



Informatica® PowerExchange
10.5.3

Release Guide

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Table of Contents

Preface	9
Informatica Resources.	9
Informatica Network.	9
Informatica Knowledge Base.	9
Informatica Documentation.	9
Informatica Product Availability Matrices.	10
Informatica Velocity.	10
Informatica Marketplace.	10
Informatica Global Customer Support.	10
 Chapter 1: Summary of PowerExchange New Features and Changes.....	11
About This Summary.	11
PowerExchange 10.5.3.	12
New Features in 10.5.3.	12
Parameter and Option Changes in 10.5.3.	12
Changes to Supported Operating Systems and Data Sources in 10.5.3.	13
PowerExchange 10.5.2.	15
New Features in 10.5.2.	15
Parameter and Option Changes in 10.5.2.	15
Command Changes in 10.5.2.	17
Behavior Changes in 10.5.2.	18
Changes to Supported Operating Systems and Data Sources in 10.5.2.	18
PowerExchange 10.5.1.	19
New Features in 10.5.1.	19
Parameter and Option Changes in 10.5.1.	19
Changes to Supported Operating Systems and Data Sources in 10.5.1.	20
PowerExchange 10.5.	20
New Features in 10.5.	21
Parameter and Option Changes in 10.5.	21
Command Changes in 10.5.	24
Changes to Supported Operating Systems and Data Sources in 10.5.	25
Security Change in 10.5.	26
PowerExchange 10.4.1.	27
New Features in 10.4.1.	27
Parameter and Option Changes in 10.4.1.	27
Changes to Supported Operating Systems and Data Sources in 10.4.1.	28
PowerExchange IPv6 Communication with Clients.	29
PowerExchange 10.4.0 HotFix 1.	29
Phased Release of PowerExchange 10.4.0 HotFix 1.	29
New Features in 10.4.0 HotFix 1.	29

Parameter and Option Changes in 10.4.0 HotFix 1.	30
Changes to Supported Operating Systems and Data Sources in 10.4.0 HotFix 1.	30
PowerExchange 10.4.0.	31
New Features in 10.4.0.	31
Parameter and Option Changes in 10.4.0.	32
Changes to Supported Operating Systems and Data Sources in 10.4.0.	34
Chapter 2: PowerExchange Installation and Upgrade.	37
PowerExchange 10.5.3 - New Features and Changes for Installation and Upgrade.	37
IBM i Installation Enhancement.	37
PowerExchange 10.5.2 - New Features and Changes for Installation and Upgrade.	37
IBM i Installation.	38
Manual Installation on IBM i.	38
PowerExchange 10.5.1 - New Features and Changes for Installation and Upgrade.	38
Upgrade Consideration for IBM i.	38
PowerExchange 10.4.1 - New Features and Changes for Installation and Upgrade.	39
New Features in 10.4.1.	39
Behavior Changes in 10.4.1.	39
PowerExchange 10.4.0 - New Features and Changes for Installation and Upgrade.	39
New Features in 10.4.0.	39
Behavior Changes in 10.4.0.	40
Chapter 3: PowerExchange Client for PowerCenter.	41
PowerCenter 10.5.2 - New Features and Changes for the PowerExchange Client for PowerCenter.	41
New Features in 10.5.2.	41
Parameter and Option Changes in 10.5.2.	41
PowerCenter 10.5.1 - New Features and Changes for the PowerExchange Client for PowerCenter.	42
New Features in 10.5.1.	42
Chapter 4: PowerExchange Condense.	44
PowerExchange 10.5.2 - New Features and Changes for PowerExchange Condense.	44
Behavior Change in 10.5.2.	44
Chapter 5: PowerExchange Listener.	45
PowerExchange 10.5.3 - New Features and Changes for the PowerExchange Listener.	45
Parameter and Option Changes in 10.5.3.	45
Behavior Changes in 10.5.3.	46
PowerExchange 10.5.2 - New Features and Changes for the PowerExchange Listener.	47
New Features in 10.5.2.	47
Parameter and Option Changes in 10.5.2.	47
PowerExchange 10.5.1 - New Features and Changes for the PowerExchange Listener.	49
Parameter and Option Changes in 10.5.1.	49
PowerExchange 10.5 - New Features and Changes for the PowerExchange Listener.	51

Parameter and Option Changes in 10.5.	51
PowerExchange 10.4.1 - New Features and Changes for the PowerExchange Listener.	53
Parameter and Option Changes in 10.4.1.	53
PowerExchange 10.4.0 HotFix 1 - New Features and Changes for the PowerExchange Listener.	53
Parameter and Option Changes in 10.4.0 HotFix 1.	53
PowerExchange 10.4.0 - New Features and Changes for the PowerExchange Listener.	55
Parameter and Option Changes in 10.4.0.	55
Chapter 6: PowerExchange Logger for Linux, UNIX, and Windows.....	58
PowerExchange 10.5.3 - New Features and Changes for the PowerExchange Logger.	58
Parameter and Option Changes in 10.5.3.	58
PowerExchange 10.5.2 - New Features and Changes for the PowerExchange Logger.	59
Parameter and Option Changes in 10.5.2.	59
Behavior Change in 10.5.2.	59
Chapter 7: PowerExchange Navigator.....	60
PowerExchange 10.5.3 - New Features and Changes for the PowerExchange Navigator.	60
New Features for 10.5.3.	60
PowerExchange 10.5.2 - New Features and Changes for the PowerExchange Navigator.	61
Behavior Changes in 10.5.2.	61
PowerExchange 10.5 - New Features and Changes for the PowerExchange Navigator.	62
New Features for 10.5.	62
Parameter and Option Changes for 10.5.	62
PowerExchange 10.4.1 - New Features and Changes for the PowerExchange Navigator.	63
New Features	63
Behavior Changes in 10.4.1.	63
Chapter 8: PowerExchange Monitoring and Tuning.....	64
PowerExchange 10.4.0 - New Features and Changes for Monitoring and Tuning.	64
Parameter and Option Changes in 10.4.0.	64
Chapter 9: PowerExchange Utilities.....	65
PowerExchange 10.5.3 - New Features and Changes for PowerExchange Utilities.	65
New Features in 10.5.3.	65
Parameter and Option Changes for 10.5.3.	66
PowerExchange 10.5.2 - New Features and Changes for PowerExchange Utilities.	66
New Features in 10.5.2.	66
Parameter and Option Changes in 10.5.2.	67
Behavior Changes in 10.5.2.	67
PowerExchange 10.5.1 - New Features and Changes for PowerExchange Utilities.	67
Parameter and Option Changes in 10.5.1.	67
PowerExchange 10.5 - New Features and Changes for PowerExchange Utilities.	68
New Features in 10.5.	68

Command Changes in 10.5.	69
Parameter and Option Changes in 10.5.	71
PowerExchange 10.4.1 - New Features and Changes for PowerExchange Utilities.	73
New Features in 10.4.1.	73
Parameter and Option Changes in 10.4.1.	74
PowerExchange 10.4.0 - New Features and Changes for PowerExchange Utilities.	74
New Features in 10.4.0.	74
Parameter and Option Changes in 10.4.0.	76
Behavior Change in 10.4.0	78
Chapter 10: PowerExchange for Adabas.....	79
PowerExchange 10.5 - New Features and Changes for Adabas.	79
Parameter and Option Changes in 10.5.	79
PowerExchange 10.4.1 - New Features and Changes for Adabas.	80
New Features in 10.4.1.	80
Chapter 11: PowerExchange for DB2 for i.....	81
PowerExchange 10.5.3 - New Features and Changes for Db2 for i.	81
New Features in 10.5.3.	81
Parameter and Option Changes in 10.5.3.	82
PowerExchange 10.5.2 - New Features and Changes for Db2 for i.	82
Parameter and Option Changes in 10.5.2.	82
Behavior Changes in 10.5.2.	83
PowerExchange 10.5 - New Features and Changes for Db2 for i.	83
New Features in 10.5.	83
Parameter and Option Changes in 10.5.	84
PowerExchange 10.4.0 - New Features and Changes for Db2 for i.	85
New Features in 10.4.0.	85
Chapter 12: PowerExchange for DB2 for Linux, UNIX, and Windows.....	87
PowerExchange 10.5 - New Features and Changes for DB2 for Linux, UNIX, and Windows.	87
New Features in 10.5.	87
Behavior Changes in 10.5.	87
PowerExchange 10.4.0 HotFix 1 - New Features and Changes for DB2 for Linux, UNIX, and Windows.	88
Parameter and Option Changes in 10.4.0 HotFix 1.	88
Chapter 13: PowerExchange for DB2 for z/OS.....	90
PowerExchange 10.5.3 - Features and Changes for DB2 for z/OS.	90
New Features in 10.5.3.	90
PowerExchange 10.5.2 - New Features and Changes for DB2 for z/OS.	90
Parameter and Option Changes in 10.5.2.	91
PowerExchange 10.5.1 - New Features and Changes for DB2 for z/OS.	91

New Features in 10.5.1.	91
Parameter and Option Changes in 10.5.1.	92
PowerExchange 10.4.1 - New Features and Changes for DB2 for z/OS.	92
New Features in 10.4.1.	92
Parameter and Option Changes in 10.4.1.	92
Chapter 14: PowerExchange for IMS.	94
PowerExchange 10.5.2 - New Features and Changes for IMS.	94
Parameter and Option Changes in 10.5.2.	94
PowerExchange 10.5.1 - New Features and Changes for IMS.	95
New Features in 10.5.1.	95
PowerExchange 10.5 - New Features and Changes for IMS.	95
New Features in 10.5.	95
PowerExchange 10.4.0 - New Features and Changes for IMS.	96
New Features in 10.4.0.	96
Parameter and Option Changes in 10.4.0.	98
Chapter 15: PowerExchange for Microsoft SQL Server.	99
PowerExchange 10.4.1 - New Features and Changes for SQL Server.	99
Parameter and Option Changes in 10.4.1.	99
PowerExchange 10.4.0 HotFix 1 - New Features and Changes for SQL Server.	100
New Features in 10.4.0 HotFix 1.	100
PowerExchange 10.4.0 - New Features and Changes for SQL Server.	100
Parameter and Option Changes in 10.4.0.	100
Chapter 16: PowerExchange for MySQL.	102
PowerExchange 10.4.1 - New Features and Changes for MySQL.	102
New Features in 10.4.1.	102
PowerExchange 10.4.0 HotFix 1 - New Features and Changes for MySQL.	102
New Features in 10.4.0 HotFix 1.	102
PowerExchange 10.4.0 - New Features and Changes for MySQL.	103
New Features in 10.4.0.	103
Parameter and Option Changes in 10.4.0.	103
Chapter 17: PowerExchange for Oracle	105
PowerExchange 10.5.3 - New Features and Changes for Oracle.	105
New Features in 10.5.3.	105
Parameter and Option Changes in 10.5.3.	105
PowerExchange 10.5.2 - New Features and Changes for Oracle.	106
New Features in 10.5.2.	106
Parameter and Option Changes in 10.5.2.	107
PowerExchange 10.5.1 - New Features and Changes for Oracle.	109
New Features in 10.5.1.	109

Parameter and Option Changes in 10.5.1.	110
PowerExchange 10.5 - New Features and Changes for Oracle.	112
New Features in 10.5.	112
Parameter and Option Changes in 10.5.	112
PowerExchange 10.4.1 - New Features and Changes for Oracle.	116
New Features in 10.4.1.	116
Parameter and Option Changes in 10.4.1.	117
PowerExchange 10.4.0 HotFix 1 - New Features and Changes for Oracle.	118
New Features in 10.4.0 HotFix 1.	118
PowerExchange 10.4.0 - New Features and Changes for Oracle.	119
PowerExchange Oracle CDC with LogMiner Dropped.	119
New Features in 10.4.0.	119
Parameter and Option Changes in 10.4.0.	119
Chapter 18: PowerExchange for PostgreSQL.....	121
PowerExchange 10.5.2 - New Features and Changes for PostgreSQL.	121
New Features in 10.5.2.	121
Parameter and Option Changes in 10.5.2.	121
Behavior Changes in 10.5.2.	122
PowerExchange 10.5.1 - New Features and Changes for PostgreSQL.	122
New Features in 10.5.1.	123
PowerExchange 10.4.1 - New Features and Changes for PostgreSQL.	123
New Features in 10.4.1.	123
PowerExchange 10.4.0 HotFix 1 - New Features and Changes for PostgreSQL.	123
New Features in 10.4.0 HotFix 1.	123
PowerExchange 10.4.0 - New Features and Changes for PostgreSQL.	124
New Features in 10.4.0.	124
Parameter and Option Changes in 10.4.0.	124
Chapter 19: PowerExchange for SAP HANA.....	128
PowerExchange 10.5.2 - New Features and Changes for SAP HANA.	128
Behavior Changes in 10.5.2.	128
PowerExchange 10.5.1 - New Features and Changes for SAP HANA.	129
New Features in 10.5.1.	129
Parameter and Option Changes in 10.5.1.	129
Chapter 20: PowerExchange for VSAM and Flat Files.....	133
PowerExchange 10.5.3 - New Features and Changes for VSAM and Flat Files.	133
New Features in 10.5.3.	133
PowerExchange 10.5 - New Features and Changes for VSAM and Flat Files.	134
New Features in 10.5.	134
Index.....	135

Preface

Read the *Informatica® PowerExchange® Release Guide* to get a cumulative summary of product changes across recent PowerExchange releases. The guide covers new features, new and changed commands and parameters, and behavior changes, by component or source type. The guide also covers changes to supported data sources and operating systems and any removed functionality.

For lists of fixes, enhancements, and known limitations, see the *PowerExchange Release Notes*.

Informatica Resources

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To find online support resources on the Informatica Network, visit <https://network.informatica.com> and select the eSupport option.

CHAPTER 1

Summary of PowerExchange New Features and Changes

This chapter includes the following topics:

- [About This Summary, 11](#)
- [PowerExchange 10.5.3, 12](#)
- [PowerExchange 10.5.2, 15](#)
- [PowerExchange 10.5.1, 19](#)
- [PowerExchange 10.5, 20](#)
- [PowerExchange 10.4.1, 27](#)
- [PowerExchange 10.4.0 HotFix 1, 29](#)
- [PowerExchange 10.4.0, 31](#)

About This Summary

This chapter summarizes the new features and changes in recent PowerExchange releases and hotfixes.

For each release or hotfix, the following types of changes are described:

- New features
- New, changed, and deleted commands
- New, changed, and deleted parameters and options
- Changes to supported versions of operating systems and data sources
- Significant behavior changes
- Significant documentation changes

For more information about these changes, see the chapters for specific components and data sources.

The following releases and hotfixes are covered:

Version	Release Date
10.5.3	November 2022
10.5.2	April 2022

Version	Release Date
10.5.1	September 2021
10.5	March 2021
10.4.1	June 2020
10.4.0 HotFix 1	May 2020, phase 1 (IBM i, Red Hat Linux, and z/OS), phase 2 (Windows), and phase 3 (AIX)
10.4.0	December 2019

PowerExchange 10.5.3

This section lists the new features and changes in PowerExchange 10.5.3.

New Features in 10.5.3

The following table lists PowerExchange 10.5.3 features by PowerExchange component or data source:

Component or Data Source	Feature Reference
Db2 for i	“Db2 for i5/OS Version 7.5 Support” on page 82
Db2 for z/OS	“Db2 for z/OS Version 13 Support” on page 90
IBM i	“IBM i Installation Enhancement” on page 37
Oracle	“Support for Oracle 21c in Amazon RDS Environments” on page 105
PowerExchange Listener	“Non-relational Optimized Read Process” on page 46
PowerExchange Navigator	“New Functions for User-Defined Fields” on page 60
PowerExchange utilities	“DTLINFOX Utility” on page 65

Parameter and Option Changes in 10.5.3

PowerExchange 10.5.3 includes parameter and option changes.

DBMOVER Configuration File Statements

The following table identifies new, changed, or deprecated statements in the DBMOVER configuration file:

Statement	New, Changed, or Deprecated
JOB_START_MINIMUM_BELOWLINE_MEMORY_KB	New
CAPI_CONNECTION - AS4J Statement > JOURNAL	Changed
FILEMAPPED_MEMORY_DIR	Changed
IBMI_USE_DB2_SYSTEM_OBJECT_NAMES	New
LRECL	Changed
REPORT_UNUSED_OPT_READING_CONDITIONS	New

For more information, see ["DBMOVER Configuration File Statements" on page 45](#).

PowerExchange Express CDC for Oracle Configuration File

The following table identifies a changed statement in the PowerExchange Express CDC for Oracle configuration file, pwxorad.cfg:

Statement	New, Changed, or Deprecated
DATABASE	Changed - New RDSARCHIVEDIR and RDSONLINEDIR parameters

For more information, see ["PowerExchange Express CDC for Oracle Configuration File" on page 106](#).

PowerExchange Logger for LUW Configuration File

The following table identifies a changed parameter in the PowerExchange Logger for Linux, UNIX, and Windows configuration file:

Statement	New, Changed, or Deprecated
IBMIJRNLOVRD	Changed

For more information, see ["PowerExchange Logger for LUW Configuration File" on page 58](#).

Changes to Supported Operating Systems and Data Sources in 10.5.3

PowerExchange 10.5.3 introduces the following changes to the operating systems and data sources that PowerExchange supports.

For more information about version and maintenance requirements for operating systems and data sources, see the "Installation Planning" chapter in the *PowerExchange Installation and Upgrade Guide*.

Data Sources

The following table identifies added, dropped, or deferred data source or target versions in PowerExchange 10.5.3:

Data Source	Version	Operating System	Bulk	CDC	Added, Dropped, or Deferred
Amazon RDS for Oracle	21c	Amazon RDS for Oracle environments	-	X	Added
CICS Transaction Server	6.1	z/OS	Not applicable - Use VSAM bulk data movement instead.	X (sources only)	Added
Db2 for IBM i	7.5	IBM i	X	X (sources only)	Added
Db2 for z/OS	13	z/OS	X	X (sources only)	Added

For more information about version and maintenance requirements for operating systems and data sources, see the "Installation Planning" chapter in the *PowerExchange Installation and Upgrade Guide*.

Operating Systems

The following table identifies a change to supported operating system versions in PowerExchange 10.5.3:

Operating System	Version	Added or Dropped
Windows Server	2022	Added
IBM i	7.5	Added

For more information about version and maintenance requirements for operating systems and data sources, see the "Installation Planning" chapter in the *PowerExchange Installation and Upgrade Guide*.

PowerExchange Navigator client operating systems

The following table identifies changes to supported Windows operating system versions for the PowerExchange Navigator in PowerExchange 10.5.3:

Version	Added or Dropped
Windows Server 2022	Added
Windows 11 Client	Added

For more information about version and maintenance requirements for operating systems and data sources, see the "Installation Planning" chapter in the *PowerExchange Installation and Upgrade Guide*.

PowerExchange 10.5.2

This section lists the new features and changes in PowerExchange 10.5.2.

New Features in 10.5.2

The following table lists PowerExchange 10.5.2 features by PowerExchange component or data source:

Component or Data Source	Feature Reference
Oracle	"Support for Oracle 21c Sources" on page 106 "Support for Oracle Data Guard Far Sync Databases as Sources" on page 106 "Support for Oracle Column-Level Encryption" on page 107
PowerExchange Listener	"Improved Memory Management for Listeners on z/OS" on page 47
PowerExchange utilities	"PWXUCREG Utility Enhancements " on page 66 "PWXCATMY Utility Support for Encrypted Passwords" on page 66

Parameter and Option Changes in 10.5.2

PowerExchange 10.5.2 includes parameter and option changes.

DBMOVER Configuration File Statements

The following table identifies new, changed, or deprecated statements in the DBMOVER configuration file:

Statement	New, Changed, or Deprecated
AS4J CAPI_CONNECTION	Changed - New RTNBUFFSIZE parameter
CONVERT_CODEPAGES_WITH_ICONV	New
FILEMAPPED_MEMORY_DIR	Changed
IMSID	Changed
JOB_START_MINIMUM_MEMORY_MB	New
LISTENER	Changed
PG CAPI_CONNECTION	Changed - New CAPTUREALL parameter
UNLOGGED_ERROR_MESSAGES_DEST	New

For more information, see ["DBMOVER Configuration File Statements" on page 47](#).

PowerExchange Express CDC for Oracle Configuration File

The following table identifies a changed statement in the PowerExchange Express CDC for Oracle configuration file, pwxorad.cfg:

Statement	New, Changed, or Deprecated
ASMSTAGING	Changed - New ASYNC parameter
DIRSUB	Changed
OPTIONS	Changed - SUPPORT_DIRECT_PATH_OPS parameter New - CAPIEVENTS parameter New - MEMOPS_MEMORY parameter New - PERFORMANCESTATS parameter Changed - SPILLMAX parameter Changed - SPILLFILEBUFFSZ parameter
READER	Changed - READBUFFSIZE parameter Changed - MODE parameter > ARCHIVECOPY option

For more information, see [“PowerExchange Express CDC for Oracle Configuration File” on page 107](#).

PowerExchange Logger for LUW Configuration File

The following table identifies a new parameter in the PowerExchange Logger for Linux, UNIX, and Windows configuration file:

Statement	New, Changed, or Deprecated
IBMIJRNLOVRD	New

For more information, see [“PowerExchange Logger for LUW Configuration File” on page 59](#).

PWXPC Connection Attributes

The following table identifies changed PWXPC connection attributes:

Attribute	New, Changed, or Deprecated
PWX Override	Changed

For more information, see [“PWXPC Connection Attributes” on page 41](#).

DB2 for z/OS ECCR Statements in the REPL2OPT DD Data Set

The following table identifies changes to configuration statements in the data set or RUNLIB member that is allocated by the REPL2OPT DD statement in the DB2 for z/OS ECCR JCL:

Statement	New, Changed, or Deprecated
DB2ROWPROMOTION	Changed - New default
IFI306 OPT	Changed - New default

For more information, see [“DB2 ECCR Configuration Statements in the REPL2OPT DD Data Set” on page 91](#).

Command Changes in 10.5.2

PowerExchange 10.5.2 includes command changes.

PowerExchange Commands

PowerExchange 10.5.2 introduces the following change for PowerExchange commands.

The following table identifies the changed command:

Command	New, Changed, or Deprecated
CRTLIB	Changed

For more information, see [“Manual Installation on IBM i” on page 38](#).

PowerExchange Interfaces for PowerCenter Commands

PowerExchange 10.5.2 introduces the following change for PWXPC commands.

The following table identifies the changed command:

Command	New, Changed, or Deprecated
CREATEFILE	Changed

For more information, see [“CREATEFILE Large Format Physical Sequential \(PS\) Data Set Support” on page 41](#).

Behavior Changes in 10.5.2

The following table lists PowerExchange 10.5.2 behavior changes by PowerExchange component or data source or target:

Component or Data Source/ Target Type	Reference
PostgreSQL CDC	“Replication of UUID Column Data in Character Format” on page 122
PowerExchange Logger for Linux, Unix, and Windows	“Ability to Access the CCT file in Read Mode” on page 59
PowerExchange Navigator	“Capture Registration CCT File Enhancement” on page 61 “Longer Registration Names for IBM i and z/OS CDC Sources” on page 61 “Restricting Who Can Send a Data Map to a Remote Node for a Row Test” on page 61 “Data Map Preferences Enhancement” on page 61
PowerExchange utilities	“DTLUCBRG Permits Longer Registration Names for IBM i and z/OS CDC Sources” on page 67
PowerExchange for DB2 for i	“PowerExchange Journal Exit” on page 83
PowerExchange for SAP HANA	“Changing Registrations from and to Full Audit” on page 128 “Full Audit for Tables with 16-column Primary Keys” on page 128 “Nullable Field Settings for SAP HANA Sources” on page 128

Changes to Supported Operating Systems and Data Sources in 10.5.2

PowerExchange 10.5.2 introduces the following changes to the operating systems and data sources that PowerExchange supports.

For more information about version and maintenance requirements for operating systems and data sources, see the “Installation Planning” chapter in the *PowerExchange Installation and Upgrade Guide*.

Data Sources

The following table identifies added, dropped, or deferred data source or target versions in PowerExchange 10.5.2:

Data Source	Version	Operating System	Bulk	CDC	Added, Dropped, or Deferred
Oracle	21c	Red Hat Linux and Windows	N/A	X	Added

Operating Systems

The following table identifies a change to supported operating system versions in PowerExchange 10.5.2:

Operating System	Version	Added or Dropped
z/OS	2.5	Added

PowerExchange 10.5.1

This section lists the new features and changes in PowerExchange 10.5.1.

New Features in 10.5.1

The following table lists PowerExchange 10.5.1 features by PowerExchange component or data source:

Component or Data Source	Feature Reference
Db2 for z/OS	“DB2 Loader and IMS Netport Passphrase Support” on page 91 “%PWD Substitution Variable for Netport Jobs” on page 92
IMS	“Passphrase Support for IMS Netport Jobs” on page 95
Oracle	“Oracle LOB Support” on page 109 “Dynamic Dictionary for Oracle Sources” on page 110
SAP HANA sources	“Support for SAP HANA CDC Sources” on page 129

Parameter and Option Changes in 10.5.1

PowerExchange 10.5.1 includes parameter and option changes.

DBMOVER Configuration File Statements

The following table identifies new, changed, or deprecated statements in the DBMOVER configuration file:

Statement	New, Changed, or Deprecated
IBMI_USE_DB2_SYSTEM_COLUMN_NAMES	New
OPENPOLL	New
UPDATE_USER_ACTIVITY	New
HANA CAPI_CONNECTION	New
TEMP_FILE_DIRECTORY	New

For more information, see [“DBMOVER Configuration File Statements” on page 49](#).

PowerExchange Express CDC for Oracle Configuration File

The following new and changed parameters can be specified in the PowerExchange Express CDC for Oracle configuration file, `pwxorad.cfg`:

Statement	New, Changed, or Deprecated
DICTIONARY	Changed - Now used by the dynamic dictionary feature. <ul style="list-style-type: none">- Changed - MODE parameter- New - RETENTIONPERIOD, SNAPSHOTONCOLDSTART, and UPDATEINTERVAL parameters
OPTIONS	Changed - New SPILLFILEBUFFSZ parameter Changed - Changed MEMOPS parameter
STATESTORAGE	Changed - Now used for the Oracle dynamic dictionary feature.

For more information, see [“PowerExchange Express CDC for Oracle Configuration File” on page 110](#).

Changes to Supported Operating Systems and Data Sources in 10.5.1

PowerExchange 10.5.1 introduces the following changes to the operating systems and data sources that PowerExchange supports.

For more information about version and maintenance requirements for operating systems and data sources, see the “Installation Planning” chapter in the *PowerExchange Installation and Upgrade Guide*.

Data Sources

The following table identifies added, dropped, or deferred data source or target versions in PowerExchange 10.5.1:

Data Source	Version	Operating System	Bulk	CDC	Added, Dropped, or Deferred
PostgreSQL	13.x	Linux and Windows	N/A	X	Added
PostgreSQL	13.x 12.1 11.4 10.x	SUSE Linux	N/A	X	Added
SAP HANA	2.x	Linux and Windows	N/A	X	Added

PowerExchange 10.5

This section lists the new features and changes in PowerExchange 10.5.

New Features in 10.5

The following table lists PowerExchange 10.5 features by PowerExchange component or data source:

Component or Data Source	Feature Reference
CICS Transaction Server	“Support for CICS Transaction Server Version 5.6” on page 134
Db2 for Linux, UNIX, and Windows	“Support for DB2 for Linux, UNIX, and Windows Version 11.5” on page 87
IBM i	“TLS Security in a PowerExchange Network” on page 84 “PWXUGSK Utility Enhancements” on page 68 “WRKJRNLCKE - Journal Lock Table Utility” on page 69
IMS	“Updated Components in the PowerExchange ECCR CRG.LOAD Library for IMS Synchronous CDC” on page 95 “Ability to View IMS Unload Files From the DL/1 Batch Access Method Tab” on page 62 “Ability to Skip Data Rows for IMS Unload Data Sets During a Row Test” on page 62
Linux, UNIX, and Windows	“PWXUSSL Utility Enhancements” on page 69
Oracle	“Checkpointing In-flight Transactions” on page 112

Parameter and Option Changes in 10.5

PowerExchange 10.5 includes parameter and option changes.

Adabas ECCR Parameter

The following table identifies a parameter in the Adabas ECCR RUNLIB(ADAECRP1) member that has a changed default value:

Parameter	New, Changed, or Deprecated
ETID_DATE	Changed

For more information, see [“Adabas ECCR Parameter” on page 79](#).

DBMOVER Configuration File Statements

The following table identifies new, changed, or deprecated statements in the DBMOVER configuration file:

Statement	New, Changed, or Deprecated
ABEND_SW	Changed - Change for z/OS
CREDENTIALS_CASE	Changed
IBMI_2ND_LEVEL_HELP	New

Statement	New, Changed, or Deprecated
QAQQINILIB	New - New for IBM i
LISTENER	Changed - Change for IBM i
SSL_CIPHER_LIST	Changed - Change for IBM i
SSL_CONTEXT_METHOD	Changed - Change for IBM i
SSL_REQ_CLNT_CERT	Changed - Change for IBM i
SSL_TOLERATE_UNTRUSTED_ISSUER	New - New for IBM i
SVCDUMP	New - New for z/OS

For more information, see [“DBMOVER Configuration File Statements” on page 51](#) and [“DBMOVER Configuration File Statements” on page 84](#).

DTLREXE Utility Parameters

The following table identifies new parameters for the DTLREXE utility:

Parameter	New, Changed, or Deprecated
SSLINFO	New

For more information, see [“DTLREXE Utility Parameters” on page 71](#).

DTLUCBRG Utility Parameters

The following table identifies new parameters for the DTLUCBRG utility:

Parameter	New, Changed, or Deprecated
EXCLUDE_COL	New
EXCLUDE_TYPE	New
INCLUDE_COL	New

For more information, see [“DTLUCBRG Utility Parameters” on page 71](#).

DTLURDMO Utility Parameters

The following table identifies new parameters for the DTLURDMO utility:

Parameter	New, Changed, or Deprecated
GETREGTAG	New

For more information, see [“DTLURDMO Utility Parameters” on page 72](#).

PWXUGSK Utility Parameters

The following table identifies new and changed parameters for the PWXUGSK utility:

Parameter	New, Changed, or Deprecated
PING_SSLINFO	New
PING_EPWD	Changed
PING_PWD	Changed
PING_UID	Changed

For more information, see [“PWXUGSK Utility Parameters” on page 72](#).

PWXUSSL Utility Parameters

The following table identifies new and changed parameters for the PWXUSSL utility:

Parameter	New, Changed, or Deprecated
PING_SSLINFO	New
PING_EPWD	Changed
PING_PWD	Changed
PING_UID	Changed

For more information, see [“PWXUSSL Utility Parameters” on page 73](#).

PowerExchange Express CDC for Oracle Configuration File

The following new statements can be specified in the PowerExchange Express CDC for Oracle configuration file, pwxorad.cfg:

Statement	New, Changed, or Deprecated
CHECKPOINT	New
STATESTORAGE	New

The DATABASE statement has the following new and deprecated parameters:

Parameter	New, Changed, or Deprecated
TDEKEYSTORE	New
TDEWALLETDIR	Deprecated
TDEWALLETPWD	Deprecated
TDEWALLETPWD	Deprecated

Note: Deprecated parameters continue to be supported for backward compatibility.

The OPTIONS statement has the following new parameters:

Parameter	New, Changed, or Deprecated
BCE_SUBSTITUTE_YEAR	New
BCE_YEAR_HANDLING	New
SPILENCRYPTPASS	New
SPILENCRYPTPASS	New

For more information, see [“PowerExchange Express CDC for Oracle Configuration File” on page 112](#).

Command Changes in 10.5

PowerExchange 10.5 includes command changes.

PWXUGSK Utility Commands

PowerExchange 10.5 introduces new PWXUGSK utility commands.

The following table identifies the new commands:

Command	New, Changed, or Deprecated
REPORT_ZOS_ATTLS_POLICY	New
PING_SSLINFO	New

For more information, see [“PWXUGSK Utility Commands” on page 69](#).

PWXUMAP Utility Commands

PowerExchange 10.5 introduces a new PWXUMAP utility command.

The following table identifies the new command:

Command	New, Changed, or Deprecated
MDDTLDESCRIBE	New

For more information, see [“PWXUMAP Utility Commands” on page 70](#).

PWXUSSL Utility Commands

PowerExchange 10.5 introduces new PWXUSSL commands.

The following table identifies the new commands:

Command	New, Changed, or Deprecated
REPORT_ZOS_ATTLS_POLICY	New
PING_SSLINFO	New

For more information, see [“PWXUSSL Utility Commands” on page 71](#).

LISTTASK Command

The PowerExchange LISTTASK command changed in PowerExchange 10.5 to display allocated resources for each active task, including the client system, database name, and the file name or table name.

Changes to Supported Operating Systems and Data Sources in 10.5

PowerExchange 10.5 introduces the following changes to the operating systems and data sources that PowerExchange supports.

For more information about version and maintenance requirements for operating systems and data sources, see the “Installation Planning” chapter in the *PowerExchange Installation and Upgrade Guide*.

AIX Deferment

Effective in version 10.5, AIX support is deferred and is unavailable.

Deferred functionality is either not available or not supported in the current release. Informatica intends to reinstate it in an upcoming release, but might choose not to in accordance with changing market or technical circumstances.

Data Sources

The following table identifies added or dropped data source or target versions in PowerExchange 10.5:

Data Source	Version	Operating System	Bulk	CDC	Added or Dropped
CICS Transaction Server	5.6	z/OS	Not applicable - Use VSAM bulk data movement instead.	Supported - sources	Added
CICS Transaction Server	4.2	z/OS	-	-	Dropped
Db2 for Linux, UNIX, and Windows	11.5	LUW	Supported - sources and targets	Supported - sources	Added
Microsoft SQL Server	2016 2014	Windows	-	-	Dropped

Operating Systems

The following table identifies a change to supported operating system versions in PowerExchange 10.5:

Operating System	Version	Added or Dropped
Red Hat Linux	8	Added
Red Hat Linux	6.7	Dropped
SUSE Linux	15	Added
SUSE Linux	11	Dropped
Windows Server	2012 R2	Dropped

Security Change in 10.5

As of PowerExchange 10.5, Informatica recommends that you use TLS network security on IBM i machines in preference to PowerExchange alternate network security.

Alternate network security, which is described in the *PowerExchange Reference Manual*, is still supported but should be used only in exceptional circumstances. Informatica recommends that you to transition to TLS network security.

PowerExchange 10.4.1

This section lists the new features and changes in PowerExchange 10.4.1.

New Features in 10.4.1

The following table lists PowerExchange 10.4.1 features by PowerExchange component or data source:

Component or Data Source	Feature Reference
Db2 for z/OS	“Db2 for z/OS Huffman Compression Support” on page 92
IBM i installer	“IBM i Installer Improvements” on page 39
Oracle	“Staging Files for Improved CDC Performance in an ASM Environment” on page 116 “Support for Additional Oracle Versions in Amazon RDS Environments” on page 117
PowerExchange utilities	“EDMUOPTS Utility” on page 73

Parameter and Option Changes in 10.4.1

PowerExchange 10.4.1 includes parameter and option changes.

DBMOVER Configuration File Statements

The following table identifies new, changed, or deprecated statements in the DBMOVER configuration file:

Statement	New, Changed, or Deprecated
IBMI_SUPPRESS_OUTPUT	New
MSQL CAPI_CONNECTION	Changed - GUIDBRACES parameter added

For more information, see [“DBMOVER Configuration File Statements” on page 53](#).

DB2 for z/OS ECCR Statements in the REPL2OPT DD Data Set

The following table identifies changes to configuration statements in the data set or RUNLIB member that is allocated by the REPL2OPT DD statement in the DB2 for z/OS ECCR JCL:

Statement	New, Changed, or Deprecated
IFI306 [OPT={N Y F}]	Changed - OPT=Y is the new default value

For more information, see [“Db2 for z/OS ECCR Configuration Statements in the REPL2OPT DD Data Set” on page 93](#).

PowerExchange Express CDC for Oracle Configuration File

The following table identifies a new statement in the PowerExchange Express CDC for Oracle configuration file, pwxorad.cfg:

Statement	New, Changed, or Deprecated
ASMSTAGING	New

For more information, see [“PowerExchange Express CDC for Oracle Configuration File” on page 117](#).

PWXUMAP Utility Parameters

The PWXUMAP Map List Utility adds the following new parameters:

Parameter	Scope
CPUTIMEUSED	Global
PACESIZE	Global
PROMPT	Global
USESEQUENCEFIELDS	DTLDESCRIBE command

For more information, see [“PWXUMAP Utility Parameters” on page 74](#).

Changes to Supported Operating Systems and Data Sources in 10.4.1

PowerExchange 10.4.1 introduces the following changes to the operating systems and data sources that PowerExchange supports.

For more information about version and maintenance requirements for operating systems and data sources, see the "Installation Planning" chapter in the *PowerExchange Installation and Upgrade Guide*.

Data Sources

The following table identifies added, dropped, or deferred data source or target versions in PowerExchange 10.4.1:

Data Source	Version	Operating System	Bulk	CDC	Added, Dropped, or Deferred
Adabas	8.5.x	z/OS	X	X	Added
MySQL Community Edition ¹	8.0 5.7	Linux and Windows	N/A	X	Added

Data Source	Version	Operating System	Bulk	CDC	Added, Dropped, or Deferred
Oracle	19c 18c	Amazon RDS for Oracle environments	N/A	X	Added
PostgreSQL	12.1	Linux and Windows	N/A	X	Added
1. PowerExchange CDC previously supported MySQL Enterprise Edition only. PowerExchange CDC 10.4.1 adds support for MySQL Community Edition. MySQL Community Edition has been certified with the MySQL native ODBC driver, which you can download from the MySQL website.					

PowerExchange IPv6 Communication with Clients

IPv6 network communication between PowerExchange and the hosts with which it communicates, such as PowerExchange Listener hosts, Informatica application services, and PowerCenter clients, have been certified.

PowerExchange 10.4.0 HotFix 1

This section lists the new features and changes in PowerExchange 10.4.0 HotFix 1.

Phased Release of PowerExchange 10.4.0 HotFix 1

PowerExchange 10.4.0 Hotfix 1 is being released in phases by platform type.

- Phase 1 includes updated code for IBM i, Linux, and z/OS.
- Phase 2 includes updated code for Windows.
- Phase 3 updated code for AIX.

Note: If the Oracle redo logs reside on Solaris, run the PowerExchange Listener and PowerExchange Logger for Linux, UNIX, and Windows on Linux to capture changes from the logs.

New Features in 10.4.0 HotFix 1

The following table lists PowerExchange 10.4.0 HotFix 1 features by PowerExchange component or data source:

Component or Data Source	Feature Reference
Microsoft SQL Server	"Support for Microsoft SQL Server 2019" on page 100 "Adding ODBC Parameters for Connecting to a Microsoft SQL Server Source Database" on page 100
MySQL	"Adding ODBC Parameters for Connecting to a MySQL Source Database" on page 103

Component or Data Source	Feature Reference
Oracle	"Toleration Support for Oracle 19c CDC Sources" on page 118
PostgreSQL	"Adding ODBC Parameters for Connecting to a PostgreSQL Source Database" on page 123

Parameter and Option Changes in 10.4.0 HotFix 1

PowerExchange 10.4.0 HotFix 1 includes parameter and option changes.

DBMOVER Configuration File Statements

The following table identifies new, changed, or deprecated statements in the DBMOVER configuration file:

Statement	New, Changed, or Deprecated
ODBC_CONN_PARAMS	New statement
UDB CAPI_CONNECTION	Changed - LIMITRESCAN and LOGBUFSIZE parameters added

For more information, see ["DBMOVER Configuration File Statements" on page 54](#).

Changes to Supported Operating Systems and Data Sources in 10.4.0 HotFix 1

PowerExchange 10.4.0 HotFix 1 introduces the following changes to the operating systems and data sources that PowerExchange supports.

For more information about version and maintenance requirements for operating systems and data sources, see the "Installation Planning" chapter in the *PowerExchange Installation and Upgrade Guide*.

Data Sources

The following table identifies added, dropped, or deferred data source or target versions in PowerExchange 10.4.0 HotFix 1:

Data Source	Version	Operating System	Bulk	CDC	Added, Dropped, or Deferred
Microsoft SQL Server	2019	Windows	Supported - sources and targets	Supported - sources	Added
Oracle	19c	AIX, Linux, and Windows	Not supported	Supported - sources	Added
<p>1. PowerExchange Express CDC for Oracle adds toleration support for Oracle 19.c. <i>Toleration support</i> means that PowerExchange can capture data from Oracle 19c sources but does not support any of the new features introduced in Oracle 19c that the source database uses.</p> <p>If the Oracle 19c redo logs reside on Solaris, you can run the PowerExchange Listener and PowerExchange Logger on Linux to capture changes from the logs.</p>					

Operating Systems

The following table identifies a change to supported operating system versions in PowerExchange 10.4.0 HotFix 1:

Operating System	Version	Added or Dropped
z/OS	2.4	Added

PowerExchange 10.4.0

This section lists the new features and changes in PowerExchange 10.4.0.

New Features in 10.4.0

The following table lists PowerExchange 10.4.0 features by PowerExchange component or data source:

Component or Data Source	Feature Reference
IBM i Installer	"IBM i Installer" on page 40
IMS	"Updated Components in the PowerExchange ECCR CRG.LOAD Library for IMS Synchronous CDC" on page 96 "Getting Source DBD Information from the IMS Catalog" on page 97

Component or Data Source	Feature Reference
PostgreSQL sources	“Support for PostgreSQL CDC Sources” on page 124
PowerExchange Utilities	“PWXUMAP Utility” on page 75 “PWXUCCLPRT Utility” on page 75 “DTLURDMO Utility Enhancements” on page 75

Parameter and Option Changes in 10.4.0

PowerExchange 10.4.0 includes parameter and option changes.

DBMOVER Configuration File Statements

The following table identifies new, changed, or deprecated statements in the DBMOVER configuration file:

Statement	New, Changed, or Deprecated
FILEMAPPED_MEMORY_DIR	New
IMBSBDS	New
LU00FILE	New
MSQL CAPI_CONNECTION	Changed - LOCKAVOIDANCE parameter change
MYSQL CAPI_CONNECTION	Changed - MYSQLBINLOG parameter change
NODE	Changed - Trailing [YIN] parameter deprecated
PG CAPI_CONNECTION	New
SSL_REQ_CLNT_CERT	Changed - Default behavior change

For more information, see [“DBMOVER Configuration File Statements” on page 55](#).

DTLREXE Utility Statements

The following table identifies a new parameter that you can add in each DTLREXE control statement:

Statement	New, Changed, or Deprecated
DELETE	Changed - New config parameter
PING	Changed - New config parameter
SUBMIT	Changed - New config parameter
SYSTEM	Changed - New config parameter

For more information, see [“DTLREXE Utility Parameters” on page 76](#).

DTLUCBRG Utility Parameters

The following table identifies new and changed parameters for the DTLUCBRG utility:

Parameter	New, Changed, or Deprecated
TABLE	Changed
VSMOPTS	New

For more information, see [“DTLUCBRG Utility Parameters” on page 76](#).

DTLURDMO Utility Statements

The following table identifies new control statements for the DTLURDMO utility:

Statements	New, Changed, or Deprecated
INPUT	New
NOTIMESTAMPS	New
REG_COPY FASTLOAD	New
REPORTDEST	New
TESTMODE	Changed
VALIDATE	Changed

For more information, see [“DTLURDMO Utility Statements and Parameters” on page 77](#).

PowerExchange DTLSMFRP Program Parameter

The following table identifies a new parameter in the DTLSMFRP sample JCL for generating reports of SMF statistics.

Parameter	New, Changed, or Deprecated
SYSOUT	New

For more information, see [“DTLSMFRP JCL Parameter” on page 64](#).

PowerExchange Express CDC for Oracle Configuration File

The following table identifies a new parameter in the OPTIONS statement in the PowerExchange Express CDC for Oracle configuration file, pwxorad.cfg:

Parameter	New, Changed, or Deprecated
SPILL_FILE_PREFIX	New

The following table identifies new and deprecated parameters in the READER statement:

Parameter	New, Changed, or Deprecated
ARCHIVEDEST1	Deprecated
ARCHIVEDEST2	Deprecated
ARCHIVEDEST	New

For more information, see [“PowerExchange Express CDC for Oracle Configuration File” on page 119](#).

Changes to Supported Operating Systems and Data Sources in 10.4.0

PowerExchange 10.4.0 introduces the following changes to the operating systems and data sources that PowerExchange supports.

For more information about version and maintenance requirements for operating systems and data sources, see the "Installation Planning" chapter in the *PowerExchange Installation and Upgrade Guide*.

Data Sources

The following table identifies added, dropped, or deferred data source or target versions in PowerExchange 10.4.0:

Data Source	Version	Operating System	Bulk	CDC	Added, Dropped, or Deferred
Adabas	8.2.x 8.1 7.4	z/OS	-	-	Dropped
CICS Transaction Server	4.1	z/OS	-	-	Dropped
Datacom	14 12	z/OS	-	-	Dropped

Data Source	Version	Operating System	Bulk	CDC	Added, Dropped, or Deferred
Db2 for i	7.4	IBM i (i5/OS)	Supported - sources and targets	Supported - sources	Added
Db2 for i	7.1	IBM i (i5/OS)	-	-	Dropped
Db2 for z/OS	10 9.1	z/OS	-	-	Dropped
IDMS	18 17	z/OS	-	-	Dropped
IMS	12 11 10	z/OS	-	-	Dropped
MySQL	8.0	Linux or Windows	Not supported	Supported - sources	Added
Oracle	18c ¹	Linux, UNIX, or Windows	Toleration support - sources and targets	Toleration support - sources	Added
Oracle	12c R1 11g R2	Linux, UNIX, or Windows	-	-	Dropped
PostgreSQL ²	11.x 10.x	Linux or Windows	Not supported	Supported - sources	Added
<p>1. PowerExchange bulk data movement and Express CDC for Oracle add toleration support for Oracle 18.c. <i>Toleration support</i> means that PowerExchange can capture data from Oracle 18c sources but does not support any of the new features introduced in Oracle 18c that the source database uses. For Amazon RDS for Oracle sources, PowerExchange Express CDC for Oracle supports only version 12.2.</p> <p>2. PowerExchange does not support EnterpriseDB (EDB) PostgreSQL.</p>					

Operating Systems

The following table identifies changes to supported operating system versions in PowerExchange 10.4.0:

Operating System	Version	Added or Dropped
IBM i (i5/OS)	7.4	Added
IBM i (i5/OS)	7.1	Dropped
Windows	2019	Added
z/OS	1.11, 1.12, 1.13	Dropped

PowerExchange Navigator

The following table identifies changes to supported Windows operating system versions for the PowerExchange Navigator in PowerExchange 10.4.0:

Version	Added or Dropped
Windows 2019	Added
Windows 7	Dropped

CHAPTER 2

PowerExchange Installation and Upgrade

This chapter includes the following topics:

- [PowerExchange 10.5.3 - New Features and Changes for Installation and Upgrade, 37](#)
- [PowerExchange 10.5.2 - New Features and Changes for Installation and Upgrade, 37](#)
- [PowerExchange 10.5.1 - New Features and Changes for Installation and Upgrade, 38](#)
- [PowerExchange 10.4.1 - New Features and Changes for Installation and Upgrade, 39](#)
- [PowerExchange 10.4.0 - New Features and Changes for Installation and Upgrade, 39](#)

PowerExchange 10.5.3 - New Features and Changes for Installation and Upgrade

This section describes the PowerExchange 10.5.3 new features and changes that are related to PowerExchange installation and upgrade.

IBM i Installation Enhancement

PowerExchange 10.5.3 adds the default value of /tmp for the FILEMAPPED_MEMORY_DIR parameter in the IBM i installer. If you select the **Configure PowerExchange DBMOVER file** check box in the installer, PowerExchange adds FILEMAPPED_MEMORY_DIR=/tmp to the DBMOVER configuration file.

If you manually install PowerExchange for IBM i, PowerExchange also uses the default value of /tmp.

For more information, see "Chapter 2: DBMOVER Configuration File" in the *PowerExchange Reference Manual* and "Appendix C: Manual Installation on IBM i" in the *PowerExchange Installation and Upgrade Guide*.

PowerExchange 10.5.2 - New Features and Changes for Installation and Upgrade

This section describes the PowerExchange 10.5.2 new features and changes that are related to PowerExchange installation and upgrade.

IBM i Installation

PowerExchange 10.5.2 introduces the following changes to the IBM i installation:

- PowerExchange for IBM i now allows for multiple listeners to run concurrently from the same environment. By default, a PowerExchange listener communicates with the server through a message queue called LISTENER, which you create during the installation process. Additional listeners require a message queue to be created before you start the listener.

For more information, see the "Installing and Upgrading PowerExchange on IBM i" chapter and "Appendix C: Manual Installation on IBM i" in the *PowerExchange Installation and Upgrade Guide*.

- The FILEMAPPED_MEMORY_DIR statement in the DBMOVER configuration file is now required for PowerExchange on IBM i. The statement points to an existing directory on the IBM i system that you create with a QShell command.

Manual Installation on IBM i

PowerExchange 10.5.2 introduces the following changes to PowerExchange manual installation on IBM i.

As of PowerExchange 10.5.2, you issue the following command to create the dtllib library:

```
CRTLIB LIB(dtllib) AUT(*CHANGE) CRTAUT(*CHANGE)
```

If you plan to run PowerExchange within an independent auxiliary storage pool (IASP), issue the following command:

```
CRTLIB LIB(dtllib) AUT(*CHANGE) CRTAUT(*CHANGE) ASP(*ASPDEV) ASPDEV(asp_device)
```

When you install a HotFix on IBM i, run the CHGALLOBJ program to change object owner, review the WRKREGINF output and use the ADDEXITPGM command to specify the same user profile in the exit program as specified on the CHGALLOBJ call.

For more information, see "Appendix C: Manual Installation on IBM i" in the *PowerExchange Installation and Upgrade Guide*.

PowerExchange 10.5.1 - New Features and Changes for Installation and Upgrade

This section describes the PowerExchange 10.5.1 new features and changes that are related to PowerExchange installation and upgrade.

Upgrade Consideration for IBM i

After you upgrade PowerExchange on IBM i but before you start the PowerExchange Listener, you must update objects such as the configuration source file and data files for compatibility with the current release.

Issue the following command to update the objects for compatibility with the current release:

```
CRTDTLENVF DTLLIB(DTLLIB) DATALIB(DATALIB)
```

For more information, see the "Upgrade Considerations" appendix in the *PowerExchange Installation and Upgrade Guide*.

PowerExchange 10.4.1 - New Features and Changes for Installation and Upgrade

This section describes the PowerExchange 10.4.1 new features and changes that are related to PowerExchange installation and upgrade.

New Features in 10.4.1

PowerExchange 10.4.1 introduces the following new feature that is related to PowerExchange installation and upgrade:

IBM i Installer Improvements

The IBM i Installer interface includes the following new features:

- The **File** menu provides options that let you open or save a file that contains installation parameters. You can use this file to migrate the installation to other IBM i systems.
- The **Tools** menu provides options that let you generate an encrypted password and view the installation log files.

For more information, see the "Installing and Upgrading PowerExchange on IBM i" chapter in the *PowerExchange Installation and Upgrade Guide*.

Behavior Changes in 10.4.1

PowerExchange 10.4.1 introduces the following behavior change that is related to installation and upgrade:

IBM i Installer Changed Behavior

At the end of the installation process, the IBM i Installer now displays one of the following types of messages:

- If the installation succeeds, a message that includes options to save the configuration parameters specified for the installation and to save the installation log file.
- If the installation fails, a message that shows the CRTPWENV command that the installer generates and the error that caused the installation to fail. You can copy the information in this message to send to Informatica Global Customer Support.

PowerExchange 10.4.0 - New Features and Changes for Installation and Upgrade

This section describes the PowerExchange 10.4.0 new features and changes that are related to PowerExchange installation and upgrade.

New Features in 10.4.0

PowerExchange 10.4.0 introduces the following new feature that is related to PowerExchange installation and upgrade:

IBM i Installer

When you install PowerExchange on the IBM i operating system (formerly i5/OS), you can now perform a full installation, an upgrade, or a hotfix installation by using the IBM i Installer.

The IBM i Installer can perform the following tasks:

- Set variables and change PowerExchange parameters and data set names for the PowerExchange installation on the IBM i operating system in a single process.
- Move the software library binary files to the software library on the IBM i system.
- Customize the DBMOVER configuration file on the IBM i system.

Important: The IBM i Installer only runs on 64-bit Windows systems. If you attempt to run the installer on a 32-bit system, the installation fails.

Behavior Changes in 10.4.0

PowerExchange 10.4.0 introduces the following behavior change that is related to installation and upgrade:

PowerExchange for z/OS LOADLIB Allocation

PowerExchange 10.4.0 installation allocates the z/OS LOADLIB as an extended partitioned data set (PDSE) instead of as a partitioned data set (PDS).

CHAPTER 3

PowerExchange Client for PowerCenter

This chapter includes the following topics:

- [PowerCenter 10.5.2 - New Features and Changes for the PowerExchange Client for PowerCenter, 41](#)
- [PowerCenter 10.5.1 - New Features and Changes for the PowerExchange Client for PowerCenter, 42](#)

PowerCenter 10.5.2 - New Features and Changes for the PowerExchange Client for PowerCenter

New Features in 10.5.2

PowerExchange 10.5.2 introduces the following new features for PWXPC:

CREATEFILE Large Format Physical Sequential (PS) Data Set Support

As of PowerExchange 10.5.2, the CREATEFILE command adds the DSNTYPE keyword.

The new DSNTYPE keyword specifies the data set type. To allocate a large format physical sequential (PS) data set, you can now specify DSNTYPE=LARGE.

For more information, see Appendix A in *PowerExchange Interfaces for PowerCenter*.

Parameter and Option Changes in 10.5.2

The PowerCenter 10.5.2 version introduces a changed PowerCenter connection attribute.

PWXPC Connection Attributes

In PowerCenter, you can configure new override options in the **PWX Override** connection attribute.

PWX Override

Changed. You can configure the following new options in the **PWX Override** attribute:

DSNTYPE=dataset_type

New. For an NRDB application connection for a sequential file target, specify the data set type. To allocate a large format physical sequential (PS) data set, specify DSNTYPE=LARGE.

RTNBUFFSIZE={kilobytes|960}

New. For a Db2 relational connection, specify the size of the buffer, in kilobytes, that is used to collect Db2 for i journal entries for CDC as a result of PowerExchange calls to the IBM QjoRetrieveJournalEntries API. Adjust this parameter to tune performance for your environment. Valid values are 128 through 12288. Default is 960 KB.

Overrides the RTNBUFFSIZE parameter in the PowerExchange AS4J CAPI_CONNECTION statement, if specified.

For more information, see the "Connections" chapter in *PowerExchange Interfaces for PowerCenter*.

PowerCenter 10.5.1 - New Features and Changes for the PowerExchange Client for PowerCenter

New Features in 10.5.1

PowerExchange 10.5.1 introduces the following new features for PWXPC:

Sample Template for the PM_RECOVERY Table

The recovery_template.sql file is a template for creating target PM_RECOVERY recovery tables for relational databases. It contains general requirements for target support for CDC transactions when writing to relational databases.

You can configure the template for target support for PowerCenter, Informatica Intelligent Cloud Services (IICS), and PowerExchange Cloud Data Integration (CDI).

The installation process copies the recovery_template.sql file to the root installation directory for the Linux, UNIX, and Windows installers. Review and customize the SQL syntax to ensure support for the target database.

For more information, see the *PowerExchange Interfaces for PowerCenter* publication.

Recovery Table Scripts

You can run the following scripts to create the recovery tables in the target database.

Script	Database
create_schema_inf.sql	Informix
create_schema_neoview.sql	Neoview
create_schema_netz.sql	Netezza
create_schema_syb.sql	Sybase

Script	Database
create_schema_ter.sql	Teradata
create_schema_tpt.sql	Teradata PT

For more information, see *PowerExchange Interfaces for PowerCenter*.

CHAPTER 4

PowerExchange Condense

This chapter includes the following topic:

- [PowerExchange 10.5.2 - New Features and Changes for PowerExchange Condense, 44](#)

PowerExchange 10.5.2 - New Features and Changes for PowerExchange Condense

This section describes the PowerExchange 10.5.2 new features and changes that are related to PowerExchange Condense.

Behavior Change in 10.5.2

PowerExchange 10.5.2 introduces the following behavior change for PowerExchange Condense.

Ability to Access the CCT File in Read Mode

PowerExchange reads registrations from the CCT file in read mode. The user ID that accesses the CCT file no longer needs update permission, which enables you to implement a more granular security model.

As of Version 10.5.2, PowerExchange no longer retains information about columns when processing partial condense registrations, resulting in reduced run-time memory.

For more information, see the *PowerExchange Navigator User Guide*.

CHAPTER 5

PowerExchange Listener

This chapter includes the following topics:

- [PowerExchange 10.5.3 - New Features and Changes for the PowerExchange Listener, 45](#)
- [PowerExchange 10.5.2 - New Features and Changes for the PowerExchange Listener, 47](#)
- [PowerExchange 10.5.1 - New Features and Changes for the PowerExchange Listener, 49](#)
- [PowerExchange 10.5 - New Features and Changes for the PowerExchange Listener, 51](#)
- [PowerExchange 10.4.1 - New Features and Changes for the PowerExchange Listener, 53](#)
- [PowerExchange 10.4.0 HotFix 1 - New Features and Changes for the PowerExchange Listener, 53](#)
- [PowerExchange 10.4.0 - New Features and Changes for the PowerExchange Listener, 55](#)

PowerExchange 10.5.3 - New Features and Changes for the PowerExchange Listener

PowerExchange 10.5.3 introduces the following features and changes for the PowerExchange Listener.

Parameter and Option Changes in 10.5.3

The DBMOVER configuration file contains the following new and changed statements:

DBMOVER Configuration File Statements

The DBMOVER configuration file contains the following new and changed parameters:

FILEMAPPED_MEMORY_DIR=*path/directory*

Changed. Required for AIX and IBM i. On IBM i, the default is /tmp. When you install PowerExchange on IBM i and you select the **Configure PowerExchange DBMOVER file** check box, or you manually install PowerExchange on IBM i, the installer adds FILEMAPPED_MEMORY_DIR=/tmp to the DBMOVER configuration file.

FROMRCVR=*library/from_receiver*

New. Optional. Specifies the beginning of a valid sequence of override journal receivers associated with the journal specified in the JOURNAL JRN parameter. If you specify this parameter, you must also specify the TORCVR parameter.

TORCVR=library/to_receiver

New. Optional. Specifies the end of a valid sequence of journal receivers associated with the journal receiver specified in the JOURNAL JRN parameter.

IBMI_USE_DB2_SYSTEM_OBJECT_NAMES={Y|N}

New. Optional. Controls whether PowerExchange searches both IBM i system object names and SQL object names or only SQL object names for Db2 for i source objects when you create PowerExchange capture registrations in the PowerExchange Navigator or with the DTLUCBRG utility or perform database row tests in the PowerExchange Navigator. Default is N, which reflects the previous behavior of searching SQL object names only.

JOB_START_MINIMUM_BELOWLINE_MEMORY_KB=kilobytes

New. Optional. The minimum z/OS memory below the 16 MB line that must be present before the PowerExchange Listener on z/OS allows an incoming connection request to start a task.

JOURNAL=(JRN=library/journal_name, [FROMRCVR=library/from_receiver], [TORCVR=library/to_receiver])

Changed. Required. Defines the name of the Db2 for i journal associated with the CAPL_CONNECTION instance for registrations. The JRN parameter specifies the library name and journal name and is required.

If you need to process changes from a range of journal receivers outside of default processing, you can optionally specify a range of journal receivers using the FROMRCVR and TORCVR parameters on the JOURNAL JRN parameter.

LRECL

Changed. Optional. Specifies the logical record length that PowerExchange uses when dynamically allocating target data sets on z/OS, if you do not provide LRECL information. For the *record_length* value, enter a number from 1 through 32756.

REPORT_UNUSED_OPT_READING_CONDITIONS={Y|N}

New. Optional. Controls whether PowerExchange records conditions in a SQL WHERE clause that are skipped by the NRDB optimized read process. Set this option to N to suppress messages about skipped conditions in the SQL WHERE clause.

For more information, see the "DBMOVER Configuration File" chapter in the *PowerExchange Reference Manual*.

Behavior Changes in 10.5.3

PowerExchange 10.5.3 introduces the following behavior changes for PowerExchange Listeners on z/OS:

Non-relational Optimized Read Process

PowerExchange 10.5.3 adds support for negative numbers in the non-relational (NRDB) optimized read process.

The negative numbers must occur in primary key fields. The WHERE clause that includes the fields must use an equals (=) condition or a comparative condition such less than (<) or greater than (>). WHERE clause conditions that specify a range of numbers cannot include both negative and positive numbers. For more information, see "Optimized Read Process for Nonrelational Data Sources," in Chapter 9 of the *PowerExchange Reference Manual*.

PowerExchange 10.5.2 - New Features and Changes for the PowerExchange Listener

PowerExchange 10.5.2 introduces the following features and changes for the PowerExchange Listener.

New Features in 10.5.2

PowerExchange 10.5.2 introduces the following new feature for PowerExchange Listeners on z/OS:

Improved Memory Management for Listeners on z/OS

PowerExchange introduces improved messaging and control of the PowerExchange Listener response to memory issues on z/OS.

When the PowerExchange Listener on z/OS starts, new messages display the available memory in the JCL control region and whether the size of the control region is adequate for the workload. Additional messages provide information about memory usage when a job completes.

The Listener accepts incoming connections and starts tasks if 50 MB of extended memory is available. Otherwise, incoming work is suspended until the memory becomes available.

Two new DBMOVER configuration statements let you specify a minimum amount of available extended memory for PowerExchange jobs, and an alternate method for complex code page conversion. For more information about the new statements, see [“DBMOVER Configuration File Statements” on page 47](#).

Parameter and Option Changes in 10.5.2

The DBMOVER configuration file contains the following new and changed statements:

DBMOVER Configuration File Statements

PowerExchange 10.5.2 introduces the following changes in the DBMOVER configuration file:

AS4J CAPI_CONNECTION

Changed. This statement includes the new optional RTNBUFFSIZE parameter.

CONVERT_CODEPAGES_WITH_ICONV=[N|Y]

New. Determines whether PowerExchange uses the ICONV functions to covert code pages, or ICU. Using ICONV can reduce memory requirements for complex code pages, such as Chinese or Turkish

Valid values are Y or N. Default is N.

FILEMAPPED_MEMORY_DIR

Changed. Specifies the directory that stores temporary file-mapped memory files for PowerExchange Listener statistics on AIX PPC64, IBM i (i5/OS), and Solaris SP64 systems. This statement is now required for AIX and IBM i systems.

JOB_START_MINIMUM_MEMORY_MB=megabytes

New. Prevents PowerExchange Listener from accepting incoming connections or tasks if the available extended memory in the JCL control region is less than the specified value in the statement.

Valid values are 50 through 1520. Default is 50.

RTNBUFFSIZE={kilobytes|960}

New. Adjusts the buffer size, in kilobytes, that is used to collect journal entries for CDC as a result of PowerExchange calls to the IBM QjoRetrieveJournalEntries API. You can use this parameter to tune performance based on your environment.

Valid values are 128 through 12288. Default is 960 KB, which is the IBM default size.

Note: If you also specify the RTNBUFFSIZE in the **PWX Overrides** field of the PowerCenter PWX DB2i5OS CDC application connection, the override takes precedence.

IMSID

Changed. This statement contains a change to the *dbdlib* parameter.

dbdlib or DD:XXXXXXXX

Provides PowerExchange access to the IMS DBD which is required for activities such as reading IMS unload files, registering IMS sources for CDC, and running utilities, including DTLURDMO and DTLUCBRG. In this parameter, you can either specify the IMS DBD library dataset name in line or specify a DD name for PowerExchange to search. By specifying DD:XXXXXXXX, where XXXXXXXX is the DD name coded in the JCL for the component requiring access, you can have one or more DBD libraries for a system allocated to the specified DD name.

Note: If you use the DD:XXXXXXXX, PowerExchange uses the first DBDLIB it finds in the concatenated list and continues processing. Ensure that you place this DD with the one or more DBD libraries in the appropriate JCL or started task.

LISTENER

Changed. This statement has the new optional *message_queue* parameter for IBM i.

IBM i can run multiple PowerExchange Listeners from the same PowerExchange environment by specifying a different message queue for each Listener. For example:

```
/* Listener using default message queue (LISTENER)
LISTENER=(node1,TCPIP,2480,262144,262144,262144,262144)
/* Listener using user defined message queue (LISTENER2)
LISTENER=(node2,TCPIP,12480,262144,262144,262144,262144,,,LISTENER2)
```

PG CAPI_CONNECTION

Changed. This statement can include the new optional CAPTUREALL parameter.

CAPTUREALL={N|Y}

New. Controls whether PowerExchange captures and stores change data for all tables in the source database or only for the tables registered for CDC. Use this parameter to limit the amount of data that is stored in the replication store table to only the data from registered source tables.

Options are:

- **N.** Capture DML changes and store the changes in the replication store table, only for registered source tables. This option limits the amount of data that is collected and stored in the store table.
- **Y.** Capture DML changes and store the changes in the replication store table, for all tables in the source database, including unregistered tables. This setting is not recommended because it can cause more data than is needed for CDC processing to be stored in the replication store table.

Default is N.

UNLOGGED_ERROR_MESSAGES_DEST=[STDERR,STDOUT,ERRFILE,NONE]

New. Specifies a location to write error messages that might not be logged to the detail.log file because of limits on the file.

Options are:

- **STDERR**. Enter this value to write the messages to the standard error file. Informatica recommends you use STDERR for z/OS and Windows systems.
- **STDOUT**. Enter this value to write the messages to the standard output file.
- **ERRFILE**. Enter this value to write the messages to an error file. PowerExchange creates the error file with the prefix **errorfile**. Informatica recommends you use ERRFILE for IBM i, Linux, and UNIX systems, in conjunction with the FILEMAPPED_MEMORY_DIR.
- **NONE**. Enter this value if you do not want to record unlogged error messages.

Usage Notes:

- On IBM i systems, the STDERR and STDOUT options write the messages to QPRINT spools. Using the ERRFILE option with the FILEMAPPED_MEMORY_DIR statement makes the messages easier to locate.
- You can specify multiple options, separated by commas. If you specify NONE with any other option, NONE takes precedence, and no unlogged errors are recorded.

For more information, see the "DBMOVER Configuration File" chapter in the *PowerExchange Reference Manual*.

PowerExchange 10.5.1 - New Features and Changes for the PowerExchange Listener

This section describes the PowerExchange 10.5.1 new features and changes that are related to the PowerExchange Listener.

Parameter and Option Changes in 10.5.1

PowerExchange 10.5.1 introduces the following changes to DBMOVER configuration statements:

DBMOVER Configuration File Statements

The DBMOVER configuration file contains the following new and changed statements:

HANA CAPI_CONNECTION

New. Connects to an SAP HANA source for CDC processing. Syntax is:

```
CAPI_CONNECTION=(NAME=capi_connection_name
[,DLLTRACE=trace_id]
,TYPE=(HANA
,SERVER=[server_name|ip_address]:port
,DATABASE=database_name
[,BUFFERSIZE=bytes]
[,FETCHSIZE=records]
[,LOGCLEAR=days]
[,ONDATATRUNC=[WARN|FAIL]]
[,SSL=[Y|N]]
[,TIMEOUT=milliseconds]
[,VMOPTS=options]
[,VMOPTSDEL=delimiter_character])
)
```

IBMI_USE_DB2_SYSTEM_COLUMN_NAMES={Y|N}

New. Controls whether to use Db2 system column names when performing PowerExchange database row tests and PowerExchange CDC registrations.

This statement pertains to PowerExchange Navigator personal metadata, CDC database row tests, and PowerExchange CDC registrations in the PowerExchange Navigator and the DTLUCBRG utility. It also pertains to PowerCenter Db2 for i, CDC source and target imports, and PowerCenter CDC workflows.

Valid values are:

- **Y.** Use Db2 system column names. When you specify Y, the system column name is displayed for CDC row tests and PowerExchange capture registrations in the PowerExchange Navigator and DTLUCBRG utility.
- **N.** Use long column names. Do not use Db2 system column names.

Default is N.

OPENPOLL=*number*

New. Adjusts the wait time when the PowerExchange Listener encounters tape mount delays on z/OS. Use this statement to relieve constraints on other workflows when the availability of tape data sets or devices cannot be guaranteed.

PowerExchange uses this value in conjunction with the POLLTIME value to calculate a time limit that determines how long the PowerExchange Listener waits for an open request on a tape data set before canceling the request and ending the task.

The value represents the number of passes through the PowerExchange Listener polling loop. To calculate the time limit, the OPENPOLL value is multiplied by the POLLTIME value. For example, if you set OPENPOLL to 60 and POLLTIME to 1000 milliseconds, the time limit is approximately 60000 milliseconds, or 1 minute.

The range for the OPENPOLL value is 5 through 10000.

Default is 0, which causes no requests to be canceled.

SVCNODE=(*service_name* , *listen_port*)

Changed. The SVCNODE statement specifies the TCP/IP port on which a PowerExchange process listens for commands. You can now include up to 30 SVCNODE statements in a DBMOVER configuration file.

TEMP_FILE_DIRECTORY=*directory*

New. Specifies an alternate location for the temporary files that PowerExchange creates if the TMP or TMPDIR environment variables on Windows, UNIX, or Linux are not specified. Valid values are a path and directory name on the server where the dbmover.cfg file resides.

UPDATE_USER_ACTIVITY={Y|N}

New. Controls whether the LAST-ACCESS date in RACF is updated when a user connects to a PowerExchange Listener on z/OS. For the LAST-ACCESS dates to be updated, you must configure the SECURITY=(2,x) and UPDATE_USER_ACTIVITY=Y statements in the DBMOVER configuration file.

Valid values are:

- **Y.** Update the LAST-ACCESS date in the RACF database when a connection is made to a PowerExchange Listener on z/OS. You can view the LAST-ACCESS date in RACF LISTUSER output.
- **N.** Do not update the LAST-ACCESS date in RACF for PowerExchange Listener connections.

Default is N.

For more information, see the "DBMOVER Configuration File" chapter in the *PowerExchange Reference Manual*.

PowerExchange 10.5 - New Features and Changes for the PowerExchange Listener

This section describes the PowerExchange 10.5 new features and changes that are related to the PowerExchange Listener.

Parameter and Option Changes in 10.5

PowerExchange 10.5 introduces the following changes to DBMOVER configuration statements:

DBMOVER Configuration File Statements

The DBMOVER configuration file contains the following new, changed, and dropped statements:

ABEND_SW={N|Y}

Changed. Option Y was changed to print the PowerExchange call stack by using CEE3DMP and the control areas at the time of the abend. Use this option to bypass IBM or third-party abend diagnostic tools. This option is for z/OS only.

CREDENTIALS_CASE={A|D|S}

Changed. PowerExchange handling of mixed-case passwords under option A changed. On IBM i or z/OS, PowerExchange now processes and passes user IDs and passwords to the operating system for authentication, as follows:

1. PowerExchange converts the user ID to uppercase.
2. PowerExchange checks whether the operating system is configured to handle mixed-case passwords.
 - If the operating system is configured to handle mixed-case passwords, PowerExchange keeps the password case as is.
 - If the operating system is not configured to handle mixed-case passwords, PowerExchange converts the password to uppercase. On z/OS, if the password is longer than eight characters, which indicates it is a passphrase, PowerExchange keeps the case in which the password was entered.

IBMI_2ND_LEVEL_HELP={Y|N}

New. Controls whether IBM i second-level help information is included in PowerExchange messages that report operating system or API errors. The second-level help provides additional information, such as a reason or reason code, to help diagnose the error.

LISTENER

Changed. To use TLS networking for IBM i, you can specify SSL in tenth comma position. When you use TLS networking, the send and receive sizes in the sixth and seventh comma positions of the LISTENER statement must be set to a value that does not exceed 16384.

QQAQINILIB=library_name

New. Specify the library name that contains the QQAQINI query options file. If you do not specify this statement, PowerExchange uses the default library specified for the IBM i system.

Note: In PowerCenter, you can override the QQAQINILIB setting in the DBMOVER configuration file by entering QQAQINILIB=library_name in the **PWX Override** connection attribute for the Db2 for i connection.

SSL_CIPHER_LIST=cipher_list

Changed. On IBM i, you can specify ciphers by using four hexadecimal digits.

SSL_CONTEXT_METHOD=context_method

Changed. You can now use this statement to enable TLS networking for IBM i.

Note: The TLSV1_3 protocol is not currently supported by PowerExchange. Informatica recommends that you use the TLSV1_2 protocol on all machine types, including IBM i. Avoid using TLSV1_1 and TLSV1.

On IBM i:

- **TLSV1** is allowed on IBM i 5.2.
- **TLSV1_1** is allowed on IBM i 5.2.
- **TLSV1_2** is allowed on IBM i 5.2, 5.3, and 5.4 and is the recommended choice.

If you do not specify **SSL_CONTEXT_METHOD**, the default is that the system accepts connection requests for all protocols that the IBM i release supports.

Note: Informatica recommends specifying protocol **TLSV1_2** on all machine types. The **TLSV1_3** protocol is currently not supported by PowerExchange.

SSL_REQ_CLNT_CERT={N|Y}

Changed. The **SSL_REQ_CLNT_CERT** statement controls whether a PowerExchange server uses an SSL certificate to authenticate the identity of a PowerExchange client. You can now use this statement on IBM i. Valid values are:

- **Y.** Use the GSK session type of **SERVER SESSION WITH CLIENT AUTHORITY**. The X509 subject certificate from the client machine is validated against the trusted Certificate Authorities (CAs) on the IBM i server.
- **N.** Use GSK session type of **SERVER SESSION**. The client machine subject certificates are not requested or validated.

Default is **Y** for PowerExchange servers on IBM i.

SSL_TOLERATE_UNTRUSTED_ISSUER={N|Y}

New. For use on IBM i systems, to control whether to continue or stop processing after a certificate error 6000 has been reported. Valid values are:

- **Y.** Continue processing after a certificate error 6000 has been reported. A certificate error 6000 occurs when the **SSL_REQ_CLNT_CERT** statement is set to **Y** and the partner CA is not present among the trusted CAs on the IBM i machine.
- **N.** Stop processing and do not accept the connection after certificate error 6000 has been reported.

SVCDUMP={N|Y}

New. On z/OS, controls whether PowerExchange generates an **SVCDUMP** at the point of an abend.

The following statements can no longer appear in the **DBMOVER** configuration file:

- **REPOS_CONNECT**
- **REPOS_DEFAULT_CONNECTION**
- **REPOS_ENABLE**
- **RPX_DIR**

For more information, see the "DBMOVER Configuration File" chapter in the *PowerExchange Reference Manual*.

PowerExchange 10.4.1 - New Features and Changes for the PowerExchange Listener

This section describes the PowerExchange 10.4.1 new features and changes that are related to the PowerExchange Listener.

Parameter and Option Changes in 10.4.1

PowerExchange 10.4.1 introduces the following changes to DBMOVER configuration statements:

DBMOVER Configuration File Statements

The DBMOVER configuration file contains the following new and changed statements:

IBMI_SUPPRESS_OUTPUT={Y,N}

New. Controls whether PowerExchange suppresses spool file creation on an IBM i system.

- **N.** Create spool files.
- **Y.** Suppress spool files.

Default is N.

MSQL_CAPI_CONNECTION

Changed. This statement contains the following new parameter:

GUIDBRACES={Y,N}

Optional. Controls whether PowerExchange retains or removes braces { } around GUID values in data captured from registered SQL Server columns that have the uniqueidentifier datatype. If the PowerCenter session writes data to SQL Server target uniqueidentifier columns, set this parameter to N to remove the braces. Otherwise, the session will encounter writer errors.

Options are:

- **N.** Remove braces.
- **Y.** Retain braces.

Default is Y.

For more information, see the "DBMOVER Configuration File" chapter in the *PowerExchange Reference Manual*.

PowerExchange 10.4.0 HotFix 1 - New Features and Changes for the PowerExchange Listener

This section describes the PowerExchange 10.4.0 HotFix 1 new features and changes that are related to the PowerExchange Listener.

Parameter and Option Changes in 10.4.0 HotFix 1

PowerExchange 10.4.0 HotFix 1 introduces the following changes to DBMOVER configuration statements:

DBMOVER Configuration File Statements

The DBMOVER configuration file includes the following new and changed statements:

ODBC_CONN_PARAMS

New. Specifies DataDirect ODBC parameters to add to connection strings that are used to connect to Microsoft SQL Server, MySQL, or PostgreSQL sources on the servers you identify. These additional parameters are used for change data capture and for creating, deleting, or modifying capture registrations from the PowerExchange Navigator or DTLUCBRG utility. Syntax is:

```
ODBC_CONN_PARAMS=(DBTYPE={MSQL|MYSQL|PG}  
,SERVER=server_pattern[,port_pattern]  
,ADDL_PARAMS=parameter1,parameter2,...  
)
```

Parameter descriptions:

DBTYPE

Specifies the type of source database for which to specify additional DataDirect ODBC connection parameters. This value must match the TYPE parameter value in the CAPI_CONNECTION statement for the source. Options are:

- **MSQL.** For Microsoft SQL Server sources.
- **MYSQL.** For MySQL sources.
- **PG.** For PostgreSQL sources.

No default is provided.

SERVER=server_pattern[,port_pattern]

Identifies the database server or servers for which to use the additional ODBC parameters for connecting to the source database. Optionally, you can include a port number or port number pattern.

To specify a server or port pattern, include the asterisk (*) wildcard, which represents zero or more characters, or the question mark (?) wildcard, which represents a single character. Separate the server and port values with a comma.

ADDL_PARAMS

Specifies one or more ODBC parameters to add to the connection string that is sent to the DataDirect driver for connecting to the source. These parameters are used on the servers that match the server name pattern and have an available port that matches the port pattern.

Specify parameters that your DataDirect driver supports in `odbc.ini` files. For more information, see the DataDirect documentation for your driver type. However, do *not* use any of the following ODBC parameters that are not supported by this DBMOVER statement:

- *For Microsoft SQL Server sources:* DRIVER, HOST, PORT, DB, AM, DOMAIN, UID, and PWD
- *For MySQL sources:* DRIVER, HOST, PORT, DB, UID, and PWD
- *For PostgreSQL sources:* DRIVER, HOST, PORT, DB, UID, and PWD

No validation is performed on the ODBC parameters you add. Verify that your parameter entries are valid.

UDB CAPI_CONNECTION

Changed. Two new optional parameters have been added to this statement. Syntax is:

```
CAPI_CONNECTION=(NAME=capi_connection_name  
,TYPE=(UDB
```

```
[,LIMITRESCAN={N|Y}]
[,LOGBUFSIZE=[kilobytes][,kilobytes]]
...))
```

Parameter descriptions:

LIMITRESCAN={Y|N}

Optional. When PowerExchange change capture processing encounters a compressed record for a source table in the Db2 log, controls whether PowerExchange scans the log for records from propagatable tables up to an internally set limit or continues scanning until the buffer is full or until the end-of-log (EOL). Use this parameter to avoid excessive scanning of the log, which can result in PowerExchange capture timeouts and degraded performance.

- **Y.** Limits PowerExchange scanning of log records for change capture. This option is recommended to avoid potential PowerExchange capture timeouts and failures.
- **N.** Allows PowerExchange scanning of log records to continue until the buffer is full or until the end-of-log (EOL). In this case, PowerExchange capture processing might end abnormally with a timeout error. This problem is more likely to occur when source tables have a low volume change activity.

Default is N.

LOGBUFSIZE=[kilobytes_normal][,kilobytes_filtered]

Optional. The buffer sizes, in kilobytes, that the PowerExchange capture process uses for reading Db2 log records in normal-read mode and filtered-read mode. In *filtered-read* mode, PowerExchange scans for compressed records from propagatable tables. You can specify a buffer size for one or both log read modes.

For the first normal-read buffer size, if you enter 0 or do not specify a value, 128 KB is used by default. For the second filtered-read buffer size, if you enter 0 or do not specify a value, the first normal-read buffer size is used by default for filtered read operations.

Note: If you set the PowerExchange capdl_bufsize environment variable at the direction of Informatica Global Customer Support, the environment variable value overrides the buffer sizes in the LOGBUFSIZE parameter.

For more information, see the "DBMOVER Configuration File" chapter in the *PowerExchange Reference Manual*.

PowerExchange 10.4.0 - New Features and Changes for the PowerExchange Listener

This section describes the PowerExchange 10.4.0 new features and changes that are related to the PowerExchange Listener.

Parameter and Option Changes in 10.4.0

PowerExchange 10.4.0 introduces the following changes to DBMOVER configuration statements:

DBMOVER Configuration File Statements

The DBMOVER configuration file includes the following new and changed statements:

FILEMAPPED_MEMORY_DIR=path/directory

New. This statement specifies the directory that stores temporary file-mapped memory files for PowerExchange Listener statistics on AIX PPC64, i5/OS (IBM i), and Solaris SP64 systems. If you set the STATS statement to MONITOR in the DBMOVER configuration file, the memory statistics are generated when either the optional monitoring interval in the MONITOR parameter elapses or when you issue the DISPLAYSTATS or pwxcmd displaystats command.

By default, temporary file-mapped memory statistics files are written to the current directory of the user, or if the current directory is not available, to the top-most root directory of the file system.

Informatica recommends that you specify a directory that is dedicated to storing file-mapped memory statistics files and that is on a locally mounted disk.

IMBSDDS=(ims_ssid ,bootstrap_hlq[,search_preference])

New. Identifies the high-level qualifier of the IMS bootstrap data set, which is required to retrieve database descriptor (DBD) information in DBDLIB (DBGEN) format from the IMS catalog. This statement also indicates the order in which PowerExchange searches the IMS DBDLIB library or IMS catalog for DBD information for source objects. Specify this statement if you want PowerExchange to retrieve DBD information from the IMS catalog for creating data maps or for the run-time extraction of data during CDC or IMS unload processing.

In this statement, the *search_preference* is one of the following options:

- **D.** First search the DBDLIB library and then search the IMS catalog, if available.
- **C.** First search the IMS catalog and then search the DBDLIB library.
- **O.** Search the IMS catalog only.

If you do not specify an option, PowerExchange searches only the DBDLIB library by default and does not use the IMS catalog.

LU00FILE=pdse_name

New. Specifies the partitioned data set extended (PDSE) that you allocated to hold database descriptor (DBD) output from the IMS Catalog Library Builder Utility, DFS3LU00. This statement is required to retrieve DBD information in source format from the IMS catalog for use in creating data maps.

MSQL CAPI_CONNECTION

Changed. The optional LOCKAVOIDANCE parameter has been renamed to SQLNOLOCK. The original LOCKAVOIDANCE name exceeded the maximum name length of 12 characters, which could cause multiple types of errors. The purpose and behavior of the parameter remain the same. Syntax is:

```
CAPI_CONNECTION=(NAME=capi_connection_name
,TYPE=(MSQL
,DISTDB=distribution_database
,DISTRV=distribution_server
[,SQLNOLOCK={N|Y}]...))
```

If you currently use the LOCKAVOIDANCE parameter, edit the dbmover.cfg file to change the parameter name to SQLNOLOCK to avoid potential errors.

MYSQ CAPI_CONNECTION

Changed. The optional MYSQLBINLOG parameter can now include any of the options that the mysqlbinlog utility supports, such as the --ssl- options. Syntax is:

```
MYSQ CAPI_CONNECTION=path/binlog_file_name option1 option2...
```

PowerExchange passes the options to the utility when the CDC session runs. For information about the utility options, see the *MySQL Reference Manual*.

If any part of the MYSQLBINLOG value includes spaces, you must enclose the entire MYSQLBINLOG value in double-quotation marks ("). Furthermore, if any part of the *path/binlog_file_name* value or an option includes a space, escape the value with the backslash (\) character and also enclose the value in double-quotation marks, for example:

```
MYSQLBINLOG="\ "c:\bin\test dir\mysqlbinlog.exe\ " --ssl-mode required "
```

If the *path/binlog_file_name* value begins with the hyphen (-) character, the entire value is treated as a utility option, as if no *path/file_name* value was specified.

NODE

Changed. The optional [Y|N] parameter at the end of the NODE statement has been deprecated. This parameter was used to control client TLS/SSL security certificate validation. If this parameter is included in the NODE statement, it is ignored.

PG CAPI_CONNECTION

New. This new statement is required to capture change data from PostgreSQL source tables. For more information about the syntax and parameters, see ["DBMOVER Configuration File" on page 125](#).

SSL_REQ_CLNT_CERT

Changed. The default value now depends on the operating system type of the PowerExchange server. The default is N for PowerExchange servers that run on Linux, UNIX, or Windows. The default is Y for PowerExchange servers that run on IBM i or z/OS.

For more information, see the "DBMOVER Configuration File" chapter in the *PowerExchange Reference Manual*.

CHAPTER 6

PowerExchange Logger for Linux, UNIX, and Windows

This chapter includes the following topics:

- [PowerExchange 10.5.3 - New Features and Changes for the PowerExchange Logger, 58](#)
- [PowerExchange 10.5.2 - New Features and Changes for the PowerExchange Logger, 59](#)

PowerExchange 10.5.3 - New Features and Changes for the PowerExchange Logger

This section describes the PowerExchange 10.5.3 changes that are related to the PowerExchange Logger for Linux, UNIX, and Windows.

Parameter and Option Changes in 10.5.3

PowerExchange 10.5.3 adds parameters for the PowerExchange Logger for Linux, UNIX, and Windows.

PowerExchange Logger for LUW Configuration File

The following parameter was changed in the PowerExchange Logger configuration file, pwxcl.cfg:

IBMIJRNLOVRD=(JRN=*library/journal_name*, [FROMRCVR=*library/from_receiver*,] [TORCVR=*library/to_receiver*])

Changed. An override Db2 for i library/journal value that is used when remote logging of Db2 for i source data to the PowerExchange Logger is configured. This parameter overrides the JOURNAL parameter value in the AS4J CAPI_CONNECTION statement for PowerExchange Logger processing only. To specify a range of override journal receivers, use both the FROMRCVR and TORCVR keywords.

Specify the restart and sequence tokens in the PWXCCL.CFG file for the override receivers.

FROMRCVR=*library/from_receiver*

New. Optional. Specifies the beginning of a valid sequence of override journal receivers associated with the journal receiver specified in the IBMIJRNLOVRD JRN parameter. If you specify the FROMRCVR parameter, you must also specify the TORCVR parameter.

TORCVR=*library/to_receiver*

New. Optional. Specifies the end of the range of a valid sequence of override journal receivers associated with the journal receiver specified in the IBMIJRNLOVRD JRN parameter.

PowerExchange 10.5.2 - New Features and Changes for the PowerExchange Logger

This section describes the PowerExchange 10.5.2 changes that are related to the PowerExchange Logger for Linux, UNIX, and Windows.

Parameter and Option Changes in 10.5.2

PowerExchange 10.5.2 adds a parameter for the PowerExchange Logger for Linux, UNIX, and Windows.

PowerExchange Logger for LUW Configuration File

PowerExchange 10.5.2 adds the following new parameter in the PowerExchange Logger configuration file, `pwxccl.cfg`:

`IBMIJRNLOVRD=library/journal`

An override Db2 for i library/journal value that is used when remote logging of Db2 for i source data to the PowerExchange Logger is configured. The library name can be up to 128 characters in length, and the journal name can be up to ten characters in length. This parameter overrides the JOURNAL parameter value in the AS4J CAPI_CONNECTION statement, for PowerExchange Logger processing only.

Behavior Change in 10.5.2

PowerExchange 10.5.2 introduces the following behavior change for PowerExchange Condense.

Ability to Access the CCT file in Read Mode

PowerExchange reads registrations from the CCT file in read mode. The user ID that accesses the CCT file no longer needs update permission, which enables you to implement a more granular security model.

As of Version 10.5.2, PowerExchange no longer retains information about columns when processing partial condense registrations, resulting in reduced run-time memory.

For more information, see the *PowerExchange Navigator User Guide*.

CHAPTER 7

PowerExchange Navigator

This chapter includes the following topics:

- [PowerExchange 10.5.3 - New Features and Changes for the PowerExchange Navigator, 60](#)
- [PowerExchange 10.5.2 - New Features and Changes for the PowerExchange Navigator, 61](#)
- [PowerExchange 10.5 - New Features and Changes for the PowerExchange Navigator, 62](#)
- [PowerExchange 10.4.1 - New Features and Changes for the PowerExchange Navigator, 63](#)

PowerExchange 10.5.3 - New Features and Changes for the PowerExchange Navigator

PowerExchange 10.5.3 includes the following new features and changes that are related to the PowerExchange Navigator.

New Features for 10.5.3

PowerExchange 10.5.3 introduces the following new features for the PowerExchange Navigator.

New Functions for User-Defined Fields

The following new functions provide access to statistics for nonrelational read processing:

- `GetOptimizationPositionCount`
- `GetOptimizationReadCount`
- `GetUnoptimizedReadCount`

You can associate the functions with expressions in user-defined fields to enable a calling program to display the statistics for a PowerExchange read cycle for nonrelational sources.

For more information, see the "PowerExchange Functions for User-Defined Fields" appendix in the *PowerExchange Navigator User Guide*.

PowerExchange 10.5.2 - New Features and Changes for the PowerExchange Navigator

PowerExchange 10.5.2 includes the following new features and changes that are related to the PowerExchange Navigator.

Behavior Changes in 10.5.2

PowerExchange 10.5.2 introduces the following changed behavior for the PowerExchange Navigator.

Capture Registration CCT File Enhancement

In version 10.5.2, PowerExchange can open the CCT file in read or update mode according to the function it performs.

Longer Registration Names for IBM i and z/OS CDC Sources

When you add capture registrations in the PowerExchange Navigator, you can now specify a registration name up to 10 characters in length in the NAME field for a CDC source on IBM i or z/OS. Previously, the maximum registration name length for these platforms was eight characters.

Restricting Who Can Send a Data Map to a Remote Node for a Row Test

Previously, to perform a database row test on a data map in the PowerExchange Navigator, you had to first send the data map to the remote node. If a later version of the data map resided on the remote node, the version sent would overlay it, which could cause problems.

Now, you can select the new **Developer Mode** option in the data map **Preferences** dialog box in the PowerExchange Navigator to allow only developer users, who maintain the data maps, to choose whether to send the executable form of the data map to the remote node before performing the row test. When this option is not selected, no users can send the data map to the remote node, and the data map must already exist at the Listener location for the row test.

For more information, see the *PowerExchange Navigator User Guide*.

Data Map Preferences Enhancement

In version 10.5.2 PowerExchange Navigator, you can specify the row test font height on the **Data Map** tab of the **Preferences** dialog box.

If you see message PWX-01936 when you run a row test from the PowerExchange Navigator, no suitable Unicode font is available. In this case, install the unifont-13-0.06.ttf font file delivered in the PowerExchange install directory and copy it to the Windows Fonts folder.

For more information, see the *PowerExchange Navigator User Guide*.

PowerExchange 10.5 - New Features and Changes for the PowerExchange Navigator

PowerExchange 10.5 includes the following new features and changes that are related to the PowerExchange Navigator.

New Features for 10.5

PowerExchange 10.5 introduces the following new features for the PowerExchange Navigator.

Ability to Skip Data Rows for IMS Unload Data Sets During a Row Test

You can now specify the number of initial rows of data to skip when performing a row test that fetches data for IMS unload data sets.

Use the following field in the **Database Row Test** dialog box:

Skip First *n* Rows

New for IMSUNLD . Indicates the number of initial rows of data to skip when the row test fetches data for display. If you are performing a row test on a large file, you can use this option to have the row test skip to a specific point in the file before displaying data. This option can help you diagnose problems in large files faster because only the data of potential interest is returned for analysis.

For this existing option to be available for IMS unload files, select **IMSUNLD** in the **DB Type** list when you configure the row test.

Valid values are 0 to 99999. Default is 0, which causes no rows to be skipped.

For more information, see the "Database Row Test Dialog Box" chapter in the *PowerExchange Navigator User Guide*.

Ability to View IMS Unload Files From the DL/1 Batch Access Method Tab

From the Data Map Properties **DL/1 Batch Access Method** tab, you can view an IMS unload file by specifying the IMS unload file name in the **IMS Unload Dataset** field and clicking **View File**. If the **Skip First *n* Records** field contains a value, PowerExchange skips the specified initial number of records.

For more information, see the "Data Map Properties" chapter in the *PowerExchange Navigator User Guide*.

Parameter and Option Changes for 10.5

PowerExchange 10.5 changes the length of the NAME parameter on capture registrations defined in the PowerExchange Navigator.

Capture Registration Name Lengths

The PowerExchange Navigator now supports an extended length for capture registration names for Linux, UNIX, and Windows sources.

You can specify a user-defined name for the capture registration, with the following format:

- For z/OS and IBM i sources, the name must be from one to eight lowercase alphanumeric characters long and must begin with a letter.

- For Linux, UNIX, and Windows sources, the name must be from one to 13 lowercase alphanumeric characters long and must begin with a letter.

PowerExchange 10.4.1 - New Features and Changes for the PowerExchange Navigator

PowerExchange 10.4.1 includes the following new features and changes that are related to the PowerExchange Navigator.

New Features

PowerExchange 10.4.1 introduces the following new features for the PowerExchange Navigator.

CheckNumData Function

You can associate the new CheckNumData function with a user-defined field to enable a calling program to check whether a field with the data type of CHAR, NUMCHAR, ZONED, or PACKED contains valid numeric characters. If the program finds invalid data, it can take additional action. CheckNumData performs a function similar to the data checking options in the data map properties. However, CheckNumData applies data checking to a single field rather than to the entire data map. You can use CheckNumData to validate numeric data fields before conversion processing by another function such as CopyData.

For more information, see the "PowerExchange Functions for User-Defined Fields" appendix in the *PowerExchange Navigator User Guide*.

Behavior Changes in 10.4.1

PowerExchange 10.4.1 introduces the following changed behavior for the PowerExchange Navigator.

Enhanced Datatype Validation for Selected Functions

To ensure that source field datatypes are compatible with target field datatypes, PowerExchange 10.4.1 provides improved datatype validation for the following PowerExchange functions, which you can use in expressions associated with user-defined fields in data maps:

- Concat
- LTrim
- RTrim
- Split

For example, a character datatype cannot be mapped to a numeric datatype.

For more information, see the "PowerExchange Functions for User-Defined Fields" appendix in the *PowerExchange Navigator User Guide*.

CHAPTER 8

PowerExchange Monitoring and Tuning

This chapter includes the following topic:

- [PowerExchange 10.4.0 - New Features and Changes for Monitoring and Tuning, 64](#)

PowerExchange 10.4.0 - New Features and Changes for Monitoring and Tuning

This section describes the PowerExchange 10.4.0 new features and changes for PowerExchange monitoring and tuning.

Parameter and Option Changes in 10.4.0

PowerExchange 10.4.0 introduces a new parameter for the DTLSMFRP program.

DTLSMFRP JCL Parameter

PowerExchange 10.4.0 adds a new parameter to the sample JCL in the DTLSMFRP member of the RUNLIB library. The PowerExchange DTLSMFRP program can generate reports of PowerExchange activity based on statistics records that PowerExchange writes to SMF. The new, optional SYSOUT parameter specifies where to route the reports.

For example, to route the reports to SYSOUT class A, specify:

```
//SMF EXEC PGM=DTLSMFRP, PARM='0,252, SYSOUT=A'
```

The default class is X.

For more information, see the "SMF Statistics Logging and Reporting" chapter in the *PowerExchange Reference Manual*.

CHAPTER 9

PowerExchange Utilities

This chapter includes the following topics:

- [PowerExchange 10.5.3 - New Features and Changes for PowerExchange Utilities, 65](#)
- [PowerExchange 10.5.2 - New Features and Changes for PowerExchange Utilities, 66](#)
- [PowerExchange 10.5.1 - New Features and Changes for PowerExchange Utilities, 67](#)
- [PowerExchange 10.5 - New Features and Changes for PowerExchange Utilities, 68](#)
- [PowerExchange 10.4.1 - New Features and Changes for PowerExchange Utilities, 73](#)
- [PowerExchange 10.4.0 - New Features and Changes for PowerExchange Utilities, 74](#)

PowerExchange 10.5.3 - New Features and Changes for PowerExchange Utilities

This section describes PowerExchange 10.5.3 new features and changes that are related to PowerExchange utilities.

New Features in 10.5.3

PowerExchange 10.5.3 introduces the following new features for PowerExchange utilities:

DTLINFOX Utility

The new DTLINFOX utility reports the version, release, and release level for each PowerExchange program in a PowerExchange library or directory. You can also use it to report information about a single program file on a remote system if a PowerExchange Listener runs on that system. program files by using a PowerExchange Listener on one or more remote machines.

Use the DTLINFOX utility to verify the installation of the product, a service pack, or a hotfix. You can also use it to determine the maintenance level of your PowerExchange software if Informatica Global Customer Support requests that information.

The DTLINFOX utility runs on Windows. However, you can also use it to report information about program files on a remote IBM i, Linux, UNIX, Windows, or z/OS system by connecting to a PowerExchange Listener that is running on that remote system.

For more information, see the "DTLINFOX - Enhanced Release Information Utility" chapter in the *PowerExchange Utilities Guide*.

Parameter and Option Changes for 10.5.3

PowerExchange 10.5.3 includes the following changes to parameters and options:

DDLFILE Option for HANOPTS Parameter

In the DTLUCBRG utility, the HANOPTS parameter now supports the DDLFILE option. You can use the HANOPTS DDLFILE option along with the TESTRUN parameter to generate a DDL file that contains SQL statements for creating the triggers and full-audit shadow _CDC tables for registered SAP HANA tables. Execute the SQL statements to create the triggers and shadow _CDC tables.

PowerExchange 10.5.2 - New Features and Changes for PowerExchange Utilities

This section describes PowerExchange 10.5.2 new features and changes that are related to PowerExchange utilities.

New Features in 10.5.2

PowerExchange 10.5.2 introduces the following new features for PowerExchange utilities:

PWXUCREG Utility Enhancements

The PWXUCREG utility includes the following enhancements:

- The CCT file is opened in read mode when retrieving registrations.
- The new status of N, for Not Live, can be specified in the PWXUCREG commands DELETE_INACTIVE_REGISTRATION and DISPLAY_REGISTRATION to retrieve and process registrations that have the statuses of H (History) and I (Inactive).
- You can delete registrations that have the status of History, Inactive, or Non-Live from the capture environment, by using the DELETE_INACTIVE_REGISTRATION command.
- The new HELP command displays help on all PWXUCREG commands.
- New keywords were added to the SET_CONTROL_VALUE statement: NO_MESSAGES_TO_DETAIL_LOG, DISPLAY_PROGRESS_TO_STDERR, and OVERRIDE_CCT_FILE_NAME.

For more information, see the "PWXUCREG - Capture Registration Suspend Utility" chapter in the *PowerExchange Utilities Guide*.

PWXCATMY Utility Support for Encrypted Passwords

You can now enter an encrypted password for the user who accesses catalog tables for MySQL sources and for the user who connects to the host where the source tables reside. You can create an encrypted password in the PowerExchange Navigator.

For more information, see the "PWXCATMY - MySQL Catalog Utility" chapter in the *PowerExchange Utilities Guide*.

Parameter and Option Changes in 10.5.2

PowerExchange 10.5.2 introduces new parameters for the PWXCATMY utility.

PWXCATMY Utility Parameters

PowerExchange 10.5.2 adds the following new optional parameters for the PWXCATMY utility:

CATEPASSWORD=encrypted_catalog_host_password

The encrypted password that is associated with the user who accesses the catalog tables for MySQL sources. Do not also specify CATPASSWORD.

EPASSWORD=encrypted_source_host_password

The encrypted password that is associated with the user who connects to the source system. Do not also specify PASSWORD.

For more information, see the "PWXCATMY - MySQL Catalog Utility" chapter in the *PowerExchange Utilities Guide*.

Behavior Changes in 10.5.2

PowerExchange 10.5.2 introduces the following behavior change for the DTLUCBRG utility.

DTLUCBRG Permits Longer Registration Names for IBM i and z/OS CDC Sources

When you use the DTLUCBRG utility to add capture registrations, you can now specify registration names up to 10 characters in length in the CRGNAME parameter for CDC sources on IBM i or z/OS. Previously, the maximum registration name length for these platforms was eight characters.

PowerExchange 10.5.1 - New Features and Changes for PowerExchange Utilities

This section describes PowerExchange 10.5.1 new features and changes that are related to PowerExchange utilities.

Parameter and Option Changes in 10.5.1

PowerExchange 10.5.1 introduces new parameters for the DTLUCBRG utility.

DTLUCBRG Utility Parameters

PowerExchange 10.5.1 includes the following new parameters for the DTLUCBRG utility:

HANOPTS

Parameters for SAP HANA sources. To use these parameters, the DBTYPE parameter must be set to HAN in the input parameter file. Otherwise, the DTLUCBRG utility issues an error message.

Syntax:

```
HANOPTS=(DBSERVER=database_server,[FULLAUDIT={Y|N}])
```

Subparameters:

DBSERVER

Required. The name of the database server. You can optionally include a port number for the server in the following format:

```
DBSERVER="database_server,port_number"
```

In this case, the double-quotation marks are required.

No default is provided.

DBNAME

Required. The name of the database that contains the tables from which changes are captured. Default is From Datamap.

FULLAUDIT

Optional. indicates whether the utility processes the change data with full audit enabled. The full audit feature creates a shadow table for changes to the SAP HANA table for which it is enabled.

- If STATUS is set to Y, full audit is enabled.
- If STATUS is set to N, full audit is disabled.

Default is N.

PowerExchange 10.5 - New Features and Changes for PowerExchange Utilities

This section describes PowerExchange 10.5 new features and changes that are related to PowerExchange utilities.

New Features in 10.5

PowerExchange 10.5 introduces the following new features for PowerExchange utilities:

PWXUGSK Utility Enhancements

The PWXUGSK utility includes the following reporting enhancements:

- You can now specify the REPORT_ZOS_ATTLS_POLICY command to generate a report of the z/OS AT-TLS rules.
- The error codes report was expanded to include more error codes.
- The ciphers report now distinguishes which ciphers belong to each protocol and clarifies how IBM i and z/OS cipher names match to equivalent OpenSSL cipher names.

For more information, see the "PWXUGSK - SSL Reporting Utility for z/OS" chapter in the *PowerExchange Utilities Guide*.

PWXUSSL Utility Enhancements

The PWXUSSL utility includes the following reporting enhancements:

- You can now specify the `REPORT_ZOS_ATTLS_POLICY` command on Windows to generate a report of the z/OS AT-TLS rules. You must perform an ASCII FTP of the relevant policy file to Windows before using it as input to the PWXUSSL utility.
- The ciphers report now distinguishes which ciphers belong to each protocol and clarifies how IBM i and z/OS cipher names match to equivalent OpenSSL cipher names.
- The cipher strength attribute is no longer reported because it was withdrawn by OpenSSL.
- You can now specify the `PING` command `ping_sslinfo` parameter to generate a report of secure connection attributes from both the client side and server side of the connection.

For more information, see the "PWXUSSL - PowerExchange SSL Reporting Utility" chapter in the *PowerExchange Utilities Guide*.

WRKJRNLCKE - Journal Lock Table Utility

You can use the WRKJRNLCKE utility on an IBM i system where PowerExchange is installed to list journal entries that PowerExchange has locked.

When a PowerExchange task on IBM i ends abnormally or if a task is forced to end before it completes, locked journal entries might not be released. This utility allows you to view orphaned journal entries and optionally delete those entries that are no longer associated with active PowerExchange jobs.

The utility runs on IBM i systems. The user who runs the utility must have *JOBCTL special authority on the IBM i system where the journal entries reside.

For more information, see the "WRKJRNLCKE - Journal Lock Table Utility" chapter in the *PowerExchange Utilities Guide*.

Command Changes in 10.5

PowerExchange 10.5 introduces new commands for the PWXUGSK utility and the PWXUSSL utility.

PWXUGSK Utility Commands

The PWXUGSK utility adds the new `REPORT_ZOS_ATTLS_POLICY` command for generating a formatted report of the z/OS AT-TLS rules.

The new command is supported on z/OS.

REPORT_ZOS_ATTLS_POLICY

New. Produces a formatted report of the z/OS AT-TLS rules. The utility ignores statements in the policy file if it does not recognize the syntax. The utility also limits the input from the policy file to the following types:

- TTLSCipherParms
- TLSConnectionAction
- TLSConnectionAdvancedParms
- TLSEnvironmentAction
- TLSEnvironmentAdvancedParms
- TLSGroupAction

- TTLSKeyringParms
- TTLSRule
- PortRange

For more information, see the "PWXUGSK - SSL Reporting Utility" chapter in the *PowerExchange Utilities Guide*.

PWXUMAP Utility Commands

The PWXUMAP utility adds the new MDDTLDESCRIBE command to report metadata, similar to DTLDESCRIBE metadata, for data maps, schemas, tables, columns, or files. If the report output is large, you can filter it by access method and by one or more schema, map, table, or file name masks. The report output is written to a text file on Windows, which is useful for diagnosing problems.

The command runs on Windows.

Syntax:

```
PWXUMAP COMMAND=MDDTLDESCRIBE
TYPE={MD}
OUTPUT_FILE=file_name
LOCATION={node_name|local}
MDDESCRIBETYPE=metadata_type
[UID=user_name]
[PWD=password|EPWD=encrypted_password]
[AMLIST=access_method_code]
[FILEMASK=file_name_mask**]
[MAPMASK=map_name_mask]
[PACESIZE=n]
[RETLOGINFOMSG={Y|N}]
[SCHEMAMASK=schema_name_mask]
[TABLEMASK=table_name_mask]
```

The syntax includes both global parameters and command-specific parameters.

New command-specific parameters:

FILEMASK=file-name mask**

New. Use a file-name mask, or pattern, to filter files or partitioned data set members when the MDDESCRIBETYPE value is set to MDFILES or MDMEMBERS. In the pattern, use the asterisk (*) wildcard to represent last part of the file names. For files on z/OS, end the pattern with two asterisk (**) wildcards.

MDDESCRIBETYPE=metadata_type

New. The type of metadata to include in the report. Select one of the following options:

- **ALL.** Include all types of metadata except the MDFILES and MDMEMBERS types.
- **MDFILES.** Include metadata for files.
- **MDIMPORT.** Include metadata for schemas, data maps, tables or records, and columns containing additional map information.
- **MDMAPS.** Include metadata for schemas and data maps, in two-level hierarchical format.
- **MDMEMBERS.** Include metadata for members of partitioned data sets on z/OS.
- **MDOBJECTINFO.** Include metadata for schemas, data maps, tables, and columns, in four-level hierarchical format.
- **MDSCHMAS.** Include metadata for schemas in a list.
- **MDSCHMAINFO.** Include metadata for schemas, data maps, and tables, in three-level hierarchical format.

No default is provided.

For more information, see the "PWXUMAP - Map List Utility" chapter in the *PowerExchange Utilities Guide*.

PWXUSSL Utility Commands

The PWXUSSL utility adds the new REPORT_ZOS_ATTLS_POLICY command for generating formatted report of the z/OS AT-TLS rules.

The new command is supported on Windows.

REPORT_ZOS_ATTLS_POLICY

New. The command produces a formatted report of the z/OS AT-TLS rules. You must perform an ASCII FTP of the relevant policy file to download it to Windows before using it as input to the PWXUSSL utility.

The utility ignores statements in the policy file if it does not recognize the syntax. The utility also limits the input from the policy file to the following types:

- TTLSCipherParms
- TTLSConnectionAction
- TTLSConnectionAdvancedParms
- TTLSEnvironmentAction
- TTLSEnvironmentAdvancedParms
- TTLSGroupAction
- TTLSKeyringParms
- TTLSRule
- PortRange

For more information, see the "PWXUSSL - SSL Reporting Utility" chapter in the *PowerExchange Utilities Guide*.

Parameter and Option Changes in 10.5

PowerExchange 10.5 introduces new parameters for the DTLUCBRG utility.

DTLREXE Utility Parameters

PowerExchange 10.5 includes the following new parameter for the DTLREXE utility:

SSLINFO

New. Generate a report of secure connection attributes from both the client side and server side of the connection.

For more information, see the "DTLREXE - Remote Execution Utility" chapter in the *PowerExchange Utilities Guide*.

DTLUCBRG Utility Parameters

PowerExchange 10.5 includes the following new parameters for the DTLUCBRG utility:

EXCLUDE_COL=*column_name*

A column name or name pattern for excluding columns from the capture registrations you are creating for source tables. To define a name pattern that can identify multiple columns, include the asterisk (*)

wildcard anywhere within the name, for example, tx*custid. This value is matched against column names in a case-insensitive manner.

You can repeat this parameter multiple times to specify multiple name values. If you specify the EXCLUDE_COL parameter, do not also define the INCLUDE_COL parameter. These parameters are mutually exclusive.

EXCLUDE_TYPE=*data_type*

A column data type to use for excluding columns from the capture registrations you are creating for source tables. All columns that have the specified data type will be excluded from the registrations. You might want to use this parameter to exclude data types that PowerExchange does not support or to satisfy certain site-specific requirements.

This value is matched against column data types in a case-insensitive manner. For example, the values *clob* and *CLOB* would have the same result. You can repeat this parameter multiple times to specify multiple data types.

INCLUDE_COL=*column_name*

A column name or name pattern for including columns in the capture registrations you are creating for source tables. To define a name pattern that can identify multiple columns, include the asterisk (*) wildcard anywhere within the name, for example, tx*custid. This value is matched against column names in a case-insensitive manner.

You can repeat this parameter multiple times to specify multiple name values. If you specify the INCLUDE_COL parameter, do not also define the EXCLUDE_COL parameter. These parameters are mutually exclusive.

For more information, see the "DTLUCBRG - Batch Registration Utility" chapter in the *PowerExchange Utilities Guide*.

DTLURDMO Utility Parameters

PowerExchange 10.5 includes the following new parameter for the DTLURDMO utility:

GETREGTAG

New. The GETREGTAG statement for XM_COPY specifies the target registration from which to get the registration tag. If you defined BI/CI fields in extraction maps and do not want to re-create them manually after using REG_COPY with CREATEXMAP=Y, you can get the correct registration tag from the registration that was copied to the target.

For more information, see the "DTLURDMO - Data Map Utility" chapter in the *PowerExchange Utilities Guide*.

PWXUGSK Utility Parameters

PowerExchange 10.5 includes the following new and changed parameters for the PWXUGSK utility:

PING_SSLINFO=Y|N

New for IBM i. Specify Y to generate a report of secure connection attributes from both the client side and server side of the connection. Default is PING_SSLINFO=N.

PING_EPWD=encrypted_password

Changed. An encrypted password associated with the user name specified by PING_UID. Specify either a password or an encrypted password to decrypt the certificate files on the remote node.

PING_PWD=password

Changed. The password associated with the user name specified by PING_UID. Specify either a password or an encrypted password to decrypt the certificate files on the remote node.

PING_UID=user_name

Changed. A user name that can be used to establish the secure connection.

For more information, see the "PWXUGSK - SSL Reporting Utility" chapter in the *PowerExchange Utilities Guide*.

PWXUSL Utility Parameters

PowerExchange 10.5 includes the following new and changed parameters for the PWXUSL utility:

PING_SSLINFO=Y|N

New for Linux, UNIX, and Windows. Specify Y to generate a report of secure connection attributes from both the client side and server side of the connection. Default is PING_SSLINFO=N.

PING_EPWD=encrypted_password

Changed. An encrypted password associated with the user name specified by PING_UID. Specify either a password or an encrypted password to decrypt the certificate files on the remote node.

PING_PWD=password

Changed. The password associated with the user name specified by PING_UID. Specify either a password or an encrypted password to decrypt the certificate files on the remote node.

PING_UID=user_name

Changed. A user name that can be used to establish the secure connection. The user must have the authority to view SSL certificates on the remote node specified by PING_LOCATION.

For more information, see the "PWXUSL - PowerExchange SSL Reporting Utility" chapter in the *PowerExchange Utilities Guide*.

PowerExchange 10.4.1 - New Features and Changes for PowerExchange Utilities

This section describes PowerExchange 10.4.1 new features and changes that are related to PowerExchange utilities.

New Features in 10.4.1

PowerExchange 10.4.1 introduces the following new PowerExchange utility:

EDMUOPTS Utility

You can use the new EDMUOPTS utility to get information about the z/OS components of PowerExchange CDC.

The EDMUOPTS utility generates reports about the contents of the PowerExchange EDMSDIR and EDMUOPTS modules. These modules are created during installation based on your entries in the z/OS Installation Assistant. The EDMUOPTS module contains settings that PowerExchange uses to control the PowerExchange Logger for z/OS and its archiving process. The EDMSDIR module is used by the PowerExchange Agent and stores parameters for the Agent and CDC components.

Informatica Global Customer Support might ask you to run this utility to determine which options are in use for CDC components. Also, you might want to run the utility to record the current options before making

changes to the EDMSDIR and EDMUOPTS modules or to print the options in effect for documentation purposes.

For more information, see the "EDMUOPTS - Service Aid Utility" chapter in the *PowerExchange Utilities Guide*.

Parameter and Option Changes in 10.4.1

PowerExchange 10.4.1 introduces new and changed parameters for the PWXUMAP utility.

PWXUMAP Utility Parameters

In PowerExchange 10.4.1, the PWXUMAP utility added the following optional global parameters:

CPUTIMEUSED={Y|N}

Whether the report heading includes the amount of CPU time that it took to run the report. Default is N.

PACESIZE=*n*

The number of messages to display at a time, from 0 to 100. For example, if you use the DTLDESCRIBE command, you can set PACESIZE=100 to make the progress display easier to read in the command window. If you encounter an error, set PACESIZE=1 to display the output one line at a time until the failure occurs, making it easier to find the point of failure. Set PACESIZE=0 to display the output as it occurs, without pausing. Default is 0.

PROMPT={Y|N}

If the PACESIZE parameter specifies a non-zero value, the PROMPT parameter determines whether to issue a user prompt to continue the progress display after each incremental set of messages. If you specify PROMPT=Y, you must respond to each prompt to advance the progress display. Default is N.

Also, for DTLDESCRIBE command, the PWXUMAP utility added the following optional parameter:

USESEQUENCEFIELDS={Y|N}

Specifies whether to use sequence fields in the source metadata. Set this parameter to Y if the data or extraction maps include multiple-record writes to IMS or sequential VSAM sources. Default is N.

For more information, see the "PWXUMAP - Map List Utility" chapter in the *PowerExchange Utilities Guide*.

PowerExchange 10.4.0 - New Features and Changes for PowerExchange Utilities

This section describes PowerExchange 10.4.0 new features and changes that are related to PowerExchange utilities.

New Features in 10.4.0

PowerExchange 10.4.0 introduces the following new features for PowerExchange utilities:

DTLURDMO Utility Enhancements

The DTLURDMO utility includes the following performance and reporting enhancements:

- You can now specify an alternative input data set, file, or directory for the capture registrations, data maps, and extraction maps on the source node.
- You can now direct a DTLURDMO report to a standard output location or to a separate file.
- You can now model selection scenarios by using the TESTMODE control statement. This statement now functions in the same way for all copy statements.
- Report format and content has been updated to improve report usability and legibility.
- Use the new TESTMODE statement to run the utility in test mode. In this mode, the utility tests the selections and exclusions for copy operations without making any updates or changes to the target. To test rename or other copy processing, continue to use the VALIDATE statement, which performs all functions of the utility except for writing the copied maps or registrations to the target destination.
- The VALIDATE statement can now be used to model selection scenarios and to modify in-memory changes to the selected maps and registrations without committing the changes to the output files. This control statement now functions in the same way for all copy statements.

For more information, see the "DTLURDMO - Data Map Utility" chapter in the *PowerExchange Utilities Guide*.

PWXUCCLPRT Utility

You can use the PWXUCCLPRT utility to read PowerExchange Logger for Linux, UNIX, and Windows logs and print a summary of the log content to the PowerExchange log.

Optionally, you can use this utility to perform the following tasks:

- Write the PowerExchange Logger for Linux, UNIX, and Windows log header or commit restart tokens to a comma-delimited file.
- Write the PowerExchange Logger for Linux, UNIX, and Windows records to a file in hexadecimal format.

The utility runs on Linux, UNIX, or Windows systems.

For more information, see the "PWXUCCLPRT - Print Log Summary Utility" chapter in the *PowerExchange Utilities Guide*.

PWXUMAP Utility

You can use the PWXUMAP utility to generate reports that list PowerExchange CDC extraction maps and bulk data maps.

You might use the utility to list data and extraction maps prior to running the DTLURDMO utility to copy maps from one PowerExchange system to another, so that you can verify that all extraction and data maps have been moved. Informatica Global Customer Support might request that you use the PWXUMAP utility to provide a snapshot of extraction or data maps on your system.

The utility runs on Windows systems.

You can use the utility to produce the following reports:

- Data map list
- Schema list
- Map lines in comma-delimited format
- Summary or detailed report of the currently loaded runtime map

The PWXUMAP command syntax and parameters depend on the type of operation you want to perform.

For more information, see the "PWXUMAP - Map List Utility" chapter in the *PowerExchange Utilities Guide*.

Parameter and Option Changes in 10.4.0

PowerExchange 10.4.0 introduces new and changed parameters for the DTLUCBRG utility.

DTLREXE Utility Parameters

In PowerExchange 10.4.0, the following new optional parameter is added for the DELETE, PING, SUBMIT, and SYSTEM control statements of the DTLREXE utility:

config=dbmover_override_file

New. The DBMOVER configuration file that you want the DTLREXE utility to use, when you do not want to use the default DBMOVER file or the DBMOVER file that is set in the PWX_CONFIG environment variable. This parameter is used only when you run DTLREXE on Linux, UNIX, and Windows. This parameter is ignored on IBM i or z/OS.

DTLUCBRG Utility Parameters

PowerExchange 10.4.0 includes the following new and changed parameters for the DTLUCBRG utility.

TABLE=schema.table_name

Changed. For relational source databases, the schema name and table name can now each be up to 128 characters in length. Previously, the combined *schema.table_name* value could be no longer than 128 characters.

VSMOPTS=(FNAME=file_name)

New. For VSAM sources, use this parameter to specify the name of the VSAM data set.

For more information, see the *PowerExchange Utilities Guide*.

DTLURDMO Utility Statements and Parameters

The DTLURDMO utility includes the following new or changed control statements and parameters in 10.4.0:

Statement	Parameters	Description
INPUT	<i>data_set_name</i> <i>file_name</i> <i>folder_name</i>	<i>New.</i> The INPUT statement specifies an alternative input data set, file, or directory for the input maps or registrations on the source node. The INPUT statement can specify one of the following options: <ul style="list-style-type: none"> - For DM_COPY or XM_COPY commands, a VSAM KSDS data set if the source node is on z/OS, a partitioned file if the source node is on IBM i, or a directory if the source node is on Linux, UNIX, or Windows. - For REG_COPY commands, a CCT file name.
NOTIMESTAMPS	-	<i>New.</i> Specify the NOTIMESTAMPS statement to suppress time stamps in the report output. This statement is primarily used for testing purposes. It suppresses the time stamp on the first line of the output, so reports run at different times can be more easily compared.
REG_COPY FASTLOAD	-	<i>New.</i> Use the FASTLOAD statement with REG_COPY to improve performance when DTLURDMO is the only operation updating the CCT file.
REPORTDEST	LOG STDERR STDOUT <i>file_name</i>	<i>New.</i> The REPORTDEST statement specifies a destination for the reports that you generate with the utility. You can use this statement to send the report to a standard output location or to a separate file on the computer where the utility runs.
TESTMODE	-	<i>Changed.</i> Use the TESTMODE statement to model selection scenarios without making in-memory changes or updating the output files. This control statement now functions the same for all copy statements.
VALIDATE	-	<i>Changed.</i> Use the VALIDATE statement to model selection scenarios and modify in-memory changes to the selected maps and registrations without committing the changes to the output files. This control statement now functions the same for all copy statements.

For more information, see the "DTLURDMO - Data Map Utility" chapter in the *PowerExchange Utilities Guide*.

Behavior Change in 10.4.0

PowerExchange 10.4.0 introduces the following behavior change for the DTLUCBRG and DTLURDMO utilities.

REGION Size for DTLURDMO and DTLUCBRG

In PowerExchange 10.4.0, if you run the DTLURDMO or DTLUCBRG utilities on z/OS, specify a REGION size of at least 64M.

Changes to the architecture of these utilities require additional memory to process the utility functions. If you have existing DTLUCBRG or DTLURDMO jobs, make sure the REGION size is set to 64M or larger before you run the jobs.

CHAPTER 10

PowerExchange for Adabas

This chapter includes the following topics:

- [PowerExchange 10.5 - New Features and Changes for Adabas, 79](#)
- [PowerExchange 10.4.1 - New Features and Changes for Adabas, 80](#)

PowerExchange 10.5 - New Features and Changes for Adabas

This section describes PowerExchange 10.5 new features and changes that are related to Adabas sources.

Parameter and Option Changes in 10.5

PowerExchange 10.5 changes an Adabas configuration parameter in the RUNLIB(ADAECRP1) member.

Adabas ECCR Parameter

The default value for the the following Adabas ECCR parameter in the RUNLIB(ADAECRP1) member has changed:

ETID_DATE={Y|N}

The default value for this parameter changed from N to Y.

Options:

- **Y.** The ECCR does not replace ETID values that begin with x'40' entirely with x'40' values when writing these ETID values to the temporary PowerExchange commit file. The ECCR writes the values exactly as read from the expanded PLOG files to the commit file. If the ADASEL utility writes ETID values in hexadecimal timestamp format or in the ADASEL-generated internal format to the PLOG files, use this option to prevent a large number of outstanding UOWs, spill file allocation errors, and session failures.
- **N.** The ECCR replaces ETID values that begin with x'40' entirely with x'40' values when writing ETID values to the temporary PowerExchange commit file. If the ADASEL utility produces ETID timestamp values as all x'40' values in the expanded PLOG files, this behavior is acceptable because the ECCR can still match the change records in PLOG files with the commit records in the PowerExchange commit file to determine where UOW commits occur. However, if the ADASEL-expanded PLOG files contain ETID values in hexadecimal timestamp format or in ADASEL-generated internal format, UOWs might remain open, causing numerous spill files, spill file allocation errors, and CDC session failures.

For more information, see the "Adabas Change Data Capture" chapter of the *PowerExchange CDC Guide for z/OS*.

PowerExchange 10.4.1 - New Features and Changes for Adabas

This section describes PowerExchange 10.4.1 new features and changes that are related to Adabas sources or targets.

New Features in 10.4.1

PowerExchange 10.4.1 introduces the following new feature for Adabas data sources:

Support for Adabas Version 8.5.x

PowerExchange 10.4.1 adds support for Adabas 8.5.x on z/OS for CDC and bulk data movement sessions. The PowerExchange Adabas ECCR has been certified with the Adabas 8.5.x PLOG format.

For more information, see the "Installation Planning" chapter in the *PowerExchange Installation and Upgrade Guide*.

CHAPTER 11

PowerExchange for DB2 for i

This chapter includes the following topics:

- [PowerExchange 10.5.3 - New Features and Changes for Db2 for i, 81](#)
- [PowerExchange 10.5.2 - New Features and Changes for Db2 for i, 82](#)
- [PowerExchange 10.5 - New Features and Changes for Db2 for i, 83](#)
- [PowerExchange 10.4.0 - New Features and Changes for Db2 for i, 85](#)

PowerExchange 10.5.3 - New Features and Changes for Db2 for i

This section describes PowerExchange 10.5.3 changes that are related to Db2 for i (formerly i5/OS) data sources or targets.

New Features in 10.5.3

PowerExchange 10.5.3 introduces the following new feature for Db2 for i sources:

Process Changes from Journal Receivers Outside of Default Processing

With PowerExchange 10.5.3, Db2 for i CDC processing allows you to process changes from a range of journal receivers outside of default processing.

You can specify a journal receiver range for PowerExchange Navigator row tests, IBM i Condense, remote logging to a PowerExchange Logger for LUW, and PowerCenter CDC sessions.

- PowerExchange Navigator and IBM i Condense use the FROMRCVR and TORCVR parameters in the AS4J CAPI_CONNECTION statement in the DBMOVER configuration file.
- Remote Logging uses the FROMRCVR and TORCVR values in the IBMIJRNLOVRD parameter in the PowerExchange Logger configuration file, pwxcl.cfg. If not specified, remote logging uses the FROMRCVR and TORCVR values specified in the AS4J CAPI_CONNECTION statement in the local DBMOVER configuration file.
- PowerCenter session overrides use the override specified in the **Journal Name** attribute of the PWX DB2i5OS application connection and the receiver overrides specified in the **PWX Override** attribute, and the FROMRCVR and TORCVR parameters in the AS4J CAPI_CONNECTION statement.

For more information, see "CAPI_CONNECTION - AS4J Statement" in the *PowerExchange CDC Guide for i5/OS*, "Customizing the PowerExchange Logger Configuration File" in the *PowerExchange CDC Guide for Linux*,

UNIX, and Windows, and "DB2 CDC Application Connections" in the *PowerExchange Interfaces for PowerCenter*.

Db2 for i5/OS Version 7.5 Support

PowerExchange 10.5.3 adds support for DB2 for i Version 7.5. For bulk data movement, PowerExchange supports DB2 for i 7.5 sources and targets. For CDC, PowerExchange supports Db2 for i 7.5 sources.

For more information, see the "Installation Planning" chapter in the *PowerExchange Installation and Upgrade Guide*.

Parameter and Option Changes in 10.5.3

PowerExchange 10.5.3 introduces a new parameter for the following statement in the DBMOVER configuration file.

DBMOVER Configuration File Statement

PowerExchange 10.5.3 introduces a new parameter in the following statement in the DBMOVER configuration file.

IBMI_USE_DB2_SYSTEM_OBJECT_NAMES={Y|N}

New. Optional. Controls whether PowerExchange searches both IBM i system object names and SQL object names or only SQL object names for Db2 for i source objects when you create PowerExchange capture registrations in the PowerExchange Navigator or DTLUCBRG utility or when you perform database row tests in the PowerExchange Navigator. Default is N, which reflects the previous behavior of searching SQL object names only.

For more information, see the "DBMOVER Configuration File" chapter in the *PowerExchange Reference Manual*.

PowerExchange 10.5.2 - New Features and Changes for Db2 for i

This section describes PowerExchange 10.5.2 changes that are related to Db2 for i (formerly i5/OS) data sources or targets.

Parameter and Option Changes in 10.5.2

PowerExchange 10.5.2 introduces a new parameter for the following statement in the DBMOVER configuration file.

DBMOVER Configuration File Statement

PowerExchange 10.5.2 introduces a new parameter in the following statement in the DBMOVER configuration file.

AS4J CAPI_CONNECTION

Changed. PowerExchange 10.5.2 adds the optional RTNBUFFSIZE parameter to the AS4J CAPI_CONNECTION statement.

RTNBUFFSIZE={kilobytes|960}

New. Adjusts the size of the buffer, in kilobytes, that is used to collect journal entries for CDC as a result of PowerExchange calls to the IBM QjoRetrieveJournalEntries API. You can use this parameter to tune performance based on your environment.

Valid values are 128 through 12288. Default is 960 KB, which is the IBM default size.

Note: If you also specify the RTNBUFFSIZE in the **PWX Overrides** field of the PowerCenter PWX DB2i5OS CDC application connection, the override takes precedence.

For more information, see the "DBMOVER Configuration File" chapter in the *PowerExchange Reference Manual*.

Behavior Changes in 10.5.2

PowerExchange 10.5.2 introduces the following behavior change.

PowerExchange Journal Exit

PowerExchange 10.5.2 uses the PGMDTA parameter on the ADDEXITPGM command to control the user profile used when running the PowerExchange Journal exit program (DTLRCVRX). Previously the job ran as an IBM default profile, QUSER.

During the installation process, PowerExchange retrieves the current user profile and specifies it in the PGMDTA parameter on the ADDEXITPGM command. By default, this is the profile that is used to install PowerExchange. You can specify a different user profile in the PGMDTA command parameter of the ADDEXITPGM command.

For more information, see "PowerExchange Journal Exit" in the *PowerExchange CDC Guide for i5/OS*.

PowerExchange 10.5 - New Features and Changes for Db2 for i

This section describes PowerExchange 10.5 changes that are related to Db2 for i (formerly i5/OS) data sources or targets.

New Features in 10.5

PowerExchange 10.5 introduces the following new feature for Db2 for i sources:

Support for Extended Relative Record Number Values

To store extended relative record number (RRN) values, PowerExchange 10.5 generates column DTL__CAPXERRR instead of DTL__CAPXRRR when creating extract maps for Db2 for i tables. The large RRN values can then be propagated to the target tables.

If you are upgrading to PowerExchange 10.5 and you want to use the new DTL__CAPXERRR column, you must create a new extraction map and import it into PowerCenter. Existing extraction maps that have the DTL__CAPXRRR column name are still supported.

If you run the DTLUCBRG or DTLURDMO utility, you might need to import the new extraction map to get the correct definition:

- DTLUCBRG creates an extraction map by using the new DTL__CAPXEXRRN column name.
- DTLURDMO uses the new DTL__CAPXEXRRN column name if CREATEXMAPS is specified on the REG_COPY statement. If XM_COPY is used to copy an extraction map, the RRN column in the existing extraction map is copied. For an extraction map created with a release of PowerExchange before 10.5, this is the DTL__CAPXRRN column. For an extraction map created with PowerExchange 10.5, this is the DTL__CAPXEXRRN column.

For more information, see the "Introduction to Change Data Extraction" chapter in the *PowerExchange CDC Guide for i5/OS*.

TLS Security in a PowerExchange Network

You can configure a PowerExchange listener to use TLS network security when accepting connections from Linux, UNIX, and Windows client processes by using TLS protocol TLSV1_2, which is the default.

Network packets are encrypted using the IBM i GSK functions. Optionally, the listener can validate the x509 subject certificate on the client process.

Informatica recommends that you use TLS security instead of the PowerExchange Alternate Network.

Parameter and Option Changes in 10.5

PowerExchange 10.5 introduces a new statement in the DBMOVER configuration file.

DBMOVER Configuration File Statements

PowerExchange 10.5 introduces new and changed statements in the DBMOVER configuration file.

The following statement is for optional use:

QQAQINILIB=library_name

New. Specify the library name that contains the QQAQINI query options file. If you do not specify this statement, PowerExchange uses the default library specified for the IBM i system.

Note: In PowerCenter, you can override the QQAQINILIB setting in the DBMOVER configuration file by entering QQAQINILIB=library_name in the **PWX Override** connection attribute for the Db2 for i connection.

The following new and changed statements are for enabling TLS networking for IBM i:

LISTENER

Changed. To use TLS networking for IBM i, you can specify SSL in tenth comma position. When you use TLS networking, the send and receive sizes in the sixth and seventh comma positions of the LISTENER statement must be set to a value that does not exceed 16384.

SSL_CONTEXT_METHOD

Changed. As of PowerExchange 10.5, you can use the SSL_CONTEXT_METHOD statement to enable TLS networking for IBM i.

Note: Informatica recommends avoiding the use of protocols TLSV1_1 and TLSV1, and specifying protocol TLSV1_2 on all machine types. The TLSV1_3 protocol is not currently supported by PowerExchange.

On IBM i:

- **TLSV1** is allowed on V5R2.

- **TLSV1_1** is allowed on V5R2.
- **TLSV1_2** is allowed on V5R2, V5R3, and V5R4 and is the recommended choice.

If `SSL_CONTEXT_METHOD` is not specified then the default is that the system will accept a connection request for all protocols supported by the IBM i release.

Note: Informatica recommends specifying protocol `TLSV1_2` on all machine types. The `TLSV1_3` protocol is currently not supported by PowerExchange.

SSL_CIPHER_LIST

Changed. As of PowerExchange 10.5 on IBM i, you can specify ciphers by using four hexadecimal digits.

SSL_REQ_CLNT_CERT

Changed. As of PowerExchange 10.5, you can use the `SSL_REQ_CLNT_CERT` statement on IBM i. Valid values are:

- **Y.** The GSK session type is `SERVER SESSION WITH CLIENT AUTHORITY`. The X509 subject certificate from the client machine is validated against the trusted Certificate Authorities (CAs) on the IBM i server.
- **N.** The GSK session type is `SERVER SESSION`. The client machine subject certificates are not requested or validated.

SSL_TOLERATE_UNTRUSTED_ISSUER

New. PowerExchange 10.5 introduces the `SSL_TOLERATE_UNTRUSTED_ISSUER` statement for use on IBM i only. Valid values are:

- **Y.** Continue processing after a certificate error 6000 has been reported. A certificate error 6000 occurs when `SSL_REQ_CLNT_CERT=Y` and the partner CA is not present among the trusted CAs on the IBM i machine.
- **N.** After certificate error 6000 has been reported, the connection is not accepted.

Default is N.

For more information, see the "DBMOVER Configuration File" chapter in the *PowerExchange Reference Manual*.

PowerExchange 10.4.0 - New Features and Changes for Db2 for i

This section describes PowerExchange 10.4.0 changes that are related to Db2 for i (formerly i5/OS) data sources or targets.

New Features in 10.4.0

PowerExchange 10.4.0 introduces the following new feature for Db2 for i sources:

Support for DB2 for i Version 7.4

PowerExchange 10.4.0 adds support for DB2 for i Version 7.4. For bulk data movement, PowerExchange supports DB2 for i 7.4 sources and targets. For CDC, PowerExchange supports DB2 for i 7.4 sources.

PowerExchange 10.4.0 drops support for DB2 for i Version 7.1.

For more information, see the "Installation Planning" chapter in the *PowerExchange Installation and Upgrade Guide*.

CHAPTER 12

PowerExchange for DB2 for Linux, UNIX, and Windows

This chapter includes the following topics:

- [PowerExchange 10.5 - New Features and Changes for DB2 for Linux, UNIX, and Windows, 87](#)
- [PowerExchange 10.4.0 HotFix 1 - New Features and Changes for DB2 for Linux, UNIX, and Windows, 88](#)

PowerExchange 10.5 - New Features and Changes for DB2 for Linux, UNIX, and Windows

This section describes PowerExchange 10.5 new features and changes that are related to DB2 for Linux, UNIX, and Windows data sources or targets.

New Features in 10.5

PowerExchange 10.5 introduces the following new feature for DB2 for Linux, UNIX, and Windows sources:

Support for DB2 for Linux, UNIX, and Windows Version 11.5

PowerExchange 10.5 adds support for Db2 for Linux, UNIX, and Windows (LUW) Version 11.5 on supported AIX, Linux, and Windows operating systems. For bulk data movement, PowerExchange supports Db2 11.5 sources and targets. For CDC, PowerExchange supports Db2 11.5 sources.

For more information, see the "Installation Planning" chapter in the *PowerExchange Installation and Upgrade Guide*.

Behavior Changes in 10.5

PowerExchange 10.5 introduces the following required user authority change for Db2 for Linux, UNIX, and Windows access.

Required User Authority

To read change data from Db2 logs, the user ID that you specify for database access must have SYSADM or DBADM authority.

As of PowerExchange 10.5, if the user has SYSADM authority, ensure that the user also has SELECT, INSERT, UPDATE, and DELETE permissions to the PowerExchange capture catalog in the source database. You can use the GRANT DATAACCESS statement to grant these permissions on the database to the user.

For more information, see the "Db2 CDC on Linux, UNIX, or Windows" chapter in the *PowerExchange CDC Guide for Linux, UNIX, and Windows*.

PowerExchange 10.4.0 HotFix 1 - New Features and Changes for DB2 for Linux, UNIX, and Windows

This section describes PowerExchange 10.4.0 HotFix 1 new features and changes that are related to DB2 for Linux, UNIX, and Windows data sources or targets.

Parameter and Option Changes in 10.4.0 HotFix 1

PowerExchange 10.4.0 HotFix 1 introduces the following changes to DB2 for Linux, UNIX, and Windows parameters.

DBMOVER Configuration File Statement

In the UDB CAPI_CONNECTION statement in the dbmover.cfg configuration file, you can now specify the following new optional parameters:

LIMITRESCAN={Y|N}

Optional. When PowerExchange change capture processing encounters a compressed record for a source table in the Db2 log, controls whether PowerExchange scans the log for records from propagatable tables up to an internally set limit or continues scanning until the buffer is full or until the end-of-log (EOL). Use this parameter to avoid excessive scanning of the log, which can result in PowerExchange capture timeouts and degraded performance.

- **Y.** Limits PowerExchange scanning of log records for change capture. This option is recommended to avoid potential PowerExchange capture timeouts and failures.
- **N.** Allows PowerExchange scanning of log records to continue until the buffer is full or until the end-of-log (EOL). In this case, PowerExchange capture processing might end abnormally with a timeout error. This problem is more likely to occur when source tables have a low volume change activity.

Default is N.

LOGBUFSIZE=[kilobytes_normal][,kilobytes_filtered]

Optional. The buffer sizes, in kilobytes, that the PowerExchange capture process uses for reading Db2 log records in normal-read mode and filtered-read mode. In *filtered-read* mode, PowerExchange scans for compressed records from propagatable tables. You can specify a buffer size for one or both log read modes.

For the first normal-read buffer size, if you enter 0 or do not specify a value, 128 KB is used by default. For the second filtered-read buffer size, if you enter 0 or do not specify a value, the first normal-read buffer size is used by default for filtered read operations.

Note: If you set the PowerExchange capdl_bufsize environment variable at the direction of Informatica Global Customer Support, the environment variable value overrides the buffer sizes in the LOGBUFSIZE parameter.

For more information, see the "DBMOVER Configuration File" chapter in the *PowerExchange Reference Manual*.

CHAPTER 13

PowerExchange for DB2 for z/OS

This chapter includes the following topics:

- [PowerExchange 10.5.3 - Features and Changes for DB2 for z/OS, 90](#)
- [PowerExchange 10.5.2 - New Features and Changes for DB2 for z/OS, 90](#)
- [PowerExchange 10.5.1 - New Features and Changes for DB2 for z/OS, 91](#)
- [PowerExchange 10.4.1 - New Features and Changes for DB2 for z/OS, 92](#)

PowerExchange 10.5.3 - Features and Changes for DB2 for z/OS

This section describes PowerExchange 10.5.3 new features and changes that are related to DB2 for z/OS data sources or targets.

New Features in 10.5.3

PowerExchange 10.5.3 introduces the following new feature for Db2 for z/OS data sources:

Db2 for z/OS Version 13 Support

PowerExchange 10.5.3 adds support for Db2 for z/OS Version 13. For bulk data movement, PowerExchange supports Db2 for z/OS 13 sources and targets. For CDC, PowerExchange supports Db2 for z/OS 13 sources.

For more information, see the "Installation Planning" chapter in the *PowerExchange Installation and Upgrade Guide*.

PowerExchange 10.5.2 - New Features and Changes for DB2 for z/OS

This section describes PowerExchange 10.5.2 changes that are related to DB2 for z/OS data sources.

Parameter and Option Changes in 10.5.2

PowerExchange 10.5.2 introduces the following changes to DB2 for z/OS parameters.

DB2 ECCR Configuration Statements in the REPL2OPT DD Data Set

PowerExchange 10.5.2 introduces changes to the default values of the following parameters in the RUNLIB member that is allocated by the REPL2OPT DD statement in the Db2 for z/OS ECCR JCL:

DB2ROWPROMOTION {ENABLE|DISABLE}

Changed. Enables the Db2 ECCR to update old images in DML rows to the current version to avoid problems in processing DELETES and old images of UPDATES when a DDL operation changes the fixed length of a column. The default value changed from DISABLE to ENABLE. The ENABLE option causes the ECCR to use the DB2 READS API to convert CDC row data to the version that is current at the time of the DML operation.

IFI306 [OPT={N|Y|F}] ...

Changed. Controls the Db2 ECCR interaction with the Db2 instrumentation facility interface (IFI). The default value for the OPT parameter changed from Y to F. The F option returns CDC records from the log and filters them by registered tables.

Note: For both parameters, do not change the default values unless Informatica Global Customer Support directs you to do so.

For more information, see the "DB2 for z/OS Change Data Capture" chapter in the *PowerExchange CDC Guide for z/OS*.

PowerExchange 10.5.1 - New Features and Changes for DB2 for z/OS

This section describes PowerExchange 10.5.1 changes that are related to DB2 for z/OS data sources.

New Features in 10.5.1

PowerExchange 10.5.1 introduces the following new feature for Db2 for z/OS data sources:

DB2 Loader and IMS Netport Passphrase Support

As of version 10.5.1, you can configure IMS netport jobs and PowerCenter Db2 Loader connections with a user ID and a long passphrase. Before this enhancement, PowerExchange restricted the password to eight bytes or less.

You must modify the JCL templates to adhere to the following rule:

The PASSWORD=%PWD specification must start at column 4 and it must be on a JCL line by itself within the JOB statement at the beginning of the template JCL.

Note: This rule applies to the JCL templates in the RUNLIB data set including DB2LDJCL, DB2LDJCP, IDMSMJCL, and IDMSMJCX.

Parameter and Option Changes in 10.5.1

PowerExchange 10.5.1 introduces the following changes to DB2 for z/OS parameters.

%PWD Substitution Variable for Netport Jobs

PowerExchange 10.5.1 introduces the following change to the substitution variables for netport jobs.

The %PWD substitution variable is the password of the user ID that connected to the PowerExchange Listener, which at security level 2 is different from the user ID and password credentials used to start the PowerExchange Listener job.

As of version 10.5.1, the maximum length of the password of the user that connected to the PowerExchange Listener has expanded from 8 characters to 68 characters to support passphrases. This change affects PowerExchange Listeners running at security level 2.

If the password is greater than eight bytes, it is a passphrase. To adhere to z/OS JCL restrictions, PowerExchange processes passphrases as follows:

- If the passphrase contains a space, it is enclosed with the single quote character.
- If the single quote character occurs inside the passphrase, it is repeated.

For more information, see the *PowerExchange Bulk Data Movement Guide*.

PowerExchange 10.4.1 - New Features and Changes for DB2 for z/OS

This section describes PowerExchange 10.4.1 changes that are related to DB2 for z/OS data sources.

New Features in 10.4.1

PowerExchange 10.4.1 introduces the following new feature for Db2 for z/OS data sources:

Db2 for z/OS Huffman Compression Support

PowerExchange adds support for Db2 Huffman compression of image-copy sources for bulk data movement.

IBM introduced Huffman compression hardware support on z14 mainframes for compressed table spaces in Db2 Version 12 at function level 504. Db2 Huffman compression can help reduce disk space and I/O costs. PowerExchange 10.4.1 includes support for Huffman-compressed image copies through hardware and software on pre-z14 systems.

For more information, see the "Db2 for z/OS Bulk Data Movement" chapter in the *PowerExchange Bulk Data Movement Guide*.

Parameter and Option Changes in 10.4.1

PowerExchange 10.4.1 introduces the following changes to DB2 for z/OS parameters.

Db2 for z/OS ECCR Configuration Statements in the REPL2OPT DD Data Set

PowerExchange 10.4.1 introduces the following change to a configuration statement in the data set or RUNLIB member that is allocated by the REPL2OPT DD statement in the Db2 for z/OS ECCR JCL:

IFI306 [OPT={N|Y|F}] ...

Optional. Controls the Db2 ECCR interaction with the Db2 instrumentation facility interface (IFI). The default value for the OPT parameter has changed.

OPT

Specifies how the Db2 ECCR reads the Db2 log.

Valid values are:

- **Y**. Recommended. Returns CDC records from the Db2 log.
- **N**. Returns all records from the Db2 log.
- **F**. Returns CDC records from the log and filters them by registered tables.

New default is Y.

For more information, see the "DB2 for z/OS Change Data Capture" chapter in the *PowerExchange CDC Guide for z/OS*.

CHAPTER 14

PowerExchange for IMS

This chapter includes the following topics:

- [PowerExchange 10.5.2 - New Features and Changes for IMS, 94](#)
- [PowerExchange 10.5.1 - New Features and Changes for IMS, 95](#)
- [PowerExchange 10.5 - New Features and Changes for IMS, 95](#)
- [PowerExchange 10.4.0 - New Features and Changes for IMS, 96](#)

PowerExchange 10.5.2 - New Features and Changes for IMS

This section describes PowerExchange 10.5.2 new features and changes that are related to IMS data sources or targets.

Parameter and Option Changes in 10.5.2

PowerExchange 10.5.2 provides new DBMOVER statements for IMS sources.

DBMOVER Configuration File Statement

The DBMOVER configuration file includes a change to the following parameter in the IMSID statement:

dbdlib* or *DD:XXXXXXXX

Provides PowerExchange access to the IMS DBD which is required for activities such as reading IMS unload files, registering IMS sources for CDC, and running utilities, including DTLURDMO and DTLUCBRG. In this parameter, you can either specify the IMS DBD library dataset name in line or specify a DD name for PowerExchange to search. By specifying DD:XXXXXXXX, where XXXXXXXX is the DD name coded in the JCL for the component requiring access, you can have one or more DBD libraries for a system allocated to the specified DD name.

Note: If you use the DD:XXXXXXXX, PowerExchange uses the first DBDLIB it finds in the concatenated list and continues processing. Ensure that you place this DD with the one or more DBD libraries in the appropriate JCL or started task.

For more information, see the "DBMOVER Configuration File" chapter in the *PowerExchange Reference Manual*.

PowerExchange 10.5.1 - New Features and Changes for IMS

This section describes PowerExchange 10.5.1 new features and changes that are related to IMS data sources or targets.

New Features in 10.5.1

PowerExchange 10.5.1 introduces the following new features for IMS data sources:

Passphrase Support for IMS Netport Jobs

You can configure IMS netport jobs with a user ID and a long passphrase up to 60 characters in length. Previously, PowerExchange restricted the password to 8 bytes or less.

Passphrases cannot contain apostrophes.

You must modify the JCL templates to ensure that the `PASSWORD=%PWD` specification starts at column four and is on a JCL line by itself within the JOB statement. The JOB statement is typically on line three of the template JCL.

Note: This rule applies to the JCL templates in the RUNLIB data set, including DB2LDJCL, DB2LDJCP, IDMSMJCL, and IDMSMJCX.

For more information, see the *PowerExchange Reference Manual*.

PowerExchange 10.5 - New Features and Changes for IMS

This section describes PowerExchange 10.5 new features and changes that are related to IMS data sources or targets.

New Features in 10.5

PowerExchange 10.5 introduces the following new features for IMS data sources:

Updated Components in the PowerExchange ECCR CRG.LOAD Library for IMS Synchronous CDC

PowerExchange 10.5 contains components of the BMC Software CHANGE RECORDING FACILITY and BMC AMI Database Integrity for IMS products. PowerExchange provides the latest available version of these components.

Note: These components are also part of some other BMC Software products such as BMC AMI Fast Path Online Restructure for IMS (formerly Fast Path Online Restructure/EP), BMC AMI Online Reorg for IMS (formerly BMC MAXM Reorg/Online for IMS), and CONCURRENT REORG.

You can use either the CRG software that PowerExchange delivers or one of these BMC Software products, which include the CRG code.

Important: If you have a supported version of one of the BMC Software products, you must use the BMC Software product instead of the CRG software.

- If you use one of the BMC Software products, ensure that the product meets the minimum version that PowerExchange requires for IMS synchronous CDC, as described in the "IMS Synchronous Change Data Capture" chapter of the *PowerExchange CDC Guide for z/OS*.

Also, note that the current PowerExchange version has been certified with the following BMC product versions, which provide the CRG code:

- CHANGE RECORDING FACILITY: Version 5.1.00 Level 2101
- BMC AMI Database Integrity for IMS: Version 5.1.00 Level 2101
- BMC AMI Fast Path Online Restructure for IMS: Version 4.1.00 Level 2101

If you use a product version earlier than the certified version, consider upgrading the product to the certified version.

- If you use the CRG software, after you upgrade PowerExchange, run the CRGUMOD or CRGCLINK job in the *hlq.SAMPLIB* library again to install DBRC modifications. Otherwise, events such as abends might cause change capture to fail in the DLIODDCx module when the IMS synchronous ECCR tries to capture changes for a source segment. After you run the CRGUMOD or CRGCLINK job, restart the IMS control region.

PowerExchange 10.4.0 - New Features and Changes for IMS

This section describes PowerExchange 10.4.0 new features and changes that are related to IMS data sources or targets.

New Features in 10.4.0

PowerExchange 10.4.0 introduces the following new features for IMS data sources:

Updated Components in the PowerExchange ECCR CRG.LOAD Library for IMS Synchronous CDC

PowerExchange 10.4.0 updates the PowerExchange CRG.LOAD library for IMS synchronous CDC to provide the latest available version of the BMC Software CHANGE RECORDING FACILITY, DATABASE INTEGRITY PLUS, or Fast Path Online Restructure/EP components.

You can use either the CRG software that PowerExchange delivers or one of these BMC Software products, which include the CRG code.

Important: If you have a supported version of one of the BMC Software products, Informatica recommends that you use the BMC Software product instead of the CRG software.

- If you use one of the BMC Software products, ensure that the product meets the minimum version that PowerExchange requires for IMS synchronous CDC, as described in the "IMS Synchronous Change Data Capture" chapter of the *PowerExchange CDC Guide for z/OS*.

Note: For IMS 15, PowerExchange 10.4.0 requires the following minimum versions of the BMC Software products:

- CHANGE RECORDING FACILITY: Version 5.1.00 Level 1907 with BMC fix BQQ4590
- DATABASE INTEGRITY PLUS: Version 5.1.00 Level 1907 with BMC fix BQQ4590
- Fast Path Online Restructure/EP: Version 4.1.00 Level 1907 with BMC fix BQQ4590

If you use an earlier product version, upgrade to the supported minimum version or later.

- If you use the CRG software, after you upgrade PowerExchange, run the CRGUMOD or CRGCLINK job in the *hlq.SAMPLIB* library again to install DBRC modifications. Otherwise, events such as abends might cause change capture to fail in the DLIODDCx module when the IMS synchronous ECCR tries to capture changes for a source segment. After you run the CRGUMOD or CRGCLINK job, restart the IMS control region.

Getting Source DBD Information from the IMS Catalog

PowerExchange requires access to IMS database definitions (DBDs) in source format for creating data maps in the PowerExchange Navigator. PowerExchange also requires DBD information in DBGEN format for creating capture registrations in the PowerExchange Navigator and for performing IMS unload processing. You can configure PowerExchange to access DBD information directly from the IMS catalog instead from the DBDLIB library.

When properly configured, PowerExchange can transparently get DBD information for IMS source objects from the IMS catalog by using the following IMS tools:

- **IMS catalog API.** This API consists of the DFS3CATQ assembly program in the IMSxxx.SDFSRESL.RESLIB library and the DFS3CATQ macro in the IMSxxx.SDFSMAC library. The API gets DBD information in DBGEN format from the IMS catalog when you create capture registrations for IMS log-based or synchronous CDC sources in the PowerExchange Navigator or perform IMS unload processing. PowerExchange requires the high-level qualifier of the bootstrap data set if the IMS control region is not running or if you are using an IMS version earlier than IMS 15.
- **IMS Catalog Library Builder Utility, DFS3LU00.** The utility gets DBD information in source format from the IMS catalog and writes this DBD information to a PDSE that you pre-allocated. When you create data maps in the PowerExchange Navigator, PowerExchange retrieves the source metadata from the PDSE. After the metadata is imported to the Navigator machine for data map creation, PowerExchange deletes the information from the PDSE so that no PDSE maintenance is required.

Use of the IMS catalog is optional in PowerExchange and IMS. However, certain IMS functionality, such as database versioning and the management of run-time application control blocks requires the IMS catalog. For more information see the IBM IMS documentation.

For PowerExchange to use the IMS catalog API to get metadata for IMS sources, provide the high-level qualifier of the bootstrap data set in the IMSBSDL statement in the DBMOVER configuration file.

For PowerExchange to use the IMS Catalog Library Builder Utility, DFS3LU00, to retrieve DBD information from the IMS catalog, perform the following configuration tasks:

1. Allocate a partitioned data set extended (PDSE) to hold output from the IMS Catalog Library Builder Utility, DFS3LU00.
2. Customize the PowerExchange Listener JCL or PROC to specify the DD statements required for IMS catalog use.
3. In the DBMOVER configuration member on the PowerExchange Listener machine, define the following statements:
 - IMSID. You must specify an *ims_ssid* value that matches the *ims_ssid* in the IMSBSDL statement.
 - IMSBSDL. Make sure the *ims_ssid* in this statement matches the *ims_ssid* in the IMSID statement.

- LU00FILE. Enter the name of the PDSE that you created to store DBD output from the IMS Catalog Library Builder Utility, DFS3LU00.
4. When you add data maps for IMS source objects in the PowerExchange Navigator, be sure to configure the following fields:
- On the **Name** page, select **Import Record Definitions**.
 - On the **DL/1 Batch Access Method** page, enter an IMS SSID value that matches the *ims_ssid* value that you specified in the IMSBDS statement in the DBMOVER configuration file.
 - On the **Import Copybook - Source Details** page, select **Remote** under **Source** and select **DBD** in the **Type** field.
 - On the **Import Copybook - Remote DBD Details** page, in the **File Name** field, enter the name of a PDS along with the DBD member name that you want to look for in the IMS catalog.

For more information, see the "IMS Bulk Data Movement" chapter in the *PowerExchange Bulk Data Movement Guide* and the "IMS Log-Based Change Data Capture" chapter in the *PowerExchange CDC Guide for z/OS*.

Parameter and Option Changes in 10.4.0

PowerExchange 10.4.0 provides new DBMOVER statements for IMS sources.

DBMOVER Configuration File Statements

The DBMOVER configuration file includes the following new statements for IMS sources:

IMBDS=(*ims_ssid*,*bootstrap_hlq*,*search_preference*)

New. Identifies the high-level qualifier of the IMS bootstrap data set, which is required to retrieve database descriptor (DBD) information in DBGEN format from the IMS catalog when you are using an IMS version earlier than IMS 15 or when the IMS control region is not running. This statement also indicates the order in which PowerExchange searches locations, such as the IMS catalog and IMS DBDLIB library, for DBD information for source objects.

Specify this statement if you want PowerExchange to retrieve DBD information from the IMS catalog for creating data maps or capture registrations from the PowerExchange Navigator or for IMS unload processing.

In this statement, the *search_preference* is one of the following options:

- **D.** First search the DBDLIB library and then search the IMS catalog, if available.
- **C.** First search the IMS catalog and then search the DBDLIB library.
- **O.** Search the IMS catalog only.

If you do not specify an option, PowerExchange searches only the DBDLIB library by default and does not use the IMS catalog.

LU00FILE=*pdse_name*

New. Specifies the partitioned data set extended (PDSE) that you allocated to hold DBD output from the IMS Catalog Library Builder Utility, DFS3LU00. This statement is required to retrieve DBD information in source format from the IMS catalog for use in creating data maps.

For more information, see the "DBMOVER Configuration File" chapter in the *PowerExchange Reference Manual*.

CHAPTER 15

PowerExchange for Microsoft SQL Server

This chapter includes the following topics:

- [PowerExchange 10.4.1 - New Features and Changes for SQL Server, 99](#)
- [PowerExchange 10.4.0 HotFix 1 - New Features and Changes for SQL Server, 100](#)
- [PowerExchange 10.4.0 - New Features and Changes for SQL Server, 100](#)

PowerExchange 10.4.1 - New Features and Changes for SQL Server

This section describes PowerExchange 10.4.1 new features and changes that are related to Microsoft SQL Server data sources or targets.

Parameter and Option Changes in 10.4.1

PowerExchange 10.4.1 introduces the following parameter and option changes for SQL Server sources.

DBMOVER Configuration File

The new GUIDBRACES parameter has been added to the MSQL CAPI_CONNECTION statement in the dbmover.cfg configuration file.

GUIDBRACES={Y|N}

Optional. Controls whether PowerExchange retains or removes braces { } around GUID values in data captured from registered SQL Server columns that have the uniqueidentifier datatype. If the PowerCenter session will write the data to SQL Server target uniqueidentifier columns, set this parameter to N to remove the braces. Otherwise, the session will encounter writer errors.

- **N.** Remove braces.
- **Y.** Retain braces.

Default is Y.

For more information, see the "DBMOVER Configuration File" chapter in the *PowerExchange Reference Manual*.

PowerExchange 10.4.0 HotFix 1 - New Features and Changes for SQL Server

This section describes PowerExchange 10.4.0 HotFix 1 new features and changes that are related to Microsoft SQL Server data sources or targets.

New Features in 10.4.0 HotFix 1

PowerExchange 10.4.0 HotFix 1 introduces the following new feature for SQL Server CDC:

Support for Microsoft SQL Server 2019

PowerExchange 10.4.0 HotFix 1 adds support for Microsoft SQL Server 2019 on Windows.

For bulk data movement, PowerExchange supports SQL Server 2019 sources and targets. For CDC, PowerExchange supports SQL Server 2019 sources.

For more information, see the "Installation Planning" chapter in the *PowerExchange Installation and Upgrade Guide* and the Product Availability Matrix at

<https://network.informatica.com/community/informatica-network/product-availability-matrices>.

Adding ODBC Parameters for Connecting to a Microsoft SQL Server Source Database

PowerExchange uses the DataDirect ODBC driver for SQL Server to connect to Microsoft SQL Server source databases. You can define the ODBC_CONN_PARAMS statement in the dbmover.cfg file if you want to add ODBC parameters to the connection strings that are used on the servers you specify for the following processing:

- Change data capture
- Creating, deleting, or modifying capture registrations from the PowerExchange Navigator or DBLUCBRG utility

For example, you might need to add ODBC parameters if your site policies require database connections to use SSL encryption, specific cryptographic protocols, or self-signed or third-party signed SSL certificates.

For more information, see the *PowerExchange Reference Manual*.

PowerExchange 10.4.0 - New Features and Changes for SQL Server

This section describes PowerExchange 10.4.0 new features and changes that are related to Microsoft SQL Server data sources or targets.

Parameter and Option Changes in 10.4.0

PowerExchange 10.4.0 introduces the following parameter and option changes for SQL Server sources.

DBMOVER Configuration File

In the MSQL CAPI_CONNECTION statement in the dbmover.cfg configuration file, the optional LOCKAVOIDANCE parameter has been renamed to SQLNOLOCK to comply with the maximum name length of 12 characters. The purpose, behavior, and values of this parameter remain the same.

If you currently use the LOCKAVOIDANCE parameter, edit the dbmover.cfg file to change the parameter name to SQLNOLOCK to avoid potential errors.

For more information, see the "DBMOVER Configuration File" chapter in the *PowerExchange Reference Manual*.

CHAPTER 16

PowerExchange for MySQL

This chapter includes the following topics:

- [PowerExchange 10.4.1 - New Features and Changes for MySQL, 102](#)
- [PowerExchange 10.4.0 HotFix 1 - New Features and Changes for MySQL, 102](#)
- [PowerExchange 10.4.0 - New Features and Changes for MySQL, 103](#)

PowerExchange 10.4.1 - New Features and Changes for MySQL

This section describes PowerExchange 10.4.1 changes that are related to MySQL sources.

New Features in 10.4.1

PowerExchange 10.4.1 introduces the following new feature for MySQL sources:

Support for MySQL Community Edition

PowerExchange 10.4.1 adds CDC support for MySQL Community Edition 5.7 and 8.0 sources on Red Hat Linux and Windows.

MySQL Community Edition has been certified with the MySQL native ODBC driver, which is not shipped with PowerExchange CDC. You can download the driver from the MySQL website.

For more information, see the "Installation Planning" chapter in the *PowerExchange Installation and Upgrade Guide*.

PowerExchange 10.4.0 HotFix 1 - New Features and Changes for MySQL

This section describes PowerExchange 10.4.0 HotFix 1 changes that are related to MySQL sources.

New Features in 10.4.0 HotFix 1

PowerExchange 10.4.0 HotFix 1 introduces the following new feature for MySQL sources:

Adding ODBC Parameters for Connecting to a MySQL Source Database

PowerExchange uses the DataDirect ODBC driver for MySQL to connect to a MySQL source database. You can define the ODBC_CONN_PARAMS statement in the dbmover.cfg file if you want to add ODBC parameters to the connection strings that are used on the servers you specify for the following processing:

- Change data capture
- Creating, deleting, or modifying capture registrations from the PowerExchange Navigator or DBLUCBRG utility

For example, you might need to add ODBC parameters if your site policies require database connections to use SSL encryption, specific cryptographic protocols, or self-signed or third-party signed SSL certificates.

For more information, see the *PowerExchange Reference Manual*.

PowerExchange 10.4.0 - New Features and Changes for MySQL

This section describes PowerExchange 10.4.0 changes that are related to MySQL sources.

New Features in 10.4.0

PowerExchange 10.4.0 introduces the following new feature for MySQL sources:

Support for MySQL Version 8.0

PowerExchange 10.4.0 adds CDC support for MySQL Enterprise Edition Version 8.0 source tables on Red Hat Linux or Windows operating systems.

For more information, see the *PowerExchange Installation and Upgrade Guide*.

Parameter and Option Changes in 10.4.0

PowerExchange 10.4.0 introduces new parameters for MySQL CDC.

DBMOVER Configuration File

The MYSQL CAPI_CONNECTION statement in the DBMOVER configuration file includes an enhancement to the MYSQLBINLOG parameter:

MYSQLBINLOG=*path\binlog_file_name option1 option2...*

Changed. You can now optionally include any of the command-line options that the mysqlbinlog utility supports, such as the --ssl- options. PowerExchange passes the options to the utility when the CDC session runs. For information about the utility options, see the *MySQL Reference Manual*.

If any part of the MYSQLBINLOG value includes spaces, you must enclose the entire MYSQLBINLOG value in double-quotation marks (""). Furthermore, if any part of the *path/binlog_file_name* value or an option includes a space, escape that value with the backslash (\) character and also enclose the value in double-quotation marks, for example:

```
MYSQLBINLOG="\"c:\bin\test dir\mysqlbinlog.exe\" --ssl-mode required "
```

If the *path\binlog_file_name* value begins with the hyphen (-) character, the entire value is treated as a utility option, as if no *path/file_name* value was specified.

For more information, see the "DBMOVER Configuration File" chapter of the *PowerExchange Reference Manual*.

CHAPTER 17

PowerExchange for Oracle

This chapter includes the following topics:

- [PowerExchange 10.5.3 - New Features and Changes for Oracle, 105](#)
- [PowerExchange 10.5.2 - New Features and Changes for Oracle, 106](#)
- [PowerExchange 10.5.1 - New Features and Changes for Oracle, 109](#)
- [PowerExchange 10.5 - New Features and Changes for Oracle, 112](#)
- [PowerExchange 10.4.1 - New Features and Changes for Oracle, 116](#)
- [PowerExchange 10.4.0 HotFix 1 - New Features and Changes for Oracle, 118](#)
- [PowerExchange 10.4.0 - New Features and Changes for Oracle, 119](#)

PowerExchange 10.5.3 - New Features and Changes for Oracle

This section describes PowerExchange 10.5.3 new features and changes that are related to Oracle data sources or targets.

New Features in 10.5.3

PowerExchange 10.5.3 introduces new features for Oracle.

Support for Oracle 21c in Amazon RDS Environments

PowerExchange 10.5.3 is certified with Oracle 21c sources in an Amazon RDS for Oracle environment for CDC processing.

For more information, see the "Installation Planning" chapter in the *PowerExchange Installation and Upgrade Guide*.

Parameter and Option Changes in 10.5.3

PowerExchange 10.5.3 introduces the following changes to PowerExchange for Oracle configuration parameters:

PowerExchange Express CDC for Oracle Configuration File

PowerExchange 10.5.3 includes the following new or changed parameters in the PowerExchange Express CDC for Oracle configuration file, `pwxorad.cfg`.

In the **DATABASE** statement, you can enter the following optional parameters:

RDSARCHIVEDIR

If you set **RDS** to **Y** and use an Amazon RDS read replica of the primary database, use this parameter to specify the archive log directory name that is created on the replica. Amazon RDS creates online and archive log directory names on the replica that are different from the directory names on the primary database.

RDSONLINEDIR

If you set **RDS** to **Y** and use an Amazon RDS read replica of the primary database, use this parameter to specify the alternative online log directory name that is created on the replica. Amazon RDS creates online and archive log directory names on the replica that are different from the directory names on the primary database.

For more information, see the "Express CDC for Oracle" chapter in the *PowerExchange CDC Guide for Linux, UNIX, and Windows*.

PowerExchange 10.5.2 - New Features and Changes for Oracle

This section describes PowerExchange 10.5.2 new features and changes that are related to Oracle data sources or targets.

New Features in 10.5.2

PowerExchange 10.5.2 introduces new features for Oracle.

Support for Oracle 21c Sources

PowerExchange Express CDC for Oracle adds support for Oracle 21c sources on Red Hat Linux and Windows for bulk data movement and CDC.

Note: PowerExchange does not support version 21c for other Linux and UNIX platforms or for Amazon RDS for Oracle sources.

For more information, see the *PowerExchange Installation and Upgrade Guide*.

Support for Oracle Data Guard Far Sync Databases as Sources

PowerExchange Express CDC for Oracle adds support for Oracle Data Guard far sync databases as sources.

PowerExchange Express CDC for Oracle can capture change data from Oracle Data Guard far sync databases. You can enable CDC for far sync databases in the same manner as you would for physical standby databases. For more information, see the *PowerExchange CDC Guide for Linux, UNIX, and Windows*.

Note: To use Oracle Data Guard far sync databases as sources, contact Informatica Global Customer Support.

Support for Oracle Column-Level Encryption

PowerExchange Express CDC for Oracle now supports Oracle column-level encryption. When enabled, PowerExchange can decrypt data in encrypted Oracle source table columns that are selected for capture processing. To enable support of column-level encryption, use the in the SUPPORT_COL_ENCRYPTION parameter in the OPTIONS statement.

You must have the following Oracle privilege to use this feature:

```
GRANT SELECT ON "SYS"."ENC$" TO capture_user
```

For more information, see the "Express CDC for Oracle" chapter in the *PowerExchange CDC Guide for Linux, UNIX, and Windows*.

Parameter and Option Changes in 10.5.2

PowerExchange 10.5.2 introduces the following changes to PowerExchange for Oracle configuration parameters:

PowerExchange Express CDC for Oracle Configuration File

PowerExchange 10.5.2 includes the following new or changed parameters in the PowerExchange Express CDC for Oracle configuration file, pwxorad.cfg.

ASMSTAGING statement

Changed. This statement contains the following new parameter:

ASYNC=*n*

New. Optional. Queue and send multiple non-blocking staging requests to ASM sequentially. Specify a value greater than 0 to optimize performance when the log reader thread spends long periods deprived of resources because of slow network writes to the PowerExchange Logger, or when delays occur when large UOWs are being processed.

DIRSUB statement

Changed. Use this statement to improve efficiency when ARCHIVECOPY mode is enabled in the READER statement. In ARCHIVECOPY mode, you can specify DIRSUB to substitute ASM directories. Do not use the DIRSUB statement if the reason the archive logs are being copied is because of an aggressive archive deletion policy on the database.

OPTIONS statement

Changed. The statement contains the following new or changed parameters:

CAPIEVENTS=*queue_size*

New. Controls the queue size between PowerExchange Express CDC and a consumer, such as the PowerExchange Logger or network. Increasing the queue size can help performance for intermittent data loads by allowing more data to be queued before PowerExchange Express CDC stalls waiting for resources.

MEMOPS_MEMORY=*megabytes*

New. Specifies a memory limit, in megabytes. When the maximum memory used during a monitor interval begins to decrease, the resources will begin to be released. The draw down stops when either the number of resource events reaches the value specified by MEMOPS, or its default value, or more memory resources are needed.

PERFORMANCESTATS={Y|N}

New. Controls whether statistics messages are included in monitor messages.

SPILLFILEBUFFSZ=kilobytes

Changed. Default is now 64 KB. Previously, the default was 0.

SPILLMAX=kilobytes

Changed. Default is now 1048576 KB. Previously, the default was 10240.

SUPPORT_DIRECT_PATH_OPS={Y|N}

Changed. Default is now Y. Previously, the default was N.

SUPPORT_COL_ENCRYPTION={Y|N}

New. Controls whether PowerExchange supports column-level encryption. When enabled, PowerExchange can decrypt encrypted data in Oracle source columns during CDC processing.

Options are:

- **Y.** Support column-level encryption of source columns. PowerExchange can decrypt data from encrypted source columns and continue CDC processing.

The PowerExchange capture user must have the following Oracle privilege:

```
GRANT SELECT ON "SYS"."ENC$" TO capture_user
```

If the MODE parameter in the DICTIONARY statement is set to DYNAMIC, you must take a new snapshot of the dictionary after enabling column-level encryption.

When capturing data from a PDB that is configured in isolated mode and that contains encrypted tablespaces and source tables with encrypted columns selected for change capture, you must specify both the CDB and PDB wallet information in the TDEKEYSTORE parameter of the DATABASE statement.

If Express CDC is running in either dynamic or static dictionary mode, PowerExchange detects Oracle row updates made as a result of re-entering the encryption algorithm or integrity mode and then excludes them from capture processing. If Express CDC is not running and is configured for static dictionary mode, decryption failures can occur, causing CDC processing to terminate. To avoid this problem, remove the source tables from the list of source tables of CDC interest.

- **N.** Do not support column-level encryption of source columns. If PowerExchange encounters encrypted column data in source tables, it cannot decrypt the data. In this case, CDC processing ends abnormally with error message PWX-36335.

Default is N.

READER statement

Changed. This statement contains the following changed parameters:

MODE > ARCHIVECOPY

Changed. If you run the PowerExchange Logger in continuous mode, it now attempts to detect and recover from situations where it begins to read logs before they are fully copied. Previously, the PowerExchange Logger might fail if it read the archive copy before the copy was fully written. Directory scanning is now more efficient because it retains information about the files that it has scanned and validated and does not attempt to re-validate them unless they change.

READBUFFSIZE=kilobytes

Changed. The maximum value you can specify is now 1048576 KB. Previously, the maximum value was 262144 KB.

For more information, see the "Express CDC for Oracle" chapter in the *PowerExchange CDC Guide for Linux, UNIX, and Windows*.

PowerExchange 10.5.1 - New Features and Changes for Oracle

This section describes PowerExchange 10.5.1 new features and changes that are related to Oracle data sources or targets.

New Features in 10.5.1

PowerExchange 10.5.1 introduces new features for Oracle.

Oracle LOB Support

For Oracle source tables, PowerExchange can process change data from BLOB, CLOB, and NCLOB columns. The maximum row size that PowerExchange can process is 8 MB.

For tables with BLOB or CLOB datatypes that are defined with the Oracle attribute `ENABLE STORAGE IN ROW`, PowerExchange delivers up to 3964 bytes of the data to PowerCenter workflows that use a PowerExchange CDC Oracle connection. In Oracle, when the `ENABLE STORAGE IN ROW` attribute is enabled, LOB data can be stored either fully inline in the row or out-of-line in the LOB file space. Oracle does not store partial LOB data in a row.

You can use the PowerExchange-generated `DTL__ST_job_columnname` column with a PowerCenter Expression transformation and unconnected Lookup transformation to retrieve all of the LOB data from BLOB and CLOB columns. The session can then send all of the LOB data to a target.

Note: Oracle has a maximum column size of 4000 bytes. For LOBs stored in-row, the column contains a 20-byte LOB locator, a 16-byte LOB node, and data, for a maximum of 3694 bytes. For CLOB data, this data is stored using a double-byte character set, even if the column character set is single byte, which reduces the maximum size to 1847 characters.

For more information, see the "Express CDC for Oracle" chapter in the *PowerExchange CDC Guide for Linux, Unix, and Windows*.

PowerExchange Express CDC for Oracle Performance Considerations

PowerExchange Express CDC for Oracle processing of large transactions can degrade performance.

If CDC performance becomes degraded when the configured maximum redo log records in the `MEMOPS` parameter is exhausted and PowerExchange Express CDC for Oracle creates spill files to free up resources, perform the following steps:

1. Ensure that the storage used for spill files is not the root cause of the performance degradation. Performance might be severely degraded if slow network storage is used for the spill files.
2. Modify the `SPILLMAX` and `SPILLFILEBUFFSZ` parameters in the `OPTIONS` statement.
 - `SPILLMAX=2097151`. Reduce the number of spill files to improve efficiency.
 - `SPILLFILEBUFFSZ=1024`. Increase the file buffering for spill files to decrease physical I/O.

3. If the previous steps do not improve performance, consider increasing the MEMOPS parameter value in the OPTIONS statement of the PowerExchange Express CDC for Oracle configuration file to a level that is sufficient to process the change data volume in memory.

For more information, see the "Express CDC for Oracle" chapter in the *PowerExchange CDC Guide for Linux, UNIX, and Windows*.

Dynamic Dictionary for Oracle Sources

PowerExchange Express CDC for Oracle supports a dynamic dictionary based on a snapshot of the Oracle catalog to accommodate DDL changes to source tables and table partitions for restart processing. With the dynamic dictionary, Express CDC can update dictionary information in memory for the source tables of CDC interest when DDL changes are committed. The changes, along with the SCN and sequence number, are persisted to an external stage table or file system that records all changes of interest.

Use a dynamic dictionary in environments where DDL changes to source tables are likely to occur. If you use a static dictionary in this type of environment, data loss or corruption can occur after a CDC restart if tables were reorganized or renamed, tables or partitions were dropped, or table columns were added, dropped, or altered. By using a dynamic dictionary, you can avoid data loss and corruption after a restart.

To use a dynamic dictionary use, perform the following high-level implementation steps:

1. Configure the PowerExchange Express CDC configuration file.
You must define the DICTONARY and STATESTORAGE statements. In the DICTONARY statement, set the MODE parameter to DYNAMIC.
2. Ensure that an initial snapshot of the Oracle catalog populates the state table or file that will store the dynamic dictionary information.
The initial snapshot is automatically created when PowerExchange Express CDC first initializes after dynamic dictionary configuration .
3. Warm start PowerExchange Express CDC or cold start the PowerExchange Logger. PowerExchange Express CDC loads the in-memory dictionary from the external state storage during initialization of the warm start or cold start.
After initialization, when the latest commit SCN has caught up to the dictionary base SCN, all new DDL operations on tables of CDC interest are recorded in the state storage when they are committed

For more information about the dynamic dictionary, see the "Express CDC for Oracle" chapter in the *PowerExchange CDC Guide for Linux, UNIX, and Windows*.

Parameter and Option Changes in 10.5.1

PowerExchange 10.5.1 introduces the following changes to PowerExchange for Oracle configuration parameters:

PowerExchange Express CDC for Oracle Configuration File

PowerExchange 10.5.1 includes the following new or changed parameters in the PowerExchange Express CDC for Oracle configuration file, pwxorad.cfg.

DICTONARY statement

Changed. The DICTONARY statement contains the following changed and new parameters for the dynamic dictionary:

MODE={STATIC|DYNAMIC}

Changed. Specify the new DYNAMIC option to enable the dynamic dictionary feature. The dynamic dictionary can avoid data loss and corruption after a restart, which can otherwise occur when a static dictionary is used. For more information, see ["Dynamic Dictionary for Oracle Sources" on page 110](#). The default value is STATIC.

RETENTIONPERIOD

New. When MODE=DYNAMIC, optionally specify the period, in hours, to retain data in the dynamic data dictionary. Operations are rolled up into the data dictionary base snapshot at Express CDC initialization and once every 24 hours thereafter until this retention period elapses. Valid values are 1 through 744. The default value is 168 hours (or 1 week).

SNAPSHOTONCOLDSTART

New. When MODE=DYNAMIC, optionally set this parameter to Y if you want to force a snapshot of the database to be taken of the current Oracle catalog when a PowerExchange Logger cold start is requested. The default value is N, which causes no snapshot to be taken.

Note: If you use the default value of N and cold start the PowerExchange Logger when data exists in the dynamic dictionary and the cold start restart point SCN is greater than the dynamic dictionary SCN, the cold start uses the dictionary SCN as the restart point. This behavior ensures that the dictionary contains any changes that occur in the gap between the restart points.

UPDATEINTERVAL

New. When MODE=DYNAMIC, optionally specify the interval, in minutes, that must elapse before PowerExchange Express CDC advances the SCN value in the data dictionary, during a period when no DDL changes of interest are occurring for a data source. When a restart occurs, PowerExchange Express CDC uses the data dictionary restart SCN when calculating how far back in the redo logs to start processing change records so that no DDL changes of interest are missed.

Valid values are 1 through 1440. The default value is 0, which causes the RSTRADV parameter value in the OPTIONS statement to be used.

OPTIONS statement

Changed. The OPTIONS statement contains the following new and changed parameters:

MEMOPS

Changed. Default is the greater of 5120 or the number of RAC members * 2 * 1024. For example, if you have three RAC members, the default is 6144. Previously, the default was 5120.

SPILLFILEBUFFSZ=kilobytes

New. The block buffer, in kilobytes, that is allocated for spill file I/O. Increase this value to reduce physical I/O and improve performance, if an increase in memory usage is acceptable.

Valid values are 0 through 1024. Default is 0, which causes the operating system to allocate the block buffer when the first write operation occurs. The size of the buffer then depends on the operating system.

STATESTORAGE statement

Changed. Configures state table or file system storage for DDL change information from the in-memory dynamic dictionary for tables of CDC interest. Previously, this statement covered state storage only for checkpoint information.

For more information, see the "Express CDC for Oracle" chapter in the *PowerExchange CDC Guide for Linux, UNIX, and Windows*.

PowerExchange 10.5 - New Features and Changes for Oracle

This section describes PowerExchange 10.5 new features and changes that are related to Oracle data sources or targets.

New Features in 10.5

PowerExchange 10.5 introduces new features for Oracle.

Checkpointing In-flight Transactions

Checkpointing periodically persists the state of in-flight transactions to disk or tables.

Important: In PowerExchange 10.5, support for checkpointing requires EBF01.

If a PowerExchange Express capture process stops and is then warm started, PowerExchange Express CDC uses the checkpoint information to resume the processing of outstanding transactions from the last recorded checkpoint. By using a checkpoint, Express CDC avoids time-consuming reprocessing of large amounts of redo log to rebuild the state of all transactions that were active when the process stopped.

You can store state information for in-flight transactions in file-system files or in three Oracle tables. For file-based storage, ensure that the user ID under which Express CDC runs is granted the appropriate permissions to create the files. For table-based storage, ensure that the database user has the appropriate permissions to create and update the tables. You can manually create the tables or allow Express CDC to automatically create them. The first initialization of a CDC process after checkpointing is enabled causes Express CDC to automatically create the tables if they do not already exist. If you need to manually create the tables, use the DDL statements that are documented in the *PowerExchange CDC Guide for Linux, UNIX, and Windows* to ensure the schema is correct.

To configure checkpointing, you must specify the CHECKPOINT statement and STATESTORAGE statement in the PowerExchange Express CDC configuration file. Optionally, if you want to encrypt the spill files that contain checkpointed data, you can optionally set the SPILLENCRYPTPASS or SPILLENCRYPTEPASS parameter in the OPTIONS statement.

For more information, see the "Express CDC for Oracle" chapter in the *PowerExchange CDC Guide for Linux, UNIX, and Windows*.

Parameter and Option Changes in 10.5

PowerExchange 10.5 introduces the following changes to PowerExchange for Oracle configuration parameters:

PowerExchange Express CDC for Oracle Configuration File

PowerExchange 10.5 introduces new statements and parameters in the PowerExchange Express CDC for Oracle configuration file, `pwxorad.cfg`.

CHECKPOINT statement

New. Enables PowerExchange Express CDC for Oracle to write checkpoints for in-flight transactions during CDC processing. Then, if a CDC process terminates and you warm start it, PowerExchange can rebuild any long running transactions and resume processing from the last checkpoint, without having to reprocess large amounts of redo log.

Syntax is:

```
CHECKPOINT
  [CHKPTINTERVAL=minutes]
  [COMLETEDEVENTSAGE=minutes]
  [COMLETEDEVENTSDIR=directory]
  [MAXCHKPTSIZE=kilobytes]
  [RETENTIONPERIOD=minutes]
  [MINCHKPTSTOKEEP=number of checkpoints]
  [EXCEPTIONS=(REJECT|TOLERATE)]
;
```

Parameters are:

CHKPTINTERVAL

The interval, in minutes, that must elapse between taking checkpoints. Valid values are 1 through 1440. The default value is 5 minutes.

COMLETEDEVENTSAGE

The interval, in minutes, that must elapse before a transaction with active operations can be forced to spill to disk. Only transactions that are spilled to disk can be checkpointed.

Valid values are 0 through 1440. A value of 0 means never force a transaction with active operations to spill to disk for checkpointing. The default value is 30.

COMLETEDEVENTSDIR

The file system directory to which spilled active transaction data is copied during checkpoint processing.

If the COMLETEDEVENTSAGE parameter value is greater than 0, you must specify either this COMLETEDEVENTSDIR parameter or the BASEDIRECTIONS parameter in the STATESTORAGE statement. The default value is the BASEDIRECTIONS value.

EXCEPTIONS

Controls whether to tolerate missing spill file data or to reject this type of exception. Tolerate this exception only if you can allow some data loss rather than regress the restart point. Options are REJECT and TOLERATE. Default is REJECT.

MAXCHKPTSIZE

The maximum amount of data, in kilobytes, that can be forced to spill to disk during a single checkpoint. You can use this parameter to block very large transactions from forcibly spilling to disk, which might improve performance during large batch processing. Valid values are 1 through 1024*1024 (or 1 GB). The default value is 50*1024 (or 50 MB).

MINCHKPTSTOKEEP

The minimum number of checkpoints to keep. The default value is 3.

RETENTIONPERIOD

The period, in minutes, for which checkpoint data is retained. Valid values are 0 through 44640. The default value is 10080 (1 week).

DATABASE statement

Changed. The DATABASE statement contains the following new parameter:

TDEKEYSTORE

New. If the Oracle source uses Transparent Data Encryption (TDE) to encrypt source tablespaces, provide the location of the keystore that contains the encryption key required for the encryption and decryption of data. The keystore can be located in Automatic Storage Management (ASM), a file, or

a hardware security module (HSM). Depending on the type of store, enter this parameter in one of the following ways:

- For an ASM store, the syntax is:

```
TDEKEYSTORE=(TYPE=(ASM, WALLETDIR=path/directory, {PWD|EPWD}=wallet_password,  
[ASM_CONNECT_STRING=string,ASM_PASSWORD=asm_password,ASM_USERID=asm_userid,ASM  
_ASSYSASM=Y]))
```

Where:

- TYPE must be the store type of ASM.
- WALLETDIR is the fully qualified path to the ASM wallet.
- {PWD|EPWD} is the password or encrypted password that is required to access the ASM wallet.
- ASM_CONNECT_STRING is the Oracle connection string, defined in TNS, that the PowerExchange Express CDC log reader uses to connect to the ASM instance.
- ASM_PASSWORD is a password for the user specified in the ASM_USERID parameter, which is used to connect to the ASM instance.
- ASM_USERID is an Oracle user ID that the PowerExchange Express CDC log reader uses to connect to the ASM instance, which has SYSDBA or SYSASM authority.
- ASM_ASSYSASM must be set to Y to have the PowerExchange Express CDC log reader to use a user ID that has SYSASM authority to connect to the ASM instance.

Note: If you do not define ASM_CONNECT_STRING in the TDEKEYSTORE parameter, you must define the ASM connection parameters in the READER statement.

- For a file store, the syntax is:

```
TDEKEYSTORE=(TYPE=(FILE, WALLETDIR=path/directory, [PWD|EPWD]=password))
```

Where:

- TYPE must be the store type of FILE.
- WALLETDIR is the fully qualified path to the file system wallet. PowerExchange Express CDC will not attempt to extract the path from the database.
- {PWD|EPWD} is the password or encrypted password that is required to access the wallet.

- For an HSM store, the syntax is:

```
TDEKEYSTORE=(TYPE=(HSM, HSMCLIENTLIB=path\module, {PWD|EPWD}=password))
```

Where:

- HSMCLIENTLIB is the fully qualified path and module name of the HSM client library. For information about setting up access to an HSM device or server, see the HSM vendor documentation. PowerExchange Express CDC uses the standard PKCS #11 interface to access HSM keys.
- {PWD|EPWD} is the password or encrypted password that is required to access the HSM device.

If you define multiple TDEKEYSTORE parameters, PowerExchange Express CDC searches them for the master key in the order in which they are defined.

Note: The TDEWALLETDIR, TDEWALLETPWD, and TDEWALLETEPWD parameters are deprecated.

OPTIONS statement

Changed. The OPTIONS statement contains the following new parameters:

BCE_SUBSTITUTE_YEAR=year

New. Specifies the substitute year value to use when the BCE_YEAR_HANDLING parameter is set to SUBSTITUTE. Valid values are 1 to 9999.

BCE_YEAR_HANDLING = {IGNORESIGN|SUBSTITUTE|PRE1040|FAIL}

New. Indicates how to handle a negative year in Before the Common Era (BCE) dates. Options:

- IGNORESIGN. Capture the year as a positive value.
- SUBSTITUTE. Substitute the year with the value specified in the BCE_SUBSTITUTE_YEAR parameter. If you specify BCE_YEAR_HANDLING=SUBSTITUTE you must specify a value for BCE_SUBSTITUTE_YEAR.
- PRE1040. Revert to the old behavior of reporting a negative value (-CCYY) as a positive value (YY00).
- FAIL. Report BCE dates as errors in message PWX-36200 and shut down the PowerExchange Logger for Linux, UNIX, and Windows.

Default is IGNORESIGN.

SPILLENCRYPTPASS=encrypted_passphrase

New. An encrypted passphrase that enables spill file encryption. PowerExchange writes transactions to spill files when it does not have sufficient memory to store them. You can optionally encrypt the spill files to protect sensitive data by setting either this parameter or the SPILLENCRYPTPASS parameter. The maximum passphrase length is 1024 bytes. No default value is provided.

SPILLENCRYPTPASS=passphrase

New. A passphrase that enables spill file encryption. PowerExchange writes transactions to spill files when it does not have sufficient memory to store them. You can optionally encrypt the spill files to protect sensitive data by setting either this parameter or the SPILLENCRYPTPASS parameter. The maximum passphrase length is 1024 bytes. No default value is provided.

STATESTORAGE statement

New. Defines the type of storage for state information and the connection string and credentials used for accessing this storage. For PowerExchange Express CDC checkpointing, the state information consists of the state of in-flight transactions at the time a CDC process terminates. After a restart, this information is used to resume CDC processing from the last checkpoint, without having to reprocess lots of logs.

Syntax is:

```
STATESTORAGE
  STORETYPE={Directory|Table}
  BASEDIRECTORY="path\\directory"
  [CONNECT_STRING=connect_string]
  [PREFIX=collection_id]
  [TABLEOWNER=userid]
  [USERID=user_ID]
  [PASSWORD=password]
  [EPWD=encrypted_password]
;
```

Parameters are:

STORETYPE

Required. The type of storage for state information. You can use a relational table or a file system directory. Options are Directory or Table. No default value is provided.

BASEDIRECTORY

Required. The base directory under which subdirectories that contain files or tables with state information are generated. Specify this parameter if the STORETYPE parameter is set to **Directory** or if you plan to enable checkpointing.

Note: For table-based checkpoint storage, you must specify either this BASEDIRECTORY parameter or the COMPLETEDEVENTSDIR parameter in the CHECKPOINT statement. Express CDC will copy the checkpointed spill files to this directory.

CONNECT_STRING

A connect string that is used to connect to the Oracle database where the state tables are created. The default value is the CONNECT_STRING value in the DATABASE statement.

PREFIX

A unique prefix for the names of the files or tables where state information is stored. Specify this prefix only if you want to override the default value, which is the collection ID specified in the ORACOLL parameter in the ORAD CAPI_CONNECTION statement. The ORACOLL parameter supplies a unique value for each Express CDC instance that is running. If you use the optional PREFIX parameter, ensure that it also provides a unique value for the Oracle instance.

TABLEOWNER

The owner of the state tables. The default value is the USERID value in this statement, if specified, or the USERID value in the DATABASE statement.

USERID

A database user ID for accessing the state tables. The default value is the USERID value in the DATABASE statement.

PASSWORD

A password, which is used in conjunction with the user ID, to provide credentials for accessing the state tables. The default value is the PASSWORD value in the DATABASE statement.

EPWD

An encrypted password, which is used in conjunction with the user ID, to provide credentials for accessing the state tables. The default value is the EPWD value in the DATABASE statement.

For more information, see the "Express CDC for Oracle" chapter in the *PowerExchange CDC Guide for Linux, UNIX, and Windows*.

PowerExchange 10.4.1 - New Features and Changes for Oracle

This section describes PowerExchange 10.4.1 new features and changes that are related to Oracle data sources or targets.

New Features in 10.4.1

PowerExchange 10.4.1 introduces a new feature for Oracle.

Staging Files for Improved CDC Performance in an ASM Environment

If the Oracle active and archived redo logs from which PowerExchange Express CDC for Oracle captures change data are in an ASM environment, you can optionally write chunks of Oracle redo log to a staging file.

This feature improves CDC performance, increases data throughput, and reduces ASM CPU usage, without having to implement Oracle dual logging outside of ASM.

PowerExchange Express CDC uses one staging file for each active Oracle redo log thread.

To enable the use of staging files, perform the following actions:

1. Create a staging directory on the machine where the ASM instance to which PowerExchange Express CDC connects resides.
2. Configure the ASMSTAGING statement in the PowerExchange Express CDC for Oracle configuration file, `pwxorad.cfg`, to point to the staging directory.

For more information, see the "Express CDC for Oracle" chapter in the *PowerExchange CDC Guide for Linux, UNIX, and Windows*.

Support for Additional Oracle Versions in Amazon RDS Environments

PowerExchange 10.4.1 is certified with Oracle 18c and 19c sources in an Amazon RDS for Oracle environment.

For more information, see the "Installation Planning" chapter in the *PowerExchange Installation and Upgrade Guide*.

Parameter and Option Changes in 10.4.1

PowerExchange 10.4.1 introduces the following changes to PowerExchange for Oracle configuration parameters:

PowerExchange Express CDC for Oracle Configuration File

PowerExchange 10.4.1 introduces a new statement in the PowerExchange Express CDC for Oracle configuration file, `pwxorad.cfg`.

ASMSTAGING statement

New. Enables PowerExchange Express CDC to use staging files in an ASM environment to hold chunks of redo log for CDC processing. You can optionally use staging files to improve CDC performance, increase data throughput, and reduce ASM CPU usage, without having to implement Oracle dual logging outside of ASM. When enabled, ASM generates one staging file for each active redo log thread.

Syntax:

```
ASMSTAGING
  STAGINGDIR="/path/directory"
  [LOCALDIR="/localmountpoint/directory"]
  [TARGETSIZE={50|number}]
;
```

Parameters descriptions:

STAGINGDIR

Required. The path to the directory that you created for staging files on the machine where the ASM instance to which PowerExchange connects resides. Enclose this value in double-quotation marks ("), for example:

```
"/oracle/staging"
```

To optimize ASM data throughput, ensure that the staging directory is on a fast storage device that is local to the ASM instance.

If PowerExchange Express CDC for Oracle is remotely accessing the staging directory, ensure the directory is in NFS storage or another type of shared storage.

LOCALDIR

Optional. The local NFS mount point for the staging directory. Specify this value only if it is different from the STAGINGDIR path. Enclose the value in double-quotation marks ("), for example:

```
"/localmountpoint/staging"
```

TARGETSIZE

Optional. The maximum size, in megabytes, of any chunk of redo log to be copied to the staging file. This value also determines the maximum file size.

For more information, see the "Express CDC for Oracle" chapter in the *PowerExchange CDC Guide for Linux, UNIX, and Windows*.

PowerExchange 10.4.0 HotFix 1 - New Features and Changes for Oracle

This section describes PowerExchange 10.4.0 HotFix 1 new features and changes that are related to Oracle data sources or targets.

New Features in 10.4.0 HotFix 1

PowerExchange 10.4.0 HotFix 1 introduces a new feature for Oracle.

Toleration Support for Oracle 19c CDC Sources

PowerExchange Express CDC for Oracle adds toleration support for Oracle 19c sources on Red Hat Linux.

Toleration support means that PowerExchange can capture data from Oracle 19c sources but does not support any of the Oracle new features introduced in 19c that the source database uses.

Note: CDC support for Oracle 19c sources on AIX, Solaris, and Windows will be added in subsequent releases of 10.4.0 HotFix 1 to be phased across platforms.

If the Oracle redo logs reside on AIX, Solaris, or Windows, you can run the PowerExchange Listener and PowerExchange Logger on Linux to capture changes from the logs

Beginning with Oracle 19c, PowerExchange capture processing of indexed-organized tables (IOTs) in 4 KB tablespaces might result in change data loss or corruption. Do not try to capture change data from Oracle 19c IOTs in 4 KB tablespaces.

For Amazon RDS for Oracle sources, PowerExchange Express CDC for Oracle supports only version 12.2.

For more information, see the *PowerExchange CDC Guide for Linux, UNIX, and Windows*.

PowerExchange 10.4.0 - New Features and Changes for Oracle

This section describes PowerExchange 10.4.0 new features and changes that are related to Oracle data sources or targets.

PowerExchange Oracle CDC with LogMiner Dropped

Effective in version 10.4.0, the PowerExchange Oracle CDC with LogMiner feature has been dropped.

If you need to perform PowerExchange Oracle CDC, Informatica recommends that you use PowerExchange Express CDC for Oracle.

New Features in 10.4.0

PowerExchange 10.4.0 introduces a new feature for Oracle.

Toleration Support for Oracle 18c Sources

PowerExchange bulk data movement and Express CDC for Oracle add toleration support for Oracle 18c.

Toleration support means that PowerExchange can capture data from Oracle 18c sources but does not support any of the Oracle new features introduced in 18c that the source database uses. SCN values greater than 281474976710655 are not supported.

For Amazon RDS for Oracle sources, PowerExchange Express CDC for Oracle supports only version 12.2.

For more information, see the *PowerExchange CDC Guide for Linux, UNIX, and Windows*.

Parameter and Option Changes in 10.4.0

PowerExchange 10.4.0 introduces the following changes to PowerExchange for Oracle configuration parameters:

PowerExchange Express CDC for Oracle Configuration File

PowerExchange 10.4.0 introduces new parameters for the OPTIONS and READER statements in the PowerExchange Express CDC for Oracle configuration file, pwxorad.cfg.

OPTIONS statement

The following new, optional parameter is now available:

SPILL_FILE_PREFIX

New. A file name prefix that consists of a temporary file path for the spill files. If you want to specify the directory where the spill files reside, specify the fully qualified path to the directory.

Linux or UNIX example:

```
SPILL_FILE_PREFIX="/tmp/spillfiles/"
```

Windows example:

```
SPILL_FILE_PREFIX="C:\tmp\spillfiles\xxx"
```

Default path is the TMP or TMPDIR environment variable value. If TMP or TMPDIR is not defined, the configuration uses the current directory.

READER statement

ARCHIVEDEST

New. Specifies a list of numbers from 1 to 10, separated by commas. Each number represents the *n* value in an Oracle LOG_ARCHIVE_DEST_*n* initialization parameter. If you create more than one copy of each archive log, this parameter indicates the primary and secondary log destinations from which PowerExchange Express CDC reads archived logs. You can specify up to 10 destinations. The order in which you specify the destinations in the list determines the order in which PowerExchange Express CDC searches for archive logs. PowerExchange Express CDC tries to process the first two valid logs it finds in the specified destinations. If PowerExchange cannot read the first two logs, the process terminates.

PowerExchange Express CDC uses the secondary destination when the primary destination becomes unavailable or when the logs at the primary destination are unreadable, for example, because they have been corrupted or deleted.

For example, the Oracle source database uses the Oracle parameters LOG_ARCHIVE_DEST_1, LOG_ARCHIVE_DEST_2, and LOG_ARCHIVE_DEST_3 to create copies of archived logs. If you want PowerExchange Express CDC to use LOG_ARCHIVE_DEST_2 as the primary destination and ARCHIVE_DEST_3 as the secondary destination, set ARCHIVEDEST=(2,3).

Note: Specifying one value for the ARCHIVEDEST parameter limits the resilience of the Express CDC log reader because the log reader then processes logs from only one archive log destination.

If you do not specify ARCHIVEDEST, PowerExchange Express CDC queries v\$archived_log for valid logs, favoring file system logs over ASM logs for performance reasons. Specifying ARCHIVEDEST provides more control over this process. For example, if the database writes archive logs to ASM and the file system, and you do not have access to the file system logs, you can use ARCHIVEDEST to specify the ASM location only.

This parameter replaces the ARCHIVEDEST1 and ARCHIVEDEST2 parameters. ARCHIVEDEST1 and ARCHIVEDEST2 are deprecated.

For more information, see the "Express CDC for Oracle" chapter in the *PowerExchange CDC Guide for Linux, UNIX, and Windows*.

CHAPTER 18

PowerExchange for PostgreSQL

This chapter includes the following topics:

- [PowerExchange 10.5.2 - New Features and Changes for PostgreSQL, 121](#)
- [PowerExchange 10.5.1 - New Features and Changes for PostgreSQL, 122](#)
- [PowerExchange 10.4.1 - New Features and Changes for PostgreSQL, 123](#)
- [PowerExchange 10.4.0 HotFix 1 - New Features and Changes for PostgreSQL, 123](#)
- [PowerExchange 10.4.0 - New Features and Changes for PostgreSQL, 124](#)

PowerExchange 10.5.2 - New Features and Changes for PostgreSQL

This section describes PowerExchange 10.5.2 changes that are related to PostgreSQL sources.

New Features in 10.5.2

PowerExchange 10.5.2 introduces support for PostgreSQL sources.

Additional Datatypes Supported for PostgreSQL CDC Sources

PowerExchange 10.5.2 adds support for the PostgreSQL regcollation and xid8 datatypes.

For more information, see "PostgreSQL Datatypes Supported for CDC" in the *PowerExchange CDC Guide for Linux, UNIX, and Windows*.

Parameter and Option Changes in 10.5.2

PowerExchange 10.5.2 introduces new parameters for PostgreSQL CDC.

DBMOVER Configuration File

The DBMOVER configuration file contains the following changed statement:

PG CAPI_CONNECTION

Changed. PowerExchange 10.5.2 adds the CAPTUREALL parameter to the PG CAPI_CONNECTION statement. Syntax is:

```
CAPI_CONNECTION=(NAME=capi_connection_name
                  ,TYPE=PG
                  ,SERVER={database_server|localhost}[ ,port]
                  [,CAPTUREALL={Y|N}]
                  ,DATABASE=database_name
                  )
```

CAPTUREALL={N|Y}

New. This optional parameter controls whether PowerExchange captures and stores change data for all tables in the source database or only for the tables that are registered for CDC. Use this parameter to limit the amount of data that is stored in the replication store table to only the data from registered source tables.

Options are:

- **N.** Store captured DML changes only for registered source tables in the replication store table. Use this option to limit the amount of data that is collected and stored in the store table.
- **Y.** Store all DML changes captured from the source database, including changes for unregistered tables, in the replication store table. This setting is not recommended because it can cause more data than is needed for CDC processing to be stored in the replication store table.

Default is N.

For more information, see the "DBMOVER Configuration File" chapter in the *PowerExchange Reference Manual*.

Behavior Changes in 10.5.2

PowerExchange 10.5.2 introduces the following behavior change for PostgreSQL CDC data sources.

Replication of UUID Column Data in Character Format

Previously, Universally Unique Identifiers (UUID) columns in PostgreSQL CDC source tables were registered and replicated in a binary format, which did not match the format of the values in the source table. Effective in 10.5.2 release, UUID values are registered with a character data type and replicated as strings. This change takes effect for sources for which you create new capture registrations. If you want the UUID values to be replicated as strings based on older capture registrations, you must re-create those capture registrations.

PowerExchange 10.5.1 - New Features and Changes for PostgreSQL

This section describes PowerExchange 10.5.1 changes that are related to PostgreSQL sources.

New Features in 10.5.1

PowerExchange 10.5.1 introduces support for PostgreSQL sources.

Support for PostgreSQL 13.x

PowerExchange 10.5.1 adds CDC support for PostgreSQL 13.x source tables on Red Hat Linux and Windows.

For more information, see the "Installation Planning" chapter in the *PowerExchange Installation and Upgrade Guide*.

PowerExchange 10.4.1 - New Features and Changes for PostgreSQL

This section describes PowerExchange 10.4.1 changes that are related to PostgreSQL sources.

New Features in 10.4.1

PowerExchange 10.4.1 introduces support for PostgreSQL sources.

Support for PostgreSQL 12.1

PowerExchange 10.4.1 adds CDC support for PostgreSQL 12.1 source tables on Red Hat Linux and Windows.

For more information, see the "Installation Planning" chapter in the *PowerExchange Installation and Upgrade Guide*.

PowerExchange 10.4.0 HotFix 1 - New Features and Changes for PostgreSQL

This section describes PowerExchange 10.4.0 HotFix 1 changes that are related to PostgreSQL sources.

New Features in 10.4.0 HotFix 1

PowerExchange 10.4.0 HotFix 1 introduces support for PostgreSQL sources.

Adding ODBC Parameters for Connecting to a PostgreSQL Source Database

PowerExchange uses the DataDirect ODBC driver for PostgreSQL to connect to PostgreSQL source databases. You can define the ODBC_CONN_PARAMS statement in the dbmover.cfg file if you want to add ODBC parameters to the connection strings that are used on the servers you specify for the following processing:

- Change data capture
- Creating, deleting, or modifying capture registrations from the PowerExchange Navigator or DBLUCBRG utility

For example, you might need to add ODBC parameters if your site policies require database connections to use SSL encryption, specific cryptographic protocols, or self-signed or third-party signed SSL certificates.

For more information, see the *PowerExchange Reference Manual*.

PowerExchange 10.4.0 - New Features and Changes for PostgreSQL

This section describes PowerExchange 10.4.0 changes that are related to PostgreSQL sources.

New Features in 10.4.0

PowerExchange 10.4.0 introduces support for PostgreSQL sources.

Support for PostgreSQL CDC Sources

PowerExchange 10.4.0 adds support for change data capture (CDC) from PostgreSQL version 10.x or 11.x source tables on Linux or Windows.

PowerExchange captures Begin, Insert, Update, Delete, Commit, and Truncate operations for source transactions. PowerExchange does not capture DDL changes other than Truncate. Also, most PostgreSQL data types are supported.

PowerExchange retrieves the changes from a PostgreSQL logical replication slot that is reserved for PowerExchange use. PowerExchange then records the changes in the *replication store table* that either PowerExchange generates during capture processing or that you manually create in the source database.

The source database must use logical replication mode. Also, each source table must have a primary key.

To prepare PostgreSQL source for CDC, perform the following tasks:

- Create a PostgreSQL user role with the LOGIN and REPLICATION attributes.
- Ensure that the PostgreSQL postgresql.conf configuration file specifies the **wal_level=logical** parameter.
- Copy the plug-in, pwx_decode.dll or pwx_decode.so, for creating the replication slot that PowerExchange uses from the PowerExchange root directory to the PostgreSQL lib directory.

To configure PowerExchange for PostgreSQL sources, specify the new PG_CAPI_CONNECTION statement in the dbmover.cfg configuration file. Also, create capture registrations and extraction maps for the source tables by using either the PowerExchange Navigator or DTLUCBRG utility. Both interfaces have been enhanced to support PostgreSQL sources.

Also, PowerExchange requires the DataDirect ODBC driver for PostgreSQL to retrieve source metadata from the PostgreSQL database server. This driver is delivered as part of the PowerExchange installation. You do not need to download it.

Use of the PowerExchange Logger for Linux, UNIX, and Windows is optional.

For more information, see the *PowerExchange CDC Guide for Linux, UNIX, and Windows*, the *PowerExchange Navigator User Guide*, and *PowerExchange Utilities Guide*.

Parameter and Option Changes in 10.4.0

PowerExchange 10.4.0 introduces new parameters for PostgreSQL CDC.

DBMOVER Configuration File

The DBMOVER configuration file can now include the new PG CAPI_CONNECTION statement for PostgreSQL CDC sources.

Syntax:

```
CAPI_CONNECTION=(NAME=capi_connection_name
                  [,DLLTRACE=trace_id]
                  ,TYPE=(PG
                        ,SERVER={database_server|localhost}[ ,port]
                                [,CAPTUREALL={Y|N}]
                                [,DATABASE=database_name
                                [,ENABLELWM={Y|N}]
                                [,FETCHLIMIT=maximum_rows_fetched|100]
                                [,ONDATA TRUNC={WARN|FAIL}]
                                [,ONTABLE TRUNC={WARN|FAIL}]
                                [,RECONNTRIES={reconnection_attempts|12}]
                                [,RECONNWAIT={seconds|5}]
                                [,REPLSTORETBL=schema.table_name|public.pwx_repl]
                                [,RSTRADV=seconds]
                                )
                        )
                  )
```

Parameters:

NAME=capi_connection_name

Required. A unique user-defined name for this CAPI_CONNECTION statement.

Maximum length is eight alphanumeric characters.

CAPTUREALL={N|Y}

This optional parameter controls whether PowerExchange captures and stores change data for all tables in the source database or only for the tables registered for CDC. Use this parameter to limit the amount of data that is stored in the replication store table to only the data from registered source tables.

Options are:

- **N.** Capture DML changes and store the changes in the replication store table, only for registered source tables. This option limits the amount of data that is collected and stored in the store table.
- **Y.** Capture DML changes and store the changes in the replication store table, for all tables in the source database, including unregistered tables. This setting is not recommended because it can cause more data than is needed for CDC processing to be stored in the replication store table.

Default is N.

DLLTRACE=trace_ID

Optional. The user-defined name of the TRACE statement that activates internal DLL tracing for this CAPI. Specify this parameter only at the direction of Informatica Global Customer Support.

TYPE=(PG, ...)

Required. The type of CAPI_CONNECTION statement. For PostgreSQL sources, this value must be PG.

SERVER={host_name|localhost}[,port_number]

Required. The host name or IP address of the server where the PostgreSQL source database runs. You can enter "localhost" if the database server and PowerExchange Listener run locally on the same machine.

If you want the source server to listen on a port number other than the default port, you can optionally append the port number to the server name.

DATABASE=database_name

Required. The name of the PostgreSQL source database on the specified server.

ENABLELWM={N|Y}

Optional. When you use the PowerExchange Logger for Linux, UNIX, and Windows, controls whether the PowerExchange consumer API (CAPI) capture process deletes data read from the replication store table after the data has been hardened to PowerExchange Logger log files. You can use this parameter to improve capture performance and to prevent the replication store table from growing too large when the PowerExchange Logger is in use.

Options are:

- **N.** Do not delete processed data from the replication store table after the data has been hardened to the PowerExchange Logger log files. With this option, the replication store table might become very large, causing CDC performance to be degraded.
- **Y.** Delete processed data from the replication store table after the data has been hardened to the PowerExchange Logger log files. After a log file switch, the PowerExchange Logger sends a low water marker (LWM) to the CAPI process to identify the last end UOW prior to the file switch. At the end of the next capture cycle, after the CAPI connection process has read to the end of the available data, the CAPI deletes all of the rows in the replication store table up to the LWM.

Default is N.

FETCHLIMIT

Optional. The maximum number of rows that can be fetched from the replication store table in response to a PowerExchange SELECT call. Valid values are 0 through 1000000. A value of 0 means no maximum limit is in effect.

Default is 100.

ONDATATRUNC={WARN|FAIL}

Optional. Indicates whether PowerExchange issues a warning message and continues processing or ends abnormally when it needs to truncate data from PostgreSQL columns that are longer than 98,304 bytes.

Default is FAIL.

ONTABLETRUNC={WARN|FAIL}

Optional. Indicates whether PowerExchange issues a warning message and continues processing or ends abnormally when it encounters a TRUNCATE TABLE record in the change stream.

Default is FAIL.

RECONNTRIES={reconnection_attempts|12}

Optional. The maximum number of times that PowerExchange tries to reconnect to the PostgreSQL database server after a connection is dropped while PowerExchange is retrieving data from the replication slot or reading data from the replication store table. If a connection retry is unsuccessful, PowerExchange waits for number of seconds specified in the RECONNWAIT parameter before trying to reconnect to the database server again. Use this parameter in conjunction with the RECONNWAIT parameter to improve connection resiliency.

Valid values are 0 through 2147483647. A value of 0 results in no connection retries. Default is 12.

RECONNWAIT={seconds|5}

Optional. The number of seconds that PowerExchange waits between attempts to reconnect to a PostgreSQL database server. Use this parameter in conjunction with the RECONNTRIES parameter to improve connection resiliency.

Valid values are 0 through 3600. A value of 0 results in no waiting between connection attempts. Default is 5.

REPLSTORETBL={schema.table_name|public.pwx_repl}

Optional. The name of the PowerExchange replication store table that contains the change data from the PostgreSQL logical replication slot. PowerExchange reads change data from this table.

If this value is not specified, the default name of public.pwx_repl is used.

RSTRADV=seconds

Optional. The time interval, in seconds, that PowerExchange waits before advancing restart and sequence tokens for a registered data source during periods when UOWs do not include any changes of interest for the data source. When the wait interval expires, PowerExchange returns the next committed "empty UOW," which includes only updated restart information.

PowerExchange resets the wait interval to 0 when one of the following events occur:

- PowerExchange finishes processing a UOW that includes changes of interest.
- PowerExchange returns an empty UOW because the wait interval expired without PowerExchange receiving any changes of interest.

Valid values 0 through 86400. No default is provided. A value of 0 disables restart advance processing.

For example, if you specify 5, PowerExchange waits 5 seconds after it completes processing the last UOW or after the previous wait interval expires. Then PowerExchange returns the next committed empty UOW that includes the updated restart information and resets the wait interval to 0.

If you do not specify RSTRADV, PowerExchange does not advance restart and sequence tokens for a registered source during periods when PowerExchange receives no changes of interest. In this case, when PowerExchange warm starts, it reads all changes, including those not of interest for CDC, from the restart point.

For more information, see the "DBMOVER Configuration File" chapter in the *PowerExchange Reference Manual*.

CHAPTER 19

PowerExchange for SAP HANA

This chapter includes the following topics:

- [PowerExchange 10.5.2 - New Features and Changes for SAP HANA, 128](#)
- [PowerExchange 10.5.1 - New Features and Changes for SAP HANA, 129](#)

PowerExchange 10.5.2 - New Features and Changes for SAP HANA

This section describes PowerExchange 10.5.2 changes that are related to SAP HANA sources.

Behavior Changes in 10.5.2

PowerExchange 10.5.2 introduces the following behavior changes for SAP HANA data sources:

Changing Registrations from and to Full Audit

When you change a SAP HANA source table registration from Full Audit to PKLOG only, or from PKLOG to Full Audit, you must drop the triggers for the changed registration. You can manually create the triggers by using the trigger function and exporting the script, by running a row test in PowerExchange Navigator, or by letting the PowerExchange Logger create the triggers automatically. If you change a registration from Full Audit to PKLOG, you can also drop the CDC shadow table or retain it for history purposes. The shadow table is required for capture registrations that use Full Audit.

Full Audit for Tables with 16-column Primary Keys

Previously, for SAP HANA source tables with 16-column primary keys, PowerExchange required the Full Audit option, and you could not clear this option in the PowerExchange Navigator. In PowerExchange 10.5.2, you can set or clear Full Audit for tables with 16-column primary keys.

Nullable Field Settings for SAP HANA Sources

Previously, PowerExchange set non-nullable fields to nullable for all SAP HANA source tables. In PowerExchange 10.5.2, tables registered with the Full Audit option allow non-nullable fields. For tables registered without Full Audit, PowerExchange continues to set all fields that are not primary keys to nullable. Since there is no before image of the source table without Full Audit, delete processing requires that each non-primary-key field can be null.

PowerExchange 10.5.1 - New Features and Changes for SAP HANA

This section describes PowerExchange 10.5.1 changes that are related to SAP HANA sources.

New Features in 10.5.1

PowerExchange 10.5.1 introduces support for SAP HANA sources.

Support for SAP HANA CDC Sources

PowerExchange 10.5.1 adds support for change data capture (CDC) from SAP HANA version 2.x source tables on Linux or Windows.

PowerExchange CDC for SAP HANA captures inserts, updates, and deletes from SAP HANA tables on Windows or Linux. Because SAP HANA does not provide direct access to its log files, the capture process uses triggers on source tables to determine when to capture change data. Most SAP HANA datatypes are supported.

The PowerExchange Navigator can optionally create scripts for the PKLOG and PROCESSED log tables and trigger DDL when you create capture registrations for the source tables. If you do not use the Navigator to create the tables, PowerExchange creates the log tables and triggers when the extraction process runs. Each registered SAP HANA source table must have a primary key.

The triggers write insert, update, and delete changes to the PKLOG transaction log table. These changes are read in table order and are then available for extraction to PowerCenter CDC sessions or PowerExchange CDC Publisher. PowerExchange provides only after-image records for SAP HANA CDC.

To prepare SAP HANA source for CDC, perform the following tasks:

- Create a SAP HANA user for CDC that can read the data dictionary views, including TABLES, and create objects in the user's own schema. .
- Grant the SAP HANA CDC user INSERT permission on their schema to the target database and SELECT permission to the user on the source database schema and tables.
- When PowerExchange for SAP HANA CDC starts, it uses the SAP HANA CDC user ID to connect to the source database and checks for the PKLOG and PROCESSED tables. If these tables do not exist, PowerExchange creates them using the SAP HANA user's schema. If you prefer, you can connect to the database with the SAP HANA CDC user ID and create the tables manually.

To configure PowerExchange for SAP HANA sources, specify the new HANA CAPI_CONNECTION statement in the dbmover.cfg configuration file. Also, create capture registrations and extraction maps for the source tables by using either the PowerExchange Navigator or DTLUCBRG utility. Both interfaces have been enhanced to support SAP HANA sources.

Also, PowerExchange requires an ODBC driver and a JDBC driver for SAP HANA to retrieve source metadata from the SAP HANA database server.

For more information, see the *PowerExchange CDC Guide for Linux, UNIX, and Windows*, the *PowerExchange Navigator User Guide*, and *PowerExchange Utilities Guide*.

Parameter and Option Changes in 10.5.1

PowerExchange 10.5.1 introduces new parameters for SAP HANA CDC.

DBMOVER Configuration File

The DBMOVER configuration file can now include the new HANA CAPI_CONNECTION statement for SAP HANA CDC sources.

Syntax:

```
CAPI_CONNECTION=(NAME=capi_connection_name
  [,DLLTRACE=trace_id]
  ,TYPE=(HANA
  ,SERVER=[server_name|ip_address]:port
  ,DATABASE=database_name
  [,BUFFERSIZE=bytes]
  [,FETCHSIZE=records]
  [,LOGCLEAR=days]
  [,ONDATAATRUNC=[WARN|FAIL]]
  [,PARMFILE=path\filename.cfg]
  [,SSL=[Y|N]]
  [,TIMEOUT=milliseconds]
  [,TRANSACTIONSIZE=records]
  [,VMOPTS=options]
  [,VMOPTSDEL=delimiter_character]
)
```

Parameters:

NAME=capi_connection_name

Required. A unique user-defined name for this CAPI_CONNECTION statement.

Maximum length is eight alphanumeric characters.

DLLTRACE=trace_ID

Optional. The user-defined name of the TRACE statement that activates internal DLL tracing for this CAPI. Specify this parameter only at the direction of Informatica Global Customer Support.

TYPE=(HANA, ...)

Required. The type of CAPI_CONNECTION statement. For SAP HANA sources, this value must be HANA.

SERVER=[server_name|ip_address]:port

Required. The server name or IP address of the database server that contains the source tables.

The default port is 39015. If you use a different port number, you must specify the port in this parameter.

DATABASE=database_name

Required. The name of the SAP HANA database that contains the source tables for change data capture.

BUFFERSIZE =bytes

Optional. The maximum size of the buffer for CDC records retrieved from the SAP HANA source. When the maximum buffer size is reached, PowerExchange flushes the buffer and commits changes to the log tables. Valid values are 64000 bytes (64 KB) to 4000000 bytes (4 MB).

Default is 64000 bytes.

FETCHSIZE=records

Optional. The maximum number of records that can be fetched from the SAP HANA source and written to the buffer at a time. Valid values are 100 to 10000.

Default is 1000.

LOGCLEAR=days

Optional. The number of days after which PowerExchange purges the PKLOG table entries. Valid values are 0 to 366. A value of 0 means that the PKLOG table entries are not purged.

Default is 14.

ONDATA TRUNC=[WARN|FAIL]

Optional. Indicates whether PowerExchange issues a warning message and continues processing or ends abnormally when it encounters a column where data will be truncated. Valid values are WARN or FAIL.

Default is FAIL.

PARMFILE=path_and_filename

Optional. The path and file name for the PowerExchange CDC for SAP HANA configuration file, relative to the current working directory. You can use this parameter to override the default path and file name or to explicitly specify a user-defined file name. The SAP HANA configuration file must reside in the PowerExchange bin directory. If the specified file does not exist in the bin directory, change capture fails.

The default value is `pwx_bin_directory\pwxhana.cfg`.

The configuration file contains the `MAXREADSIZE=records` and `PROGRESS=Y` parameters, which control the number of records in each read cycle and whether the cycle progress is detailed in the log file. You can also use the configuration file to override several parameters specified in the HANA `CAPICONNECTION` statement, such as `BUFFERSIZE` or `FETCHSIZE`. For more information, see [GUID-06F37E45-D769-42F7-B2EF-147506F8A99B](#).

SSL=[Y|N]

Optional. Controls whether the connection to the SAP HANA source uses the SSL/TLS protocol. This parameter only affects connections that use the JDBC driver. Connections that use an ODBC driver must specify the secure connection in the `odbc.ini` file.

Default is N.

TIMEOUT=milliseconds

Optional. The time interval in milliseconds after which the change cycle ends if PowerExchange does not receive a response from the source table. Valid values are 1000 to 60000.

Default is 10000.

TRANSACTIONSIZ=records

Optional. The number of records to process in a single transaction of the read cycle. Informatica doesn't recommend setting low values for production workloads but a lower value might be useful when testing. Valid values are 1 through 1000000.

Note: If you adjust `TRANSACTIONSIZ` for a PowerExchange Navigator row test that contains `UPDATE` records, set the parameter value to 2 or greater. Otherwise, the test will only return rows up to the first `UPDATE` record.

Default is 500000.

VMOPTS=option;option;...

Optional. One or more Java Virtual Machine (JVM) options, separated by a semicolon (;) or by an override character specified in the `VMOPTSDEL` parameter. You can specify up to 20 options.

VMOPTSDEL=separator_character

Optional. Specifies a delimiter character that separates the JVM options specified in the VMOPTS parameter. You can use any separator character that is valid on the system where the options will be overridden.

Default is the semicolon (;).

For more information, see the "DBMOVER Configuration File" chapter in the *PowerExchange Reference Manual*.

CHAPTER 20

PowerExchange for VSAM and Flat Files

This chapter includes the following topics:

- [PowerExchange 10.5.3 - New Features and Changes for VSAM and Flat Files, 133](#)
- [PowerExchange 10.5 - New Features and Changes for VSAM and Flat Files, 134](#)

PowerExchange 10.5.3 - New Features and Changes for VSAM and Flat Files

This section describes PowerExchange 10.5.3 new features and changes that are related to VSAM and sequential or flat file data sources or targets.

New Features in 10.5.3

PowerExchange 10.5.3 introduces the following new feature for CICS Transaction Server data sources:

Support for CICS Transaction Server Version 6.1

PowerExchange 10.5.3 adds CDC support for CICS Transaction Server (CICS TS) version 6.1. PowerExchange can capture changes that CICS TS 6.1 transactions make to VSAM data sets.

The PowerExchange SAMPLIB library contains the new member #CICSV74 for defining the CICS/VSAM ECCR programs and transaction to CICS TS. Because the definition of the CICS/VSAM ECCR programs and transaction changed, you must restart the CICS region after upgrading to PowerExchange 10.5.3.

For more information, see the "Installation Planning" chapter in the *PowerExchange Installation and Upgrade Guide* and the "CICS/VSAM Change Data Capture" chapter in the *PowerExchange CDC Guide for z/OS*. Also see the Product Availability Matrix at

<https://network.informatica.com/community/informatica-network/product-availability-matrices>.

PowerExchange 10.5 - New Features and Changes for VSAM and Flat Files

This section describes PowerExchange 10.5 new features and changes that are related to VSAM and sequential or flat file data sources or targets.

New Features in 10.5

PowerExchange 10.5 introduces the following new feature for CICS Transaction Server data sources:

Support for CICS Transaction Server Version 5.6

PowerExchange 10.5 adds CDC support for CICS Transaction Server (CICS TS) version 5.6. PowerExchange can capture changes that CICS TS 5.6 transactions make to VSAM data sets.

The PowerExchange SAMPLIB library contains the new member #CICSV73 for defining the CICS/VSAM ECCR programs and transaction to CICS TS. Because the definition of the CICS/VSAM ECCR programs and transaction changed, you must restart the CICS region after upgrading to PowerExchange 10.5.

For more information, see the "Installation Planning" chapter in the *PowerExchange Installation and Upgrade Guide* and the "CICS/VSAM Change Data Capture" chapter in the *PowerExchange CDC Guide for z/OS*. Also see the Product Availability Matrix at

<https://network.informatica.com/community/informatica-network/product-availability-matrices>.

INDEX

A

Adabas

- ETID_DATE parameter for ECCR [79](#)
- new features 10.4.1 [80](#)
- parameter and option changes 10.5 [79](#)
- version 8.5.x support on z/OS [80](#)

C

CheckNumData Function

- in user-defined fields [63](#)

CICS Transaction Server

- CICS TS 5.6 support for CDC [134](#)
- CICS TS 6.1 support for CDC [133](#)

connection attributes

- PWX Override, DSNTYPE and RTNBUFFSIZE options [41](#)

CREATEFILE

- DSNTYPE [41](#)

D

data sources

- versions added in PowerExchange 10.5 [26](#)
- versions and sources added in PowerExchange 10.4.0 [34](#)
- versions and sources added in PowerExchange 10.4.0 HotFix 1 [31](#)
- versions and sources added in PowerExchange 10.4.1 [28](#)
- versions and sources added in PowerExchange 10.5.1 [20](#)
- versions and sources added in PowerExchange 10.5.2 [18](#)
- versions and sources added in PowerExchange 10.5.3 [14](#)
- versions supported in PowerExchange 10.4.0 [34](#)
- versions supported in PowerExchange 10.4.0 HotFix 1 [30](#)
- versions supported in PowerExchange 10.4.1 [28](#)
- versions supported in PowerExchange 10.5 [25](#)
- versions supported in PowerExchange 10.5.1 [20](#)
- versions supported in PowerExchange 10.5.2 [18](#)
- versions supported in PowerExchange 10.5.3 [13](#)

Db2 for i

- IBMI_USE_DB2_SYSTEM_OBJECT_NAMES statement in DBMOVER [82](#)
- behavior changes 10.5.2 [83](#)
- new features 10.4.0 [85](#)
- new features 10.5 [83](#)
- new features 10.5.3 [81](#)
- parameter and option changes 10.5 [84](#)
- parameter and option changes 10.5.2 [82](#)
- parameter and option changes 10.5.3 [82](#)

DB2 for i

- behavior changes 10.5.2 [83](#)
- parameter and option changes 10.5.2 [82](#)
- parameter and option changes 10.5.3 [82](#)

Db2 for i5/OS

- support for Db2 for i version 7.5 [82](#)

DB2 for i5/OS

- parameter and option changes 10.5 [84](#)
- support for Db2 for i version 7.4 [85](#)

Db2 for Linux, UNIX, and Windows

- version 11.5 support for CDC [87](#)

DB2 for Linux, UNIX, and Windows

- UDB CAPI_CONNECTION statement [88](#)
- new features 10.5 [87](#)
- parameter and option changes in 10.4.0 HotFix 1 [88](#)

Db2 for z/OS

- new features in 10.4.1 [92](#)
- new features in 10.5.1 [91](#)
- new features in 10.5.3 [90](#)
- parameter changes in ECCR REPL2OPT data set [91](#)
- support for Db2 Huffman compression of image copies [92](#)

DB2 for z/OS

- IFI306 statement in ECCR REPL2OPT data set [93](#)
- parameter and option changes 10.4.1 [92](#)
- parameter and option changes 10.5.1 [92](#)
- parameter and option changes 10.5.2 [91](#)
- support for Db2 for z/OS version 13 [90](#)

DBMOVER configuration file statements

- SSL_CIPHER_LIST [84](#)
- SSL_REQ_CLNT_CERT [84](#)
- ABEND_SW [51](#)
- FILEMAPPED_MEMORY_DIR statement [55](#)
- IBMI_2ND_LEVEL_HELP [51](#)
- IBMI_SUPPRESS_OUTPUT [53](#)
- IBMI_USE_DB2_SYSTEM_OBJECT_NAMES for Db2 for i [82](#)
- IMSBSDS statement [55](#)
- IMSID parameter change [94](#)
- LISTENER [84](#)
- LU00FILE statement [55](#)
- MSQL CAPI_CONNECTION GUIDBRACES parameter [53](#)
- MSQL CAPI_CONNECTION statement [55](#)
- MYSQL CAPI_CONNECTION statement [55](#)
- new statements for IMS catalog use in 10.4 [98](#)
- NODE statement [55](#)
- ODBC_CONN_PARAMS [54](#)
- PG CAPI_CONNECTION statement [55](#)
- QQAQINILIB statement [84](#)
- RTNBUFFSIZE statement [82](#)
- SSL_CONTEXT_METHOD [84](#)
- SSL_REQ_CLNT_CERT statement [55](#)
- SSL_TOLERATE_UNTRUSTED_ISSUER [84](#)
- UDB CAPI_CONNECTION [54](#)

DTLINFOX utility

- 10.5.3 [65](#)

DTLREXE utility

- config parameter [76](#)
- PING_SSLINFO parameter [71](#)

DTLSMFRP

- parameters [33](#)
- SYSOUT parameter [64](#)

DTLUCBRG utility

- EXCLUDE_COL parameter [71](#)

DTLUCBRG utility (*continued*)

EXCLUDE_TYPE parameter [71](#)

HANOPTS parameter [67](#)

INCLUDE_TYPE parameter [71](#)

longer registration names [67](#)

REGION size [78](#)

TABLE parameter [76](#)

VSMOPTS parameter [76](#)

DTLURDMO utility

enhancements in 10.4 [75](#)

GETREGTAG parameter [72](#)

INPUT parameter [77](#)

NOTIMESTAMPS parameter [77](#)

REG_COPY FASTLOAD parameter [77](#)

REGION size [78](#)

REPORTDEST parameter [77](#)

statements [33](#)

TESTMODE [77](#)

VALIDATE parameter [77](#)

E

Express CDC for Oracle

ARCHIVEDEST parameter in READER statement [119](#)

ASMSTAGING statement [117](#)

ASYNCR parameter in ASMSTAGING statement [107](#)

BCE_SUBSTITUTE_YEAR parameter in OPTIONS statement [112](#)

BCE_YEAR_HANDLING parameter in OPTIONS statement [112](#)

CAPIEVENTS parameter in OPTIONS statement [107](#)

CHECKPOINT statement [112](#)

checkpointing in-flight transactions [112](#)

DIRSUB statement [107](#)

dynamic dictionary [110](#)

Express CDC for Oracle

SUPPORT_COL_ENCRYPTION parameter in OPTIONS statement [107](#)

MEMOPS parameter in OPTIONS statement [110](#)

MEMOPS_MEMORY parameter in OPTIONS statement [107](#)

MODE > ARCHIVECOPY option in READER statement [107](#)

MODE parameter in DICTIONARY statement [110](#)

performance considerations [109](#)

PERFORMANCESTATS parameter in OPTIONS statement [107](#)

RDSARCHIVEDIR parameter in DATABASE statement [106](#)

RDSONLINEDIR option in DATABASE statement [106](#)

READBUFFSIZE parameter in READER statement [107](#)

RETENTIONPERIOD parameter in DICTIONARY statement [110](#)

SNAPSHOTONCOLDSTART parameter in DICTIONARY statement [110](#)

SPILL_FILE_PREFIX parameter in OPTIONS statement [119](#)

SPILLENCRYPTPASS parameter in OPTIONS statement [112](#)

SPILLENCRYPTPASS parameter in OPTIONS statement [112](#)

SPILLFILEBUFFSZ parameter in OPTIONS statement [107](#), [110](#)

SPILLMAX parameter in OPTIONS statement [107](#)

STATESTORAGE statement [110](#), [112](#)

support for encrypted source columns [107](#)

SUPPORT_DIRECT_PATH_OPS parameter in OPTIONS statement [107](#)

TDEKEYSTORE parameter in DATABASE statement [112](#)

UPDATEINTERVAL parameter in DICTIONARY statement [110](#)

G

GetOptimizationPositionCount Function
in user-defined fields [60](#)

GetOptimizationReadCount Function
in user-defined fields [60](#)

GetUnoptimizedReadCount Function
in user-defined fields [60](#)

H

HANA CAPI_CONNECTION statement
syntax and parameter descriptions [130](#)

HANOPTS parameter
DDLFILE option [66](#)

I

IBM i

IBMI_USE_DB2_SYSTEM_OBJECT_NAMES statement in DBMOVE [82](#)

DBMOVE statements in 10.5 [84](#)

DBMOVE statements in 10.5.2 [82](#)

install enhancement [37](#)

upgrade change [38](#)

Improved Memory Management for Listeners on z/OS

PowerExchange Listener [47](#)

IMS

new features 10.4.0 [96](#)

new features 10.5 [95](#)

new features 10.5.1 [95](#)

parameter and option changes 10.4.0 [98](#)

parameter and option changes 10.5.2 [94](#)

IMS catalog

overview [97](#)

IMS netport jobs

passphrases

for netport jobs [95](#)

support for passphrases [95](#)

IMS synchronous CDC

CRG.LOAD library updates in 10.4.0 [96](#)

installation

PowerExchange for IBM i installation enhancement [37](#)

PowerExchange10.4.0 changes [39](#)

PowerExchange10.4.1 changes [39](#)

PowerExchange10.5.1 changes [38](#)

PowerExchange10.5.2 changes [37](#)

PowerExchange10.5.3 changes [37](#)

installation and upgrade

behavior change in 10.4.0 [40](#)

behavior change in 10.4.1 [39](#)

upgrade change [38](#)

M

Microsoft SQL Server

MSQL CAPI_CONNECTION GUIDBRACES parameter [99](#)

MSQL CAPI_CONNECTION LOCKAVOIDANCE parameter [101](#)

MSQL CAPI_CONNECTION SQLNOLOCK parameter [101](#)

adding ODBC parameters for database connections [100](#)

new features in 10.4.0 HotFix 1 [100](#)

support for SQL Server 2019 [100](#)

monitoring and tuning

new features 10.4.0 [64](#)

Monitoring and tuning

parameter and option changes in 10.4.0 [64](#)

MSQL CAPI_CONNECTION statement

GUIDBRACES parameter [99](#)

LOCKAVOIDANCE parameter [101](#)

SQLNOLOCK parameter [101](#)

MySQL

- MySQL CAPI_CONNECTION statement [103](#)
- adding ODBC parameters for database connections [103](#)
- new features 10.4.0 [103](#)
- new features 10.4.0 HotFix 1 [102](#)
- new features 10.4.1 [102](#)
- support for MySQL 8.0 [102](#), [103](#)
- MySQL CAPI_CONNECTION statement
 - new parameters for catalog [103](#)
- MySQL CDC
 - parameter and option changes in 10.4.0 [103](#)

O

operating systems

- versions added or dropped for the PowerExchange Navigator 10.4.0 [36](#)
- versions added or dropped for the PowerExchange Navigator 10.5.3 [14](#)
- versions added or dropped in PowerExchange 10.4.0 [35](#)
- versions added or dropped in PowerExchange 10.4.0 HotFix 1 [31](#)
- versions added or dropped in PowerExchange 10.5 [26](#)
- versions added or dropped in PowerExchange 10.5.2 [19](#)
- versions added or dropped in PowerExchange 10.5.3 [14](#)
- versions supported in PowerExchange 10.4.0 [34](#)
- versions supported in PowerExchange 10.4.0 HotFix 1 [30](#)
- versions supported in PowerExchange 10.4.1 [28](#)
- versions supported in PowerExchange 10.5 [25](#)
- versions supported in PowerExchange 10.5.1 [20](#)
- versions supported in PowerExchange 10.5.2 [18](#)
- versions supported in PowerExchange 10.5.3 [13](#)

Oracle

- capturing data from encrypted source columns [107](#)
- data guard far sync databases [106](#)
- new features 10.4.0 [119](#)
- new features 10.4.0 HotFix 1 [118](#)
- new features 10.4.1 [116](#)
- new features 10.5 [112](#)
- new features 10.5.1 [109](#)
- new features 10.5.2 [106](#)
- new features 10.5.3 [105](#)
- Oracle 19c support [118](#)
- Oracle 21c support [106](#)
- staging files for improved Express CDC performance [117](#)

Oracle CDC

- ASMSTAGING statement in pwxorad.cgf [117](#)
- BCE_SUBSTITUTE_YEAR parameter in OPTIONS statement [112](#)
- BCE_YEAR_HANDLING parameter in OPTIONS statement [112](#)
- CHECKPOINT statement [112](#)
- dynamic dictionary [110](#)
- parameter and option changes in 10.4.0 [119](#)
- parameter and option changes in 10.4.1 [117](#)
- parameter and option changes in 10.5 [112](#)
- parameter and option changes in 10.5.1 [110](#)
- parameter and option changes in 10.5.2 [107](#)
- parameter and option changes in 10.5.3 [105](#)
- SPILL_FILE_PREFIX parameter in OPTIONS statement [119](#)
- SPILLENCRYPTPASS parameter in OPTIONS statement [112](#)
- SPILLENCRYPTPASS parameter in OPTIONS statement [112](#)
- STATESTORAGE statement [112](#)
- TDEKEYSTORE parameter in DATABASE statement [112](#)

Oracle LOBs

- CDC support [109](#)

P

- PG CAPI_CONNECTION statement
 - syntax and parameter descriptions [122](#), [125](#)
 - PM_RECOVERY table
 - template [42](#)
 - PostgreSQL
 - PG CAPI_CONNECTION statement [122](#), [125](#)
 - adding ODBC parameters for database connections [123](#)
 - behavior change in 10.5.2 [122](#)
 - new features 10.4.0 [124](#)
 - new features 10.4.0 HotFix 1 [123](#)
 - new features 10.4.1 [123](#)
 - new features 10.5.1 [123](#)
 - new features 10.5.2 [121](#)
 - support for PostgreSQL CDC sources [124](#)
 - PostgreSQL CDC
 - parameter and option changes in 10.4.0 [124](#)
 - parameter and option changes in 10.5.2 [121](#)
 - PowerCenter 10.5.1
 - PWXPC new features and changes [42](#)
 - PowerCenter 10.5.2
 - PWXPC new features and changes [41](#)
 - PowerExchange 10.4
 - IBM i Installer [40](#)
 - PowerExchange 10.4.0
 - Db2 for i new features and changes [85](#)
 - IMS new features and changes [96](#)
 - installation changes [39](#)
 - monitoring and tuning changes [64](#)
 - monitoring and tuning new features [64](#)
 - MySQL new features and changes [103](#)
 - new features summary list [31](#)
 - operating systems and data sources supported [34](#)
 - Oracle CDC new features and changes [119](#)
 - parameter changes summary list [32](#)
 - PostgreSQL new features and changes [124](#)
 - PowerExchange Listener parameter changes [55](#)
 - SQL Server new features and changes [100](#)
 - utilities new features and changes [74](#)
- PowerExchange 10.4.0 HotFix 1
- DB2 for Linux, UNIX, and Windows new features and changes [88](#)
 - MySQL new features and changes [102](#)
 - new features summary list [29](#)
 - operating systems and data sources supported [30](#)
 - Oracle CDC new features and changes [118](#)
 - parameter changes summary list [30](#)
 - PostgreSQL new features and changes [123](#)
 - PowerExchange Listener parameter changes [53](#)
 - SQL Server new features and changes [100](#)
- PowerExchange 10.4.1
- Adabas new features and changes [80](#)
 - IBM i Installer [39](#)
 - IBM i Installer improvements [39](#)
 - installation changes [39](#)
 - MySQL new features and changes [102](#)
 - new features summary list [27](#)
 - operating systems and data sources supported [28](#)
 - Oracle CDC new features and changes [116](#)
 - parameter changes summary list [27](#)
 - PostgreSQL new features and changes [123](#)
 - PowerExchange Listener parameter changes [53](#)
 - PowerExchange Navigator new features and changes [63](#)
 - SQL Server new features and changes [99](#)
 - utilities new features and changes [73](#)
- PowerExchange 10.4.1 1
- Adabas version 8.5.x support on z/OS [80](#)

PowerExchange 10.5

- Adabas new features and changes [79](#)
- CICS TS version 5.6 support [134](#)
- CICS TS version 6.1 support [133](#)
- command changes summary list [24](#)
- Db2 for i new features and changes [83](#)
- DB2 for Linux, UNIX, and Windows new features and changes [87](#)
- IMS new features and changes [95](#)
- new features summary list [21](#)
- operating systems and data sources supported [25](#)
- Oracle CDC new features and changes [112](#)
- parameter changes summary list [21](#)
- PowerExchange Listener parameter changes [51](#)
- PowerExchange Navigator new features and changes [62](#)
- security change [26](#)
- utilities new features and changes [68](#)
- VSAM new features and changes [134](#)

PowerExchange 10.5.1

- IMS new features and changes [95](#)
- installation changes [38](#)
- new features summary list [19](#)
- operating systems and data sources supported [20](#)
- Oracle CDC new features and changes [109](#)
- parameter changes summary list [19](#)
- PostgreSQL new features and changes [122](#)
- PowerExchange Listener parameter changes [49](#)
- SAP HANA new features and changes [129](#)
- utilities new features and changes [67](#)

PowerExchange 10.5.2

- behavior changes summary list [18](#)
- command changes summary list [17](#)
- Db2 for i new features and changes [82](#)
- IBM i installation [38](#)
- IMS new features and changes [94](#)
- installation changes [37](#)
- new features summary list [15](#)
- operating systems and data sources supported [18](#)
- Oracle CDC new features and changes [106](#)
- parameter changes summary list [15](#)
- PostgreSQL new features and changes [121](#)
- PowerExchange Condense changes [44](#)
- PowerExchange Listener parameter changes [47](#)
- PowerExchange Navigator new features and changes [61](#)
- SAP HANA new features and changes [128](#)
- utilities new features and changes [66](#)

PowerExchange 10.5.3

- Db2 for i new features and changes [81](#)
- DB2 for z/OS new features and changes [90](#)
- IBM i installation [37](#)
- installation changes [37](#)
- new features summary list [12](#)
- operating systems and data sources supported [13](#)
- Oracle CDC new features and changes [105](#)
- parameter changes summary list [12](#)
- PowerExchange Listener parameter changes [45](#)
- PowerExchange Navigator new features and changes [60](#)
- utilities new features and changes [65](#)
- VSAM new features and changes [133](#)

PowerExchange Client for PowerCenter (PWXPC)

- new features and changes in 10.5.1 [42](#)
- new features and changes in 10.5.2 [41](#)

PowerExchange Condense

- changes in 10.5.2 [44](#)

PowerExchange Express CDC for Oracle

- checkpointing in-flight transactions [112](#)

PowerExchange for IBM i

- installation [38](#)
- installer [39](#), [40](#)

PowerExchange for IBM i (continued)

- installer improvements [39](#)

PowerExchange Listener

- DBMOVER parameter changes in 10.4.0 [55](#)
- DBMOVER parameter changes in 10.4.0 HotFix 1 [53](#)
- DBMOVER parameter changes in 10.4.1 [53](#)
- DBMOVER parameter changes in 10.5 [51](#)
- DBMOVER parameter changes in 10.5.0 [51](#)
- DBMOVER parameter changes in 10.5.1 [49](#)
- DBMOVER parameter changes in 10.5.2 [47](#)
- DBMOVER parameter changes in 10.5.3 [45](#)
- FROMRCVR [45](#)
- JOB_START_MINIMUM_BELOWLINE_MEMORY_KB statement [45](#)
- JRN parameter [45](#)
- REPORT_UNUSED_OPT_READING_CONDITIONS [45](#)
- TORCVR [45](#)

PowerExchange Logger for Linux, UNIX, and Windows

- parameter changes 10.5.2 [59](#)
- parameter changes 10.5.3 [58](#)

PowerExchange Navigator

- CheckNumData Function [63](#)
- datatype validation [63](#)
- developer mode for sending data maps to a remote node [61](#)
- GetOptimizationPositionCount Function [60](#)
- GetOptimizationReadCount Function [60](#)
- GetUnoptimizedReadCount Function [60](#)
- longer registration names [61](#)
- new features and changes in 10.4.1 [63](#)
- new features and changes in 10.5 [62](#)
- new features and changes in 10.5.2 [61](#)
- new features and changes in 10.5.3 [60](#)

PowerExchange utilities

- command changes for utilities in 10.5.1 [69](#)
- DDLFILE option
- HANOPTS parameter [66](#)
- new features 10.4.0 [74](#)
- new features 10.4.1 [73](#)
- new features 10.5 [68](#)
- new features 10.5.2 [65](#), [66](#)
- parameter and option changes in 10.4.0 [76](#)
- parameter and option changes in 10.4.1 [74](#)
- parameter and option changes in 10.5 [71](#)
- parameter and option changes in 10.5.1 [67](#)
- parameter and option changes in 10.5.2 [67](#)
- parameter and option changes in 10.5.3 [66](#)

PWXCATMY utility

- encrypted passwords [66](#)

pwxccl.cfg configuration file

- IBM JRNLOVRD parameter [58](#), [59](#)

PWXPC connections

- PWX Override, DSNTYPE and RTNBUFSIZE options [41](#)

PWXUCREG utility

- enhancements in 10.5.2 [66](#)

PWXUGSK utility

- enhancements in 10.5 [68](#)
- PING_SSLINFO parameter [72](#)
- REPORT_ZOS_ATTLS_POLICY command [69](#)

PWXUMAP utility

- CPUTIMEUSED parameter [74](#)
- MDDTLDESCRIBE command [70](#)
- PACESIZE parameter [74](#)
- PROMPT parameter [74](#)
- USESEQUENCEFIELDS parameter for DTLDESCRIBE command [74](#)

PWXUSSL utility

- enhancements in 10.5 [69](#)
- PING_SSLINFO parameter [73](#)
- REPORT_ZOS_ATTLS_POLICY command [71](#)

R

REPL2OPT DD data set
DB2ROWPROMOTION statement [91](#)
IFI306 statement [91](#), [93](#)

S

SAP HANA
HANA CAPI_CONNECTION statement [130](#)
behavior change 10.5.2 [128](#)
new features 10.5.1 [129](#)
support for SAP HANA CDC sources [129](#)
SAP HANA CDC
parameter and option changes in 10.5.1 [129](#)
sequential files
new features 10.5 [133](#), [134](#)
SQL Server
new features in 10.4.0 HotFix 1 [100](#)
parameter and option changes 10.4.0 [100](#)
parameter and option changes 10.4.1 [99](#)
support for SQL Server 2019 [100](#)

U

UDB CAPI_CONNECTION statement
LIMITRESCAN and LOGBUFSIZE parameters [54](#)
utilities
new features 10.4.0 [74](#)
new features 10.4.1 [73](#)
new features 10.5 [68](#)
new features 10.5.2 [66](#)
new features 10.5.3 [65](#)
PWXUGSK utility [69](#)
PWXUMAP utility [70](#)
PWXUSSL utility [71](#)

Z

z/OS Installation
changes to LOADLIB allocation [40](#)