

B\$RBX - Database Re-Index Routine

The B\$RBX allows the indexes of a single or all record types to be rebuilt. The rebuilding process is functionally identical to a partial database rebuild as performed by the database rebuild utility \$BARBL. This system routine may be run from time to time to re-organise indexes following heavy processing such as mass deletions or insertions in order to optimise performance. The routine has the advantage that only a selected record type need be re-built, thus potentially saving unnecessary re-building time of other record types.

The B\$RBX routine is very similar to the more familiar B\$RBL routine. However, B\$RBX includes two improvements to B\$RBL:

- B\$RBL returns an exception for some error conditions but executes a STOP RUN when some (serious) error conditions are detected. B\$BRX always returns an exception for all error conditions and never executes a STOP RUN;
- B\$RBL uses the FREEEX\$ routine to allocate an "anonymous" memory page. This use of FREEEX\$ within the B\$RBL sub-routine may clash with the use of FREEEX\$ in the calling application, leading to problems when the pages are de-allocated. B\$RBX uses the FREEEX\$ routine to allocate a memory page with the reserved name "\$B\$RBL\$\$", thus avoiding any clashes with the use of FREEEX\$ in the calling application code.

This routine provides the same functionality as the \$BARBL utility.

THIS ROUTINE HAS NOT BEEN IMPLEMENTED.

1. Invocation

To re-index a Global format Speedbase database code:

```
CALL B$RBX USING dbid rcid opr [col] [row]
```

where:

- dbid* is the PIC X(5) Database ID of the database to be rebuilt, which must be open with exclusive access prior to the call;
- rcid* is the PIC X(2) ID of the record type to be rebuilt. If this parameter contains spaces then the indexes of all record types will be rebuilt;
- opr* is the PIC X operator response flag, which if set to "Y" will request a pause before continuing. Otherwise this flag should be set to "N";
- col* is an optional PIC 9(2) COMP variable containing the column number at which the status window is to be displayed. The column number must be in the range 1 to 34 inclusive. If this parameter is not provided, the default is column 17. Note that this parameter, if coded, **MUST** be coded as a variable. A numeric literal must not be coded;
- row* is an optional PIC 9(2) COMP variable containing the row number at which the status window is to be displayed. The row number must be in the range 1 to 18 inclusive. If this parameter is not provided, the default is row 18. Note that this parameter, if coded, **MUST** be coded as a variable. A numeric literal must not be coded.

Following the call, the status window will be displayed and the indexes of the designated record type(s) are rebuilt. On successful completion control is returned without exception.

2. STOP Codes and Exception Conditions

No STOP codes are generated by B\$RBX although the routine may terminate the application if a fatal error is detected during the rebuild.

The following EXIT codes may be returned by B\$RBX:

EXIT code	\$\$COND	Description
1	1	The specified database is not open
2	2	Specified database is opened non-exclusively
3	3	Database Dictionary not found or in use
4	4	Database Dictionary file of invalid file type
5	5	Database Dictionary file is corrupt
6	6	Database and Dictionary generations are different
7	7	Database is corrupt and cannot be rebuilt
8	8	The supplied Record -id is invalid
9	9	The supplied Record-id has no indexes
11	11	Insufficient memory to start re-indexation
12	12	Key Errors during re-index; database is corrupt
13	13	Unix C-ISAM channel cannot be opened

14	14	Internal error see STOP 25515
15	15	IDB Pool exhausted
16	16	Insufficient memory
17	17	Database too corrupt to re-index
18	18	Dictionary corrupt or invalid
19	19	Index file read error detected
20	20	Index file write error detected
21	21	Unix system I/O error

3. Programming Notes

The rebuilding process is memory intensive, and requires quite substantial amounts of memory to perform quickly.

Any serious error detected during the re-building process will cause the routine to return an exception condition between 14 and 21. Note that this will leave the database in a partially rebuilt state, and a full re-build should be performed before further processing using the database rebuild utility \$BARBL.

4. Examples

[EXAMPLE REQUIRED]

5. Copy-Books

None.

6. See Also

B\$BAD Create new Global format Speedbase database
 B\$RBL Database Re-Index routine
 B\$RBG Database Rebuild routine
 B\$BCN Convert Global format Speedbase database