
# Applixware: A Fine Alternative

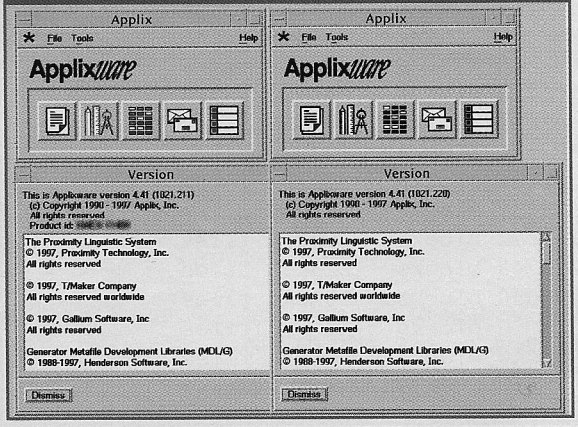
by IAN DARWIN

*Tired of all the bugs in your current office software? Then maybe the platform-independent Applixware office suite is just what you're looking for.*

It had been a stressful week. A big project was due to one client, while another client was complaining about changes to their Web site. The first client had insisted I write their documentation in Microsoft Corp. Word 97 under Windows 95. They'd even given me a shrink-wrapped copy of Office 97. But by the time it had bombed out on me for the second time in one day, a little voice in my head was saying, "This software is worth exactly what you paid for it."

Each time the software died, I swore it'd be the last, as I went painstakingly back through the file to find out if my changes had been saved (in Word's favor, most of my changes were saved; but what do you get for the time spent rechecking all those changes?). It died again. And again. I yelled, "Strike three!" (In truth, I yelled something considerably less printable.) This time, instead of restarting Word, I started my browser and went straight to Applix Inc.'s Web site and ordered a copy of the Applixware office suite. It promises platform independence and the ability to import and export Office 97 files, along with many other formats.

**Figure 1. Toolbar Window Comparison**




Applixware runs on various flavors of UNIX and Windows 95/NT. The Windows 95 version was not evaluated here because then I'd have to admit to still having a Microsoft operating system on one of my systems, which I'd rather not do. Applixware is available for the following platforms: Solaris 2.5+ (SPARC or Intel), Linux (Intel, PowerPC, DEC/Compaq Alpha), HP-UX 10.2, AIX 4.2, Digital UNIX 4.0, IRIX 6.2 and Windows 95 (Intel) or NT 4. Some of the internal code is written in Java, which simplifies the porting of code to new platforms.

To make a long story short, Applixware generally fulfilled the company's claims and met (or exceeded) most of my expectations. And yes, I have since removed or excluded Word from all of my own systems, plus a few others I control.

## Installation

I tested Applixware on two platforms. If you remember my review of OpenBSD ("A Good Web Server Platform at the Right Price," June 1998, Page 81, `http://sw.expert.com/R/WS4.JUN.98.pdf`), you'll know it's my chosen freeware UNIX. Indeed, the Linux port of Applixware runs perfectly in Linux emulation mode on a Pentium under OpenBSD. I also tested it on an old Sun Microsystems Inc. SPARCstation IPX running Solaris 2.5.1. Apart from the installation, I was unable to ascertain any difference.

Figure 1 shows both versions' toolbar windows and "about version" windows running side by side. If you can spot any differences–other than one has a license number blurred out for security reasons and the other does not–consult an optician.

Installation, though, was slightly different. Linux installation has a setup

shell script front end included in the CD-ROM, which decides between "libc5" or "libc6" versions, and runs the appropriate compiled executable. For the SPARC version, you just `cd` to `setup/applix` and run the `install` executable.

As usual, when people try to automate UNIX installations, simple installs are simple and nonsimple cases are not. Both versions failed to judge free space adequately when installing into an NFS-mounted partition. Not only that, they responded differently. The Linux version gave a `df`-like listing of partitions with free space; none of which matched the reported free space (see Listing 1). The Solaris version simply gave up, reporting numbers like 24,117 KB available, 27,398 KB required, with no indication of which file system was in trouble. In the end, I gave up on NFS installation by rearranging the file systems so that each machine had enough space (170 MB minimum!) to install on a local disk. It seems no matter how much disk space you have, installing new software turns into an excuse to delete old, unused software.

Once I made the required space available locally, the installation went smoothly, even with the CD-ROM NFS-mounted on one of the systems. Incidentally, both CD-ROMs have a binary in the root of the CD; so to try it out, just `cd` into the CD and type `./applix&`.

The Solaris version can be licensed on either a node-locked or floating-license server; the latter uses a version of the familiar FlexLM license manager. The documentation includes a how-to-use book called *Make It Happen*. The Solaris version also includes a *System Administration Guide* that covers network installation and licensing. Both manuals seem adequate. (One amusing note: An indication that this product has been around for a while, Chapter 3, Page 20 of the administration guide refers to an email address `uunet!mv.us.adobe.com!ps_file_server`. Uhmm. It's been a while since Uunet was the center of the email UNIXverse and everybody had to do manual routing of email via the "!" path mechanism.) There are also several online books you can install.

## Who Needs Microsoft?

Applixware is a comprehensive office suite that includes a word processing program, spreadsheet tool, graphics and slide show program, HTML editor, mail reader/composer and extensive customization. In addition, it can import from or export to many other formats (see Table 1). As you'll see, it can do pretty much everything that Microsoft Office does, without you having to resort to Windows emulation or running two operating systems.

Also, unlike most of its competitors, Applix native formats are ASCII-text-based, not binary. So it is somewhat closer to an open format, in the sense that you can `grep` through it with some success. I've even made tiny changes to documents using `vi`, something you would never think of doing to, say, a Word `.doc` file. Let's look at each of the major Applixware programs in turn, and make some comparisons with competitors.

## Words

Since the Microsoft lawyers started grabbing up all the nouns on the planet, it has become increasingly difficult to find (nonlitigiously) a name for a new product. Applix chose "Words" for its word processing program. Applix Words is a word processor on a par with Word or Corel Corp. WordPerfect.

Unlike Adobe Systems Inc. FrameMaker, however, Applix Words has only one level of named styles, which contains both character and paragraph formatting. FrameMaker, by contrast, has separate, named styles for character and paragraph properties, which leads to

**Listing 1. nfs-install-fail.txt**

```
There is not enough disk space available in /home/applix.
175 MB are required, but only 14 MB are available.

Here is a list of local filesystems and the currently
available disk space:
================================================================================
/                 (/dev/dsk/c0t3d0s0 ):          39722 blocks    21363 files
/usr              (/dev/dsk/c0t3d0s6 ):          15260 blocks    82591 files
/proc             (/proc             ):              0 blocks      436 files
/dev/fd           (fd                ):              0 blocks        0 files
/var              (/dev/dsk/c0t3d0s3 ):         101774 blocks    42660 files
/tmp              (swap              ):          44056 blocks     5786 files
/opt              (/dev/dsk/c0t3d0s4 ):         189570 blocks   303270 files
/var/mail         (darian:/var/mail  ):          21536 blocks    11121 files
/usr/src          (darian:/usr/src   ):         618432 blocks    97455 files
/usr/ports/distfiles(darian:/usr/ports/distfiles): 150672 blocks    90624 files
/stage/applix     (darian:/stage/applix):       228768 blocks   225178 files
/home/ian         (darian:/home/ian  ):         295040 blocks   108844 files
/cd0              (darian:/cd0       ):              0 blocks        0 files
/home/applix      (darian:/home/applix):        295040 blocks   108844 files
================================================================================
```

much better document structuring. If, for example, you have two styles named "code" and "literal" and you need to change all of code from Courier to LucidaSansTypewriter without also changing literal, you can do it with only a few keystrokes in FrameMaker. It's a manual, find-every-occurrence-and-decide operation with most other word processors.

The Applix Words spell check feature was uneventful. As with most such tools, its vocabulary is limited. Once you train it–which is as easy as clicking on "Add Word" in the spell check dialog box–it gets along fine, and does its job well.

My one area of concern is Words' import filter. Documents from WordPerfect, Word and FrameMaker can be imported, although FrameMaker files must be saved in an interchange format known as Maker Interchange Format, or MIF. For simple documents, these imports worked fine. I imported an invoice form from an old DOS WordPerfect file and it came out 99% correct (the only fault was that a couple of rules in one table were converted from double to single lines).

However, when I imported more complex documents from Word and FrameMaker, things didn't go so well. Because Applix Words doesn't have named page formats, it tends to drop parts of FrameMaker's "master pages" at the start of a document. Also, some graphics simply disappeared, or got dumped into the front of a file, when imported from Word. Both problems were fairly harmless, resulting in extra pages to delete, but even then, some of the paragraphs didn't import correctly.

## Spreadsheets

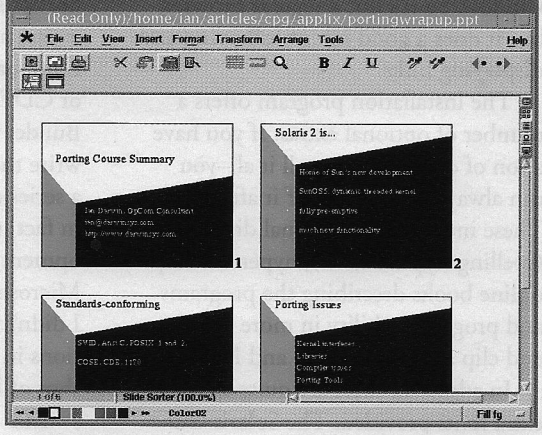
Applix Spreadsheets, the spreadsheet processor, is a powerful spreadsheet program, comparable to Microsoft Excel. Applix Spreadsheets can import/export a variety of formats. I imported a simple Excel file and had no problems. When importing a more complex file (an expense report), I found that a graphics object wasn't aligned over the correct cells, but everything else came through OK. Applix Speadsheets has the features you'd expect in a spreadsheet program, including macros, built-in functions and charting capabilities, plus it has real-time spreadsheet capabilities that I didn't exercise.

## Graphics and Presents

Graphics, Applixware's illustration/paint tool, and Presents, its slide show tool, are lumped together into a single program. Based on the file you wish to open, Applixware decides whether you are working on a single image or a slide show.

Presents is a standard slide show program. I've toyed with other slide show tools, including Microsoft PowerPoint, and this tool seems to have most of the same features as the others. Notably, its import filter worked very well for the slide shows I imported from PowerPoint (see Figure 2). While the Spreadsheet import dialog isn't smart enough to select the file type when you click on a file, Presents is.

**Figure 2. Presents Import Filter**




## The Rest of the Suite

Other programs that are part of the Applixware office suite, which I did not examine, include an email client (and OpenMail, which is X.400-compliant), Data (which gives access to relational databases), a directory browser, an ELF (Applixware's extension scripting language) macro editor and an HTML editor.

One powerful feature of Applixware is its general object-linking technology; this is certainly comparable to Microsoft Office's use of Distributed COM and/or ActiveX. For example, you can embed a spreadsheet in a presentation, or charts in a slide show.

Words also features hyperlinks and cross-reference features. This is quite general. If you import an HTML document into Words and click on what was an `<A>` tag in HTML, you can usually see the resulting file. For example, a link to a `.gif` file is opened in a separate Graphics window, and a link to another HTML file is opened

**Table 1. File Formats Supported**

| Program | Import | Export |
|---|---|---|
| Words | ASCII, DCA, FrameMaker 4/5 (MIF only), HTML, Interleaf 4 (ASCII only), Word (up to 95/97), OfficeWriter, RTF, WordPerfect 4/5/6/7. | Applix 3, ASCII (various), FrameMaker MIF 4/5, Interleaf 4/5 (ASCII), Word (generally via RTF), WordPerfect 5/6. |
| Spreadsheets | WKS, XLS, SYLK, DIF/XDIF, CSV, ASCII (various, including import wizard). | XLS 3/4/5, WK1/WK3, Applix 3, CSV, DIF, SYLK. |
| Graphics/Presents | Applix, CGM, DXF, EMF, EPSI, FAX, GEM, GIF, HPGL, ILBM, JPEG, MacPaint, Windows BMP, PBM/PGM/PPM, PCX, PICT, PNG, PPT, Raw, SGI, SunRaster, TGA, TIFF, WMF. | Applix, CGM, EPSI, FAX, GIF87/89, HPGL, JPEG, Windows BMP, PBM/PGM/PPM, PowerPoint 97, SGI, SunRaster, TIFF lsb/msb, WMF, XBM (not XPM), XWD. |

in...you guessed it, a separate Words window. So it's not a regular browser, but it does a good job of following and displaying links.

The installation program offers a number of optional extras. If you have a ton of disk space, install it all–you can always delete parts of it afterward. These include international dictionaries (spelling/hyphenation), hypertext help, online books describing the programs and programmability in more detail and clip art for Graphics and Presents.

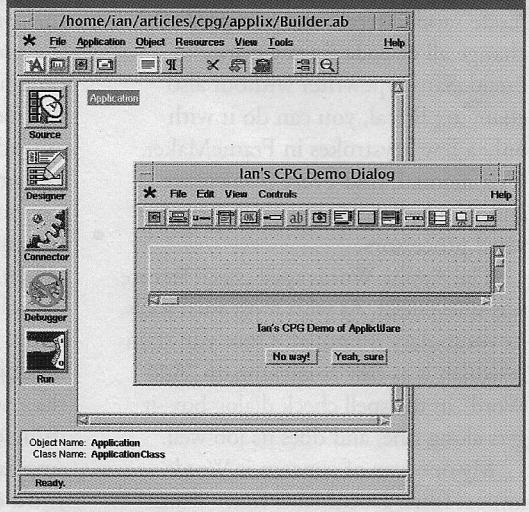
In addition, there are quite a few extra fonts provided. The Solaris CD includes the fonts as BDF, SNF and even OpenWindows "FB." Reading the *System Administration Guide,* it seems difficult to add fonts and support additional printer features owing to quite a bit of editing. There is a font manager, but I didn't install it because I have plenty of fonts already.

## Programming Applix

Applixware is highly customizable. There is an extension scripting language called ELF. It is lamentable that it has its own scripting language instead of using one of the "obvious" choices, such as Tcl or Perl. However, Applixware has been under continuous development since at least 1990, and what is obvious today may not have been obvious a decade ago. In the spirit of today's open-source movement, the ELF language, called SHELF, is being released as a scripting language in its own right; you can check this out at the Applixware Open Source Site (`http://www.applixware.org`).

In addition to ELF, there is a product called Builder, which allows you to build a complete application using ELF. Builder includes a GUI builder, which allows you to create the entire user interface visually, make connections and so on. So far, it is similar to, say, Sun's Open Look-based Developer's Guide or CDE Builder. But Applix Builder also allows you to write the actual application as a series of ELF calls. It seems, in fact, to have all of the development power of a tool like Microsoft Visual Basic. While I didn't write any full applications in it, Figure 3 is a snapshot of building a GUI.

**Figure 3. Building a GUI**




ELF is not just an add-on, as you will learn when you start customizing menus. In fact, all of the main programs are primarily built using ELF.

Applix has made a serious commitment to Java. Most of the client stuff is available in Java thin-client versions under the name Applix AnyWare. For the purposes of this review, I have concentrated on Applixware, which is the UNIX desktop office suite. However, even Applixware uses Java. Some of the import filters, for example, are written in Java. This is quite sensible because it simplifies porting, but doesn't have a serious performance penalty because the importing is typically done less frequently than basic operations. The speed of the import operations was quite acceptable.

## Invocation

While you can start Applixware with no arguments, you can also invoke it with a file type and/or file name. There are options like `-wp`, which tells the program you want to do word processing. These can be combined with a file name that will be opened or imported into a new document, depending on whether or not it is an Applix format. Using any of the UNIX desktops–CDE, KDE and so on–it would be possible to bind these types for click-to-start. Applix arguably should do this for you. It doesn't. For now, I have written a shell script (see Listing 2, Page 70), similar to the Windows 95 `start` command, because I use a variety of window managers and desktops. That this invocation works so well is a testament to Applix's understanding of how UNIX programs ought to behave.

## Applix Improvable

I now use Applix a lot, even though I'm not fully satisfied with it. The main shortcomings I have encountered are in the import filters and the GUI. First, there are no "tool tips" on any of the toolbars. Tool tips were first shown as Balloon Help on Apple Computer Inc. Macintosh systems, but in its usual style of steal-and-improve, Microsoft brought them online as ToolTips. ToolTips don't pop up obtrusively the nanosecond you visit a toolbar icon–this was one problem of Apple's original–instead, they wait until you hesitate with the mouse

**Listing 2. Start Shell Script**

```
#!/bin/ksh -f

# simple emulation of Windows' command of the same name:
# deduce type of file, start its application (backgrounded).

for f
do
        case ${f}  in
             *.ai)   illustrator ${f} & ;;
             *.aw|*.doc|*.wpd)       applix -wp ${f} & ;;
             *.as)   applix -sc ${f} & ;;
             *.class) java ${f}& ;;
             *.fm)   appplix -wp ${f} & ;;
             ftp://*) ftp ${f} & ;;
             *.gif)  xv ${f} & ;;
             http:*|*.htm|*.html) netscape -remote "openURL(file:'pwd'/${f} )"& ;;
             *.pdf)  acroread ${f} & ;;
             *.ps)   gs ${f} & ;;
             *.txt)  dtpad ${f} & ;;
             *.xls)  applix ${f} & ;;
             *)          echo "Duh, I dunno how to start ${f}!!" >&2;;
        esac
        sleep 5       # to avoid killing the machine
done
```

over a tool for some reasonable fraction of a second. Even my 15-line Swing-based Java program can have tool tips. Why is it so hard here? Is it a Motif limitation that really can't be worked around? Or is it merely a lack of time? Whatever the case, the lack of tool tips does make it harder to learn a new GUI tool. No matter how intuitive a designer thinks his "universal icons" to be, they aren't. A well-chosen phrase is worth a thousand pictures that don't represent anything.

Speaking of the GUI, there are also too many dialogs that don't learn the directory you're in from each other. You have to navigate around to some directory Open and then Import something, for example, and the Import has no recollection of the directory you opened from; yet most of the time, I want to do things from the same directory.

A minor glitch of the GUI code is it reverts to black and white if something about your display isn't as expected. It did this a few times when I thought nothing had changed. Perhaps it is merely susceptible to running out of colors; because my IPX has only a CGSIX display, its 256 colors can be gone in a flash if I'm running a Web browser.

One more pet peeve: the default menu shortcuts. Under the File menu, ^S for save and ^P for print are familiar, and imply Mac/Windows compatibility, but then F2, F3 and so on are used for edit/cut/paste, undo/redo and so forth. Someone used to conventional shortcuts would have expected ^C, ^X, ^V and ^Z for these, given the use of ^S and ^P. It turns out to be fairly easy to customize, but it's hidden beneath the Customize menu bar. It was almost no work to add this same functionality under the more traditional Edit-Preferences menu bar, using the Customize menu bar feature. Next, I wanted to change the menu item accelerators to ^C, ^X and so on. Unfortunately, ^X was already defined as some delete key function. And it became tedious to fix several such duplicates because on each one, dismissing the Error dialog also dismissed the menu bar dialog, which is inconsistent with any other GUI program. When it did this, it discarded all my changes.

I still wanted to use ^X and ^W, but these conflicted with key assignments. I couldn't find a "Customize Keys" feature, and there was nothing in the online help. Eventually, I was able to edit them using the `ax_wp4` file in `vi`.

Overall, Applixware is a good office suite for UNIX, and has all the tools you need. It's strong on functionality, with a few GUI sections needing refinement and a few wrinkles in the import filters. ⊸

**Applixware 4.41**

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Westboro, MA 01581

**Phone**
(508) 870-0300

**WWW**
*http://www.applix.com*

**Best Feature**
Full-function office suite native to UNIX. ASCII save files.

**Worst Feature**
Price gap between commercial UNIX (Solaris) and Linux versions. Limited word processing "named" formats and a few problems importing some file formats.

**Price**
Applixware (Solaris version) $495
Applixware for Linux $99

**Circle 160**

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AUGUST 1999
Vol. 10 No. 8 $5.50
*http://sw.expert.com*

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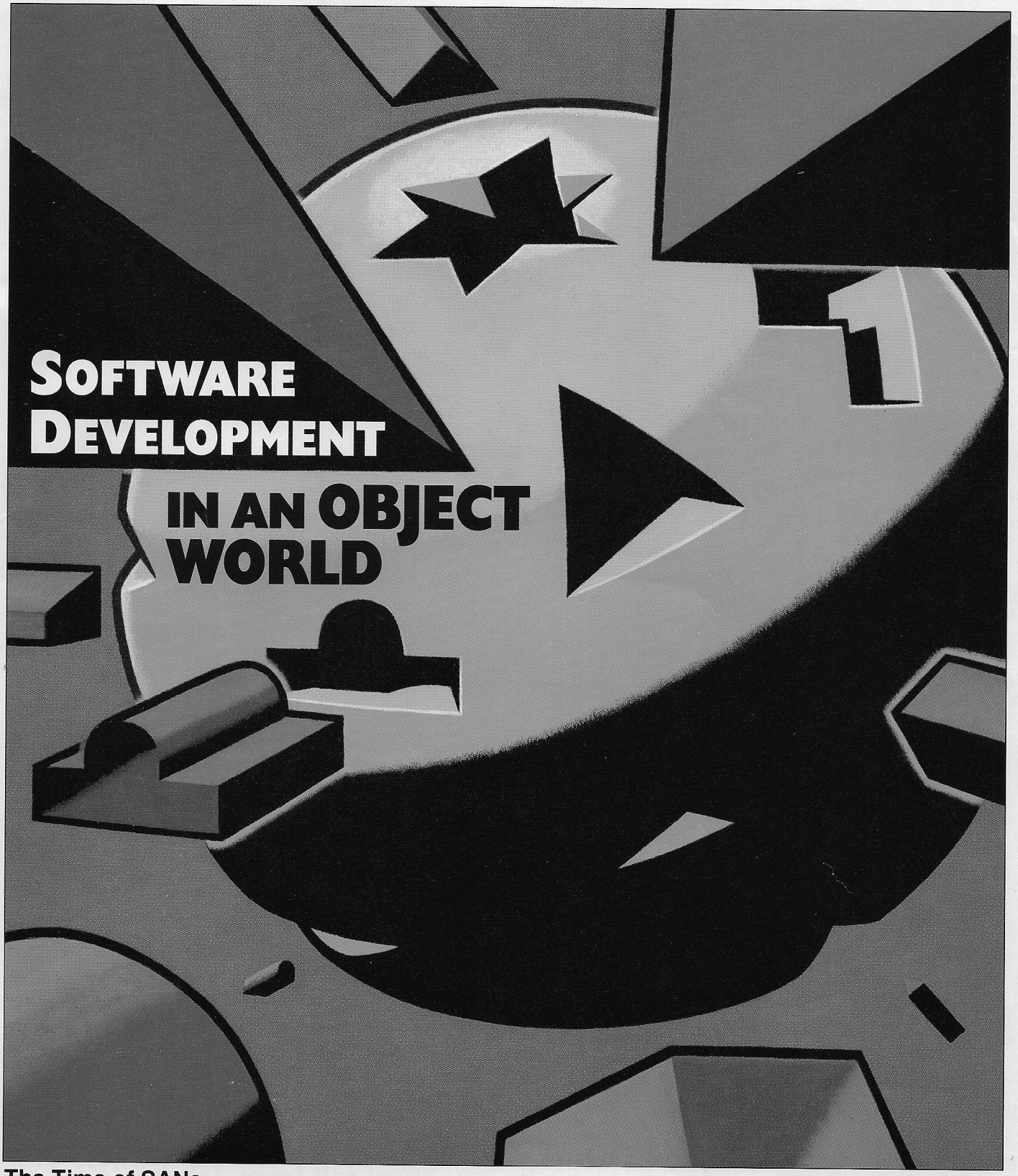

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