REORG PLUS for DB2
Version 11.1.00
September 19, 2014
Tracking number QM001855237: When reorganizing a non-LARGE table space with a page size of 32 KB, REORG PLUS might build an invalid space map or overwrite data pages

A serious problem in the REORG PLUS for DB2 product requires immediate attention.

**Note**
BMC previously announced this problem in a flash dated August 25, 2014. A PTF to correct the problem is now available.

**Issue**

When the following conditions exist, REORG PLUS might build an invalid space map or overwrite data pages, but complete without an indication of the problem:

- REORG PLUS version 11.1.00 is reorganizing a nonsegmented table space that has the following attributes, depending on your IBM DB2 version:

<table>
<thead>
<tr>
<th>DB2 Version</th>
<th>RBA or LRSN format</th>
<th>Additional attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.1</td>
<td>Not applicable</td>
<td>Contains fewer than 17 partitions</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>(Applicable only to the overwritten-data-pages error)</em> Contains a partition that is larger than 65,536 pages</td>
</tr>
<tr>
<td>11.1</td>
<td>Basic</td>
<td>Contains fewer than 17 partitions</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>(Applicable only to the overwritten-data-pages error)</em> Contains a partition that is larger than 65,536 pages</td>
</tr>
<tr>
<td>11.1</td>
<td>Extended</td>
<td>None</td>
</tr>
</tbody>
</table>

*457531*
- The table space has a page size of 32 KB and is not defined with the LARGE or DSSIZE attribute.
- You specified SHRLEVEL CHANGE.
- During the reorganization, SQL INSERT or UPDATE activity occurs on the table space.

The following errors are known symptoms of this problem:

- Subsequently attempting to run the IBM RUNSTATS utility on a compressed table space causes the utility to terminate with an S04E abend with reason code X'00E40347'.
- Subsequently attempting to run the IBM COPY or DSN1COPY utility on the table space causes the utility to terminate with a broken page error.
- Subsequent copies created by an IBM utility might fail or contain invalid data.
- An incremental copy created during the reorganization might not contain all rows.

**Resolution**

Complete the following procedure:

1. Apply PTF BPU7180.
   
   BMC recommends using BMC Internet Service Retrieval (ISR) to obtain PTFs. For information about ISR, see the maintenance information in the *Installation System User Guide*.

   You can also obtain PTFs from eFix PTF Distribution Services (eFix). You can access eFix directly at [http://apps.bmc.com/support/efix.cgi](http://apps.bmc.com/support/efix.cgi) or from the support site. For information about eFix, see the online Help.

2. Correct any table spaces that were affected by the problem:

   a. Identify potentially affected table spaces and copies based on the criteria described in “Issue” on page 1.

      The following SQL queries can help you identify these table spaces:

      For DB2 10, or for table spaces with basic RBA or LRSN format on DB2 11
**Note**

The query as shown checks only for table spaces that potentially have overwritten data pages in DB2 10:

- To check also for invalid space maps, remove the comment indicators ("--") from the RTS lines.

- To perform either check for table spaces in basic RBA or LRSN format on DB2 11, remove the comment indicators from the TP lines.

Adjust the date check (n DAYS) to limit the query to table spaces that have been reorganized since REORG PLUS version 11.1 was installed on your system.

```sql
SELECT DISTINCT RTS.DBNAME, RTS.NAME --,RTS.PARTITION FROM SYSIBM.SYSTABLESPACE TS, SYSIBM.SYSTABLESPACESTATS RTS --,SYSIBM.SYSTABLEPART TP WHERE TS.DBNAME = RTS.DBNAME AND TS.NAME = RTS.NAME --AND RTS.NACTIVE > 65535 AND TS.PARTITIONS > 0 AND TS.PARTITIONS < 17 AND TS.PGSIZE = 32 AND TS.SEGSIZE = 0 AND TS.DSSIZE = 0 AND DATE(RTS.REORGLASTTIME) > CURRENT DATE-n DAYS --AND TP.RBA_FORMAT <> 'E' ;
```

For table spaces with extended RBA or LRSN format on DB2 11

**Note**

The query as shown checks only for table spaces that potentially have overwritten data pages. To check also for broken space maps, remove the comment indicators ("--").

Adjust the date check (n DAYS) to limit the query to table spaces that have been reorganized since REORG PLUS version 11.1 was installed on your system.

```sql
SELECT DISTINCT TP.DBNAME ,TP.TSNAME --,TP.DSNUM FROM SYSIBM.SYSTABLEPART TP ,SYSIBM.SYSTABLESPACE TS ,SYSIBM.SYSTABLESPACESTATS RTS WHERE TP.DBNAME = TS.DBNAME
```
AND TP.TSNAME   = TS.NAME
AND TS.DBNAME   = RTS.DBNAME
AND TS.NAME     = RTS.NAME
AND TS.NACTIVE > 65535
AND TS.PGSIZE    = 32
AND TS.SEGSIZE   = 0
AND TS.DSSIZE    = 0
AND TP.DSNUM     >=0
AND DATE(RTS.REORGLASTTIME) > CURRENT DATE-n DAYS
AND TP.RBA_FORMAT = 'E'
;

b If step 2a identified any table spaces that potentially have invalid space maps, run DSN1COPY with the CHECK option to determine whether the maps are broken.

**Note**
If the query in step 2a identified any table spaces that potentially have overwritten data pages, these table spaces are affected if your reorganization met all other criteria in “Issue” on page 1.

c Use your organization's standard procedure to recover the affected table spaces.

Contact BMC Customer Support if you need assistance.

d To ensure recoverability, make a full copy of the affected table spaces.

**Note**
If you have questions, contact Customer Support at 1 800 537 1813 (United States or Canada) or call your local support center.

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