software AG

Adabas Review

Concepts and Facilities

Version 4.5.1

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Adabas Review

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Concepts and Facilities

1 Summary of Features

Adabas Review provides a set of tools that allow you to monitor the performance of Adabas environments and the applications executing within them. Information retrieved about Adabas usage helps you tune application programs to achieve maximum performance with minimal resources.

The major Adabas Review features are listed below. Adabas Review:

- Supports *multiple Adabas nuclei clustered under a single database ID,* either in a single operating system image (Adabas Parallel Services) or under z/OS and IBM parallel sysplex, across multiple operating system images (Adabas Cluster Services).

- Can *monitor several databases (DBIDs)* and provide reports for each.

- Can be configured in a straight-forward, uniform, and consistent way under all targeted operating system platforms in a *client/server environment*.

- *Collects, reports, and controls data centrally*. The hub is a true data collection point unencumbered by dependencies on internal operations and structures of the Adabas nucleus.

- Provides unencumbered Adabas operation. The hub *reduces overhead* by eliminating the Adabas Review subtask from the Adabas address space, partition, or region.

- Allows you to *customize command logging*. Adabas Review can physically log selected commands and/or buffers based on parameters within the Adabas Review report definitions. Each command log corresponds to a particular report definition, and contains only those records that have been selected as meaningful for the end user.

- Allows you to *customize analysis tools*. Adabas Review reports may be customized to perform functions such as cost accounting and application debugging.

- *Collects history data*. Data collected for Adabas Review reports can be written to the Adabas Review repository at specified intervals and stored as history data. The data can be used in trend analysis.

- Provides *more than 40 sample report definitions*, which may be used without modification, or edited to suit specific site requirements.

- Provides *interactive screens* via the Edit Report function to help you create a report or edit an existing one.

- Supports a *wide range of data types*. More than 340 data fields are available for specifying the types of data to be collected by Adabas Review.

- Provides *user-defined data fields*. Adabas Review provides a mechanism for defining up to five data fields to meet user specifications.

- *Allows data to be retrieved online*. Adabas Review reports are executed online or in batch mode. Data collected by Adabas Review reports may be viewed online.

- Provides an *online display of Adabas availability*. The Available Availability (AA) function displays a profile of the databases that are monitored by Adabas Review.

- Provides *access to Adabas Online System (AOS)*, an online Adabas maintenance product.

2 Adabas Review Processing and Components

Adabas Review runs in:

- *local mode* in the Adabas address space.
- *hub mode* as a server in its own address space with a client interface in the Adabas address space.
- *batch mode* as a batch job that processes sequential Adabas command log data sets

See the *Release Notes* for this version of Adabas Review for a matrix of supported Adabas versions and other requirements.

Collecting Data in Local Mode

In local mode, the Adabas Review processor is installed as an extension to ADALOG.

The data collection process is partly accomplished by the Adabas Review processor. The data is collected by providing code (RAOSLOCL) that runs as an extension to ADALOG. Adabas calls this module and passes information about resource usage for each command processed by the Adabas nucleus.

This module, in conjunction with the Adabas Review processor and an intermediate Adabas Review buffer, accumulates and tabulates the Adabas information based on various user-defined data requirements.

The Adabas Review data may be:

- displayed in an online environment from the Adabas Review user interface;
- saved automatically in the Adabas Review repository;
- printed automatically when the Adabas nucleus terminates; or
- downloaded directly to a personal computer (PC) using Entire Connection.

The following graphic shows the Adabas Review data collection process for local mode.
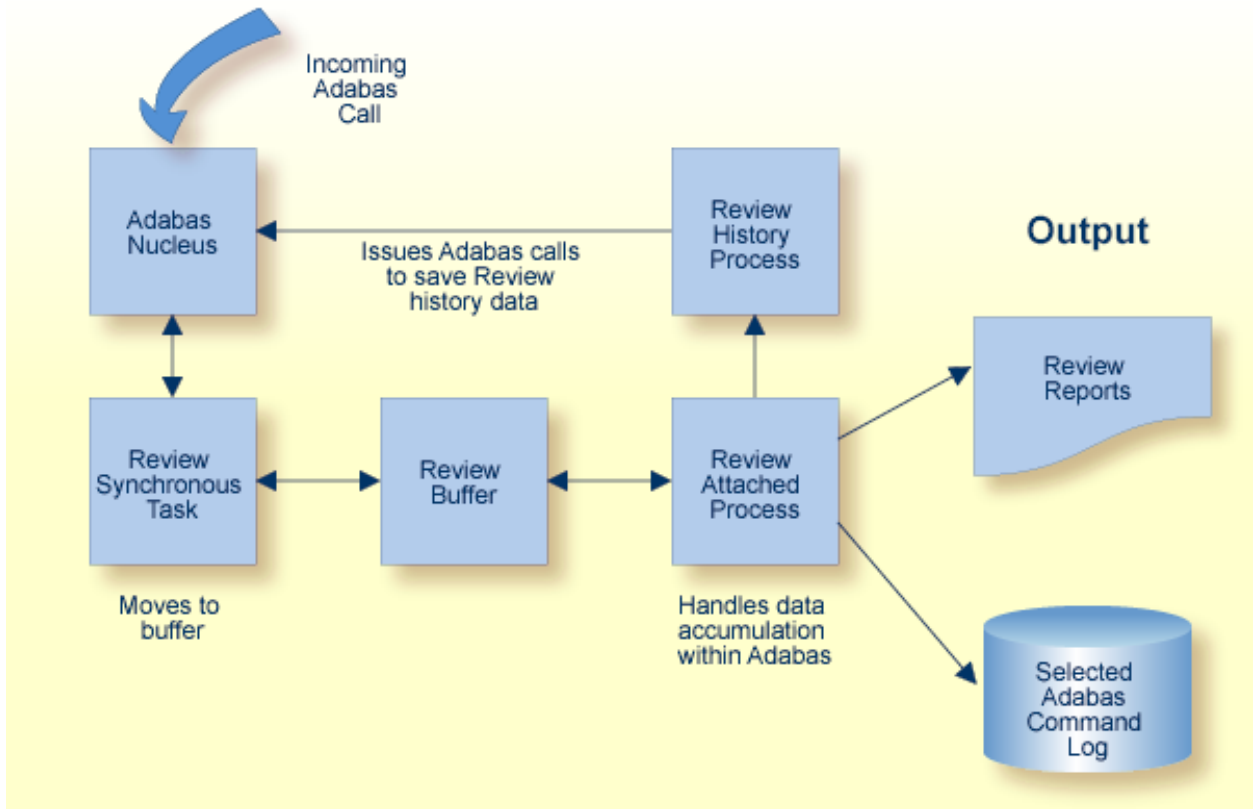
In local mode, Adabas Review job control statements should be added to the Adabas nucleus startup job.

Collecting Data in Hub Mode

In hub mode, Adabas Review uses a client/server approach to collecting data:

- an interface (the client) resides on each Adabas nucleus; and
- the hub (the server) resides in its own address space, partition, or region.

The interface uses the existing Adabas interregion communication process: ADALINK, Trans-port, ADASVC (ADARER), and ADAMPM. This process is consistent across the targeted platforms for Adabas Review. If systems are networked correctly, hub mode supports a multiple platform, multiple operating system, Adabas database environment.

In hub mode, Adabas Review job control statements should be added to the Adabas Review hub startup job.

> **Note:** Trans-port is available only in z/OS environments.

The Server Hub

The Adabas Review hub is a centralized data collector and reporting interface that combines proven components of Adabas and Adabas Review.

It handles the data consolidation and reporting functions for monitoring an Adabas database, including usage information related to applications, commands, command response time, I/O activity, buffer efficiency, and others.

The interactive reporting facility allows you to pinpoint problems quickly, providing detailed and summary data about Adabas activities. Specific information about each database is also available.

The centralized collection server has several advantages:

- A single hub collects information from multiple Adabas nuclei, Adabas Parallel Services clusters, or Adabas Cluster Services (support for IBM's parallel sysplex environment) clusters.

- Because a single hub can support multiple Adabas nuclei, the number of Adabas Review nuclei required to support an enterprise-wide distribution of Adabas nuclei is reduced. This minimizes resource requirements and increases performance.

- Isolating the Adabas Review subtask from the Adabas nucleus enhances the performance of the Adabas main task and minimizes the impact of future Adabas releases on the functioning of Adabas Review.

The hub comprises

- ADAREV, a logic module that manages and supervises the incoming Adabas Review data calls and requests;

- REVHUB, a module to establish and maintain the environmental settings for Adabas Review; and

- the Adabas Review DB nucleus and subsystems including RAOSAUTO, the autostarted report parameter generation routine, and RAOSHIST, the historical data population routine.

The Client Interface

The Adabas Review interface constructs and then transmits the Adabas Review data from the Adabas nucleus to the Adabas Review hub. An Adabas Review interface is integrated with each Adabas nucleus that is monitored.

The interface comprises

- ADALOG, the Adabas command logging module;

- ADACLX, the Adabas command log extension module that is responsible for acquiring additional information not present in the Adabas command log record; and

- ADARVU, which handles the environment conditions for ADACLX and the Adabas API requirements for transmitting the Adabas Review data to the Adabas Review hub.

Interface Calls

To maximize performance, the ADARVU module issues an "optimistic" call from an Adabas nucleus to the Adabas Review hub without waiting for a completion or "post" from the hub; ADARVU assumes that the Adabas Review data was successfully passed to the hub.

However, ADARVU does perform an initialization step to ensure that the hub is active prior to any command processing by the Adabas nucleus. If the hub is not active, ADARVU informs you using WTOs or a user exit. If a user exit is used, you are given the option to wait for the hub to be activated, or continue initialization and call the hub only when it is active.

Command log records are normally buffered to reduce the number of calls from the Adabas nucleus to the Adabas Review hub. In low traffic situations, this might lead to a delay of approximately five seconds.

If the communication to the hub results in a non-zero response code (for example response code 151), ADARVU will call user exit 5 if it is available. If a user exit is used, you are given the option to resend the whole buffer (with or without a wait), although parts of the buffer may already be processed. We recommend that you *not* resend the buffer, but generate a message indicating an error has occurred correct the problem. For more information about user exit 5 read *User Exit 5 (Adabas Review Hub Event Handler)* in the appropriate Adabas Review installation guide.

On the hub side of the call, the elimination of the cross-memory "post" call enhances performance by reducing the overhead of active communication with the Adabas clients. This allows the hub to remain a passive data collector.

Example Client/Server Environment

The following graphic shows the major components of the Adabas Review interface (Adabas nucleus address space) and hub (Adabas Review hub address space) in a client/server architecture .
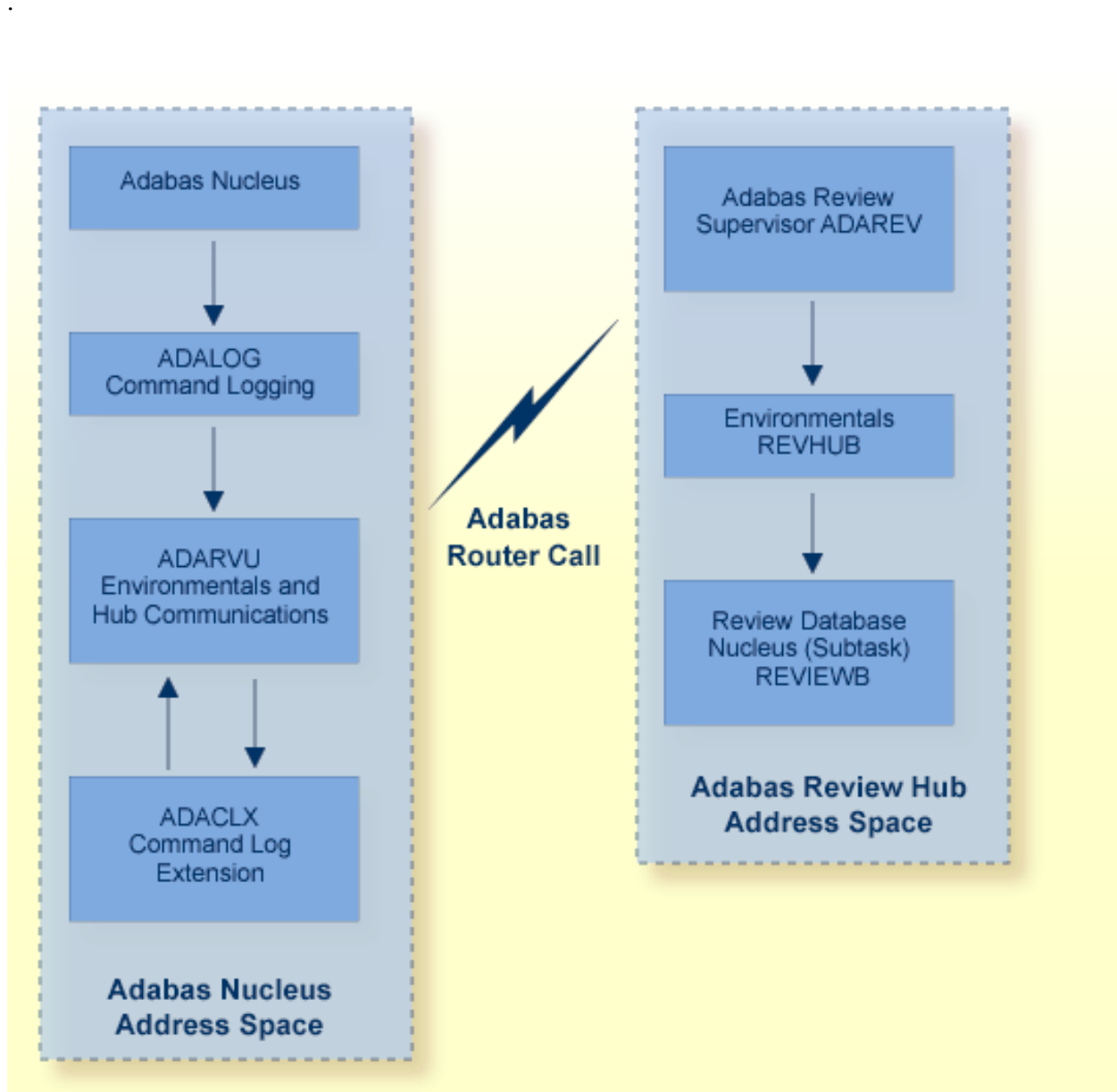
Command Log Processing

The data collection process is partly accomplished by the hub (server) component REVIEWB, the Adabas Review command log processing routine, which runs as an Adabas Review *subtask*; that is, a unit of work that the operating system treats as separately detachable.

At initialization, REVIEWB reads any autostarted report definitions the user has defined and collects data according to the reports' criteria. REVIEWB also processes requests to start, view, and purge reports from the Adabas Review online system.

In hub mode, Adabas responds to requests and calls the interface module ADARVU from ADALOG (Adabas's command logging module) if `REVIEW=dbid` is specified in the Adabas initialization parameters. Adabas passes to ADARVU information about resource usage for each command processed by the Adabas nucleus.

Adabas Review link routine exits are used to pass TP system and Natural information from the user's address space (origin of the Adabas call) to the Adabas address space and, using an extension of the Adabas user buffer, on to ADARVU.

ADARVU queues Adabas command log records received from ADALOG to the Adabas Review hub (server) through an intermediate REVIEW-BUFFER in the Adabas subtask address space. Note that command log records are examined prior to queuing to determine whether record filtering is active. When filtering is active, only command log records that are filtered are sent to the hub.

See **Record Filtering** for more information.

REVIEWB processes the records, accumulating and tabulating various data according to the criteria specified in any user-defined reports that are active.

The resulting nucleus statistics may be

- displayed in an online environment from the Adabas Review user interface;
- saved automatically in an Adabas file called the Adabas Review repository;
- printed automatically when the Adabas nucleus terminates; or
- downloaded directly to a personal computer (PC) using Entire Connection.

Example Hub Mode Data Collection Process

The following graphic shows the Adabas Review data collection process for hub mode. When monitoring multiple databases, Adabas Review allows you to switch from one database to another and provide reports for each.
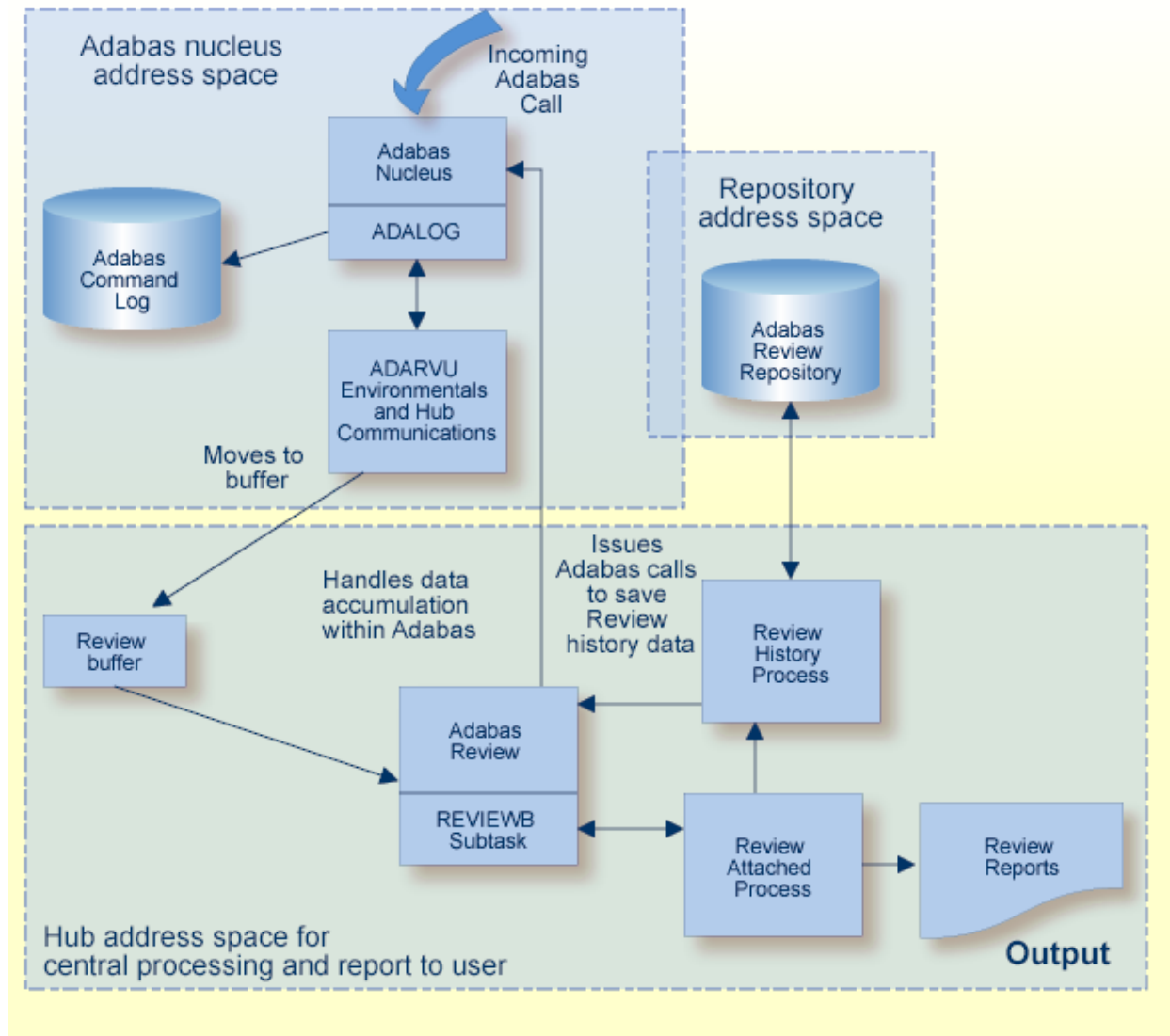
Collecting History Data

History data collection is controlled by RAOSHIST, the Adabas Review historical data population routine.

z/OS, z/VSE, and BS2000

- RAOSHIST executes as a subtask of Adabas Review. At initialization, RAOSHIST reads the RVUALT data set to determine if there are any historical records from the previous Adabas Review session that should be written to the Adabas Review repository. History records are written to RVUALT if the database on which the Adabas Review repository resides is unavailable during Adabas Review termination.

- During normal execution of Adabas Review, REVIEWB is responsible for adding history records generated by detail history reports and by summary history reports that have a history interval.

Processing Data in Batch Mode

As a batch job, the Adabas Review command log processing routine REVIEWB processes Adabas command log records from a sequential data set. If you use Adabas dual command logging, you must first use the Adabas utility function ADARES CLCOPY to generate a sequential command log data set suitable for input into Adabas Review.

When Adabas Review executes as a batch job, input report parameters that define the data collection criteria selected by the user are read from statements in the RVUPARM data set or the RVUAUT1/RVUAUT2 data sets. These statements can be generated using the GENCARD statement.

The storage allocated for reports is exactly the same as that for Adabas Review executing in inter-active (online) mode. However, since REVIEWB is reading the command log records directly from a sequential file, no REVIEW-BUFFER is allocated.

Repositories

The Adabas Review repository is an Adabas file used for storing report definitions, historical data, and target definitions. In hub mode, it cannot run in the hub address space.

Depending on the configuration at your site, more than one Adabas Review repository may be associated with your system. For example, if your site is running Adabas Review against more than one database, you may choose to have an Adabas Review repository for each database.

The Review command `SETFILE` (or SET) may be used to access different Adabas Review repositories and the reports stored on them.

User Profile System

Adabas Review administrators use the user profile system to generate profiles that define access rules for Adabas Review users. Access rules specify the systems or the functions within systems that a particular user is allowed to use.

User profiles may be created for new users, changed for existing users, and purged when no longer required.

A user profile is not required for each user. Adabas Review provides a default profile to allow access for users who do not have a profile defined.

When a user logs on, Adabas Review searches for the user's profile. If one is not found, the default profile is used.

If the default profile is customized so that the access rules meet the needs of the majority of Adabas Review users, the need for individual user profiles can be eliminated.

If a user has access needs that are different from the majority, a user profile can be created to accommodate those needs. Such a profile is generated by customizing a copy of the default profile.

ADARUN Parameters

Adabas ADARUN initialization parameters define and start the Adabas operating environment. Different ADARUN parameters are useful to the Adabas nucleus and the Adabas Review hub in different operating environments. For more information about the ADARUN parameters specific for Adabas Review in a given environment, select the appropriate link below:

- *ADARUN Parameters for Adabas Review in z/OS*
- *ADARUN Parameters for Adabas Review in z/VSE*
- *ADARUN Parameters for Adabas Review in BS2000*

3 About Adabas Review Reports

Online or as a stand-alone batch job, Adabas Review processes Adabas command log records and generates reports according to user-defined reporting criteria. The flexible reporting structure of Adabas Review allows you to view the same data in many different ways.

It retrieves performance information about Adabas by collecting data in the form of reports, which capture command log information and provide information about both online and batch transactions. Reports collect data about multiple teleprocessing environments and batch programs that are all using the same database.

Adabas Review provides commands to:

- modify report definitions;
- modify display programs;
- control report data collection; and
- direct report output.

Detailed vs. Summary Reports

Adabas Review can produce detailed and summary reports.

- For detailed reports, data is collected continuously while the database is active. Such reports contain a complete recording of the commands processed while the database is active. Detailed reports cannot be viewed online. However, a display program is generated that may be used to view history data online if the report collects history data. Results of detailed reports are printed at database termination.
- For summary reports, data in the report is summarized by a particular field (for example, by command, user ID, or program). Results can be viewed online. Summary reports can also be printed at the time the summary report is created or at database termination.

Components of a Report

An Adabas Review report has two parts: a definition and a display program.

- A *report definition* is a set of parameters that specify the data to be captured and a set of processing rules that identify the conditions under which the data is to be captured.
- A *Natural display program* is a Natural program that specifies the appearance of the report output, whether viewed online or downloaded to a personal computer (PC).

Report Definition

Adabas Review uses a set of instructions called a *report definition* to specify the types of data to be collected. Prepared report definitions supplied with Adabas Review may be modified and custom reports may be created.

Report definitions can be created or modified using menu-driven Natural programs. Report options and processing rules allow you to specify the conditions under which the data is to be captured. Report definitions are kept in the Adabas Review repository.

The Edit Report (ER) function is used to create Adabas Review report definitions. In addition, Software AG delivers prepared report definitions called *supplied reports* with Adabas Review. Supplied reports may be modified to meet the requirements at a particular site. Detailed information about supplied reports is provided in *Supplied Report Reference*, in the *Adabas Review Reference Guide*.

An Adabas Review report definition comprises database fields to be monitored, processing rules, and option parameters, all either entered on screens or selected from lists:

- *Database fields* from which a report extracts data are listed in the order in which they are to be displayed.

- *Report processing rules* identify the conditions under which the data is to be captured by describing how field values are to be extracted for the report.

- **report option parameters**
  Report option parameters specify whether Adabas Review will perform physical command logging, and whether data accumulated by the report will be written to a history file. History data may be used when analyzing database performance trends.

Database Fields

The selection of database fields defines the subject of the Adabas Review report.

A field identifies a type of information to be collected by the report; for example, information about an Adabas command, the Natural program issuing the command, the Adabas nucleus, the teleprocessing monitor, or the operating system being used. The PF11 (Flds) option is used to display a list of all available Adabas Review report fields.

Up to 20 fields may be used in a particular report. However, the number of fields that can be displayed is limited to the total line size (250 bytes) that can be displayed when a report is viewed online.

Fields to be displayed in a report are entered on the Edit Report screen of the Edit Report (ER) function as shown in the following example:

```
20:35:15                 A D A B A S  -  R E V I E W                YYYY-MM-DD
                              Edit Report                           LOCL=00009

      Report Name: _____  DBID to Monitor: _____


      +------------------------------------------------------------------+
      |  Field        Order   Sum   Min   Max   Avg   Pct   Rate   Round |
      |------------------------------------------------------------------|
      |                                                                  |
      |  _____     ___     _     _     _     _     _     _    _____   |
      |  _____     ___     _     _     _     _     _     _    _____   |
      |  _____     ___     _     _     _     _     _     _    _____   |
      |  _____     ___     _     _     _     _     _     _    _____   |
      |  _____     ___     _     _     _     _     _     _    _____   |
      |  _____     ___     _     _     _     _     _     _    _____   |
      |  _____     ___     _     _     _     _     _     _    _____   |
      |  _____     ___     _     _     _     _     _     _    _____   |
      |  _____     ___     _     _     _     _     _     _    _____   |
      |  _____     ___     _     _     _     _     _     _    _____   |
      +----------------------------- Page 1 -----------------------------+



Command: _____
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Optns Exit        Save  Start  -     +          Rules Flds  Menu
```

Detailed information about individual fields is provided in the *Adabas Review User's Guide*.

Report Processing Rules

Report processing rules are used to set conditions on or limit the data collected by the report.

Processing rules are entered on the Report Processing Rules screen of the Edit Report (ER) function as shown in the following example:

```
20:24:56              A D A B A S  -  R E V I E W              YYYY-MM-DD
                       Report Processing Rules                   LOCL=00009

                             REPORT ONE
 +--------------------------------------------------------------------------+
 |  Field     Op     Value                                          And/Or  |
 |--------------------------------------------------------------------------|
 |  _____   __   _____   __    |
 |  _____   __   _____   __    |
 |  _____   __   _____   __    |
 |  _____   __   _____   __    |
 |  _____   __   _____   __    |
 |  _____   __   _____   __    |
 |  _____   __   _____   __    |
 |  _____   __   _____   __    |
 |  _____   __   _____   __    |
 |  _____   __   _____   __    |
 |  _____   __   _____   __    |
 +------------------------------- Page 1 ------------------------------------



 Command: _____
 Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Optns Exit         Save  Start  -     +               Flds  Menu
```

An Adabas Review report processing rule is specified by a field, a relational operator (equal to, less than, greater than, not equal to), and a specific value or range of values.

If there are multiple processing rules, the appropriate logical operator (AND or OR) must also be specified.

Fields used in processing rules are not displayed in the report results unless they are listed on the Edit Report screen.

Report Option Parameters

Values for report option parameters can be entered on the Report Options screen of the Edit Report (ER) function as shown in the following example.

> **Note:** One of two different Report Options screens may appear in Adabas Review, depending on whether you have selected a summary report or a detail report. The following sample is for a summary report.

```
19:33:13                    *****  R E V I E W  *****              2009-06-18
                     Options for summary report: COMMANDS BY HOUR       HUB=15690

+-- Summary Rpt Options ------- Summary Logging ----------- History ---------+
!  AutoStart ......... Y     Summary Log ........ N     History ............ N !
!  Break ............. Y     Summary File .. RVSUM_     History Int ... _____ !
!  Wrapping ........... N    Num of Logs ....... _2     History DBID ... __123 !
!  Print ............. Y     Log Size ....... 99999     History FNR .... ___45 !
!  Rstrt/Intrvl Y _____     Log Full Exit _____     History SVC ...... 234 !
!  Max Restarts .. 999999                                                      !
!  Max K ........... ___8                            ---- Summary Exit ----- !
!  ADALimit ...... _____1                             Exit Name ... _____ !
!  Display By ..   SORTED                             Cmd ................ CL ! 
!  Entries ....... 999999                             Sum ................ Y ! 
!  Limit ....... 99999999                                                      !
!  Page/Line .. _55 / 133                                                      !
!                                                                              !
!                                                                              !
+------------------------------------------------------------------------------+



Command: _____
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help        Exit                Accpt              Dflts          Menu   ↵
```

Adabas Review is delivered with report options defaults:

- You can modify these defaults for all subsequent reports.

- You can modify the default values for a particular report, either new or existing.

Detailed information about using the Report Options screen is provided in the *Adabas Review User documentation*.

Report User Exits

Adabas Review provides two report user exits: one for detail reports and one for summary reports.

- A *detail report user exit* is driven when a command log record is selected for the report. Only records that pass the processing rules are provided to the user exit. This exit may be used to create SMF records, accounting records, or for any other purpose.

- A *summary report user exit* is driven when a specified Adabas command is selected for the report; and/or a report is summarized. You may control the conditions that trigger the exit.

When creating a report, the user exit is specified on the Report Options screen or in the batch REPORT statement. The actual report user exit must be provided in an executable library accessible to Adabas Review.

Natural Display Program

When a report definition is saved, Adabas Review automatically generates a unique Natural display program, called the Adabas Review report display program. This program determines how the report data will be viewed online or downloaded to a PC. It controls the appearance of the report output for an active database or for historical data. You can run this display program:

- to view data currently being collected by the interactive Adabas Review processor.

- to retrieve and display or download historical data that has been saved and stored in the Adabas Review repository.

> **Note:** No display program is created for buffer pool reports.

The Natural display program generates normal Natural `FIND` and `READ` statements against an Adabas Review DDM to access the data being collected by Adabas Review. By default, the Natural program displays the data at the Adabas Review user's terminal. Options exist, however, to download the data directly to a personal computer (PC).

You may use the Adabas Review-generated display program as it is created, or you may modify it for your individual needs.

The display program is executed when the `VIEW` command is issued to display the report results online.

> **Note:** The output of reports that print at database termination is not controlled by a display program. At database termination, a SYSOUT from Adabas is written by REVIEWB. The format of this output cannot be modified by the Adabas Review user.

Starting Reports

Once the report definitions are edited and saved, the reports can be started. Starting a report tells the Adabas Review data collection process to start accumulating data based on the report definition parameters.

Adabas Review users can display buffer pool information, display active databases, and access the Adabas Online System, if it is available. Adabas Review administrators are also allowed to define and display target objects.

Reports can be run in either interactive or batch mode:

- In *interactive mode*, Adabas passes information to Adabas Review about resource usage for each command processed by the Adabas nucleus. Online reports are started with the `START` command.

■ In *batch mode*, Adabas Review runs as a batch job that processes sequential Adabas or Adabas Review command log data sets. Batch parameter statements are generated for the report and submitted in the job stream.

Once data has been accumulated for a report, the results can be:

■ saved to a file,

■ viewed online,

■ downloaded to a personal computer (PC) using Entire Connection, or

■ printed when the Adabas nucleus terminates.

Once a report has been defined, the `SAVE` command is issued and the report definition is written to the Adabas Review repository.

Autostarted Reports

Adabas Review reports can be set to start automatically whenever Adabas Review initializes.

Then RAOSAUTO, the Adabas Review autostarted report parameter generation routine, generates the report definition control statements and writes them to one of two parameter files, RVUAUT1 or RVUAUT2, alternating between them by writing to the older file.

When Adabas starts, the files are read by Adabas Review using the `RVUAUT1` and `RVUAUT2` statements in the job stream.

> **Note:** Under z/OS, the installation procedure defines the statements `RVUAUT1` and `RVUAUT2` so that they point to members of a PDS. To avoid constant compression of these data sets, the statements may point to sequential data sets.

RAOSAUTO automatically regenerates the control statements for all autostarted reports when you make changes to an autostarted report, delete an autostarted report, or modify the target definition for the database being monitored by the reports.

In exceptional circumstances (e.g., the source library becomes too full and requires compressing), you can force regeneration of the control statements for all autostarted reports by either issuing the `GENAUTO` command or entering the parameters manually using batch parameter statements.

Additionally, when you issue the `GENCARD` command, `RAOSAUTO` generates report parameter cards for user-specified reports and directs them to a user-specified output file.

In *z/OS*, *z/VSE*, and *BS2000*, `RAOSAUTO` executes as a subtask of Adabas Review and is only active when:

■ an autostarted report definition is saved in the online system;

■ `GENAUTO` (or `GENCARD`) is executed in the online system; or

■ a database target definition is saved in the online system.

List Report Functions

Adabas Review provides three list functions for reports, which are accessible from the Adabas Review (DB system) menu:

Code	List . . .	This function lists . . .
LR	Report	existing Adabas Review reports by name. Reports may be edited, started, and purged using the commands in this function.
LH	History Reports	reports that have accumulated history data in the Adabas Review repository.
LS	Started Reports	reports that are currently accumulating data.

The lists displayed by the LH and LS functions are subsets of the list displayed by the LR function.

From the resulting lists, certain commands can be issued against a particular report that allow you to maintain report definitions, manage started reports, and manage the output they produce.

The commands are entered on the selection line preceding the name of the report.

Record Filtering

Adabas Review record filtering can decrease the number of command log (CLOG) records passed from the database to Adabas Review. When filtering is active, only those records needed for report processing will be passed to Adabas Review. Record filtering operation is based upon the reports currently active and cannot be directly controlled. However, the Adabas ADARUN parameter REVFILTER may be used to control whether the database allows filtering. See the appropriate installation documentation for a description of the REVFILTER parameter.

Record filtering is limited to and dependent upon select Adabas Review fields (filter fields). Reports with rules based solely on filter fields are eligible to be filtering reports. Any other report is a non-filtering report. Record filtering will be active only when all reports running are filtering reports. That is, record filtering will stop if any non-filter report is started. An example of a filtering report would be the *Exceptional Response Code* report, which has a single rule for the RSP field. If this is the only report running, only those command logs with exceptional response codes will be sent to Adabas Review.

> **Note:** Record filtering is intended for those installations that ordinarily run very few reports (e.g., *Exceptional Response Codes*) at a time. A large number of active filtering reports will negate the performance benefits of record filtering. If your installation runs many rule-based

reports, running with the ADARUN REVFILTER=NO setting is recommended. Some analysis of active reports may be necessary to fully realize filtering performance benefits.

Record Filtering Restrictions

The following restrictions apply for Adabas Review record filtering:

■ For filtering to be activated, all currently active reports must have processing rules based solely on filtering fields.

■ Wildcard values are not permitted. Alphanumeric values containing an asterisk (*) will result in filtering being turned off.

■ EXCLUDE statements are not supported. An EXCLUDE statement will result in filtering being turned off.

■ Special Adabas Review reports are non-filtering reports.

■ CLOGLAYOUT=8 is required for record filtering.

■ Filtering will not be active when running with LOGCLEX=YES.

■ In hub mode, any active report using the artificial target ID 11111 will result in filtering being turned off.

Adabas Review Fields Eligible for Record Filtering

The following Adabas Review fields can be used in rule processing in order to activate Adabas Review Record Filtering: `ACBUSER`, `ASSOIO`, `CID`, `CMD`, `CMDTYPE`, `DATAIO`, `DBID`, `FILE`, `ISN`, `ISNQ`, `JOBNAME`, `JOBNAME`, `NATAPPL`, `NATPROG`, `NATSTMT`, `NATUID`, `NUCID`, `RSP`, `STEPNAME`, `TPUSERID`, `TRANSID`, and `WORKIO`.

The use of any other field in rules for active reports will cause filtering to be stopped. For detailed information about particular fields, see the *Field Reference*, provided with this documentation.

4 Getting Started

This chapter tells you how to log on to Adabas Review, use the online help system, use function codes, PF keys and commands, and how to end your Adabas Review session.

Accessing Adabas Review

Adabas Review is a standard Natural application that resides in the Natural library SYSREVDB.

▶ **To access Adabas Review:**

1   Access Natural as you do normally.

2   At the NEXT prompt, enter `LOGON SYSREVDB`.

3   At the prompt, enter `MENU`.

Your Adabas Review administrator can tell you if an alternative logon procedure has been defined.

When you log on to Adabas Review, the Main Menu screen is displayed.

This section covers the following topics:

- Main Menu
- General Use PF Keys

Main Menu

```
20:35:09                    A D A B A S  -  R E V I E W               2009-04-30
                                 Main Menu                            LOCL=00222


                 Code               Description
                 ----      ---------------------------------
                  AA           Available Adabas Nuclei
                  AO           Adabas Online System
                  EB           Edit Buffer Pool Report
                  EL           Edit Pulse Report
                  ER           Edit Report Definition
                  ET           Edit Target Definition
                  EX           Edit Cluster Services Report
                  LH           List History Reports
                  LR           List Report Definitions
                  LS           List Started Reports
                  LT           List Target Definitions
                  UP           User Profiles
                 ----      ---------------------------------




Command: _____
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help      Fin                                                  Fin     ↵
```

> **Notes:**

1. For an explanation of the commands in the **Code** column in the screen above, read *Commands* in the *Adabas Review Reference Guide*.

2. LOCL= and HUB= are found in the top right corner of every screen.
   In the screen pictured above, LOCL=00222 means that database 222 is being administered, running in local mode. HUB=201 means that a hub is administered.
   If the message REV00362 - REVIEW IS NOT INSTALLED IN DATABASE 210 in conjunction with display of HUB=210 (in the right top corner) is displayed, then the database 210 is not a HUB and also does not run with Adabas Review in local mode. Changing to a database or HUB is done using the DBID or HUBcommands.

General Use PF Keys

The following PF keys are available on many of the Adabas Review screens:

PF	Command	Description
1	Help	Access the help system.
3	Exit	Return to the previous screen.
7	-	Scroll backward through a list display.
8	+	Scroll forward through a list display.
12	Menu	Return to the Adabas Review Main Menu.

Other Adabas Review commands and PF keys are local to a particular function or screen. These commands are usually shown on the relevant screen and have PF keys assigned to them.

Commands used in the list functions are not displayed on the screen. These commands may be displayed by using the online help system.

Using Function Codes

Adabas Review is menu-driven. A series of function codes and commands are used to navigate through its functions. Functions may contain several "layers" of screens.

Entering function codes singly accesses one layer at a time; entering a string of function codes enables you to bypass intervening screens and go directly to the screen you want.

For example, you can list the reports that have been started (LS) for Adabas Review by entering the following on the command line of the Adabas Review main menu:

```
LS
```

The LS code accesses the Started Reports screen.

Using Adabas Review Commands

Commands are used to perform specific tasks within a function.

▶ **To issue an Adabas Review command:**

■ type the command on the command line and press ENTER

Or:

press the PF key corresponding to the command, if one has been defined.

A command may be included in a string, provided the command is the last element.

Some commands are standard throughout Adabas Review, and may be issued from any screen. These include the following:

Command	PF	Description
COLOR OFF	—	Returns to non-color display.
COLOR ON	—	Displays color attributes, if applicable.
EXIT	3	Terminates the function and returns you to the menu screen that precedes it.
FIN or QUIT	12	Terminates the Adabas Review session. Assigned to PF12 on the Adabas Review Main Menu.
HELP or ?	1	Displays the help screens for a particular screen or field. ? is used to display help for a specific field.
LOGO	—	Displays the Adabas Review logo screen.
MENU	12	Terminates the function, and returns you to the Adabas Review Main Menu.
MSG	—	Displays detailed explanations of Adabas Review messages. May be issued with or without a message number. If no message number is included, Adabas Review displays the explanation for the last message received, unless you have changed the Adabas Review screen or performed a different Adabas Review function since the message was displayed. In this case, specifying the MSG command without a message number produces an error.

Other Adabas Review commands are local to a particular system or function. These commands are usually listed on the relevant screen and have PF keys assigned to them.

Line commands used in the list functions are not displayed on the screen. These commands may be displayed by using the online help system.

Using the Online Help System

Online help is available for Adabas Review functions at any time during the Adabas Review session. You may view general help screens describing functions and commands or, if available, help windows for a specific data entry field:

▶ **To access the general help screens:**

■   Press PF1

Or:

Enter the HELP command on the command line.

▶ **To access specific help windows:**

■ Enter a question mark (?) on the data entry field.

   If specific help is not available, the general help for the screen is displayed.

The following PF keys are available within the online help system:

PF	Command	Description
3	Exit	Exits from the display.
7	-	Scrolls one page backwards.
8	+	Scrolls one page forward.
9	--	Scrolls to the top of the text.
10	++	Scrolls to the bottom of the text.
12	Menu	Returns to the Adabas Review Main Menu.

Accessing Adabas Review Repositories

The Adabas Review repository is an Adabas file used for storing report definitions, historical data, and target definitions for Adabas Review.

Depending on the configuration at your site, more than one Adabas Review repository may be associated with your system. For example, if your site has Adabas Review installed on more than one database, there may be an Adabas Review repository for each database.

Using the SETFILE Command

The Review command SETFILE (or SET) and SETALL (or SETA) may be used to access different Adabas Review repositories and the reports stored on them.

The SETALL command differs from the SETFILE command in that it allows you to also change the current DBID/HUBID where Adabas Review is communicating. Changing this value has the same effect as entering DBID=nnnnn or HUB=nnnnn into the command line.

▶ **To access different Adabas Review repositories:**

1   Enter the command SETFILE or SET on the command line of any Adabas Review screen and press ENTER.

2   Provide the DBID and FNR for the Adabas Review repository you wish to access and press ENTER.

You are now able to access reports stored on a different Adabas Review repository. The setting remains until you either change it again or log off Adabas Review.

Accessing Technical System Information

The TECH command provides access to information about the Adabas Review system. It invokes the Technical Information function, which displays Adabas Review environmental and maintenance information. This function is useful for determining

- the environment in which Adabas Review is executing; and
- the maintenance (ZAPs) applied to the current version of Adabas Review.

You can access the Technical Information function from

- the Main Menu
- the List Report Definitions (LR) screen
- the List Started Reports (LS) screen

▶ **To access technical system information:**

■   Type TECH on the command line of one of the appropriate screens and press ENTER.

The TECH command Database System Environment screen is the first to appear:

```
+----------------------------------------------------------------------------+
! 10:07:43                  REVIEW Technical Information          2009-06-01  !
!                        DATABASE System Environment                         !
!                                                                            !
!       Current REVIEW Target......... 15690                                 !
!       REVIEW Nucleus version ....... 4.5.0                                 !
!                                                                            !
!       Link routine exit version ..... 4.5                                  !
!       Link routine exit status ...... Installed correctly                  !
!                                                                            !
!       Repository status ............ FILE AVAILABLE                        !
!       Repository dbid .............. 15650                                 !
!       Repository fnr ............... 50                                    !
!                                                                            !
!       NATURAL nucleus version ....... 4.2                                  !
!       REVIEW NATURAL code version ... 4.5.1                                !
!                                                                            !
!       TP monitor type .............. TSO                                   !
!                                                                            !
!                                                                            !
!                                                                            !
!                                                                            !
! Press PF2 for REVIEW fix list, ENTER to exit                               !
+----------------------------------------------------------------------------+
```

From this screen, you can

- Press PF2 to continue to the Maintenance Information screens.

- Press ENTER to exit the Technical Information function.

The Database System Environment screen displays information about the following environment variables:

Field	Description
Current Review target	Database ID in local mode or the hub ID in hub mode.
Review nucleus version	Version of Adabas Review, either local or for the given Adabas Review hub.
Link routine exit version	Version of the Adabas Review link routine exit for the TP monitor currently being used.
Link routine exit status	Status of the Adabas Review link routine exit for the TP monitor currently being used.
Repository status	Status of the Adabas Review repository identified by the repository DBID.
Repository DBID	Database of the Adabas Review repository. The default corresponds to NTFILE 241 in the Natural NATPARM parameter module. This database cannot be in the hub address space.
Repository FNR	File number of the Adabas Review repository.

Field	Description
`Natural nucleus version`	Version of Natural currently installed at the user's site.
`Review Natural code version`	Version of the Natural code of the Adabas Review software.
`TP monitor type`	Type of TP system currently being used.

▶ **To obtain information about maintenance (ZAPs):**

■ Press PF2 from the Database System Environment screen.

The TECH command Review Technical Information screen appears displaying the first set of maintenance (ZAP) information:

```
+---------------------------------------------------------------------------+
! 12:53:16               REVIEW Technical Information            2003-07-07  !
!    Released/test zaps applied to REVIEW nucleus code for database 204      !
!                                                                            !
! 2001                                                                       !
!                                                                            !
!                                                                            !
!                                                                            !
!                                                                            !
!                                                                            !
!                                                                            !
!                                                                            !
!                                                                            !
!                                                                            !
!                                                                            !
!                                                                            !
!                                                                            !
!                                                                            !
!                                                                            !
!                                                                            !
! Press PF2 to see optional zaps, ENTER to exit                              !
+---------------------------------------------------------------------------+
```

From this screen, you can

■ Press PF1 to invoke HELP from any Technical Information function screen.

■ Press PF2 to continue through the maintenance screens.

■ Press ENTER to exit the Technical Information function.

Maintenance information screens display, by number, all of the ZAPs that have been applied to the current version of Adabas Review.

The ZAP numbers are displayed in rows, from left to right in the order they were applied. If the maintenance screen displays released/test ZAPs, the test ZAPs are highlighted. Other maintenance screens display optional ZAPs.

The types of maintenance screens available vary with the operating environment in which Adabas Review resides. Any or all of the following maintenance information screens may be displayed:

■ ZAPs (released/test, and optional) applied to Adabas Review nucleus for DBID nnnnn

■ ZAPS (released/test, and optional) applied to Adabas Review link routine exit; and

■ INPLs (released/test) applied to the Adabas Review Natural code.

> **Note:** For z/VSE systems, the first and the second screen display all zaps that are applied to the Adabas Review nucleus and the Adabas Review link routine exit.

Ending a Session

An Adabas Review session may be ended in any one of the following ways:

▶ **To end the current function and return to the menu from which the function was called:**

■ Press PF3; or enter the `EXIT` command on the command line and press ENTER .

▶ **To end the function you are using and return to the Adabas Review Main Menu:**

■ Press PF12; or enter the `MENU` command on the command line and press ENTER.

▶ **To end your Adabas Review session from the Adabas Review Main Menu:**

■ Press PF3 (Exit); or enter the `QUIT` command on the command line and press ENTER.

   Or:

   Press PF12 (Fin); or enter the `FIN` command on the command line and press ENTER.

▶ **To end your Adabas Review session without returning to the Main Menu:**

■ Enter the `FIN` command on the command line and press ENTER

   Or:

   Enter the `QUIT` command on the command line and press ENTER.

5 Cost Accounting Example

Adabas Review may be used to collect Adabas user resource consumption data that can be manipulated for cost accounting and charge-back purposes. This data can be processed and viewed online or in batch, or it can be downloaded to a personal computer for further processing.

This chapter describes the Adabas Review Cost Accounting Example.

Viewing Data Online

A sample cost accounting report "Cost Accounting Example" is supplied with Adabas Review. It may be used without modification, customized to suit site requirements, or used as a basis for other cost accounting reports. The report definition for the "Cost Accounting Example" report is shown below:

```
21:15:18                 A D A B A S  -  R E V I E W              2009-06-18
                            Edit Report                            HUB=15690
      Detail/Summary: S
      Report Name: COST ACCOUNTING EXAMPLE_____      DBID to Monitor: _____


      +------------------------------------------------------------------+
      !  Field      Order   Sum   Min   Max   Avg   Pct   Rate   Round  !
      !------------------------------------------------------------------!
      ! CQJOB___     _10     _     _     _     _     _     _     _____  !
      ! TPUSERID     _20     _     _     _     _     _     _     _____  !
      ! IOS_____     ___     X     _     _     _     _     _     _____  !
      ! COMMANDS     ___     X     _     _     _     _     _     _____  !
      ! CMDRESP_     ___     X     _     _     _     _     _     _____  !
      ! ADADURA_     ___     X     _     _     _     _     _     _____  !
      ! _____     ___     _     _     _     _     _     _     _____  !
      ! _____     ___     _     _     _     _     _     _     _____  !
      ! _____     ___     _     _     _     _     _     _     _____  !
      ! _____     ___     _     _     _     _     _     _     _____  !
      +------------------------- Page 1 -------------------------+


Command: _____
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Optns Exit        Save  Start  -     +          Rules Flds  Menu   ↵
```

In this report, the generated NATURAL display program was modified to attach a cost value to the amounts of CPU time and Adabas time used, and to the number of Adabas calls and I/Os performed by each user.

By issuing the VW command, the report may be used to examine data that has been stored in the Adabas Review repository.

The following screen shows the type of information collected by the report:

```
21:15:59                      COST ACCOUNTING EXAMPLE                  2009-06-18
                 20:15:31 2009-06-18 Thru 21:15:17 2009-06-18           HUB=15690
                                                                       Page:    1
                         Total          Total          Total           Total
 CQ-Job  TPUserid  Num-of-IOs      Commands       Cmd-Resp         ADA-Dur
 --------  --------  -------------  ------------  --------------  ----------------


 ALSCCOMP                     210           151          1.1202          5.152688
 ******** SUB-T==>            210           151          1.1202          5.152688
 COMPLETE                       6            12          0.0702          0.251056
          USER1              318           652          1.3057          6.523424
          USER2               57           186          0.2409          0.903504
          USER3             1241          2775          5.5287         26.014992
          USER4               97           219          0.3831          2.337776
          USER5              271           831          1.2486          7.082896
          USER6              169           147          0.4203          2.965808
          USER7              117           129          0.4519          2.433072
          USER8              136           386          0.5802          3.022160
          USER9             5573          8030          7.7051        107.307856
          USER10             323           707          1.3217          6.409696


 Command: _____
 Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
       Help  Sort  Exit                                                    Menu
```

Additionally, the displayed resource consumption data may be downloaded to a personal computer using the DL command. To use this feature, the Software AG product Entire Connection must be installed.

For more information, read *Downloading Report Output* in the *Adabas Review User's Guide*.

Processing Data in Batch Mode

Cost accounting values can be defined for batch command log processing by using the COST batch parameter statement.

The member REVCOST, shown below, is a sample report for cost accounting that uses the COST statement. REVCOST is located in the Adabas Review source data set.

```
*
* This sample report allocates a cost value to three summary
* fields based on the JOBNAME and Adabas user's TPUSERID.
* In this example, each I/O is assigned a cost of $0.02,
* each command response second is valued at $0.25 and each second of
* Adabas duration costs $0.10.
*
 REPORT TYPE=SUMMARY,
    TITLE='COST ACCOUNTING EXAMPLE',
```

```
    PROGRAM=SR-00028,
    RESTART=Y,
    MAXSTORE=8
DISPLAY JOBNAME,TPUSERID
SUM     IOS,CMDRESP,ADADURA
COST    IOS*0.02,CMDRESP*0.25,ADADURA*0.10
*
```

For additional information about Adabas Review batch processor parameter statements, read *Using Batch Facilities*, in the *Adabas Review User's Guide*.

A sample of the data produced by the batch report is shown on the next section.

Adabas Review Command Response Time Calculation

The Adabas Review command response time calculation is based on the following information.

Adabas Review stores in the command table the minimum Adabas duration for each command type returning a zero response code.

The command table is updated whenever a lower duration value is encountered.

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