BMC is releasing version 12.1.00 of the Recovery Management for DB2 solution.

Recovery Management for DB2 includes the following products:

- BMC Next Generation Technology Copy for DB2 for z/OS
- High-speed Apply Engine
- Log Master for DB2
- R+/CHANGE ACCUM for DB2
- BMC Next Generation Technology Recover for DB2 for z/OS
- RECOVERY MANAGER for DB2
- EXTENDED BUFFER MANAGER and SNAPSHOT UPGRADE FEATURE

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:

What's new ............................................................................................................................ 2
- Recovery Management for DB2 , version 12.1.00 ................................................................. 2
- NGT Copy for DB2 for z/OS , version 12.1.00 ................................................................. 4
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- Log Master for DB2 , version 12.1.00 ........................................................................ 6
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- NGT Recover for DB2 for z/OS , version 12.1.00 ..................................................... 10
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Installation, maintenance, and migration ........................................................................ 19
What's new

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

Recovery Management for DB2, version 12.1.00

Version 12.1.00 of the Recovery Management for DB2 solution includes the following changes.

Solution components

This version of the solution includes a new release of the following components:

■ NGT Copy
■ High-speed Apply Engine
■ Log Master
■ R+/CHANGE ACCUM
■ NGT Recover
■ RECOVERY MANAGER
■ EXTENDED BUFFER MANAGER and SNAPSHOT UPGRADE FEATURE

Support for IBM DB2 Version 12

This release adds support for DB2 Version 12.

This release supports:

■ DB2 Version 12
■ DB2 Version 11
■ DB2 Version 10 in new-function mode (NFM) only
COPY PLUS for DB2 name change

Starting with this release, the name of the COPY PLUS for DB2 product has changed to the BMC Next Generation Technology Copy for DB2 for z/OS (or NGT Copy) product. Affected product panels and documentation use the new name.

RECOVER PLUS for DB2 name change

Starting with this release, the name of the RECOVER PLUS for DB2 product has changed to the BMC Next Generation Technology Recover for DB2 for z/OS (or NGT Recover) product. Affected product panels and documentation use the new name.

Progress reports available for SIMULATE and INDEP OUTSPACE recoveries

In this release, progress reports are also available for recoveries when you have specified SIMULATE YES or INDEP OUTSPACE.

Forward recovery of indexes to a timestamp

Starting with this release, NGT Recover can perform a forward recovery of indexes to a timestamp using the RECOVER INDEX command with OPTION RECOVERYPOINT.

Object set management in BMC Workbench

The BMC Workbench for DB2 product now enables you to manage object sets, which are used by the RECOVERY MANAGER and DASD MANAGER PLUS products, and by certain NGT utilities.

Note

In BMC Workbench, you can edit only object sets that were created by using BMC Workbench. However, you can resolve, copy, and view object sets from all sources.

For more information, view the Quick Course "Workbench for DB2 - Managing object sets," the BMC Workbench for DB2 User Guide, and the BMC Workbench online Help.

Users who have a license for any of the following simplified solutions can access and use BMC Workbench to manage object sets:

- BMC High Speed Utilities for DB2
- BMC Object Administration for DB2
What’s new

- BMC Recovery for DB2
- BMC Performance for DB2SQL
- BMC Performance for DB2 Databases
- BMC Utility Management for DB2
- BMC Large Object Management for DB2

Installation System changes

Beginning with version 3.1.00 of the Installation System, new product releases necessitate a new Installation System FMID. Before installing any products, always ensure that you have the most recent version of the Installation System installed and that you have refreshed its runtime environment.

This change enables PTF maintenance for individual levels of the Installation System. The change also eliminates the requirement to provide the Installation Maintenance Value, which simplifies the installation process.

For more information, see the release notes for the most current version of the Installation System.

NGT Copy for DB2 for z/OS, version 12.1.00

Version 12.1.00 of NGT Copy includes the following changes.

Copying compressed LOBs

In this release, you can copy compressed large objects (LOBs).

Additional zIIP offload

Starting with this release, NGT Copy offloads substantially more copy processing to the IBM z Integrated Information Processor (zIIP). This capability can reduce central processing (CP) time by 50 percent or more.

NSCMAIN deprecated

This release deprecates the NSCMAIN program. You can now make consistent copies by adding CONSISTENT YES to a COPY command that runs through the ACPMAIN program.
**MAXSNAPS option**

This release adds the MAXSNAPS option to the DELETE subcommand of the MODIFY command.

This option provides an alternative method of SYSCOPY or BMCXCOPY cleanup. You can specify the number of Instant Snapshot Copies and FlashCopies to retain. When the specified limit is reached, any older Instant Snapshot Copies or FlashCopies are deleted. If you specify ICFDELETE YES, NGT Copy also deletes the image copy data sets.

**Reduced time for running the MODIFY command**

You can specify the ICFDELETE option on the MODIFY command to write the names of data sets that need to be deleted to a file. Using ICFDELETE reduces the time it takes to run the MODIFY command. You can then delete the data sets from the file at a time convenient for you.

**Support for archive-enabled tables**

This release adds the AUX ARCHIVE option to support copying archive-enabled tables.

**Use of the WHERE option on the DELETE subcommand**

With this release, you must comply with the following guidelines when using the WHERE option on the DELETE subcommand:

- Do not use WHERE within another WHERE clause; use the OR connector option, instead.

- Do not use the following options with a WHERE option:
  - MAXCOPIES
  - MAXFULLCOPIES
  - MAXRECDAYS
  - MAXSNAPS

**New symbolic variable &PART4**

This release adds the &PART4 symbolic variable that you can use for any data set. &PART4 generates 4-character partition numbers.
Substrings of symbolic variables

With this release, you can use substrings of symbolic variables in data set names.

Access to the SYSLGRNX table if you are using IBM DB2 Version 10

With this release, NGT Copy no longer supports indirect access to the SYSIBM.SYSLGRNX table but supports direct access as follows:

- *If you are using IBM DB2 Version 10*, ensure that CATMAINT has been executed for IBM APARs PM35190 and PM55333. These APARs define the SYSLGRNX table in the DB2 catalog. With the APARs applied, NGT Copy can access SYSLGRNX directly via the DB2 catalog.

- *If you are using DB2 Version 11 or later*, you have direct access to SYSLGRNX; starting with Version 11, DB2 automatically defines SYSLGRNX in the DB2 catalog.

New SCOPE STATUS option

This release adds the SCOPE STATUS option to the COPY object options. SCOPE STATUS allows you to copy only objects that are in a specified status, such as COPY pending.

High-speed Apply Engine for DB2, version 12.1.00

Version 12.1.00 of High-speed Apply Engine includes the following change.

InactivityInterval parameter

This release adds the InactivityInterval parameter to the MonitorTuning parameters. The new parameter specifies how long (in seconds) the High-speed Apply Engine should wait before reporting the status of agents if no units of recovery have been committed.

Log Master *for DB2*, version 12.1.00

Version 12.1.00 of Log Master includes the following changes.
Key store data moved above the bar

Starting with this release, key store data spills to above-the-bar (ATB) storage (that is, above the 2-gigabyte address) instead of to DASD, improving Log Master performance.

This release deprecates the following installation options:

- KSALLOCU
- KSSPACE
- KSSTOR
- KSDACL
- KSMGMT
- KSCLUST
- KSDATA
- KSVOLS
- QBLRBUF

This release also deprecates the following options in the STOREOPTS statement syntax:

- TRACKS
- CYLINDERS
- SPACE
- STORCLAS
- DATAACL
- MGMTCLAS
- VOLUME
- CLUSTER
- DATA

Compression dictionaries moved above the bar

In earlier releases, Log Master loaded compression dictionaries below the bar (that is, below the 2-gigabyte address), where the amount of available memory was limited. The default amount of memory was 50 MB. You could override this amount by using the DICTSPC installation option.

In this release, Log Master loads compression dictionaries above the bar (that is, above the 2-gigabyte address) and deprecates DICTSPC. By default, an unlimited amount of memory is available for storing compression dictionaries. However, you can use the DICTIONARYSPACE option in the OPTION statement if you want to specify a limit.
**Note**

If you already have jobs that use `OPTION DICTIONARYSPACE` to limit the space for compression dictionaries, BMC recommends removing that option. Doing so allows Log Master to allocate the maximum amount of memory needed for log processing.

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**QUIESCEAGING installation option**

This release adds the QUIESCEAGING installation option. This option enables you to exclude members of a data sharing subsystem from processing if they have been quiesced.

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**USEUTILITYDELETES installation option**

This release adds the USEUTILITYDELETES installation option. This option specifies whether Log Master should use the delete record logged by the DSNUTILB utility when invoked by any of these:

- DB2 LOAD
- REPAIR utilities
- EXEC SQL statement

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**Access to the SYSLGRNX table**

Starting with this release, Log Master no longer has indirect access to the SYSIBM.SYSLGRNX table. If you are using IBM DB2 Version 11 or later, Log Master can access the SYSLGRNX table directly because SYSLGRNX is defined in the DB2 catalog.

In DB2 Version 10, however, the SYSLGRNX table was delivered by IBM APAR PM35190 and subsequently updated by IBM APAR PM55333. Therefore, if you are using a DB2 Version 10 subsystem, you must ensure that CATMAINT has been executed for both PM35190 and PM55333 to define the SYSLGRNX table in the DB2 catalog.

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**Drop recovery of table spaces and tables dropped in separate units of recovery (URs)**

Log Master now supports drop recovery of tables, table spaces, and databases dropped in separate URs.
Dynamic allocation of outcopy output data sets for drop recovery

Instead of specifying a ddname for outcopy, you use dynamic allocation of outcopy output data sets to perform drop recovery of databases and table spaces.

This release updates the following panels accordingly:

■ Dropped Object Names Maintenance
■ NGT Recover Outcopy Specification
■ Generate Automated Drop Recovery

DB2 spanned LOAD format

Log Master LOAD now supports large object (LOB) or XML data in spanned record output for UNLOAD PLUS for DB2 and Log Master formats. Log Master can generate LOAD spanned output files for LOADPLUS for DB2 and IBM DB2 LOAD.

New panel for selecting report ordering options

For defining standard default reports, this release moves the report ordering options from the Report Output panel (ALPP054) to a new panel, the Report Order By Options panel (ALPW249). You access the new panel by entering E in the new Edit Order By field on the Report Output panel.

New SYSTEM ID column in load-related log records

For load data files and control file output, this release adds a SYSTEM ID informational column in the log record information.

This column is useful if you need to process data in character format (as opposed to the Log Master internal binary format). For example, you might need this information when migrating data to another platform or to a data warehouse as part of an extract, transform, and load (ETL) process.

LARGE data set type

This release adds data set type LARGE to the DSNTYPE allocation parameter for the LOGSCAN statement.
R+/CHANGE ACCUM for DB2, version 12.1.00

Version 12.1.00 of R+/CHANGE ACCUM includes the following change.

**Change accumulation files produced by R+/CHANGE ACCUM version 10.1.00 or earlier**

R+/CHANGE ACCUM version 12.1.00 reads only change accumulation files that were produced by R+/CHANGE ACCUM version 11.1.00 or later. If R+/CHANGE ACCUM finds change accumulation files produced by R+/CHANGE ACCUM version 10.1.00 or earlier, R+/CHANGE ACCUM ignores them and uses the DB2 logs instead.

NGT Recover for DB2 for z/OS, version 12.1.00

Version 12.1.00 of NGT Recover includes the following changes.

**Support for R+/CHANGE ACCUM on IBM DB2 Version 12**

This release of NGT Recover supports R+/CHANGE ACCUM on DB2 Version 12.

NGT Recover can read change accumulation files created in R+/CHANGE ACCUM version 11.1 or later. NGT Recover ignores change accumulation files created by earlier versions of R+/CHANGE ACCUM and uses the DB2 logs instead.

**Additional zIIP offload**

Starting with this release, NGT Recover offloads substantially more rebuild index processing to the IBM z Integrated Information Processor (zIIP). This can reduce central processor (CP) time by 50% or more.

**Performance improvements for REBUILD INDEX**

This release introduces a number of significant optimizations to the REBUILD INDEX code that substantially reduce processing time and the time it takes to rebuild indexes.

**Recovery performance improvements**

Starting with this release, NGT Recover can run:
- The log input phase in a subtask
- Snap, reset space, restore, and merge phases in parallel with log input
- Snap phases for recovery of a multi-data set nonpartitioned index (NPI) in parallel in subtasks

**Performance improvements for IMPORT**

Starting with this release, NGT Recover can skip unchanged index partitions when using the IMPORT command.

**Requirement for consistent use of INDEP OUTSPACE**

NGT Recover requires consistent use of the INDEP OUTSPACE option across all commands; if you use INDEP OUTSPACE with one command, you must use it with all other commands that support it.

If you use INDEP OUTSPACE but subsequently omit it from another command that supports it, NGT Recover issues an error message.

**Improved data set preallocation**

This release increases the number of data spaces that NGT Recover can preallocate before the main task selects them for processing. This enhancement can reduce the total elapsed processing time, especially when you have many partitions or many small spaces.

**Recovery of archive tables**

You can now use the ARCHIVE keyword after the AUX option to recover archive tables.

**Forward recovery of indexes to a timestamp**

NGT Recover can now perform a forward recovery of indexes to a timestamp by using the RECOVER INDEX command with OPTION RECOVERYPOINT.

**Recovery to a point in time before materializing changes**

Starting with this release, you can recover a partition-by-growth universal table space (PBG UTS) to a point in time (PIT) that precedes the materialization of certain table space attributes (SEGSIZE, DSSIZE, PGSIZE, and MEMBER CLUSTER).
**REBUILD INDEX SHRLEVEL CHANGE supports indexes in rebuild pending status**

You can now use the SHRLEVEL CHANGE option for indexes in RBDP or PSRBD status and VCAT-defined table spaces.

**Removal of restrictions on recovery simulation**

This release now supports recovery simulation of:
- Recovery from Instant Snapshot copies
- BACKOUT recovery
- LOGONLY or LOGAPPLY SCANONLY
- INLINE image copies

**Access to the SYSLGRNX table if you are using IBM DB2 Version 10**

NGT Recover no longer supports indirect access to the SYSIBM.SYSLGRNX table but supports direct access as follows:

- *If you are using DB2 Version 10*, ensure that CATMAINT has been executed for IBM APARs PM35190 and PM55333. These APARs define the SYSLGRNX table in the DB2 catalog. With the APARs applied, NGT Recover can access SYSLGRNX directly via the DB2 catalog.

- *If you are using DB2 Version 11 or later*, you have direct access to SYSLGRNX; starting with Version 11, DB2 automatically defines SYSLGRNX in the DB2 catalog.

**SCOPE, RECOVERSCOPE, and REBUILDSCOPE options**

This release adds the RECOVERSCOPE and REBUILDSCOPE options to the OPTIONS command, and the SCOPE option to the RECOVER and REBUILD commands.

The following SCOPE options enable NGT Recover to bypass objects based on specified criteria:

- **SCOPE UPDATED** bypasses spaces that have not changed since a specified recovery point. This option is available for all RECOVER and SIMRCVR commands. NGT Recover uses SCOPE UPDATED by default for local site forward recovery to a point in time.

- **SCOPE ALL** recovers all specified spaces.
- **SCOPE STATUS** (*status1, status2,...*) selects objects for processing based on their specified statuses. This option is available for RECOVER TABLESPACE, RECOVER INDEX, and RECOVER OBJECTSET commands.

- **SCOPE PENDING** processes only indexes in a RBDP, PSRBD, RBDP*, or RECP status. This option is available for RECOVER INDEX and REBUILD INDEX commands.

The RECOVERSCOPE and REBUILDSCOPE option settings are the same as the SCOPE option settings.

**New &PART4 symbolic variable**

You can use a new symbolic variable, &PART4, to generate partitions for data set allocation. You can use &PART4 for any data set.

**Substrings of symbolic variables**

You can use the following substrings of symbolic variables in data set names specified by OUTCOPYDSN, RECOVERYDSN, and INCOPY MODEL `dataSetName`:

- &DB(s,l)
- &TS(s,l)
- &USERID(s,l)
- &USER(s,l)
- &UID(s,l)

The `s` variable represents the substring and the `l` variable represents the length.

**Subgroup name attachment**

NGT Recover now allows you to specify a subgroup name for the IBM DB2 subsystem identifier (ssid).

**RECOVERY MANAGER for DB2, version 12.1.00**

Version 12.1.00 of RECOVERY MANAGER for DB2 includes the following changes.

**Progress reports available for SIMULATE YES and INDEP OUTSPACE recoveries**

Progress reports are also available for recoveries when you have specified SIMULATE YES or INDEP OUTSPACE.
Recovery Progress Reports renamed

Starting with this release, Recovery Progress Reports have been renamed Progress Reports.

REBUILD INDEX SHRLEVEL CHANGE

RECOVERY MANAGER now supports JCL generation for the REBUILD INDEX SHRLEVEL CHANGE option in the NGT Recover product.

Forward recovery of indexes to a timestamp

NGT Recover can now perform a forward recovery of indexes to a timestamp by using the RECOVER INDEX command with OPTION RECOVERYPOINT.

New ARMBGRP syntax

This release includes the following changes to ARMBGRP syntax:

■ Added the BASE and ONLY settings to the INCLUDELOB, INCLUDEXML, INCLUDEHISTORY, and INCLUDEARCHIVE options

■ Added the DSNUM option to the CREATE GROUP command for the TABLESPACE, INDEX, and INDEXSPACE options. This addition enables you to create groups by table space, index, or index space by partition.

Valid values for DSNUM are:

— n for partition number

— n:m for a range of partitions starting with n and ending with m, where n and m are partition numbers

— ALL to include all partitions

■ Added the EXCLUDE DSNUM option to the CREATE GROUP command for the TABLESPACE, INDEX, and INDEXSPACE options. This addition enables you to exclude groups by table space, index, or index space by partition.

Valid values for EXCLUDE DSNUM are:

— n—a partition number.

— n:m—a range of partitions starting with n and ending with m, where n and m are partition numbers.
**ARMBGVP populates the RECOVERY_EXCEPTIONS table**

If you have a BMC Recovery for DB2 solution password, RECOVERY MANAGER writes all recoverability exceptions to the new RECOVERY_EXCEPTIONS table for later reporting to BMC Workbench for DB2.

**ARMBSRR populates the RECOVERY_EXCEPTIONS table**

If you have a BMC Recovery for DB2 solution password, RECOVERY MANAGER writes the validation report to the new RECOVERY_EXCEPTIONS table for later reporting to BMC Workbench for DB2.

**ARMGA001 GROUP Authorization panel**

BMC is deprecating the ARMGA001 GROUP Authorization panel. Although this release continues to include the panel, BMC plans to remove the panel in a future release.

**ARMBGRP supports group name patterns for QUERY GROUP INFO, QUERY GROUP OBJECTS, and QUERY GROUP AUTH**

This release adds the following options to the QUERY command:

- GROUP INFO RDAJ*.*
- GROUP OBJECTS RMD.*
- GROUP AUTH PUBLIC.ACP*

These options allow wildcard values and delimited group names. For the existing options, *.* is the default value.

**Simulate Recovery option for Progress Reports**

The online panel ARMRRPR01 has a new option to report progress for SIMULATED and INDEP OUTSPACE recoveries instead of actual recoveries. The new SIMULATED_RECOVERY syntax for program ARMBRPR provides the same support in batch.

**Dynamic grouping**

Starting with this release, when you create groups online or use the ARMBGRP batch program based on exceptions, you can enable dynamic grouping. If you enable
dynamic grouping, you can create an empty group (a group for which no objects are found that meet the definition). After you create the objects and then open the group, the group is automatically populated.

This release added the **Create group as dynamic** field to the **Exception Status Specification for Object List Generation** panel (ARMEX001).

### Exporting and migrating groups

RECOVERY MANAGER now enables you to convert group definitions into CREATE GROUP syntax and write them to a specified data set. You can then either keep the data set as a backup or use it to migrate the converted definitions to another IBM DB2 subsystem.

The export and migration of group definitions involves the following steps:

1. Use the online interface to prepare ARMBGRP syntax and JCL.
2. Execute the ARMBGRP batch program.

This change adds:

- **ARMEXPRT DD**
- **EXPORT GROUP** and **MIGRATE_TO_SSID** commands
- The following options on the Group List panel (ARMGP001):
  - **-X** to export the specified groups
  - **-XA** to export all groups
- **Batch Group Export/Migrate JCL Generation panels**

### Option to recover work file database

Adds an option to ARMBSRR to recover work file database (DSND807) objects during local or remote subsystem recovery. If you choose not to recover work file database objects, this step is omitted from the recovery job.

You can also specify the library that contains DSNTEP2.

These options include the following additions:

- Additions to the online interface on panels ARMUFS4A and ARMDR004A
- Addition of **RECOVER WORKFILE** and **DSNTEP2LIB dataSetName** syntax to ARMBSRR
**BACKOUT AUTO time estimation**

This release adds BACKOUT AUTO time estimation to Progress Report functionality. BACKOUT AUTO time estimation is the sum of the following times:

- The time estimate for recovering objects that can be backed out
- The forward recovery time estimate for recovering objects that cannot be backed out

If objects cannot be recovered via backout or forward recovery, a message indicates that the objects are not eligible for BACKOUT AUTO recovery. You can view a list of BACKOUT AUTO exceptions; these are the same as backout and forward recovery exceptions.

This feature includes the following additions:

- **A=Backout Auto Exceptions** on the ARMRPR06 panel
- **Auto** on the ARMBRPR ARMSUMRY DD recovery estimation report
- A new ARMAUERR DD for BACKOUT AUTO estimation exceptions

**Delimited object set names**

BMC is deprecating support for delimited object set names. Although this release continues to support delimited object set names, BMC plans not to end this support in a future release.

Delimited names are those enclosed by double quotation marks and can contain special characters (for example, "creator"."name").

---
**Note**
The terms *group* and *object set* are synonymous.

**RECOVER_SCOPE and REBUILD_SCOPE options**

This release of NGT Recover adds the RECOVER_SCOPE and REBUILD_SCOPE options to the NGT Recover OPTIONS command.

The following options enable RECOVERY MANAGER to recover or rebuild objects based on specified criteria:

- **RECOVER_SCOPE (ALL)** recovers all specified spaces, including those that have changed.
- **REBUILD_SCOPE (ALL)** rebuilds all specified spaces, including those that have changed since the specified recovery point.

- **RECOVER_SCOPE (UPDT)** recovers only spaces that have changed since a specified recovery point.

- **RECOVER_SCOPE (status1,status2,...)** and **REBUILD_SCOPE (status1,status2, ...)** select objects based on their specified statuses.

- **REBUILD_SCOPE (PEND)** processes only indexes that are in a RBDP, PSRBD, RBDP*, RECP, or AREO* status.

This release of RECOVERY MANAGER adds the **Recover scope** and **Recover/Rebuild scope status** fields to panel ARMOR41.

## Removal of restrictions on recovery simulation

This release now supports recovery simulation of:

- Recovery from Instant Snapshot copies
- BACKOUT recovery
- LOGONLY or LOGAPPLY SCANONLY
- INLINE image copies

## New &PART4 symbolic variable

You can use a new symbolic variable, &PART4, in NGT Recover and NGT Copy to generate partitions for data set allocation. You can use &PART4 for any data set.

### Symbolic variable substrings

You can use the following NGT Copy and NGT Recover (OUTCOPY) output data set names specified by OUTCOPYDSN, RECOVERYDSN, and INCOPY MODEL datasetName:

- &DB(s,l)
- &TS(s,l)
- &USERID(s,l)
- &USER(s,l)
- &UID(s,l)

The *s* variable represents the substring, and *l* represents the length.

## Multi-job JCL generation

You cannot use SIMULATE or ESTIMATE options with multi-job JCL generation.
Reports with ANSI printer carriage control characters

Starting with this release, RECOVERY MANAGER reports are no longer produced with ANSI printer carriage control characters.

SEPARATE_BY_PARTITION option

This option is valid for creating classic NGT Copy syntax only when you have specified OBJECTSET NO in ARMBGEN; this option is invalid for the COPY TABLESPACE OBJECTSET group name.

EXTENDED BUFFER MANAGER and SNAPSHOT UPGRADE FEATURE, version 6.2.01

EXTENDED BUFFER MANAGER and SNAPSHOT UPGRADE FEATURE version 6.2.01 include the following changes.

Support for IBM DB2 Version 12.x.xxx and its use of the 64-bit I/O interface to IBM Media Manager

This release adds support for DB2 Version 12.

This release supports:

- DB2 Version 12
- DB2 Version 11
- DB2 Version 10

XBM can now use the IBM Media Manager tool via the 64-bit I/O interface that is available if you are running Version 2.1 or later of the IBM z/OS system. This feature is needed to enable XBM to support IBM DB2 Version 12.x.xxx (that is, all function levels of DB2 Version 12). This does not affect your use of earlier versions of DB2; XBM continues to support these versions.

BMC Software made this feature available via PTF BPE0456 that accompanied a small program enhancement (SPE) in October 2016.

Installation, maintenance, and migration
You install Recovery Management for DB2 by using the Installation System.

**Installing the Installation System or a product**

The Installation System is installed and maintained by using SMP/E. Installing the Installation System creates the required SMP/E environment. Use the following procedures to install the Installation System or products.

**Before you begin**

If you need more information, see these sources:

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

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

If you prefer physical installation media instead of downloaded images, request physical media from your BMC sales representative. Contact information is available on the BMC website.

**To install the Installation System**

1. Review the most recent Installation System release notes on any product page from the A-Z Supported Product List on Support Central.


3. Click Installation System.

4. Click the method you want to use to obtain the Installation System, and follow the provided procedures.

**WARNING**

The Installation System must be installed into its own SMP/E zone. You should not install anything else into this zone.
To install a product

1 Ensure that you have the most recent version of the Installation System installed and that it has any required PTFs applied.

To determine the most recent version number, see the most recent Installation System release notes on any product page from the A-Z Supported Product List on Support Central. To determine the version number of your current Installation System, see the title line on the Installation System Main Menu. Required PTFs are announced in technical bulletins.

2 Start the Installation System.

3 Follow the on-screen prompts.

For more information, see the Installation System documentation.

Maintaining the Installation System or a product

Use the following procedures to maintain the Installation System or products.

Note

BMC provides fixes for Recovery Management for DB2 at the component level. To apply fixes for this solution, you must apply fixes for each component of the solution.

To maintain the Installation System

1 Perform one of the following actions:

   ■ If you have the most recent version of the Installation System installed, apply any required PTFs.

   ■ Install the most recent version of the Installation System, and apply any required PTFs.

To determine the most recent version number, see the most recent Installation System release notes on any product page from the A-Z Supported Product List on Support Central. To determine the version number of your current Installation System, see the title line on the Installation System Main Menu. Required PTFs are announced in technical bulletins.

2 Refresh the Installation System runtime data sets by running the $205RTEC and $206RTEC jobs (in order).

3 Restart the Installation System.
To maintain a product

1. Check Support Central for product notices, such as technical bulletins about fixes and Recommended Service Level (RSL) availability.

2. Use BMC ISR (recommended) to obtain product PTFs and RSLs.

3. Run the $176APLF installation job to ensure that all required FMIDs are applied.

4. Apply the product maintenance to the product's SMP/E environment. For more information, see Installation System Reference Manual.

FMID and version information

Recovery Management for DB2 uses version 3.1.00 (or more recent) of the Installation System.

*Note*
Always use the most recent version of the Installation System and ensure that it has any required PTFs applied.

To determine the most recent version number, see the most recent Installation System release notes on any product page from the A-Z Supported Product List on Support Central. To determine the version number of your current Installation System, see the title line on the Installation System Main Menu. Required PTFs are announced in technical bulletins.

Installation installs the following versions and SMP/E FMIDs:

<table>
<thead>
<tr>
<th>FMID</th>
<th>Product or component</th>
<th>Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASAR71C</td>
<td>SAS_C and SAS_C++ V71</td>
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<td>BBASC70</td>
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<td>ZACPC10</td>
<td>BMC NGT COPY for DB2</td>
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<td>ZAUP241</td>
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</table>
The preceding table contains the FMIDs for Recovery Management for DB2 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:
  — Optimization products, common products, and common components
  — BMC products for IBM DB2
  — BMC products for IBM IMS
  — MainView products

To access the reports on Support Central, take the following steps:


2. Click Product codes and FMIDs.

3. Click one of the listed reports.
Migration considerations for EXTENDED BUFFER MANAGER and SNAPSHOT UPGRADE FEATURE

XBM and its SNAPSHOT UPGRADE FEATURE tolerate interoperation between two consecutive releases (for example, 6.1 and either 6.2.00 or 6.2.01) for migration purposes.

The following considerations apply to this toleration:

- When operating in a mixed environment, do not attempt to use features that have been added in the latest release. If XBM sends these requests to a subsystem that is using the previous release of XBM, XBM might abend.

- Do not operate long term in a mixed environment. BMC recommends that you migrate your entire environment as soon as you can.

- BMC provides limited support for interoperability problems.

For migration from XBM 6.1 to 6.2.00 or 6.2.01, complete the following steps:

1. Install PTF BPE0440 into the XBM 6.1 load library and restart the XBM 6.1 systems as soon as possible.
   After installing this PTF, if XBM 6.1 encounters a request for an XBM 6.2 feature, XBM fails gracefully instead of abending.

2. Ensure that all maintenance has been applied for both releases of XBM.

3. For each XBM in a sysplex group, complete the following steps:
   a. If active snapshots exist, bring XBM 6.2.00 or 6.2.01 into the XBM sysplex group on each system before you stop the XBM on that system.
   b. Start the updated XBM 6.2 system.
      Active snapshots will be synchronized with the new XBM version.
   c. Stop XBM 6.1 on that system.

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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