iua CONNECTIONS

A YEAR 2000 SOLUTION FOR IDMS APPLICATIONS

by Stephen J. Lawton, Sirius Solutions, Inc.

Welcome to summer 1999. You are reading an article about the Year 2000 and IDMS applications, so I'll assume you are in one of three states:

Done — reading this while waiting for something to download from the Web,

Testing — Year 2000 modifications made, reading this while waiting for jobs to run, or

Haven't started — your legacy IDMS system was supposed to be replaced by a client/server application during fourth quarter last year (but hasn't), and now you have no budget and no time to keep your business going until second quarter of next year (yes – that is the Year 2000) when the conversion team finally expects to be ready.

Don't laugh. Of the eight IDMS Year 2000 projects I've been involved with during the past two and one half years, most were completed only as a precaution because: (a) the businesses were not sure the client/server conversion would be completed on schedule; or (b) the client/server conversion was canceled because of budget constraints and the existing IDMS application had to be upgraded with little time and even less budget.

Years ago, when we were writing these systems, how many of us thought they would be around today? I know that in the 70s and 80s, everything I worked on was assumed to have a life span of about five to 10 years. It seemed far more cost-effective to build a new system rather than perform maintenance. Moreover, this assumption was supported by White Papers and academic texts that showed a geometric increase in maintenance costs as a system aged. The last new IDMS development I was a part of was in 1989-1990, when the century was added to date fields because we thought the system had an outside chance of being around in 2000. It will be. So are most of the applications that were supposed to be replaced by now.

The question then, is (for those that haven't started yet): What should we do about dates that don't include the century?

MESSAGE FROM THE NATIONAL CHAIR

By Jim Rice

Summertime and the living is easy. Or should it be summertime and back in the "Big Easy." Many of you will be reading this issue as you prepare to attend IMC at CA-World 1999 in New Orleans. If your shop is like mine, now is the time to relax and take a deep breath. The Y2K work is over – it is too early to worry about whether all the efforts paid off. Management won't let you implement anything new. It is just a time to relax — NOT.

No, now is the time to catch up on all of the items you never have time for. Spend time on performance and tuning, test your disaster recovery plan and dare I say it – document procedures! Now is also the time to check out new products – road test them, kick their tires.

If you are attending IMC, I encourage you to attend as many sessions as possible. Not only will you learn valuable information during the presentations, but you will also have a chance to network with colleagues between sessions. Take this opportunity to find out how others are handling the same issues as your shop. And, the World Resource Center will be another opportunity to see what is new in the industry.

The IUA will have an information booth outside the Technical Campground at the Hyatt. Stop by and check your membership registration. Join if you are not a member.

Also, with all of this "free" time on your hands, consider volunteering for any number of IUA positions. Working with IUA on various projects is a wonderful way to meet fellow colleagues. Helping to put together IUA workshops is just one way to give back to the CA-IDMS community. The Technical Advisory Committee and Application Advisory Committee are also always looking for new members. This is your chance to work with CA to improve CA-IDMS and CAS.

If you are unable to attend IMC, you can still volunteer for IUA. Look for more information on the IUA Web page at www.iuassn.com. Also, keep an eye out for recaps of IMC99 in future issues of *IUA Connections*.

For those of you who can make it to N'awlins, I look forward to meeting you. Enjoy your gumbo and in the immortal words of Hank Williams: "Son of a gun, we'll have big fun on the bayou."

Don't panic. There is still time (not as much as we'd like, but there is time) to update those IDMS applications to be Year 2000 compliant. Before discussing how to do the modifications, though, let's think about what really needs to be modified to keep your application functioning.

When is a year without a century a problem within the computer? That is the most important question to think about, because the quick answer is to say: "Add a century to all the dates!" "Restructure the database!" "Expand the flat files!" That's overkill and an unnecessary waste of time, resources, and that ever-scarce item – money.

The application code will fail when: (1) a date is sorted; and, (2) a date participates in a greater than or less than condition. Think about it. The application does not fail when a year is presented to a user on a screen or a report without a century. The human brain will implicitly supply the century, if necessary.

Consider this example: assume a date in 2000, such as 02/16/2000 is formatted as 000216 and sorted in ascending sequence with 12/01/1999 formatted as 991201. The resulting sequence will be exactly the opposite of what our brains would expect. The computer is correct, but the result is not what we implicitly intend.

In a test such as IF DATE1 GREATER DATE2, assume DATE1 is assigned a value of 000216 and DATE2 is assigned a value of 991201. Implicitly, we assume DATE1 to be greater than DATE2 (i.e. 20000216 is greater than 19991201). The computer doesn't have the same ability to implicitly apply a century. The application does not take the correct logic path. An error causing program termination occurs, or worse – incorrect results are produced. Equal and not equal conditions do not matter because they result in the same logic path being executed whether century is added or not.

Some of the people that build and maintain software, such as your sort utility, figured this all out some time ago. Use a century window and change the SORT FIELDS definition to allow the developer to tell "SORT" when there is a date in the sort key. When that happens, 00 follows 99 in an ascending sort – just what our brains implicitly believe to be true. No file expansion, just change the sort parameters *only where needed*.

OK, that's fine for flat files, but what about IDMS? Basically, the same windowing solution used by your sort utility can be applied to the database. IDMS was delivered with the ability to associate database procedures with schema records. When a date participates in a sorted set or index, use a database procedure to apply a window to the date that uses available bits to manipulate the date when it is saved. No database restructure is required. Just add the database procedure *only where needed*.

Now for the application code. It has to be analyzed for dates that participate in greater than or less than tests. That's it. In those cases, apply the century window *only where needed.*

The windowing concept works very well within the IDMS application because it is set up to provide hooks that make it work more easily (i.e. database procedures.) However, there are cases when a window cannot be applied to a date because the date may span three centuries (i.e. birth dates). These exceptions are a small part of the total and do not negate the value of the windowing technique for the overwhelming majority of IDMS applications.

So, how much better is the windowing technique for your business? For starters, take the restructure estimate you probably have in your hand and cut the dollar value in half. Then, cut the time estimate by two-thirds. The result is in the ballpark for a date-intensive application. If your application has fewer dates, your savings can be even greater.

There is time to bring your application into Year 2000 compliance, but there is not sufficient time to reinvent the wheel. Take advantage of these proven tools and techniques, and your business will be able to continue functioning in the next millennium.

To find out more, contact the following providers of Year 2000 tools:

HSL's Project 2000 Tools
http://www.hslinc.com
Schema Analyzer
ADS/O Analyzer
Culprit Analyzer
Date Converter (the database procedure)
Convert, Compare, and Century Utilities
   (used by application code)
Date Simulator
   (Date Simulation for Online Testing)
Date Ager

Princeton Softech
http://www.mainware.com
Hourglass 2000 (Date Simulation for Batch Testing)
SyncSort/DFSORT Year 2000 Upgrade
http://www.syncsort.com/conasmvs.htm
http://www.storage.ibm.com/software/sort/srtmy2p.htm
Century Windows for sort utilities

Steve Lawton has 25 years of experience in the information processing industry. This experience includes all phases of the system development life cycle for large-scale, mission-critical systems. During the past two and a half years, he and his team have participated in eight IDMS Year 2000 conversions using the tools and techniques he referred to within this article.

IUA COMMITTEE REPORTS

Applications Advisory Committee (AAC) Update

The AAC will meet during the weekend before CA-World 1999 in New Orleans. All those interested in CA applications are welcome to attend and talk about their applications experiences. At the meeting, we will be discussing the status of the CA-CAS DARS (Demand Analysis Requests) that are currently open for both 3.0 Commercial and 2.2 A & D.

Also, some users are currently reviewing a beta release of the CA-CAS 3.0 documentation in electronic format. The initial feedback received has been very favorable, and the electronic format has been used by a variety of people. A final version is expected at CA-World 1999.

European IUA (EIUA) Update

In recent years, IUA has evolved from a predominantly U.S. and Canadian-based organization into one that includes an increasing number of international members. This evolution has occurred thanks to the active promotion of IUA, and also by the perception amongst users in Europe and elsewhere that the need for a united, strong user voice is increasingly important.
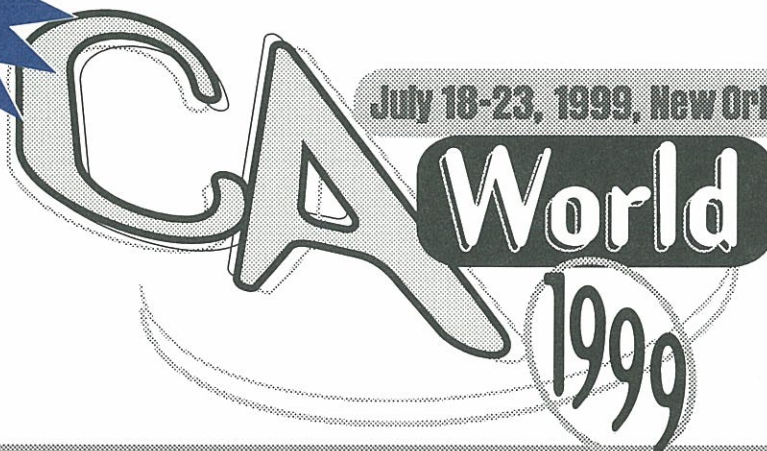
Clearly, IDMS is not shriveling and dying as predicted, even though we have seen a decline in users. This decline seems to have been largest amongst the smaller users. Perhaps large users have, in general, too much of an investment in existing vital applications to leave the IDMS fold easily. Some of these very large users are in Europe, such as British Telecom and DaimlerChrysler AG.

The globalization of commerce means that all IDMS users are increasingly having the same problems, albeit often with a different emphasis. The European IDMS Users Association is finding itself working more and more in conjunction with IUA. It seems inevitable. We share contacts with CA management, exchange DAR lists and enhancement voting, combine efforts on many areas of common interest as on-going issues, and we participate in each other's meetings. We are also spreading the word with contacts in other parts of the world that IUA is not just for U.S. users, but is the principal user voice for all IDMS users.

It is still a challenge logistically for us to attend IUA workshops. Even though the cost of the November event in Boston was probably less for some Europeans than IDMS users coming from the U.S. West Coast, there is still a huge psychological hurdle with management to get approval to go "overseas." It's the same problem U.S. users have when trying to get approval to attend something in Las Vegas. Still, it is likely that more European and other international users will be seen at workshops when they start again after the Millennium.

Products and Services Committee Update

Dave Thole

Each year, the IUA board receives nominations for its Hall of Fame Award. This award is presented annually to individuals who have made significant contributions to the IDMS community. At its last meeting, the board considered a number of candidates, and selected two outstanding individuals – **Delores (Dee) Fisk** and **Dave Thole** – as this year's inductees into the IUA Hall of Fame.

Unfortunately, one of the awards is being given posthumously. Dee, a long-time and well-respected member of the IDMS community, passed away this year. Dee was best known for her contribution to IDMS education initiatives through her roles with Cullinane Corporation, Cullinet – her own consulting practice, Computer Associates, and, most recently, with Tiburon Technologies. Her career in the IDMS arena spanned the globe, including work in Japan, Thailand, Malaysia, Hong Kong, Korea, and Australia.

She was a popular presenter at IUA Workshops and CA-World, and was a very successful, effective consultant and trainer. According to one IUA board member, "What made her stand out in my mind was her ability to pull together information from many sources and make that work for the customer." Most of her associates remember Dee for her extraordinary commitment to her customers and her belief that education is the key to successful projects.

The entire IDMS community is indebted to Dee for her untiring devotion over the past 25 years. She will be greatly missed.

The IUA Board is also honored to induct Dave Thole, software engineer at Computer Associates, into the IUA Hall of Fame. Dave has a long and impressive career with IDMS, which began in 1974 when he worked with IDMS (release 3.2) as a student work-study on a project at the University of Dayton. After graduation, he joined the IDMS development team at Cullinane Corporation, and for the next 19 years, worked on virtually every component of the IDMS database and dictionary software. Dave has played a major role in significant IDMS projects, such as DDL compiler performance enhancements, database procedures and compression, buffer management, DBMS reentrancy, CMS Central Version option, IDD 3.0, DDL compilers rewrite, and DML precompilers rewrite.

Dave served on the CODASYL Committee from 1977 through 1983, and was a valued member of IUA's Technical Advisory Committee from 1986 through 1993. He has also presented at various Cullinet Software, IUA, and Computer Associates conferences.

We are indeed grateful to Dave Thole for the significant contributions he has made to the IDMS community over the past two decades.

If you would like to nominate someone for next year's IUA Hall of Fame Awards, please contact Mary Harrington at ccmary@olemiss.edu.

BOARD MEMBER PROFILE

Name: Dan Hall

**Profession:** Systems Consultant

Company: General Electric

Biography: Dan has been working in IS for 20 years, with the last 12 in IDMS. Since 1996, he has been employed at GE's Cincinnati facility, supporting the system side of more than 30 IDMS and 35 CICS regions. Dan has also been working on a Y2K time test machine for the last two years, installing and testing upgraded versions of CICS and IDMS to support GE's conversion efforts.

Dan is currently attending night school to receive his business administration degree.

IUA Experience: Dan was elected to fill the vacancy left by Sue Wieland, who resigned. He has taken on the responsibility of RUG Co-Chairman. If you have any questions about user groups in your area, or are interested in starting a user group, you can contact Dan at dan.hall@corporate.ge.com, or check out the IUA Web page at www.iuassn.com.
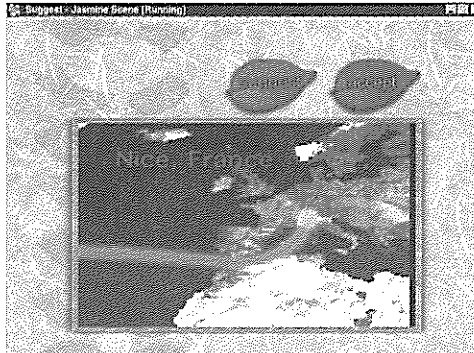
# What Good Is An Object Tool Without An Object Database?
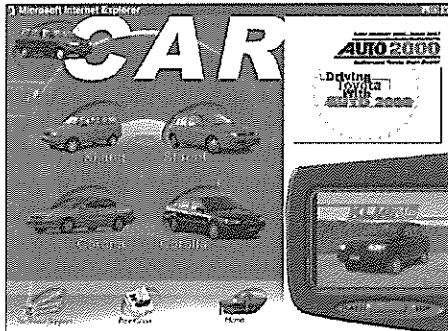
Attracting and retaining customers requires applications that are not only entertaining and informative, but also easy to use.

Today's business information is made up of not only text and numbers, but also images, motion, and sound.

Jasmine's object technology is designed for building enticing systems that you get to market faster, develop more rapidly, and gain productivity through reuse and integration of code, data and applications.
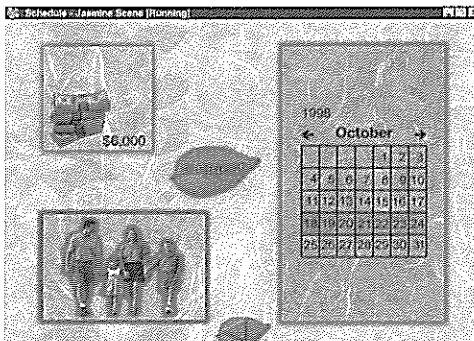
Only a pure object database like Jasmine inherently understands how to store and process complex data. Complex queries, such as fare comparisons for specific destinations and dates, are easily implemented with Jasmine.

Just think how much more powerful your object tool would be with an object database like Jasmine™. With Jasmine's pure, object-oriented architecture, objects defined in your application tool (C++, Java, and others) are the same as the objects managed by Jasmine.

INFORMATION IN HARMONY™

You can use native language bindings, rather than learning and coding new non-object-based data access protocols such as JDBC. And Jasmine supports large amounts of complex data so you can deliver true, next-generation applications.

With Jasmine, objects never have to be converted to relational formats, so they run much faster. And there's no need to choose between object models—Jasmine supports both COM and Java. It even lets you use different tools at the same time. Jasmine's object infrastructure also integrates external data and applications, making them accessible from any application development tool.

That includes the object tool you're using right now. So call **1-888-7JASMINE** or visit **www.cai.com/ads/jasmine/dev** for your FREE, full-function Jasmine Developer Edition CD. And turn your object tool into an instant advantage.
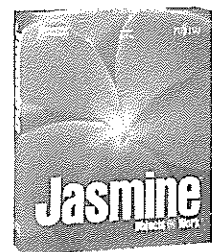
COMPUTER® ASSOCIATES
Software superior by design.

Jasmine™

A PERFECT MANUAL CONNECT FOR A SYSTEM-OWNED INDEX RECIPE

Ingredients

- A user-written program that loads a database

- A system-owned index with a manual CONNECT option

- User program contains logic to determine when to connect to the index

- Sequence of load file is <u>NOT</u> in the sequence of manual CONNECT index

Here's what to do: Instead of issuing a CONNECT for every index member, use the IDMSTBLU entry point call to IDMSTABX. That is, treat the system-owned index like a user-owned index. Then, execute the IDMSBCF utility with the FROM SORT3 option using the files created by the calls to IDMSTBLU.

This works great! There are just two things that you have to be aware of. First, you must make the db-key of the SR7 available to the user load program. Second, the program must issue a CONNECT for the first member, but only the first.

To get the db-key of the SR7, run PRINT INDEX against the existing index. Convert the SR7's hex db-key into decimal and parm it into the user load program. Within the program, turn it back into pure hex and use it in the "owner" call to IDMSTBLU. Folks who want to get fancy could probably write a program to acquire the db-key. This way, if the index SR7's CALC page range ever changes, you won't have to worry about changing the db-key parm in your load job.

Why do you have to CONNECT only the first key? To store the SR7 and have an index structure "built." The index will contain a single key. This is done so that you can issue a REBUILD in the IDMSBCF step.

The reason that this works is that IDMSTBLU doesn't care if the index is user-owned or system-owned. If you call it with the proper control blocks ("01 Levels" in COBOL) with the proper values, IDMSTBLU will work just fine on any CA-IDMS index, even one that is system-owned.

DD names have to be added to the JCL in the load step to accommodate the IDMSTBLU files. And don't forget to do a FROM SORT3 in the IDMSBCF step. The utilities manual explains how to use IDMSTBLU when rebuilding user-owned indexes. Just follow the same example pretending that your manual connect system-owned index is just an OOAK user-owned index.

Why even use such a technique? Two reasons: 1) it will dramatically speed up the load process. The calls to IDMSTBLU don't do anything to the index; they are just utility calls that create flat files. 2) The index will be in great shape. Since it was built via the IDMSBCF utility and not the random CONNECT by the program, it should be in nearly optimal condition.

REGIONAL USER GROUP (RUG) UPDATE

CA-IDMS Ohio Valley User Group

The Spring 1999 meeting for the CA-IDMS Ohio Valley User Group (OVUG) was held at Computer Associates' Columbus facility, April 19 and 20. Allen System Group representatives gave a presentation on their Replication Suite, which they are co-developing with CA.

Mary Orite-Shay of CA also gave a presentation on CA's new OPAL product. Since all but one of the companies was at IDMS R14.0, we had a very informative discussion on installation and implementation of R14.0. Several of the presentations from the IUA Spring Workshop were also discussed by members who had attended them.

The next OVUG meeting will be held on September 13 and 14, 1999, in either Dayton or Cincinnati. For additional information about OVUG, please go to our Web page at http://www.causergroups.com/-OVUG.

CA-IDMS Midwest Users Group

The CA-IDMS Midwest User Group (CMUG) held their Spring 1999 meeting at Computer Associates' Lisle, Ill., facility on May 5. For the first time ever, CMUG's meeting was held in the auditorium rather than one of the classrooms. Over 40 people representing 18 different companies were present.

Anita Koziol, CMUG president, began the meeting by giving a brief summary of the Rock-and-RollForward Conference held by IUA in Cleveland. Anita then spoke about the benefits of conference attendance, particularly the excellent education value for member companies.

Allen System Group representatives did a presentation on their Replication Suite, and Gary Benink, of CA, gave a very useful presentation on CA-IDMS Release 14.1 and 15.0. Gary began his talk by explaining CA's intent to do a better job of communicating new and improved features of CA-IDMS to all customers. All attendees applauded this "proactive" attitude.

Jim Moore reprised his "COBOL for MVS in the IDMS-DC Environment" presentation that was initially presented at Rock-and-RollForward in Cleveland. The meeting ended with an open forum style discussion between all attendees. Many questions were asked and answered. Walt Wegner of Wegner Consulting has been attempting to secure answers to questions that went unanwered during the presentation.

IUA ACQUIRES IDMS-L

After 10 years hosted by the University of
Georgia and administered by James Bradshaw
of Clemson University, IDMS-L will now be
hosted and administered by IUA. This change
will allow IDMS-L to expand its content as well
as continue its long-established tradition of
bringing real-time IDMS solutions to the IDMS
community. Thanks to James Bradshaw for all
his efforts in successfully administering IDMS-L,
and long live the new IDMS-L.

*(subscribe to listserv@iuassn.com with the body
of the message: subscribe idms-l).*

NEW IUA WEB SITE

Check out the NEW IUA web site! The
address stays the same (www.iuassn.com), but
everything else about the web site has changed.
Find everything from upcoming IDMS events
to IUA Workshop and CA-World photos and
reviews to information about IUA and its team
members. And coming soon to the IUA web
site – online enhancement requests!

Archive of IDMS-L

QUESTIONS AND ANSWERS

Question: *I am trying to fix an old assembler program that, among other
things, retrieves the user full name from ACF2, which is used for external
security here. Presently, it moves 20 bytes from offset 124 into the address
given by SONACEE (access control element [external]) in the SON. The
result is garbage in the display field. Can anyone please help a poor non-
assembler guru?*

Answer: In release 12.0, the chain from the SON to the external security
control block(s) was changed. The SONACEE used to point to the
ACMCB directly. Now the SONACEE field points to the RACF control
block described by the IHAACEE dsect (found in SYS1.MACLIB).
In that block, the ACEEIEP field contains the address of the ACF2
control block described by the ACMCB dsect (found in ACF2's macro
lib). The ACMCB is the mini-lid into which ACF2 has extracted data
from the lidrec in its database according to specifications set by the
ACF2 systems programmer. It consists of a base data portion followed
by a user portion. Since the base length looks to be less than x'128',
I'd assume your user full name field is in the user portion. I personally
wouldn't address the field that way, since it is dependent on the base
length remaining the same over time. My logic picks up the ACMLI-
DAD, which is the address of the user portion, and I go from there.

Question: *I created a copy of the mode dc-batch and called it
dc-batch-y2k. The modification was to remove the autostatus parameter
because I want to do manual status checking. The program compiles
cleanly. Upon execution, the error-status is set to 1477 after the bind
run-unit statement. Any hints on what I missed when creating this
non-auto-status version of dc-batch?*

Answer: The key for success is to include a bind task statement.

Question: *We are on 14.0 and when we enter DCMT D RUN we see
a run unit for SQL LOADER with subschema IDMSCATL, but no
predefined run units. The sysgen manual gives no way to give this run unit
any defined count. How can we give this run unit a count other than zero?*

Answer: The run unit statement for defining the SQL LOADER is
an update in the sysgen compiler, either online or batch. This is where
you would establish currency on your system, add a run unit for SQL
LOADER, and then generate the system. Examples of the syntax can
be found in the System Generations manual, Chapter 6.16.2.

Question: *Does anyone know the message number for the "ENTER
NEXT TASK CODE" message?*

Answer: The message for ENTC is DC055007.

Question: *I'm looking for any feedback (positive or negative) on M9809
maintenance tape for Release 12.0. Has anyone installed it in production?*

Answer: We have been running 9809 on three of our five production
R12.0 Central Versions since January 19, 1999. We have experienced
no problems or system outages. The final two Central Versions will be
converted within the next two weeks.

TIP: CA has recently published a PIB that lists all the available IDMS
PIBs. It is LI46150.