

# Omni 7 Directional



**OMNIS World '96**

**Geir Fjaerli reports on the ups and downs of OMNIS World '96 in Dallas**

502 mails later, our hero is still waiting for the fog to lift from his eyes. It is 9 PM, 4.000 miles from Dallas, he's got 43 dollars and he is *not* wearing sunglasses....

Chapter 1: The software. (Oops, sorry about that , THE TECHNOLOGY!)

Please read the following disclaimer carefully before going on: The author of these ramblings has loved every new OMNIS version since the start, including OMNIS 7 version 2.0, which he used in beta at the world championship in programming. Any enthusiasm on his part should therefore be taken with the utmost precaution.

'nough of that! On to the stuff:

Prometheus:  
 Triple O (OOO, the Object Oriented OMNIS) is great. Or maybe it should be POOO, Practical Object Oriented OMNIS. As David McKay pointed out, this is meant to give the benefits of OO to the OMNIS community, not to emulate SmallTalk. And in doing so I think they have succeeded admirably. Or will have, if any resulting products are anything like this technology. So I won't go into

product details, as this is not - but if it were etc., rather let me point out the following key points:

- Slick new visual interface.
- Three tier support and tasks.
- New report generator! (About time.)
- Notation finally done right, with a split between methods and properties.
- OOO: MDI and real messaging.
- SQL awareness and smart lists

And more! This could have been a 20 mail series if I were to go into details, but then I would have to lock you all in for about 3 months until Blyth makes public product announcements that may or may not coincide with the technologies mentioned above. (Right?) Which might prove to be a bit hard to do over the Net. (Reminds me of the following story: An American criminal was confined to his house with one of these electronic handcuff alarms, programmed to modem transmit an alarm to the police if he left. Now he did, and the alarm system dutifully rang the police computer. But the line was busy, and the system wasn't programmed to try again....) Anyway, just say the word, and I'll at least lock myself up.

This product - sorry again, technology - demonstration is a wonderful way of saying to all of us: Don't worry about getting the job done, there's still going to be nothing better out there! Now as for getting the jobs in the first place, that is another issue that I will return to another time.... Oh, and the Triple O nickname is not just a gag, I would like to take the opportunity to advocate keeping the OMNIS name for the new generation products.

The Athena database:  
 Yep, you heard the man. The OMNIS database engine will be a full featured, standalone, ANSI 92 SQL, Object database server. With an API and ODBC. All you ever

wanted in 2 Mb of RAM (well, not 24 anyway; and with a price to match?) Not all at once, though, there will be a period of transition. David has confirmed their support for the OMNIS database engine before on this list, but I guess this was beyond anyone's dreams! And for a Mitford House '87 summer conference freshman, it felt great to hear that David Seaman (no, not the soccer player) is still THE man as far as core technology is involved. Again, wait for the actual product announcement before making plans

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## OMNIS Goes to School

The DLA Group has been instrumental in spreading OMNIS throughout Australasia by way of a special tertiary institution OMNIS seeding Campaign. Under this campaign DLA has been successful in placing OMNIS on the curriculum at four Universities in Australia, so that it is a compulsory part of the computer science or appropriate IT training course at that university. Universities in Queensland, Western Australia, New South Wales and Tasmania have all adopted the DLA Seeding Campaign.

At Murdoch University in Western Australia the School of Physical Sciences, Engineering and Technology have commenced significant use of OMNIS within the Information Systems Programme. In the laboratories, Murdoch University have primarily followed the OMNIS tutorial documentation and supplementing this with a case study involving a panel-beating

business. Students are required to develop an application enabling the recording of labour and material costs and the subsequent production of invoices and management reports. For each tutorial chapter within the OMNIS tutorial, Murdoch University have provided a series of questions for which students are required to provide written answers. This ensures that they are doing more than merely going through a "button pushing" exercise.

The unit of work within the Information Systems Programme is about software development tools and, as such, much of the lecture content is oriented to general issues including criteria for the evaluation and selection of development tools, the use of standards in systems development and the management of productivity and quality in system development. OMNIS is being used in this context to demonstrate/exemplify some of the concepts discussed in lectures. Lecturers within the Programme have reported that as this is the first time they have taught this course they believe there is scope

for improvement and modification of the content. In particular Murdoch University will develop new laboratory exercises to more directly compliment lecture content rather than relying so heavily on the OMNIS tutorial manual, which they highly commend! They do note that the OMNIS environment does, however, provide the functionality to support the major course objectives.

Dr Peter Firms is the senior Course Coordinator within the School of Physical Sciences and he further reports that: "Next semester we hope to use OMNIS in a different way with a different group of students who will be undertaking project work in teams. Each team is assigned to an external client and is required to develop a requirements specification and to implement a prototype system.

In my view OMNIS is an ideal platform for this type of project."



**Dr. Peter Firms**

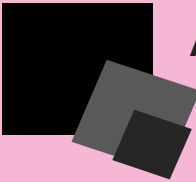
OMNIS developers in Western Australia had been put in contact with The University and they are active in assisting the School of Physical Sciences to use OMNIS to its best advantage.

The use of OMNIS in the way described above is an enormous advantage insofar as it introduces students to the benefits of our excellent software platform at a time when they are most receptive to new tools. This can only result in the expansion of the OMNIS developer base and increase in the deployment of OMNIS applications in the work place.

This is a long term strategy devised by DLA to ensure that our brightest minds are directed towards the best relational database tool, which is of course OMNIS!

Omni Directional is produced by DLA Technology  
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## Course Outline

### Week 1

The software development environment: concepts, tools and methods.

Classes of SDE tool:

Tangible vs conceptual tools.

### Week 2

Integrated Development Environments (IDE):

OMNIS 7 overview.

Tool taxonomy: 4gis, data dictionaries etc: contemporary dev. Env.

Introduction to OMNIS 7.

### Week 3

Evaluating development tools.

Evaluating development tools (cont.)

Creating an SQL form in OMNIS 7.



Murdoch Campus

### Week 4

The development cycle & OMNIS 7 application development tools.

App. design conventions object/file naming.

Windows and menus in OMNIS 7 - basic prototype development.

### Week 5

Designing event-driven applications.

OMNIS 7 4GL an event-driven development language.

Introduction to OMNIS 7 procedures and OMNIS 7 4GL.

### Week 6

Productivity tools. API's libraries, foundation and code skeleton libraries.

### Week 7

Robustness & reliability: software testing.

Strategies & tools for testing & debugging.

OMNIS programming and the debugger: building reports with OMNIS 7.

### Week 8

Managing development in a team-based environment: Check in/ check out , concurrency and clashes.

Version control and team-based development: OMNIS 7 version control systems (VCS).

Windows procedures & data entry: handling lists.

### Week 9

Documentation tools, code documentation aids, user documentation aids, establishing documentation requirements.

Quality control tools, reliability, establishing adequacy of implementation.

Control procedures and the event loop: table lists.

### Week 10

Client-server concepts.

Client-server concepts continued.

Introduction to OMNIS VCS; using OMNIS notation.

### Week 11

OMNIS 7 Data Access modules (DAMs).

Implementation and maintenance tool: protecting the development skills investment, the legacy document.

Client-server application development with OMNIS 7.

### Week 12

Change Management with reference to OMNIS 7.

Standards and conventions, selecting and enforcing local and global development conventions.

OMNIS finishing touches change management system.

### Week 13

Revision.

or evaluating features. Do note, that getting started on the transition to SQL is probably a wise thing to do.

The Internet stuff:

Why all the excitement? Just another DLL, isn't it? Nope, guys, this is hot stuff. Nothing that other products don't do in there, even a few things that I don't know of. It's the electronic equivalent of a delivery service that delivers your own morning cup of coffee. So known as "net" or "network". Sort of like finding the right tools - with systems that run on it - for the 128K Mac, only without knowing where to find them somewhere.) But Blyth's new stuff makes all and more available within your OMNIS development and runtime environment. Now that is something! OMNIS as a server, OMNIS as a client, doing mail, file transfers, Web stuff, making HTML and Java. And even if you don't really get excited about all that net stuff, all those companies out there with "Getting 'netted" badges and open wallets should have you change your mind quite easily.

Which about covers what a single man was able to cover in two days. (Not including the last day of awards and summaries.) I would like though to give a special credit to a couple of non-Blyth technologies:

- To Warren and Dewey for their excellent application framework stuff. (It is interesting to see how OMNIS can inspire two so very different approaches to getting the job done.) A small note here: Blyth actually managed to do their customer award session with NorTel without a mention of Warren's effort. That was really a shame. Thanks also to the other VARs showing their technologies (sorry, products) to the rest of us. There was some great stuff there.

Chapter 2: The people:

# Just the FAQ ma'am

Here is a list of some of the more frequently asked questions about OMNIS 7.3.5

## 1. Is OMNIS 7.3.5 a maintenance release or an upgrade?

OMNIS 7.3.5 is an upgrade. To explain, OMNIS maintenance releases typically represent increased product stability through fixed bugs (AKA "faults") along with enhancements to existing features. An OMNIS upgrade, on the other hand, includes fixed faults, enhancements to existing features, and new features.

OMNIS 7.3.5 is an upgrade by virtue of several new features, including the new OMNIS platform version for Windows 95. Note: those who are under Blyth Support Maintenance are eligible to receive OMNIS 7.3.5 for the platforms they already own.

## 2. I want to upgrade my copy of OMNIS to OMNIS 7.3.5. Should I use the Update button in the OMNIS 7.3.5 Installer to perform this update?

Blyth Technical Support recommends a 'Typical Install' to a brand new folder when upgrading to OMNIS 7.3.5. Be sure to have your serial number ready to enter into the serial number field. After you have successfully installed OMNIS 7.3.5, you may delete your previous version of OMNIS 7.3.x from your hard disk, if desired.

Note: Remember to turn off extensions on Macintosh and Power Macintosh computers, and disable TSRs, virus checkers and all other applications on Windows-based computers before installing OMNIS 7.3.5.

## 3. Can I use my current serial number to install my OMNIS 7.3.5 upgrade?

Yes. If you are upgrading, your current serial number will work when installing OMNIS 7.3.5.

## 4. What are the new features in OMNIS 7.3.5?

Listed below are the new features in OMNIS 7.3.5. Note: for more details on new features in OMNIS 7.3.5 listed below, please refer to the OMNIS 7.3.5 Installation & Update manual.

- 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

- OLE2

Gives you OLE2 support under Windows

- WinRunner 3.5

Support for Mercury Interactive's WinRunner 3.5, which is an automated software testing tool for the Windows 3.1 platform

A new tool to help you write valid notation that tests notation as you type

- Compare Libraries

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

- Report Interleaving

Combines one or more OMNIS reports and sends them to the printer as a single document

- Windows 95 Support

OMNIS 7.3.5 introduces the Windows 95 version of OMNIS as well as continued support for the Windows NT and Windows 3.1 versions.

- Data Access Modules

ODBC DAM - now available on the Macintosh and Power Macintosh. There are other important changes for the OMNIS DAMs. Please see the section on Client/Server Programming in the OMNIS 7.3.5 Installation & Update manual

SybaseDB DAM - new DAM with support for Sybase System 10 numeric(p,s), decimal(p,s), and double precision data types, and Sybase System 10 cursors

Oracle DAM - now supports Oracle SQL\*Net 2.1

- Graphs documentation

A completely new on-line Graphs manual containing a Developer's and Reference section; the new on-line Tutorial manual also contains a chapter on OMNIS Graphs

## 5. What are the enhancements to existing features in OMNIS 7.3.5?

Listed below are enhancements to existing features in OMNIS 7.3.5. Note: for more details on existing features in OMNIS 7.3.5 listed below, please refer to the OMNIS 7.3.5 Installation & Update manual.

- Attribute Inspector

Sorts the attributes by name, and lets you 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

- ToolTips

You can add short help messages to custom tool buttons, that pop up when the user pauses over a button

- Lotus Notes

Support for Lotus Notes version 3.2 under Windows 3.1 platform

- Macintosh 3D Interface Preference

New preference to set Macintosh interface objects to look like Windows 3.1 platform interface

- Power Macintosh Extensions

The following extensions are now supplied for the Power Macintosh version

Random	ListFnc	HelpCom	GetFiles
DateFnc	FileOps	Strip	Replace

- Sample Externals for Windows NT and Windows 95

32-bit versions of the QuickTime and MS Mail DLLs, and support for the 16-bit Lotus Notes DLL in the Windows NT and Windows 95 versions

## 6. Why have some DAMs been placed in the OMNIS 7.3.5 'Unused' folder/directory? Are these DAMs no longer supported or developed by Blyth?

With the introduction of OMNIS 7.3.5, Blyth has focused its resources to ensure that connectivity to the Oracle and Sybase RDBMS products is of the highest quality. In addition, emphasis has been placed on ODBC, which is quickly becoming the industry leader for middleware connectivity.

This latest focus is demonstrated by the inclusion of an all new Sybase System 10 DAM, the SybaseDB DAM, as well as a Macintosh ODBC DAM. OMNIS 7.3.5 also contains a number of fixes and enhancements to the Oracle DAM for all platforms and the ODBC DAM for Windows 3.1. New ODBC DAMs are also included in the Windows NT and Windows 95 platform versions.

In keeping with this new focus, support for certain DAMs has been removed. The DAMs affected by this change are: DAL, SequelLink, EDA/SQL, Rdb, Ingres and Informix.

Note: Please check the Blyth Web Page or the Blyth Forum on CompuServe for the latest version of this document, which may contain more up-to-date information on current and future OMNIS Data Access Modules.

## 7. Does the Windows 3.1 version of OMNIS 7.3.5 run on Windows 95 or Windows NT?

No. To use OMNIS on Windows 95 you must use the Windows 95 version of OMNIS 7.3.5. To use OMNIS on Windows NT, you must use the Windows NT version of OMNIS 7.3.5

## 8. Since receiving OMNIS 7.3.5, I've noticed there is no longer access to the CMS via the Tools menu in the Design Shell. Is there a 3.5 version of the CMS?

No. There is not a 3.5 version of the CMS. However, version 3.2 of the CMS will work with OMNIS 7.3.5. Those using version 3.1.1 of the CMS must upgrade to version 3.2 for OMNIS 7.3.5 compatibility.

Also be advised that the CMS is a separately sold software product. Support services for the CMS are also sold separately from other support programs for OMNIS 7.3.5 development products.

For more information on preparing an OMNIS 7.3.5 library for deployment via a CMS data repository, please see TechTip TT038, which can be found in the CRL3 TechTips Library.

## 9. I've recently heard there will be an OMNIS version for the OS/2 WARP OS. Is this true? If so, when will it be available?

Due to the established partnership between Blyth and IBM announced in January 1996, there will be a version of OMNIS for the OS/2 WARP OS currently scheduled for release in August 1996.

## 10. I'm noticing that trailing blank spaces are automatically getting stripped from SQL select result sets. I thought you had to set the \$sqlstripspaces notation attribute to kTrue for this behavior. Has this been changed in OMNIS 7.3.5?

Yes. This has been changed. The notational attribute \$sqlstripspaces in OMNIS 7.3.5 now has a default of kTrue, whereas previous versions had a default of kFalse. Note: this notational setting works against Sybase VARCHAR fields, but does not work properly against Sybase TEXT fields.

## 11. When I launch OMNIS 7.3.5, the Design Shell is automatically loaded. In previous versions I was given a choice to either load the shell or use the Built-in Format Browser. Is it possible to still have a choice, and if possible, how can I return to the previous behavior?

The Design Shell default preferences have been changed in OMNIS 7.3.5 to automatically load the Design Shell when OMNIS is launched. To receive the prompt when OMNIS launches, simply click on the 'Preferences' button after the Design Shell loads, click the radio button to prompt, and click the 'Save' button.

## 12. What backend RDBMS' have been tested and certified in OMNIS 7.3.5?

- Oracle 7.0 through 7.1.3 using the Oracle DAM
- Sybase SqlServer 4.9.x using the SQLServe DAM
- Sybase SqlServer System 10 & System 11 using the SybaseDB DAM
- Microsoft SqlServer 4.2 using the SQLServe DAM
- Microsoft SqlServer 6.0 using the ODBC DAM
- ODBC Level 2 Compliant RDBMS drivers using the ODBC DAM on the Mac, Power Mac, Windows 3.1, Windows NT and Windows 95 OS platforms.

Note: for more information on the Macintosh ODBC DAM, please refer to the OMNIS 7.3.5 Installation & Update manual.

## 13. I've been using the 'Browse File' button in the Design Shell since the initial release of OMNIS 7.3.0. But now this button is gone in OMNIS 7.3.5. Did I get a bad copy of 7.3.5?

No. The 'Browse File' button has been removed from the Design Shell, as well as the corresponding 'Browse Definition for...' window format.

The 'Browse File' button is described on pp. 1-41 and 17-14 of the Developer's Guide and referred to on p. 2-21 of the printed Tutorial manual. This change is documented in the 7.3.5 Installation & Update manual.

**14. I need to deploy an OMNIS 7.3.5 library using the 7.3.5 Deployment Tool. Is it possible to get a more concise explanation of steps for the deployment process than what's explained in Chapter 12 of the OMNIS 7.3 Developer's Guide?**

There is a Deployment Document called "DPLY735B.DOC" available on the Blyth Web Page and Library 11 of the Blyth Forum on CompuServe. Or call Blyth Tech Support at 415/570-2220 and a Call Director will fax you a copy of DPLY735B.DOC.

**15. Does the Power Mac version of OMNIS 7.3.5 work with PCI Power Macs?**

The Power Macintosh version of OMNIS 7.3.5 was not tested, and therefore not certified to run on Power Macintosh models 9500, 8500, 7500, 7600 and 7200 running with MacOS 7.5.2 or MacOS 7.5.3. However, Blyth Technical Support has received reports from customers who are running OMNIS on these Power Macintosh models with little or no trouble. Most known problems seem to be MacOS related, and that MacOS system extensions and certain control panels are most suspect regarding conflicts. Versions of Open Transport prior to version 1.1 have been very problematic, and the recommendation is to upgrade the MacOS to 7.5.3 (AKA System 7.5 Update 2.0) to get the latest version of Open Transport.

Note: Fault GR/GE/611FC was logged in response to problems in a networked environment with PCI Power Macs running MacOS 7.5.3. This problem has since been determined as a flaw in the MacOS for which Apple has created a system patch to correct the situation. This patch is known as the "SetFPos Patch Init" and is available from the Blyth FTP site at ftp.blyth.com.

**16. When I select the 'Do not gray' attribute for a pushbutton, it remains visible when its window is run. In 7.2.x, this button would become invisible. Is there a way to retain or achieve the 7.2.x behavior in OMNIS 7.3.5?**

To set the 'Do not gray' attribute to the 7.2.x behavior, execute the following notational string in your library :

```
Calculate $clib.$prefs.$visondonotgray as kFalse
```

**17. After starting the Windows version of OMNIS 7.3.5 and launching the Design Shell, I always get the message "The Icons file could not be found - this will reduce the presentation of the Shell." Also, I cannot see the folder icons for the different formats in the Design Shell's Format Browser. At other times, I get the message "Could not find the file OMNISpic.df1 or Queries.df1" whenever I choose any of the options from the Tools menu such as Logon Manager or SQL Object Browser. This message appears even though these files are in their correct location. How do I resolve these problems?**

In order to run properly, the OMNIS 7.3.5 for Windows environment requires the presence of the DOS SHARE.EXE program loaded in

RAM. Make sure SHARE.EXE is loaded in DOS before Windows is launched on the PC; (see p. 2-2 of the Installation & Getting Started manual.)

**18. I just converted my OMNIS 7.1.x application to OMNIS 7.3.5. The conversion process inserted 'If #CLICK/End if' statements around all of my pushbutton code. As a result, I can no longer call any of those procedures. What steps do I need to take to handle this new behavior?**

Since the introduction of OMNIS 7.2.x and higher, "mouse event" functionality has been made available to OMNIS libraries. This means that your pushbutton code would be automatically executed each time a 'mouseover' event occurred if the conversion process did not insert the 'If #CLICK' statements around the code behind these buttons. If you are calling these procedures from other locations in your application, you must modify your code by either moving the procedure to another line and calling it, or adding a 'Queue click' command and passing the field number of the pushbutton to simulate a click event.

**19. I am reviewing the OMNIS 7.3 Tutorial manual. When I follow the instructions starting on page 3-9 for Making a SQL Form, I get error messages and cannot continue.**

On p. 3-9 in the printed Tutorial there is a warning message indicated by the 'Stop Sign' icon which states:

"The Form Builder only handles the more widely used server types, such as Oracle and Sybase. A screen prompt will advise you if the server for your current session is not catered for, in which case you will be unable to complete this section."

The OMNIS 7.3.5 SQL Form Builder was designed to work with Oracle 7 using the Oracle DAM, Sybase 4.9.x or Microsoft SQL Server 4.2 using the SQLServe DAM, Sybase System 10 using the SybaseDB DAM, or an OMNIS data file using the OMNISSQL DAM. Thus, the OMNIS 7.3.5 SQL Form Builder may not work with the ODBC DAMs or older 7.3.x DAMs.

**20. Why can I access my OMNIS 7.3.5 data more quickly when using the built in Data Manipulation Language (DML) commands, as opposed to when I use OMNISSQL commands against the same data file?**

The OMNISSQL environment accesses data by running its SQL commands through an interpretive process which converts them to native DML commands. This process takes longer than using direct native DML commands.

Note: Blyth Technical Support does not recommend that OMNIS DML commands and OMNISSQL commands be used against the same OMNIS data file in a production library.

**21. I'm getting errors for which I cannot explain in my OMNISSQL session. What might be causing this, and is there something I can do to remedy the situation?**

For proper behavior, establish the OMNISSQL session to the OMNIS data file via the OMNIS SQL logon commands. The 'Set hostname'

# OMNIS 7 vs. Powerbuilder

command requires the full data file path and name before executing the 'Logon to host' command. Following is the proper way to establish an OMNISSL session:

```
Prompt for data file {MY.DF1}
If flag false
  OK message {Cannot find data file!}
  Quit procedure
End If
Calculate #S1 as sys(11)
Close data file {MY.DF1}
Set current session {OMNISSL}
Start session {OMNISSL}
If flag false
  OK message {Unable to start OMNISSL.}
  Quit procedure
Else
  Set hostname {[#S1]}
  Logon to host
  If flag true
    OK message {OMNISSL session established!}
  End If
End If
```

Note: Blyth Technical Support does not recommend that OMNIS DML commands and OMNISSL commands be used against the same OMNIS data file in a production library.

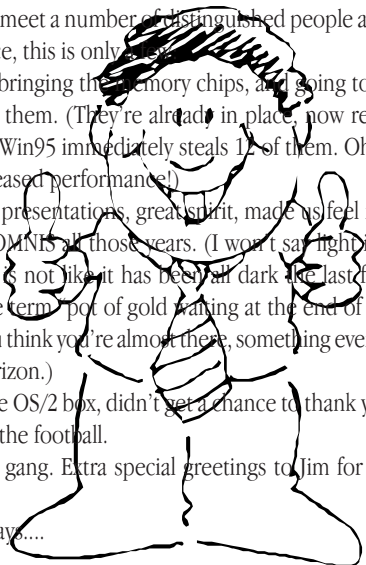
## 22. While using OMNIS 7.3.5, I added a field to a file format. When I performed a Select on this table using OMNISSL, I couldn't see the recently added field and I received a SQL error message. Why is this happening and how can I work around the problem?

This error occurs because the OMNISSL command contains a field name that does not yet exist in the data file. That is, when the field was added to the file format in design mode, a slot for that field was created in the library file, but not the data file. The problem is solved with a 'Set main file {format\_name}' command preceding the OMNISSL command. The 'Set main file' command is that which duplicates the new field into the data file, and in turn enables the OMNISSL session to "recognize" the field.

Important note: The solution to this problem is the one exception to the recommendation that OMNIS DML commands and OMNISSL commands not be used against the same OMNIS data file.

I was lucky to meet a number of distinguished people at and around the conference, this is only a partial list:

- Clifford, for bringing the memory chips, and going to all the trouble of finding them. (They're already in place, now reports 49 MB total, though Win95 immediately steals 12 of them. Oh, I can easily note the increased performance!)
- David, great presentations, great spirit, made us feel rewarded for staying with OMNIS all those years. (I won't say right in the end of the tunnel, it is not like it has been all dark the last few years, I'd rather use the term "pot of gold waiting at the end of the rainbow. Whenever you think you're almost there, something even better pops up on the horizon.)
- Frank, for the OS/2 box, didn't get a chance to thank you properly.
- Stephen for the football.
- The Aquavit gang. Extra special greetings to Jim for being a nice guy.
- Gideon, always....



I have a question for all of you that have done comparisons between our great OMNIS 7 product and Powerbuilder. I have a customer that is being told that Powerbuilder 5 is a superior product over OMNIS 7 3.2.1.

ANSWER: OMNIS apps can be prototyped in under an hour (moderately robust), PB apps cannot. Where do I start in comparing...CMS, VCS, "true" cross-platform, 90 databases, no need for third party utilities to perform nominal tasks, a simple design environment, many many pictures in the DF1, affordable to develop and deploy, good DAM connects, yada yada yada!

A little background:

A company has been working on an application that is more than 2 years in the making. They started using one product, then switched to Powerbuilder then to OMNIS 7 3.2. The application is going against an Oracle7 backend and is all Windows based machines attached via a banyan vines network to a VAX.

Phase I of the application was just released this past May. The users are complaining that the application is very slow and is taking up to 45 minutes in some cases to retrieve their data.

ANSWER:

Run the queries outside of OMNIS before doing any other testing. The problem may not be OMNIS related at all. If that not the problem, the source code should be looked at, because OMNIS/Oracle connects are fast, typically. No problem with Vines either (I've used it). But a Vax????

Ugh!

Some possible problems I can see is maybe the programming style being used, the SQL statements, PC's without enough memory or storage, etc. There is only one programmer working on this project and he was new to OMNIS when he started.

My question then is what other variables are involved with their performance and mainly is there any superiority of Powerbuilder over OMNIS 7?

ANSWER:

Please detail this statement. I would challenge *any* Powerbuilder developer to take a set of requirements and life-cycle a simple application. Right Guys....? By the way, does PB use variables? Are GPF's still "a normal Windows event"? Well, the balls in your court now.

Alan Worth

- Dick for saying hello. (It feels nice to be remembered after so long!)
- WANTED! The Crab shack guy. I have lost your mail address. Please send me a mail with your details. (I am really (!!!) embarrassed for not remembering your name. Those hotpants girls there singing Desperado to taped music sort of distracted me just a little.)
- All you nice guys saying "If you're ever in XXX and need a job @."
- The Renaissance breakfast staff for recognising me in the morning.
- The bartender for pretending not to ;)

# Optimised SQL in OMNISSQL

Some of you may have noticed that it is somewhat hit & miss whether you get good performance out of queries executed under OMNISSQL. The way you construct your where clause can have a HUGE impact on performance. Here is what I have found you need to do to write optimized SQL for OMNISSQL.

## Executive summary

Make sure the last indexed comparison in your WHERE clause is the one which best narrows down your search.. Make sure your joins are expressed with what you HAVE on the left of the '=', and what you NEED on the right.

## Textbook version

Take the following SQL code as an example:

```
SELECT CUST_ID, CUST_NUM, CUST_NAME, CUST_CITY,
CUST_STATE, INVOICE_NUM, INVOICE_AMOUNT FROM
CUSTOMER, INVOICE WHERE CUST_ID=12345 AND
INVOICE_OPEN=1 AND CUST_ID=INVOICE_CUST_ID
```

This says "bring back customer & invoice info for all OPEN invoices belonging to the customer with ID 12345."

This should be a pretty quick query to run, because I am providing the ID of the customer I want, right? With OMNISSQL, not necessarily.

When parsing the where clause, here is what I believe Omnis does:

1 - Looks at comparisons involving literal values (e.g. CUST\_ID=12345 or INVOICE\_OPEN=1), because it knows that those comparisons can narrow down the search considerably.

2 - Looks at which of those comparisons involves an INDEXED field.

3 - If there are several such comparisons (i.e. indexed field being compared to a literal), it chooses the one which appears *latest* in the where clause. (Note: If there are no indexed fields being compared to literal values, then I don't know what OMNISSQL does).

4 - It does an indexed search on the table to which the indexed field belongs, loads into some part of memory the records resulting from that comparison, and uses that result set as a starting point for further narrowing down your search, and joining to records in other tables.

Let's stop there for a second. In the above example, that would mean that if CUST\_ID is indexed and INVOICE\_OPEN is not, then Omnis would locate the CUSTOMER record with ID 12345, and then go out and get that customer's open invoices.

But if both CUST\_ID and INVOICE\_OPEN are indexed, then Omnis will choose the INVOICE\_OPEN=1 comparison as its starting point (because it appears later in the WHERE clause than the CUST\_ID=12345 comparison). Omnis will load all open invoices

into RAM, and narrow down the search from there. Obviously, this is a terrible way of running this search, but it CAN HAPPEN. —

Now, about the JOINS in the WHERE CLAUSE...

OMNISSQL looks at the JOINS only after it has loaded a first set of records from a table based rules 1 thru 4 above. The way you express the joins in the WHERE clause I have found to be crucial to performance. It's not the order in which they appear that matters. What matters is, for any given join (e.g. INVOICE\_CUST\_ID=CUST\_ID) what you put on the left side of the '=', and what you put on the right. The join in the above example can be expressed in 2 ways:

INVOICE\_CUST\_ID = CUST\_ID and CUST\_ID = INVOICE\_CUST\_ID

Under OMNISSQL, one will give good performance, the other will give lousy performance. How do you know which one to use?

Based on rules 1-4 above, you should be able to figure out from which table Omnis is going to load records first when executing your query. Let's say in our example, CUST\_ID is indexed and INVOICE\_OPEN is not; then according to rules 1-4, Omnis will load CUSTOMER records into memory first. In that case, you HAVE loaded your customer record, and you still NEED to load invoice records. I have found that for OMNISSQL to perform well, joins must always be expressed with what you HAVE ALREADY on the right side of the operator, and what you STILL NEED on the left. It's as if saying

INVOICE\_CUST\_ID = CUST\_ID

is like saying

Load INVOICE records whose INVOICE\_CUST\_ID matches the CUST\_ID

which will work fine in our example, because the CUSTOMER record has already been loaded by the time OMNISSQL gets to the JOIN.

But if our join looks like this:

CUST\_ID = INVOICE\_CUST\_ID

OMNISSQL gets confused, and performs terribly. It's as if you've told it to:

Load CUSTOMER records whose CUST\_ID matches any INVOICE\_CUST\_ID field in the INVOICE table.

which seems to cause it to scan both tables or something. Whatever it does, it isn't pretty.

So, rules regarding JOINS are:

5 - Figure out from rules 1 through 4 what table OMNISSQL is going to load from first, and then make sure any joins involving THAT TABLE place the key from that table on the RIGHT SIDE of the '='.

6 - If your query has more than 2 tables (and therefore more than 1 join), just keep applying rule 5 to the other joins. When deciding

which join to perform next, OMISQL looks at the table(s) it has loaded from so far, and chooses to perform a join that is based on one of them. It continues this process until all joins have been processed. With this in mind, you can fashion a set of JOINS which always lead OMISQL efficiently from what it has already found to what remains to be found.

One final rule:

7 - No matter how complex your query, no matter how many extra conditions are in there like CUST\_STATE='AZ' or CUST\_CURRENT=1 or CUST\_TYPE=3 CUST\_BAD\_CREDIT<>1 or whatever, the only things that matter to PERFORMANCE are the rules stated above.

*Richard McGilly*

*McGilly Information Systems Inc.*

*<http://www.mcgilly.com>*

- The rest of you for reading this far...

Sorry if I forgot someone! You're all in my heart.

Chapter 3: The downs :-(

The Certification Lab.

Now there is what you might have imagined being a popular event. Unfortunately it wasn't a "walk in and try" thing. Nope, you had to phone the company to sign up for the test and pay, then you could go back. As a result the room was empty most of the time. Me thinks Blyth could have done better by adding 20\$ to the conference price and then made this a "complimentary" free for all drop in event. (Speaking of complimentary, we went to another hotel in the area to visit a customer, and they had a complimentary bar. Obviously hadn't had too many Norwegian guests....)

The Renaissance pricing.

Complimentary bars not included, I need to raise one issue: When I called the hotel to register, I was quoted the promised price of 99\$. The printed confirmation I received by mail said the same. Therefore it was a bit annoying to find that the actual price was not 99, rather it was 99\$ + 5.94 state tax + 6.93 city tax. And breakfast not included being some 13\$, while it was complimentary on the \$129 Club Floor (as well as evening snacks). Now I understand that taxes are not the hotels responsibility, and you might argue that the option of skipping breakfast is OK. But the point is that they should have made this clear upon reservation and confirmation. Just a line saying "Taxes and breakfast not included" would have been OK. Now the hotels argument that all US hotels have the same tax laws is hardly relevant to a Scandinavian traveller. In Norway you have to tell if taxes etc. is not included. (Sorry Geir, travellers must complete their own enquiries - US institutions have adopted the above approach for well over 20 years!! editor DLA).

Chapter 4: The plug.

If ever in Dallas (again), try Chez Gerard on McKinney for a nice French dinner. Good onion soup, great tasting soufflé, an excellent Californian wine (and a number of French ones on the list), plus a glass of Armagnac to round it off. Close to perfect. (Even if they did offer the ubiquitous fries as an alternative to the veggies to comple-

ment the lamb rib. In a city where they have steak on the breakfast menu, what can you expect? Also, they reportedly do have the best pommes frites around, so maybe I should have gone for beef instead?) Only shame was that I was the last one left in Dallas, so I was on my own that evening. Now, if only I hadn't skipped my French classes in high school....

End of story. It was a great show, worth anything but the total cost, great product, great people.

The Sunshine Kid.

(P.S. After long walks in the Dallas sunlight a number of times I think I have earned that nickname. Was even stopped by a patrol car and asked if I was all right one evening.)

Oh, and another IMPORTANT notice:

GET ON THE BETA PROGRAM! This is stuff you will want to prepare for. AND DO SOME REAL TESTING!! Now we all want this to be a real stable product, right? Quiz time: Who was really to blame for the Win95 version print problem, the Blyth developer who made what was probably a small error, (we all do those), or all us smart guys that downloaded the beta but never tested it? When I make applications for customers, I have them do a formal systems acceptance test and then sign. If something doesn't work after that, it is their responsibility. The beta test is our acceptance test of new OMNIS versions, any snag sneaks through undiscovered is our responsibility! A lot of new stuff in this one (if it becomes a product), and we'll all want it to come out right, right from the start.

And even before that, let Blyth know what you think. I already am preparing a mail to David with some things that I noted during the conference. (Relax, it is going to be a lot shorter than this one.)

This ones for Jim:

Free Beer:

"One of the singers sounds like Dylan, circa Nashville skyline, with a frog in his throat; the playing is technically adequate, but lacks heart; only the dreaded Aztec Two-Step rivals this trio for lyrical vacuity." (The Rolling Stone Record Guide.)

I never got around to play Desperado for you guys at the lobby bar piano, as promised. But then I wasn't wearing hotpants either....

Oh, and while we all want to get updated on the new prod... technologies, don't fall into the trap of telling your customers. Nothing more annoying than the answer "Well, lets put the project on ice till the new version comes out, then", and after x months of nothing to do discovering that that very feature that you sold in on didn't find its way into the release anyway!

'nough said! take care, right?

*Geir Fjaerli*

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# OMNIS 7 v3.5 Upgrade Price

What the customer PowerMac	Mac, Win 3.1 & NT		
<b>WinOS MacOS</b> 3.2 PEK no added platforms eg NT, PowerMac With Maintenance \$850 \$0		\$0 *	
Without Maintenance \$850 \$850			
<b>3.2 PEK</b> with added platforms With Maintenance		\$0	\$0
Without Maintenance \$850 \$850			
<b>3.1 PEK</b> Without Maintenance \$850			\$850
<b>Enterprise WinOS</b> With Maintenance \$560		\$0 *	
Without Maintenance \$850			
<b>Enterprise MacOS</b> With Maintenance \$0			
Without Maintenance \$850			
<b>Oracle WinOS</b> With Maintenance \$280			
Without Maintenance \$560			
<b>Oracle MacOS</b> With Maintenance \$0			
Without Maintenance \$560			
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