



**Program Directory for
IBM DB2 Query Monitor for z/OS**

V03.03.00

Program Number 5655-V42

FMIDs H238330, H238KN0, H25F132

for Use with
z/OS

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Note

Before using this information and the product it supports, be sure to read the general information under 7.0, "Notices" on page 34.

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1.0 Introduction

This program directory is intended for system programmers who are responsible for program installation and maintenance. It contains information about the material and procedures associated with the installation of IBM DB2 Query Monitor for z/OS. This publication refers to IBM DB2 Query Monitor for z/OS as DB2 Query Monitor.

The Program Directory contains the following sections:

- 2.0, “Program Materials” on page 5 identifies the basic program materials and documentation for DB2 Query Monitor.
- 3.0, “Program Support” on page 9 describes the IBM support available for DB2 Query Monitor.
- 4.0, “Program and Service Level Information” on page 11 lists the APARs (program level) and PTFs (service level) that have been incorporated into DB2 Query Monitor.
- 5.0, “Installation Requirements and Considerations” on page 13 identifies the resources and considerations that are required for installing and using DB2 Query Monitor.
- 6.0, “Installation Instructions” on page 24 provides detailed installation instructions for DB2 Query Monitor. It also describes the procedures for activating the functions of DB2 Query Monitor, or refers to appropriate publications.

Before installing DB2 Query Monitor, read the *CBPDO Memo To Users* and the *CBPDO Memo To Users Extension* that are supplied with this program in softcopy format and this program directory; then keep them for future reference. Section 3.2, “Preventive Service Planning” on page 9 tells you how to find any updates to the information and procedures in this program directory.

DB2 Query Monitor is supplied in a Custom-Built Product Delivery Offering (CBPDO, 5751-CS3). The program directory that is provided in softcopy format on the CBPDO tape is identical to the hardcopy format if one was included with your order. All service and HOLDDATA for DB2 Query Monitor are included on the CBPDO tape.

Do not use this program directory if you install DB2 Query Monitor with a SystemPac or ServerPac. When you use one of those offerings, use the jobs and documentation supplied with the offering. The offering will point you to specific sections of this program directory as needed.

1.1 DB2 Query Monitor Description

IBM DB2 Query Monitor for z/OS, V3.3 (5655-V42) offers current and historical views of query activity throughout DB2 subsystems. DB2 Query Monitor gives you the ability to efficiently customize and tune your SQL workload and DB2 objects to validate the effectiveness of your DB2 subsystems and improve overall performance. DB2 Query Monitor also offers you extensive choices so you can determine what monitoring information you will gather, and when.

DB2 Query Monitor for z/OS enables you to identify problem SQL activity and applications, allowing you to focus your efforts on improvement. DB2 Query Monitor for z/OS enables you to do the following:

Up and running

- Provides compatibility of the Consolidation and Analysis Engine (CAE) server with previous maintenance levels of the DB2 Query Monitor subsystems and IPSF clients to help you rollout maintenance gradually across your data centers, particularly when there are many DB2 Query Monitor subsystems on different LPARs.
- Removes requirement for CAE to be APF authorized.
- Security support for DB2 connection by using Resource Recovery Services Attachment Facility (RRSAF) instead of Call Attach Facility. This change enables DB2 authorization checking based on the user that is logged in when accessing remote data sharing members through the CAE.

Performance / Integration

- Enable deeper performance analysis through the ability to request a collection of host variable values for selected SQL statements.
 - Ability to view the SQL text and captured host variables in the web interface.
- Reduce CPU by allowing detailed object collection by workload rather than subsystem wide.
- Allow DB2 Query Monitor data to be displayed directly in the OMEGAMON interface and data repositories for improved historical analysis.
- Integration with IBM Data Server manager to simplify the process of query tuning. IBM Data Server Manager (DSM) integrates various browser client interfaces, such as the DB2 Query Workload Tuner, on a single server and provides a single interface that users can access to work with information about their DB2 subsystems.

Usability

- Perform dynamic configuration changes without requiring that you stop and start the started task.
- New ISPF panels provide line commands in a pop-up window for ease of use and to provide more space to display results.
- Ability to limit the collection of metrics to dynamic SQL, static SQL, or both. This allows those who are not interested in gathering static SQL metrics to gather statistics only on dynamic SQL.

Improved offload and data management support

- Simplified support to store Query Monitor data in DB2 tables to allow you to retain DB2 Query Monitor performance data on a consolidated, centralized DB2 system away from production and potentially keep the data longer for more historical analysis.
- Ability to load DB2 Query Monitor data directly to the DB2 Analytics Accelerator (requires IBM DB2 Analytics Loader for z/OS, 2.1).
- Collect data without the requirement to be offloaded to tables, offload only certain intervals for long-term storage, and better management for noncritical interval data.
- Optional LOAD card enhancement enables you to choose not to place the target table in COPY PENDING through new NOCOPYPEND. Additionally, the INDEX(ALL) clause for the STATISTICS eliminates the need to do a RUNSTATS after you do a load because it keeps the statistics up to date.

This new option has been added to enable you to collect index statistics when user-defined indexes have been added to the performance history schema.

- Performance history database ("Offload") improvements that enable reports, such as the CAE Archive Feature, to reproduce all of the data displayed in ISPF panels.

Enhanced reporting

- Several new reporting options have been added, including:
 - Summarized interval statistics, enabling you to quickly and easily assess a particular interval that is out of the ordinary and needs further investigation:
 - Addition of DB2 metrics, including total elapsed time, total CPU time, total GETPAGES, total delay time, and total SQL calls.
 - Ability for users to make exceptions to the RETAIN parameter by releasing specific intervals or to prevent an interval from rolling off using RELEASE or KEEP, or delete empty intervals and corresponding interval performance history files.
 - Newest intervals are now sorted at the top of the display for ease of use.
 - Several new summarizations to allow clients to summarize DB2 Query Monitor data by jobname, connection name, connection type, DB2 schema, stored procedures, DB2 parallelism, collection ID, and so on. This enables users to view and see the data in the organization they most want.
 - Additional reporting enhancements include:
 - Information about the consistency token and package version associated with SQL activity.
 - DB2 Analytics Accelerator eligibility metrics when browsing exceptions to locate exception activity that did not run so it can be made eligible in the future.
 - More granular detail at collection level to allow drill downs from DB2 operational summaries provides view summary counts for a single DB2 Collection ID.
 - Additional summary information has been added to help users find out more about negative SQLCODE activity. The CORRID and CORRNAME grouping commands, line commands, and columns provide users with additional information about their negative SQLCODE activity.
 - Ability to include specific SQLCODEs you want to see instead of excluding numerous unwanted codes.
 - CAE Browser Client enhancements, including:
 - Improved pie charts.
 - Better support to remember current user configuration.
 - Improved top-n most expensive SQL reporting.
 - Improved LOAD progress indicator that now allows access to history of recent messages instead of just the most recent one.

1.2 DB2 Query Monitor FMIDs

DB2 Query Monitor consists of the following FMIDs:

H238330
H238KN0
H25F132

Note!

FMID H25F132 contains common code and is shared among multiple IBM DB2 tools and is, therefore, made available with multiple DB2 tools. The parent product for H25F132 is DB2 Change Accumulation for z/OS, V01.03.00 (program number 5655-F55). When installing one of the tools that require the use of the FEC Common Code, it is highly recommended that FEC be brought up to current maintenance level at the time of installation. If not, unpredictable results may occur.

2.0 Program Materials

An IBM program is identified by a program number. The program number for DB2 Query Monitor is 5655-V42.

Basic Machine-Readable Materials are materials that are supplied under the base license and are required for the use of the product.

The program announcement material describes the features supported by DB2 Query Monitor. Ask your IBM representative for this information if you have not already received a copy.

2.1 Basic Machine-Readable Material

The distribution medium for this program is physical media or downloadable files. This program is in SMP/E RELFILE format and is installed by using SMP/E. See 6.0, "Installation Instructions" on page 24 for more information about how to install the program.

You can find information about the physical media for the basic machine-readable materials for DB2 Query Monitor in the *CBPDO Memo To Users Extension*.

Figure 1 describes the program file content for DB2 Query Monitor. You can refer to the *CBPDO Memo To Users Extension* to see where the files reside on the tape.

Notes:

1. The data set attributes in this table must be used in the JCL of jobs that read the data sets. However, because the data sets are in IEBCOPY unloaded format, their actual attributes might be different.
2. If any RELFILEs are identified as PDSEs, ensure that SMPTLIB data sets are allocated as PDSEs.

Figure 1 (Page 1 of 2). Program File Content

| Name | O R G | R E C F M | L R E C L | BLK SIZE |
|----------------|----------------------|----------------------------------|----------------------------------|---------------------|
| SMPMCS | SEQ | FB | 80 | 8800 |
| IBM.H238330.F1 | PDS | FB | 80 | 8800 |
| IBM.H238330.F2 | PDSE | U | 0 | 6144 |
| IBM.H238330.F3 | PDS | FB | 80 | 8800 |
| IBM.H238330.F4 | PDS | FB | 80 | 8800 |
| IBM.H238330.F5 | PDS | FB | 80 | 8800 |

Figure 1 (Page 2 of 2). Program File Content

| Name | O R G | R E C F M | L R E C L | BLK SIZE |
|-----------------|----------------------|----------------------------------|----------------------------------|---------------------|
| IBM.H238330.F6 | PDS | FB | 80 | 8800 |
| IBM.H238330.F7 | PDS | VB | 256 | 27920 |
| IBM.H238330.F8 | PDS | VB | 256 | 27998 |
| IBM.H238330.F9 | PDS | VB | 256 | 27920 |
| IBM.H238330.F10 | PDS | VB | 256 | 27920 |
| IBM.H238330.F11 | PDS | VB | 256 | 27920 |
| IBM.H238330.F12 | PDS | FB | 80 | 8800 |
| IBM.H238330.F13 | PDS | VB | 6160 | 27998 |
| IBM.H238330.F14 | PDS | FB | 80 | 8800 |
| IBM.H238330.F15 | PDS | VB | 251 | 32634 |
| IBM.H238330.F16 | PDS | FB | 80 | 8800 |
| IBM.H238330.F17 | PDS | FB | 79 | 32627 |
| IBM.H238330.F18 | PDS | FB | 80 | 8800 |

Figure 2. Program File Content for DB2 Query Monitor Standard Edition Identifier

| Name | O R G | R E C F M | L R E C L | BLK SIZE |
|----------------|----------------------|----------------------------------|----------------------------------|---------------------|
| SMPMCS | SEQ | FB | 80 | 8800 |
| IBM.H238KN0.F1 | PDS | FB | 80 | 8800 |
| IBM.H238KN0.F2 | PDS | U | 0 | 6144 |
| IBM.H238KN0.F3 | PDS | FB | 80 | 8800 |

Figure 3 (Page 1 of 2). Program File Content for FEC Common code

| Name | O R G | R E C F M | L R E C L | BLK SIZE |
|-------------|----------------------|----------------------------------|----------------------------------|---------------------|
| SMPMCS | SEQ | FB | 80 | 8800 |

Figure 3 (Page 2 of 2). Program File Content for FEC Common code

| Name | O R G | R E C F M | L R E C L | BLK SIZE |
|----------------|-------------|-----------------------|-----------------------|-------------|
| IBM.H25F132.F1 | PDS | FB | 80 | 3120 |
| IBM.H25F132.F2 | PDS | U | 0 | 6144 |
| IBM.H25F132.F3 | PDS | FB | 80 | 27920 |
| IBM.H25F132.F4 | PDS | FB | 80 | 27920 |
| IBM.H25F132.F5 | PDS | FB | 80 | 27920 |
| IBM.H25F132.F6 | PDS | FB | 80 | 27920 |

2.2 Optional Machine-Readable Material

No optional machine-readable materials are provided for DB2 Query Monitor.

2.3 Program Publications

The following sections identify the basic publications for DB2 Query Monitor.

Figure 4 identifies the basic unlicensed publications for DB2 Query Monitor. Those that are in softcopy format publications can be obtained from the IBM Publications Center website at:
<http://www.ibm.com/shop/publications/order/>

Figure 4. Basic Material: Unlicensed

| Publication Title | Form Number | Media Format |
|--|----------------|---|
| IBM DB2 Query Monitor for z/OS License Information | GC19-4142 | http://www.ibm.com/software/sla/sladb.nsf |
| IBM DB2 Query Monitor for z/OS User's Guide | SC27-8803 | http://www.ibm.com/support/docview.wss?uid=swg27020942 |

2.3.1 Optional Program Publications

No optional publications are provided for DB2 Query Monitor.

2.4 Program Source Materials

No program source materials or viewable program listings are provided for DB2 Query Monitor.

2.5 Publications Useful During Installation

You might want to use the publications listed in Figure 5 during the installation of DB2 Query Monitor.

Figure 5. Publications Useful During Installation

| Publication Title | Form Number | Media Format |
|--|--------------------|---|
| <i>IBM SMP/E for z/OS User's Guide</i> | SA23-2277 | http://www.ibm.com/shop/publications/order/ |
| <i>IBM SMP/E for z/OS Commands</i> | SA23-2275 | http://www.ibm.com/shop/publications/order/ |
| <i>IBM SMP/E for z/OS Reference</i> | SA23-2276 | http://www.ibm.com/shop/publications/order/ |
| <i>IBM SMP/E for z/OS Messages, Codes, and Diagnosis</i> | GA32-0883 | http://www.ibm.com/shop/publications/order/ |

3.0 Program Support

This section describes the IBM support available for DB2 Query Monitor.

3.1 Program Services

Contact your IBM representative for specific information about available program services.

3.2 Preventive Service Planning

Before you install DB2 Query Monitor, make sure that you have reviewed the current Preventive Service Planning (PSP) information. Review the PSP Bucket for General Information, Installation Documentation, and the Cross Product Dependencies sections. For the Recommended Service section, instead of reviewing the PSP Bucket, it is recommended you use the IBM.ProductInstall-RequiredService fix category in SMP/E to ensure you have all the recommended service installed. Use the **FIXCAT(IBM.ProductInstall-RequiredService)** operand on the **APPLY CHECK** command. See 6.1.12, “Perform SMP/E APPLY” on page 30 for a sample APPLY command.

If you obtained DB2 Query Monitor as part of a CBPDO, HOLDDATA is included.

If the CBPDO for DB2 Query Monitor is older than two weeks by the time you install the product materials, you can obtain the latest PSP Bucket information by going to the following website:

<http://www14.software.ibm.com/webapp/set2/psearch/search?domain=psp>

You can also use S/390 SoftwareXcel or contact the IBM Support Center to obtain the latest PSP Bucket information.

For program support, access the Software Support Website at <http://www-01.ibm.com/software/support/>.

PSP Buckets are identified by UPGRADEs, which specify product levels; and SUBSETs, which specify the FMIDs for a product level. The UPGRADE and SUBSET values for DB2 Query Monitor are included in Figure 6.

| UPGRADE | SUBSET | Description |
|---------|---------|---|
| 5655V42 | H238330 | DB2 Query Monitor |
| 5697103 | H238KN0 | DB2 Query Monitor Standard Edition Identifier |
| 5655F55 | H25F132 | FEC Common Code |

3.3 Statement of Support Procedures

Report any problems which you feel might be an error in the product materials to your IBM Support Center. You may be asked to gather and submit additional diagnostics to assist the IBM Support Center in their analysis.

Figure 7 on page 10 identifies the component IDs (COMPID) for DB2 Query Monitor.

| <i>Figure 7. Component IDs</i> | | | |
|--------------------------------|---------------|---|-----------------------|
| FMID | COMPID | Component Name | RETAIN Release |
| H238330 | 5655E6701 | DB2 Query Monitor | 330 |
| H238KN0 | 5655E6701 | DB2 Query Monitor Standard Edition Identifier | KN0 |
| H25F132 | 5655F5504 | FEC Common Code | 132 |

4.0 Program and Service Level Information

This section identifies the program and relevant service levels of DB2 Query Monitor. The program level refers to the APAR fixes that have been incorporated into the program. The service level refers to the PTFs that have been incorporated into the program.

4.1 Program Level Information

The following APAR fixes against previous releases of DB2 Query Monitor have been incorporated into this release. They are listed by FMID.

- FMID H238320

| | | | |
|---------|---------|---------|---------|
| PI04726 | PI11622 | PI17693 | PI23297 |
| PI04980 | PI11648 | PI18076 | PI23322 |
| PI05901 | PI11750 | PI18231 | PI23375 |
| PI06611 | PI12395 | PI18231 | PI23460 |
| PI06621 | PI12678 | PI18233 | PI23620 |
| PI06893 | PI12701 | PI18233 | PI23632 |
| PI06917 | PI12910 | PI18787 | PI23834 |
| PI07066 | PI13131 | PI19342 | PI23944 |
| PI07434 | PI13156 | PI19743 | PI24557 |
| PI07448 | PI13491 | PI19811 | PI24590 |
| PI07470 | PI13726 | PI20157 | PI27125 |
| PI07617 | PI14102 | PI20719 | PI27548 |
| PI07924 | PI14292 | PI20986 | PI27777 |
| PI08103 | PI14385 | PI21008 | PI27842 |
| PI08236 | PI14744 | PI21192 | PI28103 |
| PI08321 | PI14761 | PI21193 | PI28109 |
| PI08540 | PI14762 | PI21343 | PI28333 |
| PI08663 | PI14843 | PI21544 | PI28893 |
| PI08909 | PI14980 | PI21578 | PI28907 |
| PI09056 | PI15200 | PI21660 | PI29369 |
| PI09260 | PI15665 | PI21663 | PI30097 |
| PI09574 | PI16169 | PI21779 | PI30194 |
| PI09658 | PI16198 | PI21801 | PI30306 |
| PI09663 | PI16207 | PI21827 | PI30370 |
| PI09804 | PI16258 | PI21980 | PI31411 |
| PI09805 | PI16526 | PI22006 | PI32608 |
| PI10048 | PI17098 | PI22009 | PI32985 |
| PI10735 | PI17328 | PI22528 | PI33201 |
| PI11049 | PI17331 | PI22593 | PI33220 |
| PI11207 | PI17493 | PI22838 | PI33536 |
| PI11320 | PI17576 | PI23243 | PI33588 |

| | | | |
|---------|---------|---------|---------|
| PI33691 | PI40262 | PI49224 | PI58658 |
| PI34116 | PI40270 | PI50109 | PI59356 |
| PI34187 | PI40566 | PI50402 | PI59520 |
| PI34601 | PI41052 | PI51139 | PI59584 |
| PI34602 | PI41575 | PI51418 | PI59777 |
| PI34733 | PI41796 | PI51514 | PI59920 |
| PI35118 | PI42661 | PI51725 | PI60745 |
| PI35704 | PI42745 | PI52249 | PI61282 |
| PI35812 | PI43057 | PI52682 | PI61708 |
| PI36419 | PI43172 | PI52777 | PI61752 |
| PI36626 | PI44694 | PI52840 | PI62075 |
| PI36633 | PI45302 | PI53552 | PI62568 |
| PI36709 | PI45768 | PI54969 | PI62800 |
| PI36826 | PI45866 | PI55041 | PI66668 |
| PI37407 | PI46043 | PI56652 | PM95549 |
| PI37611 | PI46825 | PI56891 | PM95578 |
| PI37726 | PI46978 | PI57085 | PM96410 |
| PI38068 | PI47343 | PI57741 | PM96770 |
| PI38162 | PI47571 | PI57776 | PM97633 |
| PI38676 | PI47626 | PI57787 | PM98692 |
| PI38698 | PI47667 | PI58176 | PM98765 |
| PI39673 | PI47754 | PI58483 | PM99276 |
| PI40194 | PI48453 | PI58599 | PM99290 |
| | | | PM99568 |

4.2 Service Level Information

No PTFs against this release of DB2 Query Monitor have been incorporated into the product package.

Frequently check the DB2 Query Monitor PSP Bucket for HIPER and SPECIAL attention PTFs against all FMIDs that you must install. You can also receive the latest HOLDDATA, then add the **FIXCAT(IBM.PRODUCTINSTALL-REQUIREDSERVICE)** operand on your APPLY CHECK command. This will allow you to review the recommended and critical service that should be installed with your FMIDs.

5.0 Installation Requirements and Considerations

The following sections identify the system requirements for installing and activating DB2 Query Monitor. The following terminology is used:

- *Driving system*: the system on which SMP/E is executed to install the program.
The program might have specific operating system or product level requirements for using processes, such as binder or assembly utilities during the installation.
- *Target system*: the system on which the program is configured and run.
The program might have specific product level requirements, such as needing access to the library of another product for link-edits. These requirements, either mandatory or optional, might directly affect the element during the installation or in its basic or enhanced operation.

In many cases, you can use a system as both a driving system and a target system. However, you can make a separate IPL-able clone of the running system to use as a target system. The clone must include copies of all system libraries that SMP/E updates, copies of the SMP/E CSI data sets that describe the system libraries, and your PARMLIB and PROCLIB.

Use separate driving and target systems in the following situations:

- When you install a new level of a product that is already installed, the new level of the product will replace the old one. By installing the new level onto a separate target system, you can test the new level and keep the old one in production at the same time.
- When you install a product that shares libraries or load modules with other products, the installation can disrupt the other products. By installing the product onto a separate target system, you can assess these impacts without disrupting your production system.

5.1 Driving System Requirements

This section describes the environment of the driving system required to install DB2 Query Monitor.

5.1.1 Machine Requirements

The driving system can run in any hardware environment that supports the required software.

5.1.2 Programming Requirements

Figure 8. Driving System Software Requirements

| Program Number | Product Name | Minimum VRM | Minimum Service Level will satisfy these APARs | Included in the shipped product? |
|----------------|--------------|---------------------|--|----------------------------------|
| 5650-ZOS | z/OS | V02.01.00 or higher | N/A | No |

Note: SMP/E is a requirement for Installation and is an element of z/OS but can also be ordered as a separate product, 5655-G44, minimally V03.06.00.

Note: Installation might require migration to new z/OS releases to be service supported. See http://www-03.ibm.com/systems/z/os/zos/support/zos_eos_dates.html.

5.2 Target System Requirements

This section describes the environment of the target system required to install and use DB2 Query Monitor.

DB2 Query Monitor installs in the DBS (P115) SREL.

5.2.1 Machine Requirements

The target system can run in any hardware environment that supports the required software.

5.2.2 Programming Requirements

5.2.2.1 Installation Requisites: Installation requisites identify products that are required and *must* be present on the system or products that are not required but *should* be present on the system for the successful installation of this product.

Mandatory installation requisites identify products that are required on the system for the successful installation of this product.

| <i>Figure 9. Target System Mandatory Installation Requisites</i> | | | | |
|--|--|--------------------|---|---|
| Program Number | Product Name | Minimum VRM | Minimum Service Level will satisfy these APARs | Included in the shipped product? |
| N/A | FEC Common Code (FMID H25F132) with PTF's UK95204, UK05748 | N/A | N/A | Yes * |

Note: *H25F132 has been included in this shipment for your convenience. You may already have this FMID from another product which ships this FMID. Please ensure that you have the current maintenance level installed.

Note: Installation might require migration to new z/OS releases to be service supported. See http://www-03.ibm.com/systems/z/os/zos/support/zos_eos_dates.html.

Conditional installation requisites identify products that are *not* required for successful installation of this product but can resolve such things as certain warning messages at installation time.

DB2 Query Monitor has no conditional installation requisites.

5.2.2.2 Operational Requisites: Operational requisites are products that are required and *must* be present on the system or products that are not required but *should* be present on the system for this product to operate all or part of its functions.

Mandatory operational requisites identify products that are required for this product to operate its basic functions.

| <i>Figure 10 (Page 1 of 2). Target System Mandatory Operational Requisites</i> | |
|--|---|
| Program Number | Product Name and Minimum VRM/Service Level |
| 5639-OLC | IBM DB2 Data Access Common Collector for z/OS V01.01.00 (FMID HCQC110 at current maintenance level) |
| Any one of the following: | |
| 5655-V93 | IBM Tools Base for z/OS V01.05.00* |
| 5655-TC1 | IBM Tools Customizer for z/OS* |
| Any one of the following: | |
| 5605-DB2 | DB2 for z/OS V10.01.00 |
| 5697-P31 | DB2 for z/OS Value Unit Edition V10.01.00 |
| 5615-DB2 | DB2 for z/OS V11.01.00 |
| 5697-P43 | DB2 for z/OS Value Unit Edition V11.01.00 |

Figure 10 (Page 2 of 2). Target System Mandatory Operational Requisites

| Program Number | Product Name and Minimum VRM/Service Level |
|----------------|--|
| 5650-DB2 | DB2 for z/OS V12.01.00 |
| 5770-AF3 | DB2 for z/OS Value Unit Edition V12.01.00 |

Note: *FMID HTCZ110, which is delivered either with IBM Tools Base for z/OS V01.05.00 or earlier, or, IBM Tools Customizer for z/OS, is required to customize DB2 Query Monitor. Both IBM Tools Base for z/OS V01.05.00 and IBM Tools Customizer for z/OS are no-charge products that must be separately ordered.

Conditional operational requisites identify products that are *not* required for this product to operate its basic functions but are required at run time for this product to operate specific functions.

DB2 Query Monitor has no conditional operational requisites.

5.2.2.3 Toleration/Coexistence Requisites: Toleration/coexistence requisites identify products that must be present on sharing systems. These systems can be other systems in a multisystem environment (not necessarily sysplex), a shared DASD environment (such as test and production), or systems that reuse the same DASD environment at different time intervals.

DB2 Query Monitor has no toleration/coexistence requisites.

5.2.2.4 Incompatibility (Negative) Requisites: Negative requisites identify products that must *not* be installed on the same system as this product.

DB2 Query Monitor has no negative requisites.

5.2.3 DASD Storage Requirements

DB2 Query Monitor libraries can reside on all supported DASD types.

Figure 11 lists the total space that is required for each type of library.

Figure 11 (Page 1 of 2). Total DASD Space Required by DB2 Query Monitor

| Library Type | Total Space Required in 3390 Trks |
|--------------|------------------------------------|
| Target | 17249 tracks for DB2 Query Monitor |
| | 96 tracks for FEC Common Code |
| Distribution | 18597 tracks for DB2 Query Monitor |
| | 97 tracks for FEC Common Code |

Figure 11 (Page 2 of 2). Total DASD Space Required by DB2 Query Monitor

| Library Type | Total Space Required in 3390 Trks |
|--------------|-----------------------------------|
| HFS or zFS | 900 tracks |

Notes:

1. For non-RECFM U data sets, IBM recommends using system-determined block sizes for efficient DASD utilization. For RECFM U data sets, IBM recommends using a block size of 32760, which is most efficient from the performance and DASD utilization perspective.

2. Abbreviations used for data set types are shown as follows.

- U** Unique data set, allocated by this product and used by only this product. This table provides all the required information to determine the correct storage for this data set. You do not need to refer to other tables or program directories for the data set size.
- S** Shared data set, allocated by this product and used by this product and other products. To determine the correct storage needed for this data set, add the storage size given in this table to those given in other tables (perhaps in other program directories). If the data set already exists, it must have enough free space to accommodate the storage size given in this table.
- E** Existing shared data set, used by this product and other products. This data set is *not* allocated by this product. To determine the correct storage for this data set, add the storage size given in this table to those given in other tables (perhaps in other program directories). If the data set already exists, it must have enough free space to accommodate the storage size given in this table.

If you currently have a previous release of this product installed in these libraries, the installation of this release will delete the old release and reclaim the space that was used by the old release and any service that had been installed. You can determine whether these libraries have enough space by deleting the old release with a dummy function, compressing the libraries, and comparing the space requirements with the free space in the libraries.

For more information about the names and sizes of the required data sets, see 6.1.8, “Allocate SMP/E Target and Distribution Libraries” on page 28.

3. Abbreviations used for the file system path type are as follows.

- N** New path, created by this product.
- X** Path created by this product, but might already exist from a previous release.
- P** Previously existing path, created by another product.

4. All target and distribution libraries listed have the following attributes:

- The default name of the data set can be changed.
- The default block size of the data set can be changed.
- The data set can be merged with another data set that has equivalent characteristics.
- The data set can be either a PDS or a PDSE, except for ACQMLOAD and SCQMLOAD, which must be PDSEs.

5. All target libraries listed have the following attributes:

- These data sets can be SMS-managed, but they are not required to be SMS-managed.
- These data sets are not required to reside on the IPL volume.
- The values in the "Member Type" column are not necessarily the actual SMP/E element types that are identified in the SMPMCS.

6. All target libraries that are listed and contain load modules have the following attributes:

- These data sets can be in the LPA, but they are not required to be in the LPA.
- These data sets can be in the LNKLIST.
- These data sets are not required to be APF-authorized.
- DB2 Query Monitor requires that the SMPLTS data set must be a PDSE. If your existing SMPLTS is a PDS, you will need to allocate a new PDSE and copy your existing SMPLTS into it and then change the SMPLTS DDDEF entry to indicate the new PDSE data set.

The following figures describe the target and distribution libraries and file system paths required to install DB2 Query Monitor. The storage requirements of DB2 Query Monitor must be added to the storage required by other programs that have data in the same library or path.

Note: Use the data in these tables to determine which libraries can be merged into common data sets. In addition, since some ALIAS names may not be unique, ensure that no naming conflicts will be introduced before merging libraries.

Figure 12. Storage Requirements for DB2 Query Monitor Target Libraries

| Library DDNAME | Member Type | Target Volume | T Y P E | O R G | R E C O R D M | L R E C L | No. of 3390 Trks | No. of DIR Blks |
|-------------------|----------------|------------------|------------------|-------------|---------------------------------|-----------------------|---------------------------|--------------------------|
| SCQM DATV | DATA | any | U | PDS | VB | 6160 | 6 | 2 |
| SCQM DBRM | Macro | any | U | PDS | FB | 80 | 10 | 5 |
| SCQM DENU | DATA | any | U | PDS | FB | 80 | 30 | 10 |
| SCQM EXEC | EXEC | any | U | PDS | FB | 80 | 6 | 2 |
| SCQM FORM | DATA | any | U | PDS | VB | 251 | 10 | 2 |
| SCQM HENU | DATA | any | U | PDS | FB | 80 | 6 | 2 |
| SCQM LOAD | LMOD | any | U | PDSE | U | 0 | 300 | n/a |
| SCQM MENU | MSG | any | U | PDS | FB | 80 | 12 | 10 |
| SCQM NOTC | DATA | any | U | PDS | VB | 256 | 31 | 5 |
| SCQM PENU | Panel | any | U | PDS | FB | 80 | 262 | 100 |
| SCQM QRY | DATA | any | U | PDS | FB | 79 | 10 | 2 |
| SCQM SAMP | Sample | any | U | PDS | FB | 80 | 60 | 10 |
| SCQM TRAN | DATA | any | U | PDS | VB | 256 | 16500 | 5 |
| SCQM WENU | DATA | any | U | PDS | FB | 80 | 6 | 2 |

Figure 13. Storage Requirements for FEC Common Code Target Libraries

| Library DDNAME | Member Type | Target Volume | T Y P E | O R G | R E C F M | L R E C L | No. of 3390 Trks | No. of DIR Blks |
|----------------|-------------|---------------|------------------|-------------|-----------------------|-----------------------|---------------------------|--------------------------|
| SFECDBRM | Macro | any | S | PDS | FB | 80 | 6 | 5 |
| SFECLOAD | LMOD | any | S | PDS | U | 0 | 42 | 20 |
| SFECMENU | MSG | any | S | PDS | FB | 80 | 6 | 5 |
| SFECPENU | Panel | any | S | PDS | FB | 80 | 36 | 15 |
| SFECSAMP | Sample | any | S | PDS | FB | 80 | 6 | 2 |

Figure 14. DB2 Query Monitor File System Paths

| DDNAME | T Y P E | Path Name |
|---------|------------------|------------------------------------|
| SCQMBIN | N | /usr/lpp/IBM/cqm/v3r3/bin/IBM/ |
| SCQMCLS | N | /usr/lpp/IBM/cqm/v3r3/classes/IBM/ |
| SCQMLIB | N | /usr/lpp/IBM/cqm/v3r3/lib/IBM/ |

Figure 15 (Page 1 of 2). Storage Requirements for DB2 Query Monitor Distribution Libraries

| Library DDNAME | T Y P E | O R G | R E C F M | L R E C L | No. of 3390 Trks | No. of DIR Blks |
|----------------|------------------|-------------|-----------------------|-----------------------|---------------------------|--------------------------|
| ACQMBIN | U | PDS | VB | 256 | 45 | 5 |
| ACQMCLS | U | PDS | VB | 256 | 750 | 5 |
| ACQMDATV | U | PDS | VB | 6160 | 6 | 2 |
| ACQMDBRM | U | PDS | FB | 80 | 10 | 5 |
| ACQMDENU | U | PDS | FB | 80 | 30 | 10 |
| ACQMEXEC | U | PDS | FB | 80 | 6 | 2 |
| ACQMFORM | U | PDS | VB | 251 | 10 | 2 |
| ACQMHENU | U | PDS | FB | 80 | 6 | 2 |
| ACQMLIB | U | PDS | VB | 256 | 581 | 5 |
| ACQMLoad | U | PDSE | U | 0 | 300 | n/a |
| ACQMMENU | U | PDS | FB | 80 | 12 | 10 |

Figure 15 (Page 2 of 2). Storage Requirements for DB2 Query Monitor Distribution Libraries

| Library DDNAME | T Y P E | O R G | R E C F M | L R E C L | No. of 3390 Trks | No. of DIR Blks |
|-------------------|------------------|-------------|-----------------------|-----------------------|---------------------------|--------------------------|
| ACQMNOTC | U | PDS | VB | 256 | 3 | 2 |
| ACQMPENU | U | PDS | FB | 80 | 262 | 100 |
| ACQMQRV | U | PDS | FB | 79 | 10 | 2 |
| ACQMSAMP | U | PDS | FB | 80 | 60 | 10 |
| ACQMTRAN | U | PDS | VB | 256 | 16500 | 5 |
| ACQMWENU | U | PDS | FB | 80 | 6 | 2 |

Figure 16. Storage Requirements for FEC Common Code Distribution Libraries

| Library DDNAME | T Y P E | O R G | R E C F M | L R E C L | No. of 3390 Trks | No. of DIR Blks |
|-------------------|------------------|-------------|-----------------------|-----------------------|---------------------------|--------------------------|
| AFECDBRM | S | PDS | FB | 80 | 6 | 5 |
| AFECLOAD | S | PDS | U | 0 | 41 | 20 |
| AFECMENU | S | PDS | FB | 80 | 6 | 5 |
| AFECPENU | S | PDS | FB | 80 | 38 | 15 |
| AFECSAMP | S | PDS | FB | 80 | 6 | 2 |

5.3 FMIDs Deleted

Installing DB2 Query Monitor might result in the deletion of other FMIDs. To see which FMIDs will be deleted, examine the ++VER statement in the SMPMCS of the product.

If you do not want to delete these FMIDs at this time, install DB2 Query Monitor into separate SMP/E target and distribution zones.

Note: These FMIDs are not automatically deleted from the Global Zone. If you want to delete these FMIDs from the Global Zone, use the SMP/E REJECT NOFMID DELETFMID command. See the SMP/E Commands book for details.

5.4 Special Considerations

To effectively manage a suite of products with common components, you can install products into shared zones of a consolidated software inventory (CSI). Space requirements are reduced by installing products into shared CSI zones avoiding the duplication when different target zones, distribution zones, and data sets are used. Sharing a common set of zones also allows SMP/E to automatically manage IFREQ situations that exist across product components.

Consider the following items when using shared CSI zones.

- If you install a product into an existing CSI that contains a previous version of the same product, SMP/E deletes the previous version during the installation process. To maintain multiple product versions concurrently, they must be installed into separate CSI zones.
- If you install into an existing environment, you might need to remove data set references from the installation jobs to avoid errors because the data sets already exist.
- If you are installing into an existing environment that has the data sets already allocated, ensure sufficient space and directory blocks are available to support the requirement listed in the DASD tables. This might require you to reallocate some data sets to avoid x37 abends.

When DB2 Query Monitor is used with InfoSphere Guardium S-TAP for DB2 on z/OS, V9.1 (5655-STP) and later releases or InfoSphere Optim Workload Replay for DB2 for z/OS V2.1 (5655-O18), and later releases, they should all be installed in the same CSI target and distribution zones. This ensures the maintenance level of the products and collector components are at a compatible level. If they are installed in different CSI zones, you must check to ensure the maintenance levels of the product and collector component in each zone are at a compatible level.

The PSP bucket will have the most current information and must be reviewed before installation.

The following are the operating system and environment requirements for DB2 Query Monitor's mainframe components.

The monitoring agent, Query Monitor subsystem, ISPF Client, and CAE Agent run on a mainframe system and require the following operating system and environment:

- If you wish to run the CAE Server under USS, the most current maintenance of (31 bit) Java 1.6 (including all prerequisites) must be installed on your mainframe. 64-bit Java is not supported.

Note:

- This requirement applies to running the CAE Server under USS and is not required if you only plan to run the CAE Agent on an LPAR.
 - Java builds are available at: <http://www-03.ibm.com/systems/z/os/zos/tools/java/>
- z/OS support for Unicode

Note: The installation of z/OS support for Unicode with SMP/E is described in z/OS Planning for Installation (GA22-7504). Please refer to this document to find a complete list of the necessary steps.

Notes:

- DB2 Query Monitor supports IBM SQL Performance Analyzer (SQL/PA) Versions 2.1, 2.2 and higher.
- DB2 Query Monitor requires that the HFS in which the CAE Server components are installed must be on DASD that is shared between primary and backup servers (to support failover server capability in the CAE).
- The total capacity of the two ZFS or HFS file systems used by the CAE Server under USS (if you choose to run the server under USS) should be 1 GB (1200 cylinders).
- The user ID that the CAE Agent runs under must have an OMVS segment.

For CAE Server host:

- **Operating System:** Windows 7
- **RAM:** 1GB
- **Disk Space:** 1 GB free
- **Processor Speed:** Pentium IV, 1 GHz
- **Network Access Speed:** LAN, T1, DSL, or cable modem
- **Network Protocols:** TCP/IP
- **Display Requirements:** SVGA monitor; 256 colors or greater

For CAE Browser Client:

- Firefox 2.0.0.13 or later
- Internet Explorer V8 or later
- Adobe Flash Player 10

Note:

The disk space required by DB2 Query Monitor includes:

- 768 MB RAM, 1 GB for the CAE Server
- There are no disk space requirements for the CAE Browser Client

FEC Common code

FMID H25F132 Considerations:

It is strongly recommended to install all the DB2 tools that share the same common code FMID into the same SMP/E target and distribution zones. Several of the DB2 tools will be delivering common code, shipping the same FMID. You will only be required to install the common code FMID once. If you use different SMP/E target and distribution zones, you will have to install and maintain multiple instances of the same FMID, which will increase your maintenance and DASD requirements.

Note: DB2 Query Monitor uses the "partitioned data set extended" or PDSE format for our SCQMLOAD target library. There are some operational differences between PDS and PDSE data sets. The PDS format may be shared by more than one z/OS system and no special precautions are necessary. However the PDSE format may only be shared by z/OS systems which are part of a sysplex or which are connected using Global Resource Serialization or GRS ring. If z/OS systems share use of a PDSE data set outside of a sysplex or GRS environment, you may experience severe problems when the data set is updated. This is due to the fact that PDSE directory information is cached in storage, and when the data set is updated from one system the other system(s) have no knowledge of the update, and their cached directory information will be incorrect.

You must take care not to share the SCQMLOAD data set between z/OS systems unless they are in a sysplex or are connected by a GRS ring. If you need to share the content of the SCQMLOAD data set, a separate copy must be created for each z/OS system.

6.0 Installation Instructions

This chapter describes the installation method and the step-by-step procedures to install and to activate the functions of DB2 Query Monitor.

Please note the following points:

- If you want to install DB2 Query Monitor into its own SMP/E environment, consult the SMP/E manuals for instructions on creating and initializing the SMPCSI and the SMP/E control data sets.
- You can use the sample jobs that are provided to perform part or all of the installation tasks. The SMP/E jobs assume that all DDDEF entries that are required for SMP/E execution have been defined in appropriate zones.
- You can use the SMP/E dialogs instead of the sample jobs to accomplish the SMP/E installation steps.

6.1 Installing DB2 Query Monitor

6.1.1 SMP/E Considerations for Installing DB2 Query Monitor

Use the SMP/E RECEIVE, APPLY, and ACCEPT commands to install this release of DB2 Query Monitor.

6.1.2 SMP/E Options Subentry Values

The recommended values for certain SMP/E CSI subentries are shown in Figure 17. Using values lower than the recommended values can result in failures in the installation. DSSPACE is a subentry in the GLOBAL options entry. PEMAX is a subentry of the GENERAL entry in the GLOBAL options entry. See the SMP/E manuals for instructions on updating the global zone.

Figure 17. SMP/E Options Subentry Values

| Subentry | Value | Comment |
|----------|---------------|---|
| DSSPACE | (900,900,900) | 3390 DASD tracks |
| PEMAX | SMP/E Default | IBM recommends using the SMP/E default for PEMAX. |

6.1.3 SMP/E CALLLIBS Processing

DB2 Query Monitor uses the CALLLIBS function provided in SMP/E to resolve external references during installation. When DB2 Query Monitor is installed, ensure that DDDEFs exist for the following libraries:

- CSSLIB
- SCEECPP
- SCEELIB

- SCEELKED
- SCEELKEX
- SISPLOAD

Note: CALLLIBS uses the previous DDDEFs only to resolve the link-edit for DB2 Query Monitor. These data sets are not updated during the installation of DB2 Query Monitor.

6.1.4 Sample Jobs

The following sample installation jobs are provided as part of the product to help you install DB2 Query Monitor:

| <i>Figure 18. Sample Installation Jobs</i> | | | |
|--|-----------------|--|----------------|
| Job Name | Job Type | Description | RELFILE |
| CQMALA | SMP/E | Sample job to allocate and initialize a new SMP/E CSI data set (Optional) | IBM.H238330.F3 |
| CQMALB | SMP/E | Sample job to allocate SMP/E data sets (Optional) | IBM.H238330.F3 |
| CQMRECEV | RECEIVE | Sample RECEIVE job | IBM.H238330.F3 |
| CQMRECE1 | RECEIVE | Sample RECEIVE job for DB2 Query Monitor Standard Edition Identifier | IBM.H238KN0.F3 |
| CQMRECE2 | RECEIVE | Sample RECEIVE job for FEC Common Code | IBM.H238330.F3 |
| CQMALLOC | ALLOCATE | Sample job to allocate target and distribution libraries | IBM.H238330.F3 |
| CQMALLO2 | ALLOCATE | Sample job to allocate target and distribution libraries for FEC Common code | IBM.H238330.F3 |
| CQMZFS | ALLOMZFS | Sample job to allocate, create mountpoint, & mount zFS data sets (Optional) | IBM.H238330.F3 |
| CQMISMKD | MKDIR | Sample job to invoke the supplied CQMMKDIR EXEC to allocate file system paths | IBM.H238330.F3 |
| CQMDDDEF | DDDEF | Sample job to define SMP/E DDDEFs | IBM.H238330.F3 |
| CQMDDDE2 | DDDEF | Sample job to define SMP/E DDDEFs for FEC Common Code | IBM.H238330.F3 |
| CQMAPPLY | APPLY | Sample APPLY job | IBM.H238330.F3 |
| CQMAPPL1 | APPLY | Sample APPLY job for DB2 Query Monitor Standard Edition Identifier | IBM.H238KN0.F3 |
| CQMACCEP | ACCEPT | Sample ACCEPT job | IBM.H238330.F3 |
| CQMACCE1 | ACCEPT | Sample ACCEPT job for DB2 Query Monitor Standard Edition Identifier | IBM.H238KN0.F3 |

You can access the sample installation jobs by performing an SMP/E RECEIVE (refer to 6.1.7, “Perform SMP/E RECEIVE” on page 27) then copy the jobs from the RELFILES to a work data set for editing and submission. See Figure 18 to find the appropriate relfile data set.

You can also copy the sample installation jobs from the tape or product files by submitting the following job. Depending on your distribution medium, use either the //TAPEIN or the //FILEIN DD statement and comment out or delete the other statement. Before you submit the job, add a job card and change the lowercase parameters to uppercase values to meet the requirements of your site.

```
//STEP1 EXEC PGM=IEBCOPY
//SYSPRINT DD SYSOUT=*
//*****
/* Make the //TAPEIN DD statement below active if you install*
/* from a CBPDO tape by uncommenting the DD statement below. *
//*****
/*TAPEIN DD DSN=IBM.H238330.F3,UNIT=tunit,
/* VOL=SER=volser,LABEL=(x,SL),
/* DISP=(OLD,KEEP)
/*TAPEIN2 DD DSN=IBM.H238KN0.F3.,UNIT=tunit,
/* VOL=SER=volser,LABEL=(x,SL),
/* DISP=(OLD,KEEP)
//*****
/* Make the //TAPEIN DD statement below active if you install*
/* from a product tape received outside the CBPDO process *
/* (using the optional SMP/E RECEIVE job) by uncommenting *
/* the DD statement below. *
//*****
/*TAPEIN DD DSN=IBM.H238330.F3,UNIT=tunit,
/* VOL=SER=238330,LABEL=(4,SL),
/* DISP=(OLD,KEEP)
/*TAPEIN2 DD DSN=IBM.H238KN0.F3,UNIT=tunit,
/* VOL=SER=238KN0,LABEL=(4,SL),
/* DISP=(OLD,KEEP)
//*****
/* Make the //FILEIN DD statement below active for *
/* downloaded DASD files. *
//*****
/*FILEIN DD DSN=IBM.H238330.F3,UNIT=SYSALLDA,DISP=SHR,
/* VOL=SER=filevol
/*FILEIN2 DD DSN=IBM.H238KN0.F3.,UNIT=SYSALLDA,DISP=SHR,
/* VOL=SER=filevol
//OUT DD DSNAME=jc1-library-name,
// DISP=(NEW,CATLG,DELETE),
// VOL=SER=dasdvol,UNIT=SYSALLDA,
// SPACE=(TRK,(20,10,5))
//SYSUT3 DD UNIT=SYSALLDA,SPACE=(CYL,(1,1))
//SYSIN DD *
COPY INDD=xxxxIN,OUTDD=OUT
/*
```

See the following information to update the statements in the previous sample:

TAPEIN:

tunit is the unit value that matches the product package.

volser is the volume serial that matches the product package.

x is the tape file number that indicates the location of the data set name on the tape.

See the documentation that is provided by CBPDO for the location of IBM.H238330.F3 and IBM.H238KN0.F3 are on the tapes.

If using FILEIN/FILEIN2:

filevol is the volume serial of the DASD device where the downloaded files reside.

OUT:

jcl-library-name is the name of the output data set where the sample jobs are stored.

dasdvol is the volume serial of the DASD device where the output data set resides.

SYSIN:

xxxxIN is either TAPEIN or FILEIN depending on your input DD statement.

yyyyIN is either TAPEIN2 or FILEIN2 depending on your input DD statement.

6.1.5 Allocate SMP/E CSI (Optional)

If you are using an existing CSI, do not execute this job.

If you are allocating a new SMP/E data set for this install, edit and submit sample job CQMALA to allocate the SMP/E data set for DB2 Query Monitor. Consult the instructions in the sample job for more information.

Expected Return Codes and Messages: You will receive a return code of 0 if this job runs correctly.

6.1.6 Initialize CSI zones (Optional)

If you are using an existing CSI, do not execute this job.

Edit and submit sample job CQMALB to initialize SMP/E zones for DB2 Query Monitor. Consult the instructions in the sample job for more information.

Expected Return Codes and Messages: You will receive a return code of 0 if this job runs correctly.

6.1.7 Perform SMP/E RECEIVE

If you have obtained DB2 Query Monitor as part of a CBPDO, use the RCVPDO job in the CBPDO RIMLIB data set to receive the DB2 Query Monitor FMIDs, service, and HOLDDATA that are included on the CBPDO package. For more information, see the documentation that is included in the CBPDO.

Note: FEC Common Code, H25F132, is a mandatory installation and operational requisite for DB2 Query Monitor. If you have already installed FEC Common Code, H25F132, **do not** receive this FMID again.

You can also choose to edit and submit sample job CQMRECEV to perform the SMP/E RECEIVE for DB2 Query Monitor. Consult the instructions in the sample job for more information.

Expected Return Codes and Messages: You will receive a return code of 0 if this job runs correctly.

If you choose to edit and submit sample job CQMRECEV, you are required to edit and submit CQMRECE1 to perform the SMP/E RECEIVE for DB2 Query Monitor Standard Edition Identifier. Consult the instructions in the sample job for more information.

Expected Return Codes and Messages: You will receive a return code of 0 if this job runs correctly.

If you are installing FEC Common Code you can edit and submit sample job CQMRECE2 to perform the SMP/E RECEIVE for FEC Common Code. Consult the instructions in the sample job for more information.

Expected Return Codes and Messages: You will receive a return code of 0 if this job runs correctly.

6.1.8 Allocate SMP/E Target and Distribution Libraries

Edit and submit sample job CQMALLOC to allocate the SMP/E target and distribution libraries for DB2 Query Monitor. Consult the instructions in the sample job for more information.

Expected Return Codes and Messages: You will receive a return code of 0 if this job runs correctly.

If you are installing FEC Common Code you can edit and submit sample job CQMALLOC2 to allocate the SMP/E target and distribution libraries for FEC Common Code. Consult the instructions in sample job for more information.

Expected Return Codes and Messages: You will receive a return code of 0 if this job runs correctly.

6.1.9 Allocate, create and mount ZFS Files (Optional)

This job allocates, creates a mountpoint, and mounts zFS data sets.

If you plan to install DB2 Query Monitor into a new z/OS UNIX file system, you can edit and submit the optional CQMZFS job to perform the following tasks:

- Create the z/OS UNIX file system
- Create a mount point
- Mount the z/OS UNIX file system on the mountpoint

Consult the instructions in the sample job for more information.

The recommended z/OS UNIX file system type is *zFS*. The recommended mount point is */usr/lpp/IBM/cqm/v3r3*.

Before running the sample job to create the z/OS UNIX file system, you must ensure that OMVS is active on the driving system. zFS must be active on the driving system if you are installing DB2 Query Monitor into a file system that is zFS.

If you create a new file system for this product, consider updating the BPXPRMxx PARMLIB member to mount the new file system at IPL time. This action can be helpful if an IPL occurs before the installation is completed.

```
MOUNT FILESYSTEM('#dsn')
MOUNTPOINT('/usr/lpp/IBM/cqm/v3r3')
MODE(RDWR) /* can be MODE(READ) */
TYPE(ZFS) PARM('AGGRGROW') /* zFS, with extents */
```

See the following information to update the statements in the previous sample:

#dsn is the name of the data set holding the z/OS UNIX file system.
/usr/lpp/IBM/cqm/v3r3 is the name of the mount point where the z/OS UNIX file system will be mounted.

Expected Return Codes and Messages: You will receive a return code of 0 if this job runs correctly.

6.1.10 Allocate File System Paths

The target system HFS or zFS data set must be mounted on the driving system when running the sample CQMISMKD job since the job will create paths in the HFS or zFS.

Before running the sample job to create the paths in the file system, you must ensure that OMVS is active on the driving system and that the target system's HFS or zFS file system is mounted to the driving system. zFS must be active on the driving system if you are installing DB2 Query Monitor into a file system that is zFS.

If you plan to install DB2 Query Monitor into a new HFS or zFS file system, you must create the mountpoint and mount the new file system to the driving system for DB2 Query Monitor.

The recommended mountpoint is */usr/lpp/IBM/cqm/v3r3*.

Edit and submit sample job CQMISMKD to allocate the HFS or zFS paths for DB2 Query Monitor. Consult the instructions in the sample job for more information.

If you create a new file system for this product, consider updating the BPXPRMxx PARMLIB member to mount the new file system at IPL time. This action can be helpful if an IPL occurs before the installation is completed.

Expected Return Codes and Messages: You will receive a return code of 0 if this job runs correctly.

6.1.11 Create DDDEF Entries

Edit and submit sample job CQMDDDEF to create DDDEF entries for the SMP/E target and distribution libraries for DB2 Query Monitor. Consult the instructions in the sample job for more information.

Expected Return Codes and Messages: You will receive a return code of 0 if this job runs correctly.

If you are installing FEC Common Code you can edit and submit sample job CQMDDDE2 to create DDDEF entries for the SMP/E target and distribution libraries for FEC Common Code. Consult the instructions in the sample job for more information.

Expected Return Codes and Messages: You will receive a return code of 0 if this job runs correctly.

6.1.12 Perform SMP/E APPLY

1. Ensure that you have the latest HOLDDATA; then edit and submit sample job CQMAPPLY to perform an SMP/E APPLY CHECK for DB2 Query Monitor. Consult the instructions in the sample job for more information.

The latest HOLDDATA is available through several different portals, including <http://service.software.ibm.com/holddata/390holddata.html>. The latest HOLDDATA may identify HIPER and FIXCAT APARs for the FMIDs you will be installing. An APPLY CHECK will help you determine if any HIPER or FIXCAT APARs are applicable to the FMIDs you are installing. If there are any applicable HIPER or FIXCAT APARs, the APPLY CHECK will also identify fixing PTFs that will resolve the APARs, if a fixing PTF is available.

You should install the FMIDs regardless of the status of unresolved HIPER or FIXCAT APARs. However, do not deploy the software until the unresolved HIPER and FIXCAT APARs have been analyzed to determine their applicability. That is, before deploying the software either ensure fixing PTFs are applied to resolve all HIPER or FIXCAT APARs, or ensure the problems reported by all HIPER or FIXCAT APARs are not applicable to your environment.

To receive the full benefit of the SMP/E Causer SYSMOD Summary Report, do *not* bypass the PRE, ID, REQ, and IFREQ on the APPLY CHECK. The SMP/E root cause analysis identifies the cause only of *errors* and not of *warnings* (SMP/E treats bypassed PRE, ID, REQ, and IFREQ conditions as warnings, instead of errors).

Here are sample APPLY commands:

- a. To ensure that all recommended and critical service is installed with the FMIDs, receive the latest HOLDDATA and use the APPLY CHECK command as follows

```
APPLY S(fmid,fmid,...) CHECK
FORFMID(fmid,fmid,...)
SOURCEID(RSU*)
FIXCAT(IBM.ProductInstall-RequiredService)
GROUPEXTEND .
```

Some HIPER APARs might not have fixing PTFs available yet. You should analyze the symptom flags for the unresolved HIPER APARs to determine if the reported problem is applicable to your

environment and if you should bypass the specific ERROR HOLDs in order to continue the installation of the FMIDs.

This method requires more initial research, but can provide resolution for all HIPERs that have fixing PTFs available and are not in a PE chain. Unresolved PEs or HIPERs might still exist and require the use of BYPASS.

- b. To install the FMIDs without regard for unresolved HIPER APARs, you can add the BYPASS(HOLDCLASS(HIPER)) operand to the APPLY CHECK command. This will allow you to install FMIDs even though one or more unresolved HIPER APARs exist. After the FMIDs are installed, use the SMP/E REPORT ERRSYSMODS command to identify unresolved HIPER APARs and any fixing PTFs.

```
APPLY S(fmid,fmid,...) CHECK
FORFMID(fmid,fmid,...)
SOURCEID(RSU*)
FIXCAT(IBM.ProductInstall-RequiredService)
GROUPEXTEND
BYPASS(HOLDCLASS(HIPER),HOLDFIXCAT) .
..any other parameters documented in the program directory
```

This method is quicker, but requires subsequent review of the Exception SYSMOD report produced by the REPORT ERRSYSMODS command to investigate any unresolved HIPERs. If you have received the latest HOLDDATA, you can also choose to use the REPORT MISSINGFIX command and specify Fix Category IBM.ProductInstall-RequiredService to investigate missing recommended service.

If you bypass HOLDs during the installation of the FMIDs because fixing PTFs are not yet available, you can be notified when the fixing PTFs are available by using the APAR Status Tracking (AST) function of ServiceLink or the APAR Tracking function of ResourceLink.

2. After you take actions that are indicated by the APPLY CHECK, remove the CHECK operand and run the job again to perform the APPLY.

Note: The GROUPEXTEND operand indicates that SMP/E applies all requisite SYSMODs. The requisite SYSMODS might be applicable to other functions.

Expected Return Codes and Messages from APPLY CHECK: You will receive a return code of 0 if this job runs correctly.

Expected Return Codes and Messages from APPLY: You will receive a return code of 0 if this job runs correctly.

Note: It is strongly recommended that DB2 Query Monitor is installed into a new environment. If it is installed into an existing environment you may receive the following messages during the APPLY:

```
GIM39311E ** SHELL SCRIPT CQMUPXPT PROCESSING TO DELETE HFS CQMPTPX IN THE
SCQMBIN LIBRARY FAILED FOR SYSMOD AK78471. SEQUENCE NUMBER 000001.
```

```
GIM39311E ** SHELL SCRIPT CQMUNPAX PROCESSING TO DELETE HFS CQMPAX IN THE
SCQMBIN LIBRARY FAILED FOR SYSMOD H238230. SEQUENCE NUMBER 000004.
```

Edit and submit sample job CQMAPPL1 to perform an SMP/E APPLY CHECK for DB2 Query Monitor Standard Edition Identifier. Consult the instruct in the sample job for more information.

Expected Return Codes and Messages from APPLY CHECK: You will receive a return code of 0 if this job runs correctly.

After you have taken any actions indicated by the APPLY CHECK, remove the CHECK operand and run the job again to perform the APPLY.

Expected Return Codes and Messages from APPLY: You will receive a return code of 0 if this job runs correctly.

6.1.13 Perform SMP/E ACCEPT

Edit and submit sample job CQMACCEP to perform an SMP/E ACCEPT CHECK for DB2 Query Monitor. Consult the instructions in the sample job for more information.

To receive the full benefit of the SMP/E Causer SYSMOD Summary Report, do *not* bypass the PRE, ID, REQ, and IFREQ on the ACCEPT CHECK. The SMP/E root cause analysis identifies the cause of *errors* but not *warnings* (SMP/E treats bypassed PRE, ID, REQ, and IFREQ conditions as warnings rather than errors).

Before you use SMP/E to load new distribution libraries, it is recommended that you set the ACCJCLIN indicator in the distribution zone. In this way, you can save the entries that are produced from JCLIN in the distribution zone whenever a SYSMOD that contains inline JCLIN is accepted. For more information about the ACCJCLIN indicator, see the description of inline JCLIN in the SMP/E Commands book for details.

After you take actions that are indicated by the ACCEPT CHECK, remove the CHECK operand and run the job again to perform the ACCEPT.

Note: The GROUPEXTEND operand indicates that SMP/E accepts all requisite SYSMODs. The requisite SYSMODS might be applicable to other functions.

Expected Return Codes and Messages from ACCEPT CHECK: You will receive a return code of 0 if this job runs correctly.

If PTFs that contain replacement modules are accepted, SMP/E ACCEPT processing will link-edit or bind the modules into the distribution libraries. During this processing, the Linkage Editor or Binder might issue messages that indicate unresolved external references, which will result in a return code of 4 during the ACCEPT phase. You can ignore these messages, because the distribution libraries are not executable and the unresolved external references do not affect the executable system libraries.

Expected Return Codes and Messages from ACCEPT: You will receive a return code of 0 if this job runs correctly.

Edit and submit sample job CQMACCE1 to perform an SMP/E ACCEPT CHECK for DB2 Query Monitor Standard Edition Identifier. Consult the instruct in the sample job for more information.

Once you have taken any actions indicated by the ACCEPT CHECK, remove the CHECK operand and run the job again to perform the ACCEPT.

Expected Return Codes and Messages from ACCEPT: You will receive a return code of 0 if this job runs correctly.

6.1.14 Run REPORT CROSSZONE

The SMP/E REPORT CROSSZONE command identifies requisites for products that are installed in separate zones. This command also creates APPLY and ACCEPT commands in the SMPPUNCH data set. You can use the APPLY and ACCEPT commands to install those cross-zone requisites that the SMP/E REPORT CROSSZONE command identifies.

After you install DB2 Query Monitor, it is recommended that you run REPORT CROSSZONE against the new or updated target and distribution zones. REPORT CROSSZONE requires a global zone with ZONEINDEX entries that describe all the target and distribution libraries to be reported on.

For more information about REPORT CROSSZONE, see the SMP/E manuals.

6.1.15 Cleaning Up Obsolete Data Sets, Paths, and DDDEFs

The following file system paths, which were created and used by previous releases of this product, are no longer used in this release. You can delete these obsolete file system paths after you delete the previous release from your system.

- `usr/lpp/lpp/cqmv3r2`

6.2 Activating DB2 Query Monitor

6.2.1 File System Execution

If you mount the file system in which you have installed DB2 Query Monitor in read-only mode during execution, then you do not have to take further actions to activate DB2 Query Monitor.

6.2.2 Product Customization

The publication *DB2 Query Monitor User's Guide* (SC19-8976) contains the necessary information to customize and use DB2 Query Monitor.

7.0 Notices

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APAR numbers are provided in this document to assist in locating PTFs that may be required. Ongoing problem reporting may result in additional APARs being created. Therefore, the APAR lists in this document may not be complete. To obtain current service recommendations and to identify current product service requirements, always contact the IBM Customer Support Center or use S/390 SoftwareXcel to obtain the current "PSP Bucket".

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Reader's Comments

Program Directory for IBM DB2 Query Monitor for z/OS, October 2016

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