TEST DATA MANAGEMENT FOR z/OS® + Fast Database & Table Copy for DB2®

BCV4™
DB2 Clone, SAP HSC

Need to clone a full DB2 subsystem? SAP Homogeneous System Copy? PeopleSoft clone? DB2 version upgrade testing? BCV4 is the ideal clone/copy tool for DB2 testing, data warehouse, shadow system and other copy/replication needs. BCV4 is the fastest solution available for DB2 and/or IMS full subsystem clones. BCV4 is the first and most sophisticated cloning solution on the market that works with volume copies or with IBM Flashcopy, EMC Timefinder and Hitachi hardware assist copy mechanisms.

Clone a complete DB2 subsystem in minutes instead of days. Lightning fast DB2, SAP and PeopleSoft cloning technology.

BCV5™
Fast Database Copy & Refresh

BCV5 performs selective database/tablespace/table level clones, copies and refreshes in the shortest time possible. BCV5 saves on average up to 90% CPU, elapsed run time and I/O's in comparison to other vendor's unload/reload and fast copy utilities. Copies and refreshes of data once thought to "take too long" can now be scheduled on a regular basis. BCV5's unique structure analysis & multi-threaded copy function achieves superior copy and refresh times with reduced overhead and execution time. Should sensitive data need to be masked, a BCV5 Reduction and Masking option is also available.

Fast clone/copy/refresh of selected DB2 databases, tablespaces, tables. Runs 10 times faster than any other vendor tools.

BCV5™ Icebox
Intermediate Copy & Refresh

Need to provide DB2 data from last week, last month or last year? Want an automatic and efficient way to recreate everything, DDL and data in record time? BCV5 Icebox takes fast snapshots on demand or periodically, and restores the objects or databases where and when needed using specified names. Issues of compatibility as well as completeness no longer cause any concern. Icebox packages the DB2 Version x imagecopy and later restores it to any other DB2 target version required. Upgrade to a newer version of DB2 knowing that former image copies will be still available for future needs.

Fast clone/copy/refresh of selected DB2 databases, tablespaces, tables. Runs 10 times faster than any other vendor tools.

BCV6™
NonStop Copy & Refresh

Need a copy or refresh of data but cannot afford to stop the source/production database? BCV6 copies without stopping the source objects. BCV6 includes the functionality of BCV5 plus the capability for copy, refresh/replication without impacting the 24x7 operation of your shop. BCV6 is the perfect solution for non-stop I.T. shops that require speed, availability and integrity when it comes to their database copying, refresh and replication needs.

If you run a 24x7 shop, copy your DB2 tables with data integrity & without stopping your database.

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In North America, contact ESAI at:
1-866-464-3724   sales@ESAIGroup.com

ESAI Enterprise Systems Associates, Inc.

TEST DATA MANAGEMENT
FOR LINUX/UNIX/WINDOWS

XDM™
Database Cloning

XDM-DC intelligently automates the creation of a pre-production or other target environments. Source data-bases can be cloned or duplicated while live and operational. Database logs are used to ensure consistency. With XDM-DC, database copies or clones can now be made at any time. The product is able to syn-chronize the cloning process of different DBMS types across same or different platforms. XDM-DC provides testers with an intelligent tool for creating a consistent pre-production or other environments (QA) which are synchronized to a point-in-time across DBMS' and OS platforms.

Cost-efficient creation of a clone from heterogeneous databases to a single point in time. Supports DB2 LUW and DB2 z/OS, Oracle, and SQL Server.

XDM™
Table Copying

XDM-TC is designed to automate the copy process at the table level. The product drastically reduces all manual efforts necessary to prepare and execute the copy. XDM-TC creates objects in the target and automatically handles:
- creating specific DDL
- copy to existing target objects based on your site policies
- renaming of objects
- masking and anonymizing of data based on your site policies

XDM-TC dynamically selects the best copy process for the particular objects so that the test environment is ready as fast as possible. Copy processes can be run ad-hoc or be scheduler driven.

Fast, error-free data migrations in and between relational data-base systems such as DB2 LUW and DB2 z/OS, Oracle, and SQL Server.

XDM™
Row Level Processing

XDM-RLP selects specific data at the row level. The users of XDM RLP benefit from its capability to collect relevant parent and child connections linked to the start values. The product provides meaningful, complete data for software testing purposes. XDM-RLP can be easily used by any staff working in the IT department, no special DBMS knowledge is required. Like XDM′s TC component, RLP can apply masking rules to adhere to the company data privacy policies. XDM-RLP is also able to handle inquiries crossing OS and DMBS platforms.

Extract complete test case data from DB2 LUW and DB2 z/OS, Oracle, and SQL Server on de-mand.

XDM™
Icebox

The ICEBOX component freezes data and makes the frozen data available in any environment at the push of a button. The feature is available for both the XDM-TC and XDM-RLP products. ICEBOX stores data in a repository for future use. This repository can be used quickly to restore test cases, training environments, etc. Upon demand, the ICEBOX simply and quickly makes the data available again. The target can be the original source environment of the data or any other environment. ICEBOX takes care of the DDL generation necessary to implement the frozen data in the target. Test data can be preserved and reactivated effortlessly. Freeze test data for future usage.

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ESAI
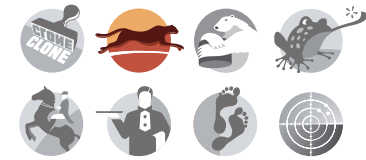Enterprise Systems Associates, Inc.

BCV5™
THE MASKING TOOL

More and more organizations use data masking to proactively protect their data, ensure legal compliance, avoid the massive cost of security breaches or simply because it is good practice to protect PII (personally identifiable information) in test and QA environments. But, creating a data masking strategy for your organization and getting the process to work is hard.

The Masking Tool, which is a component of the Db2® for z/OS® copy tool BCV5, enables you to implement your masking strategy by delivering dozens of masking algorithms in the form of Db2 user defined functions right out of the box. These functions can generate artificial, but seemingly real data, such as names, addresses, credit card numbers, social security numbers, and so on. The generated data is plausible. For example, credit card numbers pass validity checks, and addresses have matching street names, zip codes, cities, and states.

All of the Masking Tool functions generate masked data based on an input value. The input value can be an arbitrary string or number. It is reduced to a single numeric value by a hashing algorithm. This numeric value then serves as a seed for a generator. Some data types, such as social security numbers or credit card numbers, can be generated directly from the seed value through mathematical operations. Other types of data, like names or addresses, are picked from a set of lookup tables. The Masking Tool comes with several pre-defined lookup tables that contain thousands of names and millions of addresses in different languages.

» The BCV5 Masking Tool was the catalyst that finally got us started towards achieving our masking goals. If only we would have known sooner how easy it can be to set up a masking procedure.«

By using a hashing algorithm, the Masking Tool ensures that the masking process can be repeated with the same results. In other words, the same input value will always result in the same masked value. There is no randomness to the masked data. This is beneficial for testers because tests need to run repeatedly and they should run with the same preconditions. As a side benefit, Db2 can also cache masked values to reduce CPU consumption.

At the same time, it is not possible to calculate the original value by using the known masked value. This is a big advantage compared to masking strategies that work by shifting letters or digits.

Data types that can be generated by the set of masking functions include:

- First names, last names
- Postal addresses (street, house number, city, zip code, state, country)
- E-mail addresses
- Social security numbers (SSN/SIN)
- Credit card numbers
- UUIDs
- Dates
- Bank names and routing numbers
- International bank account numbers
- Pattern-based strings (company-specific customer IDs, license plate numbers, etc.)

BCV5™ – THE MASKING TOOL

Benefits

- *Supports legal compliance*
- *Prevents data leaks*
- *Advanced masking algorithms*
- *Simple setup, work out of the box*
- *Native SQL functions: Requires no external artifacts (i.e. Load Modules)*
- *Easy to customize*

Features

- *Dozens of Db2 UDFs to choose from*
- *Comes with a number of ample lookup tables for names, addresses, etc.*
- *Repeatable Masking*
- *Mask data during a copy or in-place*

The Masking Tool functions are either compiled SQL scalar functions or inlined SQL scalar functions. They are written in PL/SQL. This has the advantage that it is easy to customize the functions because there is no need to compile or link any code. At the same time, they are easier to manage because there are no external load modules that the DBAs would need to manage. And finally, these functions run in the DBM1 address space so no task switching is required when they are called. Since masking functions are called for every row in a table, this results in a significant performance advantage compared to external functions.

A set of rules is used to specify which columns of which tables should be masked. The rules are evaluated at run time, and the Masking Tool will automatically identify the involved data types and perform all necessary casting operations. You can have a separate set of rules for each Db2 subsystem that you work with. Depending on your requirements, you can either mask data while making a copy of your tables, or you can mask data in-place. The first option is useful when copying data from a production environment into a test or QA system. The second option allows you to modify the contents of an existing set of tables without making another copy. This can be used to mask data in a pre-production environment that was created by making a 1:1 copy of a productive system.

BCV5's Masking Tool gives you a set of powerful instruments that enables you to implement your data masking strategy in a consistent, reliable and secure way.

The DB2 High-End Product Line:

BCV4™
Full DB2 Subsystem Clones in minutes versus days

BCV5™
Save 90% CPU & Run Time with each DB2 copy

BPA4DB2™
Premier advisor for DB2 buffer pool optimization

ULT4DB2™
Easily identify & restore unwanted changes of DB2 data

XM4DB2™
Pro-active surveillance for a greater DB2 availability

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Contact Us For More Information

We offer a free 30-day trial evaluation as well as private web demo. Learn more about BCV5 and our complete line of DB2 z/OS products at: **www.ESAIGroup.com**

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