

## ☐ **BIF/ICI HealthCheck** (Freeware)

Offers a batch run and batch report for easier decision-making:

- Do we have a BIF/ICI problem?
- Should we investigate more?

Identify BIFs (in Db2 10 and 11) that may cause problems in the future.

Detect static and dynamic SQL, matches to the relevant plans, collections, and packages.

Quantify the BIFs in ICIs (Incompatible Change Indicators) and count their occurrences

## ☐ **WLX BIF/ICI Detection** (Full version)

Shows text of static and dynamic SQL

Offers two separate presentation formats: Standard and Expanded

Exports to Excel for project management

The GUI is a Plug-in for IBM Datastudio or native in Eclipse

## ☐ **CDDC Continuous Delivery Deployment Checks**

Uses BIF/ICI Detection as an option to check on Function Level, Catalog, Level and Code Level.

Since IFCID 366 has been deprecated in favor of IFCID 376, BIF/ICI detection is the straight forward approach because of execution counts and top 10 lists (BIF/ICI ↔ SQL Text)

## ☐ **BIF/ICI HealthCheck for Db2 z/os**

Breaks down the ICIs into BIF & non BIF groups

### Background

In programming, you quickly learn the benefits of BUILT-in-FUNCTIONS (BIFs). They can reduce unnecessary coding - and therefore save time and money. When IBM was preparing to release Db2 Version 10, they pointed out problems that could arise with older versions of certain BIFs: CHAR, VARCHAR, TIMESTAMP, to name a few and there are also incompatibilities (ICIs) that are not BIFs. This was due to IBM moving towards the ANSI compliant SQL standard. IBM stated that the output of certain data formats in applications would be different. IBM also recognized that there would be massive effort required at sites to make all of the necessary changes, and offered certain toleration measures in order to maintain compatibility between release levels.

Using ZPARM BIF\_COMPATIBILITY (Db2 10), or APPLCOMPAT (Db2 11), a Db2 subsystem can be forced into behaving as if it were still running under Db2 9 or 10. The compatibility options make planning for the migration somewhat easier and support application stability. This strategy permits companies to delay the necessary program changes by allowing for consistent BIF behaviour, even after migration.

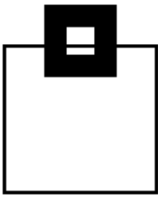
At some point, however, companies will have to expend the effort to address these issues. You still have to know where the BIF/ICIs are used and which programs are affected.

To estimate the scope of the problem and the effort in manpower and time required, you need a quick and easy-to-use tool.

The ☐ **BIF/ICI HealthCheck** Freeware is the solution. It identifies Applications affected by incompatibilities. The tool generates a batch report to show how many are found in both static and dynamic SQL (The complete SQL text is only shown in the full product version).

For end of BIF/ICI - support: "Db2 11 for z/OS Overview" - Michael Bialecki Guide Share France – October 2013 – p 44, 45, 46  
[http://www.gsefr.org/db2a/db2-11-for-z-os-overview-par-michal-bialecki-ibm-silicon-valley-lab/at\\_download/file](http://www.gsefr.org/db2a/db2-11-for-z-os-overview-par-michal-bialecki-ibm-silicon-valley-lab/at_download/file)

Download your copy of the BIF/ICI HealthCheck Freeware at:  
<https://www.seg.de/bif>



☐ **BIF/ICI HealthCheck** (licensed Freeware) gives you a quick overview of the number of problematic BIFs in your installation. This licensed Freeware product is available for download and is limited for one year. Output is a batch report that lists the type of SQL, PLAN, COLLECTION, PACKAGE, ICI, and COUNT.

☐ **SQL WorkloadExpert (WLX) Use Case 34 "BIF/ICI Detection"**. The full WLX version consists of a mainframe component (z/OS 2.1 and Db2 10 NFM and above) plus a workstation piece with an Eclipse GUI (plug in for Datastudio 4.1.1 or Eclipse native). The intuitive GUI offers export facilities for using MS-Office tools. An open interface supports Batch Automation.

☐ **CDDC for Db2 z/OS** has also a built-in-option of BIF/ICI Detection. It is the first of 4 options to manage Db2 CD. The second is Access Path Precheck. The third Instant Cloning and the forth Workload Capture/Replay.

### Expanded ☐ BIF/ICI Detection

#### Detail Level – Part 1

WLX Keys	Collection ID	Package	ICI numbe...	Reason	WLX DB2
2015-03-04-13.48.32.142444	MDB2VNEX_TEST	O2TESTB	1	DB2 9 CHAR Usage	QA1B
2015-03-04-13.48.32.142444	MDB2VNEX_TEST	O2TESTB	5	Keyword CUBE used as unqualified UDF	QA1B

#### Detail Level – Part 2

Statement ID ...	Statement Origin ...	BIF Timestamp	Statement Type ...	Section number ...	Statement number...
2,021,332	S	2015-03-05-10.41.50.808437	S	3	185
2,021,334	S	2015-03-05-11.01.21.342746	S	5	205

#### Detail Level – Part 3

Plan name ...	Package CONTOKE...	Package version	Statement Timestamp	Transaction name
MVNXPLAN	19D32EF20563E916		2015-03-05-10.41.44.127816	
DSNBIND	19D32EF20563E916		2015-03-05-10.41.44.128764	

The screen shots above show all the detail provided in the full Version of WLX.

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