Program Directory for
IBM InfoSphere Optim pureQuery Runtime for z/OS

V03.02.00
Program Number 5655-W92
FMID HAQR320
for Use with
z/OS

Document Date: December 2012

GI10-8906-01
Before using this information and the product it supports, be sure to read the general information under 7.0, "Notices" on page 25.

A form for reader's comments appears at the back of this publication. When you send information to IBM, you grant IBM a nonexclusive right to use or distribute the information in any way it believes appropriate without incurring any obligation to you.

© Copyright International Business Machines Corporation 2008, 2012. All rights reserved.
US Government Users Restricted Rights − Use, duplication or disclosure restricted by GSA ADP Schedule Contract with IBM Corp.
## Contents

1.0 **Introduction** .................................................................................................................. 1  
1.1 InfoSphere Optim pureQuery Runtime Description ......................................................... 1  
1.2 InfoSphere Optim pureQuery Runtime FMID ..................................................................... 2

2.0 **Program Materials** ........................................................................................................ 3  
2.1 Basic Machine-Readable Material ..................................................................................... 3  
2.2 Optional Machine-Readable Material ................................................................................ 4  
2.3 Program Publications ......................................................................................................... 4  
2.3.1 Basic Program Publications .......................................................................................... 4  
2.3.2 Optional Program Publications .................................................................................... 4  
2.4 Program Source Materials ................................................................................................ 4  
2.5 Publications Useful During Installation ............................................................................ 4

3.0 **Program Support** ............................................................................................................ 6  
3.1 Program Services ............................................................................................................... 6  
3.2 Preventive Service Planning ............................................................................................... 6  
3.3 Statement of Support Procedures ....................................................................................... 7

4.0 **Program and Service Level Information** ...................................................................... 8  
4.1 Program Level Information ................................................................................................ 8  
4.2 Service Level Information .................................................................................................. 8

5.0 **Installation Requirements and Considerations** .......................................................... 9  
5.1 Driving System Requirements ........................................................................................... 9  
5.1.1 Machine Requirements ................................................................................................ 9  
5.1.2 Programming Requirements ........................................................................................ 9  
5.2 Target System Requirements ............................................................................................ 10  
5.2.1 Machine Requirements ................................................................................................ 10  
5.2.2 Programming Requirements ........................................................................................ 10  
5.2.2.1 Installation Requisites ............................................................................................. 10  
5.2.2.2 Operational Requisites ........................................................................................... 11  
5.2.2.3 Tolerance/Coexistence Requisites .......................................................................... 13  
5.2.2.4 Incompatibility (Negative) Requisites .................................................................... 13  
5.2.3 DASD Storage Requirements ....................................................................................... 13  
5.3 FMIDs Deleted ................................................................................................................... 15  
5.4 Special Considerations ....................................................................................................... 16

6.0 **Installation Instructions** ................................................................................................ 17  
6.1 Installing InfoSphere Optim pureQuery Runtime ............................................................. 17  
6.1.1 SMP/E Considerations for Installing InfoSphere Optim pureQuery Runtime ............ 17  
6.1.2 SMP/E Options Subentry Values .................................................................................. 17  
6.1.3 Sample Jobs .................................................................................................................. 17

© Copyright IBM Corp. 2008, 2012
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 InfoSphere Optim pureQuery Runtime for z/OS. This publication refers to IBM InfoSphere Optim pureQuery Runtime for z/OS as InfoSphere Optim pureQuery Runtime.

The Program Directory contains the following sections:

- **2.0, “Program Materials” on page 3** identifies the basic and optional program materials and documentation for InfoSphere Optim pureQuery Runtime.
- **3.0, “Program Support” on page 6** describes the IBM support available for InfoSphere Optim pureQuery Runtime.
- **4.0, “Program and Service Level Information” on page 8** lists the APARs (program level) and PTFs (service level) that have been incorporated into InfoSphere Optim pureQuery Runtime.
- **5.0, “Installation Requirements and Considerations” on page 9** identifies the resources and considerations that are required for installing and using InfoSphere Optim pureQuery Runtime.
- **6.0, “Installation Instructions” on page 17** provides detailed installation instructions for InfoSphere Optim pureQuery Runtime. It also describes the procedures for activating the functions of InfoSphere Optim pureQuery Runtime, or refers to appropriate publications.

Before installing InfoSphere Optim pureQuery Runtime, 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 6** tells you how to find any updates to the information and procedures in this Program Directory.

InfoSphere Optim pureQuery Runtime 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 InfoSphere Optim pureQuery Runtime are included on the CBPDO tape.

Do not use this program directory if you install InfoSphere Optim pureQuery Runtime 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 InfoSphere Optim pureQuery Runtime Description

IBM InfoSphere Optim pureQuery Runtime for z/OS V3.2 provides the ability to improve SQL performance of both new and existing applications. InfoSphere Optim pureQuery Runtime Use pureQuery to lock down SQL access plans, replace poorly performing SQL on the fly or to help locate SQL to be changed in source code. It also helps track and manage SQL statements executed by applications developed using frameworks like Hibernate.

© Copyright IBM Corp. 2008, 2012
New in V3.2

- New configuration scripts make it easier to install the pureQuery Runtime on an IBM WebSphere application server.
- Applications using SQL may now be captured directly from the DB2 dynamic cache, simplifying/reducing the application SQL capture process and reducing the time needed to use pureQuery to optimize applications.
- Users can activate on demand pureQuery property changes that control client application behavior.
- InfoSphere Optim pureQuery Runtime for z/OS can be configured to use different repositories, which provides you with several benefits including different repositories for different application verticals. Repositories used by different versions of InfoSphere Optim pureQuery Runtime for z/OS may now reside on the same database through the support of multiple schemas.
- Users can identify and support singleton select statements used by applications to improve performance by using less expensive methods to retrieve database data.

1.2 InfoSphere Optim pureQuery Runtime FMID

InfoSphere Optim pureQuery Runtime consists of the following FMID:

HAQR320
2.0 Program Materials

An IBM program is identified by a program number and a feature number. The program number for InfoSphere Optim pureQuery Runtime is 5655-W92 and its feature number is 6020.

Basic Machine-Readable Materials are materials that are supplied under the base license and feature numbers, and are required for the use of the product. Optional Machine-Readable Materials are orderable under separate feature numbers, and are not required for the product to function.

The program announcement material describes the features supported by InfoSphere Optim pureQuery Runtime. 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 17 for more information about how to install the program.

You can find information about the physical media for the basic machine-readable materials for InfoSphere Optim pureQuery Runtime in the CBPDO Memo To Users Extension.

Figure 1 describes the program file content for InfoSphere Optim pureQuery Runtime. 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.

<table>
<thead>
<tr>
<th>Name</th>
<th>RE</th>
<th>LC</th>
<th>BLK SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMPMCS</td>
<td>SEQ</td>
<td>FB</td>
<td>80</td>
</tr>
<tr>
<td>IBM.HAQR320.F1</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
</tr>
<tr>
<td>IBM.HAQR320.F2</td>
<td>PDS</td>
<td>VB</td>
<td>255</td>
</tr>
<tr>
<td>IBM.HAQR320.F3</td>
<td>PDS</td>
<td>VB</td>
<td>255</td>
</tr>
</tbody>
</table>
2.2 Optional Machine-Readable Material

No optional machine-readable materials are provided for InfoSphere Optim pureQuery Runtime.

2.3 Program Publications

The following sections identify the basic and optional publications for InfoSphere Optim pureQuery Runtime.

2.3.1 Basic Program Publications

Figure 2 identifies the basic unlicensed program publications for InfoSphere Optim pureQuery Runtime. One copy of each of these publications is included when you order the basic materials for InfoSphere Optim pureQuery Runtime. Additional copies can be obtained from the IBM Publications Website at URL: http://www.ibm.com/shop/publications/order/
Contact your IBM representative for further assistance.

<table>
<thead>
<tr>
<th>Publication Title</th>
<th>Form Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBM InfoSphere Optim pureQuery Runtime for z/OS License Information</td>
<td>GC19-3423</td>
</tr>
</tbody>
</table>

2.3.2 Optional Program Publications

No optional publications are provided for InfoSphere Optim pureQuery Runtime.

2.4 Program Source Materials

No program source materials or viewable program listings are provided for InfoSphere Optim pureQuery Runtime.

2.5 Publications Useful During Installation

You might want to use the publications listed in Figure 3 during the installation of InfoSphere Optim pureQuery Runtime. To order copies, contact your IBM representative or visit the IBM Publications Center at: http://www.ibm.com/shop/publications/order/
<table>
<thead>
<tr>
<th>Publication Title</th>
<th>Form Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBM SMP/E for z/OS User’s Guide</td>
<td>SA22-7773</td>
</tr>
<tr>
<td>IBM SMP/E for z/OS Commands</td>
<td>SA22-7771</td>
</tr>
<tr>
<td>IBM SMP/E for z/OS Reference</td>
<td>SA22-7772</td>
</tr>
<tr>
<td>IBM SMP/E for z/OS Messages, Codes, and Diagnosis</td>
<td>GA22-7770</td>
</tr>
</tbody>
</table>
3.0 Program Support

This section describes the IBM support available for InfoSphere Optim pureQuery Runtime.

3.1 Program Services

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

3.2 Preventive Service Planning

Before you install InfoSphere Optim pureQuery Runtime, 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 6.1.10, “Perform SMP/E APPLY” on page 21 for a sample APPLY command.

If you obtained InfoSphere Optim pureQuery Runtime as part of a CBPDO, HOLDDATA is included.

If the CBPDO for InfoSphere Optim pureQuery Runtime 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:


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 InfoSphere Optim pureQuery Runtime are included in Figure 4.

<table>
<thead>
<tr>
<th>UPGRADE</th>
<th>SUBSET</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5655U93</td>
<td>HAQR320</td>
<td>IBM InfoSphere Optim pureQuery Runtime for z/OS</td>
</tr>
</tbody>
</table>
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 5 on page 7 identifies the component IDs (COMPID) for InfoSphere Optim pureQuery Runtime.

<table>
<thead>
<tr>
<th>FMID</th>
<th>COMPID</th>
<th>Component Name</th>
<th>RETAIN Release</th>
</tr>
</thead>
<tbody>
<tr>
<td>HAQR320</td>
<td>5655U9300</td>
<td>IBM InfoSphere Optim pureQuery Runtime for z/OS</td>
<td>320</td>
</tr>
</tbody>
</table>
4.0 Program and Service Level Information

This section identifies the program and relevant service levels of InfoSphere Optim pureQuery Runtime. 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 InfoSphere Optim pureQuery Runtime have been incorporated into this release. They are listed by FMID.

- FMID HAQR310
  - PM52031
  - PM59591

4.2 Service Level Information

No PTFs against this release of InfoSphere Optim pureQuery Runtime have been incorporated into the product package.

Frequently check the InfoSphere Optim pureQuery Runtime 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-REQUIRESERVICE) 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 InfoSphere Optim pureQuery Runtime. 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 InfoSphere Optim pureQuery Runtime.

5.1.1 Machine Requirements

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

5.1.2 Programming Requirements
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.

InfoSphere Optim pureQuery Runtime is installed into a file system, either HFS or zFS. Before installing InfoSphere Optim pureQuery Runtime, you must ensure that the target system file system data sets are available for processing on the driving system. OMVS must be active on the driving system and the target system file system data sets must be mounted on the driving system.

If you plan to install InfoSphere Optim pureQuery Runtime in a zFS file system, this requires that zFS be active on the driving system. Information on activating and using zFS can be found in z/OS Distributed File Service zSeries File System Administration, SC24-5989.

### 5.2 Target System Requirements

This section describes the environment of the target system required to install and use InfoSphere Optim pureQuery Runtime.

InfoSphere Optim pureQuery Runtime 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. These products are specified as PREs or REqs.

InfoSphere Optim pureQuery Runtime has no mandatory installation requisites.
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. These products are specified as IF REqs.

InfoSphere Optim pureQuery Runtime 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. These products are specified as PREs or REqs.

<table>
<thead>
<tr>
<th>Program Number</th>
<th>Product Name</th>
<th>Minimum VRM</th>
<th>Minimum Svc Lvl to satisfy these APARs</th>
<th>Function for which this is a Req’t</th>
<th>Included in this product’s shipment?</th>
</tr>
</thead>
<tbody>
<tr>
<td>5635-DB2</td>
<td>DB2 for z/OS</td>
<td>V9.1.0</td>
<td>N/A</td>
<td>If you use the “IBM Data Server Driver for JDBC and SQLJ” driver on z/OS</td>
<td>No</td>
</tr>
<tr>
<td>5697-P12</td>
<td>DB2 for z/OS</td>
<td>V9.1.0</td>
<td>N/A</td>
<td>If you use the “IBM Data Server Driver for JDBC and SQLJ” driver on z/OS</td>
<td>No</td>
</tr>
<tr>
<td>5697-P31</td>
<td>DB2 for z/OS</td>
<td>V10.1.0</td>
<td>N/A</td>
<td></td>
<td>No</td>
</tr>
</tbody>
</table>

Any one of the following:
For mandatory operational requisites besides the above listed under Figure 7, InfoSphere Optim pureQuery Runtime also needs Java Database Connectivity which is used for Database connections. It must be a JDBC driver that is compliant. If you use the "IBM Data Server Driver for JDBC and SQLJ", use IBM Data Server Driver for JDBC and SQLJ V3.57, or later (or corresponding DB2 Connect version level) for JDBC 3.0 applications and IBM Data Server Driver for JDBC and SQLJ V4.7, or later, for JDBC 4.0 applications

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. These products are specified as IF REQs.

InfoSphere Optim pureQuery Runtime has no conditional operational requisites.

Note!
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.

InfoSphere Optim pureQuery Runtime 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.

InfoSphere Optim pureQuery Runtime has no negative requisites.

5.2.3 DASD Storage Requirements

InfoSphere Optim pureQuery Runtime libraries can reside on all supported DASD types.

Figure 8 lists the total space that is required for each type of library.

### Figure 8. Total DASD Space Required by InfoSphere Optim pureQuery Runtime

<table>
<thead>
<tr>
<th>Library Type</th>
<th>Total Space Required in 3390 Trks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target</td>
<td>6 Tracks</td>
</tr>
<tr>
<td>Distribution</td>
<td>459 Tracks</td>
</tr>
<tr>
<td>File System</td>
<td>44 Tracks</td>
</tr>
</tbody>
</table>

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 6.1.7, “Allocate SMP/E Target and Distribution Libraries” on page 20.

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.

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 LNKLST.
   - These data sets are not required to be APF-authorized.

The following figures describe the target and distribution libraries and file system paths required to install InfoSphere Optim pureQuery Runtime. The storage requirements of InfoSphere Optim pureQuery Runtime 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.
5.3 FMIDs Deleted

Installing InfoSphere Optim pureQuery Runtime 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 InfoSphere Optim pureQuery Runtime 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 DELETEFMID command. See the SMP/E Commands book for details.
5.4 Special Considerations

Additional requirements on the database client machine where InfoSphere Optim pureQuery Runtime is installed:

- **Hardware Requirements**
  - 128 MB of RAM
  - 80 MB of disk space

- **Software Requirements**
  - IBM Data Server Driver for JDBC and SQLJ V03.57.00 or higher
  - Java Runtime Environment 1.5, or later
6.0 Installation Instructions

This chapter describes the installation method and the step-by-step procedures to install and to activate the functions of InfoSphere Optim pureQuery Runtime.

Please note the following points:

- If you want to install InfoSphere Optim pureQuery Runtime 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 InfoSphere Optim pureQuery Runtime

6.1.1 SMP/E Considerations for Installing InfoSphere Optim pureQuery Runtime

Use the SMP/E RECEIVE, APPLY, and ACCEPT commands to install this release of InfoSphere Optim pureQuery Runtime.

6.1.2 SMP/E Options Subentry Values

The recommended values for certain SMP/E CSI subentries are shown in Figure 12. 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.

<table>
<thead>
<tr>
<th>Subentry</th>
<th>Value</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSSPACE</td>
<td>(900,900,900)</td>
<td>3390 DASD tracks</td>
</tr>
<tr>
<td>PEMAX</td>
<td>SMP/E Default</td>
<td>IBM recommends using the SMP/E default for PEMAX.</td>
</tr>
</tbody>
</table>

6.1.3 Sample Jobs

The following sample installation jobs are provided as part of the product to help you install InfoSphere Optim pureQuery Runtime:
You can access the sample installation jobs by performing an SMP/E RECEIVE (refer to 6.1.6, “Perform SMP/E RECEIVE” on page 20) then copy the jobs from the RELFILES to a work data set for editing and submission. See Figure 13 on page 17 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=/c5197
///c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197 ... 97/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197
///c5197 Make the //TAPEIN DD statement below active if you install/c5197
///c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197 ... 97/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197
///c5197TAPEIN DD DSN=IBM.HAQR32/zerodot.F1,UNIT=tunit,
///c5197 VOL=SER=volser,LABEL=(x,SL),
///c5197 DISP=(OLD,KEEP)
///c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197 ... 97/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197
///c5197 Make the //TAPEIN DD statement below active if you install/c5197
///c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197 ... 97/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197
///c5197TAPEIN DD DSN=IBM.HAQR32/zerodot.F1,UNIT=tunit,
///c5197 VOL=SER=AQR32/zerodot,LABEL=(2,SL),
///c5197 DISP=(OLD,KEEP)
///c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197 ... 97/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197/c5197
```

---

**Figure 13. Sample Installation Jobs**

<table>
<thead>
<tr>
<th>Job Name</th>
<th>Job Type</th>
<th>Description</th>
<th>RELFILE</th>
</tr>
</thead>
<tbody>
<tr>
<td>AQRALA</td>
<td>SMP/E</td>
<td>Sample job to allocate and initialize a new SMP/E CSI data set <strong>(Optional)</strong></td>
<td>IBM.HAQR320.F1</td>
</tr>
<tr>
<td>AQRALB</td>
<td>SMP/E</td>
<td>Sample job to allocate SMP/E data sets <strong>(Optional)</strong></td>
<td>IBM.HAQR320.F1</td>
</tr>
<tr>
<td>AQRRECEV</td>
<td>RECEIVE</td>
<td>Sample RECEIVE job</td>
<td>IBM.HAQR320.F1</td>
</tr>
<tr>
<td>AQRALLOC</td>
<td>ALLOCATE</td>
<td>Sample job to allocate target and distribution libraries</td>
<td>IBM.HAQR320.F1</td>
</tr>
<tr>
<td>AQRISMKD</td>
<td>MKDIR</td>
<td>Sample job to invoke the supplied AQRMKDIR EXEC to allocate HFS or zFS paths</td>
<td>IBM.HAQR320.F1</td>
</tr>
<tr>
<td>AQRDDDEF</td>
<td>DDDEF</td>
<td>Sample job to define SMP/E DDDEFs</td>
<td>IBM.HAQR320.F1</td>
</tr>
<tr>
<td>AQRAPPLY</td>
<td>APPLY</td>
<td>Sample APPLY job</td>
<td>IBM.HAQR320.F1</td>
</tr>
<tr>
<td>AQRACCEP</td>
<td>ACCEPT</td>
<td>Sample ACCEPT job</td>
<td>IBM.HAQR320.F1</td>
</tr>
</tbody>
</table>

You can access the sample installation jobs by performing an SMP/E RECEIVE (refer to 6.1.6, “Perform SMP/E RECEIVE” on page 20) then copy the jobs from the RELFILES to a work data set for editing and submission. See Figure 13 on page 17 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.

```
/* Make the //FILEIN DD statement below active for downloaded DASD files. */

FILEIN DD DSN=IBM.HAQR320.F1,UNIT=SYSALLDA,DISP=SHR,
     VOL=SER=filevol
//OUT DD DSNAME=jcl-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.HAQR320.F1 on the tape.

FILEIN:
   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.

6.1.4 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 AQRALA to allocate the SMP/E data set for InfoSphere Optim pureQuery Runtime. 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.

6.1.5 Initialize CSI zones (Optional)

Edit and submit sample job AQRALB to initialize SMP/E zones for InfoSphere Optim pureQuery Runtime. 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 Perform SMP/E RECEIVE

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

You can also choose to edit and submit sample job AQRRECEV to perform the SMP/E RECEIVE for InfoSphere Optim pureQuery Runtime. 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 Allocate SMP/E Target and Distribution Libraries

Edit and submit sample job AQRALLOC to allocate the SMP/E target and distribution libraries for InfoSphere Optim pureQuery Runtime. 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 File system Paths

Mount the file system data set of the target system on the driving system when you run the sample AQRISMKD job because the job will create paths in the file system.

Before you run the sample job to create the paths in the file system, ensure that OMVS is active on the driving system and that the file system of the target system is mounted to the driving system. If you install InfoSphere Optim pureQuery Runtime into a zSeries file system (zFS), zFS must be active on the driving system.

If you plan to install InfoSphere Optim pureQuery Runtime into a new file system, create the mountpoint and mount the new file system to the driving system. For InfoSphere Optim pureQuery Runtime, the recommended mountpoint is /usr/lpp/pqr32.

Edit and submit sample job AQRISMKD to allocate the file system for InfoSphere Optim pureQuery Runtime. 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.
6.1.9 Create DDDEF Entries

Edit and submit sample job AQRDDDEF to create DDDEF entries for the SMP/E target and distribution libraries for InfoSphere Optim pureQuery Runtime. 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.

6.1.10 Perform SMP/E APPLY

1. Ensure that you have the latest HOLDDATA; then edit and submit sample job AQRAPPLY to perform an SMP/E APPLY CHECK for InfoSphere Optim pureQuery Runtime. 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/holdata/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/c5197)
FIXCAT(IBM.ProductInstall-RequiredService)
GROUPEXTEND
BYPASS(HOLDCLASS(HIPER)) .
..any other parameters documented in the program directory
```

This method is the 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.

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.

### 6.1.11 Perform SMP/E ACCEPT

Edit and submit sample job AQRACCEP to perform an SMP/E ACCEPT CHECK for InfoSphere Optim pureQuery Runtime. Consult the instructions in the sample job for more information.

To receive the full benefit of the SMP/E Causer SYMDS 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 only *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.

### 6.1.12 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 InfoSphere Optim pureQuery Runtime, 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.

### 6.2 Activating InfoSphere Optim pureQuery Runtime

InfoSphere Optim pureQuery Runtime is fully operational after the SMP/E installation is completed. You do not have to do further customization to activate this function.
6.2.1 File System Execution

If you mount the file system in which you have installed InfoSphere Optim pureQuery Runtime in read-only mode during execution, then you do not have to take further actions to activate InfoSphere Optim pureQuery Runtime.
7.0 Notices

References in this document to IBM products, programs, or services do not imply that IBM intends to make these available in all countries in which IBM operates. Any reference to an IBM product, program, or service is not intended to state or imply that only IBM's product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe on any of IBM's intellectual property rights may be used instead of the IBM product, program, or service. Evaluation and verification of operation in conjunction with other products, except those expressly designated by IBM, is the user's responsibility.

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".

IBM may have patents or pending patent applications covering subject matter in this document. The furnishing of this document does not give you any license to these patents. You can send license inquiries, in writing, to the

IBM Director of Licensing
IBM Corporation
North Castle Drive
Armonk, New York 10504-1785
USA

For online versions of this book, we authorize you to:

- Copy, modify, and print the documentation contained on the media, for use within your enterprise, provided you reproduce the copyright notice, all warning statements, and other required statements on each copy or partial copy.
- Transfer the original unaltered copy of the documentation when you transfer the related IBM product (which may be either machines you own, or programs, if the program's license terms permit a transfer). You must, at the same time, destroy all other copies of the documentation.

You are responsible for payment of any taxes, including personal property taxes, resulting from this authorization.

THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Some jurisdictions do not allow the exclusion of implied warranties, so the above exclusion may not apply to you.
Your failure to comply with the terms above terminates this authorization. Upon termination, you must destroy your machine readable documentation.

### 7.1 Trademarks

IBM, the IBM logo, and ibm.com are trademarks or registered trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on the Web at "Copyright and trademark information" at [www.ibm.com/legal/copytrade.shtml](http://www.ibm.com/legal/copytrade.shtml).
Reader's Comments

Program Directory for IBM InfoSphere Optim pureQuery Runtime for z/OS, December 2012

You may use this form to comment about this document, its organization, or subject matter with the understanding that IBM may use or distribute whatever information you supply in any way it believes appropriate without incurring any obligation to you.

For each of the topics below please indicate your satisfaction level by circling your choice from the rating scale. If a statement does not apply, please circle N.

<table>
<thead>
<tr>
<th>RATING SCALE</th>
</tr>
</thead>
<tbody>
<tr>
<td>very satisfied</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>not applicable</td>
</tr>
</tbody>
</table>

Satisfaction

<table>
<thead>
<tr>
<th>Ease of product installation</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contents of Program Directory</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>N</td>
</tr>
<tr>
<td>Installation Verification Programs</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>N</td>
</tr>
<tr>
<td>Time to install the product</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>N</td>
</tr>
<tr>
<td>Readability and organization of Program Directory tasks</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>N</td>
</tr>
<tr>
<td>Necessity of all installation tasks</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>N</td>
</tr>
<tr>
<td>Accuracy of the definition of the installation tasks</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>N</td>
</tr>
<tr>
<td>Technical level of the installation tasks</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>N</td>
</tr>
<tr>
<td>Ease of getting the system into production after installation</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>N</td>
</tr>
</tbody>
</table>

How did you order this product?

___ CDPDO
___ CustomPac
___ ServerPac
___ Independent
___ Other

Is this the first time your organization has installed this product?

___ Yes
___ No

Were the people who did the installation experienced with the installation of z/OS products?

___ Yes
No

If yes, how many years? __

If you have any comments to make about your ratings above, or any other aspect of the product installation, please list them below:

_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________

Please provide the following contact information:

Name and Job Title

Organization

Address

Telephone

Thank you for your participation.

E-Mail: comments@us.ibm.com