

Indexed Sequential Access Method (ISAM) file management technology is the precursor to today's relational database management systems (RDBMSs). Because ISAM provides fast and cost-effective access to data without the overhead of an RDBMS, ISAM continues to be a viable environment for many companies. However, ISAM environments lack key features of RDBMS environments, including SQL access, archival and recovery, high availability, replication, and so on.

The Informix® C-ISAM® DataBlade® module adds SQL access and database management capabilities to C-ISAM. It enables C-ISAM data to be migrated to Informix Dynamic Server™ 2000 without requiring modifications to C-ISAM applications that access this data, while also providing SQL access to data still stored in C-ISAM. The C-ISAM DataBlade module brings the features of the RDBMS environment to the C-ISAM environment.

C-ISAM DataBlade module benefits:

- **Minimizes Development Costs** by enabling users to access C-ISAM data using standard SQL client tools substantially reducing the amount of custom programming
- **Facilitates the Migration to an RDBMS** by providing a quick and efficient migration path for C-ISAM applications
- **Provides Concurrent Access** by enabling both C-ISAM and SQL applications to access data concurrently, independent of where the data is actually stored

What Are Informix C-ISAM and the C-ISAM DataBlade Module?

Informix's C-ISAM is a library of C functions that efficiently manages ISAM files. C-ISAM, one of Informix's oldest and most widely used products, has been the industry-standard ISAM product for UNIX in the United States and Europe for over eight years. Recently, many customers and software vendors who have developed applications using C-ISAM have become interested in adding RDBMS features to their C-ISAM environment or are working towards migrating C-ISAM applications to an RDBMS environment. The Informix C-ISAM DataBlade module has been developed specifically to address the needs of these customers.

The Informix C-ISAM DataBlade module consists of two components:

- SQL Access
- Server Storage

The *SQL Access* component provides an SQL interface to C-ISAM data. The *Server Storage* component enables you to store the C-ISAM data directly in the Informix Dynamic Server 2000 database, while allowing C-ISAM applications to continue accessing this data.

Use SQL Access to Gain an SQL Interface to C-ISAM Data

The SQL Access component of the C-ISAM DataBlade module places an SQL interface on top of existing C-ISAM data files. This enables you to continue to maintain user data in C-ISAM, while providing concurrent access to that data through SQL. With SQL Access, you have the ability to execute all standard SQL statements, including SELECT, INSERT, UPDATE, and DELETE.

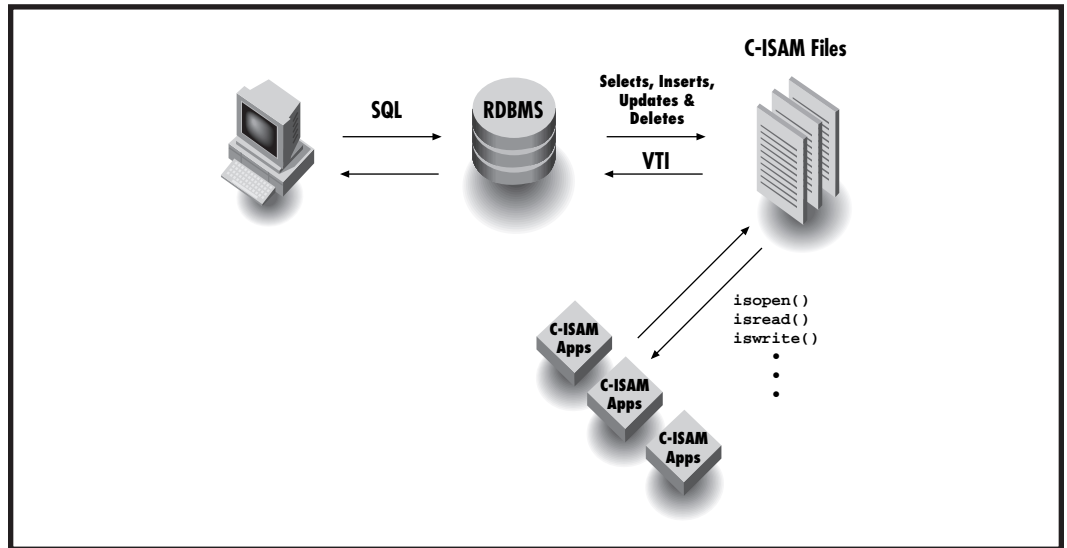


Figure 1: SQL Access component architecture.

To the SQL client, the C-ISAM data “looks and feels” like a standard RDBMS table and can be accessed using any SQL tool that supports Informix Dynamic Server 2000 connectivity (including ODBC and JDBC). SQL Access has been developed using the virtual table interface (VTI) feature of Informix Dynamic Server 2000. VTI is an application programming interface (API) for developing gateways to data not stored in the Informix database, including flat files, another RDBMS, or any system on the Internet. To the user, the data looks as if it’s stored in the Informix database, and therefore it is called a *virtual table*.

Figure 1 illustrates the architecture of the SQL Access component.

Use Server Storage to Access Database Data from C-ISAM Applications

Many customers and software vendors wish to migrate C-ISAM data and store it directly in the Informix database. Using the Server Storage component of the C-ISAM DataBlade module, you can still access this data from your C-ISAM applications without making any changes to application code. This gives C-ISAM users all the advantages of an RDBMS, without requiring you to migrate C-ISAM applications at the same time as you migrate your data.

To the C-ISAM application, the data “looks and feels” like a standard C-ISAM file. However, the data is maintained in a physical table in the Informix database. The data can be accessed concurrently by both C-ISAM and SQL applications.

Figure 2 illustrates the architecture of the Server Storage component.

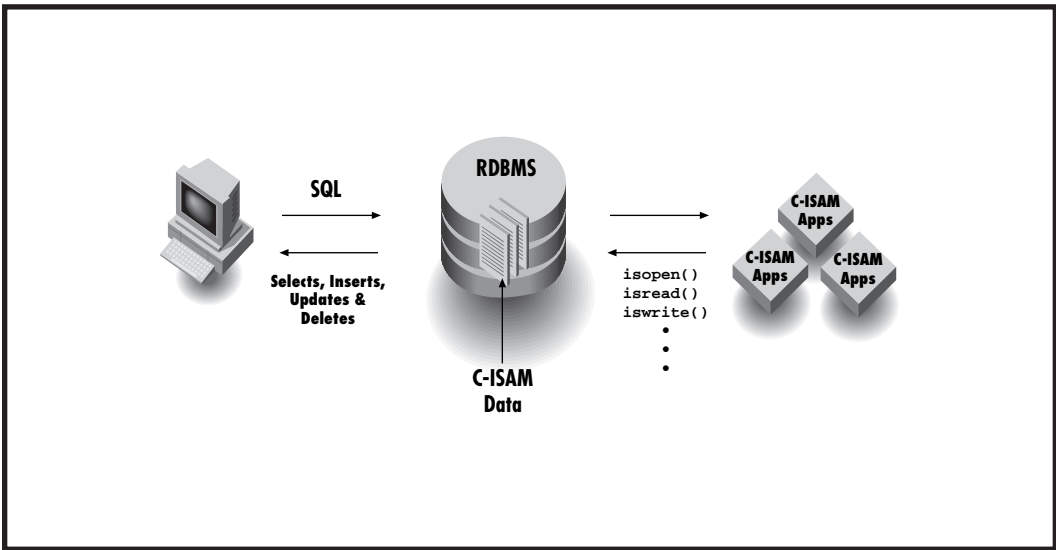


Figure 2: Server Storage component architecture.

Advantages of the Informix C-ISAM DataBlade Module

The C-ISAM DataBlade module addresses the needs of C-ISAM customers with the following benefits:

Minimizes Development Costs

Although C-ISAM is fast and cost effective, it requires you to access the data at a much lower level than standard SQL. Data access routines in C-ISAM applications tend to be complex and are typically developed using a third-generation programming language. It is difficult for nontechnical users to access this data without the development of custom programs and reports.

The SQL Access component of the C-ISAM DataBlade module enables users to access C-ISAM data using standard SQL client tools, including general query tools, report writers, Java applications, C++ applications, and Informix access tools such as DB-Access and Informix SQL. Enabling users to access C-ISAM data using these tools substantially reduces the amount of custom programming required to generate reports and facilitates the development of interfaces to external RDBMS systems.

Facilitates Migration to an RDBMS

Migrating from a C-ISAM environment to an RDBMS environment can be a lengthy and costly proposition. Relational tables have to be designed and built, data access routines have to be completely rewritten, and data has to be migrated.

The C-ISAM DataBlade module provides a quick and efficient migration path for C-ISAM applications. Once the DataBlade module is installed and the data is moved into the database, C-ISAM applications can access the data immediately after recompiling the C-ISAM application.

In addition, the SQL Access and the Server Storage components can be used together to migrate data into the database using a simple SELECT statement such as:

```
INSERT INTO server_storage_table
SELECT * FROM sql_access_table
```

SYSTEM REQUIREMENTS

The following operating systems are supported:

- Sun SPARC running Solaris 2.5.1 or higher
- HP running HP-UX 10.20 or higher
- IBM running AIX 4.2.1 or higher
- Sequent 4.4.2 or higher

The following database servers are supported:

- Informix Dynamic Server™ with Universal Data Option™, Version 9.14 or higher
- Informix Dynamic Server 2000

The minimum amount of memory required is:

- 32K per user of RAM

The minimum amount of disk space required is:

- 50 MB of disk space

Provides Concurrent Access

The C-ISAM DataBlade module enables both C-ISAM and SQL applications to access user data concurrently, independent of where the data is actually stored. Locking and transactions in C-ISAM are still handled through the appropriate C-ISAM calls, while the DataBlade module handles all locking, transaction, and concurrency issues for SQL applications.

About Informix

Informix Corporation, based in Menlo Park, California, provides innovative database solutions that assist the world's major corporations attain competitive advantage. Informix is widely recognized as the technology leader for corporate computing environments ranging from small workgroups to very large parallel processing applications. Informix's database server, application development tools, superior customer service, and strong partnerships enable the company to be at the forefront of major information technology solution areas including data warehousing, high-performance OLTP, and Web/e-commerce. For more information, contact the sales office nearest you or visit our Web site at <http://www.informix.com>.



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