of extended memory is recommended for debugging large DOS applications); one 5.25 inch high density disk drive or one 3.5 inch double-sided disk drive; and a hard disk with 5Mb available.

The primary monitor requires a CGA, EGA, VGA, 8514/A or Hercules graphics adapter card (or compatible); the secondary monitor (used for dual monitor debugging) can have a monochrome adapter card. In addition, the Windows SDK requires Microsoft Windows 3.0 and some development tools require the Microsoft mouse or compatible pointing device.

The Microsoft C Professional Development System will also run under OS/2 version 1.1 or later with a minimum of 3Mb of memory.

Networking network managers

Network administrators facing an array of complex issues can find support at the Australian LAN Manager User Group (ALMUG) meetings now being held in the Sydney area. The ALMUG was formed from the 3Com User Group after Microsoft absorbed 3Com's network operating system business earlier this year.

"We are greatly relieved that Microsoft has given users a very clear direction with Microsoft LAN Manager 2.0, which we believe is an excellent product and technically superior to any other in the market," said ALMUG vice president, Graeme Le Roux. "The user group committee is looking forward to working with Microsoft, which has already shown a great commitment to supporting the group's activities."

The group hopes that a number of similar groups will be set up in other major centres so that an Australia-wide support network can be established. In addition, as membership grows, they would like to expand their activities to include regular seminars and an annual conference.

Membership to the ALMUG costs $35 per year, plus an initial joining fee of $15. All members receive a regular newsletter which covers the technical issues facing network administrators and the options available to them. Meetings are held at 6:30pm on the second Wednesday of every month at the Crown Nest Club, 31 Hay Street, Crown Nest, Sydney. Membership enquiries should be directed to: The Secretary, Australian LAN Manager User Group, PO Box 781, North Sydney, NSW 2059.
System 7.0's new features bring powerful capabilities and greater ease-of-use to Macintosh computers, says Apple. While some Mac users may take a wait-and-see attitude about System 7.0, many more will find themselves falling in love once again with the operating system they first fell in love with — whether it was yesterday or years ago. Of course, GUIs are a matter of taste, and so is the Macintosh implementation of the GUI idea, so there will be some people who will never be convinced.

Nevertheless, whatever your final decision is, System 7.0's here. So what exactly can users expect from it? Is it an overkill? Are the new features useful? The quick answers are: plenty, no and yes. But if you'd prefer a bit more information, read on.

The basis of the new software is contained in what Apple describes as "core technologies". It was these core technologies which Apple announced two years ago, and finally delivered on May 13th, 1991. They are:

1. **Finder 7.0** — the Finder has been upgraded significantly, and is more than ever the basis of the way the Mac works. Under System 7.0, Macintoshes work continuously in the equivalent of the old MultiFinder. This is the main reason that System 7.0 requires at least 2Mb of RAM (the system software itself generally uses at least 1Mb).

2. **File sharing** — with many users implementing networks and workgroup environments, file sharing will be one of the more popular parts of System 7.0. Users will be able to control who has access to what parts of their hard disks via a simple access control panel.

3. **Virtual Memory** — although available as a third-party option, Apple has integrated Virtual Memory into System 7.0. Virtual Memory allows disk space to be used as if it were normal memory.

4. **TrueType Fonts** — the latest offering in outline font technologies, TrueType was co-developed by Apple and Microsoft, and is these companies' answer to Adobe Type Manager. If you thought a new technology wouldn't have industry backing, think again. Apple and Microsoft gained widespread type industry support for TrueType well before the finalisation of the standard.

5. **Multitasking** — under the MultiFinder, the Macintosh could run several applications at once, but each one had to take control of the CPU when it was the currently selected application. Under System 7.0, programs are run under co-operative multitasking. This allows applications to share cycles of the CPU, with the selected application generally gaining the largest slice of the CPU cycle pie.

continued page 10
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Apple juice... continued from page 8

6. InterApplication Communications (IAC) — Apple has introduced a new way for applications to communicate and co-operate. IAC opens the possibility of smaller, more specialised applications from software developers, which can be put together by the end user to gain a suite of semi-programs (or, as they are sometimes called, "engines") which suit their needs as closely as possible.

Another part of IAC is Publish and Subscribe, which allows for the smoother flow of information between applications. Once a file is "Published" by the exporting application, and "Subscribed" to by the receiver, any changes to the original file will be incorporated within the receiving documents. Publish and Subscribe works like a dynamic Cut and Paste, a concept familiar to most Mac users.

7. Data Access — for many corporate users, access to databases on mainframes and network servers can be difficult simply for the number of different platforms and database programs. System 7.0's Data Access Manager performs much of the work when accessing these databases, and delivers a consistent interface for both the user and developer.

What's in it for us

We talked to three corporate Macintosh users, and will detail their thoughts on various aspects of System 7.0 and their companies' policies regarding the upgrade. They were: Stan Monkley, national director, Information Technology, KPMG Peat Marwick (2,000 Macs, 500 PCs); David Cox, PC support manager, Lend Lease (400 Macs, less than 100 PCs); and Pat Smith, MLC Info Centre consultant (25 Macs, 500 PCs). Uses within these organisations ran from mail preparation to proprietary auditing software, mainframe accesses, tender controls, desktop publishing and presentations.

To start finding the advantages in System 7.0, the user must examine the part of the system which they first see — the Finder.

Numerous features have been implemented in Finder 7.0, with many of them being the small annoying little traits everybody always asked to be fixed. The user has much more control over the appearance of the desktop. Not only can they determine the way icons are placed within windows, they can also change the filename font and size or choose to display various file attributes in list views. Other improvements come into play where the old Font/DA Mover did its work. Labels can be applied to files to allow easy grouping of files, folders and applications.

Directory trees can now be displayed by clicking on the triangle at the left of folder icons in list view. This makes navigation in large directories a breeze, as does the scrolling of the window as a file is taken past the limits of the window.

Apple has removed the need for the Font/DA Mover by implementing many of its features (and a few extra ones) into the general Finder interface. To install Fonts, DAs, Control Panels, Sounds, System Extensions, Startup files and the like, the user just drags them onto the System Folder icon. The Finder then presents a dialog detailing where the selected files should go within the System Folder. The user selects whether to place them in their respective folders, and they are then available to the user.

One of the most noticeable outcomes of this is that any valid Finder files (folders, data files, applications, normal DAs, etc) can be placed in the Apple Menu Items folder, and when the user pulls down that menu, there they are. This could be used to give the end user a ready-made menu of their most frequently used files, folders and applications, and they don’t have to go searching throughout their hard disk.

While we're on the subject of searching through hard disks, there are two new features in System 7.0 which make file maintenance a lot easier. The first is the concept of aliases. Basically, an alias is like a road sign pointing somewhere — an alias points at where a file is — all a user has to do is double-click on the alias of a file, and the original file is opened up. The alias will find the required file even if it has been renamed or moved on the hard disk or to another disk, and they can work across networks.

The other feature is the "new and improved" find file option now available under the File menu in the Finder. This allows for more detailed, and refinable, searches throughout a hard disk drive. DAs and Control panels can now be opened directly from the desktop like any other program,
allowing them to be placed anywhere on a hard disk while retaining their functionality.

The Finder is now easier to use than ever, with many features users felt were not intuitive enough now “coming to the fold”. Both Stan Monkley and David Cox considered the new Finder an important part in their companies’ moves towards System 7.0. David Cox said, “It allows our users to increase their productivity without going overboard with the new features.” Stan Monkley “found the Finder easier to use — if you can believe that.”

**File sharing**

Another prominent sentiment from the companies was the welcoming of the File sharing capabilities of System 7.0. Semi-related to this was the all-round support for Publish and Subscribe, which can work with shared files as well as on a single machine.

System 7.0’s File Sharing capibilities go well beyond the basic AppleTalk compatibility of previous system software. Users are able to control which parts of their hard disk drives can be accessed, and different areas can be assigned to different remote users. Applications can also be shared, allowing for basic file servers to be established. This does, however, raise the question of several users accessing the same program at once in contravention of copyright privileges. This system also won’t deliver anywhere near the performance levels of a dedicated server.

File Sharing will help in the current trend towards “workgroup computing” by making group information easier to handle and manipulate.

**All that (other) jazz**

Although the “other” features were less prevalent in the companies’ criteria for upgrading, many users will upgrade for a single feature and/or temporary solution to RAM-cram — too many programs, not enough memory. By assigning an area of disk space to be considered as RAM, Apple claims users can generally double their available RAM without significantly affecting performance. Each machine is different, as are users’ needs, and the optimum amount of Virtual memory for the individual can only be found by trial and error, and may end up being zero kilobytes.

True Type will be especially useful in the graphics and DTP field, as it offers clean, crisp type at any size on the screen. TrueType will come into its own as more and more font vendors and printer manufacturers begin releasing TrueType compatible products.

Although many users will welcome the implementation of multitasking under System 7.0, others are still worried about the co-operative nature of the multitasking. This generally means if one program crashes, the others are fairly likely to as well (co-operative multitasking is the type used by Windows). Users will find problem software fairly quickly, as they have with previous system upgrades, and problems will generally be rare.

**But what’s it going to cost**

For many users, the cost of upgrading their Mac to be System 7.0 ready would seem prohibitive, as would the $140 price on the disks and manuals. It is perhaps telling that all three of the companies we talked to planned to upgrade all of their machines to System 7.0, with those machines requiring additional hardware to be upgraded over the term of the installation. This included upgrading their off-the-shelf software once versions which utilise System 7.0 capabilities are released.

System 7.0 is the latest in “hi-tech” GUIs, and what is expected to be a high market acceptance should see it succeed in the Mac marketplace.
Never a missing link

Microsoft applications for the Macintosh integration strategy

Microsoft has been committed to making applications software packages work better together since the early days of personal computing. We have learned much from our large base of customers, many of whom have used not just a single Microsoft application, but several of our applications since 1986. We have learned that people need to share data among different applications programs, communicate and share data within workgroups, and access data from remote locations. The more consistent the application support for each type of information exchange, the more frequently that exchange is performed.

On the simplest level, the Macintosh has always given users the ability to share information among applications developed by different vendors. The Mac has provided consistent data sharing through the use of the clipboard.

A more sophisticated form of data sharing has been available in the most recent versions of Microsoft Word and Microsoft Excel. This "warm link" functionality allows a user to share information created in Excel with a document created in Word. For instance, a user can take a chart created in Excel and paste that chart into a Word document. When the chart is updated, the user simply highlights the chart in the Word document and chooses the Update Link command. Word follows the link back to Excel, grabs the data and updates the chart in Word. This is a simple but useful form of data sharing that has been available for several years.

People also want to share information within workgroups. Microsoft Mail provides a transport mechanism for the exchange of files as well as messages. We have put Microsoft Mail on the menus of both Word and Excel to allow people to quickly and easily communicate with one another. By doing this, we have begun to break down the barriers between applications and communications software. Other companies such as Aldus have recognised this potential as well, and have integrated Microsoft Mail into their product lines.

We have also tried to make the data formats that can be exchanged, richer. Tables are an example. Word has a table editing feature and Excel is based on a table metaphor of rows and columns. When you cut-and-paste cells between Word and Excel, in both directions, the cells still behave like a table, instead of turning into text, as happens with most software packages. This is one preliminary step toward defining richer data objects that can be exchanged between applications and still work the same in each application.

These basic steps toward integration were reasonable improvements for their day, but today's users want more. The next steps require more support from the operating system. This support will come in the form of consistent facilities for all applications, simplifying integration for the end user, and making integration easier for developers. Now that Apple has developed System 7, there is much more that Microsoft and other
to handle basic data sharing. In many ways, Publish and Subscribe will replace or enhance many uses of the clipboard.

Publish and Subscribe is a step up from Copy and Paste because it doesn't just move data between documents and applications with a series of simple steps, a "live" copy of selected data from one document can be placed in another document or application. Whenever the original publisher data gets modified, the subscriber will automatically get updated as well.

Because Microsoft will support System 7 technology in all of its Macintosh applications, users will be able to use Publish and Subscribe's simple data sharing capabilities — such as including sections of commonly used text in a Microsoft Word document — when two-way links for exchanging information aren't necessary. For example, at Company XYZ, every promotional piece of literature that goes out must contain appropriate trademark and copyright information. The legal department created this section of text and published it for use by anyone developing material to be used outside of the company. Occasionally, the legal department changes the information. With automatic updating, users don't need to recopy and repaste the information in all of their files.

**Apple events**

Another important standard capability System 7 offers is Apple events — messages that applications send to one another in memory. Apple, working with many vendors including Microsoft, has defined a set of standard Apple events that all applications should respond to. Microsoft plans to implement support for the required Apple events.

In addition, Apple events provide a general-purpose mechanism for application vendors to easily implement additional integration features. These features can be used consistently by different vendors' products. Microsoft is making additional use of Apple events to extend the ways our products work together. These additional custom-defined Apple events will be available to all other developers.

**Two-way links**

Dynamic Data Exchange (DDE) is one well-defined specific use of new Apple events. Establishing live two-way communication between applications in a standard way is the purpose of DDE. This allows applications to exchange data without writing an intermediate file. This is important for establishing real-time data links or close co-operation between separate applications, and allows particular applications to work in an integrated fashion.

DDE is a protocol which runs on top of Apple events. The user will see the additional functionality provided by the implementation of DDE. This protocol is particularly helpful...
in that it allows developers to create applications that interact directly.

Microsoft plans to support DDE because it will allow large corporate installations and will allow Independent Software Vendors (ISVs) to create custom applications that go beyond the scope of the general productivity applications that Microsoft provides.

We intend to implement some extensions to our own products with DDE, once System 7 is widely used in the Macintosh installed base. One example is the Solver in Excel version 3.0. Using an applications programming interface (API) intended for developers that work with both System 6 and System 7, Solver reads data from, and gives new data to, Excel 3.0 as it performs multiple iterations to solve optimisation problems that answer "what is best" questions instead of "what if" questions.

**Compound documents**

Object Linking and Embedding (OLE) also uses specific new Apple events to enable applications to appear to users not as separate applications but as new features of other applications.

The "embedding" of OLE provides true object-oriented compound documents. For example, a word processing document might contain sound, a chart, a drawing, and a small spreadsheet. Double-clicking on the sound icon plays the sound. Double-clicking on one of the other objects, say the drawing, allows the user to edit the drawing with the application that created it, without leaving the word processor. When the drawing is finished, the complete drawing, not just the quickdraw clipboard data, is actually stored inside the word processing document.

Notice in this example there are no separate files involved. Rather than sharing information, the user shares tools. To be more descriptive, the user views the drawing, called the OLE server, as an extension of the word processor itself — which is the OLE client in this example. Any application that implements OLE can be server, client, or both. OLE server applications do not need to be "aware" of whether they are reading or writing sound, text, or data. This makes for highly leveraged development by preparing an application to become a server, client, or both.

While Publish and Subscribe easily shares data in files created by separate applications, OLE allows one application to become an extension of another. Users get a big benefit — instead of drawing, charting, or sound being implemented differently as features in various packages, these "features" are available in lots of applications and work in exactly the same way.

Microsoft intends to implement a variety of feature extensions to its products using OLE. We plan to make our primary applications work as both OLE clients and servers. Finally, we have published the specifications and are developing libraries so that other developers can easily implement OLE in their applications.

**Sound as an annotation**

The sound capability in all the new Macs can be used to add notes to nearly any kind of document. One example is a spreadsheet template for budgeting that the finance department sends out. Notes on the spreadsheet actually tell you how to fill in the personnel plan. Just double-click on the note and listen to it. With a shift-double-click, you can include a message to send back to the finance department which asks for more personnel authorisation.

**Integration strategy**

Microsoft's vision, a vision that underpins both its systems and applications strategy, is to make personal computers easier to use and to make users more productive. That is why we are committed to the graphical user interface (GUI) and to the integration of our applications — regardless of the operating system for which they are developed.

The graphical user interface of the Macintosh and Windows makes personal computing more personal and less intimidating. As a result, people tend to use more applications and use them to a greater depth. The graphical user interface also permits a wide variety of rich, full documents that can incorporate any combination of typefaces, photos, graphics, and automatic links to further information.

When applications work together, users can easily find and manipulate all the data that goes into their documents. The better integration of personal computer applications will
make both individuals and groups more productive.

Applications integration has been a focus for Microsoft ever since we shipped our initial applications for the Macintosh. Now with more products shipping or anticipated — including word processing, spreadsheet, presentation graphics, database management, project management, electronic mail, seasonal and workgroup scheduling, and integrated software — applications integration is even more important. System 7 enables developers to extend applications integration by providing the underlying operating system support and the flexibility to define more advanced forms of applications integration. Microsoft is committed to supporting System 7 in its major product upgrades, including support for Publish and Subscribe, Apple events, Dynamic Data Exchange, and Object Linking and Embedding.

More importantly, Microsoft is committed to all personal computer users, whether they prefer DOS/Windows, OS/2 and Presentation Manager, or the Macintosh.

Microsoft believed in the Macintosh from the beginning. We believed in Windows from the beginning. We believed in the potential of OS/2 as a mission-critical operating system from the beginning. And, of course we believed in DOS from the beginning. We will continue to protect the investment millions of users have made in Microsoft's operating systems by continuing to enrich and grow DOS, Windows and OS/2 and our applications for those platforms. We will also continue to support the Macintosh environment to its fullest capabilities.

We believe in our vision of personal computing, and that vision includes all personal computer users.

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**The medium does the massaging**

Thousands of dollars of productive time are lost weekly because people are re-keying information from their mainframe into their PCs. In many cases this tedious and manual process is necessary because of short-comings in connectivity software.

An Australian organisation says they have a solution. Access Informatics recently released Transform Reports which they describe as a connectivity enhancement application for Apple's Macintosh. It acts as a "filter" — opening reports captured from mainframes and minis, and "transforming" and saving this information ready to be loaded into applications such as Microsoft Excel 3.0 for further manipulation.

In theory connectivity solutions allow reports to be transferred from mainframe to personal computer without the need to re-key information. In practice it isn't always so smooth.

Many downloaded reports require extensive "massaging" (using "search and replace" in Word for example) before they can easily be loaded in to Excel. Often the biggest challenge is to eliminate the variable number of spaces between columns of data and replace them with the tabs expected by popular applications. Users must also manually removed extraneous lines such as banner pages and field headers.

According to the people at Access Informatics, with Transform Reports, Macintosh users can...
The medium does the massaging..... continued from 15
quickly specify the changes required and automate file transformation. The product allows the user to initially work on a sample of the file. This makes development and testing of file changes a fast, interactive process. When satisfied with the results a user can easily apply changes to the entire report. Users specify which lines to retain using Transform Reports' pattern matching abilities. This system uses the powerful regular expression pattern matching syntax as used in Unix utilities, such as grep and sed.
Transform Reports takes advantage of Apple's System 7 functions such as "Balloon Help" and "Publish and Subscribe". It follows follows Excel 3.0 to market in supporting these System 7 functions.
Using "Publish and Subscribe" dynamic links can be established between Excel 3.0 and Transform Reports. In this way updated captured reports can be "transformed" and "published". An Excel worksheet which "subscribes" to this information is instantly updated. An effective Executive Information System (EIS) can be developed by linking Excel 3.0 and Transform Reports using "Publish and Subscribe".
Transform Reports also takes advantage of background processing available under Multi-Finder or System 7 to transform files while freeing the Macintosh for other tasks.
Transform Reports is available for $199 for a single-user license. workgroup and network licensing is available. For more information phone Access Informatics on (02) 555 8414 or fax them on (02) 555 8235.

Ready, willing and able
Microsoft Excel version 3.0 provides full support for Apple's new Macintosh System 7.0. Much of Microsoft Excel's support for System 7.0 takes place "behind the scenes", but let's take a look at some of the ways in which System 7.0 and Microsoft Excel version 3.0 combine to help you work faster and better.

Balloon Help
By choosing Show Balloons from System 7.0's new Help menu, Excel users can point to objects on the screen and get information about that object from a pop-up "balloon." Suppose you've forgotten how to use one of the icons on Excel's new Toolbar. Simply enable Balloon Help and point to the icon in question: a balloon will pop up and give the information about how to use that icon. You can also use Balloon Help to help you understand menu items or other parts of the Excel screen. First time users to Excel version 3 will find this feature particularly useful. Turn on Balloon Help, and take a screen tour with instantaneous "balloon" feedback about each of the features and icons.

Aliasing
Oftentimes, files are renamed and moved around on your hard disk. Or, you may be storing your files on a file server. With its new Aliasing feature, System 7.0 will track files no matter where you move them, even if you rename them. This is a particularly useful feature if somebody accidentally moves your files around.

Publish and Subscribe
Sometimes several documents contain the same piece of information. When that shared information changes, wouldn't it be great if you only had to make the change once and all the documents would be automatically updated? Well, now it's possible with System 7.0 and Excel. Just use the new Publisher and Subscriber commands on Excel's Edit menu to copy worksheet data to other documents or to paste into your worksheet material from other documents. When you edit the original (source) material, your changes are copied automatically to all the documents into which you previously copied that material. Now your information will always be up-to-date.

Full Data Access Manager Support
From within Excel version 3.0, users can easily access remote data. Excel fully supports the Data Access Manager capabilities of System 7.0. As a result, users can perform queries on information in external databases the same way they would perform these queries on Excel databases. And first time Excel users can use the Query Assistant to point-and-click their way to the information that they want from the remote database.

Sound Annotation
With System 7.0 (and an appropriate sound input device) you'll be able to annotate your Excel worksheets with sounds and voice messages. Simply record a sound and stick it on your worksheet. Use sounds to explain your work, share a thought, or just for fun.
Together, Macintosh System 7.0 and Microsoft Excel version 3.0 make you work better and easier.
As information Centre manager for Fujitsu Australia, Lloyd Bennett is spared one problem faced by many of his contemporaries in other companies — the managers he caters for aren’t in the least daunted by computers. “They already know what can be done to make their jobs easier, so I don’t have to sell them on new ideas — they’re just as likely to show me,” says Bennett.

The project in question is Fujitsu’s Executive Information System (EIS), an application written in Microsoft’s Excel for Windows 3.0. It is designed to provide the company’s eight top managers with the business monitoring they need to quickly and efficiently make the decisions any large business must make. That means all the data on performance, trends, business indicators and so on, complete, yet easy to get at.

“Naturally we have a very efficient mainframe system to control our business, and having the raw numbers at your call is OK, but we all work better at the graphical level, and that’s where Windows comes in. A graphical interface lets us present things in a usable, natural way. Our Excel application is not only easy to get into, it’s intuitive and lets users go down to the level of data they need to see.”

Bennett says that his company knows and uses many software systems, both internally and as system suppliers, and considers itself always at the forefront. “Our systems engineers and consultants can’t go into a site without knowing the latest products, and it’s just the same with the Information Centre. We were previously a Microsoft dealer, but now we’re a Microsoft Integration Centre so we get to implement the latest products”.

Nonetheless, Bennett says the Systems Integration Services people looked at all the possible solutions and balanced the plusses and minuses before choosing Excel.

“When we first suggested this sort of graphical management reporting system, we’d prepared a mock-up in ToolBook under Windows. Management were so impressed they wanted it then. Fortunately Excel let us create the system quickly, and continues to let us expand and fine-tune facilities as users need them,” says Bennett. The system is written as a series of interconnected Excel spreadsheets and macros, all running under one key spreadsheet.

Fujitsu’s managers can use their EIS system at the level they feel most comfortable with. For most, this means running Windows on their networked Fujitsu PCs, and being presented with an icon for the Excel/EIS system.
Excel adds up to more than 1-2-3

John Green, associate editor of Spreadsheet Advisor Magazine

Microsoft Excel for Windows 3.0 is designed to give 1-2-3 users no further excuse for not making the change. It exceeds the features in Lotus 1-2-3/G, including goal seeking and optimisation, and has an optional menu interface which allows you to type 1-2-3 keystroke sequences which are translated into the Excel equivalents.

For existing Excel fans, there are plenty of new features to improve output and productivity. As well as powerful features such as consolidation, outlining and being able to embed charts and graphic elements in the worksheet, there is a myriad of small changes that make common tasks easier. Adjusting a column to just fit its widest cell entry is as simple as double clicking the column heading border.

The most obvious change when you first load Excel 3.0 is the ToolBar at the top of the screen. On the left is a drop down Style menu which can be used to apply preset formats to the currently selected cells. To the right of the Style menu is a group of buttons for Outlining. These are followed by the AutoSum button with the S icon. The B and I buttons are used for setting Bold and Italic fonts in the selected cells. The buttons which follow are the selecting left, centre and right justification respectively.

The dotted rectangle icon is for selecting group of objects on the worksheet. The buttons which follow allow you to draw lines (or arrows), rectangles, ellipses and arcs respectively. The final group of icons include the ChartTool, the Text Box Tool, the Macro Button Tool and the Camera Tool.

Research by Microsoft revealed the not very surprising finding that the SUM function accounted for over 75 percent of functions used in spreadsheets. Accordingly, they have made it very easy to implement. You simply select the cells where you want the sums to be and Excel proposes a range to be summed from the cells above or the left, making an intelligent guess as to which cells are appropriate and displaying the proposed range. If it is right (and it mostly is) you click the AutoSum button again to enter the formula.

When chosen, this automatically loads the EIS application under Excel, and presents a top-level menu like the one shown in figure 1. Radio buttons make the choices obvious, and users can always quickly return to this top level for new queries. The high-level data is generally presented in the graphical form as shown in figure 2, and the users can then click on areas of interest to look at the next level down, and so on.

"It’s truly intuitive, because they never have to grapple with unfriendly menus, just ‘point and shoot’ at the information they need. That detail is then presented in the most appropriate form, whether a graph, numbers or text," says Bennett.

No attempt has been made to lock users out of other parts of Excel. In fact, they are encouraged to use its facilities to perform their own investigations. "Part of the power of Excel is the ability to customise it, and hide areas from users, but in this case our application sits well on top of Excel without any possible confusion," says Bennett. He told Communiqué he was impressed with the success of the EIS system for two main reasons.

1. It uses an off-the-shelf product, yet gives an optimal product, and
2. The target users took it immediately, saying "I’m a busy person, but I can USE that!"

The system isn’t connected to live information, but accesses periodically prepared data. The important thing is that the users feel confident with the data, the display mechanism, and the interface. That’s where Bennett says the professional appearance and functionality of an Excel 3.0 application pays off.

Because the reporting system consists of information other than just numbers, an important part is the ‘comment’, or other soft information. At the point where a user may be about to ask “Why?” the system is able to provide the answer in words. If appropriate, this could in the future trigger a small animated on-screen sequence or even link to a multimedia presentation such as a video sequence.

When asked what he looked for in PC applications, Bennett says he insisted on stable products. "And it’s the same with our clients — the managers. They don’t like surprises, so we don’t spring new versions of the software on them. Although the Excel macros are extremely easy to write and modify, with a system such as this it’s important that the user feels comfortable. Whenever we need to change the system, we try it out ourselves — and we’re our own best critics — then on one manager, and when we’re confident, we sit with each user and demonstrate the improvements.”

This isn’t the end of the story either. Fujitsu Australia naturally has an impressive computer network, and the EIS package is one more step towards realising greater value from corporate information.

Windows 3.0 users in the company generally have 80386SX PCs with local hard disk, 4Mb of RAM and VGA or Super VGA graphics. They are normally connected to the local area network. Corporate data is held on the mainframe, or various network file servers, depending on function. The future will doubtless see more use of graphical products, both off-the-shelf and in-house.
Mail bonding

Electronic mail was a relatively new software category just five years ago, but it has quickly grown to become an essential element in many offices, from small networks to large enterprises with multiple workgroups. Microsoft Mail for PC networks version 2.1 gives you the advanced capabilities that will boost your office productivity today and keep pace with growth and changes tomorrow.

"E-mail is a strategic purchase decision and is not made on the basis of a simple feature list," says Phil Meyer, systems product manager. "What matters most for electronic mail customers is a robust architecture, service, support and confidence in the technical vision of the developer. Microsoft is committed to providing the architecture, technology and support that will serve our customers' needs."

Microsoft adds Mail to its line of Windows applications including Microsoft Excel, Word, PowerPoint presentation graphics program and Microsoft Project. The Windows Office, a three-in-one package released in May, includes Excel, Word and PowerPoint. In combination with Microsoft Mail, which provides communications and file distribution services over a network, Microsoft's Windows applications can be integrated into a solution for office workgroups. In addition, Microsoft Mail will provide an open messaging foundation for future workgroup applications that are being explored by Microsoft's workgroup applications business unit and other software developers.

"Microsoft Mail is a critical component of our applications strategy because e-mail is the foundation of the Microsoft integrated office solution," says Meyer. "By combining Microsoft Mail with our Windows applications — especially The Windows Office — users can access powerful integrated office capabilities today, and we will continue to build on this foundation over time."

Microsoft Mail for PC networks supports all key desktop systems, including DOS and Windows. Microsoft is also committed to supporting remote DOS, Macintosh and OS/2 desktop systems. Remote DOS, Macintosh and OS/2 workstation software is scheduled to be available in 1991. The product supports all the major PC networks, including those from Microsoft, Novell, 3Com, IBM and Banyan, and provides transparent connectivity with other messaging environments through gateways.

Later this year, Microsoft will release Microsoft Mail Connection, a bridge for smooth data transfer and integration between Microsoft Mail for PC networks and Microsoft Mail for AppleTalk networks. Microsoft Mail Connection will allow users on both Microsoft Mail systems to exchange directories, messages and files seamlessly, giving network managers the freedom to optimise their network and hardware configuration and still enjoy complete connectivity.

New client-server LAN system puts power on the desktop

Microsoft Mail for PC networks is a LAN-based electronic messaging system. An earlier form of electronic messaging was e-mail on mainframes and minicomputers. Typically, the e-mail application was part of an entire office automation system, such as IBM PROFS, or was available with the host's operating system, such as Unix. These systems effectively provided electronic mail within the environment for which they were designed: dumb terminals connected to host machines.

When personal computers became available, users began connecting them to the host machines by means of terminal-emulation software. Getting rid of dumb terminals may have saved desktop space, but simple terminal-emulation could not capitalise on the power of desktop computers.

With the advent of local-area-networks (LANs), advanced messaging that can take full advantage of PCs and LANs has become available to PC users — and at a significantly lower cost than that of host-based systems.

Microsoft Mail works differently from host-based systems. A client application runs on each user's desktop computer and provides the ability to create, send, read, and organise messages.

Users send mail to, and receive mail from, a local post office. Each Mail post office is maintained on the local file server; no additional network resources are required. A post office has a mail box for each local user, giving users access to messages they've received. Mail is sent and received through these mailboxes.

A large Microsoft Mail network consisting of several workgroups is managed by setting up several post offices, one on each workgroups' file server. This distributed-processing architecture provides for greater performance and reliability.

It allows each workgroup to control and administer its own post office. Messages are passed between post offices under the control of a powerful central mail server. A Mail feature known as single-copy message storage saves valuable CPU time and server resources, thus providing higher performance.

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Mail bonding.... continued from page 19

Mail version 2.1 features a robust architecture that provides excellent performance and easy administration and usability on networks of any size. These powerful capabilities include single-copy message-store technology, which reduces mail traffic and disk-storage requirements, global directory services that provide fast access to all Mail users and a store-and-forward design that transparently routes messages between post offices. A single administration program makes it simple and efficient to install and manage the e-mail system.

To provide connectivity between workgroups and external messaging systems, the Microsoft Mail solution includes powerful gateways that enable transparent communication with a wide variety of e-mail systems. Microsoft offers gateways for PROFS, X.400, fax, MHS, and SMTP. This provides customers with a single source for the acquisition and support of a complete electronic mail solution. In addition, Microsoft provides IBM SNADS connectivity in conjunction with SoftSwitch and Link Age.

Easy access

In addition to providing powerful network performance and reliability, Microsoft Mail makes accessing this strategic messaging system easy. Hierarchical folders let users intuitively store and organize messages on different topics or projects. Personal directories and group lists make it easy to communicate with co-workers and can be created without contacting a network manager.

Users can send and receive multiple file attachments, cut-and-paste text from any other message or file and send priority and registered electronic mail. Public folders can also be created for storing messages on specific topics that need to be shared within the workgroup.

Windows programming made easy

Microsoft Visual Basic programming system is a graphical application development system for Microsoft Windows graphical environment version 3.0 that combines visual design tools with a powerful, general-purpose programming language and Windows .EXE compiler. It provides a simple solution to the complex task of creating real Windows-based software applications.

Visual Basic is the fastest, easiest way to program for the Windows environment. Developing Windows applications and integrating existing applications is an easy, natural and far less time-consuming process. Visual Basic will appeal to a broad spectrum of people interested in programming for Windows — from professional corporate programmers and consultants solving business problems to independent software vendors and casual programmers.

Visual Basic programming system combines a rich, event-driven programming model with the world's most widely used programming language in a tightly integrated package. General development for the Windows environment is faster than ever. The Visual Basic programming

continued page 24
The Microsoft Office.

Stress-free working environment.

Ideally located on desk.

Must see to appreciate.

From the very moment you start working on your PC in The Microsoft Office, you'll wonder how you ever managed before.

Gone forever are the daily hassles of using incompatible formats and having to exit one application to open another.

Instead, all applications in The Microsoft Office look and feel the same, working simultaneously and exchanging data dynamically on your screen.

You can relax, knowing that Microsoft Excel for Windows, Word for Windows and PowerPoint for Windows, used individually or together, can deliver whatever requirements your business demands.

Whether it's doing your accounts, writing reports or producing professional business presentations, you'll quickly discover that The Microsoft Office is all you need to make your job easier.

Priced at only $1150*, The Microsoft Office also comes with an added bonus.

If you're already using certain applications, you can exchange them to receive a $150 rebate.

It's an investment that will quickly show returns because people definitely work better in The Microsoft Office.

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* A rebate of $150 can be claimed by sending in existing system or program disks of any of the following: Lotus, Ami Professional, MultiMate, WordPerfect, Display Write, ProfessionalWrite, Wordstar, Manuscript, Open Access, Quattro Pro, Word for Windows, Excel for Windows or PowerPoint for Windows, along with the following items from The Microsoft Office: a panel from the outer sleeve (for License Packs, send in whole cardboard outer) and a product registration form. Send rebate claims to: Microsoft Office for Windows, PO Box 583, Crows Nest 2065. If you require rebate forms please phone (02) 906 4366. Offer valid to 31 July 1991. * Recommended retail price.
### Languages

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NORTH RYDE NSW 2113
or phone: 870 2111 – Sydney area, or 008 25 7253 – outside Sydney area

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Proof of purchase attached if claiming a free upgrade (Communiqué members are not required to return original diskettes).

Please allow 4-6 weeks for delivery. Please affix money order/cheque.

* An individual member is only entitled to upgrade one copy of each application installed on their computer at the discount price.

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* New Releases
  • RT = Runtime Windows
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✦ Please note: New reduced pricing

### Macintosh

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system provides visual user-interface design capabilities with powerful general-purpose programming tools, making it easy for any programmer to create compiled Windows .EXE files that can be freely distributed without run-time fees or royalties of any kind.

"We needed to create an application that incorporated Microsoft Word for Windows and Microsoft Excel," said Craig Ellis, senior programmer analyst, Reuters Information Systems. "Visual Basic was the tool to do this. It filled our needs, allowed us to develop a fast and effective application and cut our development time by more than half. It's a fantastic product that allowed us to incorporate a family of Microsoft products into one application."

The Visual Basic programming system can be used to develop any Windows-based application, including corporate business systems, tools and utilities, front ends to data (mainframe, server and local) or commercial Windows software products. It is also useful for integrating multiple Windows-based applications and for automating software testing through dynamic data exchange (DDE).

Visual Basic programming system provides visual design tools for creating the user interface components — windows and dialogs — of an application. A full set of Windows interface components (including command buttons, text fields, list boxes, pictures, drop-down menus and file system controls) are created visually, without writing any code. A powerful, structured programming language is then used to add functionality to these interface components, responding to events that are automatically trapped by the system.

The Visual Basic language is a derivative of the Microsoft QuickBasic modern programming system, modified for the graphical environment and the event-driven programming language. It uses a threaded p-code incremental compiler and source-level debugging tools, including an interactive immediate window, in a tightly integrated system.

Support is provided for DDE, the mechanism for exchanging data with other Windows-based applications. The Visual Basic system also supports dynamic link libraries (DLLs), which allow the user to establish links with other Windows systems facilities and call the Windows API or routines written in other languages and compiled into DLLs. The control set itself can be extended by developers using C and the Windows SDK and the Microsoft Visual Basic Control Development Kit, available separately. This extensibility will provide the ability to fully integrate new user interface components into the graphical design and code development environment. Examples could include multimedia, pen controls and data access.

Printed documentation and on-line Help provide step-by-step instructions for writing programs. The on-line Help system provides context-sensitive reference information and sample code that can be copied and pasted into a Visual Basic program. An icon library of approximately 400 designs and an icon editor written in Visual Basic language are also included. Visual Basic programming system for Windows will be available in June for a recommended retail price of $320.

The Visual Basic programming system runs in either the standard or enhanced mode of Microsoft Windows graphical environment version 3.0 or higher.
Making the switch to LAN Manager 2.0

Graeme Le Roux

The process of upgrading from 3Com’s 3+Open to Microsoft’s LAN Manager version 2.0 is, thankfully, quite simple.

The install process for LAN Manager 2.0 is — as with most Microsoft products — a case of sticking the correct floppy in drive A: and running set-up. Microsoft has clearly spent a great deal of time and resources on getting the basic engine correct. As a result of this focus LAN Manager is, for the present, missing a few of the little utilities that make life easier for administrators. For example, there is no equivalent of the 3Com LOGON.EXE, which sets environment variables for USERNAME and so forth. This means that a change over from 3+Open to LAN Manager requires a little planning — so herewith, some of the “gotchas”.

First up, LAN Manager 2.0 requires 1Mb of disk space for a basic DOS workstation and 4Mb for an enhanced workstation and as a result you can’t boot a workstation from a floppy. This is due to the size and number of necessary files installed. You can get rid of some of them, but it doesn’t help because the ones you do need are too large to fit on a floppy. To further complicate matters, Remote Boot only supports Token Ring at present. Microsoft will support Ethernet in future releases of LAN Manager.

Another install “gotcha” is that workstation installation is floppy based — up to five floppies for a DOS Enhanced workstation. This means that installation is necessarily a slow process. If you have 100 workstations this is a pain. However, there is a way out.

LAN Manager 2.0 installs itself in a sub-directory tree with \LANMAN (OS/2) or LANMAN.DOS (DOS) as the root (by default on drive C) so it will not overwrite 3+Open files (autoexec.bat and config.sys aside) and this gives you a way out, as follows.

1. Find a 3+Open workstation with some free disk space.
2. Back-up autoexec.bat and config.sys as autoexec.bat and config.sys.
3. Edit autoexec.bat and config.sys to produce “plain” (non-network) versions.
4. Back-up these plain versions as autoexec.lm0 and config.lm0.
5. Install LAN Manager 2.0 as per the manual. This will overwrite your plain autoexec.bat and config.sys.
6. Copy this new autoexec.bat and config.sys to autoexec.lm2 and config.lm2.
7. Use xcopy to move all the files and such under \LANMAN\DOS (or LANMAN) up to your old 3+Open server. Also copy *.lm2 up there.

You now have one workstation capable of booting onto both versions of LAN Manager (I'll use that later on) and a full copy of the workstation software for LAN Manager 2.0 on your server. Now all you have to do is boot all your other workstations and run the batch file shown in Listing 1.

Now you have all the new software installed. Run set-up and modify the configuration to suit the workstation, reboot and away you go. If everything works correctly, then you can delete all the old 3+Open software and all is well. You will probably have to edit config.sys and autoexec.bat if there are any “odd” drivers or utilities that are specific to each workstation. (So what’s new?) One thing you will notice about set-up is that it will not permit the configuration of DMA, INT and Base I/O as did 3+Open’s equivalent. To do this, you edit protocol.ini.

When you do look at protocol.ini, you will find it a lot less verbose than the 3Com variation. The LAN Manager 2.0 protocol.ini is composed of pre-written “bits”, which you will find in \LANMAN\DRIVERS. The number of keywords you find in each “bit” depends on the adapter you pick. The one for 3Com’s Ethernet II card looks like this:

IOADDRESS = 0x300
INTERRUPT = 3
MAXTRANSmits = 40
DRIVENAME = ELNKII$  

Notice that the DMA setting is missing. Do not despair. Your manual set includes an “Installation Guide and Network Device Driver Guide”. All the parameters for all the supported adapters are at the back of the “Network Device Driver Guide” section. If you buy an adapter that is not directly supported, the vendor should supply similar documentation. (The Etherlink II DMA setting is changed via the DMACHANNEL <1-3>).

So now that you have all the users working what about your applications and data? Just copy from the old server to the new? Sorry by default, different protocols.

### Listing 1

Batch file for copying AUTOEXEC.LM2 and CONFIG.LM2 to workstations

```plaintext
@echo off
cls
net use e:\server\lm2temp
(Just in case you're not booting from xcopy)
cd\ 
ren autoexec.bat *.lm1
(Just in case your workstations have individual “funnies”) 
ren config.sys *.lm1
xcopy e:\autoexec.lm2 *.bat
xcopy e:\config.lm2 *.sys
md LANMAN.DOS
(or just LANMAN for OS/2)
cd LANMAN.DOS
xcopy e:\lanman.dos\*.*/s
cd\ 
net use e:\del
```

### Listing 2

DOWNLOAD.BAT

```plaintext
@echo off
cls
logon admin <password> /y > c:\err.txt
(Just in case something goes wrong)
net use e:\Server\apps > c:\err.txt
(Note the >. You don't want to overwrite err.txt)
c:
cd\
md appstem
md appstem
xcopy e:\*.* > c:\err.txt
net use e:\del > c:\err.txt
net use e:\Server\Apps > c:\err.txt

cd\
md usertemp
md usertemp
xcopy e:\*.* > c:\err.txt
logoff /y > c:\err.txt
copy config.lm2 config.sys > c:\err.txt
copy autoexec.lm2 autoexec.bat > c:\err.txt
```
Don’t cry; it’s just time for another dirty trick. Remember that workstation with three sets of config.sys and autoexec.bat? Add the line `DOWNLOAD` (Listing 2) as the last line of `autoexec.lm1` and the line `UPLOAD` (Listing 3) as the last line of `autoexec.lm2`. Then copy `autoexec.lm1` to `*.bat` and `config.lm1` to `*.sys` and reboot. Now I have made a few assumptions here. They are:

1. You have set up your new server so that all user data is in `\LM2Server\Users\<username>`. *(That is the user’s home directory which has the same name as the user’s login name.)*
2. You have set up applications under `\LM2Server\Apps on the new server` and `\Server\Apps on the old server`.
3. You have lots of disk space on the workstation.
4. You have a reboot utility. Mine is called “BOMB” and running it causes a cold boot under DOS.

What this lot will do is copy all your applications and user data down to the workstation from the old server, then reboot and copy them all up to the new server without your intervention. You can go on setting up workstations. If anything goes wrong, you have `err.txt` to see what, and since no files are deleted in the process, you don’t lose anything. Further, you have the plain `autoexec.bat` and `config.sys` stored as `*.lm0` if you are really in a mess. *(Network Upgrade Rule #1: Always leave a BIG backdoor.)*

Now you have all your data and applications in place and all the workstations set up. Add your users as per the manual, but read the information on the `NETLOGON service` carefully. You will want to run this service. Why, aside from the nice account management features? Well, without it you can’t have a Domain Controller. Without a Domain Controller, you don’t have a central point from which you can get user information, such as home directory. When you add a user you will be asked for a “home directory” which you can enter in a number of forms. Add it as an UNC name. For example, `\LM2Server\Users\FREDN` where FREDN is user FREDN’s directory.

**Once you have your network running, LAN Manager 2.0 is clean, quick and simple**

To login, a user issues the command “`NET LOGON` `<username>` `<password>`”. There is no `LOGON` or `LOGOFF` (you use “`Net Logoff`”). Net Logon does not set an environment variable for `COMPUTER`, `USER`, `SERVER`, or the like. If the Domain Controller is running, you can issue a `Net Use <Drive ID> <\LM2Server\Users` command to link `<Drive ID>` to the root of the user’s directory tree. But users have no permissions to this area (by default), so they can’t see their home directory. If you give them read permission, they see everyone’s. Fortunately if the Domain Controller is there, you can interrogate it and retrieve the “home directory” entry for that user. This will have to be parsed, since it will be of the form `\LM2Server\Users\<path>`. This is a simple string manipulation. You can then set environment variables.

The catch with all this is that you have to write the code to interrogate the Domain Controller. With the aid of the Programmer’s Tool Kit and some sample code from Microsoft Online’s Knowledge Base (the electronic reference database available to members of the Microsoft Access Programme), I had no trouble with this at all. Given that many network administrators work for organisations with in-house programming expertise — with associated tools such as C compilers — the cost of getting a tool kit and writing little utilities like this is generally not difficult to justify.

Once you have your network running, LAN Manager 2.0 is clean, quick and simple. If you think about what you want to do before you start, you can set up and configure a 40 to 50 user LAN Manager network in about eight hours — less if you are starting from scratch and have someone to install the workstations.

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Graeme Le Roax is an independent consultant with Sydney-based Moresdown Pty Ltd and vice president of the Australian LAN Manager User Group (ALMUG). This article was reprinted from ALMUG News.
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Windows World Expo and Conference, will be held in Sydney at the Darling Harbour Convention Centre from August 6-8 and is the first such event to be held outside the US. The Windows World '91 industry trade show made its debut in conjunction with Comdex in Atlanta in May and was an overwhelming success. The event saw the release and first public showing of products such as Microsoft's Visual Basic, a product that has been described as, “changing the ground rules of Windows 3.0 development.”

The Sydney show will comprise an expo and conference. At the exposition, attendees will be able to see and evaluate a variety of hardware products and Windows software products. It's a perfect opportunity to compare and ask questions about products that interest you.

The conference programme is extensive and includes sessions focusing on a variety of Windows computing topics and issues, such as networking, applications, training, client-server computing, multimedia, future directions and mixed computing environments. Most sessions consist of two streams; you can choose topic or issue best suited to your needs. In addition, an industry leader will deliver a keynote address at the start of each day's programme.

For more information about the Windows World Conference fax IDG World Expo (02) 439 5512 or fill in the coupon on page 9.

The Windows World Expo and Conference is an important event and one that you'll most likely want to attend. To make it even easier for you, Communiqué members are eligible for special discounts. These include:

- Entry to the exposition, with a ticket price of $10, will be free for all Communiqué members. Coupons will be in the August issue of Communiqué magazine.
- All Communiqué members will receive a 15 percent discount on the $495 conference delegate fee.
- Special discount travel and accommodation packages are available to Communiqué members outside the Sydney area.

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Now that the day has finally arrived and System 7 is available, are you ready to upgrade? Try our quick quiz.

1. What is an Apple Event?
   a. Something on my Apple calendar like ChristMac Day or Mac Easter.
   b. An Apple-defined protocol of standard messages that applications can send to other applications.
   c. A press lunch at Frenchs Forest.

2. What is System 7?
   a. The greatest hack since Andy wrote Switcher.
   b. The latest version of the Macintosh operating system.
   c. When you fill in seven numbers on your Lotto coupon.

3. What is “Microsoft Office for the Mac”?
   a. A great excuse for buying a CD drive and so I can play Cosmic Osmo.
   b. Microsoft’s software for the Mac bundled to offer a great package at a good price.
   c. A tent out the back at North Ryde.

4. “Short Menus” is:
   a. The result of cutbacks at the Apple canteen.
   b. A way of limiting the available menu commands in Word for simplicity.
   c. When you can only choose between two main courses at a convention dinner.

5. The advantage of using the new “Publish & Subscribe” feature of System 7 with Excel 3.0 is:
   a. I finally get an application that doesn’t crash it when I try it.
   b. It allows me to create spreadsheets that automatically update when I download information from the company mainframe and charts that update in my reports.
   c. “Publish & Subscribe” isn’t that creating newsletters with PageMaker?

6. “Virtual memory” is:
   a. A way to make my 8Mb IIfx seem even snazzier to the guy next door with his SE.
   b. A feature of System 7 that allows you to use part of your hard disk to mimic extra RAM.
   c. Something I can almost remember, it’s on the tip of my tongue.

Scoring: Score 10 for every b you answer, 5 for every a, and subtract 1 for every c.

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A definite Mac technologist. Please report to the support desk of the nearest Apple Centre for a job.

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Less than zero.
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