

Event Replicator for Adabas

Release Notes

Version 3.6.1

March 2018

This document applies to Event Replicator for Adabas Version 3.6.1 and all subsequent releases.

Specifications contained herein are subject to change and these changes will be reported in subsequent release notes or new editions.

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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 system requirements and how to install Event Replicator for Adabas, read, in *Event Replicator for Adabas Installation Guide*.

This document provides information about release 3.6 of Event Replicator for Adabas:

3.6 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 and Other Online

Information

Describes the documentation and other online information you can $\label{eq:control} % \begin{center} \begin{c$

obtain for this release of Event Replicator for Adabas.

2 3.6 Enhancements

■ Handling of PE and MU Count Fields	
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This chapter describes the Event Replicator for Adabas 3.6 enhancements.

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General	Handling of PE and MU Count Fields
Enhancements	New and Changed Event Replicator Server Initialization Parameters
	New and Changed Event Replicator for Adabas Utility Functions
	New and Changed Operator Commands
Event	Mapping Tool Optimized Global Format Buffers for Normal Data
Replicator for Adabas 3.6 SP1	Replicating Source and/or Target Files Protected by Adabas Security
Enhancements	Enhanced SLOG Monitoring
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	New Parameter SX=subscription_user_exit_name for RPLREFRESH Operator Command
	New Optional Parameters for the ADARIS Utility
	Additional Event Replicator Server Events Logged to Destinations Defined with DEVENTLOG=YES

Handling of PE and MU Count Fields

As of Event Replicator for Adabas Version 3.5.4, PE and MU count fields and their values can now be included in the XML output if they were specified in the GFB/GFFT data. The *Event Replicator Target Adapter Data Mapping Tool Version 3.2 SP0 Fix2 or higher* will generate a value of READONLY "Y" (YES) for the count fields. This means that by default they will not be included in the XML output.

If you require count fields to be included in the XML output, use the online SYSRPTR utility. In the Global Format Buffer Definitions function, bring up the GFB you wish to change. In the R (Readonly) column remove the "Y", i.e. change it to a space for the count fields you wish to include in the XML output. Then either issue operator command RPLREFRESH, ALL or cycle the Event Replicator server.



Notes:

1. If you do not wish to have existing GFB's/GFFT's that contain PE or MU count fields included with the XML output produced when the DESTINATION sub-parameter DCLASS=SAGTARG is set, then you should apply zap AZ354016 if you are running Event Replicator for Adabas Version 3.5.4 or AZ361002 if you are running Event Replicator for Adabas Version 3.6.1. When the zap is applied, you can include the count fields in the XML output by entering the character "N" for NO in the READONLY field. This can be done by unloading the GFB/GFFTS via RPULD

- and setting the PE or MU count field parameter FTRONL=' ' to a value of "N" and then executing RPLOD to reload the GFB/GFFT to the Adabas Event Replication system file.
- 2. Existing GFBs that contain count fields will need to have the count fields set to "Y", if you do not wish to have the count field sent to the Event Replicator Target Adapter. This can be done via the SYSRPTR Global Format Buffers Information function. Display the GFB you wish to edit and place a "Y" in the R (Readonly) column of each count field. The GFBs must then be refreshed. This can be done by cycling the Replication server or issuing the RPLREFRESH, ALL operator command.

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 3.6:

Parameter	New or Changed?	Description	
DCLASSPARM OPTIONS	New	OPTIONS=128 will suppress sending the before image of a field that was updated, if before images were requested for the file.	
DCLASSPARM OPTIONS	Changed	OPTIONS=32 has been enhanced to include sending the full after image on inserts in addition to the sending the full before(if available) and after image on updates.	
DHBINTERVAL	New	When using <i>Replication Monitoring</i> , specify the interval (in seconds) at which the heartbeat should be published to a destination.	
DSTATLOG	New	When using <i>Replication Monitoring</i> , specify whether or not the associated destination should receive interval statistics published by the Event Replicator Server.	
SLOGCHECKINTERVAL	New	Specify the interval (in minutes) between checks of the Associator and Data file space usage.	
ASSOTHRESHOLD	New	Specify the percentage of the Event Replicator database Associator space that can be used before threshold warning messages are issued. Only applicable, if SLOGCHECKINTERVAL is set.	
DATATHRESHOLD	New	Specify the percentage of the Event Replicator database Data space that can be used before threshold warning messages are issued. Only applicable, if SLOGCHECKINTERVAL is set.	
SLOGACTHRESHOLD	New	Specify the percentage of the SLOG address converter space that can be used before threshold warning messages are issued. Only applicable, if SLOGCHECKINTERVAL is set.	
SLOGDSTHRESHOLD	New	Specify the percentage of the SLOG Data Storage space that can be used before threshold warning messages are issued. Only applicable, if SLOGCHECKINTERVAL is set.	

Parameter	New or Changed?	Description
SLOGNITHRESHOLD	New	Specify the percentage of the SLOG normal index space that can be used before threshold warning messages are issued. Only applicable, if SLOGCHECKINTERVAL is set.
SLOGUITHRESHOLD	New	Specify the percentage of the SLOG upper index space that can be used before threshold warning messages are issued. Only applicable, if SLOGCHECKINTERVAL is set.
STATINTERVAL	New	When using <i>Replication Monitoring</i> , specify the interval (in seconds) at which Event Replicator statistics should be published by the Event Replicator Server.

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 Event Replicator for Adabas Utility Functions

This section describes the changes made to utilities for Event Replicator for Adabas 3.6. For complete information about all utilities for Event Replicator for Adabas 3.6, read *Utilities Used with Replication*, in the *Event Replicator for Adabas Reference Guide*.

•	New or	Enhancement Description	
	Changed?		
ADARIS STARTDATE	New	This optional parameter is used in conjunction with STARTTIME to provide information for the Event Replicator Target Adapter about the time the destination used for sending update transactions for a DBID/FNR was closed and the transactions written to SLOG.	
ADARIS STARTTIME	New	This optional parameter is used in conjunction with STARTDATE to provide information for the Event Replicator Target Adapter about the time the destination used for sending update transactions for a DBID/FNR was closed and the transactions written to SLOG.	

New and Changed Operator Commands

Operator Command	New or Changed?	Enhancement Description
DRPLPARM	Changed	When the DRPLPARM command is issued, it now includes the settings for the new SLOGCHECKINTERVAL, ASSOTHRESHOLD, DATATHRESHOLD, SLOGACTHRESHOLD, SLOGDSTHRESHOLD, SLOGNITHRESHOLD and SLOGUITHRESHOLD parameters.
RPLREFRESH	Changed	When RPLREFRESH, ALL is issued, the settings for the SLOGCHECKINTERVAL, ASSOTHRESHOLD, DATATHRESHOLD, SLOGACTHRESHOLD, SLOGACTHRESHOLD, SLOGUITHRESHOLD and SLOGUITHRESHOLD parameters are reexamined and applied to your Event Replicator Server environment.
RPLREFRESH	New	New parameter SX=sxname available. See New Parameter SX=subscription_user_exit_name for RPLREFRESH Operator Command below for details.

Mapping Tool Optimized Global Format Buffers for Normal Data

Version 3.3 of the Event Replicator Target Adapter Data Mapping Tool removes the restriction that optimize global format buffers can only be used for initial state processing in the Event Replicator Server nucleus. They can now be used for normal data, i.e. update transactions. This change does not affect the ADARIS utility, as it is only used for Initial-state data.

Replicating Source and/or Target Files Protected by Adabas Security

Replication of password and cipher secured files is supported in conjunction with Adabas SAF Security version 8.2.2 (and above) and RACF.

Refer to the section *Replicating Source and/or Target Files Protected by Adabas Security,* in the *Event Replicator for Adabas Concepts* for further details.

Enhanced SLOG Monitoring

Event Replicator for Adabas 3.6 SP1 now allows you to monitor space usage for both the Event Replicator database and the SLOG system file. This support produces warning messages on the console that warn you when space usage thresholds are reached.

Using new initialization parameters, you can now specify the thresholds your site prefers for Associator and Data file space usage. The new <code>SLOGCHECKINTERVAL</code> initialization parameter is provided for you to specify how often checks of the Associator and Data space usage occur; if the <code>SLOGCHECKINTERVAL</code> parameter is set to zero (0) in the Event Replicator Server startup job, no threshold monitoring occurs. Six other initialization parameters (<code>ASSOTHRESHOLD</code>, <code>DATATHRESHOLD</code>, <code>SLOGACTHRESHOLD</code>, <code>SLOGDSTHRESHOLD</code>, <code>SLOGNITHRESHOLD</code> and <code>SLOGUITHRESHOLD</code>) allow you to set the thresholds for the Event Replicator Server database and the <code>SLOG</code> system file Associator and Data space usage.

For complete information about these initialization parameters, refer to the section *SLOGCHECK-INTERVAL Parameter*, in the *Event Replicator for Adabas Reference Guide*.

When the actual Associator or Data space usage meets or exceeds the threshold settings, warning messages are issued to the console and DDPRINT. Depending on the thresholds that are reached, one or more messages in the range from ADAFSA through ADAFSF appear on the console. In addition, when any threshold is reached, both the ADAFSG message (space usage information of the Event Replicator database) and the ADAFSH message (space usage of the SLOG system file) display. Finally, if no thresholds are reached when space usage monitoring is activated and the first threshold check occurs, message ADAFSI is written. This message is written only once.

For detailed information about the messages that are produced, refer to the section *ADAF** - *Event Replicator for Adabas*, in the *Event Replicator for Adabas Messages and Codes Manual*.

Publishing Interval Statistics

Event Replicator for Adabas 3.6 SP1 allows you to publish Event Replicator Server statistics at user-specified intervals. These interval statistics can then be collected and reported on by Event Replicator Target Adapter Administration Version 3.3.

Two new Event Replicator initialization parameters are provided to support this new functionality:

- The new *STATINTERVAL* parameter allows you to set the interval at which Event Replicator statistics should be published.
- The new *DSTATLOG* parameter is a subparameter of the DESTINATION initialization parameter that can be set for all destination types supported by Event Replicator for Adabas except Adabas

and File destinations. It can be used to indicate whether interval statistics should be published to a destination.

Further information is provided in the new section *Replication Monitoring* and in the Event Replicator Target Adapter *Release Notes*.

Heartbeat

Event Replicator for Adabas Version 3.6 allows you to publish a heartbeat event at user-specified intervals. These heartbeat events can then be collected and reported on by Event Replicator Target Adapter Administration Version 3.3 and above.

The functional benefit, for utilizing Heartbeats, is to track the status of the replication data flow and determine if there are any potential bottlenecks or delays in the replicating of the data. In short, it determines if the "pipeline" is clear between the Event Replicator Server and the Event Replicator Target Adapter.

Heartbeat events can be requested on the destination level. Regular heartbeat events are sent to destinations for which they have been requested. Information for a heartbeat event is collected if at least one interval has passed since a heartbeat event was last sent to the destination. This heartbeat information is inserted into the replication data stream at the exit from the Event Replicator Server (destination processing).

A new Event Replicator initialization parameter is provided to support this new functionality:

■ The new DHBINTERVAL parameter is a subparameter of the DESTINATION initialization parameter. It may be set for the EntireX Broker, IBM MQ Series, or Null destination types supported by Event Replicator. It is only allowed for destinations defined with DCLASS=SAGTARG. The DHBINTERVAL subparameter is used to indicate the interval at which heartbeat events are sent to a particular destination.

The DHBINTERVAL parameter may be specified for a destination in the DDKARTE statements of the Event Replicator Server startup job or in the Adabas Event Replicator Subsystem (SYSRPTR). Specification in Event Replicator Target Adapter Administration is not supported.

For Broker destinations, in order to obtain full heartbeat functionality, use Broker version 10.1 or later, or version 9.12 with Fix 17 or later, or version 9.10 with Fix 20 or later.

New and Changed OPTIONS Settings for DESTINATION DCLASSPARM Replication Initialization Parameter

For the Event Replicator Server initalization parameter DESTINATION a new sub-parameter DCLASSPARM OPTIONS setting is available for SAGTARG. OPTIONS=128 will suppress sending the before image of a field that was updated, if before images were requested for the file.

Also for the Event Replicator Server initialization parameter DESTINATION the sub-parameter DCLASSPARM OPTIONS setting OPTIONS=32 has been enhanced to include sending the full after image on inserts in addition to the sending the full before (if available) and after image on updates.

New Parameter SX=subscription_user_exit_name for RPLREFRESH Operator Command

Using the new operator command RPLREFRESH parameter – SX=sxname any subscription user exit can be refreshed while the Event Replicator Server is active. This new functionality is supported only for z/OS operating system, Adabas Version 8.4 or higher and running APF-authorized.

Refer to the section RPLREFRESH operator command, in the *Event Replicator for Adabas Administration and Operations Guide* for further details.

New Optional Parameters for the ADARIS Utility

The ADARIS utility can now use the new optional parameters STARTDATE and STARTTIME. They are used to provide information for the Event Replicator Target Adapter about the date and time the destination used for sending update transactions for a DBID/FNR was closed and the transactions written to SLOG.

These parameters can only be specified in conjunction. If you specify STARTDATE, then START-TIME must also be specified and vice versa. For further details refer to *ADARIS Utility: Run Initial-State Process*, in the *Event Replicator for Adabas Reference Guide*.

Additional Event Replicator Server Events Logged to Destinations Defined with DEVENTLOG=YES

With Event Replicator for Adabas Version 3.6, the following events will be logged to destinations defined with DEVENTLOG=YES:

- initial-state processing commenced
- initial-state processing completed
- replication user data from C5 command
- ADALOD LOAD started
- ADALOD LOAD ended
- ADASAV RESTORE started
- ADASAV RESTORE ended
- ADARES REGENERATE/BACKOUT started
- ADARES REGENERATE/BACKOUT ended
- ADALOD UPDATE started
- ADALOD UPDATE ended
- Adabas utility service replication
- Adabas security replication.

Refer to the section *DEVENTLOG Parameter*, in the *Event Replicator for Adabas Reference Guide* for further details on the DEVENTLOG destination parameter.

3 ZAP Information



Important: Be sure that you apply all supplied Event Replicator maintenance and concatenate Event Replicator patch-level libraries (L00n), 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.

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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 8.4 SP2 or later and Event Replicator 3.6 SP1	Adabas 8.4 SP2 or later and Event Replicator 3.6 SP1
Adabas 8.4 SP1 or later and Event Replicator 3.5 SP3 plus solution library L003	Adabas 8.4 SP2 or later and Event Replicator 3.6 SP1 Adabas 8.4 SP1 or later and Event Replicator 3.5 SP3 plus solution library L003
Adabas 8.3 SP1 or later and Event Replicator 3.5 SP2 or later	Adabas 8.4 SP1 or later and Event Replicator 3.5 SP2 or later Adabas 8.3 SP1 or later and Event Replicator 3.5 SP2 or later
Adabas 8.3 SP1 or later and Event Replicator 3.4 SP1	Adabas 8.4 SP1 or later and Event Replicator 3.5 SP2 or later Adabas 8.4 SP1 or later and Event Replicator 3.4 SP1 Adabas 8.3 SP1 or later and Event Replicator 3.5 SP2 or later Adabas 8.3 SP1 or later and Event Replicator 3.4 SP1
Adabas 8.2 SP6 and Event Replicator 3.5 SP2 or later	Adabas 8.4 SP1 or later and Event Replicator 3.5 SP2 or later Adabas 8.3 SP1 or later and Event Replicator 3.5 SP2 or later Adabas 8.2 SP6 and Event Replicator 3.5 SP2 or later
Adabas 8.2 SP6 and Event Replicator 3.4 SP1	Adabas 8.4 SP1 or later and Event Replicator 3.5 SP2 or later Adabas 8.4 SP1 or later and Event Replicator 3.4 SP1 Adabas 8.3 SP1 or later and Event Replicator 3.5 SP2 or later Adabas 8.3 SP1 or later and Event Replicator 3.4 SP1

Source Adabas Nucleus	Event Replicator Server
	Adabas 8.2 SP6 and Event Replicator 3.5 SP2 or later Adabas 8.2 SP6 and Event Replicator 3.4 SP1



Note: The term "or later" in the table above indicates a later SM within the same version and release of the product.

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 8.2 nuclei running replication (REPLICATION=YES) and Event Replicator 3.4 or 3.5. You might also have multiple Event Replicator Servers running with Adabas 8.3 and Event Replicator 3.4 or 3.5. 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.

5 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.

Documentation and Other Online Information

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The following online resources are available for you to obtain up-to-date information about your Software AG products:

Software AG Documentation Website

You can find documentation for all Software AG products on the Software AG Documentation website at http://documentation.softwareag.com. This site requires Empower credentials. 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) or you can also use the TECHcommunity website to access the latest documentation.

Software AG TECHcommunity

You can find documentation and other technical information on the Software AG TECH community website at http://techcommunity.softwareag.com. You can:

- Access product documentation, if you have TECHcommunity credentials. If you do not, you will need to register and specify "Documentation" as an area of interest. If you already have TECHcommunity credentials, you can adjust your areas of interest on the TECHcommunity website by editing your TECHcommunity profile. To access documentation in the TECHcommunity once you are logged in, select **Documentation** from the **Communities** menu.
- Access articles, demos, and tutorials.
- Use the online discussion forums, moderated by Software AG professionals, to ask questions, discuss best practices, and learn how other customers are using Software AG technology.
- Link to external websites that discuss open standards and web technology.

Software AG Empower Product Support Website

You can find product information on the Software AG Empower Product Support website at *ht-tps://empower.softwareag.com*. This site requires Empower credentials. 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).

To submit feature/enhancement requests, get information about product availability, and download products and certified samples, select **Products & Documentation** from the menu once you are logged in.

To get information about fixes and to read early warnings, technical papers, and knowledge base articles, select **Knowledge Center** from the menu once you are logged in.

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