software AG

Adabas Review

Release Notes

Version 4.6.2

March 2013

Adabas Review

Table of Contents

1 Adabas Review 4.6 Release Notes

Adabas Review version 4.6, which is used with Adabas version 8.2 SP4 and above, adds a number of new features to enhance the product's usability. You must have Adabas 8.2 SP4 installed to use the new features in this release.

Adabas Review monitors the performance of Adabas environments and the applications executing within them. You can use information retrieved about Adabas usage when tuning application programs to achieve maximum performance with minimal resources.

Supported Platforms	Lists the currently supported operating environments for Adabas Review.
Enhancements	Describes the new and changed features in this version of Adabas Review.
Restrictions	Lists the limitations and restrictions currently existing in this version of Adabas Review.
Migration from Previous Versions	Describes the steps you must perform to migrate from prior Adabas Review releases to this one.
Plans for Future Versions	Describes plans for future versions of Adabas Review.
Software AG Product Support and Requirements	Describes the compatibility of Adabas Review with other Adabas products, including requirements (such as zaps) for the other Adabas products that are necessary for some Adabas Review functionality.
Zaps Data Set	Describes the zaps data set provided with Adabas Review.
Applying Maintenance in VSE Environments	Describes information you need to apply maintenance to Adabas Review in VSE environments.
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 release of Adabas.

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.

Version Notation Convention

A product version is identified by the first two digits of the version number. Software AG distinguishes between major and minor versions according to the amount of functionality or technology added to the product. All other digits indicate correction levels.

In the product documentation, the notation *vrs*, *vr*, or simply *v* is often used as a placeholder for the current product version, for example, in data set or module names.

Placeholder	Meaning	Definition
v	version	**Major Version** The first digit of the product version number indicates major architecture and functionality implementation or enhancement that adds value to the product.
r	release	**Minor Version** The second digit of the version number indicates functionality addition or enhancement that adds value to the product.
s	system maintenance level	**Correction Level** Correction levels contain error corrections only, without new functionality, including documentation of all modifications and repairs. In case it is necessary to include functional changes into a correction level, an exception handling process ensures that corresponding quality assurance activities are triggered. These functional changes are documented. The main target is to avoid impacts when you install such a correction level. The third number of an Adabas version denotes the system maintenance level. On certain platforms supported by Adabas, additional levels may exist, such as update package, patch level, service pack and hot fix.

2 Supported Platforms

Software AG generally provides support for the operating system versions supported by their respective manufacturers; when an operating system provider stops supporting a version of an operating system, Software AG will stop supporting that operating system version. 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.

Before attempting to install this product, ensure that your host operating system is at the minimum required level. For information on the platform versions supported by Software AG products, 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 the supported platforms and releases for any Software AG product.

Use the fields on this application to filter its results. When you click the **Find** button, a list of the supported Software AG products that meet the filter requirements is shown. You can clear all filter selections using the **Clear** button.

> **Note:** Although it may be technically possible to run a new version of this product on an old operating system, Software AG cannot continue to support operating system versions that are no longer supported by the system's provider. If you have questions about support, or if you plan to install this product on a release, version, or type of operating system other than those described in the Product Version Availability application as described above, consult Software AG technical support to determine whether support is possible, and under what circumstances.

3 Enhancements

This chapter describes the Adabas Review 4.6 enhancements.

Note: You must have Adabas 8.2 SP4 installed to use the new features in this release.

Category	Enhancements
General 4.6 Enhancements	*Field Changes*
	Command Changes
	Operator Command Changes
	ADARUN Parameter Changes
	Adabas Link Routine Enhancements
Adabas Review 4.6 SP2 Enhancements	*Performing Adabas Review Online Functions from Natural Programs*
	Enhanced User Profiling (Security)
	AA Command Behavior Altered in BS2000
	Controlling Adabas Review Client Reporting in Batch
	Adabas Review Client Reporting Support under Com-plete
	RVUPRTnn Fixed Record Length (LRECL or REC-SIZE) Increased
Adabas Review 4.6 SP1 Enhancements	*Review Natural User Exit Changes*
	Support for Adabas Review Client Reporting
	New User Profile DBID/Hub and Repository Settings
	New Command to Display Available Hubs
	New Valid Value for HUB Command
	SVC and ADATMZ Information Provided with the TECH Command
	DCLIENT Operator Command Output Changes
	New DBID Specification in Hub Mode
	Statistics Integrated into webMethods Optimize for Infrastructure

Performing Adabas Review Online Functions from Natural Programs

Adabas Review4.6 SP2 now allows you to perform Adabas Review SYSREVDB (online) functions from your own Natural programs. Adabas Review now provides an API called RVCALL that allows you to start reports, list started reports, remove reports, close reports, suspend reports, and react-ivate suspended reports. You can also obtain the first Adabas Review hub ID found for a specified SVC and the database ID associated with LFILE 241. Finally, you can use the RVCALL API to set the LFILE definition to zero so you can obtain information about the Adabas Review address space.

To support RVCALL the following members are provided in your SYSREVDB library.

■ Ten example programs named "RVCALL01" through "RVCALL10" are provided as examples of how to perform specific RVCALL functions.

Example Program	RVCALL Function Demonstrated
RVCALL01	START function. Use this function to start a specific report, specifying many of its parameters.
RVCALL02	DELETE function. Use this function to remove a report from Adabas Review.
RVCALL03	CLOSE function. Use this function to close a report.
RVCALL04	SUSPEND function. Use this function to suspend a report.
RVCALL05	REACT function. Use this function to reactivate a suspended report.
RVCALL06	LIST function. Use this function to list started reports.
RVCALL07	GETHUBID function. Use this function to obtain the hub ID of a specific SVC.
RVCALL08	GETDBID function. Use this function to obtain the DBID associated with LFILE 241.
RVCALL09	EZSTART function. Use this function to start a report for one or all DBIDs. Very few parameters are required.
RVCALL10	VIEWON and VIEWOFF functions. Use these functions to obtain access to the Adabas Review address space from your Natural program (VIEWON must make a change to your environment to allow this access) and to restore your original working environment (VIEWOFF). Using the VIEWON function allows you to obtain information about the Adabas Review address space within your Natural program.

■ A parameter area member, L-RVCALL. This member contains the parameter definitions for information that will be passed as input to RVCALL functions and as output from RVCALL functions.

■ The RVCALL subprogram, N-RVCALL.

For complete information about the RVCALL API, read *Performing Adabas Review Online Functions from Natural Programs*, in the *Adabas Review Administration Guide*.

Enhanced User Profiling (Security)

Adabas Review 4.6 SP2 introduces an enhanced user profiling (security) system. The following enhancements have been made:

■ You can now set up group profiles, based on the groups set up by your Natural Security administrator. When a user logs on, Adabas Review looks for a group profile first and then for an individual user profile. It uses the first profile found (group profiles take precedence over individual user profiles). If neither a group nor individual user profile is found, the default profile is used.

> **Note:** Natural Security is only required if you want to use group IDs, but not otherwise.

- You can now set up user profiles with access only to specific DBIDs.
- The number of access rules available for you to secure has been increased.

When you enter MENU the first time you start Adabas Review, it now detects that profiling system has not yet been installed and installs it automatically. Prior to this version of Adabas Review, one profile would be installed, the profile named DEFAULT. Starting with this version, two profiles are installed: the DEFAULT profile and a profile with the same name as the user ID of the person installing Adabas Review (the user that entered MENU). Both profiles will have administrator privileges.

If you have user profiles from an older version of Adabas Review, it detects that these user profiles are older and do not conform to the current Adabas Review user profile standards and conventions. It then attempts to migrate your user profiles to the current standard. You are given the option to proceed with the migration or exit Adabas Review. For more information, read *Migrating User Profiles*, in the *Adabas Review Administration Guide*.

For complete information about user profiling, read *Maintaining User Profiles*, in the *Adabas Review Administration Guide*.

AA Command Behavior Altered in BS2000

The behavior of the AA command is different in BS2000 environments, compared to how it operates in z/OS and z/VSE environments. In BS2000 environments, this command will now skip the Available SVCs screen and go straight to the Available Targets screen because there is only one router available to you in BS2000.

Controlling Adabas Review Client Reporting in Batch

Adabas Review 4.6 SP2 introduces the ability to manage client reporting from your own applications by making calls to a module, REVCLRP, that Software AG provides. From within your own program, you can call REVCLRP with requests to start or stop Adabas Review client reporting or a request to supply its current status.

In addition, a new ADARUN parameter, RVCLIENT, has been introduced in this release. Use the RVCLIENT parameter to activate client reporting when you want to run client reports in batch environments.

For more information about the REVCLRP module, read *Managing Client Reporting in Batch*, in the *Adabas Review Administration Guide*. For more information about the ADARUN RVCLIENT parameter, read *RVCLIENT Parameter: Adabas Review Client Reporting Activation*, in the *Adabas Review Reference Guide*.

Adabas Review Client Reporting Support under Com-plete

Adabas Review 4.6 SP2 introduces support for client monitoring in Com-plete environments under z/OS. This support was not available in 4.6 SP1. For more information, read *Client Reporting Support under Com-plete*, in the *Adabas Review z/OS Installation Guide*.

RVUPRTnn Fixed Record Length (LRECL or REC-SIZE) Increased

The fixed record length (LRECL or REC-SIZE) for RVUPRT*nn* data sets (logical printer files) has been generally increased to 160. If you are using fixed files, new files with the increased length should be created.

New ESTCPU Field for Adabas Command CPU Time

Adabas Review 4.6 SP2 introduces a new field, ESTCPU that can be used to estimate the approximate CPU time used by each Adabas command. The values shown in this field are only relative approximations of the CPU time used; they are not based on any actual CPU times and are calculated, instead, based on an algorithm. The algorithm used varies for each Adabas command type and is based on the number of instructions, I/Os, descriptors, and fields used. The algorithm used varies for each Adabas command type and is based on the number of instructions, number of I/Os, and number of descriptors used.

This new field can be used as a SUM, MIN, MAX and/or AVG field.

Review Natural User Exit Changes

Adabas Review 4.6 SP1 introduces the following changes in its supplied Natural user exits.

- The P-UEXIT2 user exit is no longer called when PF3 is clicked on the Main Menu of SYSREVDB (the online portion of Adabas Review) nor is it called when the EXIT command is entered on the Main Menu. Instead, it is now called when PF12 is clicked on the Main Menu or when a termination command (such as FIN, QUIT, or LOGON) is entered on the Main Menu.

- A new Natural user exit, P-UEXIT3 is introduced. This new user exit is called when PF3 is clicked on the Main Menu of SYSREVDB or when the EXIT command is entered on the Main Menu.

For complete information about the Adabas Review Natural user exits, read *P-UEXIT1, P-UEXIT2 and P-UEXIT3: Review Natural User Exits*, in the *Adabas Parallel Services Reference Guide*.

Support for Adabas Review Client Reporting

Adabas Review 4.6 SP1 introduces support for Adabas Review *client reporting*. Client reporting allows you to collect client data you can use to determine where command processing time is spent. It is currently provided for Adabas Review hub only in z/OS environments using the TSO , CICS and IMS monitors; it is not currently supported in Com-plete. Client reporting is intended as a diagnostic tool and can be activated and deactivated as needed.

Caution: The process required to collect client data increases the resource overhead of your system. We therefore recommend that you activate client reporting only for as long as it takes to diagnose a problem. We do not recommend that client reporting be activated all the time.

SYSREVDB (which is used to activate and deactivate client reporting) must be running in the same CICS and using the same task-related user exit (TRUE) that will process client data. If you will be using client reporting, Natural zap NA77060 must be applied to support use of SYSREVDB activation of client reporting. In addition, you must have Adabas 8.2 SP4 installed to use this new feature.

For complete information about client reporting, read *About Adabas Review Client Reporting*, in *Adabas Review Concepts Manual*

This section describes all of the areas of change made to Adabas Review and Adabas in support of client reporting:

- New Client Reporting Fields
- New CLASS Parameter for Batch REPORT Statement
- SYSREVDB Menu Changes
- New SYSREVDB Screens
- SYSREVDB Report Field Selection Changes
- SYSREVDB Report List Changes
- New SYSREVDB Commands
- REVEXITB Name Changed
- New RVCLNT and REVREL Link Globals Table Keywords

- TECH Command Support

New Client Reporting Fields

A new field category, CMON, has been added in this release to support client reporting. CMON fields are report fields that are derived from client reporting log records. They include the following fields:

Field System Name	Description
CDURA	The total client duration time. This is the total time (in seconds) in which the client waits for the command to be processed by the server and the time it takes the ADALNK portion of the client to retrieve the command results. CDURA is the sum of the CRCVDURA and CWRKDURA fields. Measurement for this field starts immediately after the command is passed to the server (when it is posted from the Adabas link routine to the Adabas address space and SVC-4 router processing is performed). Measurement stops when the client picks up the command result information from the server (performing SVC-16 router processing within the Adabas link routine).
CRCVDURA	The client receive time. This is the time (in seconds) it takes the Adabas link routine to retrieve a processed command from the server. Measurement for this field starts immediately after the server posts the Adabas link routine to retrieve the command result information (performing SVC-12 router processing) . Measurement stops when the Adabas link routine retrieves the command information from the server address space (performing SVC-16 router processing).
CWRKDURA	The client wait time, or the time in which the server works for the client. This is the time (in seconds) in which the client waits for the command to be processed by the server. Measurement for this field starts immediately after the command is passed to the server for processing (when it is posted from the Adabas link routine to the Adabas address space and SVC-4 processing is performed). Measurement stops when the Adabas link routine retrieves the command information from the server address space (performing SVC-12 router processing).

For more information about these fields, read *Client Reporting Fields (CMON)*, in the *Adabas Review Reference Guide*.

New CLASS Parameter for Batch REPORT Statement

The batch REPORT statement has a new parameter, CLASS, you can use to specify whether the report to be generated is a client reporting report. Valid values are "STANDARD" (the report is a standard report) and "CLIENT" (the report is a client reporting report). The default is "STANDARD". The CLASS parameter can be specified on both detailed and summary reports.

For more information about the CLASS parameter, read *REPORT Statement*, in the *Adabas Review User's Guide*.

SYSREVDB Menu Changes

Some reorganization of the SYSREVDB menus was necessary to support client reporting. Specifically:

- A new **Specialty Report Types** menu now provides access to Adabas Review specialty reports. You can access this menu from the SYSREVDB **Main Menu** using a new **Edit Specialty Reports (ES)** function.

- The **Edit Buffer Pool Report (EB)**, **Edit Pulse Report (EL)**, and **Edit Cluster Services Report (EX)** functions originally on the SYSREVDB main menu have been moved to the new **Specialty Report Types** menu.

- A new **Review Client Management (CM)** function is now provided on the **Specialty Report Types** menu. You can use this function to turn the client reporting engine on and off. While you can run client reports anytime, the client reporting engine must be on (active) if you want to data collected for those client reports.

- A new **Edit Client Report (EC)** function is now provided on the **Specialty Report Types** menu. You can use this function to maintain client report definitions.

To see these altered menus and for more information, read *Maintaining Report Definitions*, in the *Adabas Review User's Guide*.

New SYSREVDB Screens

The following new screens have been added to SYSREVDB in support of client reporting:

- A new Client Management screen is now available. You can use this screen to turn the client reporting engine on (activate it) and off (deactivate it) and to review its status online. The client reporting engine is must be on if you want to run client reporting reports.

  To see these new screens and for more information, read *Managing Client Reporting Online*, in the *Adabas Review Administration Guide*.

- A new Edit Client Report screen is now available. You can use this screen to maintain client report definitions

For more information, read *Maintaining Standard Database and Client Reporting Reports*, in the *Adabas Review User's Guide*.

SYSREVDB Report Field Selection Changes

A new Report Field Selection screen replaces the original Database Field Selection screen. The Report Field Selection screen can be accessed when you are editing any Adabas Review database or client reporting report. It can be used to select the field categories from which you select fields for the report.

The new Report Field Selection screen includes logic that limits the categories you can select to those appropriate for the type of report (database or client reporting) that you are editing. Depending on the type of report, some categories of may or not be available. For example, the client reporting field category is only available if you are editing a client reporting report.

In addition, even if a field category is available for both database and client reporting reports, some fields are not applicable to both report types, so the fields available for selection within the category differ. For example, only a subset of the fields included in the Adabas Control Block field category are available for client reporting reports.

To see these changed screens and for more information, read *Maintaining Report Definitions*, in the *Adabas Review User's Guide*

SYSREVDB Report List Changes

The Report Definitions (LR) and Started Reports (LS) screens in SYSREVDB have been altered to support client reporting. Each of these screens now include a column that identifies the type of report so you can easily identify the client reports in the list. Normal database reports are identified by a "D" in the column; client reports are identified by a "C" in the column. The Report Definitions screen shows this information in the **Type** column; the Started Reports screen shows this information in the **Typ** column.

To see these changed screens and for more information, read *Maintaining Report Definitions*, in the *Adabas Review User's Guide*

New SYSREVDB Commands

The following new commands have been added to SYSREVDB in support of client reporting:

Command	Use to...
CM	manage the client reporting engine (turn it on or off). This command displays the new Client Management screen.
EC	access and edit a client report. This command displays the new Edit Client Report screen.
ES	access the Specialty Report Types menu, which provides access to the Buffer Pool, Pulse, Client, and Cluster Services reports. This menu also allows you to review client monitor management settings.

For complete information about Adabas Review commands, refer to the *Command Reference*, in the *Adabas Review Reference Guide*.

REVEXITB Name Changed

The name of REVEXITB has been changed to REVEXIT1 in this release in z/OS and z/VSE environments. It is still called REVEXITB in BS2000 environments.

The Adabas Review exits include REVEXIT1 (formerly REVEXITB in z/OS and z/VSE environments, but still REVEXITB in BS2000 environments) and REVEXIT2. These exits should be linked with ADALNK during installation, with the appropriate Adabas link globals table parameters (LGBLSET). The link globals table parameters specified via LGBLSET identify which exit entry points (REVEXIT1 or REVEXIT2) are called. If the LGBLSET parameter REVIEW=YES is set, then the exit is called by ADALNK before the Adabas call as entry point REVEXIT1; if the LGBLSET parameters RVCLNT and REVHID are also specified, then the exit is also called after the Adabas call as entry point REVEXIT2.

The modules used to perform the linkage between REVEXIT and ADALNK are provided with your Adabas Review installation with names in the format RDBLX*sys*, where *sys* is a three-character code representing the link environment (for example, MVS for z/OS environments, VSE for z/VSE, COM for Com-plete environments, IMS for IMS environments, and BS2 for BS2000 environments). For more information about performing this linkage, read the appropriate Adabas Review installation documentation.

> **Note:** A return code 4 from the link-edit of the globals table is acceptable because it indicates that the Review exit (REVEXITB or REVEXIT1) has not been resolved by this step. The next link-edit step in the sample jobs should resolve this and finish with return code zero.

An additional keyword was added to the Adabas link globals table (LGBLSET) to support the use of the name REVEXITB in releases prior to Adabas Review 4.6. For more information, read *Adabas Link Routine Support*, elsewhere in this section.

New RVCLNT and REVREL Link Globals Table Keywords

Two new keywords have been added to the Adabas link globals table (LGBLSET) in support of client monitoring: RVCLNT and REVREL. For complete information, read *Adabas Link Routine Enhancements*, elsewhere in this section.

TECH Command Support

The Database System Environment screen that appears when you enter the TECH command has been updated to include a line indicating whether or not client reporting is turned on or not or if it is not installed.

For more information, read *Accessing Technical System Information* in *Getting Started*, in the *Adabas Review Concepts Manual*.

New User Profile DBID/Hub and Repository Settings

This release introduces some new values that can be specified in some of the fields of an Adabas Review user profile:

▪ Values "AUTO" or "LFILE" can be specified for the default Adabas Review target DBID or hub ID.

> **Note:** Support for the new "AUTO" value executes module ADATMZ in the Natural environment to obtain hub location information. ADATMZ dynamically loads the CCSTCK and ADALNKR modules. If CCSTCK or ADALNKR cannot be loaded, subsequent calls to ADATMZ might lead to problems. Be sure that modules ADATMZ, ADALNKR, CCSTCK, ASC2EBC, and EBC2ASC, which are available in the Adabas or WAL load libraries, are also available for the TP monitor.

▪ The value "LFILE" can be specified for the Adabas Review repository DBID and file number.

In all cases, specifying "LFILE" causes the value to be taken from the LFILE value of the Natural session.

If "AUTO" is specified, the value is determined from the SVC (or IDTNAME) of the current Natural session. If a single hub is running under the current SVC (or IDTNAME), that hub ID is used. If more than one hub ID is active, the first hub ID found under the SVC is used. If no hub is running, the value is determined as if "LFILE" were specified.

For complete information, read *User Profile Access Rules*, in the *Adabas Review Administration Guide*.

New Command to Display Available Hubs

A new AH command has been added that allows you to display the hubs available for the selected SVC (or IDTNAME) and to select one from the list.

For complete information about the AH command, read *Listing and Selecting Available Adabas Review Hubs*, in the *Adabas Review Administration Guide*.

New Valid Value for HUB Command

The HUB command now has a new valid value: "AUTO". Traditionally, only a hub ID could be specified on the HUB command. If "AUTO" is specified, the value of the hub ID is determined from the SVC (or IDTNAME) of the current Natural session. If only one hub is running under the current SVC (or IDTNAME), that hub ID is used; if multiple hubs are running on this SVC (or IDTNAME), a pop-up window appears allowing you to select the hub to use.

For complete information about the HUB command , read *HUB Command*, in the *Adabas Review Reference Guide*.

SVC and ADATMZ Information Provided with the TECH Command

This version displays the SVC of the Natural session on the Database System Environment screen. This provides a quick method for you to determine the SVC number.

> **Note:** SVC information does not appear on this screen in BS2000 environments; BS2000 does not use SVCs.

In addition, the version of ADATMZ code used by Adabas Review to obtain hub location information is also displayed on the **Database System Environment** screen.

For more information, read *Accessing Technical System Information* in *Getting Started*, in the *Adabas Review Concepts Manual*.

DCLIENT Operator Command Output Changes

The output of the DCLIENT operator command has been changed in this version of Adabas Review. The new output no longer includes the "Wbuf" column, which was redundant as the same information is provided in the "Buf" column. In addition, the columns have been slightly renamed and the number of DBID=ALL reports as well as the number of database reports is now available.

For complete information about the new format of the DCLIENT command output, read *DCLIENT Operator Command*, in any of the installation guides.

New DBID Specification in Hub Mode

When running reports in hub mode, you can now specify the database ID value for the reports as "ALL". This will trigger a DBID=ALL report.

- In hub mode, a DBID=ALL report collects data from all databases running on the same SVC as the hub (the databases must have been started with the ADARUN REVIEW parameter set to a hub ID). For such reports, the reporting link is automatically established with Adabas Review. You can specify DBID=ALL for user-defined reports and for most of the predefined Adabas Review reports except for the Buffer Pool reports, the Pulse reports, and the Cluster Services reports.

- In local mode, a DBID=ALL report collects data only from the local database.

  Note: You must have Adabas 8.2 SP4 installed to use this new feature.

For more information, read *Specifying the Report DBID* in *Maintaining Report Definitions*, in the *Adabas Review User's Guide*.

Statistics Integrated into webMethods Optimize for Infrastructure

In this release, Adabas Review key performance indicator (KPI) statistics are now provided to webMethods Optimize for Infrastructure. Using the Optimize component of webMethods Optimize for Infrastructure, you can monitor the status of these statistics as well as the overall status of your system. This support is available in version 8.2 (and later versions) of webMethods Optimize for Infrastructure.

The key performance indicator statistics that are passed from Adabas Review to Optimize provide information about the Adabas Review system itself and not about the monitoring data collected by Adabas Review. The KPIs that are passed include statistics such as the number of records sent to Adabas Review, the CPU time used by Adabas Review, the memory usage of Adabas Review, and number of I/Os performed by Adabas Review.

Field Changes

The following table summarizes the changes made to Adabas Review fields in this release. For complete information about fields, read *Field Reference*, in the *Adabas Review Reference Guide*.

Field Name	Change
CDURA	This is a new field that shows the total client duration time. This is the total time (in seconds) in which the client waits for the command to be processed by the server and the time it takes the ADALNK portion of the client to retrieve the command results. CDURA is the sum of the CRCVDURA and CWRKDURA fields. For complete information, read *About Adabas Review Client Reporting*, in the *Adabas Review Concepts Manual*.
CRCVDURA	This is a new field that shows the client receive time. This is the time (in seconds) it takes the Adabas link routine to retrieve a processed command from the server. For complete information, read *About Adabas Review Client Reporting*, in the *Adabas Review Concepts Manual*.
CWRKDURA	This is a new field that shows the client wait time, or the time in which the server works for the client. This is the time (in seconds) in which the client waits for the command to be processed by the server. For complete information, read *About Adabas Review Client Reporting*, in the *Adabas Review Concepts Manual*.
ESTCPU	This new field can be used to estimate the approximate CPU time used by each Adabas command. The values shown in this field are only relative approximations of the CPU time used; they are not based on any actual CPU times and are calculated, instead, based on an algorithm. The algorithm used varies for each Adabas command type and is based on the number of instructions, I/Os, descriptors, and fields used. This new field can be used as a SUM, MIN, MAX and/or AVG field.
ROUTDURA	This is a new alternate field name for field ROUTTIME.
THDURA	This is a new alternate field name for field THTIME.

Command Changes

The following table summarizes the changes made to Adabas Review commands in this release.

Command	Change
AA	The behavior of the AA command has changed in BS2000 environments. In BS2000 environments, this command will now skip the Available SVCs screen and go straight to the Available Targets screen because there is only one router available to you in BS2000.
AH	This is a new command that allows you to list the available Adabas Review hubs for a selected SVC. For complete information about the AH command, read *Listing and Selecting Available Adabas Review Hubs*, in the *Adabas Review Administration Guide*.
HUB	A new valid value, "AUTO", has been added to the HUB command. For complete information , read *HUB Command*, in the *Adabas Review Reference Guide*.

Command	Change
TECH	The SVC of the Natural session is now displayed on the **Database System Environment** screen produced by running this command. For more information, read *Accessing Technical System Information* in *Getting Started*, in the *Adabas Review Concepts Manual*. **Note:** SVC information does not appear on this screen in BS2000 environments; BS2000 does not use SVCs.

Operator Command Changes

The following table summarizes the changes made to operator commands in this release.

Command	Change
DCLIENT	The output for this command has changed. For complete information about the new format of the command output, read *DCLIENT Operator Command*, in any of the installation guides.

ADARUN Parameter Changes

The following table summarizes the ADARUN parameter changes made in support of this version of Adabas Review.

Parameter	New or Changed	Enhancement Description
`RVCLIENT`	New	This new parameter can be used to activate client reporting when you want to run client reports in batch environments.

Adabas Link Routine Enhancements

Several new keywords have been added to the Adabas link globals table (LGBLSET) for this release.

Parameter	Description	Syntax
REVHID	Specifies the preferred Adabas Review hub ID. This value can be checked during Adabas CICS TP monitoring installation or during the monitor activate process. If REVHID is set to zero (0), the preferred Adabas Review hub ID is dynamic. When the hub ID is dynamic, it cannot be checked during Adabas CICS TP monitoring installation and the call to turn on client reporting must supply the correct Adabas Review hub ID to use.	`REVHID=hubid`

Parameter	Description	Syntax
	If REVHID is specified, REVIEW=YES must also be specified. If REVHID is specified and REVIEW=NO is also specified, the assembly of the globals table will abort with condition code 16 and the following message is given: `REVHID requires REVIEW=YES`	
RVCLNT	Indicates whether the Adabas Review client reporting exit should be active. The default is NO. If RVCLNT=YES is specified, REVIEW=YES must also be specified. If RVCLNT=YES is specified and REVIEW=NO is also specified, the assembly of the globals table will abort with condition code 16 and the following message is given: `RVCLNT=YES requires REVIEW=YES`	`RVCLNT={YES|NO}`
REVREL	Specifies the level of Adabas Review support to be generated in the link globals table module. This is necessary because Review 4.6 and later releases have changed the Review pre-call exit name from "REVEXITB" to "REVEXIT1". Valid values are "45" or "46" (without the quotes). If other values are given the assembly of the globals table will fail with condition code 16 and MNOTE messages from the assembler. When REVREL=45 is specified, it indicates that support for Adabas Review release 4.5 and earlier should be used. The Adabas Review REVEXITB exit name is used and an associated external reference statement is generated when the globals table is assembled. When REVREL=45 is specified, the RVCLNT keyword must be set to NO. If RVCLNT=YES and REVREL=45 are both specified, the assembly of the globals table will fail with condition code 16 and MNOTE messages from the assembler. When REVREL=46 is specified it indicates that support for Adabas Review release 4.6 and later should be used. The Adabas Review REVEXIT1 exit name is used and an associated external reference statement is generated when the globals table is assembled. In either case, use of the REVREL keyword alone does not provide support for Adabas Review. To provide support for Adabas Review, the REVIEW keyword must also be set to YES. The default is currently "45", but will be changed to "46" in a future release.	`REVREL={45 ↵` `| 46}`

4 Restrictions

The following restrictions exist for this release of Adabas Review:

- Running Adabas Review in hub mode with communication between the Adabas nucleus and the Adabas Review hub handled by Entire Net-Work is not supported.

- When an Adabas command log record in the new ACBX structure has multiple buffers specified, only the first buffer of each ABD type (for example, the first format buffer) is used by Adabas Review for building the contents of the Adabas Buffer Fields.

- In z/VSE environments, the hub node ID cannot be greater than 255.

5 Migration from Previous Versions

> **Note:** The first time you invoke Adabas Review 4.6 SP2, Adabas Review attempts to migrate your existing user profiles to the current standard. You are given the option to proceed with the migration or exit Adabas Review.

The following migration steps should be considered and performed:

▶ **To migrate to Adabas Review 4.6 from prior versions, consider and perform the following migration steps.**

1   Make a backup copy of your SYSREVDB to a new library named SYSREVTM. Then delete all objects from SYSREVDB. You will use the SYSREVTM library later in these instructions to copy any user exit programs, display programs, or other objects you modified in your previous Adabas Review version to the new SYSREVDB library you will set up during installation and migration.

2   If you are migrating from Adabas Review 4.4, run the EXPAND3 job found in the Adabas Review source library to upgrade your version 4.4 (or 4.3) repository to a version 4.5 SP1 repository.

3   If you are migrating from Adabas Review 4.5 SP1, run the EXPAND4 job found in the Adabas Review source library to upgrade your version 4.5 SP1 repository to a version 4.5 SP2 repository.

4   If you are migrating from Adabas Review 4.5 SP2, run the EXPAND5 job found in the Adabas Review source library to upgrade your version 4.5 SP2 repository to a version 4.6 SP1 repository.

5   If you are migrating from Adabas Review 4.6 SP1, run the EXPAND6 job found in the Adabas Review source library to upgrade your version 4.6 SP1 repository to a version 4.6 SP2 repository.

> **Note:** For example, if you wanted to migrate from Adabas Review 4.4 to Adabas Review 4.6 SP2, you would need to run the four jobs EXPAND3, EXPAND4, EXPAND5, and EXPAND6 consecutively.

6   INPL the Adabas Review programs and DDMs from the INPL data set distributed with this release into the SYSREVDB library as described in *Install Adabas Review under Natural*, in your Adabas Review installation instructions.

7   If your site uses user field definitions, you will probably need to modify them to support architectural changes made to the internal command log record (LORECR). Contact your Software AG support representative for assistance.

8   If an existing Adabas Review repository file is used with a new Natural FNAT file, the function REGEN ALL needs to be executed. For more information about REGEN ALL, read *Regenerating All Display Programs*, in the *Adabas Review User's Guide*.

9   After running REGEN ALL, copy and modify (as appropriate, for example for the Adabas Review repository version number) and STOW the following types of programs from the SYSREVTM library you created in Step 1 to the new SYSREVDB library you created with the INPL in Step 5:

   ■ P-UEXIT1 and P-UEXIT2 exit programs (this is only necessary if you have modified these exits);

   ■ Any display programs you have written or modified (this is only necessary if you have modified or written any display programs); and

   ■ Any other objects you have created or modified in the SYSREVTM library.

   Once you are satisfied that all such programs have been transferred and STOWed, you can remove the SYSREVTM library.

10 Any history file data from Adabas Review releases prior to Adabas Review 4.5 that includes the field CMDRESP must be converted for Adabas Review 4.5 before you run any new reports. In version 4.5, the CMDRESP data was changed to be stored in milliseconds rather than seconds. Software AG provides a conversion routine for you to use that can be run online or in batch. If you need to continue using the old units and the old calculation algorithm for history data, contact your Software AG support representative.

   To convert the history data, you must either run the online CONVERT HISTORY command or run a batch job that performs the CONVHIST function. Each is described here.

   Caution: This conversion should only be run once against your existing history data; if it is run more than once, you run the risk of altering your older history data more than necessary, rendering it unusable. In addition, the conversion should be performed *prior* to running any new Adabas Review reports; if you run it after you have run new reports, you run the risk of altering the data in your new reports unnecessarily.

   The conversion routine will update every record in the history file where the CMDRESP value is stored. The time it takes for this program to run depends on the number of records for reports that contain the CMDRESP field. .

To convert your history data online:

1. On the Adabas Review Natural command line, enter CONVERT HISTORY.

   A conversion dialog starts up.

2. Follow the prompts in the conversion dialog. One prompt requests the number of records that should be converted before an ET is performed (a default of 25 is provided).

   When all prompts have been answered, the history records are converted and the final conversion dialog appears, showing its progress.

To convert your history data using a batch job:

■ Create a batch job that runs the CONVHIST command. The syntax of the CONVHIST batch command is:

```
CONVHIST [nnn | 25]
```

where *nnn* is the number of history records that should be converted before an ET is performed (and 25 is the default). The sample batch job might include the following statements:

```
LOGON SYSREVDB
MENU DBID = review-dbid
CONVHIST
FIN                                                    ↵
```

For complete information on running Adabas Review batch Natural jobs, read *Using Adabas Review in Batch Natural* , in the *Adabas Review User's Guide*. At this time, no sample conversion job is supplied with Adabas Review.

6 Plans for Future Versions

The following plans are in place for future versions of Adabas Review:

- Support for setting the database IDs of reports to "11111" will be dropped in a future release.

- Support for the RVUAUT2 data set will be removed. Only support for the use of the RVUAUT1 data set for autostarted reports will be provided.

- Support for the BUFFER-SEGMENTS parameter will be removed.

- The default setting of the REVREL keyword for the Adabas link globals table (LGBLSET) will change from "45" to "46" in a future version of Adabas (after Adabas 8.2 SP4).

7 Software AG Product Support and Requirements

For more information about Adabas installation and prerequisites, read the various Adabas install-ation documents and the Adabas Operations Manual documentation.

Adabas and Adabas Review Version Compatibility

Adabas Review version runs in three modes: local, batch, and hub.

■ In local mode, Adabas Review runs in the Adabas address space.

■ In batch mode, Adabas Review runs as a batch job.

■ In hub mode, Adabas Review runs as a server in its own address space with a client interface in the Adabas address space.

You must have Adabas 8.2 SP4 installed to use the new features in this release of Adabas Review.

⚠ **Important:** If an ADALNK batch link routine has been modified to accommodate the needs of an Adabas product extension (such as Adabas Review), it should not be used for the Adabas nucleus or Adabas utility jobs.

This section covers the following topics:

- Compatibility Matrix (Local Mode)
- Compatibility Matrix (Hub Mode)
- ADALNK REVEXIT1 (REVEXITB) and REVEXIT2
- CMDRESP Field Changes

Compatibility Matrix (Local Mode)

The matrix below provides an overview of the compatibility of Adabas Review in local mode with other versions of Adabas and Adabas SVC.

📄 **Note:** This table only refers to compatibility between the Adabas Server and the Adabas Review modules loaded from the server. For the compatibility of the ADALNK client modules refer to the table further down..

Adabas Review Version	Adabas Version	Status
4.6	8.1 SP4 (CLOGLAYOUT=5)	Not compatible
4.6	8.1 SP4 (CLOGLAYOUT=8)	Not compatible
4.6	8.2 SP2, SP3, and SP4 (CLOGLAYOUT=5)	Not Compatible
4.6	8.2 SP2 and SP3 (CLOGLAYOUT=8)	Not Compatible
4.6	8.2 SP4 (CLOGLAYOUT=8)	Compatible

Compatibility Matrix (Hub Mode)

> **Note:** This table only refers to compatibility between the Adabas Server and the Adabas Review modules loaded from the server. For the compatibility of the ADALNK client modules refer to the table further down..

Hub Version	Adabas	Status
4.4	8.1 SP4	Compatible
4.4	8.1 SP4 with the ADA814LX01 library	Compatible with zap RD441088
4.5	8.1 SP4	Compatible
4.5	8.2	Compatible
4.6	8.2 SP4	Compatible

> **Note:** In z/VSE environments, the hub node ID cannot be greater than 255.

ADALNK REVEXIT1 (REVEXITB) and REVEXIT2

To get data for all Adabas Review fields (TP monitor-specific and Natural-specific fields) that are obtained in the Adabas client address space (ADALNK), the Adabas Review 4.6 exit REVEXIT (the REVEXIT1 entry point) and the ADALNK routines from Adabas 8.2 SP4. REVEXIT (the REVEXIT2 entry point) and ADALNK routines must also be used to obtain data for all client reporting fields.

> **Note:** REVEXIT2 is not available on BS2000, so the functionality supplied by this is missing on this platform.

Due to changes in the interface, some incompatibilities exist between ADALNK and the Adabas Review REVEXIT exits.

The Adabas Review exits include REVEXIT1 (formerly REVEXITB in z/OS and z/VSE environments, but still REVEXITB in BS2000 environments) and REVEXIT2. These exits should be linked with ADALNK during installation, with the appropriate Adabas link globals table parameters (LGBLSET). The link globals table parameters specified via LGBLSET identify which exit entry points (REVEXIT1 or REVEXIT2) are called. If the LGBLSET parameter REVIEW=YES is set, then the exit is called by ADALNK before the Adabas call as entry point REVEXIT1; if the LGBLSET parameters RVCLNT and REVHID are also specified, then the exit is also called after the Adabas call as entry point REVEXIT2.

The modules used to perform the linkage between REVEXIT and ADALNK are provided with your Adabas Review installation with names in the format RDBLX*sys*, where *sys* is a three-character code representing the link environment (for example, MVS for z/OS environments, VSE for z/VSE, COM for Com-plete environments, IMS for IMS environments, and BS2 for BS2000 environments). For more information about performing this linkage, read the appropriate Adabas Review installation documentation.

> **Note:** A return code 4 from the link-edit of the globals table is acceptable because it indicates that the Review exit (REVEXITB or REVEXIT1) has not been resolved by this step. The next link-edit step in the sample jobs should resolve this and finish with return code zero.

ADALNK and REVEXIT Version Compatibility

Using incompatible version of ADALNK and REVEXIT may lead to unpredictable errors. The following table describes the compatibility of different versions of ADALNK and REVEXIT.

The ADALNK of the TP monitor running SYSREVDB must include the REVEXIT exits. If the REVEXIT exits are not included, some features might not work correctly in SYSREVDB.

Adabas ADALNK Module Versions	Adabas Review REVEXIT Module Versions			
	4.4 SP1	4.5 SP1	4.5 SP2	4.6
8.1 SP4	Compatible	Compatible	Compatible	Not Compatible
8.2 SP2	Only compatible with zap RD441095	Only compatible with zap RD451021 / RD451036	Compatible	Not Compatible
8.2 SP3	Compatible	Compatible	Compatible	Not Compatible
8.2 SP4	Not Compatible	Not Compatible	Not Compatible	Compatible

CMDRESP Field Changes

Due to changes in the display programs in SYSREVDB, you cannot use SYSREVDB in Adabas Review 4.4 (or earlier versions) to display the field contents of CMDRESP correctly, unless you stay with the old scale and algorithm. For information about converting CMDRESP history data from older versions of Adabas Review to Adabas Review 4.5, read *Migration from Previous Versions*, elsewhere in this guide.

Adabas Review Zap Requirements

All released Adabas Review zaps should be applied to the executables before completing installation.

Natural Version Requirements

This version of Adabas Review supports Natural version 4.2 SP4 and above.

If you will be using client reporting, zap NA77060 must be applied to support use of SYSREVDB activation of client reporting.

Adabas Cluster and Parallel Services Requirements

This version of Adabas Review supports version 8.2 of Adabas Cluster Services and Adabas Parallel Services.

TP Monitor Support

This version of Adabas Review supports the following TP monitors:

- Com-plete

    Note: Client reporting is not yet supported under Com-plete in Adabas Review 4.6. All other Adabas Review 4.6 features are supported.

- CICS
- IMS/DC
- TSO

8 Zaps Data Set

The distributed source library contains member ZAPOPT , which lists zaps that may be applied for the activation or deactivation of various features of Adabas Review. A ZAPOPT member will be included with each SP level distribution.

⚠ **Important:** Be sure that you apply all supplied Adabas Review maintenance and concatenate Adabas Review patch-level libraries (L00n), as they are delivered to you. This will ensure that your Adabas Review code remains up-to-date, supporting all Adabas Review features as they are enhanced and maintained. The latest zaps for this product are available in the Knowledge Center of the Software AG Empower web site: *https://empower.softwareag.com*.

9 Applying Maintenance in VSE Environments

In VSE environments, maintenance fixes are distributed in MSHP format. To apply these maintenance fixes, Adabas Review must be defined to MSHP as a product/component using the MSHP ARCHIVE process.

Modify and run the sample job stream ARCHIVE.X in the Adabas Review sublibrary to define Adabas Review to MSHP. Make sure you have specified the Adabas Review *and the Adabas library* in your MSHP job which applies the fixes for Adabas Review. For example:

```
// LIBDEF OBJ,SEARCH=(SMALIB.REVvrs,SMALIB.ADAvrs),TEMP
```

⚠️ **Important:** Be sure that you apply all supplied Adabas Review maintenance and concatenate Adabas Review patch-level libraries (L00n), as they are delivered to you. This will ensure that your Adabas Review code remains up-to-date, supporting all Adabas Review features as they are enhanced and maintained. The latest zaps for this product are available in the Knowledge Center of the Software AG Empower web site: *https://empower.softwareag.com*.

10 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.

11   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 for a series of manuals created from the HTML topics.

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

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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