BMC is releasing version 11.2.00 of the Performance for DB2 Databases product.

These release notes apply to the Performance for DB2 databases solution, which includes the following products:

- DASD MANAGER PLUS for DB2
- REORG PLUS for DB2
- SNAPSHOT UPGRADE FEATURE for DB2
- Workbench

**Note**
Before you begin installation, BMC recommends that you check the Support Central website at 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 data

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

The following topics are discussed:

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What's new

These topics describe the changes or new features in this release.

End of support for DB2 versions

Starting with this release, the Performance for DB2 Databases solution does not support Version 9 of the IBM DB2 database management system. In addition, this solution supports DB2 Version 10 only in new-function mode.

DASD MANAGER PLUS for DB2

The following updates have been made to the DASD MANAGER PLUS component:

BMCSTATS enhancements

DASD MANAGER PLUS now supports the following BMCSTATS enhancements:

- Additional zIIP OFFLOAD
  BMCSTATS offloads additional eligible workloads to utilize the IBM System z Integrated Information Processor (zIIP), reducing the Total Cost of Ownership (TCO). You can enable zIIP offloading globally through the zIIP=E default options specification or you can define options through the zIIP E syntax.

- REPEATABLE keyword
  BMCSTATS page sampling has been enhanced to include a specified seed value through the usage of the REPEATABLE keyword. Usage of the default or a specified seed value enables the page sampling algorithm to ensure that repeated executions of BMCSTATS return the same results.

- Non Partition Index (NPI) key monitoring
  NPI key monitoring provides storage relief during key column statistics collection for multi-data sets (MUDS) through definable parameters. BMCSTATS now provides three new keywords, NPICACHEACTION, NPICACHETHRESH, and NPICACHEDSNUM, that can be used to tune high-storage consuming NPI objects. Values for these keywords can be globally established in the default
options module (DOPTs) and can be individually overridden in the BMCSTATS syntax.

- **RESET ACCESSPATH option**
  BMCSTATS supports a new RESET ACCESSPATH option that resets the access path statistics for all tables and indexes for the specified table space on the BMCSTATS statement.

- **RESETHISTORY option**
  BMCSTATS supports a new RESETHISTORY option. When you use RESET ACCESSPATH, RESETHISTORY ACCESSPATH, BMCSTATS inserts a row for each object in SYSIBM.SYSTABLES_HIST and SYSIBM.SYSINDEXES_HIST to indicate that a reset has been performed.

- **Ability to suppress null indexes**
  BMCSTATS supports suppressing null indexes. All table statistics derived from an index defined with the EXCLUDE NULL KEYS clause are adjusted by the number of excluded NULL values.

**BMCTRIG enhancements**

DASD MANAGER PLUS now supports the following BMCTRIG enhancements:

- The new ICPYPEND exception that detects table spaces and indexes placed in informational COPY-pending (ICOPY) status

- The new ACHKPEND exception that detects table spaces placed in Auxiliary CHECK-pending (ACHKP) status

- The new CHKPEND exception that detects table spaces placed in CHECK-pending (CHKP) status

- The new RBDPEND exception that detects indexes placed in REBUILD-pending (RBDP,RBDP*,PSRDB) status

**User interface enhancements**

The DASD MANAGER PLUS user interface now features an improved look and feel.

Enhancements include an improved process flow for defining and generating service actions, collecting and managing statistics, and detecting and correcting object exceptions. The following changes and new menus provide better organization of the DASD MANAGER PLUS features:

- **BMCCOPY (COPY PLUS) option changes**
— INIT
— GENSYSPAGES
— RESYNC
— CHANGELIMIT
— SNAP

■ BMCMOD option changes
— MAXRECDAYS
— MAXIMUM DAYS
— MAXIMUM LOGS
— MINIMUM COPIES
— MINIMUM FULLCOPIES
— OFFSITE
— ON DSNOTFOUND
— ON ERROR NOTSUPPORTED (can now accept keyword END)
— ON ERROR BADSTATUS (can now accept keyword END)
— ON NOTRECOVERABLE
— SITETYPE
— SYSLOGRX

■ BMCREORG option changes
— ARCHDDN
— ARCHFORMAT
— DDLIN
— FORCE (can now accept keyword REPORTONLY)
— FSFALLBACK
— FSTHRESHOLD
— IMPLICIT_TZ
— LOG NO
— MAPPINGDATABASE
— MAPEXIT
— RBALRSN_CONVERSION
— REBLANCE ON
— SHORTMEMORY
— SORTDATA

■ REORG option changes
— LOGRANGES
— DRAIN_ALLPARTS
— SWITCHTIME
— NEWMAXRO
— SORTCLUSTER
— SORTNPSI
— RBALRSN_CONVERSION
— PARALLEL
— RECLUSTER
— HISTOGRAM NUMCOLS
— HISTOGRAM NUMQUANTILES
— SELECT COLGROUP COLUMNS
— COLUMN SELECTION
— COLGROUP FREQVAL COUNT
— COLGROUP HISTOGRAM NUMQUANTILES
— HISTOGRAM NUMCOLS
— HISTOGRAM NUMQUANTILIES

- Runstats option changes
  — RESET ACCESSPATH
  — RESETHISTORY ACCESSPATH
  — TABLESAMPLE SYSTEM
  — REPEATABLE
  — USE PROFILE
  — INCLUDE NPI
  — SET PROFILE
  — FROM EXISTING STATS
  — UPDATE PROFILE
  — DELETE PROFILE

**JCL generation and execution changes**

This release also includes support for Extended Address Volume (EAV) data sets for the JCL generation and execution component of DASD MANAGER PLUS.

**Additional enhancements**

The following additional enhancements are included:

- Capture of statistical information
  DASD MANAGER PLUS now uses the ASU_HISTORY product table to capture statistical information about BMCSTATS and BMCTRIG executions. The LOGMETRICS=Y option enables you to collect this statistical information, which can be analyzed to see how these components are being used in your environment.

- Archive Enabled tables
  DASD MANAGER PLUS object sets now support archive tables. You can now use object sets tablespace specifications to include or exclude related archive table spaces. If you specify Include ACH Y in an object set definition, BMCSTATS and BMCTRIG will include archive-related table spaces.
REORG PLUS for DB2

The following updates have been made to the REORG PLUS for DB2 component:

MAPTEEXIT user exit

You can now use the MAPTEEXIT user exit with DB2 Version 11. (Version 11.1 of REORG PLUS supported this user exit only with DB2 Versions 9 and 10.)

This user exit provides an automated method for supplying a mapping table when invoking DSNUTILB. For more information, see the REORG PLUS for DB2 Reference Manual.

Installation options for DSNUTILB reorganization jobs

REORG PLUS no longer requires or supports the individual installation options for each feature that requires invoking DSNUTILB. However, you must still specify DSNUTILB=YES.

This enhancement makes the following installation options obsolete:

- HASHAX
- IXONEX
- IXRANDOM
- LOB
- PENDDDL
- UTILB_COLCCSID
- UTILB_NULLIX

If your installation options module contains any of these options, the module compiles successfully but completes with return code 4 and a message indicating that the option is obsolete.

WBUFFS option

The second parameter of the WBUFFS installation option is now obsolete. REORG PLUS uses only the first parameter for all SYSUT1 data sets.

Updated indexes

REORG PLUS now supports indexes in which updated entries remain in their original position on the page.
RREPL status

REORG PLUS now supports read-or-replication-only (RREPL) status. Note the following restrictions:

- REORG PLUS invokes DSNUTILB when either of the following conditions exists:
  - SHRLEVEL NONE or SHRLEVEL CHANGE is in effect.
  - Some, but not all, logical partitions of a nonpartitioned index are in RREPL status.

- REORG PLUS terminates when you specify SELECT, DELETE, or UPDATE for a partition that is in RREPL status.

RBA and LRSN conversion

REORG PLUS now natively supports RBA or LRSN to or from extended format (by using the RBALRSN_CONVERSION command option) when you specify SHRLEVEL CHANGE.

Note
PTFs BPU7461 and BPU7526 provided this functionality for version 11.1.00. For more information, see the technical bulletin dated February 16, 2015.

Partition rebalancing

REORG PLUS now natively supports partition rebalancing when the following conditions exist:

- You are reorganizing a table-based partitioned object.
- You are running on IBM DB2 Version 11 new-function mode.

Note
PTFs BPU7042 and BPJ0839 provided this functionality for version 11.1.00. For more information, see the technical bulletin dated October 13, 2014.

This enhancement required a change in limit key processing in REORG PLUS, which resulted in the following changes. For more information, see the REORG PLUS for DB2 Reference Manual.

- You no longer need ALTER INDEX and ALTER TABLE privileges for most reorganization jobs.
- The ALTRFAIL installation option is now obsolete.
- The CPYRFAIL installation option is now always set to COPYPEND when you are rebalancing partitions during your reorganization.
REORG PLUS ignores the DB2 subsystem parameter PREVENT_ALTERTB_LIMITKEY for index-controlled partitioned objects.

Pending definition changes

REORG PLUS natively materializes most pending definition changes during the reorganization.

Due to this change, the CPYRFAIL installation option is now always set to COPYPEND when REORG PLUS materializes pending definition changes.

For more information, see the REORG PLUS for DB2 Reference Manual.

System and software requirements

This version of REORG PLUS has the following changes to minimum requirements from version 11.1.00:

- DB2 Solution Common Code (SCC) version 11.1.00 with current maintenance
- DB2 Utilities Common Code (D2U) version 11.2.00
- BMC Common Statistics component version 11.2.00
- SNAPSHOT UPGRADE FEATURE of XBM version 6.2.00

SNAPSHOT UPGRADE FEATURE of XBM version 6.2.00

Version 6.2.00 of the EXTENDED BUFFER MANAGER (XBM) for DB2 product and its SNAPSHOT UPGRADE FEATURE technology include the following changes.

Space map updates

XBM now provides space map update monitoring by utilizing snapshot technology.

This functionality enables certain features in the utilities that call XBM or SUF. For this release, space map update monitoring enables native support of the SHRLEVEL CHANGE RESETMOD YES option in the BMC COPY PLUS for DB2 product.

Statistics interval

The default statistics interval has been increased to 3600 seconds.

Device support

XBM no longer supports IBM RAMAC Virtual Array (RVA) and Oracle StorageTek Shared Virtual Array (SVA) devices.
**ESO hiperspace**

Use of ESO hiperspace is now obsolete.

Information about ESO hiperspace in the documentation will be removed in a future release.

**BMC Workbench for DB2 version 1.1.00**

Version 1.1.00 of BMC Workbench includes the following changes.

**Statistics migration**

BMC Workbench lets you migrate the access-path statistics for a set of objects from one subsystem to another, or from one schema to another within the same subsystem.

For more information, view the Quick Course "Workbench for DB2 - Migrating Statistics."

**Support for IBM DB2 Analytics Accelerator for z/OS**

BMC Workbench now lets you view lists of the following IBM DB2 Analytics Accelerator for z/OS objects:

- Accelerators associated with an IBM DB2 subsystem or DB2 data sharing group
- Tables defined to an accelerator
- Packages that have been bound with an accelerator option

**Index on expression**

When you define a What-If index scenario during the SQL Tuning process, you can now add an index based on an expression.
Summary of enhancements since the BMC Workbench June 2013 release

Following the original release of BMC Workbench in June 2013, some significant features were made available via PTFs accompanying small program enhancements (SPEs).

Version 1.1.0 of the BMC Workbench product now includes all of these additional features:

- Lets you tune a SQL statement, by evaluating the potential performance of a SQL statement by creating an index, dropping an index, or updating index statistics. This feature is available if you have a license for BMC Performance for DB2SQL.
- Supports the following DML statements:
  - SELECT
  - INSERT
  - UPDATE
  - DELETE
- Lets you use a Connection Manager to define a local or a remote DB2 connection via a single User Interface Middleware (UIM) server.
- Lets you use the Template Manager to organize templates hierarchically in user-defined folders, making it easier to find the templates that you need.
- Lets you use System Authorization Facility (SAF) resources to manage individual user-access to Workbench functions.

BMC Documentation Center changes

The primary BMC Documentation Center is now available without a support login. This center offers:

- Documentation and Quick Courses for all products except Cost Optimization products
- Messages for all products, including Cost Optimization products

A new, secured Cost Optimization Documentation Center offers documentation and Quick Courses for the following products:

- BMC Application Accelerator for IMS
- BMC Cost Analyzer for zEnterprise (CAzE)
BMC Intelligent Capping for zEnterprise (iCap)
BMC Subsystem Optimizer for zEnterprise (Subzero)

Note
You must log in using your BMC Support ID to access the Cost Optimization Documentation Center.

To access the Documentation Centers, go to:

- BMC Documentation Center
- BMC Cost Optimization Documentation Center

Documentation changes

This release includes the following documentation changes:

- In addition to the Installation System Reference Manual, BMC now provides the Installation System Quick Start, which enables you to quickly install the product with the Installation System.

- The name of the BMC Products and Solutions for DB2 Configuration Guide has changed to BMC Products and Solutions for DB2 Customization Guide.

Installation

To download the latest version of the Installation System, complete these steps:

1. Go to http://www.bmc.com/support/reg/installation-system.html, or navigate to the “BMC data management for DB2 and IMS, MainView, and cost optimization products installation and maintenance” section of the BMC Support Central website.
   A BMC support user ID and password are required.

2. Click Installation.

3. Follow the procedures.
Note

BMC recommends updating the Installation System each time you use it to ensure that you have the most recent information. To do so, on the Installation System Main Menu, select **Check for Installation System Update**. For additional information, see the *Installation System Reference Manual*.

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

Performance for DB2 Databases is installed by using the Installation System. This section contains installation information that supplements or supersedes the information in the Installation System documentation.

**Requirements**

For software, hardware, and other requirements, see the Installation System documentation.

**Installation changes**

For information about installation changes, see the Installation System release notes.

**FMID and version information**

This release of Performance for DB2 Databases uses version 2.4.10 of the Installation System.

Note

If you have a later version of the Installation System, 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>FMID</th>
<th>Product or component</th>
<th>Version</th>
</tr>
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<tr>
<td>ASAR71C</td>
<td>SAS_C and SAS_C++ V71</td>
<td>7.1.00</td>
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<tr>
<td>BBASC70</td>
<td>SAS_C V70B</td>
<td>7.0.00</td>
</tr>
<tr>
<td>ZACSB20</td>
<td>Common SQL (ACS)</td>
<td>11.2.00</td>
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<tr>
<td>ZAEXB20</td>
<td>Execution for DB2</td>
<td>11.2.00</td>
</tr>
<tr>
<td>ZAIN031</td>
<td>Install Execution Code</td>
<td>3.1.00</td>
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<td>FMID</td>
<td>Product or component</td>
<td>Version</td>
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<tr>
<td>ZASHB20</td>
<td>Common Admin Code</td>
<td>11.2.00</td>
</tr>
<tr>
<td>ZASUB20</td>
<td>DASD MANAGER PLUS for DB2</td>
<td>11.2.00</td>
</tr>
<tr>
<td>ZATSB20</td>
<td>BMCSTATS API</td>
<td>11.2.00</td>
</tr>
<tr>
<td>ZBMR15E</td>
<td>ISR External Routines</td>
<td>1.5.00</td>
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<tr>
<td>ZBMUB20</td>
<td>Utility Automation</td>
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<td>ZBST100</td>
<td>BMC Support Tool</td>
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<tr>
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<td>Dignum C runtimes and c++ objects</td>
<td>1.9.00</td>
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<td>Utilities Common Component</td>
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<td>ZP WD330</td>
<td>BMC Password Security System</td>
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<td>ZGUD110</td>
<td>BMC Workbench for DB2</td>
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<td>DB2 Product Configuration</td>
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<td>ZOSZ120</td>
<td>RTCS Kernel</td>
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<tr>
<td>ZSMF540</td>
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<td>ZUIM540</td>
<td>UIM User Interface Middleware</td>
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<td>UIM Common Services</td>
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<td>ZUWS540</td>
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</tr>
<tr>
<td>ZXB M620</td>
<td>Extended Buffer Manager</td>
<td>6.2.00</td>
</tr>
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</table>

The preceding table contains the FMIDs for Performance for DB2 Databases only. You can also obtain product, solution, and component information (FMIDs, codes, and versions) in the following ways:
- View the generated installation JCL member $176APLF.
  To search the file, search on the word FORFMID.

- View one of the following reports:
  
  — bxx_ozi_tape_product_list.txt lists FMIDs for cost optimization products, products shared across product lines, and infrastructure products.
  
  — cxx_ozi_tape_product_list.txt lists FMIDs for BMC products for IBM DB2.
  
  — ixx_ozi_tape_product_list.txt lists FMIDs for BMC products for IBM IMS.
  
  — mxx_ozi_tape_product_list.txt lists FMIDs for MainView products.

To access the reports on the BMC electronic software distribution (ESD) site, take the following steps:

1. Go to http://www.bmc.com/support/reg/installation-system.html, or navigate to the “BMC data management for DB2 and IMS, MainView, and cost optimization products installation and maintenance” section of the BMC Support Central website.

2. Click Product codes and FMIDs.

3. Click one of the listed reports.

Maintenance

After you install your software, you can download any additional SMP/E maintenance by using either BMC Internet Service Retrieval (BMC ISR) or eFix PTF Distribution Services (http://apps.bmc.com/support/efix.cgi).

BMC ISR is available for all products that you install by using the Installation System. For more information, see the Installation System documentation.

Note

Before applying maintenance, ensure that you have successfully run the $176APLF job to set up your maintenance environment.

BMC provides fixes for Performance for DB2 Databases at the component level. To apply fixes for this solution, you must apply fixes for each component of the solution.
Support status

You can find the support status for specific product versions on the Support Central website. Selecting a product from the “A – Z Supported Product List” shows:

- All versions of the product and their current support levels (full or limited)
- Dates on which support ends

For more information about the latest support policies, see the Support Central website at http://www.bmc.com/support.

Product documentation

From the Support Central website (http://www.bmc.com/support), you can:

- Link to the BMC Documentation Center to browse documentation sets (http://www.bmc.com/available/documentation-center.html or, for secured documentation sets, http://www.bmc.com/available/documentation-center-secure.html)

- View Quick Course videos (short overviews of selected product concepts, tasks, or features), which are available from the following locations:
  - Documentation Center (primary center and secured center)
  - Support Central (at http://www.bmc.com/support/mainframe-demonstrations)
  - BMC Mainframe YouTube channel (https://www.youtube.com/user/BMCSoftwareMainframe)

- View individual product documents (books and notices) within the “A – Z Supported Product List” (https://webapps.bmc.com/support/faces/az/supportlisting.jsp)

You can order hardcopy documentation from your BMC sales representative or from the support site. You can also subscribe to proactive alerts to receive e-mail messages when notices are issued.
Customer support

If you have problems with or questions about a BMC product, see the support website at 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 1 800 537 1813. Outside the United States or Canada, contact your local BMC office or agent.

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