

Omni 7 Directional

Omnispeak . . . OMNIS in



the CLASSROOM

Been to school lately? What drives the operation of schools? Are they businesses (admittedly dealing with people, not things), or are they of a different essence?

And what happens in a business organisation where over a thousand people are involved? What's the role of computers? What of the adults valiantly trying to keep up with the devastating ease with which modern youth masters the latest software or the new machines?

Schools are businesses, and have to deal with inputs and products and account to someone for what is happening just like any medium sized manufacturing firm, but they are also different because the people in the organisation: students, parents, teachers, all relate to one another in a myriad of different ways: they belong to different classes, different teams; they do activities that attract

dollar charges that vary from individual to individual; they run events at different times and place.

Twenty years ago schools had numbers of "support staff" who spent most of their time typing out lists: lists not of components or products, but of groups of names in particular relationship to each other. Today all schools almost certainly have replaced their typewriters with word processors, but often that is all: perhaps there are several - or even one- "flat-file"

systems that generate the lists for those working in the place.

Six years ago, faced with a rapidly growing new school, and developing procedures to collect and copy boring data from list to list, I determined to use the appropriate technology to ensure that ours was a school where no person was employed to type or copy lists; where the driving force for record keeping rather was the need to use it now, and the accessing of

the information later was taken care of automatically.

Issue 2 of OmniDirectional brings significant news of major developments within Blyth and DLA. The release of the "Editions" strategy has resulted in many new sales, particularly the Workgroup product, so there are now many new Omnis Developers.

During the coming months DLA will launch an Omnis seeding campaign with a time limited CD version of 3.2. Our aim is to introduce Omnis to programmers throughout Australasia and thereby increase our market penetration.

DLA software support programmes have been well received as local developers take advantage of the partner benefits offered. At all times our staff are here to assist developers and support is now perceived as a major benefit.

On behalf of all at DLA, seasons greetings and a profitable New Year!

David P. Lewis
 Managing Director

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Consider for a moment an example of the way in which team lists are used in a school. The sports teacher or coach uses a list to post up the basketball teams. Copies of this list ideally should then be passed to house patrons or roll teachers for copying across to each student's records, as well as to the accountant's office for charging for bus fares or hire of equipment, to the archives section for recording for posterity, to the Principal's office for recording for reference writing, etc.

We determined to use a relational database working through an interface that was simple enough for any staff member to use; where the different sections all worked in the same way so that driving it would be intuitive, and where the operation would be almost entirely by the actual teaching staff more so than clerical persons. In particular, we have

resisted the idea of having a data-entry-clerk!!

The specifications are now getting close. The database engine must be inexpensive; the interface must be easy to modify - even by the user - to allow easy changes in the way things are done. No two schools ever do things in exactly the same way, and no teacher of administrator worth anything will accept the idea that "we can't do that: the computer isn't set up to allow it". Most schools often change things almost for change's sake from year to year.

The system must be integrated. If data-entry was to be eliminated, then the staff themselves, those actually using the thing had to have access and write-privileges to the datafile, rather than just exported data from a centralised list.

Finally of course, most schools use mixed platforms: accounting sections use IBM compatibles; teachers generally prefer Macs. Office staff might use either. Only the Omnis relational database meets all these criteria, and Omnis 7 is powerful enough easily to handle the most complex organisation.

We in fact began in the earliest days of Omnis 5, which provided the familiar GUI environment for our budding Macusers back in 1990. The application was an update of an earlier Omnis 3.0 (non-GUI) programme Richard Ure had written and which some schools were using for some of their operations. He called the application "Omnibus", which was nicely evocative of its integrated concept: everything about the school in together. The programme then was just over half the size it is now!

In those days, one Mac SE operating in single-user mode provided access for the three or four regular 'power-users'. Five years later the datafile resides on a small workgroup server running Appleshare; a 10-user licence means that as yet no conflicts have occurred even though 15 or more machines scattered all over the school, linked with a mixture of Local Talk and Ethernet (Cat 5 twisted pair), get heavy staff use. The next hardware step forward is likely to be to move the Omnis system to the same Novell network that runs the Library CD system, which gives faster access still, and automatic backups.

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Personal Oracle

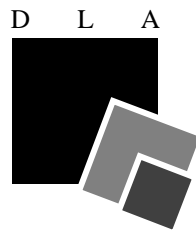
The Oracle Corporation provides a limited life version of Personal Oracle which is excellent for prototyping purposes. Personal Oracle can be obtained on CD or directly from the Oracle WWW sites (see Page 4). Personal Oracle is Windows only at this time and requires 16 megs of RAM. The rumour mill has indicated that a Power Mac version of Personal Oracle will be released in the next three months.

The 32 bit Advantage

A simple (non-Omnis) test program was used in-house to compare a small application that automatically generates 1400 records over 6 file formats. A Pentium 90 clone was used with 16 megs of RAM and 32 bit compatible hardware. Running Windows for Workgroups the test application took 5 minutes and 15 seconds to generate the records. Running Windows NT 3.5 the application took 16 seconds to generate these records. Running Windows 95 the application took 12 seconds to generate the records (curiously Windows 95 is not meant to be 32 bit compatible yet!). The time included all disk I/O. All operating systems were run with default settings. On the basis of these results, the 32 bit Microsoft Operating Systems are an extremely attractive proposition, particularly NT, which is universally regarded as a highly stable operating system.



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Windows 95, Windows 3.11 and Windows NT

Installing multiple operating systems can be a lot simpler than imagined. Let's start with a standard machine setup with a DOS and either WfW or Win 3.11 installed.....

To install Windows NT you simply do a default install as per the instructions. When you are finished and the machine restarts it will boot from Windows NT by default and then gives the user the option of running Windows NT or running DOS. If you choose the NT option then NT will start, if you choose DOS then WfW or Win3.11 will start depending on which one you have installed.

To install Windows 95 attempt a default install. When the installer detects Windows NT files in the C:\WINDOWS\ directory it will then request if you wish to load 95 over NT or choose a different directory to keep your NT settings. You should choose a new directory which defaults to C:\WINDOWS00\. If you haven't installed Windows NT you should choose the 'other directory' option in any event to preserve your current settings.

Now with the three operating systems on startup the NT bootmanager will run. To run NT you choose the NT option. To run Windows 95 you choose the DOS option. After Windows 95 is running choose shutdown from the START icon and choose shutdown to DOS. When Windows 95 has shutdown to the DOS prompt type C:\WINDOWS\WIN (or the location of your WfW or Win 3.11 startup if not this path) and WfW or Win 3.11 will run. (If you haven't installed Windows NT then your computer will boot to Windows 95 and you use the same approach to get to the DOS prompt and boot WfW.

Other more elegant and expensive methods are available such as using the OS/2 Boot Manager or one of the numerous 3rd party products advertised in the US Developer Magazines.

Appleshare for PC

Customers who purchase any Workgroup Server after January 1, 1995, are eligible to receive the AppleShare Client for

Windows software free of charge. Workgroup Server customers who purchased their server before January 1, 1996, as well as customers who purchased AppleShare software separately, can purchase the AppleShare Client for Windows software through authorised Apple resellers.

Both the AppleShare and AppleSearch Client for Windows products come with a network licence that allows distribution of the Windows client software to any Windows software DOS based computer connected to the network.

<http://www.info.apple.com/wwcc/win-client.html>



Price Competitive!

Omnis is now the cheapest multi-user relational database solution on the Mac. With the Workgroup Product an Omnis solution is considerably cheaper than either a 4D based solution or a Helix solution. A five user configuration would be approximately:

Omnis (with 10 users)	\$799
Helix (development environment plus 5 user client server solution).	\$2,299
4D (4D First as Runtimes plus 4D Server)	\$2,500-3,000
Omnis and Butler	\$1,799

Lost all procedures?

If a Mac Omnis application and the procedure lines have either been damaged or completely erased then it is likely the minimum memory requirement of the Omnis executable has been set too low. Install a fresh copy of the library and increase the memory requirement by one megabyte and try again.

Shared Libraries

If a library is sharable, that is the library attribute is set to true, the speed of execution of the library is affected. To improve the speed of execution of your code, where appropriate, add a command to your startup routine as follows:
Calculate \$ksharable as kFalse.

Square Bracket Notation & "eval"

The following short snippet contains an example of the tremendous capability of developing generic code in 7.3.2. Square bracket notation works virtually everywhere and particularly in Finds and Calculate Commands.

```
Calculate #S5 as 55
Calculate #S3 as '#S5'
Calculate #S2 as eval(#S3)
;#S2 now has the value 55
Calculate #S4 as '#S1'
Calculate [#S4] as eval(#S3)
;#S1 now has the value 55
```

Cross Tabs & "Use field of name"

The problem was basically one of cross tabs. I wanted to accumulate in each of 12 fields MEW1..MEW12 the totals of the amount of work done (WIAMOUNT) in each of the twelve months of the year.

The relevant part of the calculation which has worked since O5 is:

```
Repeat
Calculate #S5 as
con('MEW',dtm(WIDATE)+0)
Calculate #S5 as
fld(#S5)+WIAMOUNT (Use fld() of
name)
Next
Until flag false
```

The first line puts into #S5 the calculated name of the required field based on the month number of the WIP record being processed eg (MEW6).

The second line ensures the amount of the currently processed WIP record is added to MEW6 or whatever.

OMNIS RELATED INTERNET SITES...

Omnis Related Sites on the Internet and Elsewhere:

Compuserve:

Blyth Forum (Go Blyth)

AAPDA BBS:

First Class Software Required

Data: (02) 975 4332

IP: 203.14.177.200

For Membership Details contact Christine

Gargan:

Ph: (02) 452 8245

Fax: (02) 975 6397

Mailing List:

omnis@lanl.gov

To subscribe email:

listmanager@info-server.lanl.gov

In the message body put:

subscribe omnis

[your e-mail address]

New Sites:

The Client/ Server FAQ

[http://www.cis.ohio-](http://www.cis.ohio-state.edu/hypertext/faq/isenet/client-server-faq/faq.html)

[state.edu/hypertext/faq/isenet/client-server-faq/faq.html](http://www.cis.ohio-state.edu/hypertext/faq/isenet/client-server-faq/faq.html)

Sybase

<http://www.sybase.com>

Informix:

<http://www.garpc.com/informix.html>

<ftp://mathcs.emory.edu/pub/informix/faq>

Oracle:

<http://www.oracle.com>

Ingres:

<http://www.adc.com/ingres/ing-top.html>

DB2:

<http://software.watson.ibm.com>

Butler SQL and Tango

<http://www.everyware.com>

Newsgroups:

comp.client-server

comp.databases.sybase

comp.databases.oracle

comp.databases.ingres

"Calculate #S5 as {calculation} (Use fld() of name"

"fld(#s5) + WIAMOUNT"

By Richard Ure

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Select for Deletion Tip

Here's a pretty basic tip but one I find very useful.

When you are stepping through a list of items in a loop and processing each line, you may want to delete lines with no value. Deleting a line while stepping through the list requires a little work to make sure you get every line once, especially if using a 'For each line in the list' loop. So, instead of deleting lines on the fly select them, and do the line deletion at the end.

Deselect list line(s) (All lines)

For each line in list from 1 to #LN step 1

If not(T_AMOUNT)&lst(T_RSN)

Single file find on T_RSN

{lst(T_RSN)} ;; There is a transaction record but no amount

Delete

Select list line(s) {#L}

Else If not(T_AMOUNT)

Select list line(s) {#L} ;; There is no transaction record and no amount.

End If

End For

Delete selected lines

By Jonathan Rumbold

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Re-Organize Data Command: Comparing 7.1 & 7.3

Developers attention is drawn to the difference in the way the Utilities function, Re-organize, operates in 7.3.x compared

to version 7.1.x. In 7.1.x, and all earlier versions of Omnis, the Re-Organize forced a re-index of the index tables associated with every file format. This is no

longer the case, the Re-Organize function first tests to see whether there is a difference between the data dictionary in the library and the datafile and only proceeds with a Re-Organize if this process detects a difference between the library datafile header and the selected datafile header. If you wish to rebuild and index the you should use the drop index-rebuild index commands procedurally.



Short Shots

\$canfocus-buttons:

This notation option was introduced to increase the cross-platform compatibility of OMNIS. In the Windows environment it is standard for the user to tab onto a button and for that button to have focus. Omnis allows three options for button focus: kPlatformdefault, kNofocus and kFocus.

Calculate \$root.\$libs.My_Lib.\$prefs.\$canfocusbuttons as kFocus

Calculate \$root.\$libs.My_Lib.\$prefs.\$canfocusbuttons as kNofocus

Calculate \$root.\$libs.My_Lib.\$prefs.\$canfocusbuttons as kPlatformdefault

or:

Calculate \$clib.\$prefs.\$canfocusbuttons as kFocus

DML and SQL

It is not recommended that applications access an Omnis datafile using both OmnisSQL and the Native Data Manipulation simultaneously. This feature is under development for a future release and although the code may seem to work faultlessly, Blyth does not warrant that it will work reliably until Quality Assurance is complete.

Searching the List Server

The searchable index to the list servers records is up and running again.

The URL is: <http://est-4d.lanl.gov/>

Mac Clones

Reports are arriving about the Radius Power Mac Clones will not run the Mac 68k version of the Omnis 7.3.2 product. They will however run the PowerMac version. The same situation will probably exist with all the clone machines as there is little value in their engineers providing backward operating system compatibility in these specialized 'trade' machines.

Timely business and marketing information for Apple developers

The Apple Directions Express listserver provides a regular digest of up-to-the-minute news and information from Apple, in the most timely fashion possible. Delivered electronically via the Internet right to your desktop, Apple Directions Express is your glimpse inside Apple, to help you keep up with what Apple is doing so you can plot your next business

You can subscribe by sending e-mail to adirections@thing1.info.apple.com

In the body of your message, type the string

subscribe <your real name>

excerpt from forwarded message.

Peter Marks

Developer Support Manager

Apple Computer Australia

PRINTING

Printing Mac Environment

Problem: A Large report prints only the first one or two pages

In the Laserwriter dialog (not the Page Setup dialog) there is an option to print COLOUR/GREYSKALE of BLACK & WHITE. You must select Black & White in order to get all pages to print correctly.

Depending on the printer driver you are using you may have to go to the

OPTIONS window to get access to this. This is true in Laserwriter 8.2 and 8.3. Previous versions it showed on the main window.

This does not fix the problem with a Personal Laserwriter - at least not the latest models.

Printing QuickDraw GX

There appear to be ongoing problems with QuickDraw GX that can cause miscellaneous general printing problems and out of memory errors. If you have these types of problems in Omnis and also in other programs QuickDraw GX may well be the culprit.

Printing Windows Environment

GDI Printers: Blyth, along with numerous other software companies, do not make any warranty whatsoever in relation to GDI Printers. This technology needs time to mature. We have received the same advice from networking and general computer newsletters as well as from Blyth.

Emulate Copland Interface Now!

Aaron is a small extension that transforms your current MacOS interface, so it closely resembles the Copland Interface. Features added include:

- Substitution of the old Chicago 12 system font with the vastly more legible Espi Sans Bold 10.
- Push Buttons, Radio Buttons and Checkboxes are shaded 3D.
- The Menu bar and menus are a pale grey colour, with the menu bar taking on a subtle 3D effect.
- Menu Highlight colour is now blue.
- Vastly improved Copland Style folder Icons.
- Progress bars in the Finder and some applications take on a futuristic feel.
- If you have a PowerMac or a 68040 based Mac, the Windows will open and close with a spinning zoom effect.
- A Windowshade button has been added to the title bar, which also takes on a 3D feel. Folder Icons are also displayed in the title bar.

This user thinks this to be one of the best system enhancements available, it does not appear to clash with other system extensions, adds a fresh new change to the whole feel of your Macintosh and

only marginally decreases screen redraw speed. Aaron is "fat binary" giving optimum performance on both 680x0 and PowerPC based machines. Aaron has a mere \$10 shareware fee and can be downloaded from any of the Info Mac FTP mirror sites, in the GUI directory.

Zip Drives

It is Monday morning, the phone rings and you are confronted with the terrified voice of your most valued client... URGENT ACTION is required to resurrect their ailing application datafile. No problem, the datafile is 15MB and the job super urgent. Until recently it would be a matter of picking up the trusty Syquest Drive, a cartridge and speeding off to the site. Enter Zip drives; small, virtually indestructible drives designed for use with specially designed 25MB or 100MB disks, barely larger than a floppy disk. A Zip drive weighs around 450g, connects to either the SCSI or Parallel port and has access speeds very close to that of conventional hard disks. For the mere price of \$350 it represents a very cost effective portable storage solution. (Contact Polaroid Computing).

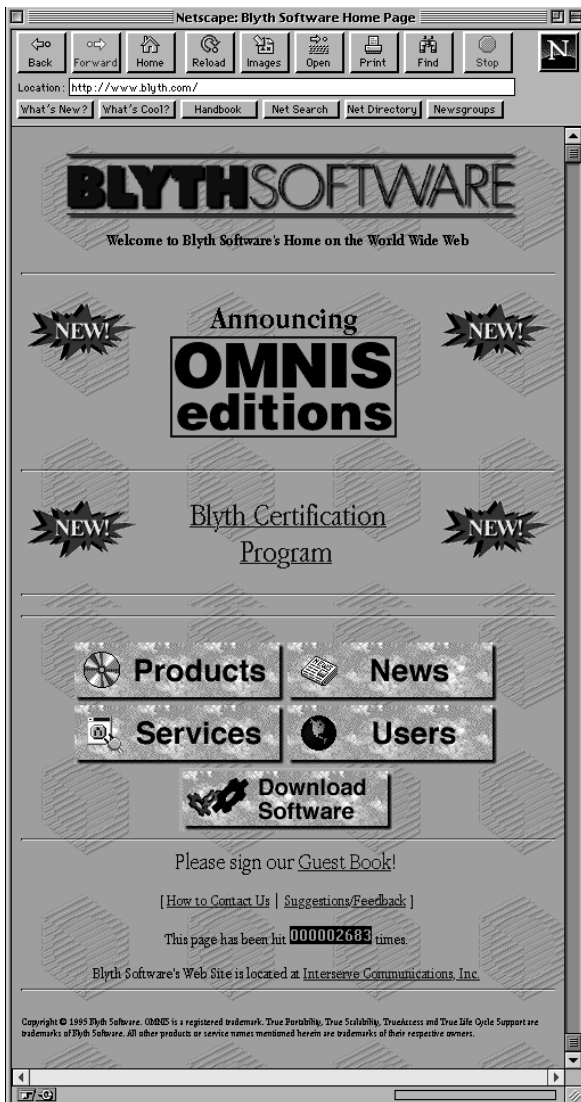
UUCP Gateway for Quickmail 3.5

CE Software's Quickmail has already demonstrated itself to be one of the best solutions to internal communications over LANs and WANs. Version 3.5 now comes with an UUCP gateway allowing ten Quickmail users to access the Internet from any Quickmail server. The Quickmail Nameserver Application is also a new release allowing improved address book updating over large networks running Quickmail systems.

Blyth Software on the Web

It was a while in the waiting, but as of (September) Blyth have taken it to the Web. They have provided a formidable source of Omnis information, resources and technical tips together with links to other hot Omnis Web sites. The interface is stylish and simple to use with information logically arranged.

Two products are available for down load



off the Web. There is a limited life version of Omnis for Workgroups (Mac or Windows) and recently a beta of the Windows 95 version (although this product is a beta it is not supported by Blyth Technical Support and is only for prototyping and demonstration purposes).

If you haven't already done so, point your Web Browser to <http://www.blyth.com>

Storing User Preferences In An Omnis Application

People work with software applications in different ways. As developers we can't always anticipate how our users will want to use a given application. It's often the case that our users will attempt to do things to our applications that we would never have dreamed of!

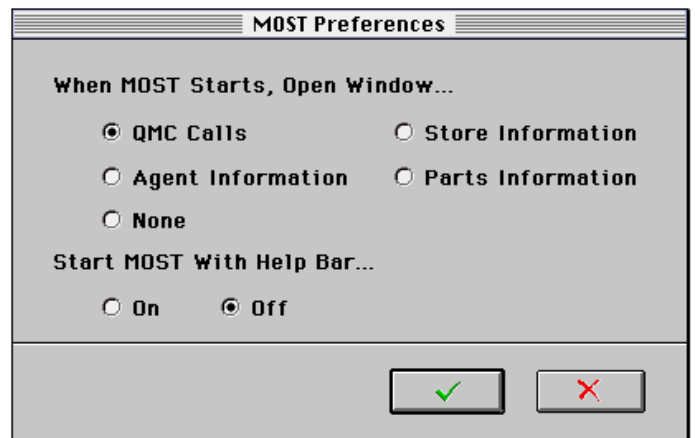
Whenever possible, users should be given the ability to set up their work environment as they wish. Allowing them to set up preferences is an easy way to let users have some control over their environment.

In the past, when I wanted to create preferences for my users I had to create a preferences file to store and retrieve this information. This is not always the most efficient way to do this.

However, using notation in Omnis 7[^]3 it's no longer necessary to create a file to store this information. We can now create and store preference information in the application itself.

I created the following preference window for an application I was working on for a Fortune 100 company. Despite being very simple, the users really liked the ability to set the opening window and whether the "Help" bar comes on or not. (I usually turn the Help bar off because I find the constant flashing of the message at the periphery of my vision very annoying.)

My simple preferences window looks like this:



As you can see, this window allows the users to set an opening window and to default the help bar on or off. I've always found it annoying when I launch an application and after it loads I just have a menu bar staring at me. Typically I'm going to access something and I usually have the same starting point each time. Opening a default window does two things for me, it tells me the program is finished loading and I can get to work, and it saves me a step and I can get going a bit quicker.

The code to manage this is very simple. The first step is to get the existing preferences from the application library procedure. I used STARTUP 485 and 486 for this purpose. You could also put all the preference codes into the same procedure and parse it out but I think this is more readable.

STARTUP

485 Help Bar Prefs

```
; 1 ;; This is used in the preference window radio button
```

486 Opening Window Prefs

```
; 2
```

The STARTUP procedures simply store the preference options. In this case all I need is an integer to indicate the different options. You can store anything you may need or want here. Note that the data is stored as a comment.

0 Init

```
Calculate fv_HelpBarText as mid($clib.$formats.STARTUP.$procs.485.$proctext,4,1)
;; Get the data from the proc
Calculate fv_HelpBarNum as fv_HelpBarText
Calculate fv_WindowText as mid($clib.$formats.STARTUP.$procs.486.$proctext,4,1)
Calculate fv_WindowNum as fv_WindowText
Redraw windows
Enter data
If flag true
  Calculate $clib.$formats.STARTUP.$procs.485.$proctext as con('; ',fv_HelpBarText)
  Calculate $clib.$formats.STARTUP.$procs.486.$proctext as con('; ',fv_WindowText)
End If
Close window W_Prefs
```

There are two things to keep in mind about the notation calculation to retrieve and store the information from the STARTUP procedure. You must begin reading your data string from position "4" in the procedure not position "1". When writing the data back to the procedure line be sure you have a space between the ";" and the beginning of the data.

It's an easy feature to implement and it gives the user a bit of control over their work environment. Who doesn't want a little more control over their environment?

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ODBC Driver/Manager for Omnis

ODBC is a Microsoft Standard for Database connectivity and requires three components to work; A Driver Manager such as O7ODBC.DLL (or a Driver Manager provided by a third party), a database specific driver such as for Excel, Access, Paradox or a text file and a database in its original format that the driver can read such as a dBase4 file. A different driver is typically required for each backend so if your Omnis application was to access an Excel spreadsheet, a dBase file and a Paradox file then you would need a driver manager and three drivers, one for Excel, one for dBase4 and one for Paradox. ODBC drivers are accessed using SQL syntax and can be treated like any SQL compliant DAM that comes with Omnis. ODBC drivers can also be considered to be an alternative to the so-called 'Native' DAMS provided by Blyth. Accordingly, with the correct driver you could access an Oracle DBMS with either the Oracle Blyth authored DAM or an Oracle (or third party authored) ODBC driver. ODBC drivers from the database proprietor are typically Copyright protected freeware whilst a significant portion of the market is held by ODBC vendors such as Q&E.

Blyth have no intention at this time to write an ODBC Driver for foreign software to access the Omnis native data file.

The ODBC standard has been accepted by Apple and the SDK for Apple ODBC drivers and is in final beta release. Accordingly, ODBC is a standard that everyone needs to know something about.

ODBC is a Microsoft defined databased API based upon the ANSI SQL 1992 specifications. These specifications are essentially the common set of SQL calls. An ODBC driver for dBase is no different from a printer driver. The driver has to be at a known location and loaded at the appropriate time and be itself pointed at the correct objects. In the case of a dBase ODBC driver, these objects will be the ODBC Driver Manager and the database. When you make a SQL SELECT call, the call is directed towards the Driver Manager which then sends it to the correct driver which then interprets it so that the DBMS can understand it. If the DBMS is an application DBMS like Oracle or Sybase, or performs the instruction itself if accessing a static file such as an Excel spreadsheet. Drivers that both interpret the SQL instruction and perform it are known Single tier drivers and those that simply interpret the instruction and pass it to an 'intelligent' backend are known as Multiple tier drivers. Multiple tier drivers typically act on a DBMS specific client which in turns communicates with a DBMS specific server file which then communicates with the DBMS.

An extension of the two tier driver above is the replacement of the DBMS with a Gateway server, typically a functionality provided by a DBMS provider such as Oracle or Sybase, which in turn communicates with a Legacy (old) or mainframe data source.

In summary, the ODBC standard allows a program to execute SQL calls to a DBMS not supported by a distinct DAM and to execute SQL calls against any non-SQL but supported file such as Excel, ASCII files etc.

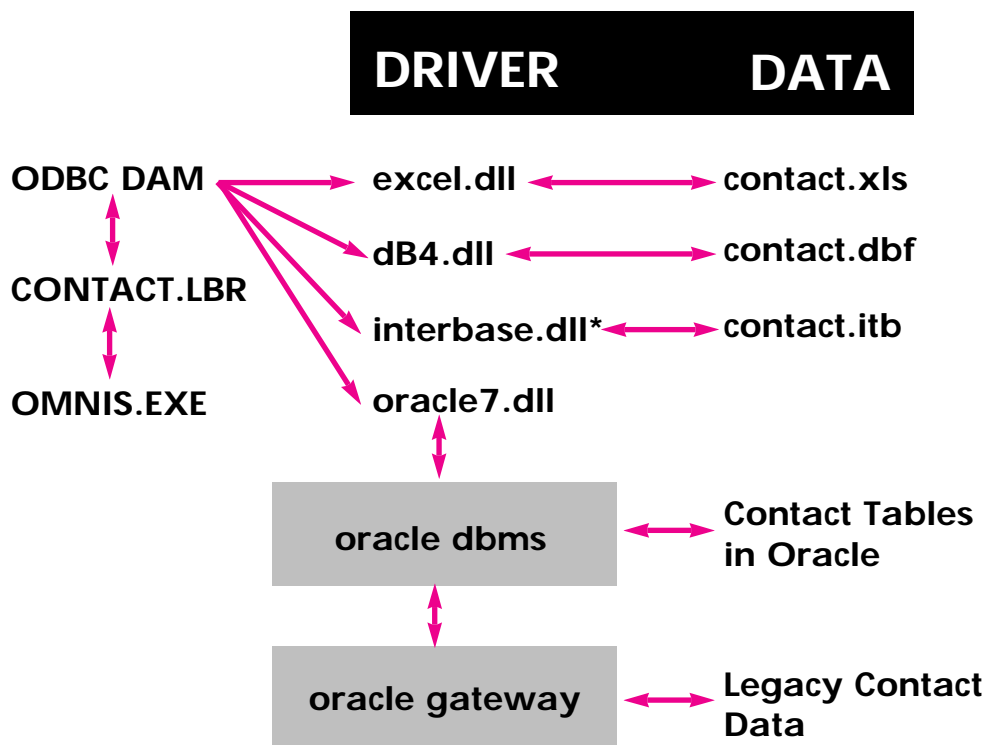
Although ODBC is very powerful it has its critics. The main areas of criticism relate to speed, configuration and maintenance.

ODBC is much maligned in the performance area. Essentially, all other things being equal, an ODBC 2.0 compliant driver will be no less than 5% slower than direct API access. With ODBC 1.0 compliant drivers the initial access may only be marginally slower, but multiple accesses (as there is no bind variable support) will be significantly slower.

Essentially personal database products follow the ISAM standard and DBMS based systems are applications. The DBMS processes requests on the datafile itself whilst ISAM mode access relies on the client application to do all the work. As ODBC supports Stored Procedures, that is, the passing of an instruction to the DBMS to do some work on the datafile, ODBC drivers should be compared with Special purpose DAMS not with Omnis native datafile commands. In the same manner that a Find First exact match on an indexed field will be much faster in the DML than by using ODBC, a stored procedure to find records from a series of files or tables in a DBMS and calculate a column total will be much faster in a stored procedure than anything a DML based structure will produce.

ODBC Drivers ship with many applications and therefore careful planning is required to overcome a build up in many versions of the same DLL appearing in the Driver Manager window (See

ODBC: Access to Contact Data Stored at Different Sources



* Although Borland's Interbase is a DBMS its ODBC drive bypasses the DBMS Server application and addresses the data directly.

- SNA perform a tab may have problems in your app..if so use Queue a tab.
- Special characters in library names may cause errors on opening.
- Watch out for type mis-matches in date searches. To be on the safe side the dat() function should be used to force a type match.
- The time() function truncates minutes greater than 60, that is, resets the counter so you may need the H:M:S formats.
- Len() on a null variable returns 1 instead of 0.
- Rnd() on both sides of a expression is incorrectly evaluated.
- In certain situations the search list function may not correctly set the flag. Please check you app thoroughly.
- Problems may occur using the pck() function in calculated fields in reports.
- Please don't overreact to this list. Omnis 7.3.2 is a very stable product!

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Control Panel). All drivers are stored in the Windows/System pathway. A multitude of similarly named drivers can be a headache for users and system administrators alike.

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Omnis 7.3.2 The Bug List!

After analysing the complete bug list the following bugs in 7.3.2 seem to have priority for the average developer. Most bugs recorded are so spurious it is hard to imagine how they were discovered in the first place!

The bugs in no particular order are:

- Adding an index to a field using notation doesn't work.
- Calling a datafile MY_Data.DF2 when the datafile is not the second segment of MY_Data.Df1 is a no no. Omnis assumes that .DF2 is the second segment.

- Using Totc(#L1,#L*(COL_1='value')) as a search method no longer works.
- The external function call 'Test for file exists' seems to fail after 6-8 calls.
- The calculate command "Calculate [Fieldname1] as [Fieldname2]", that is, where square bracket notation is used on both sides of a calculation may be unreliable.
- A single file find (where no main file has been set at all, that is the sys() main file value is empty) may fail.
- If a define list is not the last command in a reversible block it will not reverse properly.
- If before a reversible block there is no main file, a setting of the main file in a reversible block will not be reversed out.
- Reversible blocks and finds should be examined for correct reversals, if you are calculating the value of the field to be found then this code should be in the reversible block. Otherwise the original value may not be re-read into the CRB.
- Window Control Procedures are not run when the window first opens.
- Fld() and jst() functions have a limit of 100 parameters each.

Codename Copland

Codename Copland, Apple's first major rewrite to the MacOS is due for release in the coming year. Included will be improved networking via "Open Transport" and Apple's Component software system "OpenDoc".

Networking

The Open Transport networking architecture is the key to Copland's improvement of network setup, use and administration. Open transport shields applications from network protocols and integrates LAN, WAN, modem, and remote dialup networking. Along with the support for Appletalk, Copland now introduces built in support for TCP/IP and IPX/SPX networks. Users also have an open mechanism for the addition of other protocols.

Open Transport brings vastly improved access for Mac users to different networks as well as change between networks on the fly. Open transport can utilise the preemptive multitasking and memory protec-

tion features of Copland which will in turn optimise network performance and stability. Copland also provides improved network browsing tools for improved access to all shared network resources.

OpenDoc

OpenDoc based software provides the user with a document based work system rather than the conventional application based work system. In this way during document creation the user need only load the tool sets required for the task at hand. Tool sets are provided by OpenDoc component applications, which can be mixed and matched according to the document requirements. For example within a single document, users can edit text, manipulate graphics, perform spreadsheet functions etc without the hassle of managing several applications.

OpenDoc is a multiplatform, open standard in the making for MacOS, Windows, OS/2 and UNIX operating systems. OpenDoc will also provide full interoperability with Microsoft's OLE 2.0 and other component software architectures.

The OpenDoc 1.0 Internet Distribution Center has everything you need to begin creating OpenDoc components, containers and extensions!

OpenDoc 1.0 has gone final and is available for ftp from the following site:
<http://www.opendoc.apple.com/>

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Shell lbr

Many developers, including the writer, initially regard the Omnis shell.lbr as being more of a nuisance than anything else. To disable the shell.lbr, to remove the request message on opening Omnis, simply remove the shell.lbr library from the externals folder. Be careful where you copy it to though as there is another copy of the shell.lbr in the tools folder or directory. The shell.lbr in the externals folder is locked. The copy in the tools directory is unlocked and is provided for you to study and enhance. Any Omnis library placed in the externals folder will execute immediately on starting Omnis as the

Omnis executable looks to this folder for libraries to open in the background. (This is a feature that you can utilise in your single or multiple library applications). The shell.lbr has some excellent features such as the Form Builder and SQL tools that will help the developer new to SQL. We suggest that you use the shell to logon to a Omnis SQL session and access an existing Omnis datafile. The Prototype sub-menu then gives you access to the SQL Form Builder that will build complete SQL coded windows of several types. You can store these automatically generated windows in a new or existing library and then access them again but remember to logon to the Omnis SQL session first or you will get nothing but errors.

The Tools menu of the shell provides an excellent introduction to SQL and should be studied to clarify the shortcomings of the written explanations. Note that Omnis SQL does not support multiple outer joins and it is unlikely that this situation will change. Oracle, Sybase and Microsoft SQLServer do support multiple outer joins and are better choices than Omnis SQL as a proto-typing environment.

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Controlling the User

Controlling users ability to modify their work environments can be critical in multi-user sites. Modifying the default settings can be relatively easy in the Microsoft world but requires third party software for the Mac.

PROGMAN.INI: Program Manager Initialisation File

The Program Manager initialisation file, PROGMAN.INI, usually has two block entries for [settings] and [groups] sections, which control the appearance of the Program Manager Window.

A systems administrator might also choose to add a third section, [restrictions], for custom installations. This feature is particularly useful for large network sites, where administration costs are an issue, or, for sites where users inexperience and centralised control are issues.

[restrictions]

A [restrictions] section can have the following entries:

[restrictions]

NoRun=

NoClose=

NoSaveSettings=

NoFileMenu=

EditLevel=

Entry Definition:

NoRun=1

Disables the Run command on the File menu. The Run command appears dimmed on the File menu and the user cannot run applications from Program Manager unless the applications are set up as icons in a group.

NoClose=1

Disables the Exit Windows command on the File menu. Users cannot quit Program Manager through the File Menu or the Control menu (the Exit Windows and Close commands are dimmed), or by using ALT+F4.

NoSaveSettings=1

Disables the Save Settings on Exit command on the Options menu. The Save Settings command appears dimmed on the Options menu and any changes that the user makes to the arrangement of windows and icons are not saved when Windows is restarted. This setting overrides the SaveSettings= entry in the [settings] section of the PROGMAN.INI file.

NoFileMenu=1

Removes the File menu from Program Manager. All of the commands on that menu are unavailable. Users can start the applications in groups by selecting them and pressing ENTER, or by double-clicking the icon. Unless you have also disabled the Exit Windows command, users can still quit Windows for Workgroups by using the Control menu or ALT F4.

EditLevel=n

Sets restrictions for what users can modify in Program Manager. You can specify one of the following values for n:

n=0 allows the users to make any change. (This is the default)

n=1 prevents the user from creating, deleting, or renaming groups. If you specify this value, the New, Move, Copy, and Delete commands on the File menu are not available when a group is selected.

n=2 sets all restrictions EditLevel=1, plus prevents the user from creating or deleting program items. If you specify this value, the New, Move, Copy, and Delete commands on the File menu are not available.

n=3 sets all restrictions in EditLevel=2, plus prevents the user from changing command lines for program items. If you specify this value, the text in the Command line box in the Properties dialogue box cannot be changed.

n=4 sets all restrictions in EditLevel=3, plus prevents the user from changing any program item information. If you specify this value, none of the areas in the Properties dialogue box can be modified. The user can view the dialogue box, but all of the areas are dimmed.

To enable any of the commands or remove any of the EditLevel= restrictions, either remove the entry from the PROGMAN.INI file, or set the value to 0.

These features are very powerful and relatively unknown. They certainly restrict a users freedom but can significantly simplify maintenance. More information can be obtained by reading the relevant sections of Microsoft Resource Kit.

In the Mac world, various third party software pieces are required to achieve the same control. One product, recently displayed at MacWorld in Sydney, Australia is a suite of software distributed by Checkmark Technologies of Neutral Bay (+612 957 6970). MacPrefect, MacAdministrator and DiskPrefect are a suite of programs which allow a network administrator to establish an interface and control all changes to it. Diskbooting is prevented by DiskPrefect unless a one use code provided by telephone is entered. MacPrefect is a product with an extensive history in the education world. Control over all setups is allowed as well as control panel usage, which applications can be loaded, where documents can be saved etc. MacAdministrator is a large site application which controls logon capacity and time controlled access, storage of work environments by user or group, a server based documents folder for each user, print usage monitoring, hardware and software audits and automatic client software upgrades.

No warranty is made in relation to the

above software and the information is provided for the information of readers only. Other products with similar characteristics may exist.

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AAPDA MCS Now Available On Internet

The MCS, AAPDA's FirstClass server, may now be accessed over the Internet by members who use the FirstClass client software and have a connection to the Internet.

The MCS's Internet IP address is 203.14.177.200. Connections are accepted at port 3004, avoiding long distance telephone charges. To access the MCS over the Internet, follow these steps:

- 1) Ensure you are using FirstClass Client 2.6 or later for Macintosh and version 3.0 for Windows. Only these versions support IP connections using the following method.
- 2) Ensure your connection to the Internet is a PPP, SLIP or better connection from a service provider, university or other organization with full-time Internet access. If you do not understand terms such as PPP or SLIP, contact an organization whose business is to offer Internet access.
- 3) Edit a copy of your FirstClass settings file for the MCS, substituting the above IP address in the Server field of the connection setup window. Choose TCP-IP.FCP as your connection method.
- 4) With the connection setup window still open, verify that the port you are about to try contacting is port 3004. Press the Setup button beside the Connect via popup, and check the "advanced settings" of your TCP connection for the port number. Change it to 3004 if necessary.
- 5) Initiate your Internet connection and press the FirstClass Login button. You will be connected to AAPDA's MCS. The performance you experience will depend on the bandwidth of your Internet connection and network traffic conditions.

If you connect to multiple servers at different port numbers, consider duplicating

your TCP-IP.FCP file, renaming it TCP3004.FCP and preconfiguring it for port 3004 connections. Select it as your connection method in your MCS settings file. This will save you having to reconfigure your default port if you connect to other systems at other port numbers.

Limits & Performance

The speed of your connection to AAPDA's MCS will vary depending on Internet traffic and the speed of the final connection to your machine. This is a function of the Internet, and not of FirstClass.

OMNIS 7.3.5

Omnis 7.3.5 is scheduled for release in February, 1996.

Proposed Feature Enhancements for all platforms:

- Window objects: you can place tool bars, menu bars, and status bars inside window frames making your windows self-contained.
- SQL Data Transfer: lets you copy SQL data and table structures between sessions using drag and drop.
- Notation Helper: a new tool that helps you write valid notation; it can test notation as you type.
- Library Differences: a new library utility that lets you compare two different versions of the same library.
- Procedure Checker: a new tool that lets you scan your procedures for errors and potential problems; you can check procedures in individual formats or entire libraries.
- Application Builder: a new tool that lets you define application rules that govern the behavior of forms in your library.
- Report Interleaving: combines one or more Omnis reports and sends them to the printer as a single document.
- DAMs: the ODBC DAM is now available on the Macintosh and PowerMac. There are other important changes for the Omnis DAMs; see the Update manual for details.
- Graphs documentation: there is a completely new Graphs manual (printed copy and Acrobat PDF file) containing a Developer's and Reference section, and the new Tutorial manual contains a chapter about Omnis Graphs.
- Attribute Inspector: lets you sort attributes by name or number, and filter out the standard attributes for ease of use.
- Field names window: constants and



functions are now arranged in groups for ease of access.

- Numeric Input Masks: place holders for numeric fields have been added.
- SQL Server DAM: support for System 10 data types and cursors.
- Oracle DAM: support for Oracle SQL*Net 2.1.

Windows Only Enhancements:

- WinRunner: gives you support for Mercury Interactive's automated software testing tools.
- OLE2: gives you OLE2 support under Windows.
- Lotus Notes: support for Lotus Notes version 3.2 under Windows.

Windows 95 only:

This version gives full support for Microsoft's new OS.

Other features the writer has noticed is that the development environment appears to be quicker, many of the design windows have been modernised with 3D features, the F9 field names window has been considerably improved and the annoying "Snap-back" list redraw bug has been fixed.

Problems with Saving Formats

From an OMNIS 7.3.2 perspective, the safest way to ensure that your format changes are saved is to execute the "Save Library" command frequently. OMNIS will do all that it can to force a disc write when it executes this command. Blyth plans to return the "Auto Save" functionality to OMNIS in the next release of OMNIS following OMNIS 7.3.2.

You might also consider turning off the "Write Behind Cache" option in DOS to reduce your exposure to operating system caching in the event of a crash, or take other steps to reduce the risk of problems related to caching, depending on your platform or hardware configuration. You may view the parameters for this option by typing "smartdrv /?" at your DOS prompt, and current settings via the "smartdrv /v" command. Executing the command "smartdrv C" will turn off "Write Behind Cache" for the C drive, and "smartdrv /x" command will turn it off for all drives. Windows should not be running

when these DOS commands are executed. We cannot predict what other effects this might have on your operating system environment, but believe that this will provide the greatest possible chance of preventing the loss of work during unexpected application or system events.

Blyth Technical Support

Appleshare 4.1 Read-Ahead Buffer

This means a large cache is good if you want to read large contiguous files. This means a large cache is VERY VERY bad if you want to use Omnis. Therefore, to optimize performance of Omnis file-sharing databases where the datafile is stored on an Appleshare volume, be sure to set the File Server cache prefs as small as possible.

General Protection Faults

If you are having trouble with GPF's then the first thing to do is to restart Windows and try again! Run the debugger through your code and if the GPF occurs when a DLL is loading or running, then the culprit may be that the wrong version of the DLL is being loaded. Windows looks for DLL's in the following order:

- in memory
- the WINDOWS directory
- the WINDOWS\SYSTEM directory
- the DOS path
- the directory in which the application resides

Dr Watson and Winspector are two applications that monitor system calls and write the calls to a text file before performing them. The beauty of these applications is that they identify exactly what has called the GPF and can save you many hours of work. Winspector appears to be shareware as no copyright is claimed. Dr Watson appears to have been licenced by Microsoft at one stage, (v 0.8), and may be in your WINDOWS\SYSTEM folder.

SAVING RAM

The basic techniques for minimising RAM requirements are to use Optimize Procedure, clear lists when finished with them, use the Clear Format Variables when Closed option and to use the Revert Format command to clear unneeded formats. RAM resident formats can be established by building a current windows list using notation. The Revert Format command is poorly documented and it is suggested in the manual that this command reloads the stored version of the format into RAM. It doesn't, its action is simply to clear the selected format from RAM.

Much much more on RAM use in the next issue of OmniDirectional.

Grandfathering Omnis 7.3.x Enterprise Kit Owners

Owners of the Enterprise Kit prior to the release of the Omnis Workgroup product are entitled to purchase the PowerMac; and NT Versions at a significant reductions off the previous pricing. The new pricing is \$120 per platform.

DLA Retail Mini-Price LIST

WorkGroup Product (development environment plus 10 user Runtime)	\$ 799
Omnis for Oracle (as per Workgroup plus Oracle DAMS)	\$2,799
Omnis Enterprise Kit (all DBMS DAMS)	\$5,100
NT, PowerMac Development environments for Enterprise Kit Owners prior to 1/10/95	\$ 120
Upgrades	
Omnis for Oracle from Workgroup (Mac OS's or Windows OS's each)	\$2,195
Enterprise Kit from Omnis for Oracle (Mac OS's or Windows OS's each)	\$2,859
Enterprise Kit from Workgroup (Mac OS's or Windows OS's each)	\$4,595
Run-times	
Omnis 5 limited number of single user and multi-user available...please call.	
7.1.4 or 7.2.2 Single user serial numbers for workstation deployment	\$ 180
As above for server-deployment (single and multi-user no.s)	\$ 360
7.3.2 per user	\$ 90
Manuals- 7.3.2 Enterprise Kit	\$ 120

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