Program Directory for
IBM WebSphere Replication Server for z/OS

V09.01.00
Program Number 5655-R55

FMIDs HAAW910, JAAW911, JAAW912, JAAW913

for Use with
z/OS

Document Date: September 2006
Note!

Before using this information and the product it supports, be sure to read the general information under 7.0, "Notices" on page 27.

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1.0 Introduction

This Program Directory is intended for the system programmer responsible for program installation and maintenance. It contains information concerning the material and procedures associated with the installation of IBM WebSphere Replication Server for z/OS. This publication refers to IBM WebSphere Replication Server for z/OS as WebSphere Rep Server for z/OS.

The Program Directory contains the following sections:

- **2.0, “Program Materials” on page 5** identifies the basic and optional program materials and documentation for WebSphere Rep Server for z/OS.
- **3.0, “Program Support” on page 10** describes the IBM support available for WebSphere Rep Server for z/OS.
- **4.0, “Program and Service Level Information” on page 12** lists the APARs (program level) and PTFs (service level) incorporated into WebSphere Rep Server for z/OS.
- **5.0, “Installation Requirements and Considerations” on page 13** identifies the resources and considerations required for installing and using WebSphere Rep Server for z/OS.
- **6.0, “Installation Instructions” on page 20** provides detailed installation instructions for WebSphere Rep Server for z/OS. It also describes the procedures for activating the functions of WebSphere Rep Server for z/OS, or refers to appropriate publications.

Before installing WebSphere Rep Server for z/OS, read the **CBPDO Memo To Users** and the **CBPDO Memo To Users Extension** that were supplied with this program in softcopy form as well as this Program Directory and then keep them for future reference. **Section 3.2, “Preventive Service Planning” on page 10** tells you how to find any updates to the information and procedures in this Program Directory.

WebSphere Rep Server for z/OS is supplied in a Custom-Built Product Delivery Offering (CBPDO, 5751-CS3). The Program Directory is provided in softcopy form on the CBPDO tape which is identical to the hardcopy form provided with your order. Your CBPDO contains a softcopy preventive service planning (PSP) upgrade for this product. All service and HOLDDATA for WebSphere Rep Server for z/OS are included on the CBPDO tape.

Do not use this Program Directory if you are installing WebSphere Rep Server for z/OS with a SystemPac or ServerPac. When using these offerings, use the jobs and documentation supplied with the offering. This documentation may point you to specific sections of the Program Directory as required.
1.1 WebSphere Rep Server for z/OS Description

WebSphere Replication Server for z/OS, V09.01 (5655-R55) provides the next version of the SQL-based data replication and queue-based data replication (Q replication) that is available today in WebSphere Information Integrator Replication for z/OS, V08.02 (5655-L88).

WebSphere Replication Server for z/OS is packaged such that you can purchase SQL-based replication or Q replication or both. Recognizing the unique value of each replication approach as well as the increased value of using the two approaches together, the product has these three separately priced features:

- WebSphere Replication Server for Q Replicating of DB2 for z/OS
- WebSphere Replication Server for SQL Replicating of DB2 for z/OS
- WebSphere Replication Server for SQL Replicating and Q Replicating of DB2 for z/OS

A restricted use license of WebSphere MQ for z/OS, V06.01 (5655-F10) is included with WebSphere Replication Server.

In addition to changes in product packaging, WebSphere Replication Server introduces:

- Significant performance improvements for increased scalability
- A new target type (Consistent Changed Data tables or CCDs) for Q replication that provides a Q replication solution for auditing and analysis applications
- An opportunity to move to Q replication if you use SQL replication
- Many enhancements that simplify administration and monitoring for Q replication

Q replication delivers low-latency, high-throughput replication with managed conflict detection and resolution to support business continuity and workload distribution. Committed changes are published to WebSphere MQ message queues. A sophisticated apply engine determines transaction dependencies and replays transactions on target systems to maximize parallelism and minimize latency. Data can be replicated to and from DB2 databases on System z or, by interoperating with WebSphere Replication Server for Linux, UNIX, or Windows, data can replicated to and from DB2 databases on Linux, Unix, and Windows. Data can also be replicated from supported DB2 sources to other relational database management systems like Informix, Oracle, MS SQL Server, and Sybase.

Q replication enhancements include:

- Performance
  The performance of Q replication data capture (Q Capture) is improved by providing additional multi-threading. Log reading and the gathering of committed transactions is now asynchronous to the rest of the data capture activities. This change helps the performance of Q Capture in all environments and especially in DB2 for z/OS data sharing configurations.

- New Replication Target Type
  Q replication can now be used to replicate data into uniquely structured target tables (CCDs) that can be used for audit and history tables in the same way as can be done with SQL replication. This provides you with:
– Important capability for Q replication
– The opportunity to move to Q replication if you currently use SQL replication

• Customization
  More flexibility is provided for managing storage requirements for loads in a Q replication environment by allowing model queues to be defined at the subscription level. If you have high volumes of changes during load operations, then you will likely experience increased scalability because of this enhancement.

• Usability
  Additional integration with WebSphere MQ is achieved by presenting lists of WebSphere MQ objects when needed during setup, and by checking these WebSphere MQ objects against the requirements of the Q replication engine program. The Replication Alert Monitor has been enhanced to provide the ability to suspend the monitor program during specified periods. A new live monitor tool graphically displays real-time latency and throughput information. Customers will be able to see at a glance the current latency and throughput and replication program activity.

• Interactive MQ Checklist
  This is a dynamic graphical checklist which is used to set up the WebSphere MQ objects which are needed for Q replication. Setup scripts and a customized procedure for running the scripts are automatically generated for use at each MQ server.

SQL-based replication architecture maximizes flexibility in managing scheduling, transformation, and distribution topologies efficiently and effectively for populating warehouses or marts, maintaining data consistency between disparate applications, or efficiently managing distribution, and consolidation scenarios among headquarter and branch or retail configurations.

  • The replication server supports distribution (moving data from one database to many) and consolidation (moving data from many databases to one) scenarios.
  • Data can be filtered either horizontally or vertically so that only the data you are interested in is replicated.
  • Transformation can be applied inline with the data movement via standard SQL expressions or stored procedure execution.
  • Data movement can be automated on a specific schedule, at designated intervals, continuously, or event driven.
  • Data movement can be managed table-at-a-time such as for warehouse loading during batch windows or with transaction consistency for data which is never offline.

SQL replication is widely used today. Since there is value in using the newer Q replication along with SQL replication, a trade-up is available:

  • From the SQL Replicating of DB2 feature of WebSphere Replication Server for z/OS, V09.01
  • To the SQL Replicating and Q Replicating of DB2 feature of WebSphere Replication Server for z/OS, V09.01
1.2 WebSphere Rep Server for z/OS FMIDs

WebSphere Rep Server for z/OS consists of the following FMIDs:

- HAAW910
- JAAW911
- JAAW912
- JAAW913

The WS Rep Server for Q Replicating of DB2 for z/OS feature consists of the following FMIDs:

- HAAW910
- JAAW911
- JAAW912

The WS Rep Server for SQL Replicating of DB2 for z/OS feature consists of the following FMIDs:

- HAAW910
- JAAW913

WS Rep Server for SQL Replicating and Q Replicating of DB2 for z/OS feature consists of the following FMIDs:

- HAAW910
- JAAW911
- JAAW912
- JAAW913
2.0 Program Materials

An IBM program is identified by a program number and a feature number. The program number for WebSphere Rep Server for z/OS is 5655-R55 and its feature numbers are 5852, 5842, and 5822.

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 WebSphere Rep Server for z/OS. 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 magnetic tape or downloadable files. It is installed using SMP/E, and is in SMP/E RELFILE format. See 6.0, "Installation Instructions" on page 20 for more information about how to install the program.

Information about the physical tape for the Basic Machine-Readable Materials for WebSphere Rep Server for z/OS can be found in the CBPDO Memo To Users Extension.

Non-CBPDO Customers

If you receive the product tape and program directory outside the CBPDO process, refer to 6.1.3, "Sample Jobs" on page 20 for details (media volser, file name, tape file number) and how to proceed.

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 should be used in the JCL of jobs reading the data sets, but since the data sets are in IEBCOPY unloaded format, their actual attributes may 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>RECL Length</th>
<th>BLK Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMPMCS</td>
<td>SEQ FB 80</td>
<td>6400</td>
</tr>
<tr>
<td>IBM.HAAW910.F1</td>
<td>PDS FB 80</td>
<td>8800</td>
</tr>
</tbody>
</table>
### Figure 1. Program File Content of HAAW910

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>Rec</th>
<th>Loc</th>
<th>Block Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBM.HAAW910.F2</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
<td>8800</td>
</tr>
<tr>
<td>IBM.HAAW910.F3</td>
<td>PDS</td>
<td>U</td>
<td>0</td>
<td>6144</td>
</tr>
<tr>
<td>IBM.HAAW910.F4</td>
<td>PDS</td>
<td>VB</td>
<td>256</td>
<td>27920</td>
</tr>
<tr>
<td>IBM.HAAW910.F5</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
<td>8800</td>
</tr>
<tr>
<td>IBM.HAAW910.F6</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
<td>8800</td>
</tr>
</tbody>
</table>

### Figure 2. Program File Content of JAAW911

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>Rec</th>
<th>Loc</th>
<th>Block Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMPMCS</td>
<td>SEQ</td>
<td>FB</td>
<td>80</td>
<td>6400</td>
</tr>
<tr>
<td>IBM.JAAW911.F1</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
<td>8800</td>
</tr>
<tr>
<td>IBM.JAAW911.F2</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
<td>8800</td>
</tr>
<tr>
<td>IBM.JAAW911.F3</td>
<td>PDS</td>
<td>U</td>
<td>0</td>
<td>6144</td>
</tr>
</tbody>
</table>

### Figure 3. Program File Content of JAAW912

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>Rec</th>
<th>Loc</th>
<th>Block Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMPMCS</td>
<td>SEQ</td>
<td>FB</td>
<td>80</td>
<td>6400</td>
</tr>
<tr>
<td>IBM.JAAW912.F1</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
<td>8800</td>
</tr>
<tr>
<td>IBM.JAAW912.F2</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
<td>8800</td>
</tr>
<tr>
<td>IBM.JAAW912.F3</td>
<td>PDS</td>
<td>U</td>
<td>0</td>
<td>6144</td>
</tr>
</tbody>
</table>
2.2 Optional Machine-Readable Material

No optional machine-readable materials are provided for WebSphere Rep Server for z/OS.

2.3 Program Publications

The following sections identify the basic and optional publications for WebSphere Rep Server for z/OS.

2.3.1 Basic Program Publications

Figure 5 identifies the basic unlicensed program publications for WebSphere Rep Server for z/OS. One copy of each of these publications is included when you order the basic materials for WebSphere Rep Server for z/OS. For additional copies, contact your IBM representative.

<table>
<thead>
<tr>
<th>Publication Title</th>
<th>Form Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>WebSphere Rep Server for z/OS License Information</td>
<td>GC19-1056</td>
</tr>
<tr>
<td>WebSphere Rep Server for z/OS Program Directory</td>
<td>GI10-8730</td>
</tr>
</tbody>
</table>

Figure 6 identifies the basic unlicensed or licensed publications that are not available in hardcopy form, but are available through the internet or other media for WebSphere Rep Server for z/OS.

<table>
<thead>
<tr>
<th>Publication Title</th>
<th>Form Number</th>
<th>How Available</th>
</tr>
</thead>
</table>
Publications are available in PDF and BookManager formats on CD-ROM and on DVD on the next release of software product libraries:

- z/OS Software Products Collection, SK3T-4270
- z/OS and Software Products DVD Collection, SK3T-4271*
  *requires a DVD drive in DVD-9 (single-sided, dual-layer) format

### 2.3.2 Optional Program Publications

No optional publications are provided for WebSphere Rep Server for z/OS.

### 2.4 Program Source Materials

No program source materials or viewable program listings are provided for WebSphere Rep Server for z/OS.
2.5 Publications Useful During Installation

The publications listed in Figure 7 on page 9 may be useful during the installation of WebSphere Rep Server for z/OS. To order copies, contact your IBM representative or visit the IBM Publications Center on the World Wide Web 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 WebSphere Rep Server for z/OS.

3.1 Program Services

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

3.2 Preventive Service Planning

Before installing WebSphere Rep Server for z/OS, you should review the current Preventive Service Planning (PSP) information. If you obtained WebSphere Rep Server for z/OS as part of a CBPDO, there is HOLDDATA and PSP information included on the CBPDO.

If the CBPDO for WebSphere Rep Server for z/OS is more than two weeks old when you install it, you should contact the IBM Support Center, use S/390 SoftwareXcel to obtain the current “PSP Bucket” or obtain the current PSP from the web at https://techsupport.services.ibm.com/server/390.psp390

For program support, access the Software Support web site at http://www-3.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 WebSphere Rep Server for z/OS are:

<table>
<thead>
<tr>
<th>UPGRADE</th>
<th>SUBSET</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5655R55</td>
<td>HAAW910</td>
<td>Websphere Replication / EP Products Base</td>
</tr>
<tr>
<td>5655R55</td>
<td>JAAW911</td>
<td>Q-Capture for DB2</td>
</tr>
<tr>
<td>5655R55</td>
<td>JAAW912</td>
<td>Q-Apply for DB2</td>
</tr>
<tr>
<td>5655R55</td>
<td>JAAW913</td>
<td>SQL-Replication for DB2</td>
</tr>
</tbody>
</table>

For additional Service related information, visit http://www.ibm.com/software/data/db2imstools/support.html
3.3 Statement of Support Procedures

Report any difficulties you have using this program to your IBM Support Center. If an APAR is required, the Support Center will provide the address to which any needed documentation can be sent.

Figure 9 identifies the component IDs (COMPID) for WebSphere Rep Server for z/OS.

<table>
<thead>
<tr>
<th>FMID</th>
<th>COMPID</th>
<th>Component Name</th>
<th>RETAIN Release</th>
</tr>
</thead>
<tbody>
<tr>
<td>HAAW910</td>
<td>5655L8800</td>
<td>Websphere Replication / EP Products Base</td>
<td>910</td>
</tr>
<tr>
<td>JAAW911</td>
<td>5655L8800</td>
<td>Q-Capture for DB2</td>
<td>911</td>
</tr>
<tr>
<td>JAAW912</td>
<td>5655L8800</td>
<td>Q-Apply for DB2</td>
<td>912</td>
</tr>
<tr>
<td>JAAW913</td>
<td>5655L8800</td>
<td>SQL-Replication for DB2</td>
<td>913</td>
</tr>
</tbody>
</table>
4.0 Program and Service Level Information

This section identifies the program and any relevant service levels of WebSphere Rep Server for z/OS. The program level refers to the APAR fixes incorporated into the program. The service level refers to the PTFs incorporated into the program.

4.1 Program Level Information

No APARs have been incorporated into WebSphere Rep Server for z/OS.

4.2 Service Level Information

No PTFs against this release of WebSphere Rep Server for z/OS have been incorporated into the product tape.
5.0 Installation Requirements and Considerations

The following sections identify the system requirements for installing and activating WebSphere Rep Server for z/OS. The following terminology is used:

- **Driving system**: the system used to install the program.
- **Target system**: the system on which the program is installed.

In many cases, the same system can be used as both a driving system and a target system. However, you may want to set up a clone of your system to use as a target system by making a separate IPL-able copy of the running system. The clone should 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.

Some cases where two systems should be used include the following:

- When installing a new level of a product that is already installed, the new product will delete the old one. By installing onto a separate target system, you can test the new product while still keeping the old one in production.
- When installing a product that shares libraries or load modules with other products, the installation can disrupt the other products. Installing onto a test system or clone will allow you to 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 WebSphere Rep Server for z/OS.

5.1.1 Machine Requirements

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

5.1.2 Programming Requirements

<table>
<thead>
<tr>
<th>Program Number</th>
<th>Product Name and Minimum VRM/Service Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any one of the following:</td>
<td></td>
</tr>
<tr>
<td>5694-A01</td>
<td>z/OS V01.06.00 or later</td>
</tr>
<tr>
<td>5655-G52</td>
<td>z/OS.e V01.06.00 or later</td>
</tr>
<tr>
<td>5655-G44</td>
<td>IBM SMP/E for z/OS V03.03.00 or later</td>
</tr>
</tbody>
</table>
5.2 Target System Requirements

This section describes the environment of the target system required to install and use WebSphere Rep Server for z/OS.

WebSphere Rep Server for z/OS 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: An installation requisite is defined as a product that is required and must be present or one that is not required but should be present on the system for the successful installation of this product.

A mandatory installation requisite identifies products that are required, without exception, or this product will not install on your system. This includes products specified as PREs or REQs.

WebSphere Rep Server for z/OS has no mandatory installation requisites.

A conditional installation requisite identifies products that are not required for successful install but may resolve such things as certain warning messages at installation time. They include products that are specified as IF REQs.

WebSphere Rep Server for z/OS has no conditional installation requisites.

5.2.2.2 Operational Requisites: An operational requisite is defined as a product that is required and must be present or a product that is not required but should be present on the system in order for this product to operate all or some of its functions.

A mandatory operational requisite identifies products that are required, without exception, or this product will not operate its basic function unless the requisite is met. This includes products specified as PREs or REQs.

<table>
<thead>
<tr>
<th>Program Number</th>
<th>Product Name and Minimum VRM/Service Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>5655-F10</td>
<td>WebSphere MQ for z/OS V05.03.01 or later*</td>
</tr>
<tr>
<td>5675-DB2</td>
<td>DB2 V07.01.00</td>
</tr>
</tbody>
</table>

Any one of the following:
**Note:** WebSphere MQ for z/OS is only required for Rep Svr Q Rep for DB2 V9, and Rep Svr Q and SQL Rep DB2 V9 features. It is NOT required for the Rep Svr SQL Rep for DB2 V9 feature. A restricted use license of WebSphere MQ for z/OS, V06.01 is included with WebSphere Replication Server for z/OS, V09.01 (5655-R55).

A conditional operational requisite identifies products that are not required for the basic function but are needed at run time for this product to utilize specific functions. They may include products specified as IF REQs.

<table>
<thead>
<tr>
<th>Program Number</th>
<th>Product Name and Minimum VRM/Service Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>5625-DB2</td>
<td>DB2 V08.01.00</td>
</tr>
</tbody>
</table>

5.2.2.3 **Toleration/Coexistence Requisites:** A toleration/coexistence requisite is defined as a product which must be present on a sharing system. 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 at different time intervals.

WebSphere Rep Server for z/OS has no toleration/coexistence requisites.

5.2.2.4 **Incompatibility (Negative) Requisites:** A negative requisite identifies products which must not be installed on the same system as this product.

WebSphere Rep Server for z/OS has no negative requisites.
5.2.3 DASD Storage Requirements

WebSphere Rep Server for z/OS libraries can reside on all supported DASD types. The values below are for 3390 DASD.

Figure 13 on page 16 lists the total space required for each type of library.

<table>
<thead>
<tr>
<th>Library Type</th>
<th>Total Space Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target</td>
<td>1959 tracks</td>
</tr>
<tr>
<td>Distribution</td>
<td>2109 tracks</td>
</tr>
<tr>
<td>HFS</td>
<td>6200 sectors</td>
</tr>
</tbody>
</table>

Notes:

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

2. Abbreviations used for the data set type are:
   - **U**: Unique data set, allocated by this product and used only by this product. To determine the correct storage needed for this data set, this table provides all required information; no other tables (or Program Directories) need to be referenced for the data set size.
   - **S**: Shared data set, allocated by this product and used by this product and others. To determine the correct storage needed for this data set, the storage size given in this table needs to be added to 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 others. This data set is NOT allocated by this product. To determine the correct storage needed for this data set, the storage size given in this table needs to be added to other tables (perhaps in other program directories). This existing data set 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 one and reclaim the space used by the old release and any service that had been installed. You can determine whether or not 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 on the names and sizes of the required data sets, please refer to 6.1.7, “Allocate SMP/E Target and Distribution Libraries” on page 23.

3. Abbreviations used for the HFS Path type are:
   - **N**: New path, created by this product.
   - **X**: Path created by this product, but may already exist from a previous release.
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 may be changed.
   - The default block size of the data set may be changed.
   - The data set may be merged with another data set that has equivalent characteristics.
   - The data set may be either a PDS or a PDSE.

5. All target libraries listed have the following attributes:
   - The data set may be SMS-managed.
   - It is not required for the data set to be SMS-managed.
   - It is not required for the data set to reside on the IPL volume.
   - The values in the "Member Type" column are not necessarily the actual SMP/E element types identified in the SMPMCS.

6. All target libraries listed which contain load modules have the following attributes:
   - The data set may be in the LPA.
   - It is not required for the data set to be in the LPA.
   - The data set may be in the LNKLST.
   - SASNLOAD only needs to be APF authorized for Qcapture and SQL Capture.

The following figures describe the target and distribution libraries and HFS paths required to install WebSphere Rep Server for z/OS. The storage requirements of WebSphere Rep Server for z/OS must be added to the storage required by other programs having data in the same library or path.

**Note:** The data in these tables should be used when determining 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 14. Storage Requirements for WebSphere Rep Server for z/OS Target Libraries

<table>
<thead>
<tr>
<th>Library DDNAME</th>
<th>Member Type</th>
<th>Target Volume</th>
<th>REO</th>
<th>LRE</th>
<th>No. of 3390 Trks</th>
<th>No. of DIR Blks</th>
</tr>
</thead>
<tbody>
<tr>
<td>SASNBASE</td>
<td>Sample</td>
<td>any</td>
<td>U</td>
<td>PDS</td>
<td>80</td>
<td>9</td>
</tr>
<tr>
<td>SASNDBRM</td>
<td>Macro</td>
<td>any</td>
<td>U</td>
<td>PDS</td>
<td>80</td>
<td>75</td>
</tr>
<tr>
<td>SASNLOAD</td>
<td>LMOD</td>
<td>any</td>
<td>U</td>
<td>PDS</td>
<td>0</td>
<td>1800</td>
</tr>
<tr>
<td>SASNSAMP</td>
<td>Sample</td>
<td>any</td>
<td>U</td>
<td>PDS</td>
<td>80</td>
<td>75</td>
</tr>
</tbody>
</table>
### Figure 15. WebSphere Rep Server for z/OS HFS Paths

<table>
<thead>
<tr>
<th>DDNAME</th>
<th>TYP E</th>
<th>Path Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>SASNMSGS</td>
<td>N</td>
<td>/usr/lpp/db2repl_09_01/msg/IBM</td>
</tr>
<tr>
<td></td>
<td></td>
<td>/usr/lpp/db2repl_09_01/IBM</td>
</tr>
<tr>
<td></td>
<td></td>
<td>/usr/lpp/db2repl_09_01/bin/IBM</td>
</tr>
<tr>
<td></td>
<td></td>
<td>/usr/lpp/db2repl_09_01/msg/Da_DK/IBM/</td>
</tr>
<tr>
<td></td>
<td></td>
<td>/usr/lpp/db2repl_09_01/msg/EN_UP/IBM/</td>
</tr>
<tr>
<td></td>
<td></td>
<td>/usr/lpp/db2repl_09_01/msg/Es_ES/IBM/</td>
</tr>
<tr>
<td></td>
<td></td>
<td>/usr/lpp/db2repl_09_01/msg/Fr_FR/IBM/</td>
</tr>
<tr>
<td></td>
<td></td>
<td>/usr/lpp/db2repl_09_01/msg/It_IT/IBM/</td>
</tr>
<tr>
<td></td>
<td></td>
<td>/usr/lpp/db2repl_09_01/msg/Ko_KR/IBM/</td>
</tr>
<tr>
<td></td>
<td></td>
<td>/usr/lpp/db2repl_09_01/msg/Pl_PL/IBM/</td>
</tr>
<tr>
<td></td>
<td></td>
<td>/usr/lpp/db2repl_09_01/msg/Sv_SE/IBM/</td>
</tr>
<tr>
<td></td>
<td></td>
<td>/usr/lpp/db2repl_09_01/msg/zh_CN/IBM/</td>
</tr>
<tr>
<td></td>
<td></td>
<td>/usr/lpp/db2repl_09_01/msg/De_DE/IBM/</td>
</tr>
<tr>
<td></td>
<td></td>
<td>/usr/lpp/db2repl_09_01/msg/En_US/IBM/</td>
</tr>
<tr>
<td></td>
<td></td>
<td>/usr/lpp/db2repl_09_01/msg/Fi_FI/IBM/</td>
</tr>
<tr>
<td></td>
<td></td>
<td>/usr/lpp/db2repl_09_01/msg/Ja_JP/IBM/</td>
</tr>
<tr>
<td></td>
<td></td>
<td>/usr/lpp/db2repl_09_01/msg/No_NO/IBM/</td>
</tr>
<tr>
<td></td>
<td></td>
<td>/usr/lpp/db2repl_09_01/msg/Pt_BR/IBM/</td>
</tr>
<tr>
<td></td>
<td></td>
<td>/usr/lpp/db2repl_09_01/msg/Zh_TW/IBM/</td>
</tr>
<tr>
<td></td>
<td></td>
<td>/usr/lpp/db2repl_09_01/msg/Ru_RU/IBM/</td>
</tr>
<tr>
<td></td>
<td></td>
<td>/usr/lpp/db2repl_09_01/msg/Cs_CZ/IBM/</td>
</tr>
</tbody>
</table>

### Figure 16. Storage Requirements for WebSphere Rep Server for z/OS Distribution Libraries

<table>
<thead>
<tr>
<th>Library</th>
<th>DDNAME</th>
<th>TYP E</th>
<th>ROC E</th>
<th>LEC E</th>
<th>No. of 3390 Trks</th>
<th>No. of DIR Blks</th>
</tr>
</thead>
<tbody>
<tr>
<td>AASNBASE</td>
<td>U</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>AASNDBRM</td>
<td>U</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
<td>75</td>
<td>5</td>
</tr>
<tr>
<td>AASNLOAD</td>
<td>U</td>
<td>PDS</td>
<td>U</td>
<td>0</td>
<td>1800</td>
<td>10</td>
</tr>
<tr>
<td>AASNMSGS</td>
<td>U</td>
<td>PDS</td>
<td>VB</td>
<td>256</td>
<td>150</td>
<td>5</td>
</tr>
<tr>
<td>AASNSAMP</td>
<td>U</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
<td>75</td>
<td>5</td>
</tr>
</tbody>
</table>
5.3 FMIDs Deleted

Installing WebSphere Rep Server for z/OS may result in the deletion of other FMIDs. To see what FMIDs will be deleted, examine the ++VER statement in the product's SMPMCS.

If you do not wish to delete these FMIDs at this time, you must install WebSphere Rep Server for z/OS into separate SMP/E target and distribution zones.

**Note:** These FMIDs will not automatically be deleted from the Global Zone. Consult the SMP/E manuals for instructions on how to do this.

5.4 Special Considerations

WebSphere Rep Server for z/OS has no special considerations for the target 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 WebSphere Rep Server for z/OS.

Please note the following:

- If you want to install WebSphere Rep Server for z/OS 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.
- Sample jobs have been provided to help perform some or all of the installation tasks. The SMP/E jobs assume that all DDDEF entries required for SMP/E execution have been defined in the appropriate zones.
- The SMP/E dialogs may be used instead of the sample jobs to accomplish the SMP/E installation steps.

6.1 Installing WebSphere Rep Server for z/OS

6.1.1 SMP/E Considerations for Installing WebSphere Rep Server for z/OS

This release of WebSphere Rep Server for z/OS is installed using the SMP/E RECEIVE, APPLY, and ACCEPT commands. The SMP/E dialogs may be used to accomplish the SMP/E installation steps.

6.1.2 SMP/E Options Subentry Values

The recommended values for some SMP/E CSI subentries are shown in Figure 17. Use of values lower than these may result in failures in the installation process. DSSPACE is a subentry in the GLOBAL options entry. PEMAX is a subentry of the GENERAL entry in the GLOBAL options entry. Refer to the SMP/E manuals for instructions on updating the global zone.

<table>
<thead>
<tr>
<th>SUB-ENTRY</th>
<th>Value</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSSPACE</td>
<td>(200,200,500)</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 WebSphere Rep Server for z/OS:
You may access the sample installation jobs by performing an SMP/E RECEIVE and then copying the jobs from the relfiles to a work data set for editing and submission. See Figure 18 on page 20 to find the appropriate relfile data set.

You may copy the jobs from the tape or product files by submitting the job below. Use either the //TAPEIN or the //FILEIN DD statement, depending on your distribution medium, by uncommenting the appropriate DD statement below. Add a job card and change the lowercase parameters to uppercase values to meet your site’s requirements before submitting.

//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.HAAW910.F6,UNIT=tunit,  
//* VOL=SER=volsr,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. *  
//******************************************************************************

<table>
<thead>
<tr>
<th>Job Name</th>
<th>Job Type</th>
<th>Description</th>
<th>RELFILE</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASNALA</td>
<td>SMP/E</td>
<td>Sample job to allocate and initialize a new SMP/E CSI data set (Optional)</td>
<td>IBM.HAAW910.F6</td>
</tr>
<tr>
<td>ASNALB</td>
<td>SMP/E</td>
<td>Sample job to allocate SMP/E data sets (Optional)</td>
<td>IBM.HAAW910.F6</td>
</tr>
<tr>
<td>ASNRECV0</td>
<td>RECEIVE</td>
<td>Sample RECEIVE job for HAAW910</td>
<td>IBM.HAAW910.F6</td>
</tr>
<tr>
<td>ASNRECV1</td>
<td>RECEIVE</td>
<td>Sample RECEIVE job for JAAW911</td>
<td>IBM.HAAW910.F6</td>
</tr>
<tr>
<td>ASNRECV2</td>
<td>RECEIVE</td>
<td>Sample RECEIVE job for JAAW912</td>
<td>IBM.HAAW910.F6</td>
</tr>
<tr>
<td>ASNRECV3</td>
<td>RECEIVE</td>
<td>Sample RECEIVE job for JAAW913</td>
<td>IBM.HAAW910.F6</td>
</tr>
<tr>
<td>ASNALLOC</td>
<td>ALLOCATE</td>
<td>Sample job to allocate target and distribution libraries</td>
<td>IBM.HAAW910.F6</td>
</tr>
<tr>
<td>ASNISMKD</td>
<td>MKDIR</td>
<td>Sample job to invoke the supplied ASNMKDIR EXEC to allocate HFS paths</td>
<td>IBM.HAAW910.F6</td>
</tr>
<tr>
<td>ASNISLKM</td>
<td>MKDIR</td>
<td>Sample job to invoke the supplied ASNLKMSG EXEC to create symbolic links</td>
<td>IBM.HAAW910.F6</td>
</tr>
<tr>
<td>ASNDDEF</td>
<td>DDDEF</td>
<td>Sample job to define SMP/E DDDEFs</td>
<td>IBM.HAAW910.F6</td>
</tr>
<tr>
<td>ASNAPPLY</td>
<td>APPLY</td>
<td>Sample APPLY job</td>
<td>IBM.HAAW910.F6</td>
</tr>
<tr>
<td>ASNACCEP</td>
<td>ACCEPT</td>
<td>Sample ACCEPT job</td>
<td>IBM.HAAW910.F6</td>
</tr>
</tbody>
</table>
/*TAPEIN DD DSN=IBM.HAAW91.0.F6,UNIT=tunit,*/
/* VOL=SER=AAW910,LABEL=(7,SL),*/
/* DISP=(OLD,KEEP)*/

/**************************
/* Make the //FILEIN DD statement below active for */
/* downloaded DASD files. */
**************************
/*FILEIN DD DSN=IBM.HAAW91.0.F6,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 */

In the sample above, update the statements as noted below:

If using TAPEIN:
- tunit is the unit address where the product tape is mounted
- volser is the volume serial matching the product tape
- x is the tape file number where the data set name is on the tape
- Refer to the documentation provided by CBPDO to see where IBM.HAAW910.0.F6 is on the tape.

If using 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 will be stored
- dasdvol is the volume serial of the DASD device where the output data set will reside

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 ASNALA to allocate
the SMP/E data set for WebSphere Rep Server for z/OS.

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 ASNALB to initialize SMP/E zones for WebSphere Rep Server for z/OS.
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

Note: If you obtained WebSphere Rep Server for z/OS as part of a CBPDO, use the RCVPDO job found in the CBPDO RIMLIB data set to RECEIVE the WebSphere Rep Server for z/OS FMID as well as any service, HOLDDATA, or preventive service planning (PSP) information included on the CBPDO tape. For more information, refer to the documentation included with the CBPDO.

If you are installing the WebSphere Replication Server for Q Replicating of DB2 for z/OS feature, you can choose to edit and submit sample jobs ASNRECV0, ASNRECV1, and ASNRECV2 to perform the SMP/E RECEIVE. Consult the instructions in the sample jobs for more information.

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

If you are installing the WebSphere Replication Server for SQL Replicating of DB2 for z/OS feature, you can choose to edit and submit sample jobs ASNRECV0, and ASNRECV3 to perform the SMP/E RECEIVE. Consult the instructions in the sample jobs for more information.

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

If you are installing the WebSphere Replication Server for SQL Replicating and Q Replicating of DB2 for z/OS feature, you can choose to edit and submit sample jobs ASNRECV0, ASNRECV1, ASNRECV2, and ASNRECV3 to perform the SMP/E RECEIVE. Consult the instructions in the sample jobs for more information.

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

6.1.7 Allocate SMP/E Target and Distribution Libraries

Edit and submit sample job ASNALLOC to allocate the SMP/E target and distribution libraries for WebSphere Rep Server for z/OS. 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 HFS Paths

You must install this product into an HFS file system. You can create a new HFS for this product, or install it into an exiting HFS.

Edit and submit sample job ASNISMKD to allocate the HFS paths for WebSphere Rep Server for z/OS. 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.

You may choose to edit and submit sample job ASNISLKM to create symbolic links from an NLSPATH to the message catalogs that you are installing, for WebSphere Rep Server for z/OS. 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.

Please note:

- The user ID that submits the ASNISMKD and ASNISLKM jobs must have authority to use z/OS UNIX services
- The user ID that submits the ASNISLKM must have permission to access the -NlsPath- directory, so that it can create subdirectories
- Superuser status is required to preserve access permission bits

If you plan to create a new HFS for this product, you should consider updating the BPXPRMxx PARMLIB member to mount the new HFS at IPL time. This may be helpful if an IPL occurs before the installation is complete.

6.1.9 Create DDDEF Entries

Edit and submit sample job ASNDDDEF to create DDDEF entries for the SMP/E target and distribution libraries for WebSphere Rep Server for z/OS. 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

Edit and submit sample job ASNAPPLY to perform an SMP/E APPLY CHECK for WebSphere Rep Server for z/OS. 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 following on the APPLY CHECK: PRE, ID, REQ, and IFREQ. This is because the SMP/E root cause analysis identifies the cause only of ERRORS and not of WARNINGS (SYSMODs that are bypassed are treated as warnings, not errors, by SMP/E).

Enhanced HOLDDATA introduced ERROR HOLDs against FMIDs for HIPER APARs. Prior to installing, you should ensure you have the latest Enhanced HOLDDATA (available at url http://service.software.ibm.com/holddata/390holddata.html). The FMID(s) should be installed regardless of the status of unresolved HIPERs, however, the software should not be deployed until the unresolved HIPERs have been analyzed to determine applicability.

There are two methods to complete an FMID installation where ++HOLDs for HIPERs exist for the FMID(s) being installed:

1. To ensure that all critical service is installed with the FMID(s), add the SOURCEIDs of PRP, and HIPER to the APPLY command. There may be PE or HIPER APARs that do not have resolving PTFs available yet. You need to analyze the symptom flags to determine if you want to BYPASS the specific ERROR HOLDs and continue the FMID installation.
This method requires more initial research, but will provide resolution for all HIPERs that have fixes available and are not in a PE chain. There may still be unresolved PEs or HIPERs which will require the use of BYPASS.

2. To install the FMID(s) as it would have been installed prior to Enhanced HOLDDATA, you can add a BYPASS(HOLDCLASS(HIPER)) operand to the APPLY command. This will allow the FMID to be installed even though there are HIPER ERROR HOLDs against it. Note that not all ERROR HOLDs were bypassed, only the HIPER ERROR HOLDs. After the FMID(s) are installed, the SMP/E REPORT ERRSYSMODS command should be run to identify any missing HIPER maintenance.

   APPLY S(fmid,fmid,...)  
   BYPASS(HOLDCLASS(HIPER)).

   This method is the quicker of the two, but requires subsequent review of the REPORT ERRSYSMODS to investigate any HIPERs.

If you bypass any HOLDs during the installation of the FMID(s) because fixing PTFs were not yet available you can use the APAR Status Tracking (AST) function of ServiceLink or the APAR Tracking function of ResourceLink to be notified when the fixing PTF is available.

Once you have taken any actions 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 apply 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 ASNACCEP to perform an SMP/E ACCEPT CHECK for WebSphere Rep Server for z/OS. 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 following on the ACCEPT CHECK: PRE, ID, REQ, and IFREQ. This is because the SMP/E root cause analysis identifies the cause only of **ERRORS** and not of **WARNINGS** (SYSMODs that are bypassed are treated as warnings, not errors, by SMP/E).

Before using SMP/E to load new distribution libraries, it is recommended that you set the ACCJCLIN indicator in the distribution zone. This will cause entries produced from JCLIN to be saved in the
distribution zone whenever a SYSMOD containing inline JCLIN is ACCEPTed. For more information on the ACCEJCLIN indicator, see the description of inline JCLIN in the SMP/E manuals.

Once you have taken any actions 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 accept 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 containing replacement modules are being ACCEPTed, SMP/E ACCEPT processing will linkedit/bind the modules into the distribution libraries. During this processing, the Linkage Editor or Binder may issue messages documenting unresolved external references, resulting in a return code of 4 from the ACCEPT step. These messages can be ignored, because the distribution libraries are not executable and the unresolved external references will not affect the executable system libraries.

**Expected Return Codes and Messages from ACCEPT if no PTFs are being installed:** 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 will identify requisites defined for products that have been installed in separate zones. This command will also create APPLY and ACCEPT commands in the SMPPUNCH data set which you can use to install those cross-zone requisites it identifies.

After you have installed WebSphere Rep Server for z/OS, 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 describing all the target and distribution libraries to be reported on.

For more information on REPORT CROSSZONE, see the SMP/E manuals.
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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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Program Directory for IBM WebSphere Replication Server for z/OS, September 2006

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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.

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RATING SCALE

very satisfied <=very satisfied applicable
very dissatisfied not
not applicable

1 2 3 4 5 N

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

How did you order this product?

[_] CBPDO
[_] 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:

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Please provide the following contact information:

______________________________________________________________________________________
Name and Job Title

______________________________________________________________________________________
Organization

______________________________________________________________________________________
Address

______________________________________________________________________________________
Telephone

Thank you for your participation.

Please send the completed form to (or give to your IBM representative who will forward it to the IBM WebSphere Replication Server for z/OS Development group):
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