

BCV5™

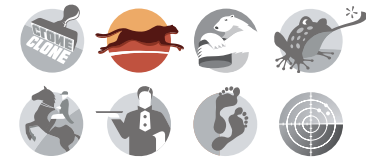
FAST AND EFFICIENT DB2 DATA MIGRATIONS

Corporations maintain large amounts of data in Db2 databases and it is normal to find several Db2 subsystems for production, test and development. Refreshing testbeds from production systems is a vital part of the development, testing and quality assurance life cycle. Obtaining relevant test data requires copying from one Db2 subsystem to another. The window of opportunity for copying or migrating Db2 data is constantly decreasing as the demands from 24 x 7 operations increase. Limited resources and shrinking batch windows make data delivery to QA difficult.

BCV5 copies, refreshes and replicates Db2 objects quickly and efficiently. BCV5 copies Db2 tablespaces and indexes between different Db2 subsystems, or within the same subsystem. It comes with a built-in copy tool that works directly on VSAM level and is much faster than UNLOAD/LOAD. When measured against conventional copying methods, BCV5 saves approximately 90% on elapsed copy time as well as resource consumption. One customer even cut their copy process time down from ten hours to 45 minutes by switching from UNLOAD/LOAD to the BCV5.

Copying Db2 page sets directly from the source to the target means that copy jobs complete in minutes rather than hours. DBAs are no longer forced to wait for weekend time slots and are able to run copy jobs on regular weekday shifts. Test data on demand is a dream come true for QA, development and test staff. BCV5 significantly cuts down runtime and cost.

BCV5 not only copies the physical Db2 data fast, it also takes care of all the structures. This includes all the



basic objects - your databases, tablespaces, tables and indexes - and also DDL features such as views, triggers, aliases, synonyms, constraints, and many more. If your target objects already exist, it will check them for compatibility.

Thus, BCV5 reduces CPU consumption by 90% and requires less prep work by your staff.

Automation Reduces Manual Effort

BCV5 is completely automated. The integrated ISPF interface allows you to define copy processes easily by specifying name patterns for the objects to be copied, and the appropriate processing options. It's powerful rule based renaming feature makes adhering to naming conventions in the target Db2 system simple and error free. A BCV5 copy process can be executed either manually, or under the control of a job scheduler. Once the copy process is started there is nothing else to do. BCV5 automatically generates the DDL for the selected objects using the specified target names. It checks existing target objects for compatibility. If any target objects are missing, it can create them for you. For each object in the process, BCV5 determines the fastest way to make a copy - usually a direct VSAM level copy. If existing target objects have structural differences, BCV5 can either drop and recreate them, or it can trigger UNLOAD/LOAD as a fallback copy tool, allowing it to copy the data despite the differences. One way or another, BCV5 makes it all work, and minimizes unwanted surprises.



BCV5™ – FAST AND EFFICIENT DB2 DATA MIGRATIONS



Flexible Selection of Image Copies

BCV5 allows you to copy from either current tablespaces or image copies. You can use the most recent image copy, or an older image copy chosen by generation number, timestamp, or dataset name pattern. BCV5 automatically identifies the correct image copy datasets and uses them in the copy process. It also detects if your indexes have image copies or not, and only rebuilds the target indexes if it cannot copy them directly.

RUNSTATS Cost Time and Money

Db2 requires valid RUNSTATS information to find efficient access paths, and real time statistics (RTS) to calculate the sizes of sort work data sets. BCV5 copies these statistics directly from the source environment into the target. There is no need for a separate RUNSTATS job or to do a REORG in order to collect an RTS baseline.

Why is BCV5 so fast?

BCV5 owes its unmatched performance to its proprietary Db2 copying tool. While the UNLOAD/LOAD utilities slowly extract single rows one at a time, BCV5 copies the complete VSAM linear data sets to the target and replaces the Db2-internal OBIDs with the correct target values. BCV5 also uses parallel processing and automatic workload balancing to boost the overall copy speed. The built-in copy tool of BCV5 also copies LOB and XML data at the same rate as regular tablespaces. This all adds up to make BCV5 ten times faster than UNLOAD/LOAD.

Benefits

- Automates Db2 Copying/Migrating/Refreshing
- Saves 90% CPU resources and run time
- Dramatically reduces labor costs freeing up staff
- Integrates into IT environments seamlessly
- Eliminates RUNSTATS, Rebuild Index, etc.
- Copies directly, no need for temporary DASD space

How can BCV5 save 90% on CPU Time?

Row-wise processing consumes many more CPU cycles than VSAM copying. Clients report that BCV5 only uses about one-tenth of the service units that UNLOAD/LOAD based processes typically use. BCV5 copies data directly from the source pageset to the target pageset. This also works if the source and target are located on two different LPARs or even two different CECs since BCV5 gives you the option to copy data over a network connection. In addition, BCV5 also copies indexes directly, instead of rebuilding them each time, like the LOAD utility does.

Making the Copy Process Easy

A fast and efficient copy tool is only part of the solution, however. The BCV5 user interface is intuitive and makes it easy to set up copy processes, whether you are a seasoned DBA, an application developer, or a member of QA and testing. Those who prefer the PC environment can use BCV5's graphical user interface. And, of course, on-line help is always one click away.

Who needs BCV5?

Anyone involved in budgeting, surely appreciates cost savings. BCV5 allows you to do more with your existing hardware, thus avoiding expensive machine upgrades and the associated increase in software cost. It can also help you lower your four-hour rolling average, which often peaks during long running LOAD jobs. Application development teams, QA



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» *BCV5 allows us to copy much more data than we ever could have copied with our old LOAD based processes. This is great improvement for our QA environments.* «

groups, technical support staff, auditors and, of course, end users need the data in order to do their jobs. Being able to get current test data fast helps improve the quality of your QA processes. This is something that benefits your entire organization. On an operational level, BCV5 relieves the DBAs from the time-consuming burden of refreshing test and development environments since it provides an unmatched degree of automation. This allows them to focus on the mission critical tasks in your production environment instead.

A Quick View of BCV5

BCV5 is a faster, more efficient and manageable way to copy Db2 data. It automatically generates and executes jobs that will: Extract object definitions from the Db2 catalog of the source system; transfer the definitions to the target system, rename the objects as specified and apply them in the target Db2 system (CREATE, or DROP and CREATE); compare the source definitions with existing target objects for compatibility; copy page sets from source to target Db2; start the target objects for end user access.

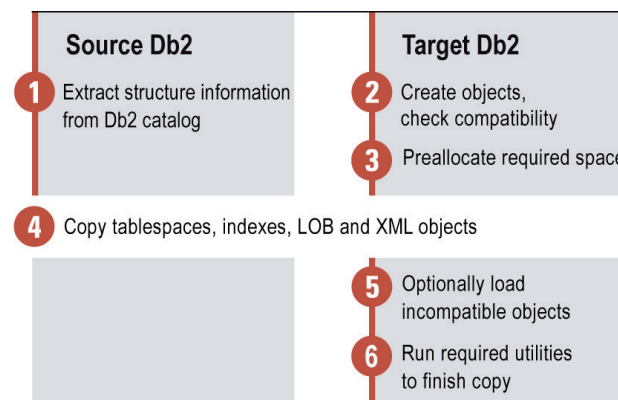
Features

- *Flexible rule-based object selection and renaming*
- *Checks and/or generates JCL, DDL, and all required copy commands and utility statements*
- *Automatic space allocation*
- *ISPF interface and graphical interface*
- *Offers data reduction, data masking, network copies, backup and restore*
- *Makes consistent copies without stopping the source*

BCV5 comes with two user interfaces, ISPF and workstation GUI, both provide identical functionality. To create a BCV5 copy task, select the source and target Db2 subsystems (which may also be identical), and the objects to be copied. Then define if you would like to copy from the current tablespaces or from image copies, and how to rename the objects during the copy process. You can also specify if RUNSTATS and RTS



information should be transferred to the target Db2, and if you would like to copy auxiliary objects, such as views, aliases, synonyms, labels, comments, constraints, or GRANTs. Once a copy task is defined, it can be executed at any time, either manually or using a job scheduler for periodic execution.



BCV5 – Job Flow



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» With BCV5 we have been able to reduce our batch processing cycle by 2 1/2 hours and are meeting our SLA commitment for the reporting database for the first time ever. «

» The copy speed of BCV5 is very impressive, it rivals hardware assisted copy mechanisms. «



Optional Components

IF – In-Flight Copy Whenever data must come from tables that require 24x7 enterprise availability, it creates an issue for IT. Users need to query and update the tables without interruption - stopping the source objects is not an option. At the same time, testers require a consistent copy of the data. BCV5's In-Flight component solves this problem. It uses information from the Db2 log to make consistent copies of tablespaces (regular, LOB and XML) and indexes. And it does all this while keeping the source available for updates.

RM – Reduction and Masking Data privacy regulations impact how test centers use production data. RM modifies sensitive data during the copy process according to user specifications. It offers several options for data masking and also supports user-defined algorithms. At the same time, RM also allows for data reduction using filtering criteria to create subsets from the source data.

IB – Icebox Need to provide Db2 data from last week, last month or last year? Want an automated and efficient method to recreate DDL and data in record time? IB takes snapshots on demand and allows you to restore the objects whenever you need them into any environment. You can use the original names or rename the objects. BCV5's Icebox component compares structural information from the backup with current structures, and it can either restore old data into the current tables or drop and recreate the tables so that they look exactly like they did when the backup was created.

RC – Remote Copy Some production systems are physically isolated to such an extent that it is extremely difficult to migrate data efficiently to test systems. They may be



located on a separate LPAR or even on a separate CEC, and sometimes not even shared DASD is available. The RC component of BCV5 makes data transfer between isolated systems simple. RC uses TCP/IP to transfer structures and data from one system to another. The entire copy process is automated and just as easy to set up and execute as a local copy.

BI – Batch Interface BI provides a powerful definition language for creating, modifying and deleting BCV5 copy tasks entirely through batch jobs. It allows you to easily integrate BCV5 with other processes. You can supply the processing options and rule sets of a copy task in a job rather than interactively. When you have multiple BCV5 installations on different systems, the batch interface is also a convenient way to transfer complete task definitions between the installations.

Contact Us For More Information

We offer a free 30-day trial evaluation as well as a private web demo. Learn more about BCV5 and our complete line of Db2 z/OS products at: www.ubs-hainer.com
For more information please send an email to: info@ubs-hainer.com

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