BMC is releasing version 12.1.00 of the BMC Next Generation Technology Reorg for DB2 for z/OS (NGT Reorg) product.

NGT Reorg is available as a stand-alone product and as a component of the following solutions:

- BMC High Speed Utilities for DB2
- BMC Performance for DB2 Databases
- BMC Next Generation Technology Utility Suite Accelerator for DB2
- BMC Next Generation Technology Database Performance for DB2

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

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

The following topics are discussed:

- What's new ................................................................. 2
- Installation of NGT products ................................................................. 2
- Installation System changes ................................................................. 2
- Authorization ID ................................................................. 3
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What's new

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

Installation of NGT products

You now use the BMC Installation System to install and configure the NGT products.

Use the following documentation to assist you in installing, configuring, and customizing the NGT products:

- *Installation System Quick Start*
- *Installation System Reference Manual*
- *BMC Products and Solutions for DB2 Customization Guide*

The *BMC Next Generation Technology Installation Guide* is now obsolete.

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.

**Authorization ID**

The NGT products now enable you to use the DBM1 authorization ID.

**Synonyms**

The NGT products now use aliases instead of synonyms.

**Component and library names**

Many of the NGT product components and libraries with names beginning with `CDB` have been renamed to begin with `NGT`.

In most cases, the name change only substitutes `NGT` for `CDB` (for example, CDBDISP is now NGTDISP). CDBEXEC is the exception in that it has been renamed to NGTAUTO. These name changes are reflected in the NGT messages and in the documentation.

**Concurrent access control**

The following products now use the BMCUTIL and BMCSYNC common tables to control concurrent access to the objects on which they operate. Using these tables does not replace using the BMC Next Generation Technology (NGT) Matrix and the utility internal databases (IDBs).

- NGT Check
- NGT Load
- NGT Reorg
- NGT Stats
- NGT Unload
As part of this enhancement, you can use the NGTDISP utility to display entries from these two tables. For more information about the new options to specify with NGTDISP, see the BMC Next Generation Technology General User Guide.

BMC provided this enhancement for version 11.2 via BMC PTFs BPU8370, BPU8384, and BPJ1316.

**New component requirement**

The NGT products now use the DB2 Solution Common Code (SCC) component. SCC is installed when you install the NGT products.

BMC introduced this requirement for version 11.2 via BMC PTFs BPU8370, BPU8384, and BPJ1316.

**Maintenance listing**

Each NGT product now reports the BMC maintenance that has been applied for that product. This information appears in your CDBPRINT.

**Archive tables**

NGT Reorg now supports archive tables unless you specify the DISCARD option.

**DSSIZE**

In most cases, NGT Reorg now supports DSSIZE values greater than 64 GB. For more information, see the BMC Next Generation Technology Reorg for DB2 for z/OS Reference Manual.

**XML data**

NGT Reorg now supports XML data. NGT Reorg reorganizes XML table spaces and their base table spaces independently of each other. For more information, see the BMC Next Generation Technology Reorg for DB2 for z/OS Reference Manual.
Note
At the time of this release, support for XML in NGT Reorg has been disabled. For more information, see “Known issue” on page 8.

Dynamic allocation of data sets

The NGT Load, NGT Unload, and NGT Reorg products now enable you to use the NGT OUTPUT command to dynamically allocate certain data sets.

In addition to this new command, you can use the new utility parameter +OVERRIDEOUTPUT. This parameter enables you to specify whether to dynamically allocate data sets by using the OUTPUT command or by using the appropriate automation control point.

For syntax information about the OUTPUT command and the +OVERRIDEOUTPUT parameter, see the BMC Next Generation Technology General User Guide. For information about which data sets you can allocate with the OUTPUT command, see the reference manuals for the individual products.

SQL functionality

The following products now enable you to use an SQL-like language known as NGT SQL:

- NGT Check
- NGT Load
- NGT Reorg
- NGT Unload
- NGT Utility Manager

The NGT utility products use NGT SQL for such specifications as WHERE or WHEN clauses, SELECT lists, and indexes on expression. For more information, see the BMC Next Generation Technology General User Guide.

Object sets

NGT Reorg and NGT Stats now enable you to operate on object sets that you have defined by using the BMC DASD MANAGER PLUS for DB2 product or the BMC Workbench for DB2 product.
For more information, including the syntax to use to take advantage of object sets, see the *BMC Next Generation Technology Reorg for DB2 for z/OS Reference Manual* and the *BMC Next Generation Technology Stats for DB2 for z/OS Reference Manual*.

**DSNUTILB**

NGT Reorg invokes DSNUTILB when needed to support objects and conditions that it does not support natively.

To enable this support, you must ensure that the NGT utilities parameter +DSNUTILB is set to YES. NGT Reorg also enables you to specify certain options that the IBM DB2 REORG utility can use when NGT Reorg invokes DSNUTILB. For more information, see the *BMC Next Generation Technology Reorg for DB2 for z/OS Reference Manual*.

**Utility parameters**

This release adds the following new NGT utility parameters (UTLPARMS):

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ALLERROR</td>
<td>Enables you to set the behavior of SYSERROR</td>
</tr>
<tr>
<td>+DSNUTILB</td>
<td>Specifies whether to enable NGT Reorg to invoke DSNUTILB when needed</td>
</tr>
<tr>
<td>+IGNOBJSETPARTS</td>
<td>Specifies whether to disregard partition numbers defined in object sets</td>
</tr>
<tr>
<td>+LOGPDS</td>
<td>Overrides the default log data set name</td>
</tr>
<tr>
<td>+NGTAUTO1</td>
<td>Overrides the default NGT automation data set name</td>
</tr>
<tr>
<td>+NGTAUTO2</td>
<td>Enables you to configure a second NGT automation data set</td>
</tr>
<tr>
<td>+NGTCHKPT</td>
<td>Overrides the default NGT checkpoint data set name</td>
</tr>
<tr>
<td>+NGTSVR</td>
<td>Overrides the default name of the NGT server JCL data set</td>
</tr>
<tr>
<td>+OBJSETSTOGROUP</td>
<td>Defines the storage group that NGT utilities use to store temporary objects</td>
</tr>
<tr>
<td>+OVERRIDEOUTPUT</td>
<td>Specifies whether NGT automation control points override OUTPUT command values</td>
</tr>
<tr>
<td>+USER1 and +USER2</td>
<td>Define user-defined variables that you can use with certain configuration parameters</td>
</tr>
<tr>
<td>+XBMID</td>
<td>Specifies which XBM subsystem to use when NGT Load invokes NGT Copy</td>
</tr>
</tbody>
</table>

For more information about these parameters, see the *BMC Next Generation Technology General User Guide*. 

6 Release notes December 9, 2016
Partition rebalancing

NGT Reorg now supports rebalancing partitions by altering limit keys during the reorganization job.

Partition rebalancing can be accomplished in one of the following ways:

- NGT Reorg automatically materializes any pending limit key changes. (The new +DBNAME parameter must be included in your RRGPARMS.)
- You can provide ALTER statements to make limit key changes. If you supply a DDLIN data set with these ALTER statements, NGT Reorg processes them during the reorganization.
- You can specify the REBALANCE option to have NGT Reorg determine the new limit keys.

NGT Reorg recognizes the following new optional DD types for partition rebalancing:

- DDLIN enables you to supply ALTER statements to update limit keys during the reorganization.
- PARTSDDL contains DDL to enable you to create the table space, tables, and indexes that you are reorganizing.
- REPBLDAL contains ALTER statements that reflect the new keys following the rebalance operation.

For more information, including restrictions, see the following information in the BMC Next Generation Technology Reorg for DB2 for z/OS Reference Manual:

- Partition rebalancing and pending limit key changes topics in Chapter 2
- DDLIN, PARTSDDL, and REPBLDAL DD statement descriptions in Chapter 3
- DDLIN and REBALANCE option descriptions in Chapter 3

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
**Known issue**

NGT Reorg currently terminates with message NGTB097 when you attempt to reorganize one of the following objects:

- An XML table space
- A document ID (DOCID) index
- A user-defined (XPATH) XML index

A future PTF will enable this functionality. After you apply this PTF, NGT Reorg will no longer issue the indicated message.

**Installation and maintenance**

You install NGT Reorg 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.
2 Go to http://www.bmc.com/support/downloads-patches/mainframe-installation.html, or select Mainframe Installation from the Downloads & Products menu 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.

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**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.

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**Maintaining the Installation System or a product**

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

**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.
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**

NGT Reorg 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>
<td>7.1.00</td>
</tr>
<tr>
<td>BBASC70</td>
<td>SAS_C V70B</td>
<td>7.0.00</td>
</tr>
<tr>
<td>ZACPC10</td>
<td>BMC NGT COPY for DB2</td>
<td>12.1.00</td>
</tr>
<tr>
<td>ZAFRC10</td>
<td>BMC NGT RECOVER for DB2</td>
<td>12.1.00</td>
</tr>
<tr>
<td>ZAIN031</td>
<td>Install Execution Code</td>
<td>3.1.00</td>
</tr>
</tbody>
</table>
The preceding table contains the FMIDs for NGT Reorg 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.

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**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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