REVIEW DATA COMMUNICATION
USER'S GUIDE

RDC611-021IBM

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This document applies to the REVIEW DC software package at Version 6.1 and to all subsequent versions, unless otherwise indicated in new editions or technical newsletters.

Specifications contained herein are subject to change, and these changes will be reported in subsequent revisions or editions.

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PREFACE

REVIEW comprises three systems that may be used in any combination according to the needs of your site:

- **REVIEW DATABASE** is an interactive reporting facility that allows ADABAS users to monitor and tune ADABAS databases.
- **REVIEW DATA COMMUNICATION** is a monitoring facility that provides performance, resource utilization, and tuning information about the COM−PLETE or ADABAS TPF teleprocessing systems.
- **REVIEW NATURAL MONITOR** is a monitoring facility that provides response time and user activity information about NATURAL applications running under CICS.

A fourth system, the **REVIEW User Profile System,** is supplied with each of the previous systems. This is an administrative facility used for defining access privileges to REVIEW.

Overview of the User's Guide

This manual, the *REVIEW DATA COMMUNICATION User's Guide*, provides information about using and administering REVIEW DATA COMMUNICATION.

Introductory Chapters

Chapter 1 introduces the four REVIEW systems. It includes the section, **Getting Started with REVIEW**, which explains how to start and end a REVIEW session, and describes the commands that are used across all four REVIEW systems.

Chapter 2 introduces REVIEW DATA COMMUNICATION and describes its functions and commands.

REVIEW DATA COMMUNICATION Reports

- **Chapter 3** describes response time reports, which enable you to retrieve information about the response times experienced by end users of COM−PLETE or ADABAS TPF.
- **Chapter 4** describes reports which are used to monitor and tune the COM−PLETE Roll Subsystem.
- **Chapter 5** describes reports which allow you to view and regulate the interaction of COM−PLETE and ADABAS.
- **Chapter 6** describes reports which displays statistics related to the execution of application programs in COM−PLETE and ADABAS TPF.
- **Chapter 7** describes reports which provide information about the operating system under which REVIEW DC is running, and messages from the COM−PLETE System.
- **Chapter 8** details the statistical information made available for viewing in REVIEW DC.
- **Chapter 9** describes reports on the system resources used by each active user.
- **Chapter 10** describes the Transaction Generator function.
- **Chapter 11** describes the history data feature.

Administration

Chapter 12 tells you how to administer REVIEW. The first section describes the procedures for defining and customizing user profiles; the second section describes maintenance procedures for REVIEW DATA COMMUNICATION itself.

Reference Information

Reference material is provided in the appendices:

- **Appendix A** summarize function codes and commands;
- **Appendix B** provides a tutorial on Roll Subsystem concepts.

CHAPTER 1

Introduction

INTRODUCTION

REVIEW provides a set of tools for monitoring the online performance of the ADABAS, COM−PLETE, and NATURAL environments and the applications executing within those environments.

Note: *References made in this manual to COM−PLETE also apply to ADABAS TPF.*

The information provided using the features of REVIEW allows you to tune application programs to achieve maximum performance with minimal resource requirements.

REVIEW comprises four systems:

- REVIEW DATABASE (DB);
- REVIEW DATA COMMUNICATION (DC);
- REVIEW NATURAL MONITOR (NM); and
- The REVIEW User Profile System.

REVIEW DATABASE

REVIEW DATABASE enables you to retrieve specific information about ADABAS usage.

REVIEW DB uses a set of instructions referred to as a *report definition* to specify the types of data to be collected. Prepared report definitions supplied with REVIEW DB may be modified and custom reports may be created. Data accumulation begins when you start reports.

Although the REVIEW DB processor is installed as an ADABAS User Exit 4, the command logging exit, the results generated by REVIEW DB reports do not require the physical creation of the ADABAS command log. This reduces transaction response time by decreasing the number of I/Os issued by ADABAS.

The major features of REVIEW DB include the following:

- **Multiple database monitoring**: REVIEW DB can monitor several databases from within a single transaction.
- **Customized command logging**: REVIEW DB can perform physical command logging of selected commands and/or buffers based on parameters within the REVIEW DB 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.

- **Customized analysis tools**: REVIEW DB reports may be customized to perform functions such as cost accounting and application debugging.
- **Collection of historical data**: Data collected for REVIEW DB reports may be written to the REVIEW DATABASE repository at specified intervals and stored as history data. The data may be used in trend analysis.
- **Supplied reports***:* Approximately 42 prepared report definitions are provided with REVIEW DB. These report definitions may be used without modification, or edited to suit specific site requirements.
- **Report creation function**: The Edit Report function provides interactive screens to help you create a report or edit an existing one.
- **Wide range of data types**: Approximately 340 data fields are available for specifying the types of data to be collected by REVIEW DB.
- **Online data retrieval***:* REVIEW DB reports may be executed online or in batch mode. Data collected by REVIEW DB reports may be viewed online.
- **Online display of buffer pool usage**: The Buffer Pool (BP) function provides a graphic display of buffer pool usage. By referring to this display periodically, the database administrator can determine whether buffer pools are appropriately allocated.
- **Online display of ADABAS availability**: The Available ADABAS Nuclei (AA) function displays a profile of the databases that are monitored by REVIEW DB.
- **Access to ADABAS ONLINE SYSTEM**: REVIEW DB provides access to ADABAS ONLINE SYSTEM (BASIC SERVICES), an online ADABAS maintenance product.

REVIEW DB Data Collection Process

The data collection process is partly accomplished by the REVIEW DB processor. This ADABAS processor has two modes of execution: the interactive mode and the batch mode. For the interactive mode, the REVIEW DB processor runs as an ADABAS User Exit 4. For the batch mode, the processor runs as a batch job that processes sequential ADABAS command log data sets.

The interactive process of data collection is accomplished by providing code (RAOSEXIT) that runs as an ADABAS User Exit 4. ADABAS calls this exit and passes information about resource usage for each command processed by the ADABAS nucleus.

Note: RAOSEXIT now supports both ADABAS Version 5.1 and ADABAS Version 5.2. Command log record layouts are supported for both ADABAS Version 4 and ADABAS Version 5 formats.

This user exit, in conjunction with the attached REVIEW DB processor and an intermediate REVIEW buffer, accumulates and tabulates various user-defined data. This data may be

- **displayed** in an online environment from the REVIEW DB user interface;
- **saved** automatically in the REVIEW DATABASE repository;
- **printed** automatically when the ADABAS nucleus terminates; or
- **downloaded** directly to a personal computer.

REVIEW DB User Interface

Menu-driven NATURAL programs allow you to edit report definitions that specify the data to be captured. Report options and processing rules allow you to specify the conditions under which that data is to be captured. These report definitions are kept in an ADABAS file.

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

When a report definition is saved, REVIEW DB generates a NATURAL program that will be executed later when you wish to view the data collected by REVIEW DB. This NATURAL program generates normal NATURAL FIND and READ statements against a REVIEW DDM to access the data being collected by REVIEW DB.

In summary, the NATURAL program that REVIEW DB generates is executed when the user wishes to view data currently being collected by the interactive REVIEW ADABAS processor. By default, the NATURAL program displays the data at the REVIEW DB user's terminal. Options exist, however, to download the data directly to a PC. The same NATURAL program allows the user to retrieve and display or download historical data that has been saved and stored in the REVIEW DATABASE repository.

The following Figure 1–1 shows the relationship between ADABAS and REVIEW DB. The REVIEW DB user interface allows you to switch from one database to another to monitor multiple databases from within a single transaction.

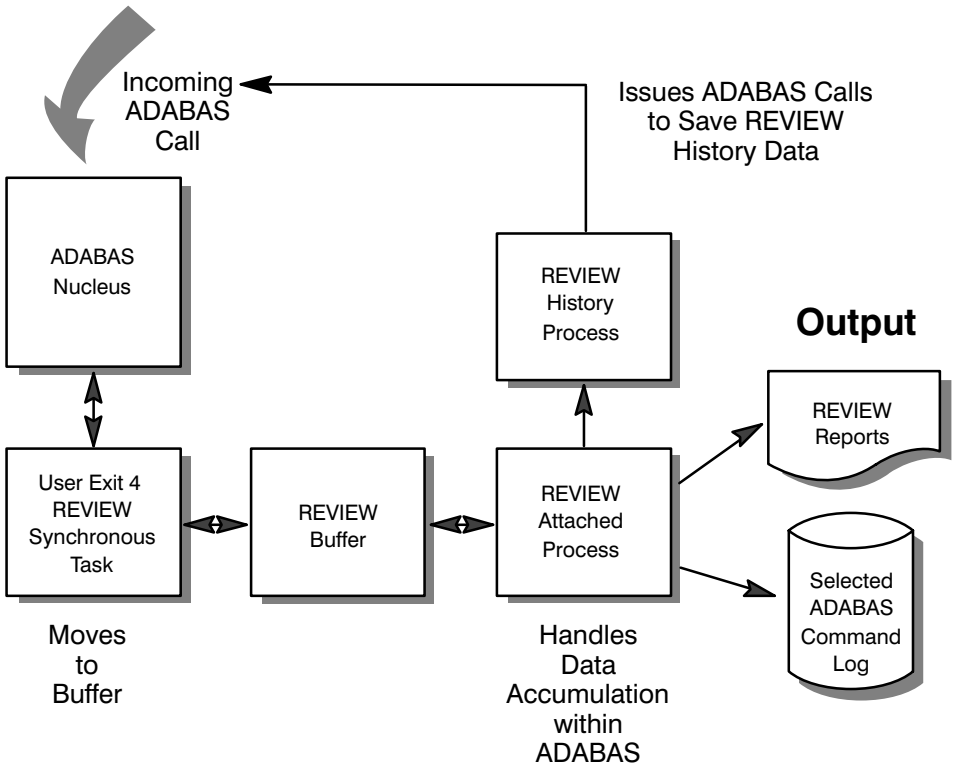


Figure 1–1: The REVIEW ADABAS Process

REVIEW DATA COMMUNICATION

REVIEW DATA COMMUNICATION provides performance, resource utilization, and tuning information about the COM–PLETE/ADABAS TPF teleprocessing monitor.

The information provided by REVIEW DC allows the system programmer or database administrator to refine various parameter values and options of COM–PLETE to achieve optimal performance. REVIEW DC also provides information about applications running under COM–PLETE.

The major features of REVIEW DC include the following:

- **Response time reports**: Provides transaction response time reports and graphs for a user-specified time interval.

Note: A transaction occurs each time ENTER *or a PF key is pressed.*

- **Detailed records display**: Provides detailed information about transactions that exceed a user-defined response time threshold.
- **Transaction summary**: Provides information about transaction usage and performance. Transaction summary information is available for NATURAL at both application and program level.
- **Summary of COM−PLETE operations**: Provides a facility for evaluating COM−PLETE resource usage for the entire COM−PLETE system or for individual users or applications.
- **ADABAS communication statistics**: Displays summary and detailed information for databases referenced by ADABAS calls issued through COM−PLETE. Parameters can be modified to establish an optimal system performance environment.
- **Roll subsystem**: Monitors the movement of programs between storage areas.
- **Global information**: Provides operating system and status information for COM−PLETE usage, and statistical information for successfully executed transactions.
- **Transaction generation**: Allows the REVIEW DC user to establish a well-defined, repeatable stress test on the COM−PLETE system to assess tuning requirements.
- **Thread activity**: Provides thread utilization information for each specific thread and detailed information for a specific user ID associated with the thread.
- **Buffer pool information**: Shows buffer pool utilization for all allocated buffers to help assess allocation requirements.
- **Summary of active users**: Shows the usage of COM−PLETE system resources by users who are currently logged on.
- **Program information**: Provides usage statistics for application programs including the names of programs listed from the COM−PLETE storage areas. Program information includes the name, load count, and size of each program listed.
- **COM−PLETE messages**: Provides information about system status and recent changes to parameters in COM−PLETE.
- **Historical snapshots**: Provides pictures of data at previous times that are generated for specific time intervals. The REVIEW administrator controls historical snapshots.
- **Termination statistics**: Prints statistics (and/or stores them to an ADABAS file) when COM−PLETE terminates. The REVIEW administrator controls termination statistics.
- **COM−PLETE operator commands**: May be issued from REVIEW DC.

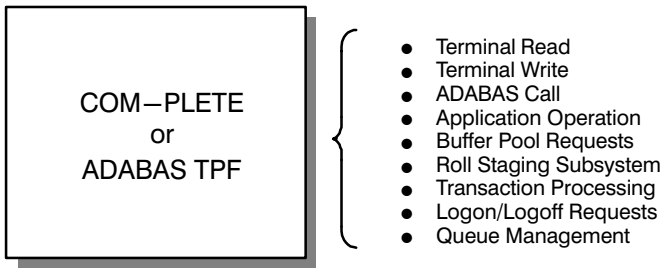


Figure 1−2: REVIEW DATA COMMUNICATION

Figure 1−2 above shows the important monitoring points between COM−PLETE and REVIEW DC. The REVIEW DC user interface allows the user to display data from these various monitoring points to evaluate performance and fine tune the system.

REVIEW NATURAL MONITOR

REVIEW NATURAL MONITOR provides response time reporting and user activity analysis for NATURAL applications running under the Customer Information Control System (CICS).

Within REVIEW NM, most statistics are gathered for a transaction, which occurs each time ENTER or a PF key is pressed.

The major features of REVIEW NM include the following:

- **Response time reporting subsystem**: Provides transaction reports and response time graphs for a user-specified time interval.

If specified, the user may also generate the following displays for a specific report:

- **Detailed records display**: Provides response time information about a user's transactions that exceed a user-defined response time threshold.
- **Transaction summary**: Provides information about transaction usage and performance. Transaction summary information is available for NATURAL at the application level.
- **Historical snapshots**: Provides pictures of data at previous times. These pictures, similar to the display of current data, are generated for specific time intervals. Anyone who defines reports can collect history data.
- **Summary of active users**: Shows the usage of system resources by users who are currently logged on and active in NATURAL.

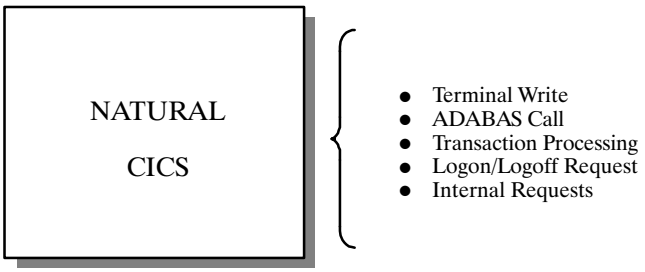


Figure 1–3: REVIEW NATURAL MONITOR

Figure 1–3 above shows significant monitoring points between NATURAL and REVIEW NM. The REVIEW NM user interface allows the user to display data from these various monitoring points to evaluate performance and fine tune the system.

The User Profile System

The User Profile System enables REVIEW administrators to generate profiles that define access rules for REVIEW users. Access rules specify the systems or the functions within systems that a user is allowed to use.

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

REVIEW provides a default profile to allow access for users who do not have a profile defined. When a user logs on, REVIEW searches for the user's profile. If one is not found, the default profile is used.

A user profile is not required for each user of REVIEW. If the default profile is customized so that the access rules meet the needs of the majority of REVIEW users, the need for individual user profiles can be eliminated.

In circumstances where a user has access needs that are different from the majority, a user profile can be created to accommodate those needs. When a profile for a new user is generated, the default profile is copied; the profile may then be customized to suit the needs of the user.

Getting Started with REVIEW

This section describes the procedures for logging on to REVIEW, accessing the REVIEW systems, using the online help system, using function codes, PF keys and commands, and ending your REVIEW session.

REVIEW Logon Procedure

REVIEW is a standard NATURAL application that resides in the NATURAL library SYSREV.

▶ Use the following procedure to access REVIEW:

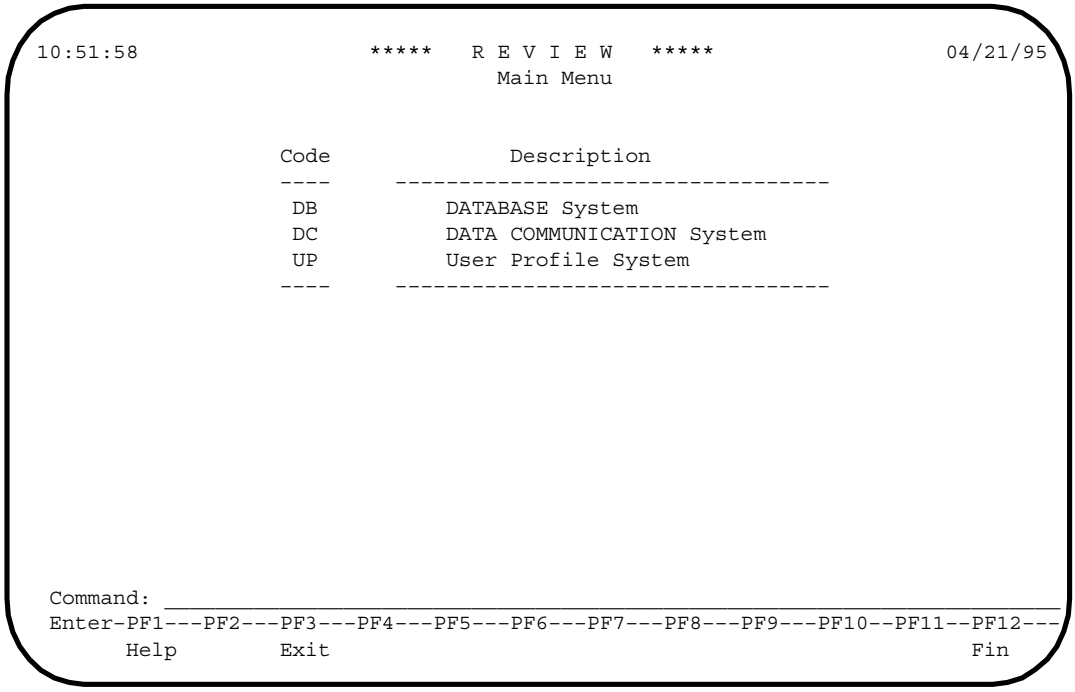
1 Access NATURAL as you do normally.

2 At the NEXT prompt, type **LOGON SYSREV** and press ENTER.

3 At the prompt, type **MENU** and press ENTER.

Contact your REVIEW administrator to determine if an alternative logon procedure for REVIEW has been defined.

When you have successfully logged on to REVIEW, the **Main Menu** screen is displayed.



Screen 1–1: The REVIEW Main Menu

Note: *The Main Menu displays the REVIEW systems available at your site.*

Your REVIEW user profile may be configured to bypass the REVIEW Main Menu and display one of the system menus instead. In this case, the System Menus are displayed when you log on to REVIEW.

The Main Menu provides access to the major systems of REVIEW.

▶ On the command line, type the code that corresponds to the system you wish to use, and press ENTER.

Depending on how REVIEW is configured at your site, you may use any or all of the following systems:

Code	System	Description
DB	DATABASE	Used to create reports that monitor activities on the ADABAS database and display statistics about ADABAS performance.
DC	DATA COMMUNICATION	Used to obtain performance, resource usage and tuning information about the COM−PLETE and ADABAS TPF teleprocessing systems.
NM	NATURAL MONITOR	Used to obtain response time and user information about NATURAL applications running under CICS.
UP	User Profile	Used to create user profiles that define access privileges to REVIEW.

Using the Online Help System

Online help is available for REVIEW systems and functions at any time during the 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 type the **HELP** command on the command line and press ENTER.
- To access specific help windows, type a question mark (**?**) in the data entry field and press ENTER.

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 Key	Command	Description
PF3	Exit	Exits from the display.
PF7	–	Scrolls one page backwards.
PF8	+	Scrolls one page forward.
PF9	––	Scrolls to the top of the text.
PF10	++	Scrolls to the bottom of the text.
PF12	Menu	Returns to the REVIEW DB Main Menu.

REVIEW Function Codes

REVIEW systems are menu-driven. A series of function codes and commands are used to navigate through the systems.

Function codes are used to access both the REVIEW systems and the functions within each system. Functions within systems 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 for REVIEW DATA COMMUNICATION by entering the following on the command line of the REVIEW Main Menu:

DC RT LS

The DC code accesses REVIEW DC and the LS code accesses the Started Reports screen.

REVIEW Commands

Commands are used to perform specific tasks within a function.

▶ To issue a REVIEW command, perform either of the following steps:

- Type the command on the command line and press ENTER; or
- Press the PF key corresponding to the command, if applicable.

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

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

Command	PF Key	Explanation
COLOR OFF	---	Returns to non-color display.
COLOR ON	---	Displays color attributes, if applicable.
EXIT	PF3	Terminates the function and returns you to the menu screen that precedes it.
FIN or QUIT	PF12	Terminates the REVIEW session. Assigned to PF12 on the REVIEW Main Menu.
HELP or ?	PF1	Displays the help screens for a particular screen or field. "?" is used to display help for a specific field.
LOGO	---	Displays the REVIEW logo screen.
MENU	PF12	Terminates the REVIEW session, and returns you to the REVIEW Main Menu.
MSG	---	Displays detailed explanations of REVIEW messages. May be issued with or without a message number. If no message number is included, REVIEW displays the explanation for the last message received.

Other 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.

Examples of list functions include the following:

- The List Started Reports functions in REVIEW DB, REVIEW DC, and REVIEW NM; and
- The List User Profiles function in the User Profile System.

The REVIEW Repositories

REVIEW uses three repositories for storing data: the REVIEW DATABASE repository, the REVIEW DATA COMMUNICATION repository, and the REVIEW NATURAL MONITOR repository.

The REVIEW DATABASE repository is an ADABAS file used for storing report definitions, historical data, and target definitions for REVIEW DB.

The REVIEW DATA COMMUNICATION repository is an ADABAS file used for storing historical data created by the REVIEW DC history task.

The REVIEW NATURAL MONITOR repository is an ADABAS file used to store response time report definitions and historical data created by the REVIEW history interval task for REVIEW NM.

Multiple DATABASE Repositories Allowed

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

Using SETFILE to Access Different DATABASE Repositories

The REVIEW command SETFILE (or SET) may be used to access different REVIEW DATABASE repositories.

Note: The SETFILE (or SET) command may only be issued from REVIEW DB.

▶ Use the following procedure to access different REVIEW DATABASE repositories:

1 Type the command **SETFILE** or **SET** on the command line of any REVIEW DB screen and press ENTER.

2 Type the DBID and FNR for the REVIEW DATABASE repository you wish to access and press ENTER.

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

Ending a REVIEW Session

There are several ways to end a REVIEW session. Any one of the following may be used:

1 To end the function you are using and return to the menu from which the function was called:

- Press PF3; or
- Type the **EXIT** command on the command line and press ENTER.

2 To end the function you are using and return to the REVIEW Main Menu:

- Press PF12; or
- Type the **MENU** command on the command line and press ENTER.

3 To end your REVIEW session while on the REVIEW Main Menu:

- Press PF3 (Exit); or
- Press PF12 (Fin); or
- Type the **FIN** command on the command line and press ENTER; or
- Type the **QUIT** command on the command line and press ENTER.

4 To end your REVIEW session **without** returning to the REVIEW Main Menu:

- Type the **FIN** command on the command line and press ENTER; or
- Type the **QUIT** command on the command line and press ENTER.

CHAPTER 2

The REVIEW DC System

THE REVIEW DC SYSTEM

The REVIEW DATA COMMUNICATION (DC) System provides performance, resource utilization, and tuning information about the COM−PLETE and ADABAS TPF teleprocessing systems. The menu provides access to both current and historical data.

Note: In this manual, references to COM−PLETE can be extended to ADABAS TPF.

REVIEW DC System Access

▶ Use either of the following procedures to access the REVIEW DC menu:

- On any command line in REVIEW, type the system code **DC** and press ENTER.
- From the REVIEW Main Menu screen, select the DC function.

The **DATA COMMUNICATION System** menu appears as shown below:

```
11:05:14                  *****   R E V I E W   *****                  04/21/95
 TEST-462                   DATA COMMUNICATION System                   Patch: *


                   Code              Description
                   ----     ---------------------------------
                    BP       Buffer Pool Information (Var)
                    CM       COMPLETE Messages
                    FB       Fixed Buffer Pool Information
                    GI       Global Information
                    HO       History Options
                    PI       Program Information
                    RS       Roll Subsystem
                    RT       Response Time Subsystem
                    TA       Thread Activity
                    TG       Transaction Generator
                    TI       Target Information
                    UA       User Activity
                   ----     ---------------------------------


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

Screen 2−1: The DATA COMMUNICATION System Menu

An explanation of the DATA COMMUNICATION System menu is provided in the following table:

Code	Function	Explanation
BP	Buffer Pool Information	Displays information about the allocated COM−PLETE buffer pools and their utilization.
CM	COM−PLETE Messages	Displays messages that have been written to the main console by COM−PLETE.
FB	Fixed Buffer Pool Information	Displays information about the allocated COM−PLETE fixed buffer pools (and their subpools) and their utilization.
GI	Global Information	Displays general information about the COM−PLETE environment.
HO	History Options	Allows the REVIEW administrator to define intervals for capturing history data within other REVIEW DC functions; determines the output of statistics at COM−PLETE termination.
PI	Program Information	Displays information about application program usage.
RS	Roll Subsystem	Monitors performance status information for the roll facility and its interaction with the processing of COM−PLETE programs.
RT	Response Time Subsystem	Provides information about response times experienced by COM−PLETE end users; reports on transaction usage.
TA	Thread Activity	Provides statistical information about the COM−PLETE program thread tasks.
TG	Transaction Generator	Enables users to generate a well−defined, repeatable load on the COM−PLETE system.
TI	Target Information	Monitors the activity of target objects which utilize the ADABAS transport mechanism.
UA	User Activity	Displays information about the system activity of COM−PLETE users who are currently logged on.

The following PF keys are available on all of the REVIEW DC screens:

PF Key	Command	Description
PF1	Help	Accesses the help system.
PF3	Exit	Exits from the display.
PF12	Menu	Returns to the REVIEW Main Menu.

Primary Functions and Subsystems

The REVIEW DC System menu lists both primary functions and subsystems:

- A primary function consists of one or more screen displays;
- A subsystem consists of several primary functions.

Subsystems and primary functions are reflected in the menu structure of the REVIEW DC System. The following is a diagram of the REVIEW DC System and the function codes used to access each function.

*Note: Refer to Appendix A, **Function Codes and Commands**, for a discussion of all function codes, PF keys, and commands used within REVIEW DC.*

Figure 2−1: The REVIEW DATA COMMUNICATION System

The DC System OC Command

COM−PLETE operator commands can be entered on the command line from any screen in the DC System by preceding the COM−PLETE command with the REVIEW command "OC". A list of COM−PLETE operator commands is provided in the **COM−PLETE Computer Operator's Manual**.

Ending a REVIEW Session

There are several ways to end a REVIEW session. Any one of the following may be used:

1. To end the function you are using and return to the menu from which the function was called:
   - Press PF3; or
   - Type the **EXIT** command on the command line and press ENTER.
2. To end the function you are using and return to the REVIEW Main Menu:
   - Press PF12; or
   - Type the **MENU** command on the command line and press ENTER.
3. To end your REVIEW session while on the REVIEW Main Menu screen:
   - Press PF3 (Exit); or
   - Press PF12 (Fin); or
   - Type the **FIN** command on the command line and press ENTER; or
   - Type the **QUIT** command on the command line and press ENTER.
4. To end your REVIEW session **without** returning to the REVIEW Main Menu:
   - Type the **FIN** command on the command line and press ENTER; or
   - Type the **QUIT** command on the command line and press ENTER.

CHAPTER 3

Editing Response Time Reports

EDITING RESPONSE TIME REPORTS

REVIEW DATA COMMUNICATION (DC) provides response time reports. This chapter discusses the types and components of these reports and how they are created, modified, and used.

What is a Response Time Report?

The Response Time Subsystem enables you to retrieve information about the response times experienced by end users of COM−PLETE or ADABAS TPF.

Response time is the amount of time, in seconds, required to process a user's transaction. A transaction is registered each time the ENTER key or a PF key is pressed.

Response time information is collected by the REVIEW processor according to the instructions in the **response time report definition**, which consists of the following:

- A set of parameters specifying the data to be captured;
- A set of report and historical data parameter options for specifying conditions of report processing; and
- A set of processing rules identifying the conditions under which that data is to be captured.

The Edit Report (ER) function provides a fill-in-the-blank screen to help you create or modify a response time report definition. It also provides screens for additional report options and for report processing rules. Once you have entered all parameter values and processing rules, you can issue the SAVE command to write the report definition to the REVIEW DC repository file.

Data accumulation for a report begins when you **start** the report. Report results are automatically saved until the report is **refreshed** or **purged**.

A report may be viewed online. Report results are displayed as tables and graphs.

Two response time report definitions are supplied with REVIEW DC. These reports may be used without change, or they may be customized to meet the requirements of your particular site. You may also create your own reports.

What are Report Processing Rules?

Report processing rules allow you to restrict the data that a report collects. The following fields are used to specify processing rules:

- User ID field
- Program
- NATURAL Application
- NATURAL Program
- Terminal ID field

Each field may contain one of the following processing rules:

- A blank (generates all data);
- A single value;
- A wild card.

For example, the user ID SAAAA is an example of a single value; SB* is an example of a wild card representing all user IDs beginning with SB.

Alphanumeric or numeric characters may be entered, but a hexadecimal value is **not** permitted.

If there are **multiple** processing rules, the processing rules are connected logically using the logical operator "AND".

How are Reports Displayed?

The following displays are available for each report:

- Detailed Records providing information sorted by user
- Transaction Summary providing information sorted by transaction
- COM−PLETE Operations Summary Table
- Vertical Graph
- Horizontal Graph

Detailed Records Display

The Detailed Records display provides detailed response time statistics for transactions **related to specific user IDs**. The Detail Record parameters in the report definition determines when, how many, and what kind of detail records are to be generated. Detailed records can be viewed online using the Detailed Records display.

Transaction Summary Display

The Transaction Summary display provides both detailed and summary response time statistics **related to specific transaction names**. The detailed statistics are specified for a particular transaction name and NATURAL application (library); the summary statistics are specified for a particular transaction name, regardless of the NATURAL application.

REVIEW DC users may also generate summary statistics related to specific COM−PLETE operations used to process transactions. Summary reports of COM−PLETE operations are available when the OP Summary parameter is set in the report definition; report results are available online in the OP Summary display.

Transaction Summary reports are produced when the Transaction Summary parameter is set in the report definition; the report results are available online in the Transaction Summary display.

Graphic Display

Reports may be viewed as tables or graphs. Both vertical and horizontal graphic displays are available. The interval, in seconds, for which graphs are generated is set using the Graph parameter in the report definition.

What Reports are Supplied with REVIEW DC?

REVIEW DC supplies two reports which may be used without modification or customized to meet the requirements defined for your site:

- The **HIGHEST RESPONSE** report lists the transactions that have the highest response time, up to the maximum number of records allowed for the report (default=50). This report allows the user to identify the transactions with the worst response time of all monitored transactions.
- The **SYSTEM RESPONSE TIME** report lists the most recent transactions that exceed the response time threshold set for this report (default = 3.5 seconds).

The supplied reports can be viewed online in table or graphic form.

How are Report Listed?

Three types of lists are used to manage reports:

- **Report definition of lists** of report definitions and started reports;
- **Started report lists** of all reports that have been started and may be accumulating data; and
- **History report lists** of all reports containing historical data.

*Note: Refer to Chapter 4, **Listing Response Time Reports**, for a complete explanation of the list report functions.*

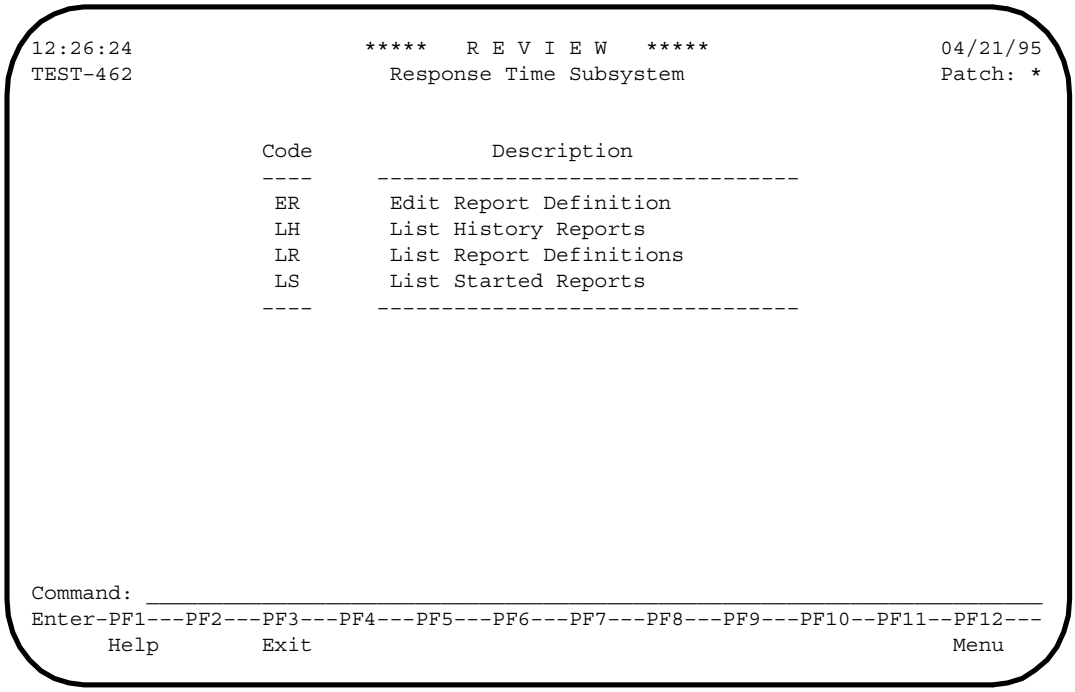
Accessing the Response Time Subsystem

▶ You can access the Response Time Subsystem two ways.

- From DATA COMMUNICATION System screens, type the function code **RT** on the command line and press ENTER.
- From any other REVIEW screen, precede the function code with the DATA COMMUNICATION System code and press ENTER:

  DC RT

  The Response Time Subsystem menu appears as follows:



Screen 3–1: Response Time Subsystem Menu

Only the commands and PF keys that are generally available within REVIEW DC are available from the Response Time Subsystem Menu Screen.

Response Time Subsystem Functions

The functions available from this menu are described in the following table:

Code	Function	Description
ER	Edit Report Definition	Allows you to specify the parameters used to collect information for a response time report.
LH	List History Reports	Lists the historical snapshots which contain previously accumulated data.
LR	List Report Definitions	Lists the report definitions and started reports available.
LS	List Started Reports	Lists the reports that are currently accumulating data.

This chapter explains how to use the Edit Report Definition (ER) function to create and maintain report definitions. Chapter 4, **Listing Response Time Reports**, explains how to use the remaining Response Time Subsystem functions.

Creating a Report

A report is created by saving a unique report name in the Edit Report (ER) screen. The report name is the only element you are required to enter to create a report. All other elements have default settings. However, you may edit the report elements to create a report with unique data collection parameters. The following sections describe the report elements and how they are edited.

Accessing the Edit Report Definition Screen

▶ Use any of the following three methods to access the Edit Report Definition (ER) screen:

- From the Response Time Subsystem screens, type the **ER** code on the command line and press ENTER; or
- From any other DATA COMMUNICATIONS System screen, precede the function code with the Response Time Subsystem code:

  RT ER

- From any other REVIEW System screen, precede the function code with the DATA COMMUNICATION System code and the Response Time Subsystem code:

  DC RT ER

In all three cases, the Edit Report Definition screen is displayed as follows:

```
12:29:22                  *****   R E V I E W   *****                  04/21/95
TEST-462                          Edit Report                          Patch: *

                Report Name: _____________________________

 +-------- Graph Parameter --------+      +- Transaction Summary Parameters -+
 ! Response Time Interval .. 0.5_  !      ! Number of Records ........ 20__  !
 +---------------------------------+      ! Summary Option ........... NONE  !
                                          !          (None,Pgm,Nata,Natp)     !
 ---- Detail Record Parameters ----+      +-----------------------------------+
 ! Response Time Threshold . 3.5_  !
 ! Number of Records ....... 20__  !      +--------- Report Options ---------+
 ! Summary Options ......... NONE  !      ! Autostart ................. N     !
 !          (None, Std, High)      !      ! Time differential ........ 0.0_  !
 +---------------------------------+      ! Refresh at interval ...... N     !
                                          ! Exempt from interval proc. _     !
+------ OP Summary Parameter ------+      +-----------------------------------+
! Summary Option (None,Sum). NONE  !
+---------------------------------+

REV00275 - NEW REPORT DEFINITION
Command: ____________________________________________________________________
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help        Exit        Save  Start                  Rules       Menu
```

Screen 3–2: Edit Report

In addition to the commands and PF keys that are generally available within REVIEW DC, the following commands and PF key functions are provided on the Edit Report screen:

PF Key	Command	Description
PF5	**SAVE**	Saves the current report definition
PF6	**START**	Saves the current report definition, and starts the report.

Report Options

The Edit Report screen provides the following report option fields:

Graph Parameter

The following field contains one parameter used to graph reports:

Field	Description
Response Time Interval	Specifies the Response Time Interval, in seconds, used to graph a report horizontally and vertically. This value is also used to control the color and noncolor attributes of the vertical and horizontal graphs. Valid values are 0 to 99.9.

Detail Records Parameters

The following fields contain values which specify when and if detailed records are to be generated for a report.

Field	Description
Response Time Threshold	Specifies the transaction response time value, in seconds, above which REVIEW creates detailed records for the Detailed Records table. This value is also used to control the color and noncolor attributes of the vertical and horizontal graphs. Response times that exceed the Response Time Threshold are the highest response times experienced. Valid values are 0 to 99.9.
Number of Records	Indicates the maximum number of detailed response time records to be retained. Valid values are 1 to 9999.

Field	Description
Summary Options	Specifies the wrap option and has the following possible values: NONE Detailed response time records are retained to the limit specified by the Number of Records value. STD (standard) The most current response time records are retained once the Number of Records value is reached. HIGH The response time records with the highest value are retained once the Number of Records value is reached.

OP Summary Parameter

The following field contains the parameter value used to specify when and if summary records for COM−PLETE operations are to be generated for a report.

Field	Description
Summary Option	Specifies whether a summary of COM−PLETE operations performed for transactions is generated. NONE No summary of COM−PLETE operations is created. SUM A summary of COM−PLETE operations is created.

Transaction Summary Parameters

The following fields contain values which specify when and if transaction summary records are to be generated for a report.

Field	Description
Number of Records	Indicates the **maximum** number of summary response time records to be retained. Valid values are 1 to 9999.

Field	Description
Summary Option	Specifies whether a Transaction Summary table is to be generated and, if so, what kind. NONE No transaction summary is created. PGM A transaction summary is created for the root program; for example *REVIEW for REVIEW. NATA A transaction summary is created for the NATURAL application. NATP A transaction summary is created for the NATURAL program.

Report Options

The following parameter values are used to control the Auto Start and Time Differential options.

Field	Description
Auto Start	Auto Start specifies whether the report automatically begins collecting data at COM−PLETE startup. Valid values are Y (yes) or N (no).
Time Differential	The Time Differential option is used to account for time differences caused by the REVIEW DC report requestor being in a different time zone than the host computer. If the field is blank, all reports will be generated in real-time. Valid values are −99.9 through +99.9.

Field	Description
Refresh at interval	Determines whether or not the data in the history report will be refreshed at intervals.
Exempt from interval proc.	Determines whether or not this report will be ignored during interval processing.

Entering the Report Name

A report name is required; otherwise, the report cannot be saved to the REVIEW repository. A report name may be up to 32 characters long and must be unique. Alphanumeric and some special characters may be used in report names.

The following list of special characters may **not** be used in report names:

Character	Description
(')	Apostrophe or single quote
(¢)	Cent sign
(:)	Colon
(,)	Comma
($)	Dollar sign
(=)	Equal sign
(%)	Percent sign
(.)	Period
(/)	Slash

If the report name is blank, or if the report name you have entered is new to REVIEW DC, the following message is displayed on the Edit Report screen:

REV00275 – NEW REPORT DEFINITION

If this message does not appear, REVIEW DC has recognized the report name you entered as an existing report. Any changes you make on the Edit Report screen will modify the existing report. Refer to the section **Editing Existing Reports**, later in this chapter, for information on editing an existing report.

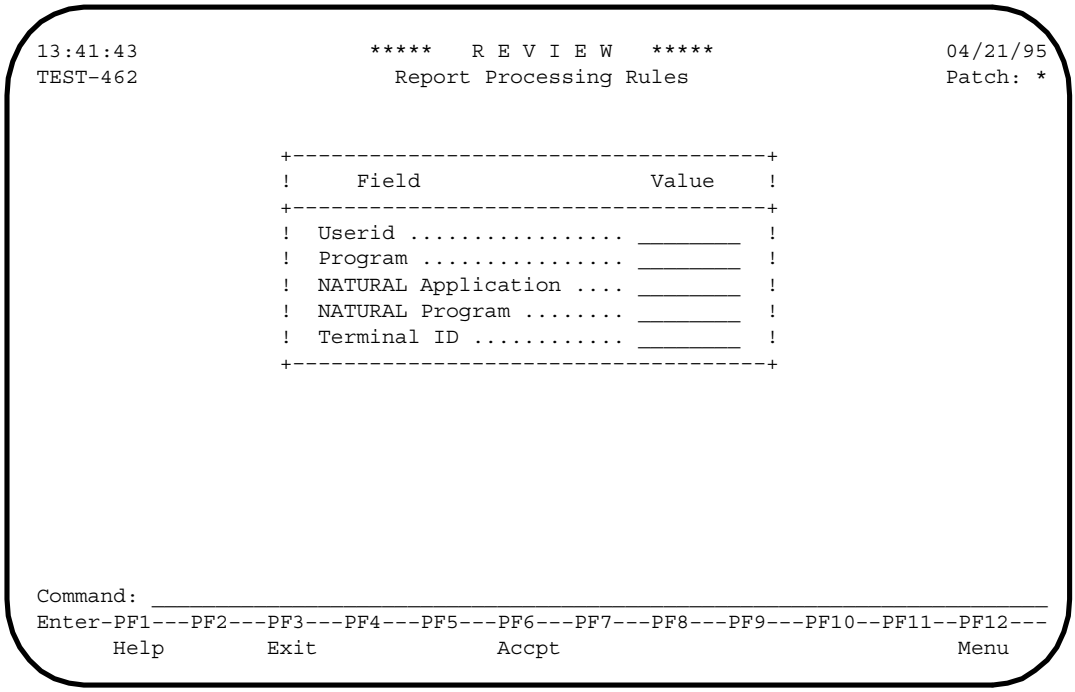
Editing Display Attributes

The Response Time Interval and Response Time Threshold parameters are used to control the color and noncolor attributes of response time graphs that display totals. Response times which exceed the Response Time Threshold are shown on color graphs in red and on noncolor graphs as asterisks (*).

Accessing the Processing Rules Screen

Report processing rules are used to restrict the accumulation of response time data to a specific user, program, NATURAL application, or NATURAL program or to a specific set of these values.

▶ To display the Report Processing Rules screen, press PF10 .



Screen 3–3 Report Processing Rules Screen

In addition to the commands and PF keys that are generally available within REVIEW DC, the following PF key functions are provided on the Report Processing Rules screen:

PF Key	Command	Description
PF6	**ACCPT**	Accepts the current report processing rules and returns to the Edit Report screen.

Report Processing Rules Fields

The following fields contains parameter values used to define rules for report data collection.

Field	Description
Userid	Restricts the collection of data to an individual user ID or group of user IDs. Valid values are *nnnnn,* where *n* is any alphanumeric character, or the wild card character (*)
Program	Restricts the collection of data to an individual program or group of programs. Valid values are *nnnnn,* where *n* is any alphanumeric character, or the wild card character (*)
NATURAL Application	Restricts the collection of data to an individual NATURAL application or group of NATURAL applications. Valid values are *nnnnn,* where *n* is any alphanumeric character, or the wild card character (*)
NATURAL Program	Restricts the collection of data to an individual NATURAL program or group of NATURAL programs. Valid values are *nnnnn,* where *n* is any alphanumeric character, or the wild card character (*)
Terminal ID	Restricts the collection of data to an individual terminal ID or group of terminal IDs. Valid values are *nnnnn,* where *n* is any alphanumeric character, or the wild card character (*)

Creating Processing Rules

A REVIEW DC report processing rule is specified by a value or range of values for a specific field. If there are **multiple** processing rules, the processing rules are connected logically using the logical operator "AND".

When entering processing rules, alphanumeric and numeric values are permitted; hexadecimal values are **not** permitted. Each field may contain one of the following processing rules:

- A **blank**. If a field remains blank, all data pertaining to that field is generated.
- A **single value**. If a single value is entered in a field, data accumulation is restricted to the value entered.
- A **wild card**. If a wild card is entered in a field, data acclamation is restricted by the value entered in that field. For example, **P*** generates data related to all and only those NATURAL programs that have names beginning with the value "P".

▶ To create report processing rules:

- Enter a value for each processing rule field you wish to use.
- Press PF6 or type **ACCPT** on the command line and press ENTER to accept the changes and return to the Edit Report screen.

Saving a Report Definition

When you have made all necessary changes on the Edit Report screen, save the report definition. Saving the report definition will also save any changes accepted from the Report Options and/or the Processing Rules screens.

▶ To save a report definition:

- Press PF5 (Save); or,
- Type **SAVE** on the command line and press ENTER.

Starting a New Report

A new report begins collecting data when the report is **started**. Once a report is started, tables and graphs of response time data are generated based on the parameters in the report definition.

▶ To start a report:

- Do one of the following:
  - From the Edit Report screen, press PF6 (Start) or type **START** on the command line and press ENTER
  - From the Response Time Subsystem screen, type the following string and pressing ENTER:

    ST reportname
  - From any REVIEW DC screen, type the following string and pressing ENTER:

    RT LR ST reportname
  - From the list of report definitions, type **ST** on the selection line preceding the name of the report to be started and pressing ENTER.
- If the report definition has not been saved, the following message appears:

message

Choose **Y** to save the report definition and start the report, or;

Choose **N** to return to the Edit Report Definition screen.

- When a report has been started, the following message appears:

REV00092 – REPORT HAS BEEN STARTED

Editing an Existing Report

Editing an existing report is similar to creating a new report. The following table gives a brief description of how to edit an existing report.

To Edit an Existing Report...	
Name	• On the Edit Definition screen, overtype the name in the Report Name field. • Press PF5, or type **SAVE** on the command line and press ENTER.
Options	• Overtype the existing options with a new value for each report option you wish to change. • Press PF6, or type **ACCPT** on the command line and press ENTER.
Processing Rules	• Overtype the existing processing rules with a new value for each report option you wish to change. • Press PF6, or type **ACCPT** on the command line and press ENTER.

Starting a Previously Started Report

The SAVE command, discussed earlier in this chapter, is not valid for starting a report which has already started collecting data. On of these options must occur:

- **Rename the report**
  Renaming the report allows you to make the changes to the report definition without losing the data already collected.
- **Refresh the report**
  The REFRESH command deletes any data collected using the old report definition, then starts the report. All data accrued will be as a result of the updated report definition.

Using the REFRESH Command

When you REFRESH a report, all tables and graphs for the report are deleted, and new data is generated based on the current parameters in the report definition.

▶ To refresh a started report:

- Do one of the following:
  - Follow the any of the procedures for starting a report.
  - Type **RF *reportname*** and press ENTER.

  The following message appears:

  The report listed below is already started. Do you want to REFRESH it?
- Type **Y** at the cursor and press ENTER to refresh the report; or,
- Type **N** and press ENTER to retain the started report without any current modifications you may have made.

Purging Report Definitions and Started Reports

The following commands enable you to purge your report definitions and started reports. These commands are available from the list of report definitions, the list of started reports, and the Expanded List of historical snapshots by typing the command in the Sel column preceding the selected report (or historical snapshot) and pressing ENTER:

Command	Description
PD	Purge all historical snapshots for the selected day.
PR	Purge a report definition.
PS	Purge a started report.
PH	Purge a historical snapshot.

▶ To purge all historical snapshots for the selected day, a report definition, a started report, or a historical snapshot:

1 Type the command (**PD**, **PR**, **PS**, or **PH**) in the Sel column preceding the selected report (or historical snapshot) and press ENTER:

The following message appears:

Please confirm PURGE request for: reportname (Y or N).

2 Verify that the correct report has been selected.

3 Type **Y** at the cursor position and press ENTER to confirm the purge, or type **N** and press ENTER to retain the report.

Purging a Started Report

If you decide to delete a report, delete the started report. The related report definition is not affected and can be modified for use as another report. Historical snapshots for the report are also retained.

Before you purge a started report, remember that a started report can be refreshed (restarted) using a modified report definition. A restarted report retains historical snapshots generated using the previous report definition.

Purging a Historical Snapshot

You may decide to purge one or more of the historical snapshots available for a particular started report. For instance, you might decide to purge the oldest historical snapshot(s). Purging a historical snapshot has no effect on the started report or its associated report definition.

Purging a Report Definition

Before you purge a report definition, remember that a report definition can be modified for use with another report. You might decide to delete a report definition that has never been started and will never be started.

It is possible to purge a report definition without purging the related started report. However, that started report cannot thereafter be modified (i.e., refreshed or restarted).

CHAPTER 4

Listing Response Time Reports

LISTING RESPONSE TIME REPORTS

This chapter describes the three list report functions. It also discusses the commands provided by the functions to maintain report definitions, manage started reports, and manage the output they produce.

The Response Time Subsystem Menu displays four functions that may be used to list the names of reports:

Function	Description
LR	**List Report Definitions**, which lists all reports.
LS	**List Started Reports**, which lists reports that are currently accumulating data.
LH	**List History Reports**, which lists reports that have historical information written to the REVIEW DC repository.
ER	**Edit Report Definition**, which allows modification of existing and definition of new reports.

List Function Commands

Each list function has a set of commands that enables you to perform actions on a specified report. The commands are typed on the selection line preceding the name of the report.

▶ To display a list of the commands available for a particular list function screen, type a **?** in the selection line preceding a report name and press ENTER.

Listing Report Definitions (LR)

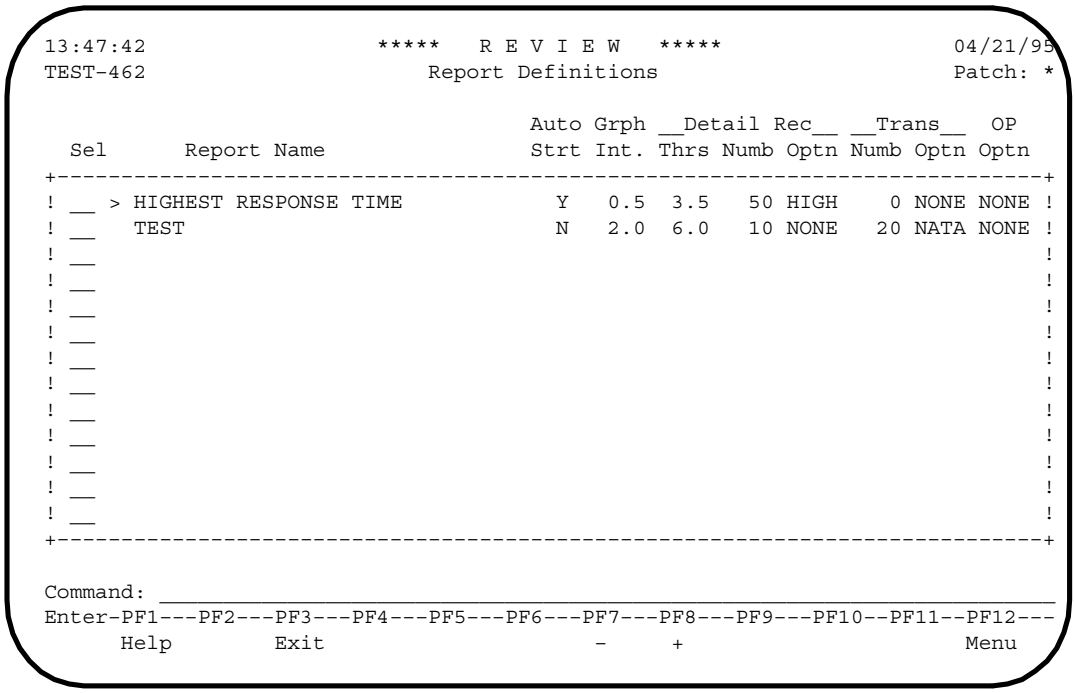
The List Report Definitions (LR) function lists all reports. It provides commands used to modify the report definition, control report data collection, view collected data, and remove an existing report and for it's data.

In addition, you may start reports and view the output of started reports.

▶ Use either of the following procedures to access the Report Definitions screen:

- From the Response Time Subsystem, type **LR** on the command line and press ENTER.
- From any screen in REVIEW DC, type **RT LR** on the command line and press ENTER.

The **Report Definitions** screen appears as shown below:



Screen 4–1: Report Definitions

Reports are listed in alphabetical order by name. Started reports are indicated by a ">" preceding the name of the report.

In addition to the commands and PF keys that are generally available within REVIEW DC, the following PF key functions are provided on the Report Definitions screen:

PF Key	Command	Description
PF7	–	Scrolls backward to the previous screen of reports.
PF8	+	Scrolls forward to the next screen of reports.
–––	TOP	Scrolls to the top of the report list.
–––	BOT	Scrolls to the bottom of the report list.

Report Definitions Fields

The Report Definitions fields summarizes the options specified for the report. The following table describes the fields shown on the Report Definitions screen.

Heading	Explanation
Auto Strt	Autostart option. Valid values are: Y Response time report is autostarted. N Response time report not is autostarted.
Grph Int.	Response time interval. Valid values are 0 to 1440.
Detail Rec	Detail Record Options. Thrs Response Time Threshold. Valid values are 0 to 99.9. Num Number of records. Valid values are 1 to 9999. Optn The wrapping option. Valid values are NONE, STD, HIGH.
Trans	Transaction summary options. Num Number of records. Valid values are 1 to 9999. Optn Controls the Transaction Summary Table. Valid values are NONE, PGM, NATA, and NATP.
OP Optn	COM−PLETE operations summary options. Valid values are: NONE and SUM.

Report Definitions Commands

Commands which control reports can be issued from the Report Definitions screen.

▶ To issue a command, do one of the following:

- Type the command on the selection line preceding the report name and press ENTER.
- Type a **?** on the selection line and press ENTER, move the cursor to the desired command, and press ENTER.
- Type the command followed by the report name on the command line, and press ENTER.

From the Report Definitions screen, you may use the following commands:

Command	Task
ER	Edit the report definition.
EX	Display a list of historical snapshots for the report.
PR	Purge the report definition.
PS	Purge the started report.
RA	Reactivate a suspended report.
RE	Restart the suspended report.
RF	Refresh the started report.
ST	Start a report.
SU	Suspend a report.
VD	Display detailed records for the report.
VH	Display a horizontal graph for the report.
VO	Display a summary of COM−PLETE operations.
VT	Display a transaction summary for the report.
VW	Display a vertical graph for the report.

Listing Started Reports (LS)

The List Started Reports (LS) function lists reports that have been started. It provides commands to close, suspend, reactivate, and refresh started reports and view, print, and purge the report output. In addition, you may edit the report definition or its corresponding display program.

▶ Use either of the following procedures to access the Started Reports screen:

- From the Response Time Subsystem, type **LS** on the command line and press ENTER.
- From any screen in REVIEW DC, type **RT LS** on the command line and press ENTER.

The Started Reports screen appears as shown below:

```
13:51:27                  *****   R E V I E W   *****                  04/21/95
TEST-462                        Started Reports                        Patch: *

                                                    ___Start___ ___Records Used____
  Sel      Report Name                  Status Date  Time    Detail    Trans
+-------------------------------------------------------------------------------+
! __   HIGHEST RESPONSE TIME             Act   04/21 10:41    5/50      0/0    !
! __   SYSTEM RESPONSE TIME               Act   04/21 10:41    5/50     12/50   !
! __                                                                           !
! __                                                                           !
! __                                                                           !
! __                                                                           !
! __                                                                           !
! __                                                                           !
! __                                                                           !
! __                                                                           !
! __                                                                           !
! __                                                                           !
! __                                                                           !
+-------------------------------------------------------------------------------+

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

Screen 4–2: Started Reports Screen

In addition to the commands and PF keys that are generally available within REVIEW DC, the following PF key functions are provided on the Report Definitions:

PF Key	Command	Description
PF8	+	Scrolls forward to the next screen of reports.
– – –	TOP	Scrolls to the top of the list.
– – –	BOT	Scrolls to the bottom of the list.

Started Reports Fields

The Started Reports fields summarizes the status of data collection specified for the report. The following table describes the fields shown on the Started Reports screen.

Field	Description	
Status	Shows whether or not the report is currently collection data. Valid values are:	
	Act	The report is collecting data.
	Purg	The report is being purged.
	Refr	The report is being refreshed.
	Sus	The report has been suspended.
Start	Indicates when the report began collecting data.	
	Date	The date when data collection began, in mm/dd format.
	Time	The time when data collection began, in hh:mm format.
Records Used	The number of records collected in the report, compared to the number specified in the report definition.	
	Detail	The number of records used by a detail report in the format nn/nn, where the first number is the number currently used by the report, and the second number is of records specified by the report definition.
	Trans	The number of records used by a transaction summary report in the format nn/nn, where the first number is the number currently used by the report, and the second number is of records specified by the report definition.

Started Reports Commands

Commands which control reports can be issued from the Started Reports screen.

▶ To issue a command, do one of the following:

- Type the command on the selection line preceding the report name and press ENTER.
- Type a **?** on the selection line and press ENTER, move the cursor to the desired command, and press ENTER.
- Type the command followed by the report name on the command line, and press ENTER.

From the Started Reports screen, you may use the following commands:

Command	Task
ER	Edit the report definition.
EX	Display a list of historical snapshots for the report.
PR	Purge the report definition.
PS	Purge the started report.
RA	Reactivate a suspended report.
RE	Restart a report.
RF	Refresh (restart) the started report.
ST	Start a report.
SU	Suspend a started report.
VD	Display detailed records for the report.
VH	Display a horizontal graph for the report.
VO	Display a summary of COM−PLETE operations.
VT	Display a transaction summary for the report.
VW	Display a vertical graph for the report.

Note: If you issue the ST command from the Started Reports screen, REVIEW asks whether you want to refresh (restart) the report.

Listing History Reports (LH)

The List History Reports (LH) function lists reports that have written history data to the REVIEW DC repository, and provides commands to view history data, submit it for hard copy printing, and purge it. In addition, you may edit the report definition and its corresponding display program.

▶ Use either of the following procedures to access the History Reports screen:

- From the Response Time Subsystem, type **LH** on the command line and press ENTER.
- From any screen in REVIEW DC, type the code **RT LH** on the command line and press ENTER.

The History Reports screen appears as shown below:

```
13:56:05                  *****   R E V I E W   *****                  04/21/95
TEST-462                        History Reports                        Patch: *

  Sel  Report Name..................... Number  Records .... Date Range .....
+-------------------------------------------------------------------------------+
! __   HIGHEST RESPONSE TIME               258    4,584  95/03/15 - 95/04/21  !
! __   SYSTEM RESPONSE TIME                258    4,584  95/03/15 - 95/04/21  !
! __   TEST                                  5       15  95/03/21 - 95/04/04  !
! __                                                                           !
! __                                                                           !
! __                                                                           !
! __                                                                           !
! __                                                                           !
! __                                                                           !
! __                                                                           !
! __                                                                           !
! __                                                                           !
! __                                                                           !
! __                                                                           !
+-------------------------------------------------------------------------------+
Command: _____________________________________________________________________
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help        Exit                          +                      Menu
```

Screen 4–3: History Reports

From the History Reports screen, the only command that can be entered in the Sel column input field is the EX (Expand) command which accesses the Expanded List of historical snapshots for the report selected.

Note: *When entered on the command line, the EX command accesses the History Reports screen as shown above.*

In addition to the commands and PF keys that are generally available within REVIEW DC, the following PF key functions are provided on the History Reports screen:

PF Key	Command	Description
PF8	+	Scrolls forward to the next screen of reports.
– – –	TOP	Scrolls to the top of the list.
– – –	BOT	Scrolls to the bottom of the list.

History Reports Fields

The History Reports fields summarizes the status of history data collection for the report. The following table describes the fields shown on the History Reports screen.

Field	Description
Number	The number of historical snapshots available for the report.
Records	The number of ADABAS records for all historical snapshots.
Date Range	The range of dates for which historical snapshots are available.

Listing Historical Snapshots

You may access the Expanded List of historical snapshots for a response time report listed on the History Reports screen.

▶ Use any of the following procedures to access the Expanded List of historical snapshots:

- From any display (not a list) within the Response Time Subsystem, type **EX** on the command line and press ENTER.
- From the History Reports screen, type **EX** in the Sel column next to a report name and press ENTER.
- From any screen in REVIEW DC, type the following string on the command line and press ENTER:

RT LH EX reportname

An Expanded List for the history report selected appears as shown below:

```
14:02:55                 *****   R E V I E W   *****                 04/21/95
TEST-462            Expanded List for HIGHEST RESPONSE TIME           Patch: *

  Sel  Date/Time      Sel  Date/Time      Sel  Date/Time      Sel  Date/Time
+-------------------------------------------------------------------------------+
!     21 APR 1995      __     10:06:38      __     06:00:00      __     06:00:00  !
! __   -Current-       __     10:00:05      __     02:00:01      __     02:00:01  !
! __    14:00:04       __     06:00:01          17 APR 1995          15 APR 1995 !
! __    12:40:07       __     02:00:01      __     22:00:01      __     22:00:00  !
! __    09:59:59           19 APR 1995      __     18:00:00      __     18:00:00  !
! __    09:19:09       __     22:00:00      __     14:00:00      __     14:00:00  !
! __    06:00:00       __     18:00:01      __     10:00:00      __     10:00:00  !
!     20 APR 1995      __     15:47:31      __     06:00:01      __     06:00:00  !
! __    17:49:53       __     14:00:01      __     02:00:00      __     02:00:00  !
! __    17:30:57       __     10:00:00          16 APR 1995          14 APR 1995 !
! __    17:29:32           18 APR 1995      __     22:00:00      __     22:00:05  !
! __    17:25:15       __     18:00:00      __     18:00:01      __     18:00:01  !
! __    17:12:56       __     14:00:00      __     14:00:01      __     14:00:01  !
! __    17:08:50       __     10:00:01      __     10:00:01      __     10:00:00  !
+-------------------------------------------------------------------------------+
REV00055 - SELECT A HISTORICAL SNAPSHOT
Command: _____________________________________________________________________
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
     Help  Curr  Exit                          +                       Menu
```

Screen 4–4: Expanded Report List (History Report)

Each historical snapshot is identified on this Expanded list by date and time. Current data is marked as "−Current−" on the list. The following message appears on the screen:

REV00055 − SELECT A HISTORICAL SNAPSHOT

In addition to the commands and PF keys that are generally available within REVIEW DC, the following PF key functions are provided on the Expanded List for historical snapshots screen:

PF Key	Command	Description
PF2	**CURR**	Return from historical display to current display.
PF8	**+**	Scrolls forward to the next screen of reports.
PF19	**NEXT**	Displays the next later historical snapshot available.
PF20	**PREV**	Display the next earlier historical snapshot available.
−−−	**TOP**	Scrolls to the top of the list.
−−−	**BOT**	Scrolls to the bottom of the list.

Expanded List Fields

The Expanded List fields show the historical snapshots available for a particular report. The following table describes the fields shown on the Expanded List screen.

Field	Description
Date/Time	The date and time the historical snapshot was collected. The valid values are *dd:mm:yy (date) and hh:mm:ss (time).* The string 'T:' in front of the date indicates a Termination record (Historical snapshot taken during COM−PLETE shutdown).

Note: If historical data is not being captured, the Expanded List screen contains only the current date and time.

History Reports Commands

Commands which control reports can be issued from the Report Definitions screen.

▶ To issue a command, do one of the following:

- Type the command on the selection line preceding the report name and press ENTER.
- Type a **?** on the selection line and press ENTER, move the cursor to the desired command, and press ENTER.
- Type the command followed by the report name on the command line, and press ENTER.

Command	Task
PD	Purge all historical snapshots for the selected day.
PH	Purge this historical snapshot.
VD	Display a detailed records table for the snapshot.
VH	Display a horizontal graph for the snapshot.
VW	Display a vertical graph for the snapshot.

Note: The VO and VT commands are not available when viewing historical snapshots.

Toggling Between Current and History Data

Once you have accessed either the Expanded List or the actual historical snapshot, you may toggle back to the current data display.

▶ To toggle between current data and history data:

- From the history display, press PF2 or type **CURR** on the command line and press ENTER to view current data.
- From the current display, press PF2 or type **HIST** on the command line and press ENTER to view history data.

A message appears indicating that you are **NOW VIEWING CURRENT DATA** or **NOW VIEWING HISTORICAL DATA**, as appropriate.

Returning to the Expanded List

To select a different report, you may return to the Expanded List Screen.

▶ To return to the Expanded List Screen:

- Type **EX** on the command line and press ENTER.

Viewing an Earlier or Later Snapshot

To view an earlier or later snapshot, you may return to the Expanded List and select a different snapshot. However, you may also view an earlier or later snapshot without exiting from the historical snapshot screen.

▶ To select a different snapshot directly from the historical snapshot screen:

- Press PF19 or type **PREV** on the command line and press ENTER to view an earlier snapshot.
- Press PF20 or type **NEXT** on the command line and press ENTER to view a later historical snapshot.

The message, **THIS IS THE LAST HISTORICAL SNAPSHOT,** indicates that the earliest snapshot has been displayed, and the the PREV command is no longer valid. The message, **NOW VIEWING CURRENT DATA,** indicates that the latest snapshot has been displayed, and the the NEXT command is no longer valid.

Viewing Response Time Tables

You may generate the following tables for response time reports in REVIEW DC:

- **Detailed Records**
  The Detailed Records table provides response time statistics for individual transactions for individual users;
- **Transaction Summary**
  The Transaction Summary table provides response time statistics for transactions executed in COM−PLETE.
- **COM−PLETE Operations Summary**
  The COM−PLETE Operations Summary table provides a summary of operations undertaken by COM−PLETE to process the transactions.

Each table consists of one or more screens of data. Whether these tables can be generated for a particular report and how they appear depends on the parameter values entered in the report definition (Edit Report screen).

Note: Both current and historical data is available for the Detailed Records table. Historical data is not available for the other tables.

Accessing the Detailed Records Table

▶ Use any of the following methods to access the Detailed Records screen:

- From any screen in REVIEW DC, type the following string on the command line and pressing ENTER:

  RT LS VD reportname

- From within the Response Time Subsystem, type the following string and press ENTER:

  LS VD reportname

- From the list of Report Definitions or the list of Started Reports, type **VD** in the Sel column of a started report and press ENTER.
- From the Expanded List for a history report, type **VD** in the Sel column for a particular historical report.
- From a report display (not a list), type **VD** on the command line and press ENTER.

The Detailed Records screen for a particular report appears as shown below:

```
10:06:38                *****   R E V I E W   *****                 95/04/20
TEST-462          Detailed Records for HIGHEST RESPONSE TIME          Patch: *
                <<< H I S T O R I C A L   S N A P S H O T >>>
Record  Response          Terminal Transac. Program  NATURAL  NATURAL  NATURAL
Number  Time.... UserId.. Name.... number.. Name.... Applic.. Main Pgm Curr Obj
------  -------- -------- -------- -------- -------- -------- -------- --------
    1.     8.188 KLS      DAEXD0B        34 NAT22
    2.     4.403 WS       SHRDAEN       341 NAT22
    3.     4.022 KLS      DAEXD0B        42 NAT22
    4.     3.723 COK      SHRDAEN       592 NAT22

------  -------- -------- -------- -------- -------- -------- -------- --------

Command: _____________________________________________________________________
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
     Help  Curr  Exit                    -     +    Pick        ===>  Menu
```

Screen 4–5: Detailed Records Display, Screen 1

This is the first of three screens that comprise the Detailed Records display.

▶ To access the second and third screens:

- Press PF11 ; or,
- Type the command **RIGHT** on the command line and press ENTER.

```
10:06:38                 *****   R E V I E W   *****                 95/04/20
TEST-462          Detailed Records for HIGHEST RESPONSE TIME          Patch: *
                <<< H I S T O R I C A L   S N A P S H O T >>>
Record  Response Thread   Queue    Idle     CPU      ADABAS   ADABAS   ADABAS
Number  Time.... Time.... Time.... Time.... Time.... ElapTime Cmd Time Calls...
------  -------- -------- -------- -------- -------- -------- -------- --------
    1.     8.188    7.830    0.003    0.355    3.180  4.46156  0.26228      496
    2.     4.403    4.310    0.002    0.091    2.940  1.41516  0.16828      408
    3.     4.022    3.610    0.000    0.412    1.290  2.69721  0.01331       42
    4.     3.723    3.720    0.000    0.003    0.020  3.70278  0.00196        3

------  -------- -------- -------- -------- -------- -------- -------- --------

Command: _____________________________________________________________________
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
     Help  Curr  Exit                    -     +    Pick  <===  ===>  Menu
```

Screen 4–6: Detailed Records Display, Screen 2

```
10:06:38                 *****   R E V I E W   *****                 95/04/20
TEST-462          Detailed Records for HIGHEST RESPONSE TIME          Patch: *
                <<< H I S T O R I C A L   S N A P S H O T >>>
Record  Response COMPLETE COMPLETE Screened Number   Printed  Program  Transac.
Number  Time.... I/Os.... OPs..... SVCs.... of rolls Data.... Status.. End Time
------  -------- -------- -------- -------- -------- -------- -------- --------
    1.     8.188       13       30        2       48        0 PRIVILEG 14:19:57
    2.     4.403        0       30        2       40        0 PRIVILEG 15:07:50
    3.     4.022        0        4        2        4        0 PRIVILEG 14:20:46
    4.     3.723        0        4        2        1        0 PRIVILEG 07:26:10

------  -------- -------- -------- -------- -------- -------- -------- --------

Command: _____________________________________________________________________
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
     Help  Curr  Exit                    -     +    Pick  <===        Menu
```

Screen 4–7: Detailed Records Display, Screen 3

In addition to the commands and PF keys that are generally available within the system, the following commands and PF key functions are provided on the Detailed Records Table.

PF Key	Command	Description
PF8	+	Scrolls forward to the next screen of users.
PF9	PICK	Selects a user ID for detailed viewing. Refer to the **Using the PICK Command** section, later in this chapter, for more information.
PF10	LEFT	Scrolls one screen to the left.
PF11	RIGHT	Scrolls one screen to the right.
– – –	TOP	Scrolls to the top of the list.

Note: Refer to Appendix A, **Function Codes and Commands***, for a description of all function codes, PF keys, and commands available within REVIEW DC.*

Detailed Records Table Fields

The column headers available on the three Detailed Records screens are described in the following tables:

Screen 1

Field	Description
Record Number	The number used to identify the transaction.
Response Time	The time (in seconds) required to process the user's transaction.
Userid	The user ID for the transaction.
Program Name	The name of the program for the transaction.
NATURAL Appl	The NATURAL application associated with the transaction.
NATURAL Main Pgm	The NATURAL program name associated with the transaction.
NATURAL Curr Obj	The current NATURAL object (Map, Subroutine, ...) associated with the transaction.
Trans Number	The transaction number.
Terminal Name	The logical name of the Terminal Information Block (TIB).

Screen 2

Field	Description
Record Number	The number used to identify the transaction.
Response Time	The time (in seconds) required to process the user's transaction.
Thread Time	The amount of time (in seconds) that the transaction resided in the COM−PLETE thread.
Queue Time	The amount of time (in seconds) that the transaction resided in on of the COM−PLETE queues.
Idle Time	The amount of COM−PLETE system time and rollout time (in seconds) used by the transaction. It is calculated by subtracting all other processing times (Thread Time, Queue Time, etc.) from the Response Time.
CPU Time	The amount of CPU time (in seconds) used by the transaction.
ADABAS Elp Time	The total amount of time (in seconds) required for ADABAS communication. This includes: • ADABAS duration; • Cross address space communication time; • COM−PLETE queue time; • COM−PLETE thread duration time.
ADABAS Calls	The number of ADABAS calls required to complete the transaction.
ADABAS Cmd Time	The amount of time (in seconds) which expired between the time the command was received by ADABAS and the time the result was returned to the calling program.
ADABAS Calls	The number of ADABAS calls required to complete the transaction.

Screen 3

Field	Description
COM−PLETE IOs	The number of I/Os executed by COM−PLETE for the transaction.
COM−PLETE OPs	The number of COM−PLETE operations required to complete the transaction.
Screened SVCs	The number of SVCs issued by the transaction.
Number of Rolls	The number of times the application program was rolled into the thread for execution.
Printed Data	The amount of data sent to print for the transaction.
Program Status	The program status is either Privilege or Normal.
Tran End Time	The time (hh:mm:ss) the transaction ended. The Tran End Time is reported in local time.

Using the Pick Command

The PICK command allows you to access the Detailed Records Window for a specific record. The screen references the record number in its title.

▶ To issue the PICK command to access a detailed statistics screen for a **specific record number**:

- From any screen in the Detailed Records Display, position the cursor anywhere on the line of data corresponding to the record number you wish to select and press PF9.

Note: The PICK command cannot be used from the command line in this instance.

Attribution of Transaction Times

The Detailed Records function attributes transaction times to the final NATURAL program and NATURAL application used during the transaction, regardless of how many other NATURAL programs and applications were used during the transaction. To relate a transaction time to a specific NATURAL program and/or NATURAL application, without further investigation, could be erroneous.

Record Sort Order

This display is sorted in descending numeric order based on the WRAP option value entered for the report definition.

Wrap Option	Sorts by
NONE	Trans End Time (transaction completion time)
STD	Response Time
HIGH	Trans End Time (transaction completion time)

Retained Reference Columns

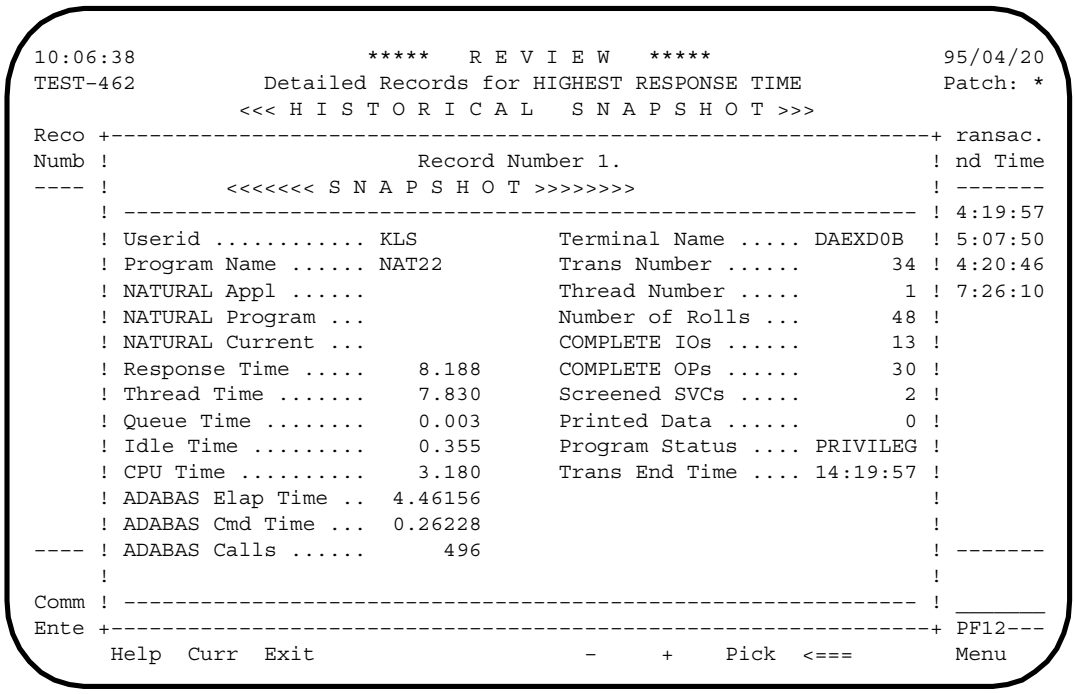
When scrolling through the Detailed Records Screens, the first and second columns, Record Number and Response Time, will be retained. Use these columns as a reference point for the displayed data.

The Detailed Record Window

The Detailed Record Window presents exactly the same information that is provided on the Detailed Records Display except that the information is presented in table format on a single screen for a single record number. Refer to the **Detailed Records Display Fields** section earlier in this chapter for an explanation of the fields occurring on the Detailed Record Window.

The Detailed Record Window is accessed by using the PICK command. Refer to the discussion of the PICK command earlier in this chapter, for more information.

Note: The Detailed Record Window can be accessed from any of the Detailed Records Display screens.



Screen 4–8: Summary of Detailed Records

In addition to the commands and PF keys that are generally available within the system, the following commands and PF key functions are provided on the Summary Records Table.

PF Key	Command	Description
	+	Scrolls forward to the next screen of users.
	PICK	Selects a user ID for detailed viewing. Refer to the **Using the PICK Command** section, later in this chapter, for more information.
	LEFT	Scrolls one screen to the left.
	RIGHT	Scrolls one screen to the right.
– – –	**TOP**	Scrolls to the top of the list.

Note: *Refer to Appendix A,* **Function Codes and Commands***, for a description of all function codes, PF keys, and commands available within REVIEW DC.*

Accessing Historical Data for Detailed Records

▶ Use either of the following procedures to display the Expanded List of historical snapshots available for the Detailed Records display:

- Type **EX** on the command line and press ENTER.
- Press PF2 (Hist) or type **HIST** on the command line and press ENTER.

▶ To display a specific historical snapshot from the Expanded List of historical snapshots:

- Type **VD** in the Sel column preceding the particular historical snapshot you want to display.

▶ To toggle between current and historical data for the Detailed Records display:

- Use PF2 (Hist) or (Curr) or type the **HIST** or **CURR** command on the command line and press ENTER.

Refer to Chapter 2, **The REVIEW DC System**, for more information about using the commands specific to historical data.

Accessing the Transaction Summary Table

▶ Use any of the following methods to access the Transaction Summary screen:

- From any screen in REVIEW DC, type the following string on the command line and press ENTER:

  RT LS VT reportname

- From within the Response Time Subsystem, type the following string and press ENTER:

  LS VT reportname

- From the list of Report Definitions or the list of Started Reports, type **VT** in the Sel column of a started report and press ENTER.
- From a report display (not a list), type **VT** on the command line and press ENTER.

The Transaction Summary screen for a particular report appears as shown below:

```
14:27:36                  *****   R E V I E W   *****                  04/21/95
                  Transaction Summary for SYSTEM RESPONSE TIME

Program  NATURAL  NATURAL  ______ COMPLETE ______ ADABAS  _______Average_______
  Name     Appl   Program   Trans    Ops     IOs   Calls    Resp   TDur    CPU
-------- -------- -------- ------- ------- ------ ------- ------- ------ ------
*ABEND*                         1       6      5       0   0.323  0.280  0.020
COMSEC                          9     113     10     104   0.148  0.140  0.030
NAT22                          13     104     13   1,094   1.253  1.213  0.525
RDC                            26     187     12   3,480   0.628  0.596  0.135
TEST                           10      32      2       0   0.071  0.031  0.007
UCTRL                          20      89     15       0   0.054  0.025  0.002
UDEBUG                         44  22,479     26       0   0.893  0.814  0.424
UEBP                            3     454     75       0   2.008  1.946  0.473
UEDIT                         182   3,029    266       0   0.280  0.268  0.048
UPDS                          630   2,289    672       0   0.063  0.054  0.010
UQ                            553   3,886    226       0   0.056  0.047  0.010
USTACK                        111   1,010     83      26   0.103  0.102  0.012
USTOR                           6      47      5       0   0.071  0.058  0.021
--------------------------------------------------------------------------------

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

Screen 4–9: Transaction Summary Display (DC)

In addition to the commands and PF keys that are generally available within the system, the following commands and PF key functions are provided on the Detailed Records Table.

PF Key	Command	Description
PF5	**PGM**	Scrolls one screen to the left.
PF6	**NATA**	Scrolls one screen to the right.
PF7	**NATP**	Scrolls one screen to the right.
PF8	**+**	Scrolls forward to the next screen of users.
– – –	**TOP**	Scrolls to the top of the list.

Note: Refer to Appendix A, **Function Codes and Commands***, for a description of all function codes, PF keys, and commands available within REVIEW DC.*

Transaction Summary Table Fields

The column headers available on the Transaction Summary screen are described in the following table:

Field	Description
Program Name	The name of the program.
NATURAL Appl	The name of the NATURAL application associated with the root program listed.
NATURAL Program	The name of the NATURAL program associated with the root program listed.
COM–PLETE Trans	The total number of COM–PLETE transactions executed for the program listed.
COM–PLETE OPs	The total number of COM–PLETE operations performed to process the program listed.
COM–PLETE IOs	The total number of COM–PLETE I/Os performed for the program listed.
ADABAS Calls	The total number of ADABAS calls issued for the program listed.
Average Resp	The average response time (in seconds) for each transaction associated with the program listed.

Field	Description
Average TDur	The average amount of time (in seconds) that each transaction associated with the program listed resided in the thread.
Average CPU	The average amount of CPU time (in seconds) required for each transaction associated with the program listed.

Level of Detail Commands

- **Pgm:** Transaction summary is displayed on the root program level.
- **Nata:** Transaction summary is displayed on the NATURAL application level where available.
- **Natp:** Transaction summary is displayed down to the NATURAL program level where available.

Sort Order

The Transaction Summary table is sorted in alphabetic order based on the Program Name. If a detailed version of the table is accessed, a secondary sort is performed by NATURAL application and NATURAL program.

Accessing the COM−PLETE Operations Summary Table

▶ Use any of the following methods to access the COM−PLETE Operations Summary screen:

- From any screen in REVIEW DC, type the following string on the command line and press ENTER:

  RT LS VO reportname

- From within the Response Time Subsystem, type the following string and press ENTER:

  LS VO reportname

- From the list of Report Definitions or the list of Started Reports, type **VO** in the Sel column of a started report and press ENTER.
- From a report display (not a list), type **VO** on the command line and press ENTER.

The COM−PLETE Operations Summary screen for a particular report appears as shown below:

```
15:29:03                  *****   R E V I E W   *****                  04/21/95
TEST-462               OP Summary for SYSTEM RESPONSE TIME              Patch: *

Name          Count  Name          Count  Name          Count  Name          Count
------------------   ------------------   ------------------   ------------------
CODEL            33  MODIFY           55  TESTAT       2,630  ________          -
COLINK           84  READ            466  TIME           253  ________          -
COLOAD          128  READM            45  WRT            639  ________          -
COMSEC          648  READR           350  WRTM            53  ________          -
COMSTO           11  READS            54  WRTS            10  ________          -
DATE            249  READSR          516  WRTSE            9  ________          -
EOJ              24  RJE               3  ________         -  ________          -
FETCH            43  ROLOUT          115  ________         -  ________          -
FREEM           164  SDDEL             7  ________         -  ________          -
GETCHR           62  SDOPEN           13  ________         -  ________          -
GETM            165  SDREAD            3  ________         -  ________          -
GETMAD            2  SDWRIT           10  ________         -  ________          -
JDATE             4  SEC              19  ________         -  ________          -
LOAD             13  SETEID           56  ________         -  ________          -
------------------   ------------------   ------------------   ------------------

Command: ____________________________________________________________________
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
     Help        Exit  Name  Count        -     +                       Menu
```

Screen 4−10: COM−PLETE Operations Summary

In addition to the commands and PF keys that are generally available within the system, the following commands and PF key functions are provided on the Detailed Records Table.

PF Key	Command	Description
PF4	**NAME**	Sorts the OP Summary table alphabetically by the name of the COM−PLETE operation.
PF5	**COUNT**	Sorts the OP Summary table by the number of COM−PLETE operation.
PF7	**−**	Scrolls backward to the previous screen of COM−PLETE operations.
PF8	**+**	Scrolls forward to the next screen of COM−PLETE operations.
−−−	**TOP**	Scrolls to the top of the list.

Note: Refer to Appendix A, **Function Codes and Commands***, for a description of all function codes, PF keys, and commands available within REVIEW DC.*

COM−PLETE Operations Summary Table Fields

The column headers available on the COM−PLETE Operations Summary screen are described in the following table:

Field	Description
Name	The name of the COM−PLETE operation.
Count	The number of times that the COM−PLETE operation was executed to process the report.

Using the Sort Commands

By default, the COM−PLETE Operations Summary display is sorted alphabetically by the name of the operation. You may re-sort the list using the following procedures.

▶ To sort the list in descending numeric order by the count of COM−PLETE operations:

- Press PF5 or type **COUNT** on the command line and press ENTER.

▶ To sort the list in ascending alphabetic order by the name of COM−PLETE operations:

- Press PF4 or type **NAME** on the command line and press ENTER.

Viewing Response Time Graphs

Response time reports are available as vertical and horizontal graphs.

Format

There are two types of response time graphs:

- **Vertical Graph**
  A vertical graph shows response times as vertical bars. Each bar represents a response time interval, with the height of the bar determined by the number of responses during that interval.
- **Horizontal Graph**
  A horizontal graph shows response times as horizontal bars. Each bar represents a response time interval, with the length of the bar determined by the number of responses during that interval.

Data

Response time graphs show total, average, or combined data for a particular system function. The following table shows what type of data is available:

Graphs Available	Total	Average
Number of transactions	✓	– – –
ADABAS calls issued for transactions	✓	✓
I/Os issued for transactions	✓	✓
The average number of total calls and total I/Os issued for each transaction.	– – –	✓

▶ To change the data displayed by a graph, press the appropriate PF key.

The section **Commands Used to Control Graphs**, later in this chapter, lists the PF keys and commands used to display specific types of of data on the graph.

Graph Attributes

Response time graphs have attributes which determine how the data is displayed.

The Response Time Interval

The Response Time Interval in the report definition (Edit Report screen) determines the whole or fractional number of seconds used to graph the response time intervals on each graph.

- **On a vertical graph**
  Intervals are designated as "Intervals in seconds."
- **On a horizontal graph**
  Intervals are designated as "Range".

Response Groupings

Responses are grouped into three categories: **Good**, **Warning**, and **Poor**. These groupings are based upon threshold values. Refer to the sections **Interpretation of Graphs that List Totals** and **Interpretation of Graphs that List Averages**, later in this chapter for an explanation of how these groupings are determined.

The Response Time Threshold

For graphs which display totals, the Response Time Threshold specifies the maximum acceptable response time as shown on the graphs. Any response which is greater than the Response Time Threshold is displayed in the Poor Response Time grouping. The Response Time Threshold is entered on the Edit Report Screen.

Other Report Thresholds

For response time graphs which display data as averages, the thresholds used are set by the REVIEW administrator, by modifying CONFIG parameters. These thresholds cannot be changed by the user.

Interpretation of Graphs that List Totals

A vertical or horizontal graph of total transactions, total calls, or total I/Os is interpreted in terms of two parameters set in a report definition (Edit Report screen): the Response Time Interval and the Response Time Threshold.

Command	Color/Symbol	Description
Good Response Time	Green, "–"	Intervals or ranges that fall below the value set for the Response Time Interval parameter.
Warning	Yellow, "="	Intervals or ranges that fall between the value set for the Response Time Interval parameter and the value set for the Response Time Threshold parameter.
Poor Response Time	Red, "*"	Intervals or ranges that exceed the value set for the Response Time Threshold.

1 For a **good response time**:

If the Response Time Interval = 0.5, all transactions with a response time under 0.5 seconds are displayed in green or with the character "–" when not in color.

2 For a **warning**:

If the Response Time Interval = 0.5 and the Response Time Threshold = 3.5, all transactions with a response time between 0.5 and 3.5 seconds are displayed in yellow or with the character "=" when not in color.

3 For a **poor response time**:

If the Response Time Threshold = 3.5, all transactions with a response time that exceeds 3.5 seconds are displayed in red or with the character "*" when not in color.

Interpretation of Graphs that List Averages

A vertical or horizontal graph of average calls, average I/Os, or the average number of total calls and total I/Os is interpreted in terms of average number thresholds as follows:

Command	Color/Symbol	Description
Good Response Time	Green, "–"	Average number of calls, I/Os, or both is less than or equal to (Threshold 25) 25.
Warning	Yellow, "="	Average number of calls, I/Os, or both exceeds (Threshold 25) 25 and is less than or equal to (Threshold 50) 50.
Poor Response Time	Red, "*"	Average number of calls, I/Os, or exceeds (Threshold 50) 50.

1 For a **good response time**:

If an average of 20 ADABAS calls is listed within the interval of 1.0 to 1.5 seconds, it is displayed in green or with the "–" character.

2 For a **warning**:

If an average of 40 ADABAS calls is listed within the interval of 1.5 to 2.0 seconds, it is displayed in yellow or with the "=" character.

3 For a **poor response time**:

If an average of 70 ADABAS calls is listed within the interval of 2.5 to 3.0 seconds, it is displayed in red or with the "*" character.

Commands Used to Control Graphs

In addition to the commands and PF keys that are generally available within the system, the following special commands and PF keys control the various types of vertical and horizontal graphs available:

PF Key	Command	Description
PF10	**HORI**	Toggles to a horizontal graph from a vertical graph.
PF10	**VERT**	Toggles to a vertical graph from a horizontal graph.
— — —	**COLOR OFF**	Displays a non-color graph.
— — —	**COLOR ON**	Displays a color graph.

Note: *Refer to Appendix A,* **Function Codes and Commands***, for a description of all function codes, PF keys, and commands available within REVIEW DC.*

Accessing a Vertical Graph

▶ Use either of the following methods to access a vertical graph:

- From any screen in REVIEW DC, type the following string and press ENTER:

  RT LS VW reportname

- From a list of report definitions, started reports, or the Expanded List of historical snapshots, type **VW** in the Sel column preceding the selected report (or historical snapshot) and press ENTER.

  A default vertical graph appears similar to the one shown below:

```
14:33:03                  *****   R E V I E W   *****                  06/21/95
TEST-462                     SYSTEM RESPONSE TIME                      Patch: *
                          ( Since 06/19/95 13:49:12 )

        !
     100+
        !
        !  1867
      75+ --80%
% of    ! -----
Total   ! -----
Trans 50+ -----
        ! -----
        ! -----
      25+ -----
        ! -----   184    82    53    36    19    16    13    11     4    44
        ! ----- ===7% ===3% ===2% ===1% ==<1% ==<1% **<1% **<1% **<1% ***1%
        +------+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-
        0   0,5   1,0   1,5   2,0   2,5   3,0   3,5   4,0   4,5   5,0  Over
                             Intervals in seconds
```

Screen 4–11: Vertical Graph, Transactions (System Default)

Note: Due to rounding calculations, graph percentages may not total 100%.

The default vertical graph illustrated above shows various response times for transactions. As the different data options are displayed, the vertical axis caption of the graph will change, indicating the type of data currently displayed.

The following table shows the relationship of the vertical axis caption to the type of data displayed.

Command	PF Key	Caption	Description
TRANS	PF4	% of Total Trans	The percentage of total transactions that a specific response time interval represents.
CALLS	PF5	% of Total Calls	The percentage of total calls that a specific response time interval represents.
IOS	PF6	% of Total IOs	The percentage of total I/Os that a specific response time interval represents.
ACALL	PF7	Avg Call /Trans	The average number of ADABAS calls issued for each transaction within a specific response time interval.
AIOS	PF8	Avg IOs /Trans	The average number of I/Os issued for each transaction within a specific response time interval.
COMBO	PF9	Avg Comb /Trans	The average number of I/Os and ADABAS calls issued for each transaction within a specific response time interval. I/Os and ADABAS calls are combined as one category prior to calculating an average.

The horizontal axis caption remains the same regardless of the type of data displayed. The following table explains the horizontal axis caption.

Caption	Description
Intervals in seconds	The whole or fractional number of seconds used to graph response times. This number is derived from the Response Time Interval field in the report definition.

Accessing a Horizontal Graph

▶ Use the following methods to access a horizontal graph:

- From any screen in REVIEW DC, type the following string and press ENTER:

  RT LS VH reportname

- From a list of report definitions, started reports, or the Expanded List of historical snapshots, type **VH** in the Sel column preceding the selected report (or historical snapshot) and press ENTER.

  A default horizontal graph appears similar to the one shown below:

```
15:34:23                  *****   R E V I E W   *****                  04/21/95
TEST-462                    HIGHEST RESPONSE TIME                      Patch: *
                          ( Since 04/21/95 12:39:39 )

... Range ...  Num of  % of
  from     to   Trans Total
------ ------ ------- -----  ---10---20---30---40---50---60---70---80---90--100
  0.00   0.49     747  97.6  ------------------------------------------------->
  0.50   0.99       8   1.0  >
  1.00   1.49       2   0.2  >
  1.50   1.99       2   0.2  >
  2.00   2.49       2   0.2  >
  2.50   2.99       2   0.2  >
  3.00   3.49       0   0.0
  3.50   3.99       1   0.1  >
  4.00   4.49       0   0.0
  4.50   4.99       0   0.0
  5.00   Over       1   0.1  >
------------ ------- -----  ---10---20---30---40---50---60---70---80---90--100
Total:            765

Command: _____________________________________________________________________
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Hist  Exit  Trans Calls IOs   ACall AIOs  Combo Vert        Menu
```

Screen 4–12: Horizontal Graph, Transactions (System Default)

Note: Due to rounding calculations, graph percentages may not total 100%.

The default horizontal graph illustrated above shows various response times for transactions.

Fields

The tables which follow show the fields displayed with the various graph options.

Transactions

The default horizontal graph illustrated above shows various response times for transactions.

Command	PF Key	Caption	Description
TRANS	PF4	Num of Trans	The total number of transactions that received a response within a specific response time range.
		% of Total	

Calls

The following table shows the fields displayed with the total calls (**CALLS**) and with the average calls (**ACALLS**) options.

Command	PF Key	Caption	Description
CALLS	PF5	Num of Calls	The total number of ADABAS calls issued for the total number of transactions within a specific response time range.
		% of Total	The percentage of ADABAS calls issued which fall within a specific response time range.
ACALL	PF7	Num of Calls	The total number of ADABAS calls issued for the total number of transactions within a specific response time range.
		Avg Calls	The average number of ADABAS calls issued for each transaction within a specific response time range.

IOs

The following table shows the fields displayed with the total I/Os (**IOS**) and with the average I/Os (**AIOS**) options.

Command	PF Key	Caption	Description
IOS	PF6	Num of IOs	The total number of I/Os issued for the total number of transactions within a specific response time range.
		% of Total	The percentage of IOs which fall within a specific response time range.
AIOS	PF8	Num of IOs	The total number of I/Os issued for the total number of transactions within a specific response time range.
		Avg IOs	The average number of ADABAS calls issued for each transaction within a specific response time range.

Combination

The following table shows the fields displayed with the combination (**COMBO**) option. The combination option compares the total number both ADABAS calls and IOs to the average number of both ADABAS calls and I/Os.

Command	PF Key	Caption	Description
COMBO	PF9	Num of Combo	The total number of ADABAS calls and I/Os issued for the total number of transactions completed within a specific response time range.
		Avg Combo	The average number of I/Os and ADABAS calls issued for each transaction with a specific response time range. I/Os and calls are combined as one category prior to calculating an average.

CHAPTER 5

Monitoring the Roll Subsystem

MONITORING THE ROLL SUBSYSTEM

The Roll Subsystem is used extensively by COM−PLETE to manage application programs. In a COM−PLETE system, all application programs execute in assigned storage areas called threads. In most cases, the number of threads available is insufficient to service the number of active programs. To accommodate this situation, COM−PLETE moves programs frequently back and forth between threads and internal storage buffers. The movement is controlled by the COM−PLETE Roll Subsystem.

When properly tuned, the Roll Subsystem significantly improves system performance. REVIEW DC monitors the COM−PLETE Roll Subsystem and provides the statistics necessary to fine tune the system.

Historical displays may be available for Roll Subsystem information, and Roll Subsystem statistics may be printed and/or stored to an ADABAS file when COM−PLETE terminates. Refer to Chapter 11, **Collecting History Data**, for more information about historical data and termination statistics.

Accessing the Roll Subsystem Menu

▶ Use either of the following procedures to access the Roll Subsystem Menu:

- From DATA COMMUNICATION System screens, type **RS** on the command line and press ENTER.
- From any other REVIEW screen, precede the function code with the DATA COMMUNICATION System code and press ENTER:

  DC RS

The Roll Subsystem menu appears as follows:

```
10:38:55                  *****   R E V I E W   *****                  03/22/01
TEST-611                         Roll Activity                         Patch: %


+---------- Roll Outs / Ins -----------+  +--------- Calls by type ----------+
!    Since  03/22/01 07:48:18          !  ! Rollin .........              13 !
! Thr->Buf             84              !  ! Rollout/in .....           1,776 !
! Buf->Thr             75              !  ! Rollout ........              22 !
!                                      !  !                                 !
!    Since  ........ ........          !  +-----------------------------------+
! Thr->Buf              0              !
! Buf->Thr              0              !
+--------------------------------------+

+------- Amount of data rolled --------+   +------- Buffer Services ---------+
! Without Compression...       1,159 K !   ! Time in seconds...      0.00034 !
! With Compression......          89 K !   ! Total requests....          159 !
+--------------------------------------+   +-----------------------------------+



Command: ____________________________________________________________________
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
     Help  Hist  Exit              Reset                          ===>  Menu
```

Screen 5–1: Roll Subsystem

In addition to the commands and PF keys that are generally available within REVIEW DC, the following PF key functions are provided on the Roll Subsystem screen:

PF Key	Command	Description
PF6	**RESET**	Resets the "Since" time displayed by the function. Refer to the section **Using the RESET Command**, for more information.
PF10	**LEFT**	Scrolls one screen to the left.
PF11	**RIGHT**	Scrolls one screen to the right.

The Roll Subsystem Display

The Roll Subsystem display provides statistics about the roll activity over a period of time:

- Presents roll out and roll in information in terms of a set of thread and buffer statistics covering the period from COM−PLETE initialization to the present and a second period from the reset of the function to the present.
- Provides buffer services statistics.
- Indicates the number of calls handled by the roll buffer by type of call.
- Indicates the average amount of compressed and uncompressed data rolled in and out of the rollbuffer.
- Provides information about the fixed Rollbuffer allocation and current and max usage.

Roll Subsystem Fields

The Roll Subsytsem screen provides the following fields:

Roll Outs/Ins	
Thread to Buffer	Thread images rolled out to the roll buffer during the period indicated
Buffer to Thread	Thread images rolled in from the roll buffer during the period indicated.

Calls by type	
Rollin	The number of time a pure rollin was necessary to activate a thread again
Rollout/Rollin	The number of times the dispatcher requested a thread to be rolled in, This might involve a rollout for the user currently occupying this thread
Rollout	The number of times the dispatcher requested a rollout, because a new program was to be dispatched

Bufferservice	
	The Buffer Service area shows the average time (in seconds) required by the roll buffer to transfer a thread image, and the total number of thread image transfer requests handled by the roll buffer since COM−PLETE initialization.

Amount of Data Rolled	
	This shows the amount of compressed and uncompressed data rolled in and out of the buffer since COM−PLETE initialization.

Using the RESET Command

The RESET command is used to reset to zero (0) the cumulative values on the Roll Outs/Ins window. Before being reset, these lines show values that have accumulated since COM−PLETE startup. Once reset, the values continue to accrue from the point of reset until either they are reset again or COM−PLETE is reinitialized.

The date and time that RESET was issued is displayed in the second "Since" field.

CHAPTER 6

Target Information

TARGET INFORMATION

REVIEW DC enables you to monitor system traffic statistics and check the types of targets accessible from the system using the Target Information function.

Targets

The term "Target" is defined as any object which utilizes the ADABAS transport mechanism.

Target Types

The types of targets which are monitored by REVIEW DC are:

- ADABAS databases
- ENTIRE SYSTEM SERVER (NATURAL PROCESS) objects
- ENTIRE NET−WORK nodes

These targets are identified by their individual target ID and SVC number. The target types can optionally be shown by using the CHECK command. For more information, refer to the section **Using the CHECK Command** later in this chapter.

Information Available

The Target Information function contains two screens:

- **Target Information**, which presents statistical information for all targets.
- **Target ID**, which presents statistical information and modifiable parameters for either a specific target or for all targets.

Historical data may be available for both screens, and this data may be printed or stored when COM−PLETE terminates. Refer to Chapter 2, **The REVIEW DC System**, for more information about historical data and termination statistics.

Note: In order to be listed by the Target Information function, a target must have been called at least once from COM−PLETE. A target can be added to the screen by using the ADD command, which is discussed later in this chapter.

Accessing the Target Information Screen

▶ Use either of the following procedures to access the Target Information screen:

- From DATA COMMUNICATION System screens, type **TI** on the command line and press ENTER.
- From any other REVIEW screen, precede the function code with the DATA COMMUNICATION System code and press ENTER:

  DC TI

  The Target Information screen appears as shown below:

```
11:10:15                  *****   R E V I E W   *****                  04/26/95
TEST-462                      Target  Information                      Patch: *

 ________Target________          Total         Total     ADACALLS      ADAROLL
 Type   ID   SVC  AvgTime         Calls         Rolls     Exceeded     Exceeded
+-------------------------------------------------------------------------------+
!        0 249   0.0100             8             0            0             0 !
!        9 249   0.0092         7,559           611          611             0 !
!       10 249   0.0150             4             0            0             0 !
!      148 249   0.0487           114            11           11             0 !
!      177 249   0.0156            42             3            3             0 !
!      181 249   0.0019           456            48           48             0 !
!                                                                             !
!                                                                             !
!                                                                             !
!                                                                             !
!                                                                             !
!                                                                             !
+-------------------------------------------------------------------------------+
  Totals:         0.0093         8,183           673          673             0

Command: _____________________________________________________________________
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
     Help  Hist  Exit                          +    Pick              Menu
```

Screen 6–1: The Target Information Screen

In addition to the commands and PF keys that are generally available within REVIEW DC, the following are provided on the Target Information screen:

PF Key	Command	Description
PF9	**PICK**	Selects a target for detailed viewing. Refer to the section, **Using the PICK Command**, later in this chapter for more information.
––	**ADD**	Adds a target ID to the screen. Refer to the section, **Using the ADD Command**, later in this chapter for more information.
––	**CHECK**	Activates or deactivates status checking of targets each time the ENTER key is pressed. Refer to the section, **Using the CHECK Commands**, later in this chapter for more information.
––	**ID**	Repositions the target list so that the specified target is at the top of the screen. Refer to the section, **Using the ID Command**, later in this chapter for more information.
–––	**TOP**	Scrolls to the top of the list of targets.

Target Information Fields

The fields on this screen present information for targets that are recognized by this version of COM–PLETE. These fields are described in the following table:

Field	Description
Type	The target type (ADABAS, ENTIRE SYSTEM SERVER, or ENTIRE NET–WORK object) and whether or not REVIEW is installed under the target. This field is blank until checking is activated.

Field	Description
ID	The target identification number for targets referenced by calls issued from COM−PLETE. The types of target IDs include: Database IDs -ADABAS databases Target IDs − NET−WORK targets Node IDs − ENTIRE SYSTEM SERVER (NATURAL PROCESS) nodes
SVC	The decimal supervisor call (SVC) number used for establishing a path of communication with a target.
AvgTime	The average number of seconds required for the execution of calls issued through COM−PLETE. Average Elapsed Time refers to the time period from the initial call issued through COM−PLETE to the return of data to COM−PLETE. This includes communication overhead time, such as processing time, queue time, operating system time, etc.
Total Calls	The total number of calls issued to the target specified by all programs running under COM−PLETE.
Total Rolls	The total number of times an application was rolled out by COM−PLETE. Applications are immediately rolled out when the ADAROLL parameter is set to "ALWAYS", or the ADACALLS parameter value is exceeded. These parameters are described in the section, **COM−PLETE Modifiable Parameters**, later in this chapter.
ADACALLS Exceeded	The number of times the application was rolled out for exceeding the ADACALLS parameter setting. The ADACALLS parameter specifies the maximum number of calls that an application can make before COM−PLETE will force the application to be rolled out.
ADAROLL Exceeded	The number of times the application was rolled out for exceeding the ADAROLL parameter setting. The ADAROLL parameter specifies the amount of time COM−PLETE will wait on a call before rolling the application making the call.

Using the ADD Command

The ADD command is used to add targets to the Target Information Screen. In order to be listed by the Target Information Screen, a target must have been called at least once from COM−PLETE.

How the ADD Command Works

The following describes how REVIEW DC adds targets:

- **If the target has not been defined to COM−PLETE**,
  REVIEW DC allocates control blocks dynamically and gives the target default attributes from the COM−PLETE initialization parameters and initiates a call to the target.
- **If the target has been defined to COM−PLETE but has not been sent any calls**,
  REVIEW DC initiates a call to the target.

Issuing the command

▶ Use the following procedure to add a target to the screen:

- Enter the ADD command on the command line as shown in the following example:

  ADD=*nnnnn*

  where *nnnnn* is the target ID number.

Using the CHECK Command

The CHECK command is used to show what type of target is associated with the target ID and SVC shown in the Target Information screen. The CHECK command uses the parameter "ON" to activate the checking feature, and the parameter "OFF" to deactivate checking.

The types of targets which are monitored are shown in the following table:

Code	Description
A	ADABAS installed without REVIEW.
AR	ADABAS installed with REVIEW.
P	ENTIRE SYSTEM SERVER (NATURAL PROCESS) installed without REVIEW.
PR	ENTIRE SYSTEM SERVER (NATURAL PROCESS) installed with REVIEW.
N	ENTIRE NET−WORK installed.

If the "Type" field remains blank after the CHECK=ON command is issued, the target is not active.

If CHECK is set to ON

Each time the ENTER key is pressed, two or three calls are initiated to each target on the list to determine its status:

- The first call determines whether or not the target is active.
- The second call checks File 26 to determine whether or not the target is a ENTIRE SYSTEM SERVER (NATURAL PROCESS) node.
- The third call checks to see if the target has REVIEW installed.

Note: The second call to check for ENTIRE SYSTEM SERVER (NATURAL PROCESS) nodes can be overridden by the REVIEW DC configuration parameters. Check with the REVIEW administrator for your site-specific configuration.

If CHECK is set to OFF

The checking feature is deactivated.

Caution

1. Issuing the CHECK=ON command gives up control of your terminal for a period of time. The amount of time depends upon long it takes to send and receive a call from **every** target on the screen. The AvgTime field can be used to anticipate this response time.
2. Issuing the CHECK=ON command causes a call to be sent to **every** target listed on the screen **each** time the ENTER key is pressed, until the CHECK=OFF command is issued.

Issuing the command

▶ Use the following procedure to show the target types for targets on the list:

- Enter the CHECK=ON command on the command line as shown in the following example:

```
CHECK=ON
```

The target type code will appear in the "Type" field.

▶ Use the following procedure deactivate the checking feature:

- Enter the **CHECK=OFF** on the command line.

Using the ID Command

By entering this command on the command line, you can reposition the list of targets so that the specified target is at the top of the screen.

▶ Use the following procedure to reposition the list:

- Enter the ID command on the command line as shown in the following example:

  ID=*nnnnn*

  where *nnnnn* is the target ID number.

Using the PICK Command

The PICK command allows you to access the Target ID screen for a specific target, or for all targets. The screen title references either the target ID or "ALL" in its title.

▶ Use either of the following procedures to issue the PICK command to access a detailed statistics screen for a **specific target**:

- From the Target Information screen, position the cursor anywhere on the line of data corresponding to the target ID you wish to select and press PF9.
- From the Target Information screen, enter the PICK command on the command line as shown in the following example:

  PICK=*nnnnn*

  where *nnnnn* is the target ID of the target you wish to view.

▶ Use either of the following procedures to issue the PICK command to access a detailed statistics screen for **all targets**:

- From the Target Information screen, position the cursor anywhere on the line of the Totals and press PF9.
- From the Target Information screen, enter the PICK command on the command line as shown in the following example:

  PICK=ALL

Accessing the Target ID Screen

The Target ID Screen gives statistical information either for a specific target or for all targets. It contains a "Since" field, which allows you to compare statistics over a period of time. It also allows you to make changes to COM−PLETE modifiable parameters, either for a single target, or for all targets, depending upon the parameter.

The Target ID screen is accessed by using the PICK command. Refer to the discussion of the PICK command in the previous section for more information.

Note: *If you invoke the screen for all targets, the word "ALL" appears as part of the screen title; if you invoke the screen for a specific target, the target ID number appears as part of the screen title.*

The Target ID screen appears as follows:

```
11:13:14                  *****   R E V I E W   *****                  04/26/95
TEST-462                          Target 9                             Patch: *


                                Since 06:04 04/26/95   Since ..... ........
+-------------------------------------------------------------------------------+
! Total Calls ................           8,157                        0         !
! Total Rolls ................             653   8.0%                 0   0.0%  !
! ADACALL Exceeded ...........             653   8.0%                 0   0.0%  !
! ADAROLL Exceeded ...........               0   0.0%                 0   0.0%  !
!                                                                               !
! Average Elapsed Time .......          0.0089 sec             0.0000 sec      !
+-------------------------------------------------------------------------------+

     Target SVC: 249   ADALIMIT: 4096_   ADACALL: 10___   ADAROLL: Never_

        No Rollout for higher priority task in Target call (MOD18): OFF




Command: _____________________________________________________________________
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
     Help  Hist  Exit        Save  Reset                                Menu
```

Screen 6−2: The Target ID Screen

In addition to the commands and PF keys that are generally available within REVIEW DC, the following are provided on the Target ID screen:

PF Key	Command	Description
PF5	**SAVE**	Saves changes made to modifiable parameters.
PF6	**RESET**	Resets the "Since" time used by the stopwatch function. Refer to the next section for more information.

Target ID Fields

The following sections describe the fields found on the Target ID screen.

The "Since" Field

The Target ID screen lists statistical values under two headings, each labeled "Since hh:mm mm/dd/yy" where "hh:mm" is the time (hour:minutes) and "mm/dd/yy" is the date (month/day/year). The left column presents statistics since the time the COM−PLETE system was initialized; the right column presents statistics since the stopwatch function was invoked with the RESET command as specified in the column header. The RESET command is explained later in this chapter.

Target ID Fields

The statistical fields used by the Target ID screen are the same as those used in the Target Information screen. The field "Average Elapsed Time" is referred to as "AvgTime" on the Target Information screen. The following table contains a brief description of the fields used in the Target ID field. Refer to the section **Target Information Fields** for a complete description of the fields used.

Field Name	Description
Total Calls	The total number of calls issued through COM−PLETE for the specified target.
Total Rolls	The total number of times an application was rolled out by COM−PLETE.
ADACALLS Exceeded	The number of times the application was rolled out for exceeding the ADACALLS parameter setting.

Field Name	Description
ADAROLL Exceeded	The number of times the application was rolled out for exceeding the ADAROLL parameter setting.
Average Elapsed Time	The average number of seconds required for the execution of calls issued through COM−PLETE.

COM−PLETE Modifiable Parameters

The following is a summary of COM−PLETE modifiable parameters found on the Target ID screen:

Parameter	Applies to	Value	Description
ADALIMIT	ALL or Target ID	1−32767 4096	Specifies the maximum number of calls that can be made by an online COM−PLETE transaction without intervening terminal I/O. If the limit is exceeded, the transaction is automatically cancelled.
		0	If 0 is specified, this parameter is ignored (no limit).
ADACALLS	ALL or Target ID	1−32767 10	Specifies the maximum number of calls that an application can make before COM−PLETE will force the application to be rolled out. *Note: If the ADAROLL parameter has a value of "NEVER" the ADACALLS parameter is ignored.*

Parameter	Applies to	Value	Description
ADAROLL	ALL or Target ID	Specifies the amount of time COM−PLETE will wait on a call before rolling the application making the call.	
		nn.nn .5	Indicates the number of seconds and fractional part of a second, if a decimal point is used, that COM−PLETE will wait before rolling the program out of the thread.
		ALWAYS	Indicates that the program will always be rolled out of the thread immediately after the call is issued.
		NEVER	Indicates that the program will never be rolled out of the thread; ADACALLS is ignored.
MOD18	ALL only	Roll out for higher priority call. *Note: If the ADAROLL parameter has a value of "NEVER" or "ALWAYS", the MOD18 parameter is ignored.*	
		ON	Calls **will not** be rolled out of the thread for a higher priority call.
		OFF	Calls **will** be rolled out of the thread for a higher priority call.

Modifying COM−PLETE Parameters

You may modify the values assigned to parameters which are listed as fields at the bottom of the Target ID screen These are standard COM−PLETE initialization parameters. Once modified, these parameters apply to all COM−PLETE users.

▶ Use the following procedure to modify the parameters:

- Type the new value(s) over the existing value in the appropriate field(s).
- Save the new value(s) by entering the **SAVE** command on the command line, or by pressing PF5.

Since modifications to these parameters affect all users of COM−PLETE, the REVIEW administrator may choose to control update privileges to these fields. This control is administered through the REVIEW User Profile System.

Using the RESET Command

The RESET command is used as a "stopwatch function" to show processing statistics since a specific time and date chosen by the user. The first "Since" column on the Target ID screen shows values that have accrued since COM−PLETE initialization. The second "Since" column shows values that have accrued since the RESET command was issued. Values continue to accrue from the point of reset until either they are reset again or COM−PLETE is reinitialized.

▶ To reset target statistics:

- From the Target ID screen, press PF6 or type the **RESET** command on the command line and press ENTER.

CHAPTER 7

Viewing Application Processing Information

VIEWING APPLICATION PROCESSING INFORMATION

The REVIEW DATA COMMUNICATION (DC) System provides statistics related to the execution of application programs in COM−PLETE and ADABAS TPF. These statistics include:

- **Thread Activity** which monitors the use of threads to execute application programs;
- **Buffer Pool Information** which monitors the size and use of buffers;
- **Program Information** which monitors loads from the Program Lookaside Buffer, the Residentpage Buffer and the Load Libraries.

Historical data and termination statistics are available for thread activity statistics and buffer pool information. Refer to Chapter 2, **The REVIEW DC System**, for additional information about accessing historical data and producing termination statistics.

Viewing Thread Activity

A thread is an assigned storage area where application programs execute in COM−PLETE or ADABAS TPF. There are usually more active programs than threads to accommodate them. To manage this situation, COM−PLETE frequently moves programs back and forth between threads and storage buffers or external direct access storage devices (DASD). The efficiency of thread use can be affected by the number of threads and their size.

The Thread Activity (TA) function consists of two screens:

- **Thread Activity Screen**
  A summary of thread use for each thread in a list ordered by thread number;
- **User ID Window**
  A summary of users' activities.

Note: *For information about threads in the context of the COM−PLETE Roll Subsystem, refer to Chapter 5, **Monitoring the Roll Subsystem**, and Appendix B, **Roll Subsystem Tutorial**.*

Accessing the Thread Activity Screen

▶ Use either of the following procedures to access the REVIEW DC Thread Activity screen:

- From DATA COMMUNICATION System screens, type **TA** on the command line and press ENTER.
- From any other REVIEW screen, precede the function code with the DATA COMMUNICATION System code and press ENTER:

  DC TA

The Thread Activity screen appears as shown below:

```
11:31:13                  *****   R E V I E W   *****                  03/22/01
TEST-611                        Thread Activity                        Patch: %

---- Thread --- Usecounts   Waitcounts  User            Root
Subgroup Status curr  high   curr  high   ID        Tid Program  Lastop   Time
-------- ------ ----- -----  ----- -----  -------- ----- -------- -------- -----
$SYSTEM  A-Run      1     1      0     0 COMTEST2     3 TLAMMAIN Cmwait   999
$SYSTEM  A-Run      1     1      0     0 COMTEST2     4 TLMSMESG Unknown  999
$SYSTEM  A-Run      1     1      0     0 COMTEST2     8 READCONS Unknown  999
$SYSTEM  A-Run      1     1      0     0 COMTEST2     2 TLOSOPER Unknown  999
SPECIAL1 A-Occ      1     1      0     0 SKU         12 UCTRL    Wrtm
UTILITY1 A-Occ      5     5      0     1 COK         11 USTACK   Wrtm
UTILITY1 A-Occ      4     4      0     0 COMTEST2    10 UTIMRM   Rolout
UTILITY1 A-Occ      4     4      0     0 COK         11 UQ       Wrt
UTILITY1 A-Run      4     4      0     0 MBE         16 RDCCOK22 Modify
UTILITY1 A-Occ      4     4      0     0 COK         11 UPDS     Wrt
UTILITY2 A-Occ      1     1      0     0 COMTEST2     9 PAENSTRT Cmwait
UTILITY2 A-Free     0     1      0     0 COK         11 UDS      Coexit
UTILITY2 A-Free     0     0      0     0              0
----------------------- Thread extension size: 1024 K -----------------------

Command: ____________________________________________________________________
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
     Help  Hist  Exit                     -     +    Pick        ===>  Menu
```

Screen 7–1: Thread Activity

Threshold Value

The threshold value has been set by your REVIEW administrator for Thread Time. This threshold value is maintained as REVIEW DC configuration parameters. If the threshold value is exceeded for a particular thread, color monitors will highlight the thread in red. Noncolor monitors will highlight the thread in white.

In addition to the commands and PF keys that are generally available within REVIEW DC, the following are provided on the Thread Activity screen:

PF Key	Command	Description
PF6	**RESET**	Resets the thread processing statistical fields to zero. Refer to the section, **Using the RESET Command**, later in this chapter, for more information.
PF7	**–**	Scrolls backward one screen.
PF8	**+**	Scrolls forward one screen.
PF9	**PICK**	Selects an active user for detailed viewing. Refer to the section, **Using the PICK Command**, later in this chapter for more information.
PF10	**RIGHT**	Scrolls one screen to the right.
PF11	**LEFT**	Scrolls one screen to the left.
–––	**TOP**	Scrolls to the top of the list.

Thread Activity Fields

The fields in this screen are described in the following table:

Field	Description
Thread Subgroup	This is the subgroup of which the thread in question is a member.
Thread Status	This status is a combination of two state indicators separated by a dash('–').The primary state, which may be A, Q or D indicates if the thread is active, quiescing or dormant, while the secondare state may indicate either FREE, OCC, DISP , RUN or SUSP.
Usecount curr	The current use count includes the current user plus any non relocatible users previously rolled out from this thread.
Usecount high	This reflects the highest use count ever experienced since the thread was initialized.
Waitcount curr	This reflects the number of users waiting to run in this thread.

Field	Description
Waitcount high	This reflects the highest ever wait count experienced since the thread was initialized.
User Id	The user Id last active in the thread.
Tid	The tid last active in the thread.
Root Program	The name of the root program last active in the thread.
Lst Op	This is the last COM−PLETE operation which was issued from this thread.
Time	When the thread has a secondary status of SUSP or RUN, this will reflect the time in seconds the user has spent in the thread.
Size−b	The thread size below 16M as defined in the THREADGROUP parameter.
NATURAL Applic	The name of the NATURAL application (if any) that was last executing in the thread.
NATURAL Program	The name of the NATURAL program(if any) that was last executing in the thread.
Thread extension size	The size of the thread extension, if available. The "Thread extension" is an area above 16M, equal in size for all threads

Using the RESET Command

The RESET command is used to reset to zero the values for the Thread Trans, Thread Time, AvgQ Time, and Cur# Rtr columns on the Thread Activity screen. Before being reset, these columns show values that have accrued since COM−PLETE initialization. Once reset, the values continue to accrue from the point of reset until either they are reset again or COM−PLETE is reinitialized.

▶ Use either of the following procedures to reset thread processing statistics:

- From the Thread Activity screen, type the **RESET** command and press ENTER.
- From the Thread Activity screen, press PF6.

The RESET command is a controlled access function. The REVIEW administrator controls whether or not a user can reset thread processing statistics.

Implications of Resetting Values to Zero

In order to draw accurate conclusions about thread activity, it is important to be aware of when the Thread Activity Screen was last set to zero, either at COM−PLETE initialization, or by using the RESET command.

Using the PICK Command

The PICK command allows you to access the User ID Window from the Thread Activity screen.

▶ Use either of the following procedures to access the User ID Window:

- From the Thread Activity screen, position the cursor on the line which contains the desired user ID and press PF9.
- From the Thread Activity screen, enter the PICK command on the command line as shown in the following example:

```
PICK=xxxxx
```

where *xxxxx* is the user ID you wish to view.

Note: The userid may be any active user ID, whether listed on the Thread Activity screen or not.

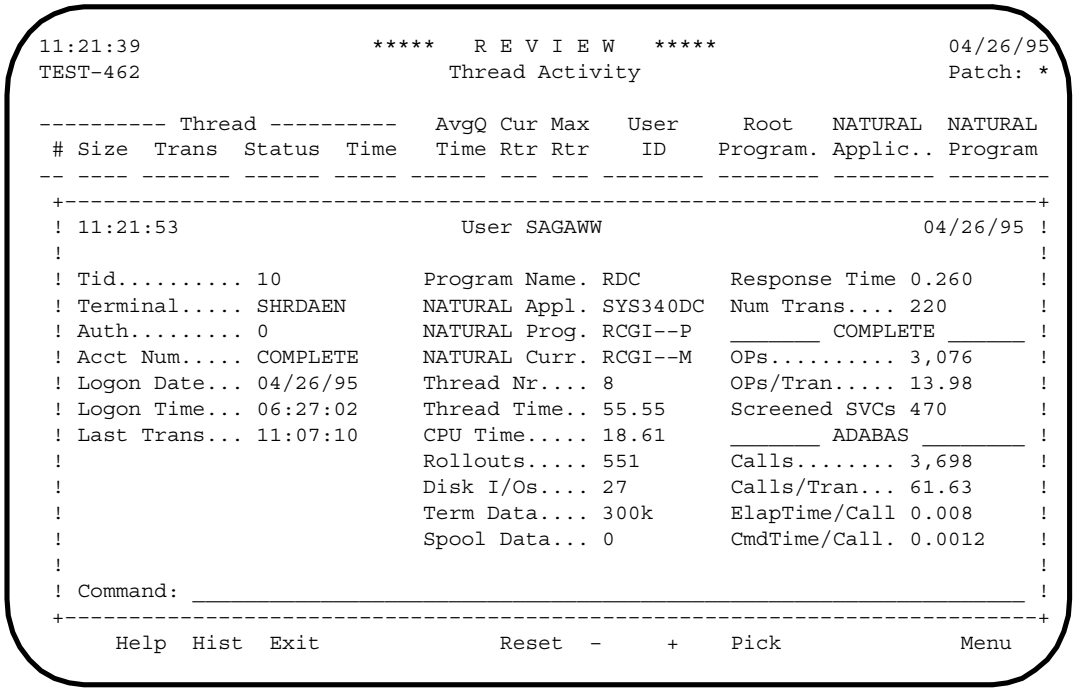
The User ID Window

The User ID Window presents exactly the same information that is provided on the User Activity function screen except that the information is presented in table format on a single screen for a single user. Refer to Chapter 9, **User Activity** for more information on user activity screens.

The User ID Window is accessed by using the PICK command. Refer to the discussion of the PICK command earlier in this chapter, for more information.

Note: The userid may be any active user ID, whether displayed on the Thread Activity screen or not.

The User ID Window appears as follows.



Screen 7–2: User ID Window

Only the commands and PF keys that are generally available within REVIEW DC are available from the User ID Window. The PICK command may be issued from the command line, but may not be issued by using PF9.

User ID Window Fields

The statistical fields on the User ID Window are described in the following table:

Field	Description
Tid	The terminal ID number for the user.
Terminal	The terminal name associated with the terminal ID number.
Auth	The system authorization number for the user.
Acct Num	The account number for the user.
Logon Date	The date (mm/dd/yy) that the user logged on.
Logon Time	The time (hh:mm:ss) that the user logged on.

Field	Description
Last Trans	The time (hh:mm:ss) that the user last executed a transaction by pressing either the ENTER key or a PF key.
Program Name	The name of the application program currently being executed by the user.
NATURAL Appl	The name of the NATURAL application, if any, that is currently being executed by the user.
NATURAL Prog	The name of the NATURAL program, if any, that is currently being executed by the user.
NATURAL Curr	The name of the NATURAL object (Map, subroutine, ...), if any, that is currently being executed by the user.
Thread Nr	The COM−PLETE thread number for the last transaction executed.
Thread Time	The total length of time, in seconds, that transactions executed by the user have remained in the thread.
CPU Time	The amount of CPU time, in seconds, that has been consumed by the user.
Roll Outs	The number of times an application program has been rolled out because the time limit was exceeded or the application issued an I/O request.
Disk I/Os	The number of disk I/O operations that have been executed by the user's applications.
Term Data	The number of bytes written to the user's terminal screen.
Spool Data	The number of bytes that the user forwarded for spooling to a printer.
Response Time	The average response time (in seconds) for all of the user's transactions.
Num Trans	The total number of transactions executed by the user.
COM−PLETE OPs	The total number of COM−PLETE operations that have been executed by the user's applications.
COM−PLETE OPs/Tran	The average number of COM−PLETE operations that have been executed per transaction.

Field	Description
COM−PLETE Screened SVCs	The total number of SVCs that have been issued by the user's transactions.
ADABAS Calls	The total number of ADABAS calls that have been issued by the user's applications.
ADABAS Call/Tran	The average number of ADABAS calls that have been issued by the user's applications per transaction, for transactions issuing ADABAS calls.
ADABAS ETime/Call	The average amount of elapsed time (in seconds) per call required to satisfy user applications issuing calls to ADABAS.
ADABAS CmdT/Call	The average amount of time (in seconds) required for processing each ADABAS call.

Changing the User ID

The user ID shown in the User ID Window can be changed without returning to the Thread Activity Screen.

▶ Use the following procedure to view a different active user:

- From the User ID Window, enter the PICK command on the command line as shown in the following example:

```
PICK=xxxxx
```

where *xxxxx* is the user ID you wish to view.

Notes:

1 *The userid may be any active user ID, whether shown on the Thread Activity screen or not.*

2 *PF9 (PICK) is not available from this window.*

Viewing Buffer Pool (variable) Information

Buffer pool information displays provide data for all buffer pools allocated in COM−PLETE or ADABAS TPF.

Buffer Pools Monitored

There are different types of buffer pools monitored by REVIEW DC. For an explanation of what each of these buffer pools does, refer to the section **Monitoring Individual Buffer Pools**, later in this chapter, for more information.

Accessing the Buffer Pool Information Screen

▶ Use either of the following procedures to access the REVIEW DC Buffer Pool screen:

- From DATA COMMUNICATION System screens, type **BP** on the command line and press ENTER.
- From any other REVIEW screen, precede the function code with the DATA COMMUNICATION System code and press ENTER:

  DC BP

The Buffer Pool Information screen appears as follows:

```
13:28:20                  *****   R E V I E W   *****                  03/23/01
TEST-611                    Buffer Pool Information                    Patch: %

   nnnnnnn = Buffer Size             = Max Used             = Currently Used


          !
        100
          !
          !
  % of   75
 Buffer   !
  Size    !
          !
         50
          !     9K
          !    40%
         25
          !
          !
          0-------------------------------------------------------------------
              TIBTAB   -----    -----    -----    -----    -----    -----

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

Screen 7−3: Buffer Pool Information, Screen 1

In addition to the commands and PF keys that are generally available within REVIEW DC, the following are provided on Buffer Pool Information screen:

PF Key	Command	Description
PF9	**PICK**	Selects buffer for detailed viewing. Refer to the section **Using the PICK Command** later in this chapter for more information.

Interpreting Buffer Pool Information

The bar chart provides buffer use information for each allocated buffer pool identified on the horizontal axis of the chart. The following table describes the legend appearing across the top of the Buffer Pool Information display:

Indicator	Description
nnnnn	Buffer Size. This is the allocated buffer pool size as measured in kilobytes (such as 300k) or megabytes (such as 3M) for a specific buffer pool.
.....	Max Used. This "high water" mark indicates the highest percentage of buffer pool utilization achieved since the initialization of COM−PLETE.
========	Currently Used. This indicates the current percentage of buffer utilization. When "Currently Used" and "Max Used" coincide for a specific buffer pool (such as 14% in the REVIEW buffer pool shown in the above screen), the bar chart graphs one percentage which represents both indicators. "Currently Used" is not graphed if the percentage is 0.

Note: When indicators are displayed in color, red replaces "....." (Max Used) and blue replaces "========" (Currently Used).

Using the PICK Command

The PICK command allows you to access a buffer pool window for a specific buffer pool/subpool, or for all buffer pools in **tabular form**. The window title references either the buffer pool/subpool name or "ALL" in its title.

▶ Use either of the following procedures to issue the PICK command to access a detailed statistics screen for a **specific buffer pool/subpool**:

- From the Buffer Pool Information screen, position the cursor anywhere on the column of data corresponding to the buffer you wish to select and press PF9.
- From the Buffer Pool Information screen, enter the PICK command on the command line as shown in the following example:

```
PICK=xxx
```

where *xxx* is the name of the buffer pool or subpool you wish to display.

▶ Use the following procedure to issue the PICK command to access a detailed statistics screen for **all buffer pools**:

- From the Buffer Pool Information screen, enter the PICK command on the command line as shown in the following example:

```
PICK=ALL
```

The type of display accessed by the PICK command varies, depending upon the type of buffer pool/subpool selected. These different displays are illustrated and explained later in this chapter.

Monitoring All Buffers in Tabular Form

The buffers monitored by the Buffer Pool function may be viewed in tabular, as well as bar chart form.

The All Buffers Window

The All Buffers window results from issuing the command **PICK=ALL**. Refer to the section **Using the PICK Command** earlier in this chapter for more information on selecting a buffer pool display.

The All Buffers window appears as follows:

```
11:30:12                  *****   R E V I E W   *****                  04/26/95
TEST-462                    Buffer Pool Information                    Patch: *
     +-------------------------------------------------------------------+
   n ! 11:35:04                    All Buffers                  04/26/95 ! ed
     !                                                                   !
     ! Buffer    Address. Size.  Curr. used... Maximum used. Gets. GetFl !
     ! --------  -------- -----  ------------- ------------- ----- ----- !
     ! TIBTAB    000D6000   18k  3,840  ( 20%) 3,840  ( 20%)   23     0  !
     ! ROLL      06E11000 4000k    234k (  5%)   238k (  5%)   11     0  !
  %  ! ........                                                          !
 Buf ! ........                                                          !
  Si ! ........                                                          !
     ! ........                                                          !
     ! ........                                                          !
     ! ........                                                          !
     ! ........                                                          !
     ! ........                                                          !
     ! ------------------------------------------------------------------ !
     !                                                                   ! --
     ! Command: _____________________________________________________    !
     +-------------------------------------------------------------------+
Command: PICK=ALL_____________________________________________________________
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Hist  Exit                                Pick  <===  ===>  Menu
```

Screen 7–4: All Buffer Pool Information (Tabular Display)

In addition to the commands and PF keys that are generally available within REVIEW DC, the following are provided on Buffer Pool Information screen:

PF Key	Command	Description
PF9	PICK	Selects buffer for detailed viewing. Refer to the section **Using the PICK Command** earlier in this chapter for more information.

All Buffers Window Fields

The information presented in this table is described in the following table:

Field	Description
Buffer	Name of a specific buffer pool such as TIBTAB.
Address	The starting address (in hexadecimal) of the buffer pool in main memory.
Size	The allocated size of the buffer pool. Size is expressed in bytes, kilobytes (k), or megabytes (M).
Max Used	The maximum amount of storage used for the buffer pool, expressed in bytes. A percentage is also listed to express the ratio of "Max Used" compared to the actual "Size" of the buffer pool.
Curr Used	The current amount of storage used for the buffer pool, expressed in bytes. A percentage is also listed to express the ratio of "Cur Used" compared to the actual "Size" of the buffer pool.

Monitoring Individual Buffer Pools

There are different types of buffer pools monitored by REVIEW DC; the format of individual buffer pool display depends upon the type of buffer pool chosen.

Variable Buffer Pools

Variable buffer pools allow variable lengths of storage to be obtained from them. They are relatively inefficient because they must serialize before obtaining or freeing a buffer. There is also tenancy toward fragmentation, which increases with the amount of time that the system is run. An advantage of using variable buffer pools is that only the amount of storage required is obtained. Variable buffer pools are not expanded, and therefore the storage is either available or unavailable.

The following variable buffer pools are monitored by REVIEW DC:

TIBTAB

The TIBTAB (Terminal Information Block Table) defines the terminals and lines to be used by COM−PLETE.

Size Requirements

The size of the table must be determined by the maximum number of terminals concurrently logged on to COM−PLETE.

If the Buffer is Filled

If the buffer is filled, no more terminals will be allowed to log on to COM−PLETE.

Variable Buffer Pool Window

The TIBTAB Buffer Pool

The TIBTAB Buffer Pool holds the Terminal Information Block Table, where one block is allocated for each attached task, terminal, printer, or TTY device.

TIBTAB Buffer Pool Window

The TIBTAB Buffer Window display results from using the **PICK=TIBTAB**. Refer to the section **Using the PICK Command** earlier in this chapter for more information on selecting the TIBTAB display.

```
13:31:34
TEST-611                  13:31:46          TIBTAB Buffer           03/23/01

   nnnnnnn = Buffer Siz   ------------------------------------------------
                          Address .....................      0F332000
          !               Size ........................         9,600
        100               Max Used ....................         3,840  40%
          !               Currently Used ..............         3,840  40%
          !               Number of Entries ...........            50
  % of   75               Entry Length ................           192
 Buffer   !               Gets Requested ..............            22
  Size    !               Gets Failed .................
         50
          !     9K        ------------------------------------------------
          !    40%
         25               Command: ____________________________________
          !
          !
          0-----------------------------------------------------------------
              TIBTAB   -----    -----    -----    -----    -----    -----

Command: pick=tibtab_____________________________________________________________
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
     Help  Hist  Exit                                Pick              Menu
```

Screen 7–5: GENERAL Buffer Subpool Information (Bar Chart)

Only the commands and PF keys that are generally available within REVIEW DC are available from the NATURAL 2.2 Buffer Window. The PICK command may be issued from the command line, but may not be issued by using PF9.

TIBTAB Buffer Pool Window Fields

Column Heading	Description
Address	The starting address (in hexadecimal) of the buffer pool in main memory.
Size	The allocated size of the buffer pool. Size is expressed in bytes, kilobytes (k), or megabytes (M).
Max Used	The maximum amount of storage used for the buffer pool, expressed in bytes. A percentage is also listed to express the ratio of "Max Used" compared to the actual "Size" of the buffer pool.
Currently Used	The current amount of storage used for the buffer pool, expressed in bytes. A percentage is also listed to express the ratio of "Curr Used" compared to the actual "Size" of the buffer pool.
Number of Entries	The number of terminal information blocks (TIBs) in the buffer pool.
Entry Length	The size, in bytes, of each terminal information block (TIB).
Gets Requested	The number of requests from COM−PLETE to allocate storage in the TIBTAB.
Gets Failed	The number of requests from COM−PLETE to allocate storage in the TIBTAB that failed.

Viewing Fixed Buffer Pool Information

Fixed buffer pool information displays provide data for all fixed buffer pools and their subpools allocated in COM−PLETE or ADABAS TPF.

Accessing the Fixed Buffer Pool Information Screen

▶ Use either of the following procedures to access the REVIEW DC Fixed Buffer Pool screen:

- From the DATA COMMUNICATION System screen, type FB on the command line and press ENTER.
- From any other REVIEW screen, precede the function code with the DATA COMMUNICATION System code and press ENTER:

  DC FB

The Fixed Buffer Pool Information screen appears as shown below:

```
11:45:01                  *****   R E V I E W   *****                  04/26/95
TEST-462                   Fixed Bufferpool Overview                   Patch: *

         -- Number of subpools/storage by location -- ---- Subpools totals ----
PoolName Any..... Below... DataSpac ECSA.... CSA..... Gets... GetFail Expd Cont
-------- -------- -------- -------- -------- -------- ------- ------- ---- ----
INIT-BP  (deleted)
WORKPOOL  8  247K  9  140K  . . . .  . . . .  . . . .  34446       0     8    0
GRSRPOOL  2    5K  . . . .  . . . .  . . . .  . . . .  25812       0     0    0
DEBUG     3  217K  . . . .  . . . .  . . . .  . . . .   3023       0     3    0
COM-STOR  2   44K  . . . .  1   40K  . . . .  . . . .      4       0     0    0
VSAM-CB   1    5K  1    1K  . . . .  . . . .  . . . .      1       0     0    0
VSAM-RSR  2    1K  . . . .  . . . .  . . . .  . . . .     21       0     0    0
SERVER    . . . .  4   53K  . . . .  . . . .  . . . .     12       0     0    0
VTAM      1    8K  . . . .  . . . .  . . . .  . . . .   1642       0     0    0
REVIEWDC  5   41K  . . . .  . . . .  . . . .  . . . .    155       0     0    0



-------- -------- -------- -------- -------- -------- ------- ------- ---- ----
REV00082 - REVIEW DC IS RUNNING UNDER COM 4.6.1
Command: _____________________________________________________________________
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Hist  Exit                                  Pick              Menu
```

Screen 7−6: Fixed Buffer Pool Information

In addition to the commands and PF keys that are generally available within REVIEW DC, the following is provided on the Fixed Buffer Pool Information screen:

PF Key	Command	Description
PF9	PICK	Selects buffer for detailed viewing.

Fixed Buffer Pool Information Fields

Field	Description
PoolName	Name of the buffer pool as specified at creation time.
Any*	Storage acquired above (if supported) or below the 16MB line.
Below*	Storage acquired below the 16MB line.
DataSpac*	Storage acquired from a Data Space (if supported).
ECSA*	Storage acquired from the Extended MVS Common Storage Area (above the line).
CSA*	Storage acquired from the MVS Common Storage Area (below the line).
Gets	Total GETs for all subpools in this buffer pool.
GetFail	Total FAILs for all subpools in this buffer pool.
Expd	Total Expansions for all subpools in this buffer pool.
Cont	Total Contractions for all subpools in this buffer pool.

* Each of these columns may contain two values: the total number of subpools created for this buffer pool, and the total amount of storage used by all subpools in this buffer pool. These columns represent the data areas from where the storage is acquired for a subpool.

Fixed Buffer Pool Subpool Information

The Fixed Buffer Pool Subpool Information Screen display results from using the PICK=xxxxx command, where xxxxx is the name of a buffer pool from the Fixed Buffer Pool Information screen, or by positioning the cursor anywhere on the line of data corresponding to the Fixed Buffer Pool you wish to select and press PF9.

When PICKing a Fixed Buffer Pool, the Fixed Buffer Pool Subpool Information screen appears as follows:

```
11:53:01                  *****   R E V I E W   *****                  04/26/95
TEST-462                                                               Patch: *
Subpools for COM-STOR    <.......Number of elements.......>
Subpool. No Loc.. Esize  Used.(%). Max Used. Base Curr High Gets. Fails Exp Cnt
-------- -- ----- ------ --------- --------- ---- ---- ---- ----- ----- --- ---
CST-AREA  1 ANY      72      4(  7)    4(  7)   60   60   60     4     0   0   0
COMSTOR   2 ANY    1024      0(  0)    0(  0)   40   40   40     0     0   0   0
COMSTOR   3 DS     2048      0(  0)    0(  0)   20   20   20     0     0   0   0
```

Screen 7–7: Fixed Buffer Pool Subpool Information, Screen 1

Fixed Buffer Pool Subpool Information, Screen 1, Fields

Field	Description
Subpool	The name of the subpool, which is an eight character indicator as to what the subpool is for.
No	The number of the subpool in question. When subpools are allocated, they are given a sequential number which is one greater than the one for the previously allocated subpool.
Loc	A value indicating where the buffer elements are allocated. The possible values that can be displayed here are: ANY, BELOW, DS, CSA, ECSA.

Field	Description
Esize	A number indicating the size of the elements in the subpool.
Used (%)	The number of elements used in the subpool along with the percentage of the base allocation used in brackets. Note that where a subpool currently has expansions, no percentage will be shown as the base allocation will have been exhausted.
Max Used	The maximum number of elements ever used in the subpool along with the percentage of the base allocation for the subpool. Note that if the subpool has ever expanded, this percentage will not be shown.
Base	The initial number of elements allocated for the subpool when it was built.
Curr	The current number of elements allocated for the subpool.
High	The highest number of elements ever allocated for the subpool.
Gets	The number of get requests that have been made against the subpool.
Fails	The number of get requests that have been made against the subpool which have failed for one of the following reasons: 1. The base allocation for the subpool is in use and the subpool does not allow expansions. 2. The current allocation for the subpool is in use and the subpool has expanded as often as is allowed. 3. The current allocation for the subpool is in use and an attempted expansion of the subpool failed. This could occur due to a storage shortage in the partition/region.

Field	Description
Exp	The number of times that the subpool has expanded. If it contains '***', it indicates that the subpool has expanded more than 999 times. While expansion can be a normal part of the day, it is expensive and therefore subpools should be defined such that expansions are kept to a minimum.
Cnt	The number of times the subpool has contracted. This may also contain '***' indicating that contraction has occured more than 999 times. This is an indication that this subpool is trashing, as expansions and contractions are occurring regularly. In this case, the parameters causing the subpool to be built should be reviewed. Also, if expansions are occurring and no contractions are subsequently occurring, it indicates that the initial allocation for ths subpool is not sufficient and should be changed, or that elements of the subpool are not being freed for some reason.

If you enter the command **RIGHT** or press PF11 on a Fixed Buffer Pool Subpool (Screen 1) display, the following screen appears:

```
11:53:01                  *****   R E V I E W   *****                  04/26/95
TEST-462                                                               Patch: *
Subpools for COM-STOR    <.......Storage in K-bytes.......>  ..Buffer % used..
Subpool. No Loc.. Esize  Used.(%). Max Used. Base Curr High  R1 R2 R3 R4 R5 R6
-------- -- ----- ------ --------- --------- ---- ---- ----  -- -- -- -- -- --
CST-AREA  1 ANY     72      0(  0)    0(  0)    4    4    4  50  0  0  0  0  0
COMSTOR   2 ANY   1024      0(  0)    0(  0)   40   40   40
COMSTOR   3 DS    2048      0(  0)    0(  0)   40   40   40
-------- -- ----- ------ --------- --------- ---- ---- ----  -- -- -- -- -- --
Command: _____________________________________________________________________
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Hist  Exit                      -     +          <====       Menu
```

Screen 7–8: Fixed Buffer Pool Subpool Information, Screen 2

Fixed Buffer Pool Subpool Information, Screen 2, Fields

The various sub-headings on this display, which are the same as those on Screen 1, have the same meaning. The difference here is that the figure presented is in Kbytes.

Buffer % used

The values in these columns provide an overview as to how much of the actual buffer is being used. Even though a request may be satisfied by a buffer with a length of 64 bytes, it may only require 32 bytes; however, it will still have 64 bytes reserved for it. This display can be used to tune buffer subpools based on the usage of the subpools and perhaps additional subpools defined and/or current allocations changed.

6 ranges (R1 to R6) are presented. The figures below these ranges indicate the precentage of overall requests which only used that amount of the buffer. Where 100% of requests fall into a specific range, '**'will be seen as the range. The various ranges represent the following usages of the buffer. Note that if the buffer is utilized 100% it will not be reflected in any of the ranges.

R1	less than 50% of the buffer used.
R2	50% to 59% of the buffer used.
R3	60% to 69% of the buffer used.
R4	70% to 79% of the buffer used.
R5	80% to 89% of the buffer used.
R6	90% to 99% of the buffer used.

For example, if a buffer subpool consistently shows 100% (ie '**') for R1, it indicates that all requests satisfied by this subpool could actually be satisfied with an element size half the size (or possibly less) of the current element size defined for the subpool. In this case, the element size of the subpool should simply be halved.

In a case where 50% of the requests are in the R1 category, another buffer subpool with an element size half the current one should be defined. The number of elements for the new subpool should be half the number allocated for the current subpool while the current subpool's allocation should also be halved.

Note: This method can be used to fine tune the allocation of subpools and the sizes allocated, but the storage savings must be weighed against the time spent tuning the system. Also, a change in system load can "undo" the newly tuned subpools and would require the process to be repeated.

Monitoring Program Information

The REVIEW DC Program Information Subsystem allows you to monitor the program library to determine whether programs with the largest "loads" count should be moved into the Program Lookaside Buffer. COM−PLETE performance is enhanced if search time is reduced by placing frequently used programs in the Program Lookaside Buffer.

Placing programs in the Program Lookaside Buffer requires the modification of the COM−PLETE initialization parameter PGMLOOKASIDE, which specifies the names of the programs to be loaded into this buffer.

The Program Information Subsystem shows the names of programs listed in the COM−PLETE program storage areas, the size of each program listed in bytes, kilobytes (k), or megabytes (M), and the number of times each program has been loaded.

COM−PLETE Program Search Process

COM−PLETE uses the following search process for a program that must be loaded into a thread:

1. COM−PLETE first references the Program Lookaside Buffer. If the program is found there, COM−PLETE moves the program from the buffer into the thread.
2. If the program is not in the Program Lookaside Buffer, COM−PLETE looks at In-Storage Directory (ISD) entries, which contain a pointer to the program found in the operating system search chain.
3. If no ISD entry exists for the program, COM−PLETE performs an operating sytem LOAD to find the program and load it into the thread.

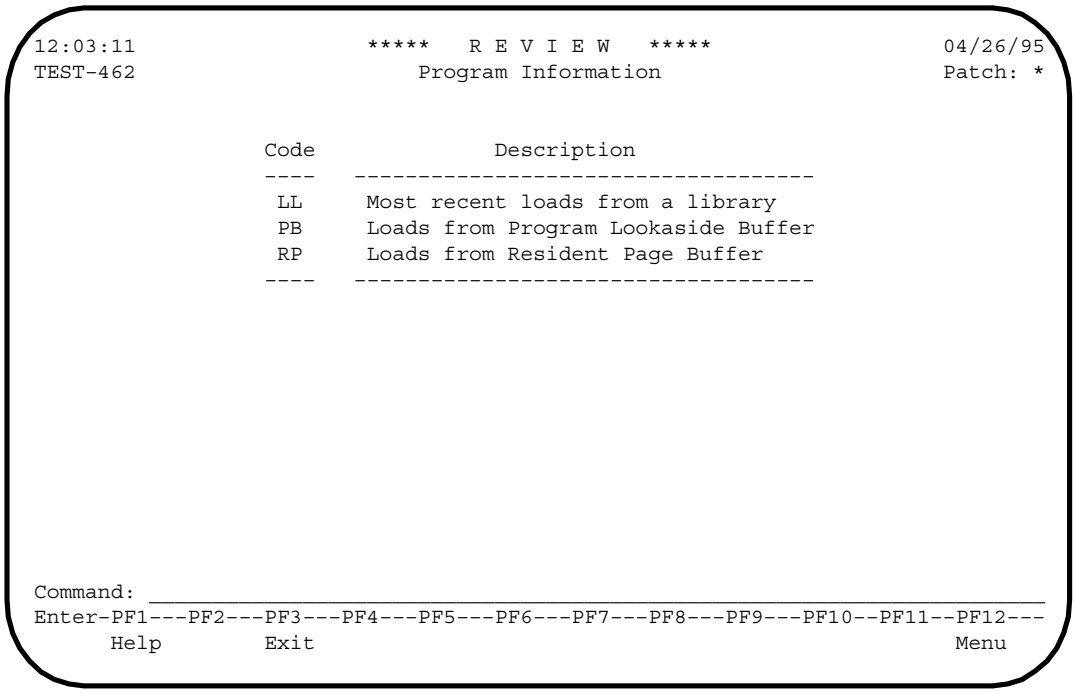
Accessing the Program Information Subsystem Menu

▶ Use either of the following procedures to access the REVIEW DC Program Information Subsystem Menu:

- From DATA COMMUNICATION System screens, type **PI** on the command line and press ENTER.
- From any other REVIEW screen, precede the function code with the DATA COMMUNICATION System code and press ENTER:

```
DC PI
```

The Program Information Subsystem menu screen appears as follows:



Screen 7–9: Program Information Subsystem Menu Screen

Only the commands and PF keys that are generally available within REVIEW DC are available from the Program Information Subsystem Menu Screen.

The Program Information Functions

The Program Information Subsystem menu provides access to the following functions:

- **Most recent loads from a library (LL)**

  The Most recent loads from a library function loads from a library.

- **Loads from the Program Lookaside Buffer (PB)**

  The Loads from the Program Lookaside Buffer function lists the programs that may be loaded directly from this buffer.

- **Loads from the Resident Page Buffer (RP)**

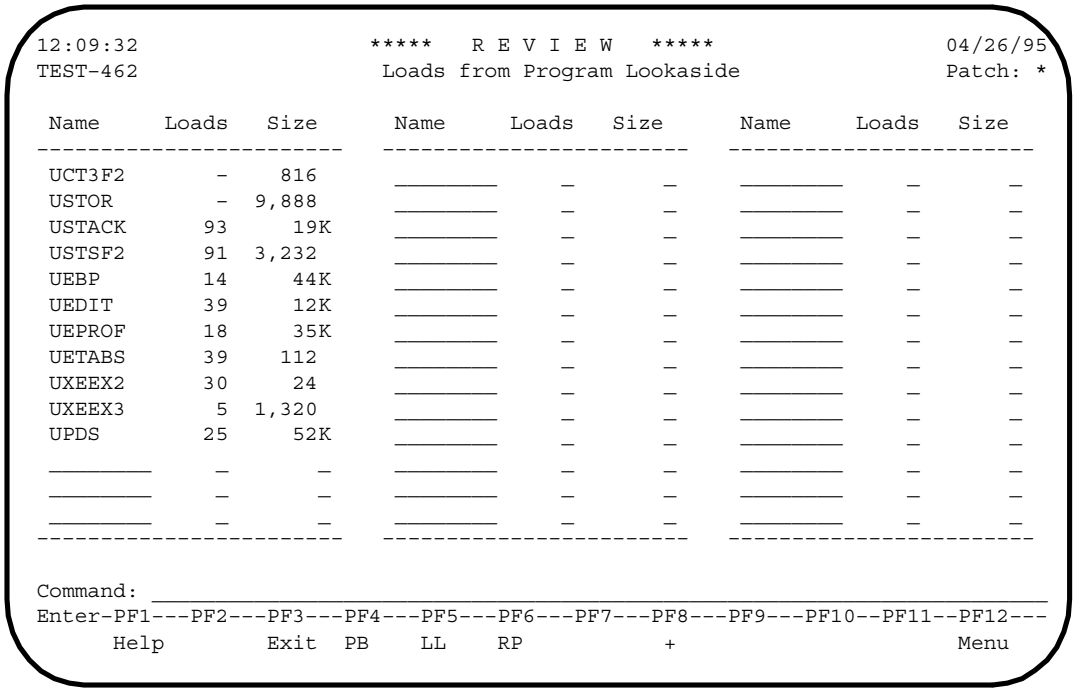
  The Loads from the Resident Page Buffer function lists the programs that may be loaded from the buffer in main memory and may be paged out to an I/O device by the operating system.

Although each of the functions displays different program storage areas, the screens themselves are otherwise identical. The **Loads from the Program Lookaside Buffer screen** is presented below as an example:

▶ Use any of the following procedures to access the **Loads from the Program Lookaside Buffer screen**:

- From the Roll Subsystem Menu, type **PB** on the command line and press ENTER.
- From the DATA COMMUNICATION System, type the codes **PI PB** on the command line and press ENTER.
- From outside the DATA COMMUNICATION System, type the codes **DC PI PB** on the command line and press ENTER.

The **Loads from the Program Lookaside Buffer screen** appears as follows:



```
12:09:32                 *****   R E V I E W   *****                 04/26/95
TEST-462                  Loads from Program Lookaside                Patch: *

 Name     Loads   Size      Name     Loads   Size      Name     Loads   Size
------------------------   ------------------------   ------------------------
 UCT3F2       -    816      ________     _       _     ________     _       _
 USTOR        -  9,888      ________     _       _     ________     _       _
 USTACK      93     19K      ________     _       _     ________     _       _
 USTSF2      91  3,232       ________     _       _     ________     _       _
 UEBP        14     44K      ________     _       _     ________     _       _
 UEDIT       39     12K      ________     _       _     ________     _       _
 UEPROF      18     35K      ________     _       _     ________     _       _
 UETABS      39    112       ________     _       _     ________     _       _
 UXEEX2      30     24       ________     _       _     ________     _       _
 UXEEX3       5  1,320       ________     _       _     ________     _       _
 UPDS        25     52K      ________     _       _     ________     _       _
 ________     _       _     ________     _       _     ________     _       _
 ________     _       _     ________     _       _     ________     _       _
 ________     _       _     ________     _       _     ________     _       _
------------------------   ------------------------   ------------------------

Command: _____________________________________________________________________
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help        Exit  PB    LL    RP           +                      Menu
```

Screen 7–10: Loads from the Program Lookaside Buffer Screen

Program Information Fields

The fields on the Program Information screens are described as follows:

Field	Description
Name	The names of programs in the selected program storage area.
Loads	The number of times each program has been loaded from the storage area.
Size	The size of each program listed in bytes, kilobytes (k), or megabytes (M).

CHAPTER 8

Viewing System Processing Information

VIEWING SYSTEM PROCESSING INFORMATION

Statistics that provide information about the operating system and the COM−PLETE system are provided in two REVIEW DC functions:

- **Global Information (GI)** provides statistics concerning the operating system, COM−PLETE, and successful transactions;
- **COM−PLETE Messages (CM)** provides a list of messages written to the operator console by COM−PLETE.

Historical displays and termination statistics are available for Global Information. Refer to Chapter 2, **The REVIEW DC System**, for more information about historical data and termination statistics.

Accessing the Global Information Screen

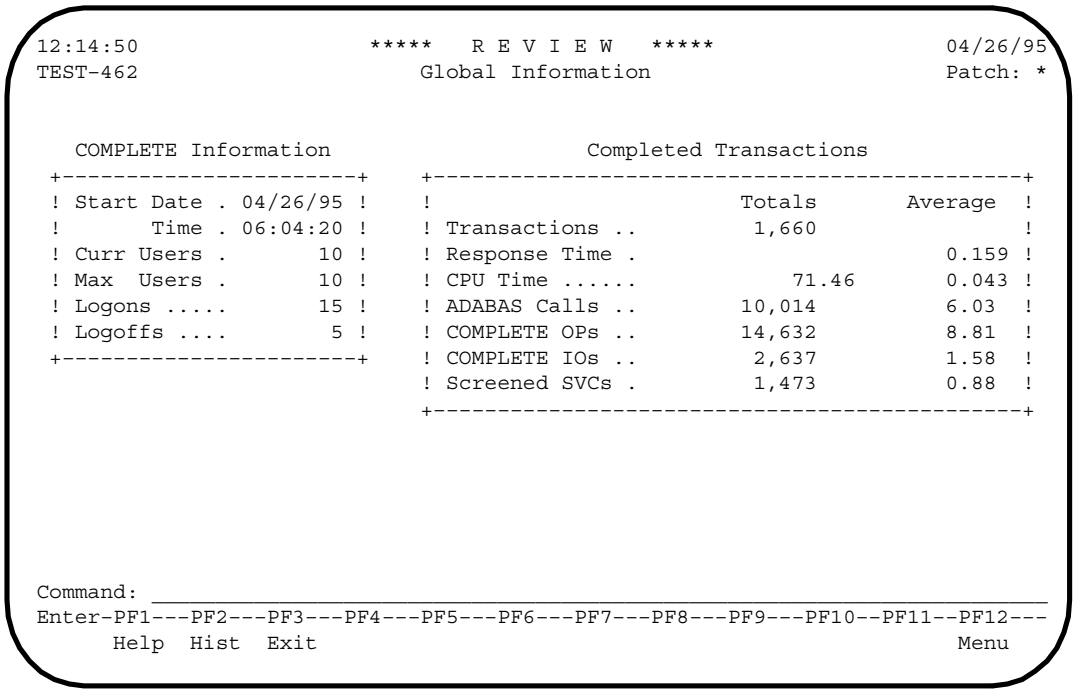
Global information includes operating system information, general status information about COM−PLETE system usage, and general statistical information about successfully completed transactions. Both current information and historical data may be viewed.

▶ Use either of the following procedures to access the Global Information screen:

- From DATA COMMUNICATION System screens, type **GI** on the command line and press ENTER.
- From any other REVIEW screen, precede the function code with the DATA COMMUNICATION System code and press ENTER:

```
DC GI
```

The Global Information screen appears as shown below:



Screen 8–1: Global Information

In addition to the commands and PF keys that are generally available within REVIEW DC, the following is provided on the Global Information screen:

PF Key	Command	Description
PF2	**HIST**	Displays historical data for this function, if available.

Global Information Fields

The information on this screen is divided into two areas: COM−PLETE Information, and Completed Transactions. The fields within these two areas are described in the following tables.

COM−PLETE Information

Field	Description
Start Date	The date (mm/dd/yy) the COM−PLETE system was initialized.
Start Time	The time (hh:mm:ss) the COM−PLETE system was initialized.
Curr Users	The total number of users currently logged on to COM−PLETE.
Max Users	The largest number of users that have concurrently been logged on to COM−PLETE since initialization.
Logons	The total number of logons since the time and date listed in the fields labeled "Start Date" and "Start Time".
Logoffs	The total number of logoffs since the time and date listed in the fields labeled "Start Date" and "Start Time".

Completed Transactions

Field	Description
Totals	
Transactions	The total number of transactions completed since COM−PLETE initialization. A transaction is recorded each time the ENTER key or a PF key is pressed.
CPU Time	The total amount of CPU time, in seconds, used by all application programs.
ADABAS Calls	The total number of calls to ADABAS from all application programs.
COM−PLETE OPs	The total number of COM−PLETE operations executed from all application programs.
COM−PLETE IOs	The total number of COM−PLETE I/Os executed from all application programs.
Screened SVCs	The total number of SVCs from all application programs.
Averages	
Response Time	The average amount of time, in seconds, that users experience while waiting for system response.
CPU Time	The average amount of CPU time, in seconds, used by each transaction.
ADABAS Calls	The average number of ADABAS calls executed by each transaction.
COM−PLETE OPs	The average number of COM−PLETE operations executed by each transaction.
COM−PLETE IOs	The average number of COM−PLETE I/Os executed by each transaction.
Screened SVCs	The average number of SVCs issued by each transaction.

Accessing the COM−PLETE Messages Screen

COM−PLETE Messages are used to determine the execution status of a particular program or to evaluate overall system status.

▶ Use either of the following procedures to access the COM−PLETE Messages screen:

- From DATA COMMUNICATION System screens, type **CM** on the command line and press ENTER.
- From any other REVIEW screen, precede the function code with the DATA COMMUNICATION System code and press ENTER:

  DC CM

The COM−PLETE Messages display appears as follows:

```
12:19:47                  *****   R E V I E W   *****                  04/26/95
TEST-462                        COMPLETE Messages                      Patch: *
                                                        Buffer 86 thru 100 of 100
--------------------------------------------------------------------------------
09:31:32 COMVTM2020-* LOSTERM LU=SHRDAEN TID=18 Code=20
09:31:32 COMSMF0001-* LOGOFF: USER=RSF1 LU=SHRDAEN TID=18 ACCT=SYSCOM STATUS=C/
09:31:32 COMSMF0005-* LOGOFF: AUTH=0 RMC=1234567 SMC=1234567
09:31:32 COMSMF0007-* LOGOFF: THRDT=0.51 CPU=0.05 EXCPS=0 TRANX=1 TERM=3,356 MS
09:31:32 COMSMF0008-* LOGOFF: ROLOUTS=2 Q-TIME=0.05 MCALLS=4 ADA-CALLS=0 ADA-TI
09:34:35 COMBPM0004-* BP WORKPOOL SP GENERAL (003), Expansion about to occur
09:34:36 COMBPM0006-* SP GENERAL(3) Esize=128 Eno=16 Size=2,048 Loc=ANY
09:34:36 COMBPM0013-* BP WORKPOOL SP GENERAL(3), Expanded successfully
09:58:46 ZSP0KY1 - LOGICAL OUTPUT DRIVER -KYLANDSC- ACTIVATED
10:00:10 COMRDC0102-* History Task rolling out for 3h 59m 34s.
10:02:41 COMTMR0005-* USER=NG TID=19 LU=SHRDAEN AUTOLOGOFF TIME EXCEEDED
10:02:41 COMSMF0001-* LOGOFF: USER=NG LU=SHRDAEN TID=19 ACCT=COM-PLETE STATUS=C
10:02:41 COMSMF0005-* LOGOFF: AUTH=0 RMC=1234567 SMC=14
10:02:41 COMSMF0007-* LOGOFF: THRDT=1.01 CPU=0.11 EXCPS=24 TRANX=6 TERM=11,913
10:02:41 COMSMF0008-* LOGOFF: ROLOUTS=11 Q-TIME=0.04 MCALLS=43 ADA-CALLS=0 ADA-
--------------------------------------------------------------------------------

Command: _____________________________________________________________________
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help        Exit                      -     +               ===>  Menu
```

Screen 8−2: COM−PLETE Messages, Screen 1

This is the first of two screen that comprise the COM−PLETE Messages display.

▶ To access the second screen:

- Press PF11 ; or,
- Type the command **RIGHT** on the command line and press ENTER.

The COM−PLETE Messages, Screen 2 appears as follows:

```
12:28:07                  *****   R E V I E W   *****                  04/26/95
TEST-462                        COMPLETE Messages                      Patch: *
                                                        Buffer 86 thru 100 of 100
--------------------------------------------------------------------------------
12:25:46 S=N/A
12:25:46
12:25:46 0 TERM=0 MSGSW=0
12:25:46 ADA-CALLS=178 ADA-TIME=65.44
12:26:05 IPRT'
12:26:05 240, File=Y, Print=N
12:26:05 240, File=Y, Print=N
12:26:05 240, File=Y, Print=N
12:26:05 240, File=Y, Print=N
12:26:05 240, File=Y, Print=N
12:26:05 240, File=Y, Print=N
12:26:05 240, File=Y, Print=N
12:26:05 240, File=Y, Print=N
12:26:05 240, File=Y, Print=N
12:26:05
--------------------------------------------------------------------------------

Command: _____________________________________________________________________
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help        Exit                      -     +          <===         Menu
```

Screen 8−3: COM−PLETE Messages, Screen 2

In addition to the commands and PF keys that are generally available within REVIEW DC, the following are provided on the COM−PLETE Messages screen:

PF Key	Command	Description
PF7	**−**	Scrolls backward one screen
PF8	**+**	Scrolls forward to the most recent messages.
PF10	**LEFT**	Scrolls one screen to the left.
PF11	**RIGHT**	Scrolls one screen to the right.
−−−	**TOP**	Scrolls to the top of the list.
−−−	**BOT**	Scrolls to the bottom of the list.

COM−PLETE Message Display Interpretation

The COM−PLETE Messages display lists the most recent messages written to the operator console by COM−PLETE. Changes made to parameters within the REVIEW system are reflected in COM−PLETE Messages, as well as those of all applications operating under COM−PLETE.

Screen Display

The entries on the COM−PLETE Messages display are ordered by time (hh:mm:ss); the time is displayed down the left-hand side of both display screens. In addition, the current position within the list of messages is displayed in the upper right corner of the screen.

The most recent messages are displayed at the bottom of the screen. Each entry is a single line with a of maximum of 128 characters. This means that each entry is potentially two screens wide.

Number of Entries Stored

The number of entries available for the COM−PLETE Messages display is determined by the COM−PLETE initialization parameter, **WTOBUFFERS**. The value in this parameter is usually determined by the COM−PLETE system administrator.

Refer to the *COM−PLETE System Programmer's Manual*, Chapter 3, **Initialization - COM−PLETE Startup Procedure** for information about modifying initialization parameters.

Historical Data Limitation

The COM−PLETE Message function provides information about COM−PLETE in a narrative form. Since the REVIEW DC history data feature stores system data in a statistical form, historical data and termination data are not available for this function.

To view COM−PLETE messages over a specific time period, make sure that the COM−PLETE initialization parameter **WTOBUFFERS**, discussed in the previous section, has ample storage to maintain the entries generated over the time period.

CHAPTER 9

User Activity

USER ACTIVITY

Active users are those who are currently logged on to COM−PLETE. The system resources used by each active user are displayed in the User Activity function.

The User Activity Function

The following display and windows are available within the User Activity function:

- **The User Activity** display presents a list of active users ordered by user ID and a line of information for each user that is three screens wide.
- **The Lowest 20 Window** lists the 20 users who are using the least amount of a system resource.
- **The Highest 20 Window** lists the 20 users who are using the greatest amount of a system resource.
- **The User ID Window** provides the same information provided for the user on the User Activity screen, but presents it in table form on a single screen for a single user at a time.

Historical data and termination statistics are not available for the User Activity function.

Accessing the User Activity Screens

▶ Use either of the following methods to access the User Activity screen:

- From the DATA COMMUNICATION System, type **UA** on the command line and press ENTER.
- From any other REVIEW screen, precede the function code with the DATA COMMUNICATION System code and press ENTER:

```
DC UA
```

The User Activity screen appears as shown as follows:

```
13:36:10                  *****   R E V I E W   *****                  04/26/95
TEST-462                         User Activity                         Patch: *

                Terminal          Account      Logon    Logon    Last   Number of
 Userid   Tid    Name    Auth     Number       Date     Time     Trans    Trans
--------------------------------------------------------------------------------
SAGAWW       10 SHRDAEN       0 COMPLETE     04/26/95 06:27:02 13:18:26       300
SAGAWW       11 ATTACHED      0 COMPLETE     04/26/95 12:26:05 12:26:05         1
TIMERM       12 ATTACHED      0              04/26/95 06:04:20 13:36:00       453
COK          13 SHRDAEN       0 COM-PLETE    04/26/95 07:55:12 12:26:04       466
RSF          15 SHRDAEN       0 COM-PLETE    04/26/95 09:28:03 09:53:26        41
SKU          16 SHRDAEN       0 COM-PLETE    04/26/95 09:00:14 13:32:56       754
RKL1         17 SHRDAEN       0 COM-PLETE    04/26/95 09:29:57 09:30:21         4
RSF1         18 SHRDAEN       0 SYSCOM       04/26/95 09:31:37 09:37:52        11
SG           19 SHRDAEN       0 SYSCOM       04/26/95 10:45:28 13:36:09        36
KLS          20 DAEXD10       0 DIR. SERVER  04/26/95 12:38:56 13:31:42       212
RM01         21 SHRDAEN       0 COM-PLETE    04/26/95 12:06:24 13:35:05        87
RM           22 SHRDAEN       0 COM-PLETE    04/26/95 12:10:49 13:35:19        67

--------------------------------------------------------------------------------

Command: _____________________________________________________________________
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help        Exit  SUser STid  Low   High   +    Pick        ===>  Menu
```

Screen 9–1: User Activity Display, Screen 1

This is the first of three screens that comprise the User Activity display.

▶ To access the second and third screens:

- Press PF11 ; or,
- Type the command **RIGHT** on the command line and press ENTER.

```
13:45:31                  *****   R E V I E W   *****                  04/26/95
TEST-462                         User Activity                         Patch: *

          Program. NATURAL  NATURAL  __Thread_   CPU    Roll   Disk  Term  Spool
 Userid   Name.... Appl     Program  Nr   Time   Time   Outs   I/Os  Data  Data
-------------------------------------------------------------------------------
SAGAWW    RDC      SYS340DC RCGI--P   8  81.50  25.11    822     64  420k     0
SAGAWW    RDCHISTO                    8   0.24   0.08      1      2     0     0
TIMERM    UTIMRM                      2   2.88   0.63    462     10     0     0
COK       UPDS                        7  48.15  11.39    717  1,324  547k  7049
RSF       UPDS                       13  10.65   3.97     86    246 88592     0
SKU       UEDIT                       5  92.96  22.65  1,472  1,389  942k 11517
RKL1      USTACK                      1   5.04   2.71     40      0  8783     0
RSF1      UPDS                        7   4.79   0.97     13    206 22303     0
SG        RDC      SYS340DC RCUA--P  14  13.03   2.57     90      0 38080     0
KLS       USTACK                      6  20.77   8.46    299     38  178k     0
RM01      USTACK                     14   4.16   0.77    104     58  225k     0
RM        UEDIT                       2  11.19   2.33    149    118  130k     0

-------------------------------------------------------------------------------

Command: _____________________________________________________________________
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help        Exit  SUser STid  Low   High   +    Pick  <===  ===>  Menu
```

Screen 9–2: User Activity Display, Screen 2

```
13:47:33                  *****   R E V I E W   *****                  04/26/95
TEST-462                         User Activity                         Patch: *

                Resp  ____ COMPLETE ____ _______________ ADABAS _______________
 Userid   Tid   Time       OPs  OPs/Tran    Calls  Call/Tran Elp/Call CmdT/Cal
-------------------------------------------------------------------------------
SAGAWW     10   0.291     5,035    16.45    5,511     56.81    0.009   0.0010
SAGAWW     11   0.000         6     6.00        0      0.00    0.000   0.0000
TIMERM     12   0.000       932     2.00        0      0.00    0.000   0.0000
COK        13   0.109     3,607     7.74      468     16.13    0.012   0.0006
RSF        15   0.261       309     7.53      394    394.00    0.004   0.0003
SKU        16   0.129     6,597     8.62    3,259     29.09    0.010   0.0006
RKL1       17   1.203        59    14.75      368    122.66    0.005   0.0010
RSF1       18   0.406        69     6.27        0      0.00    0.000   0.0000
SG         19   0.344       714    18.78      687     23.68    0.014   0.0006
KLS        20   0.098     1,487     6.72      811     73.72    0.012   0.0006
RM01       21   0.063       429     4.24        0      0.00    0.000   0.0000
RM         22   0.100       757     6.41      190     23.75    0.015   0.0011

-------------------------------------------------------------------------------

Command: _____________________________________________________________________
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help        Exit  SUser STid  Low   High   +    Pick  <===         Menu
```

Screen 9–3: User Activity Display, Screen 3

In addition to the commands and PF keys that are generally available within REVIEW DC, the following are provided on the User Activity screen:

PF Key	Command	Description
PF4	**SUSER**	Sorts the list alphabetically by user ID and repositions the list to the top.
PF5	**STID**	Sorts the list by terminal ID (TID) number and repositions the list to the top.
PF6	**LOW**	Displays the lowest 20 users for a particular system resource.
PF7	**HIGH**	Displays the highest 20 users for a particular system resource.
PF8	**+**	Scrolls forward to the next screen of users.
PF9	**PICK**	Selects a user ID for detailed viewing. Refer to the **Using the PICK Command** section, later in this chapter, for more information.
PF10	**LEFT**	Scrolls one screen to the left.
PF11	**RIGHT**	Scrolls one screen to the right.
–––	**TOP**	Scrolls to the top of the list.
–––	**TID**	Displays the terminal ID selected at the top of the screen.
–––	**USER**	Displays the user ID selected at the top of the screen.

User Activity Display Fields

The following tables describe the fields displayed on each of the three User Activity screens.

Screen 1

Field	Description
Userid	The ID for the user.
Tid	The terminal ID number for the user.
Terminal Name	The terminal name associated with the terminal ID number.
Auth	The system authorization number for the user.
Account Number	The account number for the user.
Logon Date	The date (mm/dd/yy) that the user logged on.
Logon Time	The time (hh:mm:ss) that the user logged on.
Last Trans	The time (hh:mm:ss) that the user last executed a transaction by pressing either the ENTER key or a PF key.
Number of Trans	The total number of transactions executed by the user.

Screen 2

Field	Description
Program Name	The name of the application program currently being executed by the user.
NATURAL Appl	The name of the NATURAL application, if any, that is currently being executed by the user.
NATURAL Program	The name of the NATURAL program, if any, that is currently being executed by the user.
Thread Nr	The COM−PLETE thread number for the last transaction executed.
Thread Time	The total length of time, in seconds, that transactions executed by the user have remained in the thread.
CPU Time	The amount of CPU time, in seconds, that has been consumed by the user.

Field	Description
Roll Outs	The number of times an application program has been rolled out because the time limit was exceeded or the application issued an I/O request.
Disk I/Os	The number of disk I/O operations that have been executed by the user's applications.
Term Data	The number of bytes written to the user's terminal screen.
Spool Data	The number of bytes that the user forwarded for spooling to a printer.

Screen 3

Field	Description
Resp Time	The average response time (in seconds) for all of the user's transactions.
COM−PLETE OPs	The total number of COM−PLETE operations that have been executed by the user's applications.
COM−PLETE OPs/Tran	The average number of COM−PLETE operations that have been executed per transaction.
ADABAS Calls	The total number of ADABAS calls that have been issued by the user's applications.
ADABAS Call/Tran	The average number of ADABAS calls that have been issued by the user's applications per transaction, for transactions issuing ADABAS calls.
ADABAS Elp/Time	The average amount of elapsed time (in seconds) per call required to satisfy user applications issuing calls to ADABAS.
ADABAS CmdT/Cal	The average amount of time (in seconds) required for processing each ADABAS call.

Using the Sort Commands

As mentioned, the default order of entries on the User Activity display is alphabetic, in order by terminal ID. This order may be modified using the following commands and PF keys:

▶ To sort the list **alphabetically by user ID** and reposition the display to the top of the list:

Press PF4 or type **SUSER** on the command line and press ENTER .

▶ To sort the list **by terminal ID (TID) number** and reposition the display to the top of the list:

Press PF5 or type **STID** on the command line and press ENTER.

Using the LOW and HIGH Commands

The LOW and HIGH commands are used to display the Highest 20 and Lowest 20 Windows. Refer to the section **The Highest 20 and Lowest 20 Windows,** later in this chapter, for more information on using the LOW and HIGH commands.

Using the PICK Command

The PICK command allows you to access the User ID Window for a specific user ID. The screen title references the user ID.

▶ Use either of the following procedures to issue the PICK command to access a detailed statistics screen for a **specific user ID**:

- From the User Activity screen, position the cursor anywhere on the line of data corresponding to the user ID you wish to select and press PF9.
- From the User Activity screen, enter the PICK command on the command line as shown in the following example:

PICK=*xxxxx*

where *xxxxx* is the user ID of the user you wish to display.

Using the Repositioning Commands

Commands are available that allow you to reposition the list of active users to a particular user or terminal.

▶ To reposition the User Activity screen to the line containing information for a specific terminal ID:

Type **TID=*nnnn*** on the command line and press ENTER where *nnnn* is the terminal ID number.

▶ To reposition the User Activity screen to the line containing information for a specific user:

Type **USER=*xxxxx*** on the command line and press ENTER where *xxxxx* is a valid user ID.

The Highest 20 and Lowest 20 Windows

The Highest 20 and Lowest 20 Windows display a ranking order of system usage, by user ID. Any field on the User Activity Screen can be selected for these windows. The order of data displayed in the Highest 20 and Lowest 20 windows depends upon the type of field selected:

- **For an alphanumeric field**
  The lowest 20 display in alphabetical order from A to Z. The highest 20 display in alphabetical order from Z to A.
- **For a numeric field**
  The lowest 20 display in numeric order from least to greatest amount of the system resource selected. The highest 20 display in numeric order from greatest to least amount of the system resource selected.

The Highest 20 Window

▶ To access The Highest 20 Window perform one of the following procedures from the User Activity display:

- Position the cursor at any row under the column header that represents the particular resource being monitored and press PF7.
- Type the command **HIGH** on the command line. Position the cursor at any row under the column header that represents the particular resource being monitored and press ENTER.

```
13:47:33                  *****   R E V I E W   *****                  04/26/95
TEST- +-------------------------------------------------------------------+ atch: *
      ! 13:53:00        +-------------------------+          04/26/95 !
      !                 !      The Highest 20     !                   ! _______
 User !                 +-------------------------+                   ! mdT/Cal
----- !                                                                 ! -------
SAGAW !               Response                            Response      !  0.0010
SAGAW !      Userid   Time                      Userid   Time          !  0.0000
TIMER !     -------- -------------            -------- -------------  !  0.0000
COK   ! 01. RKL1             1.203        11. SAGAWW           0.000  !  0.0006
RSF   ! 02. RSF1             0.406        12. TIMERM           0.000  !  0.0003
SKU   ! 03. SG               0.340        13.                         !  0.0006
RKL1  ! 04. SAGAWW           0.291        14.                         !  0.0010
RSF1  ! 05. RSF              0.261        15.                         !  0.0000
SG    ! 06. SKU              0.127        16.                         !  0.0006
KLS   ! 07. COK              0.109        17.                         !  0.0006
RM01  ! 08. KLS              0.098        18.                         !  0.0000
RM    ! 09. RM               0.093        19.                         !  0.0011
      ! 10. RM01             0.058        20.                         !
----- !                                                                 ! -------
      !                                                                 !
Comma ! Command: _____________________________________________________ ! _______
Enter +-------------------------------------------------------------------+ PF12---
     Help        Exit  SUser STid  Low   High   +    Pick  <===         Menu
```

Screen 9–4: The Highest 20 Window

The Lowest 20 Window

▶ To access the Lowest 20 Window, perform one of the following procedures from the User Activity display:

- Position the cursor at any row under the column header that represents the particular resource being monitored and press PF6.
- Type the command **LOW** on the command line. Position the cursor at any row under the column header that represents the particular resource being monitored and press ENTER.

Toggling between the Lowest 20 and Highest 20 Windows

▶ To toggle between the Lowest 20 and The Highest 20 Windows:

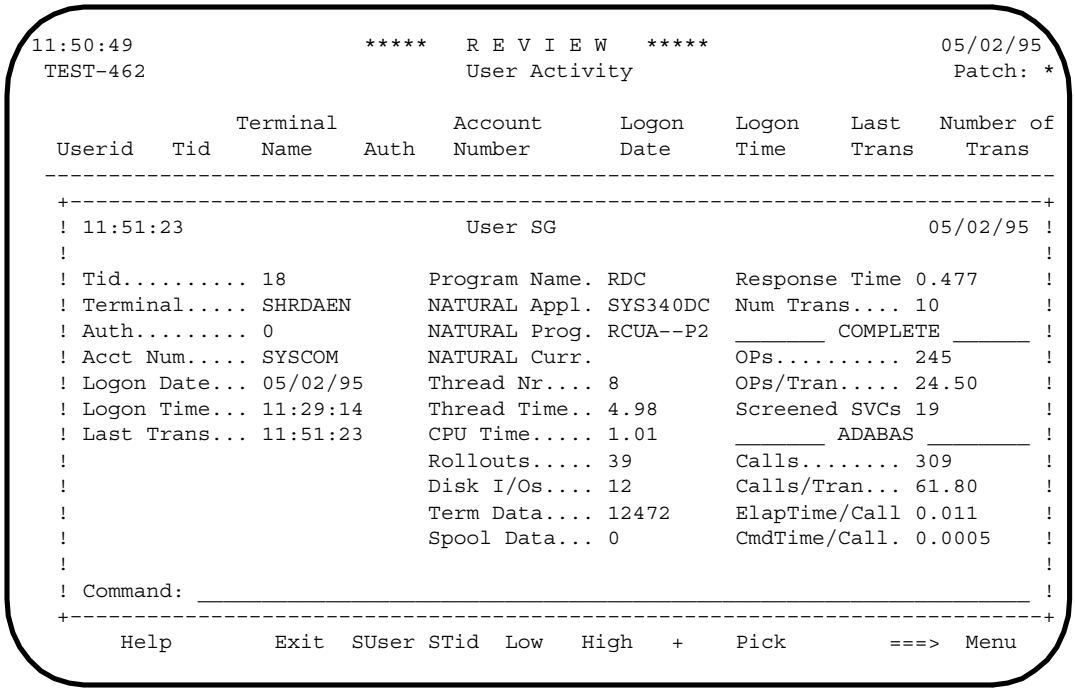
- From The Lowest 20 Window, press PF7 or type the command **HIGH** on the command line and press ENTER to access The Highest 20 Window for the same resource.
- From The Highest 20 Window, press PF6 or type the command **LOW** on the command line and press ENTER to access The Lowest 20 Window for the same resource.

The User ID Window

The User ID Window presents exactly the same information that is provided on the User Activity screen except that the information is presented in table format on a single screen for a single user. Refer to the **User Activity Display Fields** section earlier in this chapter for an explanation of the fields occurring on the User ID Window.

The User ID Window is accessed by using the PICK command. Refer to the discussion of the PICK command earlier in this chapter, for more information.

Note: The User ID Window can be accessed from any of the User Activity function screens.



Screen 9–5: User ID Window

Only the commands and PF keys that are generally available within REVIEW DC are available from the User ID Window. The PICK command may be issued from the command line, but may not be issued by using PF9.

Changing the User ID Displayed

The user ID displayed in the User ID Window can be changed without returning to the User Activity Screen.

▶ Use the following procedure to display a different active user:

- From the User ID Window, enter the PICK command on the command line as shown in the following example:

  PICK=*xxxxx*

  where *xxxxx* is the user ID you wish to display.

Note: The userid may be any active user ID, whether displayed on the User Activity screen or not.

CHAPTER 10

Transaction Generation

TRANSACTION GENERATION

The Transaction Generator function is typically used in a test environment to create a well-defined, repeatable load on the COM−PLETE system. Information derived from this exercise can be used to help tune parameters within the following REVIEW DC functions:

- Roll Subsystem
- Target Information
- Thread Activity
- Buffer Pool Allocation

Creating a Transaction Generation

The fields on the Transaction Generator screen allow you to specify the load characteristics for the transaction generation. The values you enter for these fields must mimic those in the environment you are testing.

Warning: ***The Transaction Generator creates a load on the system which is added to any existing load on the system when the transaction generation is started. Consider the impact on the system of both the existing load and the transaction generation when using this function.***

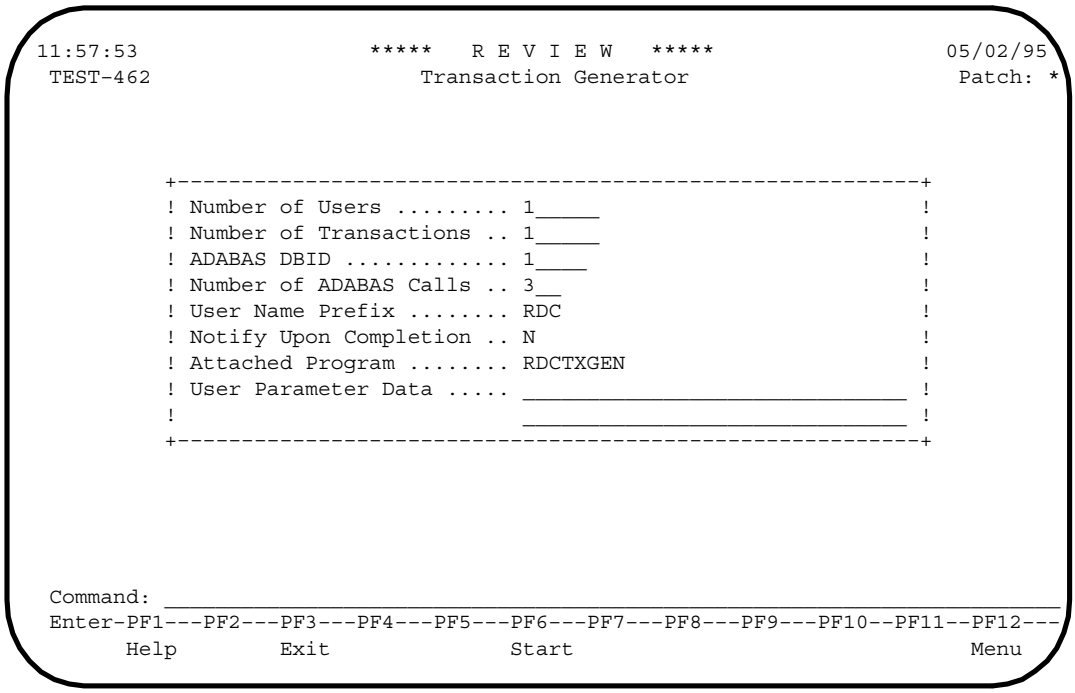
Accessing the Transaction Generator Screen

▶ Use either of the following methods to access the Transaction Generator screen:

- From the DATA COMMUNICATION System, type **TG** on the command line and press ENTER.
- From any other REVIEW screen, precede the function code with the DATA COMMUNICATION System code and press ENTER:

  DC TG

The Transaction Generator screen appears as follows:



Screen 10–1: Transaction Generator Screen

In addition to the commands and PF keys that are generally available within REVIEW DC, the following is provided on the Transaction Generator screen:

PF Key	Command	Description
PF6	**START**	Begins the transaction generation.

Transaction Generator Fields

The fields displayed on the Transaction Generator screen are described in the following table:

Field	Valid Values	Description
Number of Users	1 1−999,999	The number of users for the generation.
Number of Transactions	1 1−999,999	The number of transactions that each user will perform.
ADABAS DBID	1 1−65535	The database to be used for the transaction generation.
Number of ADABAS Calls	3 3−999	The number of calls to be executed for each transaction executed. The default number of ADABAS calls is 3, because all transactions require at least three ADABAS calls −− an open (OP), a read and a close (CL). *Note: If you increase the number of calls, n−3 'release command id' (RC) commands are created.*
Notify Upon Completion	Y N	As the transaction generation for each user is completed, a Class 1 message is written to COM−PLETE's message switching facility.
User Name Prefix	RDC *xxx*	A three character prefix for user names.
Attached Program	RDCTXGEN *xxxxxxx*	An eight character program name. The default program RDCTG is used to execute the transaction generation. User parameter data for a program other than the default is specified in the User Parameter Data field.
User Parameter Data	*blank* *???*	Program parameters and variables used to customize a transaction generation program for VSAM, DL/I, and other database calls when an attached program other than the default RDCTG is specified in the Attached Program field.

Defining a Transaction Generation

The load placed on the system by the Transaction Generator is determined by three parameters:

- Number of Users
- Number of Transactions
- Number of ADABAS Calls

The load, and therefore, the processing time for the whole system will increase as any of these three parameters are increased.

▶ To enter values for the transaction generation variables:

- Move the cursor to the input field for the variable and type in a value; press ENTER.

Starting a Transaction Generation

Once a transaction generation has been specified on the Transaction Generator screen, it must be started from the same screen.

▶ To start a transaction generation:

- Press PF6; or,
- Type the command **START** on the command line and press ENTER.

The following message appears on the Transaction Generator screen:

REV00120 – USERS ATTACHED FOR TEST SIMULATION

- If notification was requested, a Class 1 message is written to COM−PLETE's message switching facility upon completion of each attached program.

Performance Tuning Using Transaction Generation

Some of the COM−PLETE modifiable parameters can be dynamically tuned directly from within REVIEW DC.

REVIEW DC Function	COM−PLETE Parameters	Applymods
Target Information (TI) Function	ADACALL ADAROLL ADALIMIT	MOD18

A Transaction Generation Example

1 To test the efficiency of thread activity, set up a transaction generation specifying the Number of Users as 50. Use all other defaults.

2 Start the transaction generation.

3 Access the Thread Activity screen and look at the use of threads:

- Are there too many users in one thread?
- Are there too many threads not in use?

The "Cur Rtr" and "Max Rtr" fields should provide the answers to the questions.

4 After analyzing thread activity, take the necessary actions:

- Allocate more threads;
- Change the size of existing threads;
- Delete threads.

Use the appropriate COM−PLETE initialization parameters.

CHAPTER 11

Collecting History Data

COLLECTING HISTORY DATA

REVIEW DC can provided history data for many of the REVIEW DC functions. History data is data that is captured over timed intervals, or accumulated until COM−PLETE terminates.

History data is presented, either online or in print, as a screen "snapshot". History data will differ from current data in that the displays are not modifiable, and that commands used to modify the displays are not available.

History Data Features

The following sections describe the features associated with history data.

Availability of History Data

The following factors determine the availability of history data.

Installation

The REVIEW DC history subsystem is an optional feature which may or may not be included during REVIEW DC installation. If the history subsystem has not been installed, history data will not be available. Your REVIEW administrator can give you further information on whether or not the history subsystem is installed.

Options

Once the REVIEW DC history subsystem is installed, the options controlling data collection must be set. The REVIEW DC function, History Options, is used to set options for history data collection. Data collection is set individually for each applicable REVIEW DC function. Since the default setting for all history options is "N", which prohibits data collection, no data will be collected unless the history options are reset. The History Options function is explained later in this chapter.

Functions

History data is available for specific REVIEW DC functions. The following functions provide access to history data:

- Response Time Subsystem
- Roll Subsystem
- Target Information
- Thread Activity
- Buffer Pool Information
- Fixed Buffer Pool Information
- Global Information

Types of History Data

REVIEW DC provides two types of history data: interval data and termination data.

Interval Data

Interval data is data which is captured over a specific period of time. The time interval over which the data is collected is controlled by the History Options function. Interval data may be sent to a printer, stored in a file, or both. The file in which the data is stored is called the "Repository File".

Termination Data

Termination data is data which has accumulated from the time that COM−PLETE initialized through COM−PLETE termination. Like interval data, termination data may be sent to a printer, stored in the Repository File, or both.

History Data Format

Both interval data and termination data are formatted as **historical snapshots**. A historical snapshot displays historical data in the format of the REVIEW DC function from which the data was captured. For example, if history data is requested for the Global Information function, the historical snapshot will look almost identical to the function screen, except that it will have the following additional line it its title:

<<< HISTORICAL DATA From *xxxxxxxx* >>>

where *xxxxxxxx* is the COM−PLETE Installation ID.

History Data Screens

Both interval and termination historical snapshots may be viewed online. A list of all historical snapshots for a function, called the **Expanded List**, may be displayed so that a specific snapshot may be viewed or purged.

Note: The Response Time Subsystem provides a unique method of accessing historical data. This method is described in Chapter 3, ***Using Response Time Reports****.*

Accessing the Expanded List of Historical Snapshots

The following example illustrates how the Expanded List screen is used.

▶ To access the Expanded List screen:

- Access the REVIEW DC function for which you want to view history data.
- Press the PF2 (Hist) key or type **EX** on the command line and press ENTER.

Note: You may arrive at this point directly from any screen in REVIEW by typing "DC function-code EX" on the command line and pressing ENTER*. From within REVIEW DC, type "function-code EX" and press* ENTER*.*

An Expanded List of historical snapshots for the selected function appears.

```
12:09:44                *****   R E V I E W   *****                  05/02/95
TEST-462              Expanded List for Global Information             Patch: *

  Sel  Date/Time      Sel  Date/Time      Sel  Date/Time      Sel  Date/Time
+-------------------------------------------------------------------------------+
!     2 MAY 1995      __     17:00:01      __     12:00:01      __     14:00:00 !
! __   -Current-      __     12:00:01      __     07:00:00      __     10:00:05 !
! __     12:00:00      __     07:00:00      __     02:00:01         25 APR 1995 !
! __  T: 11:25:12      __     02:00:02         27 APR 1995      __     18:00:01 !
! __     07:00:00         29 APR 1995      __     22:00:00      __     14:00:00 !
! __     02:00:01      __     22:00:05      __     17:00:01      __     10:00:00 !
!     1 MAY 1995      __     17:00:00      __  T: 14:35:09      __  T: 09:39:00 !
! __     22:00:04      __     12:00:00      __  T: 14:08:40      __  T: 06:59:12 !
! __     17:00:00      __     07:00:00      __     12:00:00      __     06:00:00 !
! __     12:00:00      __     02:00:02      __     06:00:00      __     02:00:02 !
! __     07:00:00         28 APR 1995      __     02:00:01         24 APR 1995 !
! __     02:00:01      __     22:00:00         26 APR 1995      __     22:00:00 !
!     30 APR 1995      __     17:00:01      __     22:00:01      __  T: 17:56:34 !
! __     22:00:00      __  T: 15:25:32      __     18:00:00      __  T: 17:48:13 !
+-------------------------------------------------------------------------------+
REV00055 - SELECT A HISTORICAL SNAPSHOT
Command: _____________________________________________________________________
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
     Help  Curr  Exit                          +                     Menu
```

Screen 11–1: Expanded List Screen (Global Information)

In addition to the commands and PF keys that are generally available within REVIEW DC, the following are provided on the Expanded List screen:

PF Key	Command	Description
PF7	–	Scrolls backward to the previous screen of historical snapshots.
PF8	+	Scrolls forward to the next screen of historical snapshots.
–––	**PD**	Purges all historical snapshots for the selected day.
–––	**PH**	Purges a historical snapshot.
–––	**TOP**	Scrolls to the top of the list.
–––	**VW**	Displays a historical snapshot.

Expanded List Fields

The fields on the Expanded List screen are described as follows:

Field	Value	Description
Sel	–––	The field used to select a historical snapshot for further action.
Date/Time	*dd:mm:yy hh:mm:ss*	The date and time that an interval history data was collected. The string 'T:' in front of the date indicates a Termination record (Historical snapshot taken during COM–PLETE shutdown).

Note: If historical data is not being captured, the Expanded List screen contains only the current date and time.

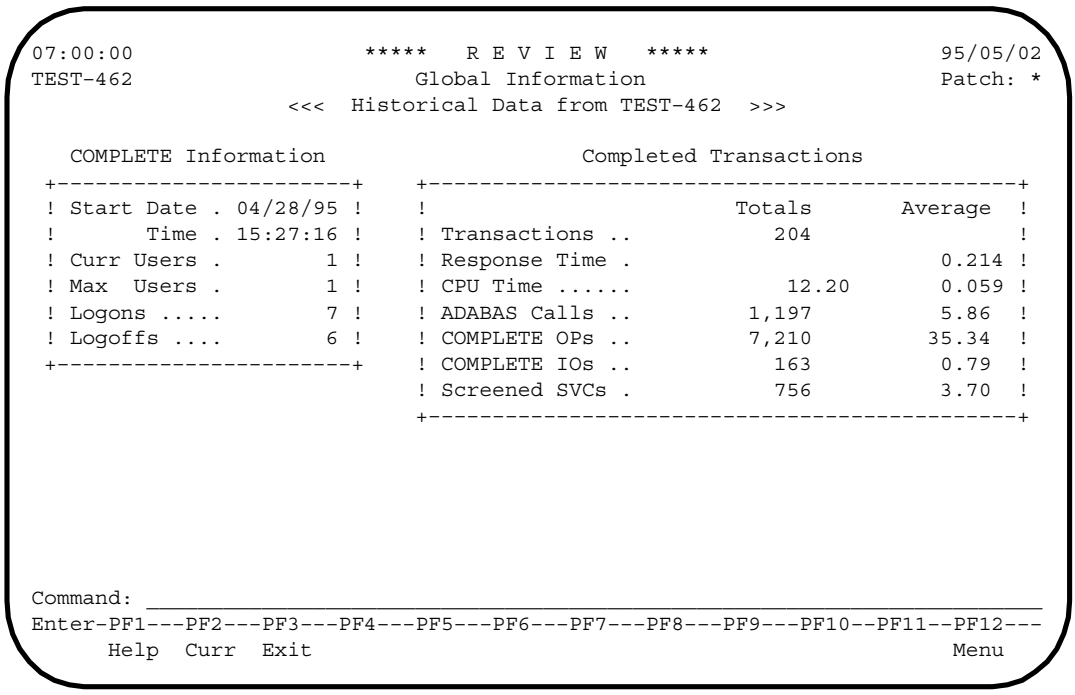
Selecting a Historical Snapshot

From the Expanded List you can select a specific snapshot for viewing.

▶ To select a historical snapshot to be viewed:

- Type **VW** in the Sel column next to view the historical snapshot you wish to view.

A historical snapshot screen appears with the date and time of the snapshot shown at the top of the screen. Following is an example historical snapshot.



Screen 11–2: Historical Snapshot (Global Information)

In addition to the commands and PF keys that are generally available within REVIEW DC, the following are provided on the Historical Snapshot screens:

PF Key	Command	Description
PF2	**CURR**	Return from historical display to current display.
– – –	**EX**	Access a list of individual historical snapshots for a particular function.
PF19	**NEXT**	Displays the next later historical snapshot available.
PF20	**PREV**	Display the next earlier historical snapshot available.

Date and Time of Data Collection

The date and time of data collection is displayed on this screen. The time is displayed in the upper left corner of the screen in hh:mm:ss format. The date is displayed in the upper right corner in mm/dd/yy format.

Toggling Between Current and History Data

Once you have accessed either the Expanded List or the actual historical snapshot, you may toggle back to the current data display.

▶ To toggle between current data and history data:

- From the history display, press PF2 or type **CURR** on the command line and press ENTER to view current data.
- From the current display, press PF2 or type **HIST** on the command line and press ENTER to view history data.

A message appears indicating that you are **NOW VIEWING CURRENT DATA** or **NOW VIEWING HISTORICAL DATA**, as appropriate.

Returning to the Expanded List

To select a different snapshot, you may return to the Expanded List Screen.

▶ To return to the Expanded List Screen:

- Type **EX** on the command line and press ENTER.

Viewing an Earlier or Later Snapshot

To view an earlier or later snapshot, you may return to the Expanded List and select a different snapshot. However, you may also view an earlier or later snapshot without exiting from the historical snapshot screen.

▶ To select a different snapshot directly from the historical snapshot screen:

- Press PF19 or type **PREV** on the command line and press ENTER to view an earlier snapshot.
- Press PF20 or type **NEXT** on the command line and press ENTER to view a later historical snapshots.

The message, **THIS IS THE LAST HISTORICAL SNAPSHOT,** indicates that the earliest snapshot has been displayed, and that the PREV command is no longer valid. The message, **NOW VIEWING CURRENT DATA,** indicates that the latest snapshot has been displayed, and the the NEXT command is no longer valid.

Accessing History Data for a Different Function

When you are viewing a historical snapshot, you may access historical snapshots for other functions without toggling back to current data.

▶ To access a history data for a different function:

- Type the appropriate function code on the command line and press ENTER.
- The following display will result:
  - If a historical snapshot exists in the requested function for the exact time and date of the snapshot you are currently viewing, that snapshot will appear.
  - If such a snapshot does not exist, the Expanded List for the requested function will appear instead. From the list you may choose the snapshot you want to view.
  - If the requested function does not provide historical snapshots, current data for the requested function will appear.

Purging Historical Snapshots

Historical snapshots may also be purged from the Expanded List.

▶ To purge one or more historical snapshot:

- Type **PD** or **PH** in the Sel column next to the historical snapshot(s) you want to purge and press ENTER. The following confirmation prompt appears:

  Please confirm PURGE request for: dd/mm/yy hh:mm:ss

- If you do **not** want to purge the historical snapshot, type **N** (No) and press ENTER.
- If you **do** want to purge the historical snapshot, type **Y** (Yes) and press ENTER. The message, **HISTORICAL DATA HAS BEEN PURGED**, appears.

*Note: The PURGE command is a REVIEW DC controlled access function. Authority to purge a historical snapshot must be indicated by your user profile. Refer to Chapter 12, **REVIEW Administrative Functions**, for more information.*

Printing History Data

History data may be designated to print, both at timed intervals, or at COM−PLETE termination. The printed data looks exactly as the data would look if it were viewed online. The History Options function, discussed in the next section, is used to specify which COM−PLETE printer is used for history data.

History Options

The History Options (HO) function is used to add or changed history data collection options for REVIEW DC functions.

Accessing the History Options

▶ Use either of the following procedures to access the REVIEW DC History Options function:

- From DATA COMMUNICATION System screens, type **HO** on the command line and press ENTER.
- From any other REVIEW screen, precede the function code with the DATA COMMUNICATION System code and press ENTER:

  DC HO

The History Options Screen 1 appears as follows:

```
 13:33:17                  *****   R E V I E W   *****                  03/23/01
TEST-611                      History Options (1)                      Patch: %

             Function                  ___Interval Data___    __Termination Data__
+----------------------------------  Mins  File  Print  ----  File  Print  --+
! Buffer Pool Information ..........  _____  N      N           N      N      !
! Fixed Bufferpool Statistics ......  _____  N      N           N      N      !
! Global Information ...............  _____  N      N           Y      N      !
! Roll Statistics...................  _____  N      N           N      N      !
! Target Information ...............  _____  N      N           N      N      !
! Thread Activity ..................  _____  N      N           N      N      !
! Responsetime Subsystem ...........  _____  N      N           N      N      !
+-------------------------------------------------------------------------------+









Command: ____________________________________________________________________
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help        Exit        Save                              ===>  Menu
```

Screen 11–3: History Options Screen 1

To get the History Options Screen 2, enter **RIGHT** on the command line or press PF11. The History Options Screen 2 appears as follows:

```
12:26:35                  *****   R E V I E W   *****                  05/02/95
TEST-462                     History Options (2)                       Patch: *

+---------------------------- Additional Options -----------------------------+
! History File (DBid/Fnr) ..........  9____  41___                            !
! Printer ........................  WOWIPRT_                                 !
! WTO Rollout messages .............  Y                                       !
+-------------------------------------------------------------------------------+









Command: _____________________________________________________________________
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help        Exit        Save                          <====       Menu
```

Screen 11–4: History Options Screen 2

In addition to the commands and PF keys that are generally available within REVIEW DC, the following PF key function is provided on the History Options screen:

PF Key	Command	Description
PF5	**SAVE**	Saves made to history options. Refer to the section **Changing History Options** later in this chapter for more information.

History Options Fields

The information on this screen is divided into four areas; Interval Data, Termination Data, History File, and COM−PLETE Printer. The fields within these areas are described in the following tables:

Interval Data

Field	Value	Description
Mins	1−1440 *blank*	The interval, in minutes, between historical snapshots.
File	N/Y	Determines whether or not interval data is stored in the repository file.
Print	N/Y	Determines whether or not interval data is printed at the end of each interval.

Termination Data

Field	Value	Description
File	N/Y	Determines whether or not termination data is stored in the repository file.
Print	N/Y	Determines whether or not termination data is printed at COM−PLETE termination.

History File

Field	Value	Description
DBID	1−65535 *blank*	The database ID number of the REVIEW DC history file.
FNR	1−254 *blank*	The file number of the REVIEW DC history file.

Printer

Field	Value	Description
(printer name)	*xxxxxxxx* *blank*	The name of the COM−PLETE printer to which interval and termination data are printed.
WTO Rollout messages	N/Y	Determines whether or not REVIEW DC will write a message to the system console every time it rolls out to wait for the next interval, after interval processing has completed.

Changing History Options

History Options is a controlled access function, as defined by your REVIEW DC user profile. Any user may access this function, but only those users who are authorized to do so may change the settings. Refer to Chapter 12, **REVIEW Administrative Functions**, for more information on controlled access functions.

▶ To change history options:

1 Type over the existing values with the new values.

2 When you have finished the changes, either press PF5 (Save) or type the command **SAVE** on the command line and press ENTER.

The following prompt appears:

Do you want to REPLACE the existing definition?

3 Enter **Y** at the cursor to save the changes; or,
Enter **N** at the cursor reject the changes and return to the History Options screen.

If you enter **Y** to save the new definition, the following message appears:

REV00123 − HISTORY OPTIONS HAVE BEEN SAVED.

The updated history options will be activated at the next history interval.

Understanding the History Interval

The History Options function allows you to set the time interval over which interval history data is captured. The following sections explain how the history interval works, and how data collection is scheduled.

Intervals

The history task divides the day into time intervals. A "day" as defined by the history task, is a 24 hour day which begins at 12:00 am (midnight). The intervals are defined by the number of minutes you enter into the History Options Screen.

For example:

- If you enter 60 minutes (1 hour), the history task divides the day into 24 intervals, with a duration of 60 minutes each.
- If you enter 420 minutes (7 hours), the history task divides the day into 4 intervals, with three of the intervals having a duration of 420 minutes, and one interval having a duration of 180 minutes.

A historical snapshot is captured at the beginning of each time interval.

Interval Example

The following example illustrates how time intervals work.

If you use an interval of 420 minutes (7 hours), the interval data will be collected at the times shown in the following table.

Interval	Snapshot Time	Time between Intervals
Day 1		
1	12:00 am	0 minutes (0 hours)
2	7:00 am	420 minutes (7 hours)
3	2:00 pm	420 minutes (7 hours)
4	9:00 pm	420 minutes (7 hours)
Day 2		
1	12:00 am	180 minutes (3 hours)
2	7:00 am	420 minutes (7 hours)

The History Task Schedule

The history task calculates the duration of the intervals, then creates a schedule for collecting history data. This schedule always begins with the first data collection of the day taken at 12:00 am, the beginning of the history task day.

Interval Schedule Example

As shown in the **Interval Example**, the time between the last interval of Day 1 and the first interval of Day 2 is not the time interval specified in the history options. The time intervals "start over" at 12:00 am every day. The advantage of this is shown in the next example.

The Interval Schedule for 420 minutes (7 hours)					
Interval	**Day 1**	**Day 2**	**Day 3**	**Day 4**	**Day 5**
1	12:00 am	12:00 am	12:00 am	12:00 am	12:00 am
2	7:00 am	7:00 am	7:00 am	7:00 am	7:00 am
3	2:00 pm	2:00 pm	2:00 pm	2:00 pm	2:00 pm
4	9:00 pm	9:00 pm	9:00 pm	9:00 pm	9:00 pm

Notice that although the last interval of the the day was not of full duration, the intervals are scheduled to occur at the same time each day. This Interval Schedule allows you to compare system performance data on a day-to-day basis.

Multiple Concurrent Interval Schedules

Each REVIEW DC function which provides history data may be defined to use a different interval schedule. These schedules are defined by entering a different number of minutes into the History Options Screen for that particular function. Using multiple interval schedules, you can for example, capture Global Information on a 60 minute schedule and Thread Activity on a 120 minute schedule.

Starting Interval Data Collection

History data collection does not begin when history options are added or changed. The History Task checks the history options for changes at the current interval, or at the next whole hour, whichever comes first. (The History Task checks for history option changes on every whole hour even if there are no existing interval schedules.)

The first data is collected at the next history interval, as defined by the interval schedule. Using the **Interval Schedule Example**, if the history options are changed at 3:00 pm, the first historical snapshot will be captured at 9:00 pm. This is because 9:00 pm is the next interval on the schedule, as calculated by the history task.

COM−PLETE Termination and the Interval Schedule

When COM−PLETE terminates, the interval data collection stops. If the history options specify that termination data is to be collected, a termination snapshot will be captured. When COM−PLETE is reinitialized, history data collection resumes according to the interval schedule(s) which exist at that time.

Updated History Options and the Interval Schedule

When history options are changed, the change will take affect at the next history interval.

History options can be forced to changed without waiting for the next interval. Forcing history options to change out of cycle is usually done only by the REVIEW administrator.

CHAPTER 12

Administrative Functions

ADMINISTRATIVE FUNCTIONS

This chapter describes REVIEW DC administrative functions and is divided into two sections:

- The first section describes the User Profile System, which is used to generate profiles that define access rules for REVIEW users.
- The second section describes functions that pertain specifically to REVIEW DC.

The User Profile System

The User Profile System provides a series of menus to help you generate profiles that define access rules for REVIEW users. You may create profiles for new users, change access rules for existing users, and purge user profiles that are no longer required.

REVIEW provides a default profile to allow access for users who do not have a profile defined for them. When a user logs on, REVIEW checks for the user's profile. If one is not found, the default profile is used.

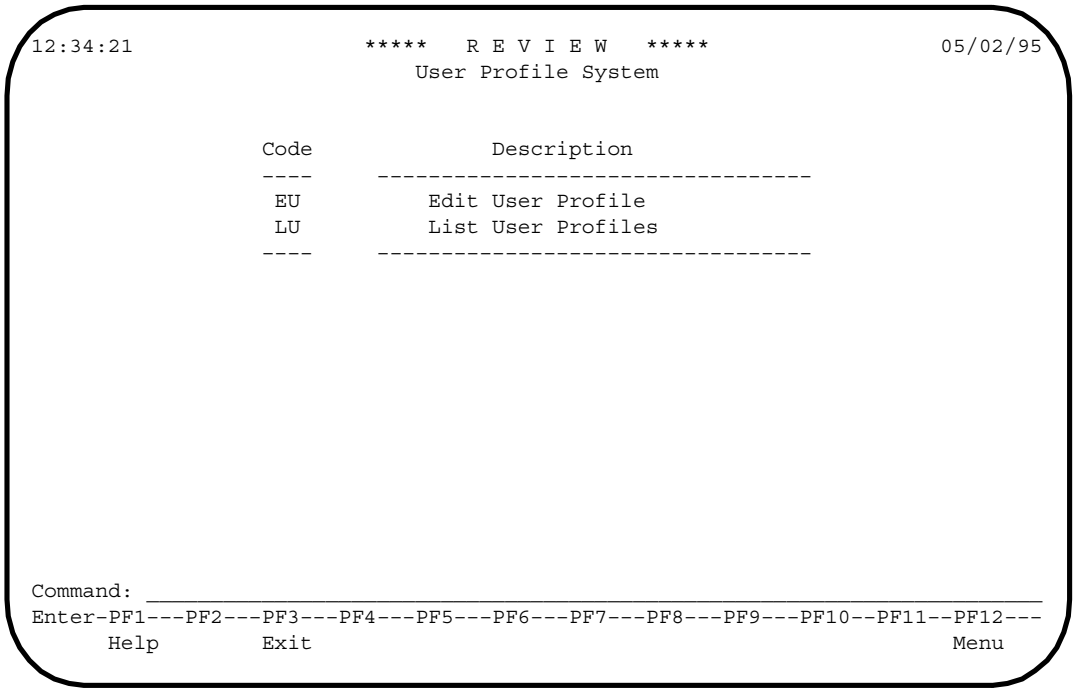
The default profile is also used as a basis for creating user profiles. When a profile for a new user is generated, the default profile is copied. The new profile may then be customized to suit the needs of the user.

Note: *The default profile provides unrestricted access to REVIEW systems and functions. It is recommended that you first create a user profile for the system administrator and other privileged users; then modify the default profile so that it conforms to the needs of most users.*

Accessing the User Profile System

▶ To access the User Profile System, type the **UP** code on the command line of the REVIEW Main Menu and press ENTER.

The **User Profile System** menu appears as shown below:



Screen 12–1: User Profile Menu

Command	Description
EU	Edits a profile for a new or existing user.
LU	Displays a list of existing user profiles, including the default profile.

From the list of existing user profiles, you can select a particular profile to be edited or purged.

Customizing the Default Profile

You do not need to create a user profile for each user of REVIEW. By customizing the default profile so that the access rules meet the needs of the majority of REVIEW users, you eliminate the need for individual user profiles.

1 Use one of the following methods to access the Edit User screen to edit the default profile:

- From any screen within REVIEW, type **UP EU DEFAULT** on the command line and press ENTER.
- From any screen within the User Profile system, type **EU DEFAULT** on the command line and press ENTER.

The following **Edit User** screen is displayed:

```
12:38:03                 *****   R E V I E W   *****                 05/02/95
                                   Edit User

                            User Profile: DEFAULT_

Please Mark Categories to Select

  General ................. _

  DATABASE ................ _

  DATA COMMUNICATIONS ..... _









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

Screen 12–2: User Profile for DEFAULT

The User Profile field usually refers to the user ID corresponding to the profile; in this case it contains the word "DEFAULT".

The categories on the screen refer to types of access rules as described in the following table:

Category	Description
General	Access rules that affect all of the systems within REVIEW. Valid values are Y/N.
DATABASE	Access rules pertaining to the DATABASE System. Valid values are Y/N.
DATA COMMUNICATION	Access rules pertaining to the DATA COMMUNICATION System. Valid values are Y/N.
NATURAL MONITOR	Access rules pertaining to the NATURAL MONITOR system. Valid values are Y/N.

Note: Not all of the categories listed above may appear on the Edit User screen. The combination that you see depends on the configuration of REVIEW purchased by your site and the teleprocessing monitor you are using.

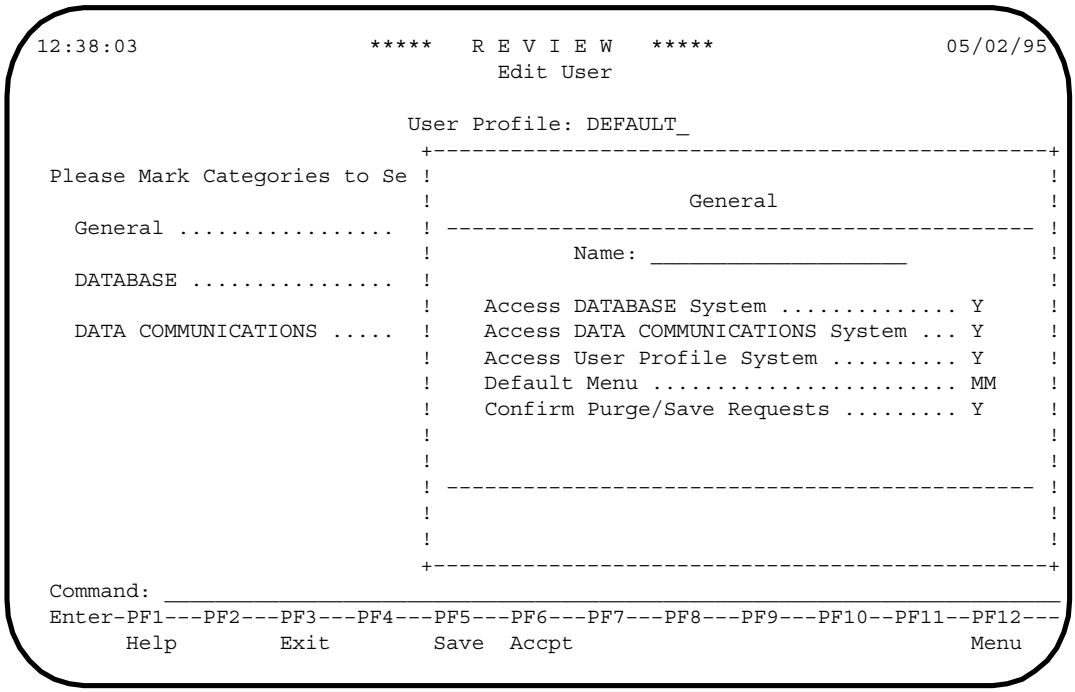
2 Display access rules for a particular category by entering a character on the line that follows the category name. You may select as many categories as applicable before pressing ENTER.

For the default profile, you need to modify the General access rules in addition to those pertaining to the systems you have installed.

Note: General and DATA COMMUNICATION access rules are described in this manual. For information about DATABASE or NATURAL MONITOR access rules, refer to the respective User's Guides.

Displaying General Access Rules

When you select the General access rules, the **General** window appears as shown in the following screen:



Screen 12–3: General Access Rules

The Name field may be used for the user's name or any other appropriate identifier.

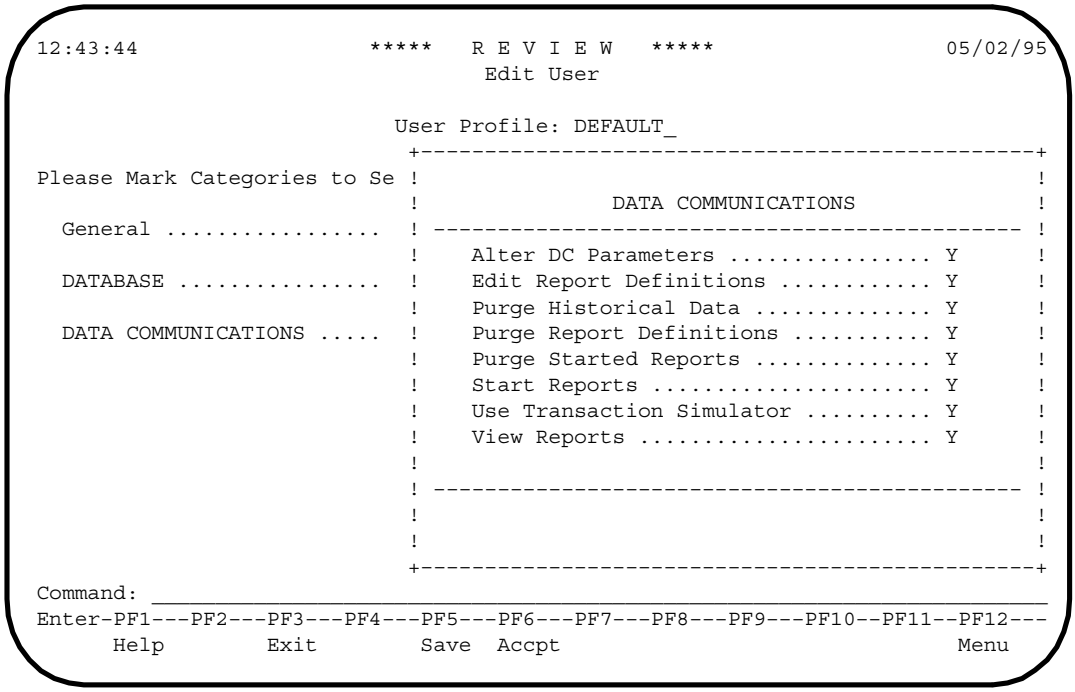
The following table describes the General access rules that appear in the General window. The default values are underlined.

General Access Rule	Value	Description
Access DATABASE System *Note: If this component is not installed, this rule is set by REVIEW to "N" and cannot be modified.*	Y	The user may access the DATABASE System.
	N	The user may **not** access the DATABASE System.
Access DATA COMMUNICATION System *Note: If this component is not installed, this rule is set by REVIEW to "N" and cannot be modified. This option is only applicable when executing under **COM–PLETE or ADABAS TPF**.*	Y	The user may access the DATA COMMUNICATION System.
	N	The user may **not** access the DATA COMMUNICATION System.
Access NATURAL MONITOR System *Note: If this component is not installed, this rule is set by REVIEW to "N" and cannot be modified. This option is only applicable when executing under **CICS**.*	Y	The user may access the NATURAL MONITOR System.
	N	The user may **not** access the NATURAL MONITOR System.
Access User Profile System *Note: Before setting this access rule to "N" in the default profile, you must first create a user profile that allows you to access the User Profile System. Otherwise, you will not be able to maintain user profiles.*	Y	The user may access the User Profile System.
	N	The user may **not** access the User Profile System.

General Access Rule	Value	Description
Default Menu		Determines which menu screen appears on the user's terminal when the user logs on to REVIEW.
	MM	REVIEW Main Menu
	DB	DATABASE System menu
	DC	DATA COMMUNICATION System menu
	NM	NATURAL MONITOR System menu
Confirm Purge Requests	Y	REVIEW will prompt the user to confirm a purge request before a purge command is executed.
	N	REVIEW will **not** prompt the user to confirm a purge request before a purge command is executed.

Displaying the DATA COMMUNICATION Access Rules

When the DATA COMMUNICATION category is selected, the **DATA COMMUNICATION** window appears as shown below:



Screen 12–4: DATA COMMUNICATION Access Rules

The table below summarizes the DATA COMMUNICATION access rules that appear in the DATA COMMUNICATION window. Default values are underlined.

DC Access Rule	Value	Description
Alter DC Parameters	Y	The user may dynamically alter the following COM−PLETE initialization parameters in REVIEW: **ADALIMIT** (TI function) **ADACALL** **ADAROLL** **MOD18** **ROLLTHROW** (RS function)
	N	The user may **not** alter the COM−PLETE initialization parameters listed above.
Edit Report Definitions	Y	The user may edit response time reports (RT function).
	N	The user may **not** edit response time reports.
Purge Historical Data	Y	The user may delete historical data.
	N	The user may **not** delete historical data.
Purge Report Definitions	Y	The user may delete response time report definitions.
	N	The user may **not** delete response time report definitions.
Purge Started Reports	Y	The user may delete the data accumulated by response time reports that have been started.
	N	The user may **not** delete the data.
Start Reports	Y	The user may initiate data accumulation by starting response time reports.
	N	The user may **not** start response time reports.
Use Transaction Simulator	Y	The user may use Transaction Simulation (TS function).
	N	The user may **not** use Transaction Simulation.
View Reports	Y	The user may view the results of started response time reports online.
	N	The user may **not** view the results of started response time reports online.

Creating a User Profile

1 Create a user profile in one of two ways:

- From any screen within REVIEW, type the following string on the command line and press ENTER:

  UP EU user-id

- From any screen within the User Profile system, type the following string on the command line and press ENTER:

  EU user-id

  REVIEW creates a profile for the user by copying the default profile. It then displays the user profile for editing, and the following message appears at the bottom of the screen:

  REV00101 - NEW USER PROFILE

2 If you wish to customize the user's profile, mark the appropriate categories by typing a character on the line following your selection:

- To change access to REVIEW systems, mark the General category.
- If REVIEW DATA COMMUNICATION is installed and you wish to modify access to certain system functions, mark the DATA COMMUNICATIONS category.

3 When the profile provides appropriate access privileges for the user, press PF5 to save the profile.

Refer to the section **Customizing the Default Profile** earlier in this chapter for information regarding access rules for the various categories.

Modifying Access Rules

1 Modify access rules by typing over the settings displayed on the screen.

2 When you have made all of the changes to a particular group of access rules, do one of the following:

- Press PF3 to exit without saving the changes.
- Press PF6 to save the changes temporarily while you edit the next access rules screen.
- Press PF5 or type the **SAVE** command and press ENTER to save the changes.

If you selected more than one category, pressing PF3 or PF6 displays the next access rules screen instead of returning you to the previous screen.

Using the List User Profiles (LU) Function

The List User Profiles (LU) function displays a list of user profiles that have been defined.

▶ From the User Profile System menu, type the code **LU** on the command line and press ENTER to access the list of user profiles.

The **User Profiles** screen, similar to the one shown below, is displayed:

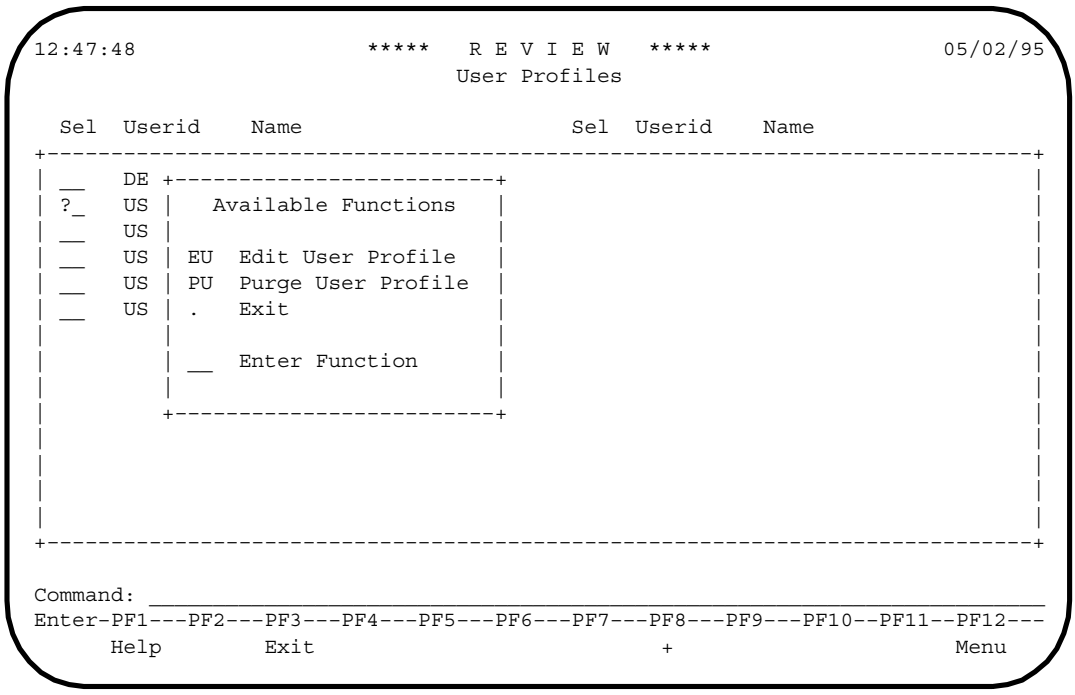
```
12:47:48                 *****   R E V I E W   *****                 05/02/95
                                User Profiles

  Sel  Userid    Name                      Sel  Userid    Name
+-------------------------------------------------------------------------------+
| __   DEFAULT                                                                  |
| __   USER1     REVIEW ADMINISTRATOR                                           |
| __   USER2     SMITH                                                          |
| __   USER3     JONES                                                          |
| __   USER4     ADAMS                                                          |
| __   USER5     GREENE                                                         |
|                                                                               |
|                                                                               |
|                                                                               |
|                                                                               |
|                                                                               |
|                                                                               |
|                                                                               |
|                                                                               |
+-------------------------------------------------------------------------------+

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

Screen 12–5: List of User Profiles

From this screen, you may edit or purge a particular user profile.

▶ To display a list of the commands available for use on the User Profiles screen, type a question mark (?) on the selection line preceding a profile name and press ENTER.

The **Available Functions** window appears as shown below displaying a list of the available commands:



Screen 12–6: Commands Available for the List User Profiles Function

Editing a User Profile

▶ To edit an existing user profile, type the command **EU** on the selection line preceding the profile name and press ENTER.

The profile is displayed and may be edited. Refer to the section **Customizing the Default Profile** earlier in this chapter for additional information.

If you are editing your own user profile, the changes you make take effect as soon as you save your profile. If you are editing a profile other than your own, the changes do not take effect until the next time the user logs on to REVIEW.

You may also use this command to copy an existing profile for the purpose of creating a profile for a new user. If you have several users who require access privileges that are different from those specified in your default profile, you may use an existing profile as a model for the other profiles.

Copying a User Profile

1. Type the command **EU** on the selection line preceding the profile name to be copied and press ENTER.
2. Type the new user ID on the line labeled "User Profile".
3. Press PF5 to save the new user profile.

Purging a User Profile

▶ To delete a user profile, type the command **PU** on the selection line preceding the profile name and press ENTER.

Depending on the setting in your profile, you may or may not be prompted to confirm the purge request as shown in the following screen:

```
12:55:56                  *****   R E V I E W   *****                  05/02/95
                                  User Profiles

  Sel  Userid    Name                      Sel  Userid    Name
+-------------------------------------------------------------------------------+
| __   DEFAULT                                                                  |
| __   USER1     REVIEW ADMINISTRATOR                                           |
| __   USER2     SMITH                                                          |
| PU   USER3     JONES                                                          |
| __   USER4     ADAMS          +--------------------------------------+        |
| __   USER5     GREENE         |                                      |        |
|                               | Please confirm PURGE request for:    |        |
|                               |                                      |        |
|                               |              USER3                   |        |
|                               |                                      |        |
|                               |             (Y or N) Y               |        |
|                               |                                      |        |
|                               +--------------------------------------+        |
|                                                                               |
+-------------------------------------------------------------------------------+

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

Screen 12–7: Purging a User Profile

Other REVIEW Administrative Functions

Modifying NATURAL User Exits

REVIEW has two NATURAL user exits. They are as follows:

User Exits		Explanation
P–UEXIT1	Use:	You may place coding in this program to allow for site specific needs.
	Invoked:	This program is invoked when the online portion of REVIEW is entered.
	Examples:	
		[1] Setting colors on: **SET CONTROL 'T3279'**.
		[2] Turning the PC mode on or off.
	Note:	This program must not alter the NATURAL stack, and it must end with a STOP command.
P–UEXIT2	Use:	You may place coding in this program to alter the processing that occurs when terminating REVIEW.
	Invoked:	This program is invoked when the online portion of REVIEW is terminated.
	Examples:	
		[1] Returning to NATURAL rather than terminating your session.
		[2] Logging on to another NATURAL application.
		[3] Returning to a previous NATURAL application (using SETUP/RETURN).

These exits are found in the REVIEW system library in NATURAL, and may be modified by using the NATURAL editor.

Note: These exits are applicable to both the REVIEW DB and DC Systems.

Modifying REVIEW Configuration Parameters

The REVIEW administrator can modify configuration parameter values in the NATURAL text member CONFIGDC.

▶ Use the following procedure to access and modify these parameters:

1 At the NATURAL **NEXT** prompt, type **LOGON SYSREVDC** and press ENTER.

2 Type **EDIT CONFIGDC** and press ENTER.

4 Type **SAVE** and press ENTER to save and catalog the changes.

5 Type **MENU** at the prompt and press ENTER to return to REVIEW.

CONFIGDC File Parameter Description

CONFIGDC contain all of the REVIEW system-wide and REVIEW DC specific parameters. CONFIGDC is saved in the NATURAL Library SYSREVDC.

Note: The default values are underlined in the following tables.

Target Information Parameter

The following parameters are used to configure the Target Information Function.

Parameter	Value	Explanation
CHECK-IF-ACTIVE	TRUE FALSE	Specifies whether or not the status of target objects is displayed on the Target Information screen.
CHECK-IF-PROCESS	<u>TRUE</u> FALSE	Specifies whether or not ENTIRE SYSTEM SERVER (NATURAL PROCESS) target objects are identified as such.

Thread Activity Parameters

The following parameters are used to configure the Thread Activity function.

Parameter	Value	Explanation
MAX-THRD-TIME	0.50 n.nn	Sets the limit on the amount of time (in seconds) that a transaction can spend executing in the thread before the thread activity information is highlighted.
MAX-AVG-QTIME	2.0 n.n	Sets the limit on the average amount of time (in seconds) that a transaction can spend waiting in the ready-to-run (RTR) queue before the thread activity information is highlighted.
MAX-RTRQ	3 n	Sets the limit on the number of transactions using the ready-to-run (RTR) queue since COM−PLETE initialization before the thread activity information is highlighted.

Response Time Parameters

The following parameters are used to configure the Response Time Subsystem functions.

Parameter	Value	Explanation
RD-AUTO-START	Y N	Specifies if the report is to be started automatically when REVIEW DC is initialized (at COM−PLETE startup).
RD-TIME-DIFFERENTIAL	0 −99.9 to +99.9	The Time Differential option is used to account for time differences caused by the REVIEW DC report requestor being in a different time zone than the host computer.
RD-INT-MINS	0−1440	The time interval at which historical snapshots are generated.
RD-INT-FILE	Y N	Determines whether or not interval data ia stored in the history file.

Parameter	Value	Explanation
RD-INT-PRINT	Y N	Determines whether or not interval data is printed at the end of each interval.
RD-INT-REFRESH	Y N	Determines whether or not the data in the history report will be refreshed at the history interval.
RD-TRM-FILE	Y N	Determines whether or not termination data is stored in the history file.
RD-TRM-PRINT	Y N	Determines whether or not termination data is printed at COM−PLETE shutdown.
RD-INTERVAL	0.5 n.n	Specifies the reporting interval (in seconds) used to graph a report horizontally and vertically. Along with the RD-DR-THRESHOLD parameter, the RT-INTERVAL parameter is also used to control the color and monochrome attributes of response time reports.
RD-DR-THRESHOLD	3.5 n.n	Specifies the transaction response time value (in seconds) above which REVIEW creates detailed records for the Detailed Records table. Along with the RT-INTERVAL parameter, the RT-THRESHOLD parameter is also used to control the color and monochrome attributes of response time reports.
RD-DR-RECORDS	20 nnn	Specifies the maximum number of detailed response time records to be retained.
RD-DR-OPTION	Specifies the wrap option and has the following possible values:	
	NONE	Detailed response time records are retained to the limit specified by the RT-MAX-DETAIL-RECS parameter.
	STD	(standard) The most current response time records are retained.
	HIGH	The response time records with the highest value are retained.
RD-TS-RECORDS	20 nnn	Specifies the maximum number of transaction summary records to be retained.

Parameter	Value	Explanation
RD-TS-OPTION	Specifies the transaction summary option and has the following possible values:	
	NONE	No transaction summary is created.
	PGM	A transaction summary is created for the root program; for example, *REVIEW is created for REVIEW.
	NATA	A detailed transaction summary is created that includes NATURAL applications.
	NATP	A detailed transaction summary is created that includes NATURAL applications and NATURAL program information.
RT-OP-OPTION	Specifies the COM−PLETE operations (OP) summary option and has the following possible values:	
	NONE	No summary of COM−PLETE resource use is created.
	SUM	A summary of COM−PLETE resource use is created.
RT-VD-PICK	Y N	Specifies whether or not the PICK command for View Detail Records returns to an unrefreshed screen.
RT-VD-REFRESH-SCREEN	Y N	Specifies whether or not the View Detail Records screen refreshes the screen when exiting.
RT-NEW-RECORDS-ONLY	Specifies which detailed response time records are printed.	
	Y	Writes only those created during this interval.
	N	Writes all detailed records.

APPENDIX A – FUNCTION CODES AND COMMANDS

The Command line appears at the bottom of each screen in REVIEW. It is used to access a specific function and/or to issue a processing command.

REVIEW provides a menu structure to help access specific screens and issue related commands. Experienced users of REVIEW often bypass the menu structure by typing a string of function codes on the Command line, in some cases followed by a command.

Example: Using the menu structure, you can access the Edit Report screen only by first accessing the Response Time Subsystem menu from the Data Communication System menu.

Using a function code string, you can access the Edit Report screen directly from the Data Communication System menu:

RT ER reportname

The tables below list the function codes, PF keys, and commands available within the REVIEW DC System.

Function Codes

Valid function codes are listed on menu screens. A string of function codes must reflect the sequence of menu screens for the particular system of REVIEW you are accessing. Refer to the system diagrams in Chapter 2, **Accessing the REVIEW Data Communication System**, for the specific sequence of function codes.

To access one REVIEW system from another, precede the function code string with the appropriate system code as follows:

DB	**Database System**
DC	**Data Communication System**

The following table lists function codes for the REVIEW DC System. The function codes are listed in alphabetical order in the second "Code" column. The first column indicates the function code (if any) within the DC System that precedes the code in the "Code" column.

	Code	Description
––	BP	Buffer Pool Information.
––	CM	COM–PLETE Messages display.
RT	ER	Edit Report Definition.
––	FB	Fixed Buffer Pool Information.
––	GI	Global Information.
––	HO	History Options.
RT	LH	List History Reports.
PI	LL	Loads from a Load Library.
RT	LR	List Report Definitions.
RT	LS	List Started Reports.
PI	PB	Loads from Program Lookaside Buffer display.
––	PI	Program Information Subsystem menu.
PI	RP	Loads from Resident Pageable Buffer.
––	RS	Roll Subsystem menu.
––	RT	Response Time Subsystem menu.
––	HO	History Options.
––	TA	Thread Activity.
––	TG	Transaction Generator.
––	TI	Target Information.
––	UA	User Activity display.

Commands

The following table describes commands used within the DC System. Those commands that apply to the DC System only are marked with an asterisk (*) preceding the Use category.

The Use category lists the functions in which the command applies. Subfunction restrictions are separated from the function with a slash (/); multiple subfunctions are separated from each other by a dash (–).

Command	PF Key	Description
+	PF8	Scrolls forward one screen. Use: FB, PI, RT/LH–LR–LS–VD–VO–VT, SA, TA, TI Scrolls to the most recent messages. * Use: CM
–	PF7	Scrolls backward one screen. Use: FB, RT/LR–VO, CM, TA, TI
ACALL	PF7	Displays the average number of ADABAS calls issued for each transaction within a specific response time interval or range. Use: RT/VH–VW
AIOS	PF8	Displays the average number of I/Os issued for each transaction within a specific response time interval or range. Use: RT/VH–VW
ALL	–––	Accesses the All Buffer Pool Information table. * Use: BP
AOS	–––	Accesses ADABAS ONLINE SERVICES. Use: All
CALLS	PF5	Displays the total number of ADABAS calls issued for the total number of transactions within each specific response time interval or range. Use: RT/VH–VW
CHECK OFF	–––	Deactivates the CHECK ON status. * Use: TI
CHECK ON	–––	Flags databases and displays Service Time. * Use: TI

Command	PF Key	Description
COLOR OFF	– – –	Returns the terminal display to monochrome. Use: BP, RS/RB, RT/VH–VW
COLOR ON	– – –	Sets the terminal display to color. Use: BP, RS/RA, RT/VH–VW
COMBO	PF10	Displays the average number of ADABAS calls and I/Os issued for each transaction within a specific response time interval or range. Use: RT/VH–VW
COUNT	PF5	Sorts by the number of times a COM–PLETE resource was used. * Use: RT/VO
CURR	PF2	Toggles to current data from historical data. Use: BP, FB, GI, RS, RT, TA, TI
DET	PF5	Provides detailed information about NATURAL applications and program usage. Use: RT/VT
END	PF12	Ends the REVIEW session. Use: All
ER	– – –	Accesses the Edit Report screen for a report on the list. Use: RT/LR–LS
EX	– – –	Lists dates and time of historical snapshots. Use: BP, FB, GI, RS, RT, TA, TI
EXIT	PF3	Returns to the previous screen; returns to the main menu. Use: All
FIN	PF12	Ends a REVIEW session. Use: All
HELP	PF1	Accesses the help system. Use: All
HIGH	PF7	Displays The Highest 20 window for the Summary of Active Users display. Use: UA
HIST	PF2	Accesses historical data. Use: BP, FB, GI, RS, RT, TA, TI
HORI	PF10	Displays a horizontal graph. Use: RT/VW

Command	PF Key	Description
ID	– – –	Repositions the display to a particular database. * Use: TI
IOS	PF6	Displays the total number of I/Os issued for the total number of transactions within each specific response time interval or range. Use: RT/VH–VW
LEFT	PF10	Scrolls display left one screen. Use: CM, RT/VD, UA, TA
LOGO	– – –	Displays the REVIEW logo screen. Use: All
LOW	PF6	Displays The Lowest 20 window for the Summary of Active Users. Use: UA
MENU	PF12	Returns to the REVIEW main menu. Use: All
MSG	– – –	Defines an error message online; Example: **MSG REV00001** Use: All
NAME	PF4	Sorts alphabetically by the names of COM–PLETE operations. * Use: RT/VO
NEXT	– – –	Goes to the next time interval of historical data. Use: BP, FB, GI, RS, RT/LH, TA, TI
OC	– – –	Issues a COM–PLETE operator command from a command line in REVIEW. * Use: All
PD	– – –	Purges all historical snapshots for the selected day. Use: BP, GI, RS, RT/LH, TA, TI
PH	– – –	Purges a historical snapshot. Use: BP, GI, RS, RT/LH, TA, TI
PICK	PF9	Selects one of the following: database, buffer pool display, transaction, user ID. Use: BP, FB, RT/VD, TA, TI, UA

Command	PF Key	Description
PR	– – –	Purges a report definition. Use: RT/LR–LS
PREV	– – –	Goes to the previous time interval of historical data. Use: BP, FB, GI, RS, RT/LH, TA, TI
PS	– – –	Purges a started report. Use: RT/LR–LS
QUIT	PF12	Ends the REVIEW session. Use: All
RESET	PF6	Resets the stopwatch function or resets Trans, AvgQ Time, Cur# RtrQ in Thread Activity. * Use: TA, TI
RF	– – –	Restarts a started report. Use: RT/LR–LS
RIGHT	PF11	Scrolls display right one screen. Use: CM, RT/VD, UA, RS, TA
SAVE	PF5	Saves report or other data. Use: RT/ER, HO, TI
ST	PF6	Starts report or simulation. Use: RT/LR, TS
STID	PF5	Sorts the Summary of Active Users display by terminal ID. Use: UA
SUM	PF6	Summarizes transactions; does not display detailed NATURAL program data. Use: RT/VT
SUSER	PF4	Sorts the Summary of Active Users display by user ID. Use: UA
TIBTAB	– – –	Accesses TIBTAB Buffer Pool Information display. * Use: BP
TID=	– – –	Positions display at terminal ID. Use: UA
TOP	– – –	Returns to the top of the display. Use: PI, RT/LH–LR–LS–VD–VO–VT, TA, TI, UA

Command	PF Key	Description
TRANS	PF4	Displays response times, for transactions, in vertical or horizontal graph. System default. Use: RT/VH–VW
USER=	–––	Positions Summary of Active Users display at a specific user ID. Use: UA
VD	–––	Displays detailed records for a report. Use: RT
VERT	–––	Displays a vertical graph. Use: RT/VH
VH	–––	Displays a horizontal graph. Use: RT
VO	–––	Displays COM–PLETE operations. * Use: RT/LR–LS
VT		Displays a transaction summary. Use: RT/LR–LS
VW		Displays a historical snapshot or vertical graph. Use: BP, FB, GI, RS, RT, TA, TI

Symbols

A

B

C

D

E

F

G

H

I

L

M

N

O

P

Q

R

S

T

U

V