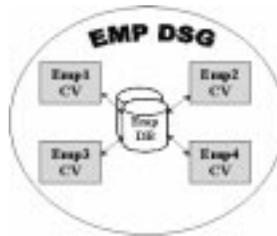


CA-IDMS 15.0 Data Sharing Feature Allows Multiple Update CVs

by Judith Kruntorad

CA-IDMS 15.0 offers significant scalability and availability enhancements to CA-IDMS clients. Through exploitation of Coupling Facility structures in a Parallel Sysplex environment, CA-IDMS Central Versions are now able to share update access to the same database areas. Additional features are also provided for improved 24 x 7 functionality, improved performance and productivity, and enhanced SQL functionality.

A Data Sharing Group (DSG) is a new concept introduced with CA-IDMS 15.0. There is no syntax required to define a Data Sharing Group. Rather a Data Sharing Group comes into existence when two or more CVs are started with identical values for the new SYSIDMS parm of DSGROUP=*group-name*. Members of a Data Sharing Group enjoy many privileges including the ability to share update access to areas, share access to the queue area, enqueue/dequeue global resources across systems, and broadcast messages and DCMT/DCUF commands to other members of the DSG.



Members of a Data Sharing Group can share update access to an area provided that:

- Data Sharing is enabled for the area
- Associated files for the area are assigned to shared cache
- Attributes for the area and associated files are identical in all systems

Internally, each participating CV must now perform global transaction and page locking as well as global deadlock detection and resolution for shared areas whenever a contention occurs. This is managed through the use of Coupling Facility structures. A cache structure must be defined for the buffers for the shared files and a list and a lock structure must be defined for use with global locking. XCF group services and signaling services are used by CA-IDMS for sending and receiving messages and monitoring Data Sharing Member status.

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From The CBO

by *Bill Abbott*

Welcome to another edition of *The IDMS Expanded Page*. It has been a busy year for the CA-IDMS® development and support staff in both the housing and product fronts.

First, at the end of the summer, the CA-IDMS development and Level II support groups moved from our old home for the the past 18+ years in Westwood, Massachusetts to a brand new office in Framingham, Massachusetts. As you can imagine, the move involved weeks of packing, many painful decisions (should I keep those Release 5.7 listings?), followed by the inevitable trying to remember where you unpacked something once you got to the new building. Things have settled down now and we are back to our regular routines.



It has been equally busy on the product front. Release 14.1 is now available for all of the operating systems that we support. By now you may have noticed that we call new release and maintenance levels Servicepacks rather than Genlevels. The servicepacks are numbered starting with Servicepack #0 for the first GA release and each subsequent level within that release numbered 1, 2...For instance, the current servicepack level for the CA-IDMS products is Servicepack #1 (Endevor®/DB is at Servicepack #3). We will be creating Servicepacks twice a year for Release 14.1, the first one having just recently been released. Another thing that is new in the CA-IDMS family is product distribution. CA-IDMS as well as the CA-IDMS Tools (and Endevor/DB in the future) are now delivered on the same cartridge, making installation much easier.

CA-IDMS® Server Release 4.2 went GA in December 1999. This release of CA-IDMS Server adds a native JDBC driver for CA-IDMS, which extends the already powerful features to allow access to your CA-IDMS data from Java applications. The JDBC support is being extended further, with the porting of CA-IDMS Server to the OS/390 platform. This will allow Java applications and servlets running on UNIX System Services within OS/390 to access the data in your CA-IDMS databases.

CA has added new ways to exchange information about CA-IDMS and other CA products on the Web. We introduced *E-News*, the Technical Support Newsletter, which provides the latest technical information for CA-IDMS. It is published bi-weekly and you can subscribe to have it e-mailed to you directly.

We also have product Web pages containing three subject areas, What's New/What's Hot, Solutions & Patches, and General Technical Information. Both can be found on support.cai.com. Also, the CA Open Forums have been established on the Internet. The Open Forums are designed for you to be able to exchange ideas and information with other users of our products.

Finally, CA-WorldSM 2000 is April 9 through April 14, in New Orleans and I encourage all of you to attend. In addition to taking advantage of the numerous educational opportunities, CA-World provides a great opportunity to mingle with your peers, and hear firsthand what's new in the CA-IDMS product family. The CA-IDMS staff and I look forward to seeing you there.

Bill Abbott, CA-Framingham, is the Client Base Owner of CA-IDMS and related products. Bill has been with the CA-IDMS family for 15 years.

**For the most current servicepack information
for the CA-IDMS products,
visit our website
support.cai.com/techbases/idms/genlevels.html**



Welcome To The IDMS Expanded Page

Welcome to *The IDMS Expanded Page*, a newsletter produced by the Computer Associates Development organization for CA-IDMS® clients.

This newsletter is intended to keep you informed of news regarding CA-IDMS, and to share the real-life experiences of our clients. A copy of this newsletter is sent to the CA-IDMS contacts at each site. Please give the order form on the back cover to someone you know, so our circulation will continue to expand.

This is your newsletter. We hope you find it informative and useful. If you would like to incorporate your ideas or suggestions into the next edition, please contact me via mail, CA-TCC,SM e-mail, Internet, or FAX:

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CA-IDMS® Underpins The Continuing Success Of BT Megasytem

by Bob Ratcliffe

BT is in a fiercely competitive business with around 200 licensed competitors vying for a share in the UK telecommunications marketplace. Market forecasts are that data, eBusiness, the Internet, multimedia, wholesale, mobility, and solutions will be double-digit growth areas, while fixed voice telecommunications will grow at only 3% a year. Quite simply, the company aims to become the world's number one Internet company.

Much discussion of the demise of so-called *legacy* information systems has been not only premature but plain wrong and no better illustration exists than BT's Customer Service System (CSS) at the heart of which are CA-IDMS databases. CSS is one of the largest and highest performing CA-IDMS installations in the world. It is the core operational support system for BT and generates a very significant proportion of BT's income. CSS was built in the 1980s to overcome a number of problems that BT faced in providing excellent customer service. These covered such aspects as no integrated view of customer data—orders, faults, bills, and no end-to-end automation of provisioning. The system has been a phenomenal success as the statistics below show and investment continues in the development of new functionality.

First a flavor of the business—with 24 million customers and 28 million telephone exchange connections, and a need to print 610,000 payment requests with over two million detailed pages daily, size matters.

Now the technical stuff—running on the OS/390 platform the system comprises in excess of 1,900 online COBOL programs supporting 4,741 screens, and 1,680 COBOL and CA-Easytrieve® batch programs, a total of 9.6 million lines of code. Around 160 million transactions per day are handled by a mixture of CICS and CA-IDMS®/DC with a mean internal response time of 0.3 seconds. There are 29 separate images (LPARs) each hosting two CA-IDMS CVs, one for updates and one (in some cases two) for retrieval—only with database buffers synchronised by the Cogito product, DB-SYNCHRO. The current schema comprises 1,839 record names and 891 sets. Today the databases have

6.5 billion record occurrences deployed on seven terabytes of DASD with appropriate RAID protection, the equivalent of 2,500 volumes of 3390 model-3 logical volumes within integrated highly cached storage subsystems. Of course this all requires enormous computing power and CSS has outgrown the very largest ECL processors on the market. BT thoroughly tested CA-IDMS multi-tasking and proved it was a viable option, but with a 25% annual increase in transaction rates has opted to deploy vastly more powerful CMOS processors. CA-IDMS utilities together with partner products have enabled the DBAs to manage incredible growth in database size over the last decade and to exploit step changes in I/O subsystems and XA storage while also achieving manpower savings. The latter could not have been achieved without the separation of *logical* from *physical* database definitions in CA-IDMS Release 12.0.

Obviously enormous change has been required to build new complementary components and evolve the “legacy” in conjunction with other platforms and to respond to the deployment of client/server via reengineering activities. However, CSS will continue to grow, and CA-IDMS Release 14.1 Mixed Page Group support will certainly be required, as some of the databases exhaust available free page ranges from the 16 million available in those segments defined so many years ago with a maximum of 255 records per page. At the time of writing this article OS/390 Parallel Sysplex is being implemented and the CA-IDMS exploitation of this at Release 15.0 with multiple update CVs will inevitably need to be evaluated.

BT's vision is to be at the heart of a society increasingly rich in communication and information, helping individuals, families, communities and organizations to interact, learn and flourish to the full. It is certain that this CSS system utilizing CA-IDMS software will have a significant part to play in the achievement of this vision.

Bob Ratcliffe, BT Information Systems Engineering, is the lead Operational DBA for the Customer Service System. Bob has 20 years DBMS experience, ten years as a user of CA-IDMS.

CA-IDMS® Server Improves DBA Productivity And Customer Service At Delta Dental Plan

by Steve Wolff

Delta Dental Plan of Michigan is the state's largest administrator of group dental benefits. We cover three and a half million people in groups ranging in size from ten people to a half million. In 1999, we will process and pay ten million claims for the dental treatment of our customers. Delta Dental Plan uses CA-IDMS® to maintain customer and claims data as well as information about all participating dentists for Delta Dental nationwide.

Improved DBA Productivity

Delta Dental uses a highly automated claims processing system that utilizes electronic mailboxes for routing claims. It features a large batch processing component to adjudicate, price and pay claims each night. CA-IDMS Server 4.1 is integral to several of these applications. One is a standalone Visual Basic application, used in conjunction with a table procedure, to obtain counts of certain record types to be used in batch processing. The Delta Dental computer operations department can run this application during the day to obtain the number of claims in the mailboxes. This enables them to determine the length of time each batch run will take for each processing center, allowing more efficient scheduling. This data comes from different CVs, but CA-IDMS Server allows the data to be displayed on a single screen rather than logging on to each CV and running an OLQ report.

Improved Customer Service

A second use of CA-IDMS Server is another Visual Basic application that accesses a table procedure to report eligibility. Previously, this process was a batch OLQ report that users requested on a nightly basis and received the next day. The Visual Basic application now gives users realtime reporting of specific customer eligibility in a GUI interface allowing them to key in a specific group and display the data formatted in three different ways on the screen using the Crystal Reports OCX. Users can then view the data easily and print only the pages they need. This saves paper costs and allows users to access the data during the day. It also eliminated the need to write a CA-ADS® dialog to accomplish the same type of display.

Another application, using Delphi and a table procedure, allows Delta Dental customer service advisors to look up eligibility data for subscribers and dentists. Advisors enter key data supplied by the caller; the Delphi program accesses the information from multiple CVs to determine where the customer's most current eligibility data resides. Using CA-IDMS Server with Delphi, and access to the data realtime, allows us to supply the customer service department with up-to-date information with easier access to data across multiple CVs.

Intranet Access Using ODBC

As part of setting up our intranet, we ported the Computer Operations application and the eligibility lookup application over to Microsoft's IIS Web server for an alternate method of accessing the data. This gives our PC technicians the flexibility to determine whether the user has enough disk space for the standalone application. If not, the user can use their Web browser to access this data through our intranet. When we did this, we did not create a Visual Basic application that would run in a Web browser. Instead, the code was written into ASP pages for server side scripting making the code browser independent.

Internet Access Using JDBC

We are in the process of creating an Internet application using CA-IDMS Server, that will allow our customer's to fill out a form and submit it via the Delta Dental website. When the form is submitted, control will pass to an application server that will execute the validation program and access CA-IDMS on the mainframe through CA-IDMS Server. It will then either post the accepted data or return an error message through the Web server. This will help reduce paper flow and provide our clients with an alternative to sending a document through the mail. This particular application is being written in Java. When CA-IDMS Server 4.2 is GA, the code will be changed to use the JDBC driver for CA-IDMS.



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CA-IDMS® Server Evolves To Meet Your eBusiness Needs

by Dave Ross

Implementing eBusiness solutions is the top priority for an increasing number of CA-IDMS® sites as we move into the 21st century. Opening the data in CA-IDMS databases to Internet applications is a job that CA-IDMS Server has been doing for almost as long as Web servers have been available for Windows. Today, CA-IDMS sites around the world are using the CA-IDMS Server ODBC driver in conjunction with tools such as Active Server Pages and Microsoft IIS Web server to deliver CA-IDMS data across the Web. (See the article from Delta Dental on page 5.) With CA-IDMS Server 4.2, open architecture to CA-IDMS databases is now extended to Java by delivering a native JDBC driver.

Java

An understanding of the following basic Java terminology will facilitate your use of the new CA-IDMS JDBC driver:

- A *class* is the basic programming construct in Java. All Java programs consist of one or more classes, which can contain *variables* and *methods*. There are no globals in Java, everything that is implemented is defined within a class. A class can be derived from only one *super class*; unlike C++, Java does not support multiple class inheritance.
- An *interface* is a set of related *abstract* methods and constants. When a class *implements* an interface, it inherits the constants and must provide implementations for all methods defined by the interface. A class can implement more than one interface; Java does support multiple interface inheritance. An interface can also be implemented by multiple classes (this is how JDBC supports multiple drivers).
- An *exception* is a class used to handle errors in Java.
- A *package* is a group of related classes, interfaces, and exceptions, and is analogous to a library in C.

JDBC

JDBC is an object-oriented call-level interface for Java based on dynamic SQL. The JDBC API is specified by Sun Microsystems.

The following four categories of JDBC drivers exist:

1. A *JDBC-ODBC bridge*—provides JDBC API access via one or more ODBC drivers.

2. A *native-API partly Java technology-enabled driver*—converts JDBC calls into calls to the client API for the DBMS.
3. A *net-protocol fully Java technology-enabled driver*—translates JDBC API calls into a DBMS-independent net protocol that is then translated to a DBMS protocol by a server.
4. A *native-protocol fully Java technology-enabled driver*—converts JDBC technology calls into the network protocol used by DBMSs directly.

For more information on JDBC, please consult the Sun Microsystems website at <http://www.javasoft.com/products/jdbc>.

CA-IDMS Server 4.2 For Windows

CA-IDMS Server 4.2 for Windows platforms is now available in GA status. This new release includes both the ODBC driver as well as the new JDBC driver for CA-IDMS.

The JDBC driver consists of the following packages:

ca.idms.jdbc—contains the implementation classes for the CA-IDMS JDBC driver, which convert the standard JDBC requests into the native CA-IDMS SQL protocol (referred to internally as DSI).

ca.idms.qcli—encapsulates the CA-IDMS SQL Client interface (QCLI) for Java client applications and applets. *Local* versions support native method calls to the *real* IDMSQCLI (that is, the C code), and are meant to be used by applications/servlets running on a machine with the native libraries installed. A *network* version forwards SQL requests using the classes in `cai.idms.net` to a proxy server application, and can be used in untrusted applets delivered to Web browsers over the Internet or an intranet. The network version does not require any CA-IDMS Server components to be installed or configured on the client machine.

ca.idms.io—includes classes that provide conversion from the internal Java representation of data to that used by native methods, trace and “snap” methods for debugging, and basic log file support. These are meant to be generally useful, that is, they have no dependence on data or protocols unique to CA-IDMS.

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CA-IDMS Server Evolves To Meet Your eBusiness Needs

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ca.idms.proxy—provides a multi-threaded proxy server that uses sockets to communicate with a “pure Java” JDBC driver (also referred to as a thin client) and passes the requests to the local native client interface or forwards the request to another proxy server on another machine. The proxy server passes requests to a database-specific class specified by the client and is not exposed to the actual database protocols.

ca.idms.net—implements a basic transport protocol used to exchange data between a “thin” client and a proxy server. This protocol is independent of any particular database protocol.

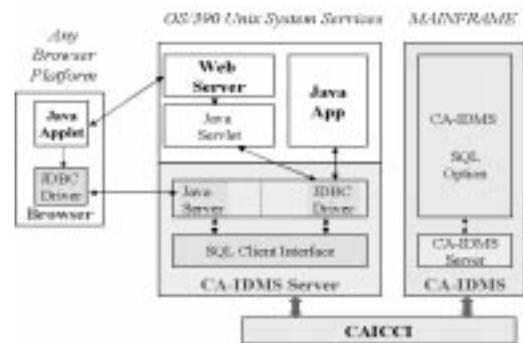
ca.idms.util—provides utility services, including writing trace output to a system wide log file, passing user IDs and passwords, and implementing methods to read and write “INI” file information to the registry. An implementation of the Util interface is provided for the native CA-IDMS Server “UTIL” DLL, and is meant to be used by a proxy server, an application, or a trusted applet when calling native methods in Windows NT.

Both Type 2 and Type 3 JDBC drivers are implemented in CA-IDMS Server 4.2. The Type 2 driver supports Java application and Java servlet access. The Type 3 driver supports Java applet access from within a Web browser. CA-IDMS Server 4.2 implements the JDBC 1.2 protocol.

The CA-IDMS JDBC and ODBC drivers both use the same CA-IDMS datasources that are defined using the ODBC Administration Tool.

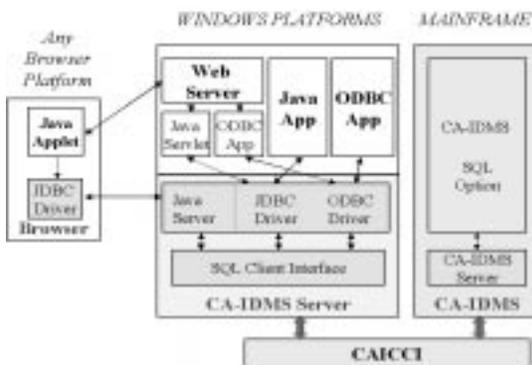
CA-IDMS Server 4.2 for OS/390 USS

With the explosive growth of Internet and intranet usage, OS/390 is now increasingly becoming the platform of choice for implementing a scalable and reliable Web server. The CA-IDMS/Server 4.2 OS/390 Edition now offers access to CA-IDMS data from the OS/390 UNIX System Services platform. Both Type 2 and Type 4 drivers are available for the OS/390 edition.



This figure shows the architecture of CA-IDMS Server 4.2 (OS/390 Edition).

Since Java is a portable language, the same Java code that executes on Windows platforms can be moved and executed immediately on OS/390 USS. This allows you to scale your CA-IDMS Java application to the appropriate platform without rewriting it.



This figure shows the architecture of CA-IDMS Server 4.2 (Windows Edition).

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CA-IDMS Server Evolves To Meet Your eBusiness Needs

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Example

A simple example of how to use the CA-IDMS JDBC driver follows:

The following Java code retrieves and displays all of the table names defined for schema SYSCA from the datasource SYSDemo:

```
ROSDA01 is logged on
ROSDA01:/u/users/aworks:> cd
ROSDA01:/u/users/idmsdev:> tj
Testing IDMS Jdbc
connected dave to jdbc:idms:SYSDICT!
executing getTables...
ACCESSIBLE_SCHEMAS
ACCESSIBLE_TABLES
COLUMN
CONSTKEY
CONSTRAINT
INDEX
INDEXKEY
ORDERKEY
SECTION
SYNTAX
TABLE
VIEWDEP
ROSDA01:/u/users/idmsdev:>
```

This is the TSO (OMVS) output from executing a Java application on OS/390 UNIX System Services accessing CA-IDMS.

```
//
// JdbcTest.java
//
// Basic direct tests of JDBC functions.
//
import java.io.*;
import java.net.*;
import java.util.*;
import java.sql.*;
import ca.idms.jdbc.*;

class JdbcDriverTest
{
    public static void main (String[] args) throws UnknownHostException
    {
        System.out.println ("Testing IDMS Jdbc");

        String url = "jdbc:idms:SYSDemo";
        Properties info = new Properties();
        info.put (IdmsDriverInterface.USER, "dave");
        info.put (IdmsDriverInterface.PASSWORD, "asdf");

        try
        {
            Class.forName ("ca.idms.jdbc.IdmsJdbcDriver");
            Connection conn = DriverManager.getConnection (url, info);
            System.out.println ("connected " + info.get ("user") + " to " + url + "!");

            DatabaseMetaData md = conn.getMetaData();
            System.out.println ("executing getTables...");
            ResultSet rs = md.getTables (null, "SYSCA", null, null);
            while (rs.next())
                System.out.println (rs.getString (3));
            rs.close();

            conn.close();
        }
        catch (ClassNotFoundException e)
        {
            System.out.println (e.toString());
        }
        catch (SQLException e)
        {
            System.out.println ("SQL Error:");
            for (SQLException ex = e; ex != null; ex = ex.getNextException())
                System.out.println (ex.toString());
        }
        pause (args);
    }

    static void pause (String[] args)
    {
        try
        {
            if (args.length > 0 && args[0].equals ("-p"))
            {
                System.out.print ("press Enter to continue...");
                System.in.read();
                System.in.skip (System.in.available());
            }
        }
        catch (IOException e) {}
    }
}
```

This is the Java code which was executed to produce this output.

Dave Ross, CA-Framingham, has been a member of the CA-IDMS development team for 13 years.

Computer Associates And E-Net Corporation Form CA-IDMS® Development Partnership

by Tom Flesher

Computer Associates has formalized a technical and marketing agreement with E-Net Corporation of San Francisco and issued the company a license for CA-IDMS development testing. Judy Kruntorad, CA-Framingham, Technology Owner for CA-IDMS, announced the collaboration July 19, 1999 during CA-World,SM in New Orleans.

E-Net specializes in the development and implementation of disaster recovery, replication and business continuity software tools, including Remote Recovery Data Facility (RRDF) and E-NET2, which work well with CA-IDMS to provide local or remote database shadowing and enhanced recovery.

A positive relationship has existed between the two companies since 1988, when E-Net first provided realtime remote journaling and replication support for IDMS (then, a Cullinet product). RRDF and E-NET2 currently provide support for CA-IDMS Releases 12 and 14, and will be enhanced to support the upcoming Release 15.

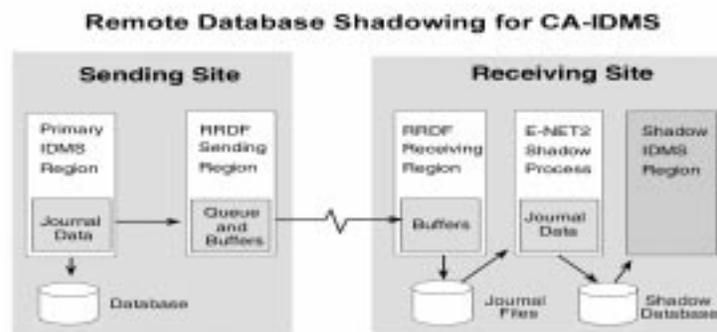
Founded in 1984, E-Net has provided business continuity solutions to some of the world's most successful and influential organizations, including: Citicorp, the U.S. Federal Reserve, Federal Bureau of Investigation, Bank of America, Lehman Brothers, and others. In addition to Computer Associates, E-Net's business partners include BMC Software, Comdisco, Sungard, and IBM. E-Net software supports CA-IDMS, IMS/ESA, DB2, CICS/VSAM, ADABAS, and MQ Series.

The association with Computer Associates brings important backup and recovery functionality to the CA-IDMS user community.

Remote Journaling And Disaster Recovery

RRDF provides a remote journaling solution for CA-IDMS. Journal data is acquired through the IDMSJNL2 exit and sent asynchronously, in realtime, to a remote site where it is archived. If an outage occurs, users can select from a variety of utilities (CA-IDMS DUMP/RESTORE, DFSMSDSS, FDR, and IDCAMS) to restore the database from full backup. The archived journals are applied using

the roll-forward utility to forward recover the database to the point of failure. RRDF uses compression and filtering technology to reduce the network bandwidth required for remote journaling. Typically, a single T1 line is required to keep up with online and batch update activity.



Our newest product, RRDF/NT Receive, the first member of the E-Net/RemoteVault family of products vaults CA-IDMS journal data to a remote Windows NT system, rather than to an IBM mainframe. This solution can significantly reduce the operational costs of obtaining and providing business continuity.

CA-IDMS users can choose to incorporate "fuzzy backups" into their recovery plan. Therefore, even if a file is open for update, it is available for backup. When a data set is restored, after a failure, a forward-recovery utility can use the log/journal data to reapply all changes made to the file during the backup, bringing the data set back to a point of logical consistency. Automated fuzzy database backups minimize disruption of the production system while taking disaster recovery backups of the databases.

Either process eliminates the eight-, 12-, even 24-hour gaps (lost data) that flaw other incremental backup scenarios. Journal consolidation can reduce recovery time even further.

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Computer Associates and E-Net Corporation Form CA-IDMS Development Partnership

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E-Net's spill file and gap recovery processing provide additional data protection. If a log/journal transmission is interrupted, updates are automatically buffered in a disk spill file. Then, when communication is restored, RRDF transmits the spill file data and resynchronizes with the remote site.

During extended link failures, remote site outages or software/hardware failure, RRDF's patented gap recovery technology automatically retrieves any lost data from the production site log/journal files. It then transmits the data to the remote site. If the database system writes a log/journal record, RRDF guarantees its arrival at the remote site.

Database Shadowing – Local or Remote

E-Net's E-NET2 software enables efficient database shadowing for CA-IDMS. Database shadowing is particularly versatile and appropriate for companies requiring virtually instantaneous recovery from an outage or disaster. Instead of simply archiving current journal data, it is continuously applied to a copy of the database. This "shadow" database is a near-realtime replica of the production database. It is available for read-only queries, freeing up the production database, or as a recovery solution, in the event of an outage.

RRDF works with the E-NET2 IDMS Shadow Database Facility to maintain REMOTE shadow databases—journal data is acquired through the IDMSJNL2 exit and sent asynchronously, in realtime, to a remote site. E-NET2 can also act as a standalone product for local site shadowing—using native CA-IDMS journal data as input.

E-NET2 analyzes the commit status of each individual CA-IDMS recovery unit, and applies only the recovery units that are committed. In-flights are held in a "suspense" file until the next iteration of the shadowing process. Thus, the shadow database appears to be quiesced, even though the source production database was never quiesced.

Shadow databases provide excellent resources for the following read-only functions:

- Data warehousing and mining
- Batch reporting cycles (for example, quarterly and year-end reports)
- Complex SQL queries
- Continuous availability
- Load balancing

Data Sharing, Parallel Sysplex and CA-IDMS Release 15

E-Net has broad and long-term experience providing backup and recovery solutions for IMS/ESA, DB2 and VSAM RLS Parallel Sysplex configurations. E-Net worked closely with IBM to ensure its products fully supported n-way data sharing in a Parallel Sysplex environment. Logging and recovery functions were modified extensively to support data sharing. Soon, under the new relationship between CA and E-Net, this expertise will be expanded to include CA-IDMS Release 15.0. Then, for the first time, CA-IDMS will allow simultaneous access to the same database areas for update and retrieval by multiple Central Versions. E-Net will make the necessary changes for both RRDF and E-NET2 to support CA-IDMS R15.

It is expected that the CA-IDMS user community will applaud the formalized cooperative effort between E-Net and CA-IDMS and embrace the products and functionality that result.

For more information about E-Net, please contact
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1-415-433-3800

Tom Flesher, E-Net Corporation, is the Executive Vice President and one of the company founders. Tom is responsible for product development, marketing, and strategic partners. He has more than 25 years in the industry.



CA-IDMS 15.0 Data Sharing Feature Allows Multiple Update CVs

(continued from page 1)

Many features are introduced in CA-IDMS 15.0 for enhanced 24 x 7 processing including:

- The ability to dynamically add or increase the size of a storage pool or program pool
- The ability to dynamically specify the external wait time for a task
- The ability to modify the queue depth field used to tune multitasking performance
- The use of expanded system counters for number of system tasks, times at max tasks, and times SOS
- Toleration of database I/O errors during warmstart
- The automatic restart of RHDCDEAD (the deadlock detector) if it abends

For improved performance and productivity the following features are provided:

- The use of XTIOF for an increased number of data sets that may be allocated to one CA-IDMS job
- Printer form feed options specifiable in sysgen at the system level as well as at the LTERM level
- The ability to run Unload, Reload, and Fastload with duplicate record IDs defined in the same subschema
- A runtime message at the time of a stall which includes the program name of who is holding a dbkey resource
- A DCMT command to vary an area permanently to retain its new status across startups
- Easier installation and maintenance procedures for the CICS interface
- An enhancement to the Endeavor®/DB archive and compress facility to support modification of dictionary identification information in Confirmation Change Lot entries
- Management of User Attribute Blocks (UABs) for improved storage and CPU utilization
- The collection and display of data sharing statistics by the CA-IDMS®/Performance Monitor Interval Monitor

For open architecture, SQL enhancements include:

- SQL DDL syntax for CREATE PROCEDURE as well as EXEC SQL CALL PROCEDURE syntax for the runtime invocation of a program written in COBOL, PL/1, or Assembler
- Support for columns to be assigned subqueries on an SQL UPDATE statement

CA-IDMS 15.0 Upgrade Requirements

Upgrade requirements for CA-IDMS 15.0 are minimal for clients who are not exploiting Parallel Sysplex features. Installation of a new SVC is required. Installation procedures for the CICS interface have been streamlined to be completely under the control of SMP/E. (Clients who have made modifications to this interface will be able to continue to modify IDMSINTC outside of SMP/E.) The Convert Catalog utility must be run to update the catalog in place to pick up new definitions. DDLML dictionary migration is not required; however, IDMSDIRL should be run to pick up the new definitions for fields in the dictionary that were previously defined as FILLER fields.

For clients using the Shared Cache or Dynamic Run Unit routing features (first available in CA-IDMS® 14.0), the Coupling Facility structures used by these features have changed for improved performance. Systems using these features and sharing the same coupling facility structures must therefore all be at the same release level, such as, 14.x or 15.0.

For improved debugging, the default for system snaps is now an SVC dump. Prior to Release 15.0, an SVC dump would be created only if optional apar bit OPT00176 were set. The meaning of this bit is now reversed. In CA-IDMS 15.0, setting OPT00176 will disable the SVC dump and direct the system snap to the log.

The journal file format has changed for CA-IDMS 15.0. Journals must be reformatted and reinitialized for CA-IDMS 15.0. Journals created by CA-IDMS 15.0 are not useable by pre-CA-IDMS 15.0 systems and vice versa.

The master suspend queue used by CA-IDMS®/Dictionary Module Editor (DME) has been renamed from DME-SUSPEND-QUE to _DME-SUSPEND-QUE. All suspended DME sessions should be saved to the dictionary before upgrading to CA-IDMS 15.0.

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The IUA and CA-IDMS® Enhancement Requests

by Chris Hoelscher

CA-IDMS is a great piece of software, and has a great development staff backing it. One of the benefits of CA-IDMS (from an administrative standpoint) is the development team's eagerness to refine and enhance the software to meet the needs of CA-IDMS clients around the world. As a means to an end, the CA-IDMS development team called upon the IUA (CA-IDMS Database and Application User Association) to present a prioritized list of suggested enhancements (DARs) to the supported CA-IDMS product family.

Accepting this call, the IUA has developed a procedure for accepting, documenting, balloting, and forwarding enhancement requests, which follows:

- An enhancement request is made to the IUA (soon to be on the Web at <http://iuassn.com>). Please note that submitting an enhancement request to Computer Associates (CA) alone does not place the request in the IUA process, so submit the enhancement request to both CA **and** the IUA so that the software vendor and the user community are both aware of the enhancement request. When submitting an enhancement request to the IUA, please include the CA issue number of the DAR you opened.
- Periodically, the IUA will review all submitted enhancement requests, filter out duplicate requests and requests that have already been implemented by CA. The remaining enhancements are voted on by the IUA Technical Advisory Committee members to determine if it is of general interest and should be put on a ballot. Currently, this process occurs three times a year. The IUA will notify the requester with the status of their enhancement request.
- When an appropriate number of reviewed enhancement requests have been accumulated, the IUA will publish a ballot to its members. The next ballot, scheduled for early 2000, will be mailed to each IUA member company. Additionally, voting will be available online for the first time (again, at <http://iuassn.com>) for this ballot. Additionally, each enhancement request on the ballot will be opened as a CA DAR issue under the IUA site ID.
- When all ballots have been returned to the IUA, the results will be published for the IUA members and CA. If the CA issue number was included with the IUA enhancement request, CA will be notified with the request's status. The IUA will also notify the requester with the results of the submitted request and the corresponding IUA DAR issue will be updated.
- As requests are implemented, CA will update DAR issues with status information, or notify the IUA with the information, which will be forwarded by the IUA to the original requester.

As many of you know, the major feature of CA-IDMS Release 14.1 (mixed page groups) was a direct result of client-contributed and balloted enhancement requests. Enhancement requests **DO** make a difference; please submit your enhancement request to the IUA today!

*Chris Hoelscher, **Sophisticated Business Systems**, is a CA-IDMS systems and database consultant. Chris has 26 years of data processing experience, 15 years with CA-IDMS. Chris is an elected director of IUA, the CA-IDMS Database and Applications User Association.*

Client Education

**For the most up-to-date information
on CA-IDMS® courses and class schedule
contact Client Education
at 1-800-237-9273
or visit our website www.cai.com/education**

Vendor's Corner

Welcome to our first Vendor's Corner. This column gives the Computer Associates Business Partners a chance to talk about their products that support the CA-IDMS® environment. Each vendor supplied the information that appears in this column. Hope you enjoy this addition to *The IDMS Expanded Page*.

Allen Systems

ASG-Replication Suite, from Allen Systems Group, is the only comprehensive, single-vendor solution that reliably replicates CA-IDMS data to virtually any database. Are you planning to replicate your data to make it accessible for eCommerce? Transforming it for business analysis purposes? Planning to permanently move your legacy data to another database? ASG-Replication Suite is the answer. For additional information, contact:

Marni A. Scotti
1-941-435-2365
website: www.asg.com

Aquisoft

Aquisoft has among its newest offerings **XML/Information Server** and **Active/3270**. XML/Information Server enables direct access to OS/390 data and metadata from any platform. Active/3270 eliminates the need for screen-scraping, saving time and money. Handling existing CA-IDMS transactions as ActiveX data source objects, Active/3270 allows total control of every transaction from any environment that supports ActiveX.

Among Aquisoft's other products, **OCA-MQSeries** means you can use IBM's MQSeries from within CA-IDMS. And **OCA-DB2** gives CA-IDMS programs the ability to access DB2 using SQL statements. **OCA-Commit** allows CA-IDMS transactions to perform two-phase commit with external resources supported by CICS and RRS including DB2, IMS and MQSeries.

For additional information, contact:
1-888-518-9111
website: www.aquisoft2.com
E-mail: archcons@aol.com
website: www.archcons.com

ARCH Consulting Associates

With **Schema Plus** software, a Windows application, CA-IDMS users have the ability to create, modify or view database diagrams with simple drag-and-drop technology. Also, Schema Plus automatically generates Help files and HTML files. Schema Plus can produce labor savings with database diagram generation, change impact analysis, systems analysis and programmer productivity.

For additional information, contact:
1-704-676-0175

DBA Software

Since 1985 DBA Software has been helping companies bring shared information to the desktop. **OnLine Help** brings new capabilities to online applications. OnLine Help provides hot key access to field, screen, or application level documentation for applications developed in CA-ADS® or CA-IDMS®/DC. Users have quick access to application documentation, policies and procedures. OnLine Help can be added with a single line of code, and help authors can create online help screens while using the application.

For additional information, contact:
1-510-658-9900
website: www.dbasoft.com

Cogito

Cogito based in London, England, have just celebrated their tenth anniversary of delivering important additional functionality to CA-IDMS. With a focus on large systems and 24 x 7 operations, Cogito has developed **EZ-Reorg** and **EZ-RSTU**, which provide database reorganization and restructure with minimal downtime. Recently released is the **EZ-SoftQuiesce** product, which allows an inflight (hot) backup to be initiated *without the need for a quiesce point*, thus providing uninterrupted online availability and additionally avoiding the problems normally associated with scheduling overnight batch work around the nightly backup window.

(continued on page 14)

Vendor's Corner

(continued from page 13)

Cogito has also assisted many of the worlds largest CA-IDMS users achieve previously unattainable levels of throughput and resilience through implementation of the **EZ-Synchro** product. EZ-Synchro allows workloads to be spread across multiple MVS systems, in both sysplex and non-sysplex environments, with full read/write synchronization of DMCL buffers and dataspaces.

Cogito products are distributed in the United States and Canada by TACT Software, Inc.
For additional information, visit
www.cogito.co.uk or www.tact.com

International Software Products (ISP)

ISP has several product offerings for the CA-IDMS environment.

- **DARS**—builds a relational database schema from an existing CA-IDMS schema, loads the relational database with the data from CA-IDMS and maintains it using journal-based replication.
- **WebEngineer**—a sophisticated application generator that can create Java, HTML or COBOL programs including SQL and MQSeries statements. WebEngineer can read 3270 screens, such as those used in CA-ADS applications, combine them and provide a modern GUI end-user interface.
- **PMDC**—complete performance management for CA-IDMS systems. It includes an internal and external monitor, a multiple CV monitor, even a monitor for use after the CV has abended.
ASI2—an interface from SAS to CA-IDMS which allows CA-IDMS DML statements, including those for LRF, to be included in SAS programs.
- **DEMI/DB**—a suite of utilities to extract data from CA-IDMS databases, sub-select from the data, change the data content and load the data to the same, or a different CA-IDMS database.
- **FIRST**—a simple keyword driven tool to extract a subset of data from a CA-IDMS database and populate spreadsheets or databases which expect a delimited format.

For additional information, contact:
Jim Phillips
1-800-295-7608 x23
website: www.ispinfo.com

TACT Software, Inc.

The VEGA suite of products, by Vegasoft in Finland, and EZ-Image from Cogito in England, are sold exclusively in the United States and Canada through TACT Software.

The **VEGA** suite of products is a comprehensive toolset designed to enable access to any data residing on *any* platform from any programming environment. “Web-ify” your mainframe applications through the Web server. Give Windows access to CA-IDMS databases, CA-IDMS/DC programs and CA-ADS dialogs. Modernize your CA-IDMS environment by adding TCP/IP capability. Integrate IBM MQ Series capability into CA-IDMS for enhanced system-wide functionality, efficiency and control. Communicate between disparate databases: CA-IDMS access to DB2, or other networked ODBC compliant databases such as Oracle, INFORMIX, Sybase, MS SQL Server, and more.

Can you imagine having a private test database for each user or group of users, and never interfering in each others’ work? Being able to test re-structures to the production database, and estimate all of the required resources ahead of time? With **EZ-Image**, testing is just the way it ought to be. Using minimal DBA resources and minimal DASD, you can operate as if every user and programmer has a private copy of the test database (or even the production database). You can easily create multiple private *images* of a CA-IDMS database and then run concurrent and totally separate Test, User Acceptance, QA, and Production Maintenance and Test environments.

For additional information, visit
www.tact.com, www.vegasoft.com or www.cogito.co.uk

Tiburon Technologies

View/IX is a comprehensive and an intelligent software agent that provides an analysis and report on the current condition of indexes that reside in a CA-IDMS database. The product is a multi-faceted program that can be utilized for initial sizing to configure index sets, perform ongoing analysis of the indexes, perform unattended, automatic rebuilds, and provide resolutions to solve indexing performance problems. View/IX supports CA-IDMS Release 10.0 through Release 14.0 and uses a combination of its own and vendor provided utilities to accomplish its results for both system-owned and user-owned indexes.

For additional information, contact:
1-800-394-3224
website: www.tiburon.com

CA-WorldSM 2000 In The New Millennium

by *Norah E. West*

CA-World 2000 is April 9-14, in New Orleans at the Ernest N. Morial Convention Center. All sessions at CA-World 2000 are being held at the convention center, making it easier for you to attend sessions in other solution areas. We will also be offering FREE Pre-Conference Education and hands-on workshops covering the latest industry trends and CA's most popular products.

CA-World 2000 is divided into 19 function-specific Solution Areas, which encompass a wide range of topics including predictive management, visualization, application and database development, enterprise management, Internet technologies, security, and much more. The World Resource Center is the place to go for hands-on demonstrations on the cutting-edge solutions to your most pressing IT issues. This year's keynote speakers are Computer Associates CEO, Charles B. Wang, and Sanjay Kumar, COO, who will share with us their vision on the future of technology, and John Glenn, United States Senator and Astronaut.

CA-IDMS[®] is part of the Database Solution Area, which is designed to educate DBAs, Application Developers, and IT management on the latest solutions in the CA-IDMS product family. We have sessions on Internet Connectivity, Application Development, DB/DC, and SQL, as well as hands-on labs, user experiences, and discussion groups. Discover the latest enhancements, speak with CA Development to share ideas for future enhancements, and exchange ideas with your peers about the tools and techniques used in the CA-IDMS environment.



The CA-IDMS Track features sessions in four threads:

Internet Connectivity—offers sessions designed to educate you on the myriad of possibilities for accessing CA-IDMS data and applications from the Web. It highlights sessions on CA's options for Web access, such as CA-IDMS[®] Server, EDBC, Jasmine^{®ii}, and Opal,TM and third-party options such as MQ Series, TCP/IP access, CICS 3270 Bridge, CICS Web Server and the Vegasoft Web Server product. Several clients will be presenting their experiences creating and using Web applications which access CA-IDMS. Also, there is a hands-on lab available for you to develop an Internet application using CA-IDMS Server

SQL—offers sessions ranging from SQL applications programming, to SQL database administration, to SQL table procedures.

Application Development—offers sessions on CA-ADS[®] and CA-IDMS[®]/DC COBOL programming, CA-CulpritTM report writing, and data warehousing.

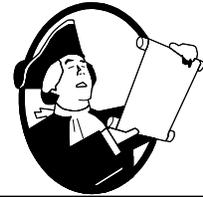
DB/DC—offers sessions geared to new DBAs, as well as seasoned DBAs. Featured this year are classes on DC Internals, as well as traditional CA education on database implementation, security, product internals. Many user sessions are also scheduled.

So mark your calendar if you want to be part of the premier user conference of the new millennium. Join us in the "Big Easy" to network with your peers, savor the regional food, and listen to the great jazz and zydeco music.

For more information and online registration, visit our website www.caworld.com or call 1-877-CAWORLD (229-6753) or 1-631-342-6600 outside the U.S. Register before Monday, February 14, 2000 and save USD \$200 off the base registration price. If you are a member of the IUA, you are entitled to receive another USD \$200 off the base price. Register online and save an additional USD \$50 off the registration price.

Norah E. West, CA-Lisle, is the Product Analyst for the CA-IDMS Tools. Norah has 19 years with the CA-IDMS family.

CA-IDMS® User Groups



IUA Region	Group Area	Contact	Phone/e-mail
Central US	Midwest	Anita Koziol Computer Science Corp.	1-312-441-7849 akoziol@csc.com
	St. Louis	Phil Loethen HSL	1-618-692-4757
	Iowa	Steve Black Caroline Simon Pioneer Hi-Bred Int'l, Inc.	1-515-270-3412 1-515-239-1583
	Omaha	Dorothy Abendroth ConAgra, Inc.	1-402-595-4664
	Twin Cities	Bill Gentry Allina Health	1-612-775-1190
	Mid-Atlantic US	Central Pennsylvania	Jeffrey Herman Susquehanna Pfaltzgraff Co.
	Delaware Valley	Mike Bruno Carter-Wallace	1-609-655-6634
	Northeast	Carl Baylis Montefiore Medical Center	1-718-405-4316
	Tidewater VA	Virgil White Newport News Ship Bldg.	1-804-380-7118
	Pittsburgh (DCUF)	Gene McCormack Dollar Bank Company Hank Bohl Westinghouse-Bettis	1-412-261-8494 1-412-476-5340
	New Jersey	Frank Weinreb KPMG Peat Marwick Arnie Miller - CN984 State of NJ	1-201-307-7183 1-609-984-7338
	Southwest Virginia	Donna Pendleton Tultex Corporation Mary Puckett NationsBank	1-703-632-2961 x2277 1-804-553-5441
	Western New York	Bruce Mayer Wegmans Food Markets Don Burselson Lawyer's Cooperative Publishing	1-716-328-2550 1-716-671-7780
North Central US	N. Central Applications	William (Bill) E. Cohen Fisher Scientific Dick Schoenbaum Alside	1-412-562-8300 1-216-922-2110
	Great Lakes	Mike Mitchell Delta Dental Plan of Michigan	1-517-347-5487
	Ohio Valley	Dan Hall General Electric Co.	1-513-583-3525 1-513-583-3525
Southern US	Georgia	Jim Rice Southern Company Services, Inc.	1-770-821-4148
	Dallas (DCUF)	Chris Hoelscher Sophisticated Business Systems	1-972-756-1938

CA-IDMS® User Groups



IUA Region	Group Area	Contact	Phone/e-mail
Southern US	Houston	Dick Brinson	1-409-273-2021
		DBSoft, Inc.	
		Cliff Donohoo	1-713-358-4686
	Mississippi	DBACES, Inc	
		Doug Weaver	1-901-528-4876
		Memphis Light, Gas & Water	
	North Carolina	Mike Smith	1-601-984-1141
		University Medical Center	
	South Florida	Jeanne Peck	1-919-515-2794
		N.C. State University	
	North Florida	Janet Schwartz	1-954-527-4792
		Diane Charboneau	1-305-527-4782
South Carolina	Alamo Rent-A-Car, Inc.		
	Paul Fazio	1-813-623-4519	
Western US	Rocky Mountain	Citicorp	
		John Ward	1-803-896-2100
	Portland	SC Dept. of Corrections	
		Ed Brendler	1-303-361-4030
		Computer Data Systems Inc.	
Southwest	Mr. Leslie Anderson	1-503-778-2449	
Canada	Toronto	Kaiser Permanente	
		Arnold Sobol	1-310-476-5772
	Ottawa	R & W Software	
		Caesar Caruana	1-800-667-3189 x7138
Quebec	Deloitte & Touche		
International	Belgium	Frank Schilder	1-613-941-2557 va3fjs@rac.ca
		Laura Rochon	1-450-441-0749 laura.rochon@cloxt.com
	Denmark	Carl de Visscher	32-2-214-12-23
		c/o Credit a l'Industrie	
	Finland	Ole Jorgensen	45-45-96-7813
		c/o Alm. Brand af 1792	
	France	Timo Kotilainen	358-10-5036-581
		c/o Yrittajain Fennia	timo.kotilainen@fenia.fi
	Germany	Gonzague Guerin	33-1-422-2660
		c/o Credit du Nord	
	Greece	Hans Kotowski	49-221-1636-2341
		c/o Central Krankenversicherung	
	Netherlands	Nick Aravandinos	30-1-6532-929
		c/o Public Power Corporation	
Norway	Joop Kuipers	31-26-367-3445	
	c/o EDS	joop.kuiprs@eds.com	
Spain	Rolf Hopland	47-55-17-8859	
	c/o Policy Management		
United Kingdom	Eduard Fort	34-3-4020-140	
	c/o Banco Atlantico		
		Brock Shaw	44-1525-222-229
		Torrison Associates Limited	brock_shaw@bcs.org.uk

CA-Optimizer®/II Now Provides CA-IDMS® Application Abend Diagnostics

by *Tammy Brady*

CA-Optimizer/II is the world's leading programmer productivity tool for these COBOL environments: MVS COBOL II, COBOL/370, IBM COBOL for MVS, IBM COBOL for OS/390, VSE COBOL II, and IBM COBOL for VSE/ESA environments. CA-Optimizer/II provides comprehensive abend diagnostics, object code optimization, application performance analysis, test coverage analysis, simplified program debugging, quality assurance facilities, and online COBOL language HELP tutorial information.

Release 2.2 includes major enhancements for Detector and Extended Detector abend reporting, including support for CA-IDMS and symbolic data name support. Detector provides COBOL-oriented abend diagnostics; Extended Detector provides the same abend reporting without any compile time option or execution time overhead. Abend reports are available for all abends, even if the abending COBOL program is not optimized by CA-Optimizer/II. Each installation can determine in advance the abends for which reports should be generated, as well as which sections of the abend report should be produced.

Abend Reporting For CA-IDMS

Release 2.2 provides CA-IDMS abend reporting capabilities. The CA-IDMS section of the abend reports provides the following information for any abend that occurs in a CA-IDMS application:

- CA-IDMS release number and genlevel
- DBNODE, DBNAME, DICTNODE, and DICTNAME used
- SYSIDMS Parameters used
- Subschema name, compile date, and structure type (bound or unbound)
- Trace of DML verbs (the number of commands in the trace is a user option)
- Currencies for all areas, record, and sets in subschema at time of abend
- Bind buffer address and size for each record in subschema
- Current and previous buffer address for records accessed
- Current, previous, and bind record images for records accessed

The user has the option of also displaying any of the following at the time of an abend of a CA-IDMS application:

- Snap of the CA-IDMS VIB (Variable IB50 for subschema)
- Snap of CA-IDMS VARS
- Detailed information about each record in the subschema including prefix length, db procedures, storage mode, record ID, area name, data length
- Detailed information about each set in the subschema including owner record, member records, set type, and set pointers

CA-Optimizer/II Release 2.2 also includes abend reporting for DB2 and IMS COBOL programs.

Tammy Brady, CA-Fort Lee, is the Product Analyst for CA's suite of testing tools, including CA-Optimizer/II. Tammy has worked with the testing tools for more than a decade.

CA-IDMS Server Improves DBA Productivity And Customer Service At Delta Dental Plan

(continued from page 4)

Realtime Access To Other Delta Dental Applications

The final application for CA-IDMS Server involves our National Provider File, which is a database of dentist's fees and other related information. This database includes over 100,000 dentists throughout the country and is accessed by all Delta Dental Plans to price claims. Delta Dental Plan of Michigan developed and maintains the National Provider File and uses CA-IDMS Server for realtime access. This information is usually retrieved through a value-added network, processing these requests as a batch process. Our realtime access uses a server running a TCP/IP listener that picks up a request for information. Using a table procedure, the request is then processed through CA-IDMS Server to access the National Provider File for the data, and passes the information back through the IP connection to the Delta Dental Plan that issued the request.

All of these CA-IDMS Server applications have helped the Delta Dental Information Systems and Services department better serve our external and internal customers by providing GUI data access to our non-SQL databases.

Steve Wolff, Delta Dental Plan of Michigan, is the Supervisor of Technical Services. Steve has worked with CA-IDMS databases since 1983.

CA-IDMS 15.0 Data Sharing Feature Allows Multiple Update CVs

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To use the data sharing feature, a close examination should be made of your applications to determine their readiness for the use of shared resources. If the queue area is declared as sharable, then all queues (with the exception of some internal system queues) will be accessible to all other CVs in the Data Sharing Group with a shared queue area. Also, all resources for which ENQUEUE and DEQUEUE commands are issued by CVs in a Data Sharing Group are considered global. Queues and resources that cannot be shared must be included in an exception list.

OS/390 V1R3 is the minimum release of the operating system required for use of the data sharing feature.

If you would like more information or would like to participate in the CA-IDMS 15.0 beta program, please contact your CRM, or Maureen Gervais by phone at 1-508-628-8094 or e-mail Maureen.Gervais@cai.com.

Judy Kruntorad, CA-Framingham, is the Technology Owner for CA-IDMS. Judy has 26 years of DBMS software development experience; 21 with CA-IDMS.

The IDMS Expanded Page Order Form

Do you know of someone else who would like to receive a copy of *The IDMS Expanded Page*? Or, would you like to be removed from the current mailing list? Clients in North America should complete this form and mail it to the address below, or FAX it to 1-781-329-1134. Clients outside of North America should contact their local CA office and ask to be added/removed to the mailing list for that country.

- Add
 Remove

Computer Associates International, Inc.
The IDMS Expanded Page
100 Staples Drive
Framingham, MA 01702



Name and Title: _____ **Date:** _____

Company: _____ **CA-Site ID:** _____

Address: _____
Street

City

State/Province

Zip Code/Postal Code