

## Build, Test, and Administer Better Db2 Applications

- **Tools to Build, Test, and Administer Better Db2 Applications**

### Business Challenges

Building, testing, and administering Db2 applications is difficult. Db2 DBA's and knowledgeable developer resources are scarce. Writing and testing SQL is difficult. Developing a representative sample of data while maintaining data privacy is both time consuming and error prone. It also stretches your Db2 talent. Viewing and understanding the current Db2 environment requires SQL and knowledge of the Db2 catalog. Getting good performance means good Db2 access paths. Finding the determinants of access path decisions and tuning SQL to achieve good access paths is hard work.

**TestBase** is a series of fully integrated components meant to make these and other tasks easier – often without SQL.

### TestBase Components

There are seven components of Testbase available. Except for Db2 Mask, each product can be purchased separately. Db2 Mask requires Db2 Subset.

1. **Db2 Mask**
2. **Db2 Subset**
3. **Db2 Edit**
4. **Db2 Slice**
5. **Db2 SQL Debug**
6. **Db2 Query Build**
7. **Db2 Catalog Guide**

#### TestBase Db2 Mask

Meeting audit and government (**HIPAA and Gramm-Leach-Bliley Act**) requirements or just properly safeguarding your client or employee information can be difficult. You don't want this sensitive information readily available in your test environment(s) where it could be breached. Db2 Mask provides mandatory masking of data as it is extracted. Audit reports are also provided.

#### TestBase Db2 Query Build

As Db2 SQL has evolved over the last 30 years, it can do more and more. Taking advantage of the new features means writing more and more complicated SQL – joins – inner - left outer – right outer – full outer, unions, table expressions, recursive bill of material explosion – and many other new concepts. Making Db2 do more work in a single SQL call generally means a better performing application. Fully exploiting these SQL changes is another matter – someone must write the new SQL. TestBase Db2 Query Build walks you through the steps to build even the most difficult SQL. The repository of SQL built is searchable by table accessed and description of the SQL.

#### TestBase Db2 Catalog Guide

As companies strive to increase revenue and improve customer service it becomes increasingly important to create or modify Db2 applications as quickly as possible. Seeing the existing Db2 objects is often the first step. Db2 Catalog Guide allows for Db2 object information and relationships to be viewed as well as other Db2 objects without writing SQL to access the Db2 Catalog. It is modeled

Testbase Db2 Edit provides these capabilities without SQL in an ISPF Edit like environment already familiar to most z/OS users.

#### TestBase Db2 Slice

Many companies own third-party test data extraction products. However, DBAs, application developers, and quality assurance personnel discover they are still facing several testing challenges:

- Building and synchronizing multiple Db2 test beds takes DBAs a great deal of time and effort
- Excessive CICS test regions waste costly resources and cause expensive, painful CPU upgrades
- Painful single-threaded testing procedures still slow everyone down – people often fight to use test data
- Developers, end-users, and quality assurance personnel still cannot retrieve their own test data
- Application programs cannot be retested at later dates to determine when problems really began

TestBase Db2 Slice is a patented technology that dramatically improves the functionality and value of Db2 data extraction solutions. It solves the issues above by providing test slices that operate independently of each other within one set of tables. It has tools to unload, load, purge, or merge test data. Unloads can be inventoried and reloaded and used in the same or different slices later.

#### Testbase Db2 SQL Debug

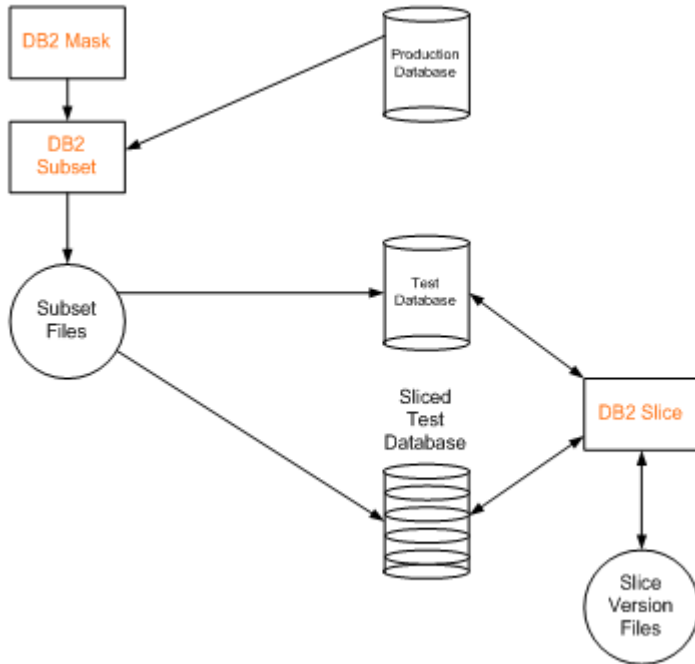
Although developers may create or modify only a small portion of an application, testing the modification still requires the time-consuming process of compiling and executing the entire application. Db2 SQL Debug allows you to test individual SQL statements while coding the application program. Users can supply values for host variables, and get the result set. They can also see the access path for the SQL. If Db2 Catalog Guide is available, from the access path list, all access paths and the statistics on them are available so users can see all components of the access path decision.

after the ISPF dataset list utility so it should seem familiar to most z/OS users.

### Fully Integrated

All components are fully integrated. Db2 Subset understands what a Slice is and how to load it. Db2 Catalog guide can be called from Db2 SQL Debug Explain results. Db2 Edit can be called from Db2 Catalog Guide and understands a sliced view. Explain of Db2 Query Build SQL can be done from Db2 SQL Debug.

### Normal Data Flow



A data subset is usually created from production and loaded to test or sliced test environments. Slice versions can be taken from test or sliced test environments and loaded to either one.

It is possible to subset a subset or subset data from the test or sliced test environment as well. It is also possible to use a production subset as an archive and purge the production data. Db2 SQL Debug, Db2 Query Build, and Db2 Catalog Guide can all point to test, sliced test, or production databases.