BMC Software is releasing version 10.1.00 of OPERTUNE for DB2.

**NOTE**

Before you begin installation, BMC recommends that you check the Customer Support website at [http://www.bmc.com/support](http://www.bmc.com/support) for

- updated product documentation (for example, flashes and technical bulletins)
- product downloads, patches, and fixes (PTFs)
- product availability and compatibility (PAC) data

These release notes supplement and supersede the product documentation and discuss product enhancements:

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What’s new

These topics describe the changes or new features in this release of OPERTUNE for DB2.

Support for DB2 Version 10

This version of OPERTUNE for DB2 supports IBM® DB2 Version 10.

New ZPARAM parameters

This version of OPERTUNE includes the following new ZPARAM parameters:

**SECADM IDs**

The following SECADM ID parameters are new:

- Security SECADM ID-1
- Security SECADM Type-1
- Security SECADM Style-1
- Security SECADM ID-2
- Security SECADM Type-2
- Security SECADM Style-2

**Security SECADM ID-1**

This parameter indicates the primary DB2 security administrator. Specify one of the following values:

- An authorization ID of 1 through 8 characters (if SECADM1_TYPE=AUTHID).
- An ordinary SQL identifier of 1 through 128 characters, not beginning with SYS and not equal to ACCESSCTRL, DATAACCESS, DBADM, DBCTRL, DBMAINT, NONE, NULL, PACKADM, PUBLIC, SECADM or SQLADM (if SECADM1_TYPE=ROLE and SECADM1_INPUT_STYLE=CHAR).
- A string of 1 through 128 hexadecimal characters (2 through 256 single-byte characters: 0 through 9 and A through F) that represents a Unicode-encoded SQL identifier (if SECADM1_TYPE=ROLE and SECADM1_INPUT_STYLE=HEX).
Security SECADM Type-1

This parameter indicates whether SECADM1 is a role or an authorization ID. Valid settings are ROLE and AUTHID. The default is AUTHID.

Security SECADM Style-1

This parameter specifies whether the SECADM1 setting is passed as a hexadecimal string or as a standard character string. Valid values are HEX or CHAR. A value of HEX means that SECADM1 is a hexadecimal character string that represents a Unicode-encoded role name. A value of HEX is valid only when SECADM1_TYPE=ROLE. When SECADM1_INPUT_STYLE is set to HEX, SECADM1 must be an even number of bytes, 2 through 256, consisting entirely of 0 through 9 and A through F.

The default value for SECADM1_INPUT_STYLE is CHAR, which means that SECADM1 is passed as a standard character string. If SECADM1_TYPE=AUTHID, SECADM1 can be an authorization ID of 1 through 8 characters, or if SECADM1_TYPE=ROLE, SECADM1 can be an ordinary SQL identifier of 1 through 128 characters.

Security SECADM ID-2

This parameter indicates the secondary DB2 security administrator. Specify one of the following:

- An authorization ID of 1 through 8 characters (if SECADM2_TYPE=AUTHID).
- An ordinary SQL identifier of 1 through 128 characters, not beginning with 'SYS' and not equal to ACCESSCTRL, DATAACCESS, DBADM, DBCTRL, DBMAINT, NONE, NULL, PACKADM, PUBLIC, SECADM or SQLADM (if SECADM2_TYPE=ROLE and SECADM2_INPUT_STYLE=CHAR).
- A string of 1 through 128 hexadecimal characters (2 through 256 single-byte characters: 0 through 9 and A through F) that represents a Unicode-encoded SQL identifier (if SECADM2_TYPE=ROLE and SECADM2_INPUT_STYLE=HEX).

The default is SECADM.

Security SECADM Type-2

This parameter indicates whether SECADM2 is a role or an authorization ID. Valid settings are ROLE and AUTHID. The default is AUTHID.
New ZPARM parameters

Security SECADM Style-2

This parameter specifies whether the SECADM2 setting is passed as a hexadecimal string or as a standard character string. Valid values are HEX or CHAR. A value of HEX means that SECADM2 is a hexadecimal character string that represents a Unicode-encoded role name. A value of HEX is valid only when SECADM2_TYPE=ROLE. When SECADM2_INPUT_STYLE is set to HEX, SECADM2 must be an even number of bytes, 2 through 256, consisting entirely of 0 through 9 and A through F.

The default value for SECADM2_INPUT_STYLE is CHAR, which means that SECADM2 is passed as a standard character string. If SECADM2_TYPE=AUTHID, SECADM2 can be an authorization ID of 1 through 8 characters. If SECADM2_TYPE=ROLE, SECADM2 can be an ordinary SQL identifier of 1 through 128 characters.

SMF Record Compression Value

Use this parameter to indicate whether DB2 is to compress trace records that are destined for SMF. Specify one of the following:

- OFF
  SMF data is not compressed. Off is the default.

- ON
  All SMF data after the SMF header (SM100END, SM101END, or SM102END) will be compressed with the z/OS compression service CSRCESRV. A compressed record will be identified by a bit in the SMF100, 101, and 102 headers. The trade-off for this function will be SMF volume versus an increase in CPU to compress and expand records.

Use SORTNUM Elimination Logic

DB2 utilities have been enhanced to allocate sort work data sets dynamically before invoking DFSORT if UTSORTAL is set to YES and no SORTNUM value is specified in the utility statement. The SORTNUM value will be ignored. Valid settings are YES and NO. The default is YES for DB2 10. The default is NO for DB2 8 and 9.

DB2 Standard Balance

DB2 APAR PK61277 added support in the DB2 9 optimizer for an improved formula for balancing the costs of input/output and CPU speeds. APAR PK75643 causes the optimizer to choose access paths that more accurately reflect recent improvements in System z processor speeds.
Use of the formula is controlled by the DB2 subsystem parameter OPTIOWGT, which can be set to DISABLE or ENABLE. The default is DISABLE, meaning that the optimizer uses the traditional cost balance formula.

APAR PK75643 changes the default setting of OPTIOWGT from DISABLE to ENABLE so that DB2 access path selection can more accurately reflect faster CPU System z processor speeds.

IBM recommends that all current DB2 Version 9.1 for z/OS customers who use OPTIOWGT=DISABLE now convert to OPTIOWGT=ENABLE. See the ++HOLD actions for instructions with APAR PK75643.

**Management Scope**

This parameter indicates whether the PLANMGMT setting applies to static SQL, dynamic SQL, or both. This parameter is meaningful only when PLANMGMT is not set to OFF. Specify one of the following values:

- ALL
  Include both static and dynamic SQL queries.
- STATIC
  Include only static queries. STATIC is the default.
- DYNAMIC
  Include only dynamic queries.

**Random Group Attach Indicator**

Random attach controls member selection logic when group attach is used (attach to group SSID rather than member). Specify one of the following values:

- Y
  YES. This member may be selected at random to satisfy the group attach request. The default is YES.
- N
  NO. This member will not be used unless none of the members with RANDOMATT=YES are available. To obtain version 8 member selection logic, specify RANDOMATT=NO for all members of the group.

**Revoke Dependent Privileges**

Specify whether revoking a privilege or an authority from a user should include any dependent privileges. Specify one of the following values:
New ZPARM parameters

- **SQLSTMT**
  This parameter indicates that including dependent privileges during revoke is controlled at the SQL level as specified in the REVOKE statement. That is, DB2 honors the (NOT) INCLUDING DEPENDENT PRIVILEGES clause of the SQL REVOKE statement. SQLSTMT is the default setting.

- **YES**
  All revokes will include dependent privileges, except ACCESSCTRL, DATAACCESS, and system DBADM. An error is returned if the REVOKE statement specifies the NOT INCLUDING DEPENDENT PRIVILEGES clause, except for revoke ACCESSCTRL, DATAACCESS, and system DBADM authorities.

- **NO**
  Revokes will not include dependent privileges. An error is returned if the REVOKE statement specifies the INCLUDING DEPENDENT PRIVILEGES clause.

**Set CHKP for inconsistent objects**

This parameter indicates whether the CHECK DATA and CHECK LOB utilities should place inconsistent objects in CHECK PENDING status. When these utilities detect an inconsistency in an object, they write a diagnostic message and end with return code 4. Specify one of the following values:

- **YES**
  The object will be placed in CHECK PENDING status.

- **NO**
  The object will not be placed in CHECK PENDING status. Objects that are already in CHECK PENDING status will remain in that status. NO is the default.

**SMS Dataclass Name for catalog files**

This parameter indicates the SMS data class, if any, for DB2 catalog and directory data sets. The default is null; otherwise specify a valid SMS class name from 1 to 8 characters. Enter **NONE** to clear the SMS Dataclass Name.

**SMS MGMT Class Name For Catalog Files**

This parameter indicates the SMS management class, if any, for DB2 catalog and directory data sets. The default is null, otherwise specify a valid SMS class name from 1 to 8 characters. Enter **NONE** to clear the SMS MGMT Class Name.

**SMS Dataclass Name for catalog indexes**

This parameter indicates the SMS data class, if any, for DB2 catalog and directory index data sets. The default is null, otherwise specify a valid SMS class name from 1 to 8 characters. Enter **NONE** to clear the SMS Dataclass Name.
**New ZPARM parameters**

**SMS MGMT Class Name for catalog indexes**

This parameter indicates the SMS management class, if any, for DB2 catalog and directory index data sets. The default is null, otherwise specify a valid SMS class name from 1 to 8 characters. Enter **NONE** to clear the SMS MGMT Class Name.

**SMS STOR Class Name for catalog indexes**

This parameter indicates the SMS storage class, if any, for DB2 catalog and directory index data sets. The default is null, otherwise specify a valid SMS class name from 1 to 8 characters. Enter **NONE** to clear the SMS STOR Class Name.

**Default Checkpoint Type parameters**

You can specify the following Default Checkpoint Type parameters:

- **Type**
- **Records**
- **Minutes**
- **Frequency**

**Type**

This parameter indicates whether checkpoints will be taken based on the number of log records written, the time between checkpoints, or both.

**SINGLE**

DB2 will perform log checkpoints according to either the number of log records written or the number of minutes elapsed, as specified by the CHKFREQ parameter. The CHKLOGR and CHKMINs parameters must both be set to NOTUSED. This is the default setting.

**BOTH**

DB2 will perform log checkpoints autonomically according to both the number of log records specified by the CHKLOGR parameter and the number of minutes specified by CHKMINs parameter. The CHKFREQ parameter must be set to NOTUSED.

**Records**

When CHKTYPe is SINGLE, CHKLOGR is not meaningful and must be set to NOTUSED. This is the default setting.

When CHKTYPe is BOTH, CHKLOGR specifies the number of log records written between checkpoints, and must be an integer from 1000 to 99999999.
Minutes

When CHKTYPE is SINGLE, CHKMINS is not meaningful and must be set to NOTUSED. This is the default setting.

When CHKTYPE is BOTH, CHKMINS specifies the number of minutes between log checkpoints, and must be an integer from 1 through 1439.

Frequency

This parameter specifies the number of log records that DB2 writes before a checkpoint is written. The default is 50,000 which causes DB2 to write a checkpoint every time 50,000 log records have been written. You can specify the system checkpoint frequency in minutes or in number of log records. If you have widely variable logging rates, maximize system performance by specifying the checkpoint frequency in time. DB2 starts a new checkpoint at the interval you specify, either in minutes, or in the number of log records.

The SET LOG command can be used to dynamically change the number of log records between checkpoints.

If your primary concern is DB2 restart time, use a checkpoint frequency between 50 000 and 1 000 000 log records. Otherwise, use a checkpoint frequency of 2 to 5 minutes.

Compress SPT01 Directory

This parameter indicates whether the SPT01 directory space should be compressed. Valid settings are NO and YES. The default is NO.

Use Flashcopy for Copy

This parameter indicates whether the COPY utility will use the system parameter settings for FLASHCOPY and FCCOPYDDN when those keywords are not present in the utility control statement. Valid values are NO and YES. The default is NO.

Use Flashcopy for Load

This parameter indicates whether the LOAD utility will use the system parameter settings for FLASHCOPY and FCCOPYDDN when those keywords are not present in the utility control statement. Valid values are NO and YES. The default is NO.
Use Flashcopy for Rebuild Index

This parameter indicates whether the REBUILD INDEX utility will use the system parameter settings for FLASHCOPY and FCCOPYDDN when those keywords are not present in the utility control statement. Valid values are NO and YES. The default is NO.

Use Flashcopy for Reorg Index

This parameter indicates whether the REORG INDEX utility will use the system parameter settings for FLASHCOPY and FCCOPYDDN when those keywords are not present in the utility control statement. Valid values are NO and YES. The default is NO.

Use Flashcopy for Reorg TBL SPC

This parameter indicates whether the REORG TABLESPACE utility will use the system parameter settings for FLASHCOPY and FCCOPYDDN when those keywords are not present in the utility control statement. Valid values are NO and YES. The default is NO.

Enable Honor KEEPDICTIONARY

This parameter specifies whether DB2 should honor or ignore the KEEPDICTIONARY parameter on LOAD REPLACE. Y indicates DB2 should honor the KEEPDICTIONARY parameter. This is a DB2 version 9 only ZPARM.

Maximum DSSIZE

This parameter indicates the maximum dssize in gigabytes that DB2 should use for creating an implicit base table space. It is not used to create implicit LOB or XML table spaces. Valid settings are 1, 2, 4, 8, 16, 32, and 64.

Enabled (enable or disable I/O parallelism for index inserts)

This parameter indicates whether I/O parallelism for index insert is enabled. Valid values are YES and NO. The default is YES.
New ZPARM parameters

Length in bytes (default inline lob length)

Default length in single-byte characters for inline LOB columns when the INLINE LENGTH option is not specified in the definition of a LOB column in a CREATE TABLE statement or ALTER TABLE ADD column statement. Valid values are integers from 0 through 32680. 0, the default setting, means that LOB columns are to be created with no in line attribute by default.

SMS STOR Class Name for catalogs

This parameter indicates the SMS storage class, if any, for DB2 catalog and directory data sets. The default is null; otherwise, specify a valid SMS class name of 1 to 8 characters.

Track Mods to Implicit TS Pages

This parameter indicates whether DB2 will track modifications to the pages of implicitly created table spaces. This setting only pertains for the base table spaces. It is not used for implicitly created LOB or XML table spaces. Specify one of the following values:

- **YES**
  The default. Implicit table spaces will be created such that DB2 tracks changed pages in the space map pages to improve the performance of incremental image copy.

- **NO**
  DB2 does not track changed pages in the space map pages. It uses the LRSN value in each page to determine whether a page has been changed.

Separate SEC from SYST Admin

This parameter indicates whether to separate DB2 security administrator duties from DB2 system administrator duties for this subsystem. Valid values are Y (YES) and N (NO). The default is NO.

DB2 Sort Use

Enables the use of the DB2 Sort product (if it is installed) from utilities. Otherwise, DFSORT will be used. Valid values are ENABLE and DISABLE. The default is ENABLE.
**Ignore Sortnum**

Only valid if UTSORTAL is set to YES. If IGNSORTN is set to YES, this will cause utilities to dynamically allocate sort work data sets even if the SORTNUM parameter was specified in the utility statement. The specified SORTNUM value is ignored.

**RID LIMIT**

This parameter indicates the maximum number of RIDs DM1 (measured in RID blocks) that the subsystem is allowed to store in the work file when RID pool storage cannot be used to contain all of the RIDs. Each RID block stored in the work file occupies 32 KB of work file storage and contains 6524 RIDs. If the number RID blocks exceeds the MAXTEMPS_RID setting, DB2 resorts to R-scan. Specify one of the following values:

- **NONE**
  - RID list processing will not use work file storage.

- **NOLIMIT**
  - There are no restrictions on the number of RID blocks that can be stored in a work file. NOLIMIT is the default.

- **1 to 329166**
  - The specified value maximum number of RID blocks that can be stored in the work file.

**NOTE**

A related parameter, MAXTEMPS, controls the maximum amount of temporary storage in the work file database that a single agent can use at any given time for any type of usage. The MAXTEMPS setting can override the MAXTEMPS_RID setting in cases where RID processing in combination with other work file activity for an agent exceeds MAXTEMPS. In this case, RID processing will resort to R-scan.

**Cost Reduction Percentage**

This parameter indicates the percentage of cost reduction for query processing to apply based on parallelism. Valid settings are integers from 0 to 100. The default is 50.

- If you set PARA_EFF to 100, DB2 will fully apply parallelism cost reduction.

- If you set PARA_EFF to 0, DB2 will choose the access path with the cheapest estimated sequential cost. This is the behavior prior to DB2 Version 9.

- If you set PARA_EFF to a value between 1 and 99, this results in a less optimistic assumption regarding parallelism efficiency within DB2. DB2 will retain the DB2 9 behavior of allowing an access path which obtains (more) parallelism in the optimization decision, but the cost reduction is diluted.
The closer PARA_EFF is to 1, DB2 will still consider the parallelism reduction but it will have a proportionally reduced effect on the overall optimization choice. The closer PARA_EFF is to 100, the more aggressive DB2 will be at choosing an access path that has higher estimated processing costs to obtain an access path with more parallelism.

**Default Partitioned Tablespace segment size**

This parameter indicates the default segment size to be used for a partitioned table space when the CREATE TABLESPACE statement does not include the SEGSIZE parameter. The type of partitioned table space created depends on whether the CREATE statement specifies the MAXPARTITIONS and NUMPARTS clauses. Valid settings are 0 through 64, and must be divisible by 4 (0, 4, 8, 12, ..., 60, 64). The default is 32.

**Installation**


**NOTE**

To request physical shipments, contact your BMC sales representative. Contact information is available on the BMC website.

OPERTUNE is installed by using the BMC Installation System. This section contains installation information that supplements or supersedes the information in the *System and SQL Performance Installation Guide*.

**Known installation issues**

This section describes installation issues that remain open in this release.

**DB2 Version 10 security parameter**

If both of the following conditions exist at your site, contact BMC Customer Support before attempting to use the Installation System to customize your BMC products:

- Your subsystem is using DB2 Version 10.
- The DSNZPARM SEPARATE_SECURITY subsystem parameter is set to YES.
**DB2 Product Configuration component**

The name of the BMC Product Management (BPM) component is changing to the **DB2 Product Configuration** component (FMID ZLGCxxx). Documentation for the April 2011 release reflects the name change. A future release of the Installation System will replace BPM with **DB2 Product Configuration** in the installation panels and associated Help.

**Installation changes**

The Installation System includes the following changes:

- The Product Customization menus accommodate new features, such as the DB2 Product Configuration technology, the DB2 Component Services (DBC), and the Next Generation Logger (NGL). Some MainView products and the System and SQL Performance products use this technology.

- You can use a new feature, BMC Internet Service Retrieval (ISR). BMC ISR identifies and applies fixes to all products that you install via the Installation System. For more information, see the “Applying maintenance” chapter in the *System and SQL Performance for DB2 Installation Guide*.

- When you are customizing SQL Performance within the Installation System, you must now perform both regular OZI customization and MainView customization. Most solution features are installed using OZI customization. The RTCS component that is used by the DBC and the NGL requires MainView customization.

**Version and FMID information**

This release of OPERTUNE uses the following versions of the Installation System and installation media:

- version 2.3.10 or later of the Installation System
- version 2.3.10 or later of the C-series installation media

**NOTE**

If you have a later version of the Installation System or the installation media, use that version to install the solution, product, or component.
During installation, the following versions and SMP/E FMIDs are installed:

<table>
<thead>
<tr>
<th>Product</th>
<th>Version</th>
<th>FMID</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMC Password Security System</td>
<td>3.2.00</td>
<td>BBAPW32</td>
</tr>
<tr>
<td>OPERTUNE for DB2</td>
<td>10.1.00</td>
<td>ZDBCA10</td>
</tr>
<tr>
<td>SAS/C Resident Library</td>
<td>10.1.00</td>
<td>ASAR71C</td>
</tr>
</tbody>
</table>

The preceding table contains the FMIDs for OPERTUNE only. During installation, view one of the following generated JCL members to see a list of FMIDs for all of the products that you are installing:

- Express installation (JES2): $B90SMPE
- Express installation (JES3): $B91SMPE
- Custom installation: $B76APLF

To search the file, search on the word FMID.

**Maintenance**

After you install OPERTUNE, you can download any additional SMP/E maintenance by using either BMC Internet Service Retrieval (ISR) or eFix PTF Distribution Services ([http://apps.bmc.com/support/efix.cgi](http://apps.bmc.com/support/efix.cgi)). BMC ISR is available for all products that you install via the Installation System. For more information, see your installation guide.

**NOTE**

Before applying maintenance, ensure that you have completed the appropriate jobs (based on your installation method) to set up your maintenance environment, as follows:

- Custom installation: $B78ACPF and $B83ACCP
- Express installation (JES2): $B90SMPE
- Express installation (JES3): $B90SMPE and $B91SMPE

**PUT maintenance schedule**

BMC did not deliver first-quarter PUT maintenance (PUT1101A). Instead, BMC will deliver that maintenance as part of the second-quarter cumulative maintenance in PUT1101B. For information about the PUT delivery schedule, see [http://www.bmc.com/support/put-availability-schedule.html](http://www.bmc.com/support/put-availability-schedule.html).
In the interim, you can use the new BMC Internet Service Retrieval (ISR) feature to identify and apply fixes to all products that you installed via the Installation System. BMC ISR simplifies ordering and retrieving service updates, either on demand or through your scheduler. You can use BMC ISR to inventory your target zones and generate a single request, or schedule a request on a recurring basis to retrieve maintenance updates. For more information, see the maintenance section of your installation guide.

**Support status**

BMC supports the following versions of OPERTUNE:

<table>
<thead>
<tr>
<th>Version</th>
<th>Level of support</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPERTUNE 10.1.00</td>
<td>full</td>
</tr>
<tr>
<td>6.2.00</td>
<td>full</td>
</tr>
<tr>
<td>6.1.00</td>
<td>limited</td>
</tr>
<tr>
<td>5.3.00</td>
<td>none</td>
</tr>
</tbody>
</table>

For more information about the latest support policies, see the Customer Support website at [http://www.bmc.com/support](http://www.bmc.com/support).

**Product documentation**

BMC provides a documentation CD in product shipments and offers a link to the CD image on the EPD page of the Customer Support website. Individual product documents (books and notices) are also available on the website. You can order hardcopy documentation from your BMC sales representative or from the website. You can also subscribe to proactive alerts to receive e-mail messages when notices are issued or updated.

**Customer support**

If you have problems with or questions about a BMC product, see the Customer Support website at [http://www.bmc.com/support](http://www.bmc.com/support). You can view or download product documents, find answers to frequently asked questions, and download products and maintenance. If you do not have access to the web and you are in the United States or Canada, contact Customer Support at 800 537 1813. Outside the United States or Canada, contact your local BMC office or agent.