BMC Software is releasing version 10.1.00 of the APPTUNE for DB2.

NOTE
Before you begin installation, BMC recommends that you check the Customer Support 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 (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 APPTUNE.

Support for DB2 Version 10

This version of APPTUNE for DB2 supports the IBM® DB2 Version 10 subsystem.

Workload reporting

Workload reports added for reporting data sharing group, implicit qualifier, and requesting location:

<table>
<thead>
<tr>
<th>Report name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SQMCACTD</td>
<td>Activity by Requesting Location (DATA)</td>
</tr>
<tr>
<td>SQMCACTL</td>
<td>Activity by logical DB2 (DATA)</td>
</tr>
<tr>
<td>SQMCACTQ</td>
<td>Activity by Implicit Qualifier (DATA)</td>
</tr>
<tr>
<td>SQMCACTLD</td>
<td>Activity by Requesting Location (GRAPH)</td>
</tr>
<tr>
<td>SQMCAGTL</td>
<td>Activity by logical DB2 (GRAPH)</td>
</tr>
<tr>
<td>SQMCACTQ</td>
<td>Activity by Implicit Qualifier (GRAPH)</td>
</tr>
</tbody>
</table>

New Zooms

New zooms added to show most expensive and most time-consuming statements at the DB2 SSID or data sharing group level. From a report that shows activity at the subsystem or data sharing group level, there are new zooms F-HiEla and H-HiCPU that display a report of the statements that consumed the most elapsed time and CPU. For these reports, statements are identified by SQL text, regardless of other detail. You can navigate from a statement in either report to find out these additional details.
EXPAND command enhanced

The EXPAND command is enhanced to accept 1-4 command codes as parameters. The command codes allow you to expand all report groups for the specified codes specified without expanding additional groups. This is similar to EXPAND ALL but with more granular control over the types of groups expanded. Because of this new capability, many APPTUNE reports now identify which actions are zooms and which are expands. For some reports, the F-Full expand allows you to see all full program names that could be longer than the length displayed by default. For some reports, the 1-More expand allows you to see additional metrics such as RID list and parallel failures and facilitates the ability to sort on these additional metrics.

Enhanced reporting

CPU times reported in APPTUNE include times accumulated on standard CPUs and any specialty engines such as zIIP. To view and sort by zIIP utilization or standard CPU utilization, use the Z expand, identified as Z-zIIP on most reports, and Z-Times on the SQL Statement Analysis report SQMCACTX. You can sort on zIIP times or non-zIIP times in the resulting group. EXPAND Z on the command line expands all zIIP/Time groups at once.

Statements with parallel activity can now be identified in report SQMCACTX by the Avg Tasks column. A non-zero value indicates that parallel activity has occurred for the statement. Reported elapsed time for the statement reflects time spent to process the statement, not the total elapsed time for all parent and child tasks, as in previous releases of APPTUNE. The total elapsed time for all parent and child tasks is reported as Parallel elapsed under the Z-Times expand.

Statements that are recursive in nature, such as CALL statements or statements that execute triggers, report activity reflecting all recursive calls. The Nest column in report SQMCACTX reflects the percentage of elapsed time that occurred under recursive calls. The Non-nested elapsed and Non-nested CPU times under the Z-Times expand reflects activity that occurred outside recursive calls (within the statement itself). Reports that depict activity at a level higher than the statement (such as plan, program, or subsystem) report non-nested activity only, unlike previous releases of APPTUNE.

Common Explain enhancements

The K-Explain Cache action from the Cache Statement report (SQMZACTT) displays access path information from Dynamic Statement Cache entries. The Explain Results report includes a new label of XK01. From within Common Explain, you can also perform a Dynamic Explain (XD) to determine the impact on access path selection of any recent change in the environment before the statement executes again.
Enhanced reporting of READ access

Earlier versions of APPTUNE reported the object access matrix based on statement type. APPTUNE version 10.1 recognizes that READ access of objects can occur for a non-READ statement. For example, consider the following statement:

```sql
INSERT INTO BMCSFTWR.REORG_CANDIDATE_TABLE
(SELECT *
FROM AFDPA62.REORG_CANDIDATE_TABLE
)
```

APPTUNE version 10.1 reports the object access matrix for this statement as follows:

<table>
<thead>
<tr>
<th>Creator Name</th>
<th>Ty BPool Access</th>
<th>Insert Access</th>
<th>Read Access</th>
<th>Update Access</th>
<th>Delete Access</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ AFDPA62 REORG_CANDIDATE_&gt;&gt;</td>
<td>T BPO</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>+ BMCSFTWR REORG_CANDIDATE_&gt;&gt;</td>
<td>T BPO</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Batch interval adjustment

APPTUNE reports that run in the batch environment now adjust the reporting interval to align with APPTUNE collection intervals where appropriate. APPTUNE report intervals can vary from one DB2 subsystem to the next, as defined by the configuration.

Online archive data source

The new online archive data source dynamically allocates and concatenates archive datasets from the copy directory based on the requested interval and report. and long-term historical data can be viewed from archived trace data sets using the archive data source.

Thread-level filtering

Thread-level filtering is used to reduce the monitoring cost in a thread for which monitoring is not desired.
**Efficiency filtering**

Efficiency filtering is a new option used to reduce the cost of monitoring efficient static SQL. APPTUNE can bypass monitoring of static SQL executions of a statement that has run recently and demonstrated consistently good performance.

**APPSTAT command enhancement**

The APPSTAT command now shows settings for all filter rows in effect, instead of only the default collection options. By default the rows are shown in a compact format. You can display the settings in an expanded format by specifying the new VERBOSE parameter at the end of the APPSTAT command.

**Error code filtering**

The Negative SQL Code Options of the APPTUNE filter row configuration includes options to generate exceptions, capture detail, and issue WTOs for negative SQL codes. You can include all negative SQL codes, exclude all negative SQL codes, or specify a list of codes to include or exclude.

**Thread-level filtering**

The Skip for thread option of the APPTUNE filter row configuration saves on DB2 thread overhead when Skip Collection is in effect. APPTUNE filter rows are based on program, plan, user ID, correlation ID, and DB2. Of these attributes, program and user ID can change over the life of a thread, but the other attributes don’t. When an SQL statement executes, it is matched to an APPTUNE filter row based on its program, plan, user ID, correlation ID, and DB2. If the Skip Collection option is in effect for that row, the execution will not be monitored.

Additionally, if program and user ID are set to * (all) for the filter row no further executions are monitored for the thread, and a flag is set so no subsequent executions are monitored. If either program or user id are not set to * (all), the flag cannot be set because the program or user id may change over the life of the thread. However, Skip for thread overrides this and filter matching on subsequent executions in the thread are suspended even if the program or user id change.
System messages for exceptions and errors

Messages can now be written to the system log to drive automation based on captured errors and exceptions. The Exception Options and Negative SQL Code Options of the APPTUNE filter row configuration include an Issue WTOs option that controls if APPTUNE issues messages to the system log that can be used to drive automation through third-party products.

Filter option sets

You now specify APPTUNE filters by defining option sets through DB2 Product Configuration panels.

The behavior of filter rows has changed. If the filter option set that you specify does not have a filter row that consists of all wildcard characters (asterisks) to define default criteria, APPTUNE will treat it as if you had defined that row and set the Skip Collection value to Y so that no data is collected.

If you do not specify a filter option set, APPTUNE will use a default filter option set. The following filter option sets are provided:

- !BMCTEST contains settings recommended for test environments. This filter maximizes the functionality of APPTUNE without regard for overhead.
- !BMCPROD contains minimal settings for a production environment. These settings minimize the overhead costs associated with filtering.

New jobs and DD statements

Most batch jobs, including batch reports and Performance Advisor Database (PADB) jobs require new DD statements. You should update your jobs with the new jobs in the SAMPxxx data set.
Deprecated Commands

The following commands are deprecated in this release:

- APPCOLL
- APPKEYS
- APPSAMP
- APPVIEW
- ARCHLOG
- AUTO
- CMDMVS
- CONSOLE
- FMTMAX

New infrastructure components

This release includes the following new infrastructure components:

- *DB2 Component Services (DBC)* replaces the Common Data Collector (CDC) authorized subsystem that earlier releases used.
- The *Next Generation Logger (NGL)* replaces the high-speed writer for the CDC.
- The new *DB2 Product Configuration* component sets product options and stores them in XML-formatted option sets.

**DB2 Component Services (DBC)**

The DBC technology provides a persistent z/OS® subsystem address space into which BMC products can dynamically initialize their own product services. The DBC subsystem is a long-running-service address space that remains active for the life of an IPL.

**NOTE**

Although BMC does not recommend starting the DBC subsystem as a batch job, you can run the DBC as a batch job on a temporary basis.
DBC benefits

The new DBC technology provides the following benefits over the previously used CDC:

- exploits 64-bit storage
- accommodates IBM® System z® Integrated Information Processors (zIIPs)
- avoids ASN reuse issues
- uses XML-based initialization
- is API driven (build independent)
- supports dynamic product registration and installation
- facilitates concurrent use by many products
- allows recycling products without recycling the subsystem

CDC-based commands

Most of the CDC operator commands from earlier releases remain as default subsystem commands in the DBC. To support the old commands, the Data Collector ID (CDC SSID) must be the same as the DBC SSID. Also, BMC recommends using a DBC group name that matches the DOMPLEX group name for your performance products.

The CDC commands are now bundled in a shared component called the BMC Common Infrastructure or DOM Agent (FMID ZDOMA10). This shared component runs as an agent under the DBC.

CDC-related installation issue

If you are migrating from an earlier release of a performance product, an incompatibility affects the subsystem control blocks if the following conditions exist:

- You are migrating from an earlier release of the CDC subsystem to a version 10.1 DBC subsystem.
- Since the last IPL, the CDC subsystem has been started and has used the SSID.

In this situation, you can resolve the incompatibility as follows:

1. Shut down the CDC.
2. Run an SSID migration job (SAMPLIB member #SSIDMIG provides a sample) that converts the SSID for use by the DBC.
3. Start the DBC.
If you subsequently decide that you want to resume running the CDC with the same SSID, you can do so as follows:

1. Shut down the DBC.

2. Run a fallback job (see the sample in #SSIDMIG) to convert the SSID for use by the CDC.

3. Restart the CDC.

**NOTE**

No incompatibility exists if you are using a new SSID to install a test DBC, or if you have not started the CDC and used the current SSID since the last IPL.

### Next Generation Logger (NGL)

The Next Generation Logger (NGL) logs and retrieves data based on application-defined keys and a time span. Running as a service within the DBC subsystem, NGL relies on the Runtime Component System (RTCS) for registry services.

A DBC subsystem can support one or more instances of NGL. Each instance can support multiple LOGSETs, which are groups of z/OS linear data sets (or log files) in which NGL stores data records. (LOGSETS are comparable to trace data sets in earlier releases.) Various BMC mainframe products use NGL LOGSETs for their logging requirements.

### NGL benefits

The new NGL component provides the following benefits over the previously used high-speed writer for the CDC:

- allows multiple products to use the service
- simplifies setup and deployment

For example, in earlier releases, you had to define and allocate trace data sets manually. In contrast, NGL automatically allocates log files in the LOGSETs based on user-defined parameters. You can control the number of log files allocated and their sizes, and you can use parameters to set goals for online data access (in days or hours).
New infrastructure components

- offers substantial improvements for indexing:
  - Because the data and indexes are co-resident, separate RBAT index data sets are no longer needed.
  - Unplanned outages no longer require index rebuilds on subsequent startup.
  - Products can define indexes as needed to optimize subsequent retrieval.

- offers a faster and more robust archiving system

When a LOGSET fills, you have the option of saving its data in an external archive data set. The NGL creates a DBC-managed started procedure called a process to store the data (like the DOMBCOPY batch job used in previous releases, but much faster). You can use control parameters to set the number of archives to retain, how long to retain them, the maximum amount of DASD space to use, and so on. The NGL uses the same archive directory data set (COPYDIR) that earlier releases used.

**NOTE**

You can create a batch job to post-process archives as they are created. To do so, save the JCL in a member of the DOMPARMS or DCCPARM PDS in the DBC proc. Specify that member name in the archive member name field of the LOGSET definition. In response, the archive process submits the job after creating the archive file.

**Tips on setting up output groups**

Like earlier releases, this release organizes history data into output groups. Each output group defines the kind of data to store and the control parameters to use for NGL. Defining an output group creates an associated LOGSET named ssidLnnn, where ssid is the DOM ID and DBC SSID, and nnn is the output group’s number.

If you use LOGSET archiving, avoid allocating particularly small log files for the LOGSET. By balancing the number of log files and log file size, you can avoid excessive switch and archive processes. For example, allocating 40 20-MB log files would cause too many switch and archive processes, and allocating 8 100-MB log files would perform more efficiently than 2 400-MB files.

Also, consider using different output groups for different types of data. Writing data from some BMC products (in particular, the BMC APPTUNE product during unload processing) can proceed slowly to protect against data loss. In contrast, data written by DB2 proceeds at the normal rate. For maximum efficiency, you should segregate the BMC and DB2 data into separate output groups (LOGSETs). For example, separate APPTUNE interval accounting data from the SQL text, error, and exception data.
DB2 Product Configuration component

The DB2 Product Configuration component is hosted by the DBC and sets options for the products. DB2 Product Configuration replaces the Installation Assistant from earlier releases and the administration functions for editing DOMPLEX profiles and APPTUNE filters. Because the DB2 Product Configuration dialog lets you expand and collapse interface items, you can scroll through all of the configuration options on a single screen.

This component provides the following additional benefits:

- stores product options in XML-formatted option sets to accommodate cloning, sharing, and transporting
- supports batch deployment to different systems
- provides a generic editor for standardization across multiple products

The configuration data is kept in a DOMPLEX option set. The data is stored in XML format in a z/OS Distributed File Service zSeries File System (zFS) structure called a DATASTORE. You can use batch utilities to import or export these option sets. You can also clone, tailor, and propagate them to other systems as simple sequential files.

NOTE
You must define the zFS file system and mount it to z/OS during installation, which requires adequate zFS file system authority.

When running the performance products (and their DBC subsystems) on multiple LPARs of a SYSPLEX, you do not need a separate DB2 Product Configuration agent and DATASTORE on each DBC instance. Instead, you can set up a single designated server, and your performance products on other LPARs can use that server to obtain options. Thus, you can change options in one place for multiple products, removing the need to keep multiple copies in sync.

Upgrade considerations

Consider the following information if you are upgrading the Data Collector:

- During installation, if you choose to migrate from a previous version of the Data Collector, the STATUS VSAM data set will be converted to an XML document.
- The DOMDMDSN DOPTS module is no longer used.
- The CUSTOM VSAM data set is now a PDS and is maintained with SMP/E, which makes it easier to apply maintenance to the Data Collector reports.
A new installation option lets you reuse tables that were distributed with a previous version of the product. This feature allows data sharing members to support different versions of the product.

The PSS2ssid members used by common explain are now customized in the UBBSSAMP data set, instead of the target BBSAMP data set.

Some data set allocations have changed in several product CLISTs, such as DOMCLIST, PSSCLIST, and SPDCLIST.

The hlq.BMCPSWD password data set is now allocated on the new BMCPSWD DD statement in product CLISTs and started tasks, instead of on the STEPLIB DD statement, so the password data set does not have to APF authorized.

Installation

Download the latest version of the <name> by using the Electronic Product Distribution (EPD) facility. You can navigate to the EPD page from the Customer Support website at http://www.bmc.com/support.

NOTE

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

SQL Performance 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

Following are known installation errors:

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.

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.
FMIDSETs
For products that contain the ZDIG190 FMID as part of an FMIDSET, attempting to run an apply check job ($B75APCF or $B80APCP) or an apply job ($B76APLF or $B81APLP) might result in the following error:

— GIM24801S ** NO SYSMODS SATISFIED THE OPERANDS SPECIFIED ON THE APPLY COMMAND.

— GIM20501I APPLY PROCESSING IS COMPLETE. THE HIGHEST RETURN CODE WAS 12.

To address this issue, take the appropriate action as follows:

— If you have not yet generated the installation ($B) jobs, ensure that the Create FMIDSETs field on the Data Set Options panel is set to No (the default) before proceeding.

— If you have already generated the installation jobs and received the specified error, run the #D9 jobs to delete the data sets, and regenerate the JCL by using FMIDs instead of FMIDSETs.

BMC plans to correct this issue in the next release of the Installation System.

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.
Filter migration scenarios

During installation, you can choose to migrate from a previous release. If you select to migrate, the $C68DOM installation job reads the STATUS VSAM dataset from the previous release and converts the DOMPLEX profiles and filter profiles into option sets. The following scenarios show examples of how filters from earlier versions of APPTUNE migrate to version 10.1. These scenarios use the following terms:

- **star row**
  a filter row where all qualifiers are * (global default row)

- **DB2 row**
  a filter row where the DB2 name has a value and all other qualifiers are * (DB2 default row)

**Scenario 1**

If the previous DOMPLEX profile referenced a filter for a DB2 subsystem, the new DOMPLEX option set references that. A filter option set is created to have all the same rows as the original filter. If the original filter did not have a DB2 row, one is added that matches the DB2 subsystem’s original default collection settings from the DOMPLEX profile. The end result is that initial monitoring settings remain the same.

If multiple DOMPLEXes include the same DB2, each with different default collection options, and each with the same default filter that does not include a star or DB2 row, the DB2 row generated will be from the first DOMPLEX encountered, and a message is generated when the other DOMPLEXes are encountered.

**Scenario 2**

The previous version DOMPLEX profile DB2 definition did not specify an initial filter. The migration creates a filter name in the format #domplex, where domplex is the last seven characters of DOMPLEX name (If the DOMPLEX name is less than 8 characters the entire name is used.). The migration creates the #domplex filter definition that includes a DB2 row with the default collection settings for that DB2 from the old DOMPLEX. The end result is that initial monitoring settings remain the same.

If there are multiple DOMPLEXes that end with the same seven characters, and include the same DB2 with different collection options, the DB2 row generated will be from the first DOMPLEX with the common seven letters encountered, and a message is generated when the other DOMPLEXes with the same last seven characters are encountered.
**Scenario 3**

If a filter is defined in a previous version that is not specified as the initial filter for any DB2 definitions on any DOMPLEX. The filter is converted without change.

In APPTUNE 6.2, if there was a filter that was not the default filter, but is implemented by the APPFILT command, and does not have a star row or applicable DB2 row, the default collection options from the DOMPLEX were in effect for any activity not covered by rows in the filter. For APPTUNE 10.1, collection is skipped for any activity not covered by the rows in the filter. So under this condition you should examine these filters and ensure they have a star row or DB2 row that has the desired settings.

**Maintenance requirements**

After you install APPTUNE for DB2, perform the following steps:

1. Apply all of the maintenance on the SMP/E service file for the products and components that you installed by using either the Custom or Express installation method.

2. Download the following additional, required PTFs from eFix PTF Distribution Services (eFix) and apply the PTFs before you run Customization:

   - BPJ0419
   - BPU3483

   To access or eFix PTF Distribution Services, go to [http://apps.bmc.com/support/efix.cgi](http://apps.bmc.com/support/efix.cgi).

3. After customization, obtain additional maintenance by using either eFix or BMC Internet Service Retrieval (ISR).
Version and FMID information

This release of APPTUNE 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>APPTUNE for DB2</td>
<td>10.1.00</td>
<td>ZIODA10</td>
</tr>
<tr>
<td>BMC Password Security System</td>
<td>3.2.00</td>
<td>BBAPW32</td>
</tr>
<tr>
<td>Common Explain (PSS)</td>
<td>10.1.00</td>
<td>ZPSSA10</td>
</tr>
<tr>
<td>Common Infrastructure (DAA)</td>
<td>10.1.00</td>
<td>ZDOMA10</td>
</tr>
<tr>
<td>DB2 Assist Services (DAS)</td>
<td>10.1.00</td>
<td>ZDASA10</td>
</tr>
<tr>
<td>DB2 Component Services (DBC)</td>
<td>10.1.00</td>
<td>ZDBCA10</td>
</tr>
<tr>
<td>DB2 Product Configuration</td>
<td>10.1.00</td>
<td>ZLGCA10</td>
</tr>
<tr>
<td>DB2 Solution Common Code (SCC)</td>
<td>10.1.00</td>
<td>ZSCCA10</td>
</tr>
<tr>
<td>Dignus C runtimes and C++ objects</td>
<td>1.9.00</td>
<td>ZDIG190</td>
</tr>
<tr>
<td>Dynamic Area Manager</td>
<td>3.2.01</td>
<td>BBGAD41</td>
</tr>
<tr>
<td>Install Execution Code (AIN)</td>
<td>3.1.00</td>
<td>ZAIN031</td>
</tr>
<tr>
<td>Next Generation Logger (NGL)</td>
<td>10.1.00</td>
<td>ZNGLA10</td>
</tr>
<tr>
<td>Product Customization</td>
<td>2.2.00</td>
<td>ZBBA220</td>
</tr>
<tr>
<td>Rules Engine</td>
<td>1.0.00</td>
<td>ZMRE100</td>
</tr>
<tr>
<td>RTCS kernel</td>
<td>1.2.00</td>
<td>ZOSZ120</td>
</tr>
<tr>
<td>Runtime Component System (RTCS) C Library</td>
<td>1.2.00</td>
<td>LOSZ120</td>
</tr>
<tr>
<td>SAS/C Resident Library</td>
<td>7.1.00</td>
<td>ASAR71C</td>
</tr>
<tr>
<td>User Interface Middleware Common Services (USC)</td>
<td>5.3.00</td>
<td>ZUSC053</td>
</tr>
</tbody>
</table>

The preceding table contains the FMIDs for APPTUNE 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 APPTUNE, 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.

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**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`

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**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.

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**Support status**

BMC supports the following versions of solutions and products in the SQL Performance:
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. 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.