Event Replicator for Adabas

Release Notes

Version 3.3.2

March 2013

Adabas Event Replicator

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1 Release Notes

Software AG's Event Replicator for Adabas allows specific Adabas files to be monitored for data modifications. Whenever any record modification (delete, store, or update) occurs in one of the monitored files, the Event Replicator for Adabas extracts each modified record and delivers it to one or more target applications through a messaging system (such as webMethods EntireX or IBM WebSphere MQ). The set of replicated files or records are defined in a *subscription*.

The Event Replicator for Adabas is an essential tool for organizations that need Adabas data modifications delivered to a target application while minimally impacting the normal processing of Adabas. The principle features of the Event Replicator for Adabas include:

- Near real-time replication
- Asynchronous replication
- Guaranteed consistency and sequence of the delivered replicated data
- Replication of committed updates only

With the Event Replicator for Adabas, whole Adabas files or a specific set of records can be replicated to the target location, as defined in a subscription. Data replication is asynchronous, which allows the Adabas database to operate normally while replication takes place. Only committed Adabas modifications are replicated for the predefined set of monitored files, at the transaction level.

For complete information about Event Replicator for Adabas concepts and how to get started, read the *Event Replicator for Adabas Concepts*. For information on how to install Event Replicator for Adabas, read , in *Event Replicator for Adabas Installation Guide*.

This document provides information about release 3.3 of Event Replicator for Adabas:

Prerequisite Operating Environment	Describes the prerequisites of this version of Event Replicator for Adabas.
3.3 Enhancements	Describes the new and changed features in this version of Event Replicator for Adabas.
ZAP Information	Describes any zap requirements for this version of Event Replicator for Adabas.
Adabas and Event Replicator Server Compatibility	Describes the compatibility of the Event Replicator Server with Adabas.
End of Maintenance	Describes how you can determine the end-of-support dates for your Software AG products.
Documentation	Describes the documentation provided with this version of Event Replicator for Adabas.

2 Prerequisite Operating Environment

A complete list of products (and versions of those products) required by Event Replicator for Adabas is provided in *Supported Platforms* and *Prerequisites*, in *Event Replicator for Adabas Installation Guide*. This chapter also includes the prerequisite release information for Event Replicator for Adabas companion products Event Replicator Administration and Event Replicator Target Adapter.

For information regarding Software AG product compatibility with IBM platforms and any IBM requirements for Software AG products, please review the *Product Compatibility for IBM Platforms* web page.

3   3.3 Enhancements

This chapter describes the Event Replicator for Adabas 3.3 enhancements.

Category	Enhancements
General Enhancements	*New and Changed Event Replicator Server Initialization Parameters*
	New and Changed Adabas Utility Functions
	New and Changed ADARUN Parameters
Event Replicator for Adabas 3.3 SP2 Enhancements	*ADALOD LOAD Utility Replication Error Handling Support*
	Alpha Character Codes (ACODEs) Enhanced
Event Replicator for Adabas 3.3 SP1 Enhancements	*Multi-Line WTO Console Messages*
	Improved Throughput to Adabas Destinations
	Filter Format Buffers
	Controlling Automatic Open of Input Queues
	Specifying Retry Attempt Frequency for Full webMethods EntireX and MQSeries Destinations
	Adabas Event Replicator Subsystem Support for Composite Keys and Field Flattening in GFBs
	ADARPL Utility Statistic Enhancements

ADALOD LOAD Utility Replication Error Handling Support

Event Replicator for Adabas 3.3 SP2 introduces some new parameters you can use to manage possible ADALOD LOAD replication errors. This enhancement allows you to ensure that ADALOD processing continues if replication initialization errors occur. In addition, if replication errors occur during ADALOD processing, this enhancement allows you to deactivate replication for the file. Later attempts to replicate data from the file will fail until it is manually activated again (using either Adabas Online System or the ADADBS utility).

Two new ADALOD parameters are introduced with this enhancement to support this new functionality.

◼ The new RPLINITERROR parameter allows you to indicate whether ADALOD processing should continue if replication initialization errors occur.

◼ The new RPLERRORDEACTFILE parameter allows you to indicate whether replication should be deactivated for the file if replication errors occur.

Specifying either parameter is only valid if the RPLLOAD parameter is set to "YES" or to "FILE", indicating that replication should occur as ADALOD processes records.

Replication errors can occur for various reasons. Failures occur when the Event Replicator Server is not available (started), the versions of the replication and ADALOD modules do not match,

replication definition errors are encountered, or for many other reasons. If any replication call fails and if ADALOD LOAD replication has been turned on (the RPLLOAD parameter is set to "YES" or "FILE"), Adabas uses the settings of the RPLINITERROR and RPLERRORDEACTFILE parameters to determine the resulting behavior of the ADALOD LOAD run.

> **Caution:** If you elect to have ADALOD LOAD continue its processing after a replication error, you are also responsible for recovering your environment appropriately.

For complete information, read about the RPLINITERROR and RPLERRORDEACTFILE parameters in *ADALOD LOAD Parameters for the Adabas Database*, in the *Event Replicator for Adabas Reference Guide*.

Alpha Character Codes (ACODEs) Enhanced

Event Replicator for Adabas 3.3 SP2 now supports the Adabas UES code pages 37, 424, 813, 912, 915, 920, 922, 923, 1006, 1112, 1140, and 1256 in the SACODE parameter for processing by Event Replicator Target Adapter version 2.6 SP1, hotfix 13 (and later versions).

For complete information, read about the SACODE parameter in *SACODE Parameter*, in the *Event Replicator for Adabas Reference Guide*.

Multi-Line WTO Console Messages

Event Replicator for Adabas 3.3 SP1 introduces the ability to specify whether multi-line replication messages that are normally written to the operator console as a series of single-line write-to-operator (WTO) messages should instead appear as multi-line WTO messages. This ability is controlled by a new ADARUN parameter, MLWTO . For complete information, read *MLWTO Parameter: Multi-Line Console Message Control*, in the *Event Replicator for Adabas Reference Guide*

Improved Throughput to Adabas Destinations

Event Replicator for Adabas 3.3 SP1 introduces the ability to improve the throughput of data replication to Adabas destinations. In past releases, data was replicated to each destination in series (only one Adabas destination was processed at a time). In this release, you can replicate data to multiple Adabas destinations simultaneously.

To control this functionality, this release introduces a new Event Replicator Server initialization parameter, `NPADACALLS`. This parameter specifies the number of parallel Adabas calls that can be made by the Event Replicator Server. For more information, read *NPADACALLS (Number of Parallel Adabas Calls) Parameter*, in the *Event Replicator for Adabas Reference Guide*.

Filter Format Buffers

Event Replicator for Adabas 3.3 SP1 introduces two new parameters, SFFILTERGFBAI and SFFIL-TERGFBBI, that allow you to specify before and after-image format buffers for records selected based on fields defined in the filter definition for a subscription file. This resolves the conflict that occurs when the transaction filter definition for a subscription file (SFILE) definition references a field that is not included in the format buffer (or global format buffer).

These parameters can be used to improve the performance of Event Replicator processing. For example, if most records for a large format buffer are being rejected due to a transaction filter based on the contents of a small number of fields, it may help to specify the key fields in a filter format buffer so that, for most records, only the fields required to make acceptance/rejection decisions are decompressed instead of the entire buffer.

For complete information, read *SFFILTERGFBAI Parameter* and *SFFILTERGFBBI Parameter*, in the *Event Replicator for Adabas Reference Guide*.

Controlling Automatic Open of Input Queues

Event Replicator for Adabas 3.3 SP1 allows you to determine whether specific input queues are opened when the Event Replicator Server starts up or when an RPLREFRESH command is run. A new IQOPEN subparameter of the IQUEUE parameter is provided in this release to provide you with this control. Valid values for IQOPEN are "GLOBAL" (use the setting of the GOPEN global parameter to determine whether the input queue should be opened), "NO" (do not open the input queue), or "YES" (open the input queue).

For complete information, read *IQOPEN Parameter*, in the *Event Replicator for Adabas Reference Guide*.

Specifying Retry Attempt Frequency for Full webMethods EntireX and MQSeries Destinations

Event Replicator for Adabas 3.3 SP1 allows you to set the number of seconds between retry attempts to send output transactions to previously-full webMethods EntireX and MQSeries destinations. This support is provided in two new initialization parameters:

■ The global GQFULLDELAY initialization parameter can be used to set the default number of seconds between retry attempts when a webMethods EntireX or MQSeries destination becomes full. Valid values are integers between 5 (the minimum) and 300 (the maximum). The default is 60 seconds.

■ The webMethods EntireX or MQSeries destination-specific DQFULLDELAY parameter can be used to set the number of seconds between retry attempts when a specific destination becomes full. This parameter can be used to override the GQFULLDELAY parameter setting. Valid values are the word GLOBAL (indicating that the GQFULLDELAY setting should be used) or an integer between 5 (the minimum) and 300 (the maximum). The default is GLOBAL.

> **Note:** This parameter is valid only for webMethods EntireX and MQSeries destinations (DTYPE=ETBROKER or DTYPE=MQSERIES).

For complete information, read *GQFULLDELAY Parameter* and *DQFULLDELAY Parameter*, in the *Event Replicator for Adabas Reference Guide*.

Adabas Event Replicator Subsystem Support for Composite Keys and Field Flattening in GFBs

Event Replicator for Adabas 3.3 SP1 provides support in Adabas Event Replicator Subsystem global format buffer (GFB) definitions for the following Event Replicator Target Adapter features:

■ Composite keys.

A composite key is key that is comprised of multiple fields. After a GFB has been generated, you can now edit the GFB and identify fields that comprise the composite key using a new **KNum** field next to the traditional **K** (key) field.

■ Field flattening.

By default, when MU and PE fields and subfields and superfields are included in replicated data in RDBMS targets (via the Event Replicator Target Adapter), additional tables are created. However, using a new **Flatten** field in this release of the Adabas Event Replicator Subsystem, you can now request that individual MU fields, PE fields, subfields, and superfields be flattened in the replicated data instead. This process of flattening fields will replicate them as columns in the main RDBMS table, rather than as separate subtables. If you want to flatten a field in the resulting RDBMS table, you must identify it in the GFB for the field. If you do not explicitly identify a field to be flattened in the GFB, it will not be flattened in any RDBMS tables to which it is replicated.

For more information, read *Generating a GFB*, in the *Adabas Event Replicator Subsystem User's Guide*.

ADARPL Utility Statistic Enhancements

In past releases of the Event Replicator for Adabas, the statistics produced by the ADARPL utility (the Replay Utility) were available only when the utility completed. Event Replicator for Adabas 3.3 SP1 introduces the ability to view ADARPL statistics on request or periodically during its execution. Two new features are introduced:

▪ A new command, DSTAT, is introduced that allows you to print statistics about ADARPL processing on request. For more information about this command, read *Commands Useful to ADARPL*, in the *Event Replicator for Adabas Reference Guide*.

▪ A new ADARPL parameter, STATINTERVAL, is introduced that allows you to specify the interval, in seconds, at which ADARPL should print out DSTAT statistics. Valid values are "0" (zero) or an integer in the range from "60" to "2,147,483,647". A value of "0" indicates that statistics should not be printed. For more information about this parameter, read *ADARPL Syntax and Parameters*, in the *Event Replicator for Adabas Reference Guide*.

New and Changed Event Replicator Server Initialization Parameters

The following table summarizes any new or changed Event Replicator Server initialization parameters or subparameters in Event Replicator for Adabas 3.3 SP1:

Parameter	New or Changed?	Description
DQFULLDELAY	New	This webMethods EntireX or MQSeries destination-specific initialization parameter allows you to specify the number of seconds between retry attempts when a specific destination becomes full. **Note:** This parameter is valid only for webMethods EntireX and MQSeries destinations (DTYPE=ETBROKER or DTYPE=MQSERIES).
GQFULLDELAY	New	This global initialization parameter allows you to specify the number of seconds between retry attempts when a webMethods EntireX or MQSeries destination becomes full. **Note:** This parameter only affects webMethods EntireX and MQSeries destinations (DTYPE=ETBROKER or DTYPE=MQSERIES).
IQOPEN	New	This input queue-specific initialization parameter allows you to specify whether an individual input queue should be opened automatically when the Event Replicator Server starts up or when an RPLREFRESH command is run.
NPADACALLS	New	This global initialization parameter allows you to specify the number of parallel Adabas calls that can be made by an Event Replicator Server. You can use this parameter to improve throughput to Adabas destinations.

Parameter	New or Changed?	Description
SFFILTERGFBAI	New	This subscription file (SFILE) initialization parameter allows you to specify the name of the global format buffer definition (GFB) to be used when filtering the data storage after image as described by the SFILTER parameter. The global format definition must be defined through the parameters GFORMAT and GFB. This parameter is required only if a transaction filter definition is specified in the SFILTER parameter of the SFILE definition *AND* the format buffer or global format buffer specified for the data storage after image in the SFILE definition does not contain one or more of the fields defined in the filter. This parameter can be used to improve the performance of Event Replicator processing. For example, if most records for a large format buffer are being rejected due to a filter based on the contents of a small number of fields, it may help to specify the key fields in a filter format buffer so that, for most records, only the fields required to make the acceptance/rejection decision are decompressed instead of the entire buffer.
SFFILTERGFBBI	New	This subscription file (SFILE) initialization parameter allows you to specify the name of the global format buffer definition (GFB) to be used when filtering the data storage before image as described by the SFILTER parameter. The global format definition must be defined through the parameters GFORMAT and GFB. This parameter is required only if a transaction filter definition is specified in the SFILTER parameter of the SFILE definition *AND* the format buffer or global format buffer specified for the data storage before image in the SFILE definition does not contain one or more of the fields defined in the filter. This parameter can be used to improve the performance of Event Replicator processing. For example, if most records for a large format buffer are being rejected due to a filter based on the contents of a small number of fields, it may help to specify the key fields in a filter format buffer so that, for most records, only the fields required to make the acceptance/rejection decision are decompressed instead of the entire buffer.

Information on all Event Replicator Server initialization parameters is provided in *Event Replicator Initialization Parameters*, in the *Event Replicator for Adabas Reference Guide*

New and Changed Adabas Utility Functions

Utility Function	New or Changed?	Enhancement Description
ADALOD LOAD	Changed	Event Replicator for Adabas 3.3 SP2 introduces support for the following new ADALOD LOAD parameters you can use to manage possible ADALOD LOAD replication errors. ■ The new RPLINITERROR parameter allows you to indicate whether ADALOD processing should continue if replication initialization errors occur. ■ The new RPLERRORDEACTFILE parameter allows you to indicate whether replication should be deactivated for the file if replication errors occur.

New and Changed ADARUN Parameters

Utility Function	New or Changed?	Enhancement Description
MLWTO	New	Support for the MLWTO parameter is provided in this release of Event Replicator for Adabas. Use this parameter to specify whether multi-line replication messages that are normally written to the operator console as a series of single-line write-to-operator (WTO) messages should instead appear as multi-line WTO messages.

4 ZAP Information

⚠ **Important:** Be sure that you apply all supplied Event Replicator maintenance and concatenate Event Replicator patch-level libraries (L00*n*), as they are delivered to you. This will ensure that your Event Replicator code remains up-to-date, supporting all Event Replicator features as they are enhanced and maintained. The latest zaps for this product are available in the Knowledge Center in Software AG's Empower (*https://empower.softwareag.com*) web site.

5   Adabas and Event Replicator Server Compatibility

The following rules must be followed when using an Adabas source database with an Event Replicator Server:

1. The Adabas version used in the Event Replicator Server must be greater than or equal to the Adabas version used in the source Adabas nucleus, and

2. The Event Replicator for Adabas version used by the Event Replicator Server must be greater than or equal to the Event Replicator version used in the source Adabas nucleus.

The following table shows the allowed combinations of Adabas and Event Replicator for both the nucleus and the Event Replicator Server:

Source Adabas Nucleus	Event Replicator Server
Adabas 8.2 SP*x* and Event Replicator 3.3	Adabas 8.2 SP*x* and Event Replicator 3.3
Adabas 8.1 SP*x* and Event Replicator 3.3	Adabas 8.2 SP*x* and Event Replicator 3.3
	Adabas 8.1 SP*x* and Event Replicator 3.3
Adabas 8.2 and Event Replicator 3.2	Adabas 8.2 SP*x* and Event Replicator 3.3
	Adabas 8.2 SP*x* and Event Replicator 3.2
Adabas 8.1 SP*x* and Event Replicator 3.2	Adabas 8.2 SP*x* and Event Replicator 3.3
	Adabas 8.1 SP*x* and Event Replicator 3.3
	Adabas 8.2 SP*x* and Event Replicator 3.2
	Adabas 8.1 SP*x* and Event Replicator 3.2

These combinations provide you with flexibility when upgrading your levels of Adabas and Event Replicator. If you are an existing user of Event Replicator, you might have multiple Adabas 8.1 nuclei running replication (REPLICATION=YES) and Event Replicator 3.2. You might also have multiple Event Replicator Servers running with Adabas 8.1 and Event Replicator 3.2. The compatibility combinations listed above mean you are not forced to upgrade all of your Adabas nuclei and Event Replicator Servers at the same time. You might first upgrade your Event Replicator

Server software before you upgrade your Adabas nuclei later. In addition, you can upgrade one Adabas nucleus at a time.

6   End of Maintenance

For information on how long a product is supported by Software AG, access Software AG's Empower web site at *https://empower.softwareag.com*.

Log into Empower. Once you have logged in, you can expand **Products** in the left menu of the web page and select **Product Version Availability** to access the Product Version Availability application. This application allows you to review support information for specific products and releases.

7   Documentation

The documentation for this product is new with this release. When additional updated versions of the documentation are created, you can review them by linking to the Software AG document-ation web site: *http://documentation.softwareag.com/*. If you have an Empower account, updated and past versions of the documentation can also be reviewed and downloaded by linking to the Software AG Empower web site: *https://empower.softwareag.com*. If you do not have an Empower user ID and password yet, you will find instructions for registering on this site (free for customers with maintenance contracts).

This documentation includes:

- online HTML topics describing all aspects of the product;

- Adobe Acrobat Reader Portable Document Format (PDF) files created from the HTML topics;

- Adobe Acrobat Reader Portable Document Format (PDF) files of various books created from the HTML topics.

- Eclipse help, as appropriate, for any graphical user interfaces included with the product.

No hard-copy documentation is provided, but you can print the PDF and HTML files on your local printer.

> **Note:** PDF files require that Adobe Acrobat Reader be installed. Online documentation and help require the installation of a Web browser.

The System Management Hub documentation can be found in the System Management Hub in-stallation. For example, if SMH is installed in Windows at *C:\Program Files\Software AG\ System Management Hub*, then the SMH documentation can be found in: *C:\Program Files\Software AG\System Management Hub\help\doc\overview.htm*. Likewise, in UNIX environments, if the SMH installation is located at *$SAG/common/arg*, then the SMH documentation can be found in *$SAG/common/arg/help/doc/overview.htm*.

Allowing Active Content in Windows Environments

With Service Pack 2 (SP2) for Windows XP and Service Pack 1 (SP1) for Server 2003 and later Windows releases, Microsoft introduced a range of powerful new security features that restrict active content that runs locally on your computer. Active content includes ActiveX controls, Java applets, and JavaScript. Software AG's documentation web pages contain some JavaScript, and the SEARCH, INDEX and CONTENTS capabilities are implemented as Java applets. As a result, when viewing documentation web pages that reside on your PC using Internet Explorer and Mozilla Firefox under Windows XP SP2, note that active content is blocked. You must explicitly and repeatedly allow active content if you want to make use of the documentation's full navigation features. Note that this behavior is only observed when reading web pages installed locally on your PC, including those on CD in the PCs CD-ROM drive.

The active content for which Software AG is responsible, that is, the JavaScript code in our HTML documentation pages, will not harm your computers. The risk in using the navigation applets is negligible: Software AG has received no reports from users concerning any harm caused to a computer by the applets. We therefore suggest that when reading Software AG documentation in a local context, you should allow active content via the Security settings in the browser (with Internet Explorer, usually found under Tools > Internet Options > Advanced).

Full details of alternatives can be found on the home page of the suppliers of the navigation applets: *http://www.phdcc.com/xpsp2.htm*.

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