Guide to the Reporting Dialog

Version 1.6
Eighth Edition (June 2003)

This edition applies to version 1, release 6 of Tivoli Decision Support for OS/390 (product number 5695-101) and to all subsequent releases and modifications until otherwise indicated in new editions.

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Tivoli® Decision Support for OS/390®: Guide to the Reporting Dialog
Preface

This book provides an introduction to the reporting dialog of Tivoli® Decision Support for OS/390® as it is used from host sessions. It describes how to use the reporting dialog to display, search, modify, and create reports and report groups.

Tivoli Decision Support for OS/390 was previously known as Tivoli Performance Reporter for OS/390.

Note that the terms MVS™, OS/390, and z/OS™ are used interchangeably throughout this book.

Note that the terms OPC and Tivoli Workload Scheduler for z/OS are used interchangeably throughout this book.

Note that the terms IBM Tivoli Decision Support for OS/390 and Tivoli Decision Support for OS/390 are used interchangeably throughout this book.

Who should read this book

The Guide to the Reporting Dialog is primarily for Tivoli Decision Support for OS/390 users who display existing reports using the reporting dialog. It is also for more experienced users who create and modify reports, or for the Tivoli Decision Support for OS/390 administrator, who controls reporting dialog default functions and capabilities.

What this book contains

Use this book as a guide to using the Tivoli Decision Support for OS/390 reporting dialog from a host session. The book contains these chapters:

- **Chapter 1, “Product Overview”** introduces Tivoli Decision Support for OS/390, the reporting dialog, and products with which it interacts, such as DATABASE 2™ (DB2®), and (optionally) Query Management Facility (QMF™).

- **Chapter 2, “Getting started”** explains how to use the reporting dialog. It describes how to start and exit Tivoli Decision Support for OS/390 and how to use the reporting dialog. It also introduces the Tivoli Decision Support for OS/390 help system and shows how to get help when you need it.

- **Chapter 3, “Working with existing reports”** describes general tasks, including how to display, print, and modify reports that your Tivoli Decision Support for OS/390 administrator has installed and made available for your use or that you created.

- **Chapter 4, “Working with report groups”** describes how to create, modify, and use logical groups of reports.

- **Chapter 5, “Searching for reports”** describes how to locate reports that describe the performance of a particular system or subsystem, or that show similar performance characteristics across a range of systems.

- **Chapter 6, “Creating a new report using QMF”** describes how to use Tivoli Decision Support for OS/390 and the products with which it interacts to create character (tabular) or graphical data display manager (GDDM®)-based graphic reports (charts). It also shows you how to use an existing report as a template for a new one.
• Chapter 7, “Creating a new report with the report generator” describes how to use Tivoli Decision Support for OS/390's built-in report generator to create character (tabular) reports or Graphical Data Display Manager (GDDM)-based graphic reports (charts). It also shows you how to use an existing report as a template for a new one.

• Chapter 8, “Using Other Reporting Dialog Functions” describes how to generate reports in batch, communicate with the Tivoli Decision Support for OS/390 administrator using messages, and set dialog parameters.

The book also contains “Reporting Dialog Navigation Reference” which is a reference of all the options on the menu bar pull-downs in the reporting dialog. This appendix shows the pull-downs as they appear on your screen, and describes each option.

A glossary and an index follow the appendix.

Publications

This section lists publications in the Tivoli Decision Support for OS/390 library and any other related documents. It also describes how to access Tivoli publications online, how to order Tivoli publications, and how to submit comments on Tivoli publications.

Tivoli Decision Support for OS/390 Library

The following documents are available in the Tivoli Decision Support for OS/390 library:

• Administration Guide SH19-6816
  Provides information about initializing the Tivoli Decision Support for OS/390 database and customizing and administering Tivoli Decision Support for OS/390.

• Guide to the Reporting Dialog SH19-6842
  Provides information for users who display existing reports, for users who create and modify reports, and for administrators who control reporting dialog default functions and capabilities.

• Language Guide and Reference SH19-6817
  Provides information for administrators, performance analysts, and programmers who are responsible for maintaining system log data and reports.

• User's Guide for the Viewer SH19-4517
  Provides information about how use the graphical interface for Tivoli Decision Support for OS/390.

• Messages and Problem Determination SH19-6902
  Provides information to help operators and system programmers understand, interpret, and respond to Tivoli Decision Support for OS/390 messages and codes.

• Accounting Feature for the Host SH19-4495
  Provides information for users who want to use Tivoli Decision Support for OS/390 to collect and report performance data generated by the Accounting feature.

• Accounting Feature for the Workstation SH19-4516
  Provides information for users who want to use the Accounting Workstation Option to manage, process, and analyze financial data on a workstation.
• **AS/400® System Performance Feature Guide and Reference** SH19-4019
  Provides information for administrators and users about collecting and reporting performance data generated by AS/400 systems.

• **CICS® Performance Feature Guide and Reference** SH19-6820
  Provides information for administrators and users about collecting and reporting performance data generated by Customer Information and Control System (CICS).

• **Distributed Systems Performance Feature Guide and Reference** SH19-4018
  Provides information for administrators and users about collecting and reporting performance data generated by operating systems and applications running on a workstation.

• **IMS™ Performance Feature Guide and Reference** SH19-6825
  Provides information for administrators and users about collecting and reporting performance data generated by Information Management System (IMS).

• **Network Performance Feature Installation and Administration** SH19-6901
  Provides information for network analysts or programmers who are responsible for setting up the network reporting environment.

• **Network Performance Feature Reference** SH19-6822
  Provides information for network analysts or programmers who are responsible for setting up the network reporting environment.

• **Network Performance Feature Reports** SH19-6821
  Provides information for network analysts or programmers who use the Network Performance feature reports.

• **System Performance Feature Guide** SH19-6818
  Provides information for performance analysts and system programmers who are responsible for meeting the service-level objectives established in your organization.

• **System Performance Feature Reference Vol. I** SH19-6819
  Provides information for administrators and users with a variety of backgrounds who want to use Tivoli Decision Support for OS/390 to analyze Multiple Virtual Storage (MVS), Virtual Machine (VM), or OS/2 performance data.

• **System Performance Feature Reference Vol. II** SH19-4494
  Provides information for administrators and users with a variety of backgrounds who want to use Tivoli Decision Support for OS/390 to analyze Multiple Virtual Storage (MVS), Virtual Machine (VM), or OS/2 performance data.

• **IBM Online Library Omnibus Edition OS/390 Collection Kit**, SK2T-6700
  CD containing all OS/390 documentation.

• **IBM Online Library z/OS Software Products Collection Kit**, SK3T-4270
  CD containing all z/OS documentation.

The Tivoli Software Glossary includes definitions for many of the technical terms related to Tivoli software. The **Tivoli Software Glossary** is available, in English only, at the following Web site:

http://publib.boulder.ibm.com/tividd/glossary/termms04.htm

**Using LookAt to look up message explanations**

LookAt is an online facility that lets you look up explanations for most messages you encounter, as well as for some system abends and codes. Using LookAt to find information is faster than a conventional search because in most cases LookAt goes directly to the message explanation.
You can access LookAt from the Internet at:
http://www.ibm.com/eserver/zseries/zos/bkserv/lookat/or from anywhere in
z/OS or z/OS.e where you can access a TSO/E command line (for example,
TSO/E prompt, ISPF, z/OS UNIX System Services running OMVS).

The LookAt Web site also features a mobile edition of LookAt for devices such as
Pocket PCs, Palm OS, or Linux-based handhelds. So, if you have a handheld
device with wireless access and an Internet browser, you can now access LookAt
message information from almost anywhere.

To use LookAt as a TSO/E command, you must have LookAt installed on your
host system.

**Accessing publications online**

IBM posts publications for this and all other Tivoli products, as they become
available and whenever they are updated, to the Tivoli Software Information
Center Web site. The Tivoli Software Information Center is located at the following
Web address:

http://publib.boulder.ibm.com/tividd/td/tdprodlist.html

Click the Tivoli Decision Support for OS/390 link to access the product library.

These publications are available in PDF or HTML format, or both. Translated
documents are also available for some products.

**Note:** If you print PDF documents on other than letter-sized paper, select the Fit to
page check box in the Adobe Acrobat Print dialog. This option is available
when you click File ” Print. Fit to page ensures that the full dimensions of a
letter-sized page print on the paper that you are using.

**Ordering Publications**

You can order many Tivoli publications online at the following Web
site:
cgibin/pbi.cgi

You can also order by telephone by calling one of these numbers:
- In the United States: 800-879-2755
- In Canada: 800-426-4968

In other countries, see the following Web site for a list of telephone numbers:

http://www.ibm.com/software/tivoli/order-lit/

**Accessibility**

Accessibility features help users with a physical disability, such as restricted
mobility or limited vision, to use software products successfully. With this product,
you can use assistive technologies to hear and navigate the interface. You can also
use the keyboard instead of the mouse to operate all features of the graphical user
interface.

For additional information, see the Accessibility Appendix in Administration_Guide.
Contacting software support

If you have a problem with any Tivoli product, refer to the following IBM Software Support site:

http://techsupport.services.ibm.com/guides/hanbook.html

If you want to contact software group, see the IBM Software: Support Guide

The guide provides information about how to contact Tivoli Customer Support, depending on the severity of your problem, and the following information:

- Registration and eligibility
- Telephone numbers and e-mail addresses, depending on the country in which you are located
- Information you must have before contacting IBM Software Support

Note: For Tivoli NetView® for OS/390 customers only, additional support is available on the NETVIEW CFORUM (Customer Forum) through the IBMLink™ system. This forum is monitored by NetView developers who answer questions and provide guidance. When a problem with the code is found, you are asked to open an official problem management record (PMR) to get resolution.

Conventions used in this book

This guide uses several conventions for special terms and actions, operating system-dependent commands and paths, and margin graphics.

The term z/OS is used in this book to mean z/OS and OS/390 operating systems. Where the term OS/390 does appear, the related information applies only to OS/390 operating systems.

Typeface conventions

This guide uses the following typeface conventions:

Bold

- Lowercase commands and mixed case commands that are otherwise difficult to distinguish from surrounding text
- Interface controls (check boxes, push buttons, radio buttons, spin buttons, fields, folders, icons, list boxes, items inside list boxes, multicolumn lists, containers, menu choices, menu names, tabs, property sheets), labels (such as Tip: and Operating system considerations)
- Column headings in a table
- Keywords and parameters in text

Italic

- Citations (titles of books, diskettes, and CDs)
- Words defined in text
- Emphasis of words (words as words)
- Letters as letters
- New terms in text (except in a definition list)
- Variables and values you must provide

Monospace
Changes in this edition

This edition is an updated version that replaces the previous edition of the same book. Changes on how to create a new report with the report generator have been added. In particular modifications on how to create a report definition using a template have been added.

Except for editorial changes, updates to this edition are marked with a vertical bar to the left of the change.
Chapter 1. Product Overview

Tivoli Decision Support for OS/390 is a reporting system that collects utilization and throughput data logged by computer systems, then summarizes the data and presents it in a variety of forms. After reading this chapter, you should have a basic understanding of Tivoli Decision Support for OS/390 and be ready to learn to use the reporting dialog.

Understanding how Tivoli Decision Support for OS/390 works

Tivoli Decision Support for OS/390 performs these basic functions:
- Collecting systems management data into a DATABASE 2 (DB2) database
- Reporting on the data in the database

Tivoli Decision Support for OS/390 consists of a base product and several optional features. The Tivoli Decision Support for OS/390 base can generate graphic and tabular reports by using systems management data it stores in its DB2 database. The base product includes the administration dialog, the reporting dialog, and the log collector, all of which interact with a standard DB2 database. Figure 1 is an overview of Tivoli Decision Support for OS/390 and its processes.

Tivoli Decision Support for OS/390 stores systems management data in a standard DB2 database. You can use Structured Query Language (SQL) statements from the reporting dialog as you perform specialized searches and create reports. If Query Management Facility (QMF) is installed on your system, it is used for reporting functions. Otherwise, Tivoli Decision Support for OS/390’s built-in report generator is used.

The administrator can control almost every aspect of Tivoli Decision Support for OS/390 using the administration dialog. The Tivoli Decision Support for OS/390 administrator can use the administration dialog to install and customize features, work with log and record definitions, run COLLECT procedures, and work with tables (including displaying or editing them).
Tivoli Decision Support for OS/390 provides batch procedures and an interactive interface that enable you to collect systems management data from the system management facility (SMF) log and other sources, extract and manipulate the data, and then store the data in the Tivoli Decision Support for OS/390 database.

In the same database that holds collected data, Tivoli Decision Support for OS/390 stores information you supply, such as performance objectives or department and workload definitions.

You use the Tivoli Decision Support for OS/390 reporting dialog to work with reports and report groups to display, customize, create, and print reports. You can create Tivoli Decision Support for OS/390 reports to support each of your specialized applications.

Reporting dialog windows conform to IBM Common User Access® (CUA) guidelines, and greatly resemble the windows of other IBM CUA products.

**Using Tivoli Decision Support for OS/390 features**

Tivoli Decision Support for OS/390 features provide DB2 table definitions for collecting systems management data, and provide predefined queries, forms, and reports for presenting that data.

These optionally installable features are available for use with Tivoli Decision Support for OS/390:

- System Performance feature
- Network Performance feature
- CICS Performance feature
- IMS Performance feature
- AS/400 System Performance feature
- Distributed Systems Performance feature
- Accounting feature for the Host
- Accounting feature for the Workstation

These features let you collect and report on systems management data, such as SMF data or IMS log data.

**An overview of the Reporting Dialog**

You can use the reporting dialog to display reports that present data collected by Tivoli Decision Support for OS/390.

If QMF is used with Tivoli Decision Support for OS/390 in your installation, it is used when you work with reports. Otherwise, Tivoli Decision Support for OS/390’s built-in reporting dialog is used. For more information about using the Tivoli Decision Support for OS/390 reporting dialog with or without QMF, see Chapter 6, “Creating a new report using QMF”, on page 43 and Chapter 7, “Creating a new report with the report generator”, on page 57.

**Using Tivoli Decision Support for OS/390 reports**

Tivoli Decision Support for OS/390 features come with a comprehensive set of predefined reports. When you use the reporting dialog to display or print a report, Tivoli Decision Support for OS/390 runs the query associated with the report to retrieve data from the database, and then displays or prints the results according to the form associated with the report.
Understanding the different report formats

You can display a report in either tabular or chart format. (To generate and display chart reports, Tivoli Decision Support for OS/390 uses Graphical Data Display Manager (GDDM). If GDDM is not installed on your system, all reports are displayed in tabular form.) Reports displayed in tabular format are displayed as tables with rows and columns. Charts appear as graphic representations of the row and column data. Each predefined report has a default form (either tabular or chart) associated with it.

Charts are useful for displaying data trends and providing an overview of the data. For example, the chart in Figure 2 identifies the projects that use their allocated direct access storage device (DASD) storage inefficiently.

Tivoli Decision Support for OS/390 tabular reports provide various levels of detail to assist you in solving systems management problems. Because these reports present data in a numerical format, you can view indicators of a potential system constraint in more detail than in charts.

For example, by examining the tabular report in Figure 3 on page 4, you can determine if DASD overallocation is a problem. If it is, you will want to know what projects have a high amount of unused storage. You can then contact people or departments in your organization who are responsible for an application with a high amount of unused storage. Either they can release wasted storage, or you can ensure that the proper management class has been assigned.
When you create a report, you can use the reporting dialog to save the report data as a member in either the tabular reports data set or the charts data set. (Your administrator defined the names of these report data sets during installation. You can change them from the Dialog Parameters pop-up.)

Organizing Tivoli Decision Support for OS/390 reports

You can store related reports (for example, all CICS reports) in logical report groups for easier access. You can also use report groups to keep together all reports for a particular group of users (for example, managers). Predefined reports shipped with Tivoli Decision Support for OS/390 features are stored in predefined groups. You can use the reporting dialog to define new report groups, or to add reports to or delete reports from existing groups. Tivoli Decision Support for OS/390 reports can exist in more than one group.

Tivoli Decision Support for OS/390 provides a search function that lets you find reports you need without manually scrolling through all available reports. If you define search criteria that you are likely to use often, you can save the criteria for future use.

Each predefined Tivoli Decision Support for OS/390 report has one or more attributes associated with it. These attributes help identify the report and are used by the reporting dialog search function. For example, the attribute CICS identifies reports that show CICS data.

Tivoli Decision Support for OS/390 reports, groups, and saved criteria of searches are classified as:

**Public** Reports and report groups that are available to all Tivoli Decision Support for OS/390 users

**Private** Reports and report groups that you created for your use
You can display or print private reports and public reports. However, you can modify or delete only private reports and public reports that you created. If you are a Tivoli Decision Support for OS/390 administrator, you can display, print, modify, or delete all reports.

**Getting help information**

The online help system provides field help, window help (general help), message help, and keys help. In addition, each help window has a function key that takes you to appropriate sections of Tivoli Decision Support for OS/390 online books where you can read additional information.

Tivoli Decision Support for OS/390 also shows you report descriptions in the online books for every predefined report supplied with a Tivoli Decision Support for OS/390 feature. You can learn about the application of a specific report by typing a question mark next to its name in the list of reports. See “Viewing information about a report” on page 29 for more information about viewing online information about reports.
Chapter 2. Getting started

This chapter explains how to use the Tivoli Decision Support for OS/390 reporting dialog. After reading this chapter, you should be familiar with these tasks:

- Starting the reporting dialog for the first time
- Using a Tivoli Decision Support for OS/390 dialog
- Getting help
- Finding information in online books
- Using Tivoli Decision Support for OS/390 commands to navigate
- Exiting Tivoli Decision Support for OS/390

Starting the reporting dialog for the first time

When you use the reporting dialog, you can customize certain dialog defaults. One of these defaults lets you select a report group to display as your list of reports whenever you start the reporting dialog.

To start the reporting dialog and set a report group as a default:
1. Type TSO %DRLEINIT REPORTS on the command line of any Interactive System Productivity Facility/Program Development Facility (ISPF/PDF) window.

   **Note:** Depending on how Tivoli Decision Support for OS/390 was installed on your system, you might be able to select the reporting dialog from the ISPF primary menu.

The first time you start the reporting dialog, Tivoli Decision Support for OS/390 displays the Reporting Dialog Defaults pop-up (Figure 4). In subsequent sessions, if you elect not to display this pop-up each time you start the reporting dialog, you can access this pop-up by selecting the Reporting dialog defaults option from the Options pull-down.
2. Type the number of your selection in the Entry to dialog field.

   If you type 1, Display of previous selection, Tivoli Decision Support for OS/390 uses the search criteria you used last to limit the list of reports shown in the Reports window. This is the default selection. If you choose this option the first time you use the Tivoli Decision Support for OS/390 reporting dialog, the Reports window displays nothing until you specify a group or search criteria.

   If you type 2, Display of all reports, Tivoli Decision Support for OS/390 displays the Reports window listing all the reports available for your use. On subsequent entries into the reporting dialog, the Reports window displays all reports.

   If you type 3, Display of selected groups of reports, you must also type the name of the report group in the Group name field and the user ID of the group owner, if it is a private report group. To see a list of report groups, move the cursor to the Group name field and press F4 (Prompt). On subsequent entries into the reporting dialog, Tivoli Decision Support for OS/390 displays the Reports window and lists only the reports in the group you have identified.

3. Press Enter to save the defaults.

Using a Tivoli Decision Support for OS/390 dialog

The reporting dialog consists of a series of windows through which you provide information to Tivoli Decision Support for OS/390. You use the Tivoli Decision Support for OS/390 reporting dialog to select items such as reports and report groups, and then select the actions to perform on these items.

Understanding Tivoli Decision Support for OS/390 windows

Figure 5 on page 9 shows a sample Tivoli Decision Support for OS/390 window and points out the elements common to many windows:
Figure 5. A sample Tivoli Decision Support for OS/390 window

1 Menu bar
   Lists the types of actions available from the window. Every primary window has a menu bar; pop-up windows do not. “Using the menu bar” on page 12 describes how to use the options on the menu bar.

2 Window title
   Indicates the contents and function of the window.

3 Instructions
   Provides direction about what action to take, and describes the default action (what happens when you press Enter without selecting another action).

4 Pull-down
   Contains the options related to the categories listed in the menu bar. “Using the menu bar” on page 12 describes how to select these options.

5 Selection field
   Lets you select an option, or a report or report group, from a displayed list. The selection field for a list of options is a blank where you can type the number of the option you want to select (as in pull-downs). The selection field for a list of reports or groups is a column of blanks with a slash (/) as the column heading. You can type a slash in the blank beside a report or group to select it.

   Note: You can actually type any character in the selection field of a list of reports or groups. If you select a report by typing a question mark, Tivoli Decision Support for OS/390 uses BookManager to show you a description of that report. See “Finding information in online books” on page 14 for more information about BookManager.

6 Command line
   Lets you specify any command available on your system, including Tivoli Decision Support for OS/390 commands, TSO commands, and ISPF commands. “Using Tivoli Decision Support for OS/390 commands to navigate” on page 19 describes the commands.
Function keys

Lists the function key settings for the current window. "Using function keys" describes the function key settings in Tivoli Decision Support for OS/390.

Text entry field (not shown)

Lets you specify information to Tivoli Decision Support for OS/390 by typing text. If you type information that is not valid, an error message appears. Correct the information and try the action again. If an entry field is followed by a plus (+) sign, you can use the F4 (Prompt) function key, described in "Using function keys" on page 10.

Performing actions in Tivoli Decision Support for OS/390

You can perform actions in Tivoli Decision Support for OS/390 by:

- Pressing Enter to perform the default action
- Pressing a function key
- Selecting a menu bar option
- Typing a command

In most cases, you will select a report or group upon which to act before selecting an action. "Selecting reports and groups" describes how to select reports and groups.

The instructions below the title of the window describe the default action (what happens if you press Enter) for that window. "Selecting the default action" describes how to initiate the default action.

Function keys are defined to perform some of the most frequently used Tivoli Decision Support for OS/390 actions. "Using function keys" describes how to use the function keys to select actions.

The menu bar provides access to all possible actions in Tivoli Decision Support for OS/390. "Using the menu bar" on page 12 describes how to use the menu bar to select actions.

Selecting reports and groups

To select a report or group from a Tivoli Decision Support for OS/390 selection list, type a slash (/) or another character in the selection field beside the name of the report or group. The selection field has a slash as its column heading.

To see a description of a report, type a question mark (?) in the selection field beside the report ID. Tivoli Decision Support for OS/390 starts BookManager to display the report description from the online books. See "Viewing information about a report" on page 29 for more information.

Selecting the default action

Every Tivoli Decision Support for OS/390 window has a default, which you select by pressing Enter. The default action is described in the instructions below the title of the window. For example, the default on the Reports window is to display the selected report. When you select a report and press Enter, Tivoli Decision Support for OS/390 processes the default immediately.

Using function keys

A list of function keys and their actions appears at the bottom of each reporting dialog window. When you press a function key, Tivoli Decision Support for OS/390 immediately performs the action assigned to that function key.
You can use an ISPF command to display the list of function keys if they are not displayed. Type FKA ON or PFSHOW ON on the command line and press Enter. To change the display of function keys, such as whether to display them as F1—F12 or F13—F24, type PFSHOW TAILOR on the command line, press Enter, and specify your preference.

**Note:** You should always display the list of function keys. In pop-ups, you have no other way to execute the functions that are assigned to function keys. Also, some function keys might have different functions in different windows. Figure 5 on page 9 shows the function keys available in the Reports window.

These function keys perform the same actions regardless of where they appear in the dialog:

**F1** If the cursor is on a selectable field, a menu bar option, or a pull-down option, Tivoli Decision Support for OS/390 displays field-level help. Otherwise, general help is displayed for the entire dialog window. If you press F1 after Tivoli Decision Support for OS/390 displays a message, help is displayed for the message.

**F2** Initiates the ISPF split-screen mode. If split-screen mode is already activated, pressing F2 repositions the split line.

**Notes:**
1. Split-screen mode is not always available from products with which Tivoli Decision Support for OS/390 works.
2. You can use the alternate ISPF session for every task except those that allocate and free the same DDNAMEs that Tivoli Decision Support for OS/390 uses. An example is SLR, which can free ADMCFORM.
3. You cannot run a second Tivoli Decision Support for OS/390 session from the other ISPF session.

**F3** Exits from the window. F3 is available only on the Reports window and help windows. It does not appear on pop-ups.

**F9** Swaps the cursor from one portion of a split screen to another. You must have initiated ISPF split-screen mode by pressing F2. Note that split-screen mode is not available with all of the products with which Tivoli Decision Support for OS/390 works.

**F12** Returns to the previous window without saving any changes made in the current window.

These function keys are used in many Tivoli Decision Support for OS/390 windows and help windows:

**F4** With the cursor in a text entry field followed by a plus (+) sign, press F4 to list available choices for that field.

In a Tivoli Decision Support for OS/390 help window, this key links to more help in one of the online books. See “Using help function keys” on page 14 for more information about function keys used in the help windows.

**F7** If information cannot fit in one window, press F7 to scroll backward to the previous window.

**F8** If information cannot fit in one window, press F8 to scroll forward to the next window.
In the Reports window, press F10 to move the cursor between the work area and the menu bar.

In the Reports window, press F11 to toggle the display between showing the report ID and showing the report type and owner. When the report ID is displayed (the default display), F11 is labeled Showtype; when the report type and owner are displayed, the key is labeled Show ID.

Using the menu bar

Each Tivoli Decision Support for OS/390 primary window contains a menu bar that lists the options available in that window. When you select an option from the menu bar, a pull-down appears beneath it listing the actions you can perform. Pop-ups do not contain a menu bar. The Reports window is a primary window and contains a menu bar from which you can select these options:

- Reports
- Batch
- Group
- Search
- Options
- Other
- Help

To select an action from the menu bar:

1. Press F10 (or the Home key) or use the cursor movement keys to move the cursor to the menu bar.
2. Use the cursor movement keys to move the cursor to the option you want to select, and press Enter.
   Tivoli Decision Support for OS/390 displays a pull-down listing the actions you can perform.
3. In the selection field on the pull-down, type the number of the action you want to perform, or press the up arrow (↑) and down arrow (↓) keys until the cursor is on the action you want to perform.
4. Press Enter.
Tivoli Decision Support for OS/390 does the action you selected.

Getting help

Tivoli Decision Support for OS/390 provides help on all windows and functions. This help explains how to use dialog windows and how to fill in fields in windows. Tivoli Decision Support for OS/390 provides these types of help:

- Field help
- Using help
- General help
- Keys help
- Message help
- Online books
- Search books
- Product information

Getting field help

Tivoli Decision Support for OS/390 provides field help for every menu bar option, pull-down option, and entry field.

To request field help, place the cursor in the field you want to learn more about and press F1. Tivoli Decision Support for OS/390 displays help for the field you selected.

Getting general help

General help provides help for an entire window. To get general help for a window, you can use any one of these methods:

- Press F5 from a field help window.
- Press F1 when the cursor is not on an entry field or the menu bar.
- Type help on the command line and press Enter.
- Select the General help option from the Help pull-down of the Tivoli Decision Support for OS/390 Reports window (Figure 7).

Figure 7. Help pull-down for the Reports window
Getting keys help

Tivoli Decision Support for OS/390 provides help for the function keys used by the reporting dialog. To get help for function keys, either:

- Select the Keys help option from the Help pull-down on the Reports window.
- Press F6 from a help window.

Getting help on using help

Tivoli Decision Support for OS/390 provides instructions for using online help. To get help on using help, select the Using help option from the Help pull-down.

Using help function keys

A list of function keys and their actions appears at the bottom of each help window. When you press a function key, Tivoli Decision Support for OS/390 immediately performs the action assigned to that function key.

These function keys perform the same actions in all field help windows:

- **F1**: Displays help for a reference phrase selected by the cursor, or displays ISPF help
- **F2**: Initiates ISPF split-screen mode
- **F3**: Exits from help
- **F4**: Links to more help for the topic in an online Tivoli Decision Support for OS/390 book
- **F5**: Displays general help, which is help for tasks coordinated by the entire window
- **F6**: Displays keys help for the window
- **F7**: Scrolls the help window backward
- **F8**: Scrolls the help window forward
- **F9**: Swaps to the alternate ISPF window, if operating in ISPF split-screen mode
- **F12**: Returns to the previous window

Function keys for general help are slightly different. There is no F5 (Gen help) key to link you to general help.

Function keys for message help are also different. There is no key for general help. Also, there is no F4 (Info) key to link you to more help in one of the Tivoli Decision Support for OS/390 online books.

Finding information in online books

While in Tivoli Decision Support for OS/390, you can use BookManager to access any online book. Tivoli Decision Support for OS/390 provides numerous links between its dialogs and the online books. Links to online books are available from:

**Selection lists of Tivoli Decision Support for OS/390 reports**
You can type a question mark (?) beside the name of a report to see a description of that report in an online book.

**Help windows**
You can go directly from a help window to a relevant online
description of the help subject by pressing F4 (Info). For each help window except message help, there is one link to the most relevant information in an online book.

The BookManager option of the Other pull-down
When you select this option, BookManager is started and you see your default list of bookshelves.

The Online books option of the Help pull-down
When you select this option, the online list of books and topics is displayed. From the displayed list, you can select a book or view a list of commonly referenced topics that link to the online library. Alternatively, you can type the INFO command.

The Search books option of the Help pull-down
When you select this option, Tivoli Decision Support for OS/390 starts BookManager and displays the BookManager Set Up Search pop-up. You can then search for any word or phrase in the online books.

Alternatively, you can type the INFO SEARCH command. If you use a search argument with this command:

INFO SEARCH search_argument

Tivoli Decision Support for OS/390 bypasses the BookManager Set Up Search pop-up and initiates the BookManager search function. The next pop-up you see is the BookManager pop-up that describes the results of the search, the List All Books with Matches pop-up.

For more information about the Tivoli Decision Support for OS/390 commands, see “Using Tivoli Decision Support for OS/390 commands to navigate” on page 19

Once you are in BookManager, you can use its capabilities to find online information about Tivoli Decision Support for OS/390. When you are ready to return to a Tivoli Decision Support for OS/390 dialog, exit BookManager.

The rest of this section describes how to navigate within BookManager. A typical way to enter BookManager is to select option 4, Online books, from the Help pull-down in the Reports window. When you start BookManager this way, BookManager displays the topics list pop-up Figure 8 on page 16.
This window displays a list of the online books and the commonly accessed help topics. To access an online book, press the tab key until the cursor is on the line containing the title of the book you want to view and press Enter. To view any of the other topics, press the tab key and F8 (Fwd) or F7 (Bkwd) until the cursor is on the line containing the topic you want to view, and press Enter. BookManager displays the topic that you selected.

To use BookManager to search for a word or phrase while you are in a book or bookshelf:

1. Select the Search pull-down from the menu bar.
2. Select Set up search in the Search pull-down.
3. Type words or phrases you want to find in the Search for field and press Enter.
Listing books with search matches

If you use option 5, Search books, from the Help pull-down in the Reports window (or if you use the INFO SEARCH command), BookManager searches every book in the bookshelf and displays a list of books that contain matches to the search argument you typed. Figure 10 shows an example of the List All Books with Matches pop-up.

Select a book to view by pressing the tab key until the cursor is positioned on the book title and then pressing Enter. BookManager displays a list of topics with matches in the book you select.
**Note:** If you are in a book and start a search using the options on Search pull-down in BookManager, BookManager restricts its search to that book and displays a list of matching topics in the book. You can select topics from the list and look at them.

**Moving around in a book**

After you access an online book with BookManager, you can move forward or backward through it, go to a particular topic or section, link to information in another book, or return to a previous link or reference.

**Moving forward or backward in a book**

To scroll forward or backward, press F8 (Fwd) or F7 (Bkwd).

You can move forward or backward less than a full screen. An example of when this might be useful is when you want to scroll to display an entire table or figure. To move forward or backward less than a full screen, type CSR on the command line but do not press Enter. Place the cursor anywhere in the line you want to be the top line on the screen and press F8 (Fwd), or place the cursor on the line you want to be the bottom line and press F7 (Bkwd).

**Moving left or right in a book**

You can move left and right in a book. This is useful when a report or table is wide, and you need to scroll sideways to see the rightmost part of it.

To scroll right, type `RIGHT nn` on the command line. (nn is the number of characters you want to scroll). To scroll back, type `LEFT nn`.

**Going to a particular place in a book**

Use the GoTo pull-down to jump to a particular topic in a book, or to jump to a particular part of a book such as the table of contents or index.

To go to a particular book topic, type the topic identifier (such as 3.0) on the command line, and press Enter. BookManager goes to the topic you requested.

**Going to linked information**

Each book contains links within itself and to other Tivoli Decision Support for OS/390 books.

If you place the cursor on a word and press Enter, BookManager performs one of these actions:

- If the word is a reference to a table, a figure, or a topic, BookManager goes to the table, figure, or topic.
- If the word links to another part of the same book or to a different book, BookManager goes to the information the word links to.
- If the word is in the glossary or index, BookManager displays the match in a window.
- If multiple links exist, BookManager displays a list of choices.
- If no link exists, BookManager displays a message that there is no linked information associated with that word.

**Returning to a previous link or reference**

After you use a link to go to a different place, you can return to your starting location using either of these methods:

- Press F4 (Unlink)
- Select GoTo from the menu bar, then select Previous link or reference.
Each time you press F4, you return to the previous link or to the place immediately preceding your current location until you reach your starting location. If you have linked to another book, you must close the book before returning to the previous link.

**Closing a book**
To close an online book at any time, press F3 (Exit).

Depending on how BookManager is configured for your user ID, a confirmation pop-up might appear. To improve BookManager usability, you can configure BookManager to suppress this confirmation pop-up. See "Setting BookManager defaults" for more information.

**Setting BookManager defaults**
To improve BookManager usability, you can change your BookManager exit defaults.

When in a BookManager READ session, use the Options pull-down from the menu bar to set any of these permanent exit options:
- No exit confirmation from a book
- No exit confirmation from the bookshelf list
- Always place a closing bookmark

**Getting help with online books**
You can get help at any time while you are using online books. Select Help from the menu bar of any window or press F1 (Help) to display BookManager help. For more information about BookManager, select 4, User’s guide, from the BookManager Help pull-down, or refer to BookManager Read/MVS: Displaying Online Books

**Using Tivoli Decision Support for OS/390 commands to navigate**
You can immediately execute an action anywhere in the Tivoli Decision Support for OS/390 reporting dialog by typing these commands on the command line (uppercase letters indicate the abbreviation for the command):

- **DB2I** Starts a DATABASE 2 Interactive (DB2I) facility session and displays its primary menu.

- **DISPLay REPort report_ID** Displays the specified report. From the Reports window, this command is simply DISPLay report_ID. By default, the report IDs are listed in the Report window next to their corresponding report descriptions. You can toggle the display to display either the report IDs or the report types and owners by pressing F11.

- **HELP** Displays general help for the window or help for a message.

- **INFO** Calls BookManager to display Topics in Online Books (a list of topics in the online library).

- **INFO SEarch argument** Calls BookManager and searches for argument. If you omit argument, then this command calls BookManager to display the Set Up Search pop-up.

- **ISPF** Displays the ISPF primary menu.
**Locate argument**

In a Tivoli Decision Support for OS/390 window, locates the first row that starts with argument.

**PDF**

Displays the ISPF/PDF primary menu.

**QMF**

If your installation uses QMF with Tivoli Decision Support for OS/390, this command starts a QMF session and displays either its SQL primary window or its prompted query primary menu.

**Sort column_name ASC or DESC**

Sorts a Tivoli Decision Support for OS/390 list by the column you specify as column_name in either ascending or descending order. (You can also sort by column number by specifying the number of the column instead of the name. The first column after the selection field column on the left is column 1.)

### Exiting the reporting dialog

When you have finished using the reporting dialog, press F3 from the Reports window (Figure 11).

Tivoli Decision Support for OS/390 exits the reporting dialog and returns you to the place from which you started the reporting dialog. If you chose to display a confirmation pop-up whenever you exit the reporting dialog (from the Reporting Dialog Defaults pop-up) Tivoli Decision Support for OS/390 prompts you to confirm your exit from the reporting dialog.

---

**Figure 11. Tivoli Decision Support for OS/390 Reports window**
Chapter 3. Working with existing reports

This chapter explains how to select a report and perform actions on it. After reading this chapter, you should be familiar with these tasks:

- Displaying a report
- Saving report data
- Printing a report
- Viewing information about a report
- Printing a list of reports
- Deleting a report
- Opening an existing report definition
- Opening the definition of saved report data

Displaying a report

To display a report, select the report from the list (by typing a slash or other character in its selection field) in the Reports window [Figure 12], and press Enter.

![Figure 12. Tivoli Decision Support for OS/390 Reports window](image)

Figure 12. Tivoli Decision Support for OS/390 Reports window
The Reports window displays this information about existing reports:

**Group**
Appears above the list of reports and shows whether you have selected all reports (All reports) or restricted the display of reports to those in a specific group (name of group) or search criteria (Search).

/ Shows which item is selected (select an item from a list by typing a slash, or any other character, in this field).

**Report**
Shows the title of each report in the list.

**ID**
Shows the ID of each report in the list. The Report window displays report IDs by default, but you can press F11 (Showtype) to display the report type and owner columns.

**Type**
Shows the report type of each report in the list:

- **QUERY**
  Indicates that the report has not been saved and exists as a query that must be run to generate the report.

- **TABDATA**
  Indicates that someone has run the query for the report and saved the results to a data set in a tabular format.

- **GRAPHDATA**
  Indicates that someone has run the query for the report and saved the results to a data set in a GDDM-based graphic report.

**Owner**
Identifies the user that owns the report in Tivoli Decision Support for OS/390. If no owner is listed, the report is public. This window lists only public reports and reports that you own.

You can control which reports Tivoli Decision Support for OS/390 displays in the list shown in the Reports window. There are several ways to do this:

- **Showing reports that belong to a report group**, described in Chapter 4, “Working with report groups”, on page 35
- **Showing certain types of reports** (queries, saved reports, or all types), described in Chapter 5, “Searching for reports”, on page 39
- **Showing reports that have similar attributes or descriptions**, described in Chapter 5, “Searching for reports”, on page 39

Predefined Tivoli Decision Support for OS/390 reports are those shipped by IBM as part of the components of the features. For every predefined report, an SQL query extracts current data for the report, and a form specifies how the report will appear. If you need to find the names of the query, form, and GDDM/ICU format associated with a report, follow the procedure described in “Opening a report definition” on page 30.

When you select a report for display and press Enter, Tivoli Decision Support for OS/390 runs the query associated with that report to extract current data, and then displays the report using its associated tabular or graphic format.

Tivoli Decision Support for OS/390 report queries use variables that specify data selection criteria for columns in the data tables. If the query you select contains no variables, Tivoli Decision Support for OS/390 displays the report. If the query contains variables, you must specify values for them that determine which rows of
data the query selects when the report is built. See “Specifying values for variables” for more information.

Specifying values for variables

Tivoli Decision Support for OS/390 uses variables in its report queries to let you specify the contents of the report. If the query contains variables, Tivoli Decision Support for OS/390 displays the Data Selection pop-up (Figure 13) where you can specify values for the variables.

1. Specify values for variables in the Data Selection pop-up.

For example, suppose you select the MVSPM, Channel Path Busy report. When you press Enter, the Data Selection pop-up is displayed.

If the variable does not require you to provide a specific value (that is, its value in the Req column is No), you can select all available values for that variable by leaving the field blank. If the Req column has a value of Yes for the variable, you must specify a value for it.

When specifying the values for variables (for example dates) you normally do not have to use quotes. However, you must use quotes if you specify a numeric value for a non-numeric column, or if you are using an IN operator and the values are both numeric and alphanumeric.

The value you can specify for a variable depends on how the variable is used in the query associated with the report. The Oper column in the Data Selection pop-up shows how the variable is used:

<table>
<thead>
<tr>
<th>Operator</th>
<th>Description of value specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>=</td>
<td>Specify one value to retrieve data rows that are an exact match for the value of the variable.</td>
</tr>
<tr>
<td>&gt;</td>
<td>Specify one value to retrieve data rows that have a value of the variable that is greater than the value you specify.</td>
</tr>
<tr>
<td>&gt;=</td>
<td>Specify one value to retrieve data rows that have a value of the variable that is greater than or equal to the value you specify.</td>
</tr>
</tbody>
</table>
Specify one value retrieve data rows that have a value of the variable that is less than the value you specify.

<=

Specify one value to retrieve data rows that have a value of the variable that is less than or equal to the value you specify.

IN

Specify a list of values separated by blanks or commas. For example:

VOLSR1, VOLSR2 VOLSR3, VOLSR4

IN indicates that the query uses the variable in an SQL IN clause. An IN clause specifies that retrieval is based on an exact match of any of the values in a list of values. If some values in the list are numeric and some are alphanumeric, all values must be enclosed in quotes. For example:

'15A' '15B' '15C'

LIKE

Allows the use of global search characters to specify a value. The reporting dialog uses the pattern of the value you specify to retrieve data. Like operators are:

* or %  Specifies zero or more characters of any value.
? or _  Specifies exactly one character of any value.

Note: You can combine global search characters when specifying variable values. For example, D?2* would match DB21, DB22, and DB2. It would not match DB322, because there can be only one character between the D and the first 2.

If there is a plus sign (+) beside the entry field for a variable, you can display a list of available values for that variable by positioning the cursor on the field and pressing F4 (Prompt). See “Using prompts” on page 25 for more information about prompting for variables.

2. After you have specified values for the variables, press Enter.

Tivoli Decision Support for OS/390 runs the query and displays the report. If a chart format exists for the report, GDDM/ICU is called to display the chart. Otherwise, the report is displayed in a tabular format.

Alternatively, you can press F5 (Table) to force the use of a tabular format, or you can press F6 (Chart) to call GDDM/ICU to display your report graphically. The chart format defines how the chart looks; for example, if it is a bar chart or a line chart.

If you specify a chart format that does not exist:

If QMF is used  QMF uses its default chart format to display the report graphically.

If QMF is not used  GDDM/ICU shows the report as a bar chart. You can either change the chart format while in the GDDM/ICU environment, or go back to the report definition and specify a valid chart format.

For more information about chart formats, see “Opening a report definition” on page 30 and the GDDM/ICU documentation.
Note: If you do not specify a value when prompted for one, Tivoli Decision Support for OS/390 selects all possible values, for example for SYSTEM_ID, in the query. It does this by setting the value of SYSTEM_ID to SYSTEM_ID, which has the effect of nullifying the WHERE clause. Although the query runs without a problem, all systems will be included in the report, and the report title will be displayed as: System ID: SYSTEM_ID

Using prompts

Some data entry fields in the dialog windows are prompted fields, which you can identify by the plus sign (+) to the right of the field. You can use F4 (Prompt) to see a list of available query values for prompted fields. For example:

1. In the Data Selection pop-up, place the cursor in the value field beside a variable identified with a plus sign (+). (See Figure 13 on page 23.)
   Tivoli Decision Support for OS/390 displays the Prompt for variable_name Values pop-up, where variable_name is the prompted field. For a large table, this might take some time. Figure 14 shows an example of the Prompt for DATE Values pop-up.

```
Figure 14. Prompt for DATE Values pop-up
```

3. Depending on the type of variable, select one or more values from the list by typing a slash or any character in the selection field.
4. Press Enter.
   Tivoli Decision Support for OS/390 returns to the Data Selection pop-up, where the values you selected are displayed.
   Press Enter to display the report.

If your installation uses QMF with Tivoli Decision Support for OS/390, QMF is used to display reports. For graphical reports, GDDM is used. To exit QMF after displaying a tabular report, press F3. If the report is graphic, you exit GDDM by pressing F9. The tabular version of the report is displayed with QMF or ISPF Browse. You exit by pressing F3.
Saving report data

You can save reports in data sets. Once the report is saved, you and any other reporting dialog user can see the report without running the query again.

In a typical configuration, each report is run once initially and saved to create a place for it in the report list. That report is then replaced daily, weekly, or monthly (depending on the frequency specified in the report) when the report is run again with the batch reporting facility. For more information about running reports in batch, see Chapter 8, “Using Other Reporting Dialog Functions”, on page 81 and refer to the Administration Guide.

The report is created as either a tabular (TABDATA) report or a graphic (GRAPHDATA) report. Tivoli Decision Support for OS/390 uses fields in the Dialog Parameters pop-up to determine what data sets to store the reports in. The Saved reports data set field specifies where to store tabular reports, and the Saved charts data set field specifies where to store charts.

To save reports to a file:
1. From the Reports window, select the report to save.
2. Select 4, Save report data, from the Report pull-down.
   Tivoli Decision Support for OS/390 displays the Saved Report Definition pop-up (Figure 15).

3. Complete the entry fields as follows:
   - **Report ID**
     A unique identifier for this report.
   - **Owner**
     The owner (in Tivoli Decision Support for OS/390) of the report. You can specify your user ID to make this report private, or leave the field blank to make the report public.
   - **Report description**
     A description of the report. This is the text that is displayed when listing reports.
Member name

The member of the data set in which the report is stored. You can use the Dialog Parameters pop-up, described in “Customizing the reporting dialog” on page 87, to find and change the name of the partitioned data set in which Tivoli Decision Support for OS/390 stores saved reports.

Attributes

One or more attributes that you want to assign to your report. You can use these attributes later to search for this report and categorize it with other reports that share the same attributes. If you press F4 with the cursor on the Attributes field, Tivoli Decision Support for OS/390 displays a list of all available report attributes, from which you can select one or more for your report. You can add new attributes simply by typing them in the Attributes field.

4. If you want to associate some remarks with the report, press F6.

Tivoli Decision Support for OS/390 displays the Report Remarks pop-up. This pop-up contains blank lines on which you can enter your comments. Type your remarks, then press Enter to return to the Saved Report Definition pop-up.

5. When you have completed all of the fields in the Saved Report Definition pop-up, press Enter.

Tivoli Decision Support for OS/390 runs the query associated with the report you selected.

If the query contains variables, you must specify their values before Tivoli Decision Support for OS/390 can generate the report. See “Specifying values for variables” on page 23 for more information.

Tivoli Decision Support for OS/390 saves the report data and returns to the Reports window. The report you just saved appears in the list under the name you specified in the Report description field in the Saved Report Definition pop-up. Its report type is either TABDATA or GRAPHDATA.

---

**Printing a report**

You can use the reporting dialog to print a report.

**Note:**

If you are using the reporting dialog without QMF, you cannot print graphic reports directly with the print option. Graphic reports are printed in tabular format. You can, however, use GDDM to print saved graphic reports.

If you are using QMF with the reporting dialog, you can also print reports via QMF. Refer to the QMF documentation for more information about printing reports directly from QMF.

To print a report using the reporting dialog:

1. From the Reports window, select the report.
2. Select 6, Print, from the Report pull-down.
If the query contains variables, the Data Selection pop-up appears. You must specify values for variables before Tivoli Decision Support for OS/390 can print the report. See “Specifying values for variables” on page 23 for more information.

After you have specified values for any variables, Tivoli Decision Support for OS/390 runs the query.

3. If the report is a graphic report (that is, it has a chart format) and you are using the reporting dialog with QMF, Tivoli Decision Support for OS/390 displays the Print Chart Options pop-up (Figure 16). Type the nickname of the graphic printer defined in GDDM to which you want to route the report, and press Enter. For information about graphic printers defined in GDDM, refer to the Administration Guide.

If the report has a tabular format, Tivoli Decision Support for OS/390 displays the Print Options pop-up (Figure 17). You confirm a print action, specify an output destination (which can be a printer or a data set), and press Enter.
Tivoli Decision Support for OS/390 routes the output to the destination you specified.

You can also use these procedures to print reports saved in TABDATA format. To print a saved graphic report (GRAPHDATA format), you must display the report by selecting it and pressing Enter. Tivoli Decision Support for OS/390 invokes GDDM to display the chart. When GDDM displays the chart, press F4. GDDM displays a menu that contains a print option, which you can then use to print the chart. For more information about printing charts using GDDM, refer to the GDDM documentation.

Viewing information about a report

Tivoli Decision Support for OS/390 can call BookManager to show you a description of a predefined Tivoli Decision Support for OS/390 report from the Tivoli Decision Support for OS/390 online library.

To view information about a report:
1. From the Reports window, type a question mark (?) in the selection field beside the report and press Enter.
   Tivoli Decision Support for OS/390 starts BookManager and displays information about the report.
2. When you have finished viewing the information, exit BookManager.
   Tivoli Decision Support for OS/390 returns to the Reports window.

Printing a list of reports

You can print the list of reports in the Tivoli Decision Support for OS/390 Reports window:
1. In the Reports window, select 7, Print list, from the Report pull-down.
**Tivoli Decision Support for OS/390**

Tivoli Decision Support for OS/390 displays the Print Options pop-up (Figure 17 on page 29). Confirm the print action and specify an output destination (which can be a data set).

2. Press Enter.

   Tivoli Decision Support for OS/390 prints the list of reports to the data set or printer you specified.

---

### Deleting a report

If you no longer need a private report or a public report that you created, you can delete it. When you delete a report, Tivoli Decision Support for OS/390 removes all references to the report in the dialog. If the query, form and any attributes associated with the report are unique to that report, Tivoli Decision Support for OS/390 deletes those also. If another report uses the query, form, and attributes, Tivoli Decision Support for OS/390 does not delete them. To delete a report:

1. From the Reports window, select the report.
2. Select 5, Delete, from the Report pull-down.

   Tivoli Decision Support for OS/390 displays a pop-up for you to confirm the deletion.
3. Press Enter to delete the report.

   Tivoli Decision Support for OS/390 deletes the query, form, and attributes (unless another report refers to them), and removes the report ID from the list of available reports.

---

### Opening a report definition

You can modify a Tivoli Decision Support for OS/390 report. You can change the query and form associated with the report, and the report attributes that help identify the report.

**Note:** You can modify only your private reports and any public reports that you created. If you must modify a public report that you did not create, create a new report using the public report as a template, and then modify the new report. See “Using an existing report as a template for a new report” on page 43 for more information.

There are two versions of the Report Definition pop-up. One is shown if you use QMF with the reporting dialog; the other one if you are using the built-in report generator. They are described in “Opening a report definition when QMF is used” or “Opening a report definition when the built-in report generator is used” on page 32.

---

### Opening a report definition when QMF is used

To modify a report definition:

1. From the Reports window, select the report.
2. Select 2, Open report definition, from the Report pull-down.

   Tivoli Decision Support for OS/390 displays the Report Definition pop-up for the report you selected, (Figure 18).
3. Type information in the fields you want to modify. This pop-up contains these fields:

   **Report ID**
   Identifies the report.

   **Owner**
   Identifies the owner (in Tivoli Decision Support for OS/390) of the report. This can be either your user ID (for a private report) or blank (for a public report).

   **Report description**
   Describes the report.

   **Query name**
   Identifies the name of the query associated with the report.

   **Form name**
   Identifies the name of the QMF form associated with the report.

   **Chart format**
   Identifies the name of the GDDM/ICU chart format associated with the report. If there is a chart format associated with the report, then the report is graphic; otherwise this field is blank, and the report is tabular.

   The format name can be a chart format that you have saved in GDDM/ICU, or one of these GDDM/ICU formats: bar, histogram, line, pie, polar, tower, surface, or table.

   **Attributes**
   Lists the attributes associated with this report. You can use these attributes to help you search for and organize groups of reports. After putting the cursor in one of the Attributes fields, press F4 to see which values Tivoli Decision Support for OS/390 allows there.

4. Press F5 to change the query or form.
Tivoli Decision Support for OS/390 sends you to QMF, where you can modify the query or form. See “Using QMF to create new queries” on page 43 for more information about working with QMF.

5. If you want to edit remarks about the report, press F6. Tivoli Decision Support for OS/390 displays the Report Remarks pop-up. After you have typed your remarks, press Enter to return to the Report Definition pop-up.

6. When you have finished modifying the report definition, press Enter. If you have made changes to the query or form, QMF prompts you to confirm that you want to replace the existing query.

Opening a report definition when the built-in report generator is used

To modify a report definition:

1. From the Reports window, select the report.
2. Select 2, Open report definition, from the Report pull-down. Tivoli Decision Support for OS/390 displays the Report Definition pop-up for the report you selected. (Figure 19).

3. Type information in the fields you want to modify. This pop-up contains these fields:

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Report ID</td>
<td>Identifies the report.</td>
</tr>
<tr>
<td>Owner</td>
<td>Identifies the owner (in Tivoli Decision Support for OS/390) of the report. This can be either your user ID (for a private report) or blank (for a public report).</td>
</tr>
<tr>
<td>Report Description</td>
<td>CICS Transaction Usage</td>
</tr>
<tr>
<td>Created by</td>
<td>USER1</td>
</tr>
<tr>
<td>Date created</td>
<td>2000-03-13</td>
</tr>
<tr>
<td>Query format</td>
<td></td>
</tr>
<tr>
<td>Form name</td>
<td>STATISTICS CICS ESA 3.3 TRANSACTIONS</td>
</tr>
</tbody>
</table>

Figure 19. Report Definition pop-up when QMF is not used

2. This applies when you use Tivoli Decision Support for OS/390 without QMF. Some of Tivoli Decision Support for OS/390’s predefined reports have one column more on the form than in the query. If you modify the form or the owner of any of these reports using the built-in report generator you must remove the extra column from the form: DB209, DFSMS05, DFSMS06, DFSMS07, DFSMS13, NWSM02, NWSM09, NWSM10, NWSM11, NWSM17, and NWSM18. (For information about how to change the form, see “Modifying the form for a report” on page 71).
Report description  Describes the report.

Chart format  Identifies the name of the GDDM/ICU chart format associated with the report. If there is a chart format associated with the report, then the report is graphic; otherwise this field is blank, and the report is tabular.

The format name can be a chart format that you have saved in GDDM/ICU, or one of these GDDM/ICU formats: bar, histogram, line, pie, polar, tower, surface, or table.

Attributes  Lists the attributes associated with this report. You can use these attributes to help you search for and organize groups of reports. After putting the cursor in one of the Attributes fields, press F4 to see which values Tivoli Decision Support for OS/390 allows there.

4. Press F5 to change the query or form. A dialog lets you modify the query or form. See "Using an existing report as a template for a new report" on page 57 for more information.

5. If you want to edit remarks about the report, press F6. Tivoli Decision Support for OS/390 displays the Report Remarks pop-up. After you have typed your remarks, press Enter to return to the Report Definition pop-up.

6. If you want to add header or footer lines to the report, press F10. See "Adding page headers and footers to a report" on page 77 for information about using the Report Headers and Footers window.

7. When you have finished modifying the report definition, press Enter.

Opening the definition of saved report data

You can make some modifications to the definitions of saved report data.

**Note:** You can modify your private saved reports and those public reports that you created. If you must modify a public report that you did not create, create a new report using the public report as a template, run the report and save the data, and modify the new saved report definition. See "Using an existing report as a template for a new report" on page 45 for more information.

To modify the definition for saved report data:

1. From the Reports window, select the saved report. Saved report data files have a file type of TABDATA or GRAPHDATA.

2. Select 2, Open report definition, from the Report pull-down. Tivoli Decision Support for OS/390 displays the Saved Report Definition pop-up (Figure 20).
3. Type information in the fields you want to modify, which can include only the Owner, Description, and Attribute fields. “Saving report data” on page 26 describes these fields.

4. If you want to edit remarks about the report, press F6. Tivoli Decision Support for OS/390 displays the Report Remarks pop-up. After you have typed your remarks, press Enter to return to the Saved Report Definition pop-up.

5. When you have finished modifying the saved report definition, press Enter. Tivoli Decision Support for OS/390 saves changes to the saved report definition and returns to the Reports window.

Figure 20. Saved Report Definition pop-up
Chapter 4. Working with report groups

This chapter explains how to manipulate report groups. After reading this chapter, you should be familiar with these tasks:

- Listing report groups
- Displaying the contents of a report group
- Viewing and modifying a report group definition
- Adding a report to a group
- Creating a report group
- Deleting a report group

Listing report groups

You can display a list of all available report groups.

To display a list of report groups, press F4 from the Reports window. Tivoli Decision Support for OS/390 displays the Report Groups pop-up (Figure 21).

Displaying the contents of a report group

To display the contents of a report group, select the report group and press Enter. Tivoli Decision Support for OS/390 returns to the Reports window and lists the reports in the report group you selected.

To display the complete list of reports again, select 1, Show all reports, from the Search pull-down.
Viewing and modifying a report group definition

You can change the definition of a Tivoli Decision Support for OS/390 report group. You can also add reports to a report group or delete reports from a report group.

A single report can belong to several groups. When you add a report to a group, Tivoli Decision Support for OS/390 does not make a copy of the report, but adds only a reference to the report to the group. When you delete a report from a group, you do not delete the report itself, but only its reference in the group.

If you use several reports more frequently than others, you can add these reports to a new group.

To select and display the report group to modify:

1. From the Reports window, press F4.
   Tivoli Decision Support for OS/390 displays the Report Groups pop-up.
2. From the Report Groups pop-up, select the report group and press F5.
   Tivoli Decision Support for OS/390 displays the Report Group Definition pop-up for the report group (Figure 22).

From the Report Group Definition pop-up, you can change the report group definition, add reports to the group, and delete reports from the group. The procedures for doing these tasks are described in the sections that follow.

When you finish changing the report group definition, press Enter. Tivoli Decision Support for OS/390 saves the changes you made and returns to the Report Groups pop-up.

---

DFSM Daily Report Group Definition  ROW 1 TO 3 OF 5

Modify the fields if required. Then press Enter to save and return

Description . . . . DFSMS daily trend reports
// Owner . . . . . . . . . . . . . . . . . . . . . (blank for public group)

Created by . . . . USER1
Date Created . . . : 2000-02-10

Included reports

// Description          Owner
   - DFSMS Total DASD Usage, Daily Trend
   - DFSMS Active/Expired/Backup Storage, Daily Trend
   - DFSMS Allocated/Used/Unused Storage, Daily Trend

=================================================================================

Command ==>
0 F1=Help     F2=Split     F5=Add     F7=Bkwd     F8=Fwd     F9=Swap
F11=Delete   F11=Cancel

Figure 22. Report Group Definition pop-up
Changing the report group definition

To change the report group definition from the Report Group Definition pop-up, type changes to the report group definition in the appropriate fields. You can change the description and the report group owner. When you finish making changes, press Enter to save the changes.

Adding a report to the group

To add a report to the group displayed in the Report Group Definition pop-up, press F5. Tivoli Decision Support for OS/390 displays the Add Report to Group pop-up.

In the appropriate fields, type the ID and owner of the report. You can press F4 to see a list of available report IDs. After you complete the fields in the pop-up, press Enter to add the report.

Tivoli Decision Support for OS/390 adds the report to the report group and returns to the Report Group Definition pop-up.

Deleting a report from the group

To delete a report from the group displayed in the Report Group Definition pop-up, select the report and press F11.

Tivoli Decision Support for OS/390 displays the Confirmation pop-up. Press Enter to confirm the deletion and return to the Report Group Definition pop-up. Note that this does not delete the actual report, but only its place in the report group.

Creating a report group

When you install a component on your system, the predefined reports included with the component are stored in predefined groups. However, you may want to create new report groups. For example, you may want to store your private or weekly reports in one group.

To save selected reports in a group:
1. From the Reports pop-up, select the reports you want to save in a group. Select 1, Save selected reports in a group, from the Group menu.

Tivoli Decision Support for OS/390 displays the Report Group Definition pop-up [Figure 23].
2. Type the group ID, group owner, and a brief description in the fields and press Enter.

**Note:** If you leave the Owner field blank, Tivoli Decision Support for OS/390 creates a public report group. If you type your user ID in the Owner field, Tivoli Decision Support for OS/390 creates a private group.

Tivoli Decision Support for OS/390 saves the report group and returns to the Reports window. You can now select the new report group from the groups listed on the Report Groups pop-up.

### Deleting a report group

You can delete your private report groups or the public report groups you have created. This action deletes only the report group definition, and not the reports referenced in the group. To delete a report group, select the report group you want to delete from the list displayed on the Report Groups pop-up and press F11.

Tivoli Decision Support for OS/390 displays the Confirmation pop-up. Press Enter to confirm the deletion and return to the Report Groups pop-up.
Chapter 5. Searching for reports

This chapter explains how to search for reports. After reading this chapter, you should be familiar with these tasks:
- Searching by report description and attributes
- Saving search criteria
- Listing, modifying, and deleting saved search criteria

Searching by description and attributes

Tivoli Decision Support for OS/390 can display a list of reports that satisfy search criteria that you specify. These search criteria include the description (or part of the description) of a report, attributes associated with the report, whether the report is a query or saved data, and whether the report is public or private.

To specify search criteria to search for reports, press F5 from the Reports window. Tivoli Decision Support for OS/390 displays the Search for Reports pop-up (Figure 24).

![Figure 24. Search for Reports pop-up](image)

You can use the fields in this pop-up to specify criteria for the report description, attributes, type, and owner. You can specify values for one or more of these fields, in any combination, to narrow the search for the reports to display. When you have specified all of your search criteria in the Search for Reports pop-up, press Enter. Tivoli Decision Support for OS/390 returns to the Reports window and lists the reports that meet the description you specified.

You can save the search criteria that you specified. See “Saving search criteria” on page 40 for more information.
Searching by report description

If you want to specify criteria for the report description, type all or part of the report description in the Report description field. You can use global search characters to search for all reports whose titles contain a particular string of text. Substitute global search characters for actual characters when you are unsure of how a word is spelled in the report titles, or when you want to search for report titles that contain the same word in different forms (such as abbreviations).

For example, to search for all reports that contain the word *migration* (which is sometimes abbreviated to *migrat*), type *migrat* in the Report description field. The first asterisk (*) takes the place of all words in the report description before migrat. The second asterisk takes the place of all letters in the word after migrat and any following words in the report description. Other global search characters include the percent (%) symbol (which works the same as the asterisk), and the question mark (?) and underscore (_), both of which can replace a single character in a string of text (instead of multiple characters).

Note: If you use underscores as global search characters, you must enclose the search argument (in this case, the report description) in single quotes.

Searching by report attributes

If you want to specify criteria for report attributes, specify the attributes that are common to the reports you are searching for. For example, to search for all CICS reports that are monthly, type *cics monthly* on one line of the Attributes field.

Attributes typed on the same line are connected by a logical AND operator; attributes typed on separate lines are connected a logical OR operator. For example, if you specify *cics overview* on one line of the Attributes field, and *cics trend* on another line, then Tivoli Decision Support for OS/390 displays all CICS reports that are either overviews or trends.

To see a list of attributes, move the cursor to a line of the Attributes field and press F4. Tivoli Decision Support for OS/390 displays a list of all valid attributes, from which you can select one or more for your search criteria. When you select more than one attribute from the list, Tivoli Decision Support for OS/390 places these attributes on a single line of the Attributes field (thus linking them with a logical AND operator).

Searching by report type

If you want to narrow the search by including only report queries or only saved report data, type the appropriate number in the Report type field. The default is all types of reports.

If you want to narrow the search by including only public reports or only private reports, type the appropriate number in the Report owner field. The default is all reports to which you have access.

Saving search criteria

Tivoli Decision Support for OS/390 lets you save the criteria you use to search for reports. This lets you specify the search criteria again later, without having to retype values for the criteria fields.

To save the search criteria:
1. Search for reports that meet the criteria that you specify. See “Searching by description and attributes” on page 39 for more information.

Tivoli Decision Support for OS/390 displays the Reports window listing the reports that meet the search criteria you specified.

2. From the Search pull-down, select 4, Save current search criteria.

Tivoli Decision Support for OS/390 displays the Save Search Criteria pop-up.

3. Type a name for the search criteria in the Name field; this value is used to identify the search criteria in the Saved Search Definition pop-up, and must not contain any blanks or special characters. If you want this search criteria to be private, type your user ID in the Owner field; otherwise leave the field blank. Type a brief description of the search criteria in the Description field and press Enter.

Tivoli Decision Support for OS/390 saves the search criteria using the name you specified and returns to the Reports window. You can now select this search criteria in the future without having to specify search criteria on the Search for Reports pop-up, as described in the following section.

---

**Listing, modifying, and deleting saved search criteria**

You can display a list of search criteria saved from previous searches. From this list, you can select a saved criteria to run, modify, or delete.

To list the saved search criteria: press F6 from the Reports window.

Tivoli Decision Support for OS/390 displays the Search Criteria List pop-up (Figure 25), which lists all of the previously saved search criteria.

```
<table>
<thead>
<tr>
<th>Owner</th>
<th>USER1</th>
<th>USER1</th>
<th>USER1</th>
</tr>
</thead>
<tbody>
<tr>
<td>CICS</td>
<td>exception reports</td>
<td>CICS performance reports</td>
<td>DB2 performance management reports</td>
</tr>
<tr>
<td>IMS</td>
<td>performance management reports</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
```

**Figure 25. Search Criteria List pop-up**

From this list, you can select saved criteria to use for your search. Select the criteria by typing a slash or any other character next to its name and pressing Enter. Tivoli Decision Support for OS/390 displays the list of reports that meet the search criteria.
The following sections describe how to view, modify, and delete the saved search criteria.

**Viewing and modifying saved search criteria**

To view or modify a search criteria definition, select the saved search criteria from the Search Criteria List pop-up and press F5.

Tivoli Decision Support for OS/390 displays the Search Criteria Definition pop-up for the search criteria (Figure 26).

![Figure 26. Search Criteria Definition pop-up](image)

The fields in this pop-up follow the same conventions as the fields in the Search for reports pop-up, described in “Searching by description and attributes” on page 39. You can change these fields only if the saved search criteria is private, or if it is public and you created it. When you have finished viewing or modifying the search criteria, press Enter. Tivoli Decision Support for OS/390 returns to the Saved Criteria List pop-up.

**Deleting saved search criteria**

To delete a saved search criteria from the list, select the search criteria to delete from the Search Criteria List pop-up and press F11. Tivoli Decision Support for OS/390 displays the Confirmation pop-up.

From the Confirmation pop-up, press Enter to confirm the deletion. Tivoli Decision Support for OS/390 deletes the search criteria you specified and returns to the Search Criteria List pop-up.
Chapter 6. Creating a new report using QMF

The Tivoli Decision Support for OS/390 components installed on your system contain several predefined reports. Although these reports present the information in the Tivoli Decision Support for OS/390 database in several useful ways, you might have a specific need for which you must create your own report. This chapter explains how to create a new report.

Note: Reports can be created using the reporting dialog’s built-in report generator or QMF, if your installation uses QMF with Tivoli Decision Support for OS/390. This chapter describes how to create reports using QMF. For information on how to create reports using the built-in report generator, refer to Chapter 7, “Creating a new report with the report generator”, on page 57.

After reading this chapter, you should be familiar with these tasks:
• Using QMF to create new queries
• Using an existing report as a template for a new report
• Creating a query for a new report
• Modifying a form for a new report
• Saving a new report definition

Using QMF to create new queries

Tivoli Decision Support for OS/390 works with QMF to provide these ways for you to specify report queries:
• If you are not familiar with SQL, you can use QMF’s prompted query language that lets you build a query by selecting choices in a menu-driven interface.
• If you are familiar with SQL, you can use QMF to build an SQL query.

The queries in the reports provided with Tivoli Decision Support for OS/390 are written in SQL, so you must be familiar with SQL if you want to use them as a base for a new report.

Using an existing report as a template for a new report

The quickest way to create a new report is to base its query and form on an existing report that is similar to the report you need. Using an existing report as a template, you can use the reporting dialog to create a new report.

To create a report using an existing report as a template:
1. From the Reports window, select the report you want to use as a template. Then select 1, New, from the Reports menu.

   Tivoli Decision Support for OS/390 invokes QMF, which displays the SQL for the query associated with the report selected as a template. Figure 27 on page 44 is an example of an SQL query.
2. Edit the SQL query using QMF. If you do not want to change the query, but just want to change the form, see the notes at the end of this section.

3. When you have finished editing the query, you can do one of the following:
   - Edit the form of the report (described in "Modifying the form for a new report" on page 51).
   - Exit QMF by pressing F3. Tivoli Decision Support for OS/390 displays the Report Definition pop-up.

   You need not save the report query or form using the QMF SAVE command before exiting QMF. Tivoli Decision Support for OS/390 saves the query and form automatically after you return to the reporting dialog and complete the Report Definition pop-up. "Saving the definition of a new report" on page 55 describes how to save the definition of your new report.

Notes about using existing reports as templates:

1. If you have changed the query, form, or chart format of the template report in QMF, you must change the names of these fields in the Report Definition window when you are saving the report. Otherwise, QMF will attempt to overwrite the existing data set members. Also, you must change the Report description field so that your new report has a description different from that of the template report.

2. You can change the template form without changing the query. When QMF displays the query of the report you selected, press the Form function key (F9). QMF displays the Form window, from which you can edit the form. (See "Editing the form" on page 51 for information about editing the form.) When you finish changing the form, press the Exit function key (F3) to return to Tivoli Decision Support for OS/390. After you complete the Report Definition pop-up, the report is saved with the new form and the unchanged query.

3. If the query you use as a template is an SQL query (as all queries supplied with features are), then this method of creating a report requires you to edit the SQL query in QMF. Although this method is quicker because you can alter an existing query to fit your requirements instead of creating a new query, it requires some knowledge of SQL. "Creating a query for a new report" on page 45

Figure 27. Sample SQL query in QMF

```
SQL QUERY DRL.DRLQC807 LINE 1

SELECT TRANSACTION_ID,
  PROGRAM_NAME,
  SUM(TRANSACTIONS),
  SUM(RESTARTS),
  SUM(DYNAMIC_ROUTING_L),
  SUM(DYNAMIC_ROUTING_R),
  SUM(STORAGE_VIOLATIONS)
FROM &PREFIX CICS_S_TRAN_D
WHERE (MVS_SYSTEM_ID=&MVS_SYSTEM_ID AND
  CICS_SYSTEM_ID=&CICS_SYSTEM_ID AND
  DATE >= &FROM_DATE AND DATE <= &TO_DATE)
GROUP BY TRANSACTION_ID, PROGRAM_NAME
ORDER BY 3 DESC
*** END ***
```

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4. When you use an existing report as a template for a query, QMF picks up the form associated with the report. However, depending on how you modify the query (for example, if you change the number of columns), the form might not be usable. If you press F2 to run the query in QMF, QMF resets the form to a default format.

If you want to use the form associated with the template report, you must either:

• Run the query using the QMF RUN command and specify the name of the form. To learn the name of the form, press the Form function key in QMF to go to the Form window. The name of the form is displayed at the top of the window. The QMF RUN command uses this format:
  
  ```
  RUN QUERY (FORM=\{formname\}
  ```

  where formname is the name of the QMF form. When you use this command, QMF runs the current query and displays the results using the form you specify.

• Exit QMF (by pressing the End function key) without running the query. Tivoli Decision Support for OS/390 displays the Report Definition pop-up. After you complete this pop-up, the report is saved with the new query and the unchanged form. You can then use Tivoli Decision Support for OS/390 to display the report.

---

**Creating a query for a new report**

Tivoli Decision Support for OS/390 reports are defined using QMF. When you display a report, Tivoli Decision Support for OS/390 runs the QMF query associated with that report. When you create a report, you must create a new QMF query and, optionally, a new QMF form for the report.

To create a QMF query for a new report:

1. From the Reports window, select 1, New.
   
   QMF displays the Prompted Query Tables pop-up [Figure 28].
2. Press F4 to see a list of available tables. QMF displays the Table List pop-up (Figure 29).

![Figure 28. QMF Prompted Query Tables pop-up](image)

3. Select a table from the list and press Enter. QMF returns to the Prompted Query Tables pop-up and displays the name of the table you selected.

4. Press Enter again to insert the table name into the query. Tivoli Decision Support for OS/390 displays the Prompted Query Specify pop-up (Figure 30).

![Figure 29. Table List pop-up](image)
5. Select 2, Columns, from the Specify pop-up. QMF displays the Prompted Query Columns pop-up [Figure 31].

6. Select one or more columns from the pop-up. If you want to include summary functions in the query, select 2, Summary Functions, at the bottom of the pop-up, and press Enter. QMF inserts the columns you selected into the query and displays the Summary Functions pop-up [Figure 32 on page 48].
7. If you are including summary functions in your query, select the type of function you want from the Summary Functions pop-up. QMF displays the Summary Function Items pop-up (Figure 33).

8. Select a summary function from the list and press Enter. QMF inserts the summary function you selected into the query and returns to the Prompted Query Specify pop-up.

9. Select 3, Row conditions, to specify row conditions. QMF displays the Row Conditions pop-up.

10. Follow the screens to specify row conditions, comparison operators, and condition connectors.
You can include variables in place of actual values in your query. This lets you use the same query to produce several reports. In QMF, variables begin with an ampersand (&) and are no longer than 17 characters. For more information about how to specify variables in QMF, refer to the Query Management Facility: Reference or the QMF online help.

When you have finished, QMF inserts the row condition you specified into the query and returns to the Prompted Query Specify pop-up (Figure 34).

You can further refine your query by specifying a sort order and whether to display duplicate rows. For more information about these options, refer to Query Management Facility: Reference or the QMF online help. When you finish making changes to the prompted query, press F12 to leave the Specify pop-up.

11. If you want to see the SQL statement that QMF generates from your prompted query, press F4.

QMF displays the SQL pop-up that contains the SQL statement equivalent to your query (Figure 35).
12. Press F12 to leave the pop-up.

13. Type RUN QUERY or press F2 to run the query from QMF.

If you have variables defined in your query, QMF displays the RUN Command pop-up so that you can provide values for them (Figure 36).

14. Specify values for each variable name and press Enter.

The procedure for specifying variables in QMF differs from the procedure for specifying variables in Tivoli Decision Support for OS/390. QMF does not provide prompted fields nor does it display an operator to indicate how the variable will be applied to the query. Also, QMF requires that you delimit text...
values with single quotes, where Tivoli Decision Support for OS/390 automatically inserts them when necessary. (See “Specifying values for variables” on page 23 for more information about specifying variables in Tivoli Decision Support for OS/390.)

QMF runs the query and displays your report.

15. From the window in which your report is displayed, press F3 to exit. Tivoli Decision Support for OS/390 exits QMF and displays the Report Definition pop-up, which you can complete by following the instructions in “Saving the definition of a new report” on page 55.

**Note:** You need not save the report query or form using the QMF SAVE command before exiting QMF. Tivoli Decision Support for OS/390 saves the query and form automatically after you complete the Report Definition pop-up.

---

### Modifying the form for a new report

You can use QMF to create reports from data stored in the database. After you retrieve data by running a query or displaying a table or view, QMF formats it into a report and displays the report.

If you do not specify a form when you select the data, the report format is based on a default form comprised of values assigned by QMF. You can change the format of your report by changing the values on the form.

To display the form and modify its values, either:
- Press the Form key (F9).
- Type SHOW FORM on the command line and press Enter.

A main form window appears (Figure 37).

---

#### Editing the form

To change the definition of the form, edit the fields in the main form window by doing any of the following:
• Type over the previous values and press Enter.
• Insert a column by placing the cursor in the column above the insert location and pressing Insert (F10).
• Delete a column by placing the cursor in that column and pressing Delete (F11).

Note: The Insert and Delete functions are valid only for the column data fields.

Here is a brief description of the fields in the main form window:

NUM field
Contains a value assigned by QMF to the column order. You cannot change this value on a forms screen. To change the order of the column in your report, rearrange the numbers in the SEQ column.

COLUMN HEADING
Specifies the text that will appear as the column headings. To specify new column headings in your report, type the new headings over the former headings and press Enter. If you want a column heading to appear on two or more lines, type an underscore (_) at the points where you want the heading to split.

For example, if you want the heading LAST YEAR’S FIGURES to appear on three lines with one word on each line, enter:
LAST_YEAR’S FIGURES

USAGE codes
Define how QMF uses column data to produce reports and charts. Some of the functions you can perform with usage code are:
• Exclude a column and its values from your report or chart with the OMIT usage code.
• Display one line of summary data for each set of values in the column with the GROUP usage code.
• Add or perform another aggregate function on data in a column using the SUM or another aggregation usage code.
• Provide summary data across the report using aggregation, GROUP, and ACROSS usage codes.

Refer to Query Management Facility: Reference or the QMF online help for complete descriptions of the usage codes.

INDENT field
Specifies the number of spaces between a column and the column to its left. For the left-most column, the INDENT value is the number of spaces between the column and the left margin.

WIDTH field
Specifies the number of characters used for the column.

EDIT code
Determines the formatting of character, graphic, numeric, and time data for each column. Refer to Query Management Facility: Reference or the QMF online help for complete descriptions of the edit codes.
SEQ field

Specifies the sequence in which the columns are displayed in the report. The initial values in the SEQ field are the same as those in the NUM field. To change a SEQ value, type the new sequence numbers in the SEQ column.

PAGE HEADING and FOOTING

Specifies the text that appears at the top and bottom of each page of the report. You can use global variables (such as &DATE and &PAGE) to specify the text. You can also use Tivoli Decision Support for OS/390 variables, such as &REPORT_TITLE and &REPORT_ID, to specify this text. For more information about how Tivoli Decision Support for OS/390 uses variables in a form, see "Using variables in forms" on page 54.

FINAL TEXT

Specifies text to appear at the end of your report. You can use global variables to specify the text.

BREAK fields

Specifies whether to start a new page at each level-1 or level-2 break. The FOOTING fields located under the BREAK fields let you specify text at the footing of each level of break. To start a new page at a particular break level, type YES in the appropriate BREAK field.

OUTLINE option

Specifies whether to suppress the printing of repeated values that appear in the break control columns. The OUTLINE option applies to breaks of every level.

DEFAULT BREAK TEXT

Specifies whether to display the default break text at each break level. The default break text is a string of asterisks—one (*) for the lowest-level break, two (*) for the second lowest break, and so forth, up to a maximum of six levels. The asterisks are replaced at break levels where you have specified break footing text.

Besides the fields in the main form window, QMF has several other form windows that you can use to tailor the format of your report. You can access these windows from the main form window by pressing F4 (Show). When you press F4, QMF displays a pop-up with a list of possible form windows it can show. To show a different window, type the number in the list that corresponds to the window you want to show. Then press Enter to display the window. Some of the other windows that you can use to change the form are:

Form.page Changes the alignment and text of headings and footings
Form.options Changes options such as the width of the report page, maximum number of columns, and how QMF breaks a page
Form.final Specifies text to be printed at the end of the report

For more information about these windows and how to use them to change the form of a report, refer to Query Management Facility: Reference or the QMF online help.
Using variables in forms

You can use global variables in forms wherever text appears, such as in headings and detail text, or in form calculations. The variables in a form can also be the same as those you used in a query. For example, suppose you have an SQL SELECT statement in your query structured like this:

```
SELECT ...  
FROM ...  
WHERE SYSTEM_ID=&SYSTEM_ID
```

Your report form might have title text like this:

```
System ID: &SYSTEM_ID
```

When you run this report in Tivoli Decision Support for OS/390, the reporting dialog prompts you to specify a value for SYSTEM_ID. The value you specify (for example, MVS1) is used in the query and is also displayed in the report title.

**Note:** If you do not specify a value when prompted for one, Tivoli Decision Support for OS/390 selects all possible values for SYSTEM_ID in the query. It does this by setting the value of SYSTEM_ID to SYSTEM_ID, which has the effect of nullifying the WHERE clause. Although the query runs without a problem, the report title would then be displayed as:

```
System ID: SYSTEM_ID
```

Alternatively, you can specify the report title on the form as:

```
System ID: &1
```

where &1 indicates that the system ID is in the first column of the report. The report then shows the first system ID on the page as part of the title.

Creating and displaying a graphic report

To display a graphic report of the data, press the Chart key (F5). QMF starts GDDM/ICU to display the graphic report using the default chart format.

When GDDM/ICU displays the graphic report, you can print it by pressing F4 (Print). GDDM/ICU displays a print options menu. For more information about printing a chart from GDDM/ICU, refer to the GDDM documentation.

You can also use GDDM/ICU to create or modify a chart format for your report data. For more information about using GDDM/ICU, refer to the GDDM documentation.

When you use QMF to display an existing graphic report (using the Chart function key), the chart format is different than the form that appears when you use Tivoli Decision Support for OS/390 to display the report. The reason for this is that QMF displays the report using the default form, whereas Tivoli Decision Support for OS/390 uses the chart format specified in the report definition. To display a graphic report in QMF using the format defined in the Tivoli Decision Support for OS/390 report definition, use this command:

```
DISPLAY CHART (ICUFORM=chartform
```

where *chartform* is the name of the chart format defined in the report definition. To learn the name of the chart format, select the report in the reports window and then select 2, Open Report Definition, from the Report pull-down. Tivoli Decision Support for OS/390 displays the report definition for the selected report.
Saving the definition of a new report

After you specify the QMF query and form for your new report and exit QMF, Tivoli Decision Support for OS/390 displays the Report Definition pop-up (Figure 38).

1. Complete the entry fields as follows:

   **Report ID**  A unique identifier for this report.

   **Owner**  The owner (in Tivoli Decision Support for OS/390) of the report. You can specify your user ID to make this a private report, or leave the field blank to make the report public.

   **Report description**  A description of the report. This is the text that is displayed when listing reports.

   **Query name**  A unique name for the QMF query. If you leave this field blank, Tivoli Decision Support for OS/390 uses the value of the report ID for the query name.

   **Form name**  A unique name for the QMF form.

   **Chart format**  The chart format used for generating graphic reports. If you leave this field blank, Tivoli Decision Support for OS/390 displays the report in tabular form.

   **Attributes**

   **Note:** If you have modified the default form, you must enter a value in the Form name field or you will lose the changed form.

Figure 38. Report Definition pop-up—saving a QMF report
The format name can be a chart format that you have saved in GDDM/ICU or one of these GDDM/ICU formats supplied with QMF: bar, histogram, line, pie, polar, tower, surface, or table.

**Attributes**

One or more attributes that you want to assign to your report. You can use these attributes later to search for this report and categorize it with other reports that share the same attributes. With the cursor on the Attributes field, press F4 to see a list of all available report attributes, from which you can select one or more for your report. You can add new attributes by typing them in the Attributes field.

2. If you want to associate remarks with the report, press F6.
   Tivoli Decision Support for OS/390 displays the Report Remarks pop-up. Type remarks in the space and press Enter to return to the Report Definition pop-up.

3. If you want to use the Tivoli Decision Support for OS/390 batch reporting utility to generate this report, press F11.
   Tivoli Decision Support for OS/390 displays the Batch Settings pop-up. See “Changing the batch settings for a report” on page 81 for information about using the batch reporting utility and the Batch Settings pop-up.
   Type batch selections in the appropriate fields in the Batch Settings pop-up. When you have completed all of the fields, press Enter to return to the Report Definition pop-up.

4. When you have finished defining the report, press Enter.
   Tivoli Decision Support for OS/390 saves the report definition and returns to the Reports window.
Chapter 7. Creating a new report with the report generator

The Tivoli Decision Support for OS/390 components installed on your system contain several predefined reports. Although these reports present the information in the Tivoli Decision Support for OS/390 database in several useful ways, you might have a specific need for which you must create your own report. This chapter explains how to create a new report.

Note: Reports can be created using the reporting dialog’s built-in report generator or QMF, if your installation uses QMF with Tivoli Decision Support for OS/390. This chapter describes how to create reports using Tivoli Decision Support for OS/390’s own report generator. For information on how to create reports using QMF, refer to Chapter 6, “Creating a new report using QMF”, on page 43.

After reading this chapter, you should be familiar with these tasks:
• Creating and saving a new report definition
• Using an existing report as a template for a new report
• Creating a query for a new report
• Creating and modifying a form for a new report
• Adding page headers and footers to a report

Using SQL to work with queries

Tivoli Decision Support for OS/390 queries are written in SQL, so you must be familiar with SQL to define new reports or modify the reports provided with Tivoli Decision Support for OS/390.

This chapter uses simple examples to show you how to create or change an SQL query for a report. For more information about SQL, refer to DATABASE 2 SQL Learner’s Guide or DATABASE 2 SQL Reference.

Note: The Tivoli Decision Support for OS/390 SQL parser is not as sophisticated as a DB2 interactive interface. You should therefore avoid complex queries.

Using an existing report as a template for a new report

The quickest way to create a new report is to base its query and form on an existing report that is similar to the report you need. Using an existing report as a template, you can use the reporting dialog to create a new report.3

Example:

Assume that you want to create a report that is similar to Sample Report 3, which is shipped with Tivoli Decision Support for OS/390 (see Figure 56 on page 80).

3. Some of Tivoli Decision Support for OS/390’s predefined reports have one column more on the form than in the query. If you run Tivoli Decision Support for OS/390 without QMF, and use any of these reports as a template, you must remove the extra column from the form: DB209, DFSMS05, DFSMS06, DFSMS07, DFSMS13, NWSM02, NWSM09, NWSM10, NWSM11, NWSM17, and NWSM18. (For information about changing the form, see “Modifying the form for a report” on page 71).
Instead of showing the number of CPU seconds used per department, you want to show the number of pages printed by each department during a certain time period.

**Creating a report definition using a template**

To create a report using an existing report as a template:

1. From the Reports window, select the report you want to use as a template.
   
   **Example:**
   
   In our example, find Sample Report 3 by typing `lo samp` on the command line and pressing Enter, then select it.
   
   Select 1, New, from the Reports pull-down.
   
   Tivoli Decision Support for OS/390 displays the Report Definition pop-up.
   
   **Example:**
   
   When creating a new report based on an existing report, you could fill in the fields as in Figure 39.

2. Complete the entry fields as follows:

   **Report ID**
   A unique identifier for this report.

   **Owner**
   The owner (in Tivoli Decision Support for OS/390) of the report. You can specify your user ID to make this a private report or leave the field blank to make the report public.

   **Report description**
   A description of the report. This is the text that is displayed when listing reports. When you base a new report on an existing report, it is important that you change the report description.

   **Chart format**
   The chart format used for generating graphic reports. If you leave this field blank, Tivoli Decision Support for OS/390 displays the report in tabular form.

---

Figure 39. Report Definition pop-up—changing a report with Tivoli Decision Support for OS/390’s report generator
The format name can be a chart format that you have saved in GDDM/ICU or one of these GDDM/ICU formats: bar, histogram, line, pie, polar, tower, surface, or table.

Attributes

One or more attributes that you want to assign to your report. You can use these attributes later to search for this report and categorize it with other reports that share the same attributes. With the cursor on the Attributes field, press F4 to see a list of all available report attributes from which you can select one or more for your report. You can add new attributes by typing them in the Attributes field.

3. If you want to associate remarks with the report, press F6. Tivoli Decision Support for OS/390 displays the Report Remarks pop-up. Type remarks in the space, and press Enter to return to the Report Definition pop-up.

4. If you want to add header or footer lines to the report, press F10. See “Adding page headers and footers to a report” on page 77 for information about using the Report Headers and Footers pop-up.

5. If you want to use the batch reporting utility to generate this report, press F11. Tivoli Decision Support for OS/390 displays the Batch Settings pop-up. See “Changing the batch settings for a report” on page 81 for information about using the batch reporting utility and the Batch Settings pop-up.

Type batch selections in the fields in the Batch Settings pop-up. When you have completed all the fields, press Enter to return to the Report Definition pop-up.

6. When you have finished defining the report, you can:
   • Press F5, Query/Fm, to define the SQL query and a form for the new report. See “Changing the SQL query and the form”.
   • Press Enter to save the report definition and return to the Reports window.

Changing the SQL query and the form

When you press F5, Query/Fm, on the Report Definition pop-up, the SQL Query pop-up for the report is shown.

Example:

If you are basing your new report on Sample Report 3, the SQL query looks like the example in Figure 40 on page 60.
Example:

This query selects the system ID, department name, and CPU seconds used from the sample table SAMPLE_M. (For an overview of the sample reports and tables, refer to *Administration Guide*.) The SUM in `SUM(CPU_SECONDS)` is a column function, which causes the sum of a collection of CPU SECONDS values to be shown.

The WHERE clause in the query limits the data shown to a certain time period and a certain system. `&FROM_MONTH`, `&TO_MONTH`, and `&SYSTEM_ID` are variables. Variables are used to make the query more flexible. When the report is run, you will be prompted to enter values for these variables to specify which system and time period you want to include in the report. Variables are preceded by an ampersand (&) and can be 18 characters, including the ampersand.

The GROUP BY and ORDER BY clauses affect the formatting of the report. The data on the report is grouped by system ID and department name and ordered by CPU seconds used per department, in descending order.

1. You can edit the query on this window or go into ISPF Edit. If you want to use ISPF Edit to edit the query, press F10 or type `EDIT` on the command line. In ISPF Edit, you can use line commands when changing the query. When you have finished editing the query, press F3 to return to the SQL Query pop-up.

You can add comments to the query, for example to explain your modifications. Start each comment line with two dashes (`--`). Comments are not shown in the report.

Example:

To make the report show the number of pages printed per department instead of the number of CPU seconds used, go to the first line of the report, the SELECT clause, and change `SUM(CPU_SECONDS)` to `SUM(PAGES_PRINTED)`.

2. When you have changed the query, you can press F2 to see the result of your changes. To run the report from the SQL Query pop-up, you must substitute any variables in the query with actual values.

The result of the query is displayed in tabular form.
Example:

In this example, you would need to enter values for &FROM_MONTH, &TO_MONTH, and &SYSTEM_ID.

3. When you change a query, you must also change the form that is associated with it. The form determines the layout of the report. (For more information about the report form, see “Modifying the form for a report” on page 71.) Press F9 to go to the Form for Report report name pop-up.

Example:

In our example, the form is as shown in Figure 41.

```
FORM.MAIN DRLQ.DRLFD213

COLUMNS: Total Width of Report Columns: 52
NUM COLUMN HEADING USAGE INDENT WIDTH EDIT SEQ
--- -------------- ------- ------ ----- ---- ---
1 Profile 0 12 C 1
2 Elapsed_DB2_time OMIT 1 7 P2 2
3 DB2_TCB_time 1 7 P2 3
4 I/O_wait_time 1 7 P2 4
5 Lock_latch_time 1 7 P2 5

PAGE: HEADING ===> &REPORT_TITLE
       FOOTING ===> &PRODUCT_NAME: &REPORT_ID
FINAL: TEXT ===> ""
BREAK1: NEW PAGE FOR BREAK? ===> NO
       FOOTING ===> ""
BREAK2: NEW PAGE FOR BREAK? ===> NO
       FOOTING ===> ""
OPTIONS: OUTLINE? ===> YES DEFAULT BREAK TEXT? ===> NO

1=Help 2=Check 3=Check 4=Show 5=Chart 6=Query
7=Backward 8=Forward 9= 10=Insert 11=Delete 12=Report
OK, FORM is displayed.
COMMAND ===> _ SCROLL ===> PAGE
```

Figure 41. Report form definition pop up

Example:

You must change the column heading CPU_seconds to, for example, Pages_printed. In this example, no more changes to the form are needed.

4. When you have changed the form, you can press F2 to save the current report definition and display the report. If the query contains variables, you will be prompted for values for these variables on the Data Selection pop-up.

When you have specified values for the variables, you can press Enter to display the report. You can also press F4 to display the report in tabular form, or F5 to display the report as a chart. If the report does not have a chart format defined in the report description, the default format, bar chart, is used.

Example:

Press Enter on the Data Selection pop-up to display the report as a chart. Tivoli Decision Support for OS/390 calls GDDM to display the report. Press F9 to leave GDDM when you have finished viewing the report. The tabular version of the report is displayed. Press F3 to return to the Form for Report report name pop-up.

5. When you have finished working with the form, press Enter to save it. Then press Enter to save the query.
On the Report Definition pop-up, you can press F10 to add or change header or footer lines for the report. For more information about header and footer lines, see “Adding page headers and footers to a report” on page 77.

When you have finished working with the report, press Enter to save the report definition. Your report is included in the list of reports, and can be selected and displayed.

**Example:**

The report now shows the number of pages printed per department with the department that printed the most pages at the top of the report. It might look like Figure 42.

---

**Creating a query and form for a new report**

You create a new report in Tivoli Decision Support for OS/390 by creating an SQL query to extract the information you want from the database. There is a form specifying the layout of the report connected to the query. By changing the form you can, for example, change the width of the columns and the column heading texts.

**Example:**

Assume that you want to create a tabular report that looks like the example in Figure 43 on page 63 showing the number of transactions and pages printed for a number of users in different departments. (Only the first page of the report is shown here. In the dialog you can page forward with F8.)
Creating a new report definition without using a template

To create a report definition for a new report without using a template:

1. Select 1, New, from the Reports pull-down.
   Tivoli Decision Support for OS/390 displays the Report Definition pop-up.

Example:

When creating a new report, you could fill in the fields as in Figure 46 on page 66.

2. Complete the entry fields as follows:

   Figure 43. An example of a tabular report

   ![An Example of a New Report](image)

<table>
<thead>
<tr>
<th>Date</th>
<th>Department</th>
<th>User ID</th>
<th>Transactions</th>
<th>Pages printed</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000-01-01</td>
<td>Appl Dev</td>
<td>ADAMS</td>
<td>1109</td>
<td>821</td>
</tr>
<tr>
<td></td>
<td></td>
<td>JONES</td>
<td>1138</td>
<td>1055</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SMITH</td>
<td>870</td>
<td>864</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>* 3117 2740</td>
</tr>
<tr>
<td>Finance</td>
<td>GEYER</td>
<td>509</td>
<td>529</td>
<td></td>
</tr>
<tr>
<td></td>
<td>HAAS</td>
<td>786</td>
<td>648</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PARKER</td>
<td>462</td>
<td>704</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SPENCER</td>
<td>800</td>
<td>640</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>* 2557 2521</td>
<td></td>
</tr>
<tr>
<td>Manufact</td>
<td>LEE</td>
<td>1197</td>
<td>1086</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LUTZ</td>
<td>606</td>
<td>623</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MEHTA</td>
<td>968</td>
<td>748</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PULASKI</td>
<td>716</td>
<td>738</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>* 3487 3195</td>
<td></td>
</tr>
</tbody>
</table>

Figure 44. Report Definition pop-up—defining a new report with Tivoli Decision Support for OS/390’s report generator

   ![Report Definition](image)
Report ID
A unique identifier for this report.

Owner
The owner (in Tivoli Decision Support for OS/390) of the report. You can specify your user ID to make this a private report or leave the field blank to make the report public.

Report description
A description of the report. This is the text that is displayed when listing reports.

Query name
The name of the SQL query used to extract the data you want displayed.

Form name
The name of the form definition file used to define the presentation of the data.

Chart format
The chart format used for generating graphic reports. If you leave this field blank, Tivoli Decision Support for OS/390 displays the report in tabular form.

The format name can be a chart format that you have saved in GDDM/ICU, or one of these GDDM/ICU formats: bar, histogram, line, pie, polar, tower, surface, or table.

Attributes
One or more attributes that you want to assign to your report. You can use these attributes later to search for this report and categorize it with other reports that share the same attributes. With the cursor on the Attributes field, press F4 to see a list of all available report attributes from which you can select one or more for your report. You can add new attributes by typing them in the Attributes field.

3. If you want to associate remarks with the report, press F6.
Tivoli Decision Support for OS/390 displays the Report Remarks pop-up. Type remarks in the space, and press Enter to return to the Report Definition pop-up.

4. If you want to use the batch reporting utility to generate this report, press F11.
Tivoli Decision Support for OS/390 displays the Batch Settings pop-up. See "Changing the batch settings for a report" on page 81 for information about using the batch reporting utility and the Batch Settings pop-up.

Type batch selections in the fields in the Batch Settings pop-up. When you have completed all the fields, press Enter to return to the Report Definition pop-up.

5. If you want to add header or footer lines to the report, press F5, Query/Fm.
See "Adding page headers and footers to a report" on page 77 for information about using the Report Header and Footer pop-up.

6. When you have finished defining the report, you can:
   - Press F5, Query/Fm, to define the SQL query and, optionally, a form for the new report. See "Creating a new SQL query and a form" on page 65
   - Press Enter to save the report definition and return to the Reports window.
Creating a new SQL query and a form

When you press F5, Query/Fm in the Report Definition pop-up, the SQL Query pop-up (Figure 45) is shown.

An SQL query is used to find information in tables to display it in a report. The SQL language uses normal English words to do this. Some commonly used clauses in a query are:

SELECT
You select columns in the order you want them to appear in the report (for example, user ID, system ID).

FROM
You select the columns from one or more tables.

WHERE
You select the rows (in the columns) for which a certain condition is true.

ORDER BY
You can order the rows in the columns in a certain order. For example, you can order the rows of a column in alphabetical order by name.

SORT BY
You can sort the rows in the columns in ascending or descending order.

GROUP BY
You can group the rows in the columns.

For more information about SQL, refer to DATABASE 2 SQL Learner’s Guide or DATABASE 2 SQL Reference

1. Write the query in the SQL Query pop-up.
   If you want to delete the entire query and start again, type CLEAR on the command line on the SQL Query pop-up.
   If you know the names of the table and columns you want to use, you can start typing the query. Otherwise, Tivoli Decision Support for OS/390 will help you find out which tables and columns to use.

2. To see a list of tables available on your system, press F5.
Tivoli Decision Support for OS/390 displays the Tables pop-up (Figure 46).

<table>
<thead>
<tr>
<th>Tables</th>
<th>Prefix</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAMPLE_H</td>
<td>DRL</td>
<td>TABLE</td>
</tr>
<tr>
<td>SAMPLE_M</td>
<td>DRL</td>
<td>TABLE</td>
</tr>
<tr>
<td>SAMPLE_USER</td>
<td>DRL</td>
<td>TABLE</td>
</tr>
<tr>
<td>SCHEDULE</td>
<td>DRLSYS</td>
<td>TABLE</td>
</tr>
<tr>
<td>SPECIAL_DAY</td>
<td>DRLSYS</td>
<td>TABLE</td>
</tr>
<tr>
<td>USER_GROUP</td>
<td>DRL</td>
<td>TABLE</td>
</tr>
<tr>
<td>VMACCT_SESSION_D</td>
<td>DRL</td>
<td>TABLE</td>
</tr>
<tr>
<td>VMACCT_SESSION_M</td>
<td>DRL</td>
<td>TABLE</td>
</tr>
<tr>
<td>VMPARM</td>
<td>DRL</td>
<td>TABLE</td>
</tr>
<tr>
<td>VMPRF_CONFIG_T</td>
<td>DRL</td>
<td>TABLE</td>
</tr>
<tr>
<td>VMPRF_DASD_D</td>
<td>DRL</td>
<td>TABLE</td>
</tr>
<tr>
<td>VMPRF_DASD_H</td>
<td>DRL</td>
<td>TABLE</td>
</tr>
<tr>
<td>VMPRF_DASD_M</td>
<td>DRL</td>
<td>TABLE</td>
</tr>
<tr>
<td>VMPRF_PROCESSOR_D</td>
<td>DRL</td>
<td>TABLE</td>
</tr>
</tbody>
</table>

If you want to see information about the table, you can type a question mark (?) beside the table, and press Enter. Tivoli Decision Support for OS/390 goes into Bookmarker and displays information about the table from the relevant online book. Press F3 to return to the table list.

3. Select one or more tables, and press Enter.

Example:

For this example, select the SAMPLE_M table. To locate it, type `lo samp` on the command line and press Enter.

Tivoli Decision Support for OS/390 displays the Columns of Selected Tables pop-up. If you need information about a column, you can type a question mark (?) beside the column, and press Enter. Tivoli Decision Support for OS/390 goes into Bookmanager and displays information about the column and table from the relevant online book. Press F3 to return to the column list (Figure 47 on page 67).
4. Select the columns you want to use, and press Enter.

   **Example:**
   For this example, select the `DATE`, `DEPARTMENT_NAME`, `USER_ID`, `TRANSACTIONS`, and `PAGES_PRINTED` columns, and press Enter. (A confirmation pop-up might appear, asking you to confirm that you want to replace the existing query definition. Press Enter.)
   
   The table and column names are copied to your SQL Query pop-up, and SQL `SELECT` and `FROM` clauses are added (see Figure 47).

   **Example:**
   In our example, DRL is the table prefix; it might be something else in your installation. The prefix is shown in the Prefix for all other tables field on the Dialog Parameters window.

```
--- NEWREPORT

SELECT DATE, DEPARTMENT_NAME, USER_ID, TRANSACTIONS, PAGES_PRINTED
FROM DRL.SAMPLE_M
```

**Figure 47. Tivoli Decision Support for OS/390 Columns of Selected Tables pop-up**

---

**Figure 48. SQL Query pop-up—table and columns selected**
**Note:** If you know the name of the table you want to use, but are unsure about the column names, you can enter the name of the table in your SELECT statement, and press F6 to see a list of the columns included in that table.

If you have selected a table from the Tables pop-up and want to use another table, you must go back to the Tables pop-up and:

- Select a new table, or
- Press F12 (Cancel) from the Tables pop-up without selecting a table, and enter a new table name in the query

5. Edit the query, to add more clauses.

**Example:**

In our example, we want to show the sum of transactions and pages printed for each user. Press F10 to go into Edit mode, and change the query so that it looks like this:

```sql
SELECT DATE, DEPARTMENT_NAME, USER_ID,
SUM(TRANSACTIONS),
SUM(PAGES_PRINTED)
FROM DRL.SAMPLE_M
```

Press F3 to leave Edit mode.

6. You can specify conditions for the rows to use with a WHERE condition. You can use variables in this condition to make the query more flexible. Variables are preceded by an ampersand (&), and can be 18 characters, including the ampersand. When the report is run, the Data Selection pop-up is displayed, and you can specify values for the variables.

**Example**

In our example, no WHERE condition is needed. An example of a query with a WHERE condition is shown in Figure 40 on page 60.

7. Select the order in which the information should be shown with an ORDER BY condition, or specify a GROUP BY condition.

**Example:**

In our example, we must group the date, department name, and user ID columns. We will also order the date (column 1), department name (column 2), and user ID (column 3) columns in ascending order. Add these clauses to the query:

```sql
GROUP BY DATE, DEPARTMENT_NAME, USER_ID
ORDER BY 1 ASC, 2 ASC, 3 ASC
```

8. Press F4 to run the query to verify that the report contains the information you want.

**Notes:**

a. If the query contains variables, you must replace those variables with values before you can run the query.

b. If you get an SQL error message when you try to run the query, there is probably something wrong with the query’s syntax. A column name might be misspelled, or a comma might be missing.

**Example:**
The report you see after pressing F4 could look like the example in Figure 49. (Only the first page of the report is shown here. In the dialog you can page forward with F8.)

<table>
<thead>
<tr>
<th>DATE</th>
<th>DEPARTMENT</th>
<th>USER NAME</th>
<th>ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000-01-01</td>
<td>Appl Dev</td>
<td>ADAMS</td>
<td>1109</td>
</tr>
<tr>
<td>2000-01-01</td>
<td>Appl Dev</td>
<td>JONES</td>
<td>1138</td>
</tr>
<tr>
<td>2000-01-01</td>
<td>Finance</td>
<td>Geyer</td>
<td>509</td>
</tr>
<tr>
<td>2000-01-01</td>
<td>Finance</td>
<td>HAAS</td>
<td>786</td>
</tr>
<tr>
<td>2000-01-01</td>
<td>Finance</td>
<td>PARKER</td>
<td>462</td>
</tr>
<tr>
<td>2000-01-01</td>
<td>Finance</td>
<td>SPENCER</td>
<td>800</td>
</tr>
<tr>
<td>2000-01-01</td>
<td>Manufact</td>
<td>LEE</td>
<td>1197</td>
</tr>
<tr>
<td>2000-01-01</td>
<td>Manufact</td>
<td>LUTZ</td>
<td>606</td>
</tr>
<tr>
<td>2000-01-01</td>
<td>Manufact</td>
<td>MEHTA</td>
<td>968</td>
</tr>
<tr>
<td>2000-01-01</td>
<td>Manufact</td>
<td>PULASKI</td>
<td>716</td>
</tr>
<tr>
<td>2000-01-01</td>
<td>Marketing</td>
<td>KWON</td>
<td>637</td>
</tr>
<tr>
<td>2000-01-01</td>
<td>Marketing</td>
<td>STERN</td>
<td>474</td>
</tr>
<tr>
<td>2000-01-01</td>
<td>Retail</td>
<td>GOUNOT</td>
<td>798</td>
</tr>
<tr>
<td>2000-01-01</td>
<td>Retail</td>
<td>MARINO</td>
<td>653</td>
</tr>
<tr>
<td>2000-01-01</td>
<td>Retail</td>
<td>PEREZ</td>
<td>716</td>
</tr>
<tr>
<td>2000-01-01</td>
<td>Sys Supp</td>
<td>PIANKA</td>
<td>770</td>
</tr>
<tr>
<td>2000-01-01</td>
<td>Sys Supp</td>
<td>THOMPSON</td>
<td>509</td>
</tr>
<tr>
<td>2000-02-01</td>
<td>Appl Dev</td>
<td>ADAMS</td>
<td>422</td>
</tr>
<tr>
<td>2000-02-01</td>
<td>Appl Dev</td>
<td>JONES</td>
<td>893</td>
</tr>
<tr>
<td>2000-02-01</td>
<td>Appl Dev</td>
<td>SMITH</td>
<td>842</td>
</tr>
<tr>
<td>2000-02-01</td>
<td>Finance</td>
<td>Geyer</td>
<td>379</td>
</tr>
<tr>
<td>2000-02-01</td>
<td>Finance</td>
<td>HAAS</td>
<td>674</td>
</tr>
</tbody>
</table>

... 

Figure 49. An intermediate report shown with F4 (Run)

Tivoli Decision Support for OS/390 displays the results of the query. Press F3 to go back to the SQL Query pop-up. Modify the query if necessary, and press F4 again to check the results.

You can add comments to the query, for example to explain your modifications. Start each comment line with two dashes (—). Comments are not shown in the report.

9. When you are satisfied with the contents of the query, you can change the layout of the report. Press F11 to go to the Form for Report report name pop-up.

Example:

The Form for Report NEWREPORT pop-up is shown. (For a new report, you might need to press F5 to build the form from the query.) The resulting form could look like the example in Figure 50 on page 70.
Example:

- First of all, you must add column headings for columns four and five. Move the cursor to the empty line after column three, and type Transactions. Type Pages_printed on line five. (The underscore (_) will make Pages printed appear on two lines.)

If you run the report using F4, you will notice that some headings are uppercase and some are lowercase. Also, some headings are truncated because they are too long. To solve this, you can either add an underscore to break the heading into two lines, or increase the width of the column.
  - Change the width of the transactions column to 12 instead of 11.
  - Change the heading DEPARTMENT_NAME to Depart- _ment, and press F4 again.
  - Change other headings from uppercase to lowercase if needed.

- Break the report into sections to make the information more readable. You can also summarize data for each section. You do this with usage codes. (For a full description of the usage codes available, see “Usage codes on page 73.”) Fill in the usage code columns as shown in the example in Figure 51 on page 71.
Example:

With these usage codes, the date and department names are shown only once instead of being repeated. The transactions and pages printed columns are summarized for each department and time period.

- When you have finished working with the form, press Enter to save it. Then press Enter to save the query.

On the Report Definition pop-up, you can press F10 to add header and footer lines to your report. For more information about adding header and footer lines, see “Adding page headers and footers to a report” on page 77.

When you have finished working with the report, press Enter to save the report definition. Your report is included in the list of reports, and can be selected and displayed.

Modifying the form for a report

After you retrieve data by running a query, it is formatted into a report and displayed.

You can change the format of your report by changing the values on the form. If you change the query by, for example, adding or deleting columns, you must change the form so that the number of columns in the query matches the number of columns on the form. The columns must also be in the same order in the query as on the form.

To display the form and modify its values, you press the Form key (F11) on the SQL Query pop-up. Tivoli Decision Support for OS/390 shows the Form for report report name pop-up [Figure 52 on page 72].
These function keys are available:

**F2**  Use Check to verify that the form definitions are correct.

**F4**  Use Show to display forms.

**F5**  Use Chart to display the report in the form of a chart.

**F6**  Use Query to display queries.

**F10**  Use Insert to insert lines in the column list.

**F11**  Use Delete to delete lines from the column list.

**F12**  Use Report to display reports.

You can also type CLEAR on the command line to remove all input from the Form window.

### Editing the form

To change the definition of the form, edit the fields on the form pop-up. You can:

- Type over the previous values, and press Enter.
- Insert a column by placing the cursor in the column above the insert location and pressing Insert (F10).
- Delete a column by placing the cursor in that column and pressing Delete (F11).

Here is a brief description of the fields on this pop-up:

**Final text**  If you have specified that you want a final summary line, you can add text that will appear to the left of the first column summarized. The text is left-justified, and truncated if it does not fit. You
can use global variables in the text, provided that the same variables are used in the query.

**Num field**

Shows the column order for tabular reports as defined in the query. The number of columns and the order of the columns on the form must be the same as in the query. To change the order of the columns in your report, change the order of the columns in the query.

**Column heading**

Specifies the text that will appear as column headings. To specify new column headings for your report, type the new headings over the existing headings, and press Enter. If you want a column heading to appear on two or more lines, type an underscore (_) at the points where you want the heading to split.

For example, if you want the heading RESPONSE TIME to appear on two lines with one word on each line, type:

```
RESPONSE_TIME
```

**Usage codes**

Usage codes define how column data is used to produce reports and charts. You can, for example, break a report into smaller sections with BREAK usage codes. For more information about usage codes, see “Usage codes”.

**Indent**

Specifies the number of characters used to indent the column.

**Width field**

Specifies the number of characters used for the column. When specifying the width, take into account if the data contains a minus sign, decimal or thousands separators, or a percent sign.

**Edit codes**

Edit codes determine the formatting of character, graphic, numeric, and time data for each column. For more information about edit codes, see “Edit codes” on page 76.

**Seq**

Specifies the order in which the columns appear (the sequence).

### Usage codes

Usage codes define how column data should be used to produce reports and charts. If, for example, you do not want a column to be included at all, you use the OMIT usage code. If you select to show or print a column as it is, the usage code is blank.

Some usage codes let you decide how a column should be formatted. Others let you perform calculations. They are called *aggregation* usage codes.

You can, for example:

- Add or perform another aggregate function on data in a column using the SUM or another aggregation usage code.
- Provide summary data across the report using aggregation, GROUP, and ACROSS usage codes.
These usage codes are supported in Tivoli Decision Support for OS/390’s built-in report generator:

**ACROSS**

Use the ACROSS usage code to display data horizontally for one of the columns in your report. When you use ACROSS for one column, you must use GROUP for one or more of the other columns. For the remaining columns, you can use the OMIT usage code. In that case, the summary line for each group value can contain several sets of results from the columns that use aggregations. There is one set for each group of values in the column that uses ACROSS.

A report can have only one column with the ACROSS usage code. If you specify more than one ACROSS column, you will get an error message.

**Example:**

Sample report 1 uses the ACROSS usage code for the Department_name column. (See Figure 53 on page 78 and Figure 54 on page 79.)

MVS52, MVS Number of Jobs with Tape Mounts, Daily Trend, is another example of a report with an ACROSS usage code.

**BREAKn**

Use break usage codes to divide the information in your report into smaller sections, to make the report easier to read and understand. There are six levels of break codes (n=1-6) that provide columns for different levels of breaks. Any change in the value of the column causes a break; subtotals are displayed for columns whose usage is one of the aggregation usages.

You can use each break level only once in a report, and the break levels must come in sequence (that is, you can specify BREAK1 and BREAK2, but you cannot specify BREAK1 and BREAK3).

To be able to show breaks in a meaningful way in a report, the SQL query must contain an ORDER BY clause for the column or columns for which you specify BREAKn.

**Example:**

Sample Report 2 uses BREAK usage codes for the Month_start_date and Department_name columns. (See Figure 55 on page 79.)

MVS53, MVS Jobs Statistics by Period and User Group, Daily, is another example of a report with BREAK usage codes.

**GROUP**

Use the GROUP usage code to display one line of summary data for each set of values in the column. The summary line can display only values that are the same for each member of the group, such as
the value in a control column or the results of columns whose usage is an aggregation code.

Note that blank usage codes cannot be used with GROUP usage codes.

To be able to present reports with GROUP usage codes in a meaningful way, the SQL query must use an ORDER BY clause for the column or columns for which you specify GROUP.

Example:

Sample report 1 uses the GROUP usage code for the Time column. (See Figure 53 on page 78 and Figure 54 on page 79.) MVS52, MVS Number of Jobs with Tape Mounts, Daily Trend, is another example of a report with a GROUP usage code.

If no usage code is given, the column is displayed without any aggregation or summary. This usage code cannot be used with the GROUP usage code.

The following usage codes are aggregation usage codes:

**SUM** The sum of the values in the column. The data in the column must be numeric.

**AVERAGE** The average of the values in the column. The data in the column must be numeric.

**MAXIMUM** The greatest value in the column. The data in the column must be numeric.

**MINIMUM** The smallest value in the column. The data in the column must be numeric.

**FIRST** The first value in the column. The data in the column can be numeric or character (edit code C) data.

**LAST** The last value in the column. The data in the column can be numeric or character (edit code C) data.

**COUNT** The number of values in the column. The data in the column can be numeric or character (edit code C) data.

**TPCT** The percentage each value is of the column total. This aggregation usage code replaces the data value with a calculation. The data in the column must be numeric.

**Example:**

Sample Report 2 (Figure 55 on page 79) is an example of a report that uses aggregation usage codes. The form for Sample Report 2 is shown in Figure 52 on page 72.
Edit codes

Edit codes determine the formatting of character, graphic, numeric, and time data for each column. You can use the edit codes listed below in Tivoli Decision Support for OS/390's built-in report generator. n defines the number of decimal places after the decimal separator, if applicable. n can be 0. If n is omitted, it is assumed to be 0.

- **E**: Displays the numbers in exponential (scientific) notation.
- **In**: Displays the numbers with any decimal places, negative sign, and leading zeros, but no thousands separators.
- **Jn**: Displays the numbers with any decimal places and leading zeros, but no negative sign or thousands separators.
- **Kn**: Displays the numbers with any decimal places, negative sign, and thousands separators, but no leading zeros.
- **Ln**: Displays the numbers with any decimal places and leading zeros, but no negative sign or thousands separators.
- **Pn**: Displays the numbers with a percent sign, any decimal places, negative sign, thousands separators, but no leading zeros.
- **C**: Displays the numbers as character data, without thousands separators or decimal places.

Other QMF edit codes used in the predefined reports, such as edit codes for DATE, or TIME, will be interpreted as edit code C, character data. If you are basing a new report on a predefined report, you must replace such edit codes with edit code C.

The table below shows examples of how edit codes affect the formatting of values. For example, if the number -1234567.885 is written to a column with the width 15, this is the effect of the edit codes:

<table>
<thead>
<tr>
<th>Edit code</th>
<th>Result</th>
<th>Leading zeros</th>
<th>Negative sign</th>
<th>Thousands separator</th>
<th>Percent sign</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>-1.23456789E+06</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>I2</td>
<td>-000001234567.89</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>J2</td>
<td>000001234567.89</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>K2</td>
<td>-1,234,567.89</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>L2</td>
<td>-1234567.89</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>P2</td>
<td>-1234567.89%</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Displaying a graphic report from the Form for Report pop-up

To display a graphic report from the Form for Report report name pop-up, press F4. Tivoli Decision Support for OS/390 displays the Data Selection pop-up. Specify values for variables, and press Enter. Tivoli Decision Support for OS/390 starts GDDM/ICU to display the graphic report. (If GDDM/ICU is not installed on your system, all reports are shown in tabular format.) The chart format specified in the report description is used when displaying the report. If you press F6 (Chart) on the Data Selection pop-up to display a tabular report as a chart, the default chart format, bar chart, is used.
When GDDM/ICU displays the graphic report, you can print it by pressing F4 (Print). GDDM/ICU displays a print options menu. For more information about printing a chart from GDDM/ICU, refer to the GDDM documentation.

You can also use GDDM/ICU to create or modify a chart format for your report data. For more information about using GDDM/ICU, refer to the GDDM documentation.

### Adding page headers and footers to a report

You can add up to four lines of text to be displayed and printed at the top of your reports, and up to four lines to be displayed and printed at the bottom of tabular reports. You can use variables that are defined in the query or these special variables:

- **&REPORT_TITLE** substituted with the defined report description
- **&REPORT_ID** substituted with the report name
- **&PRODUCT_NAME** substituted with the words Tivoli Decision Support for OS/390 Report

The variables will be substituted with values when the report is run.

Header lines are displayed and printed at the top of each page of a report. Footer lines are displayed and printed at the bottom of each page of a tabular report. Footer lines are not used on graphic reports.

To define header or footer lines for your report:

1. From the Report Definition pop-up, press F5 Query/Fm then F9 Form. The report form definition pop-up appears.
2. Type in header and footer information in the PAGE: HEADING and PAGE: FOOTING fields.
3. Press Enter to save the header and footer texts and return to the report description.
Sample reports

The Sample Component, shipped with Tivoli Decision Support for OS/390, contains sample reports. For a description of the Sample Component, refer to the Administration Guide.

Figure 53 shows the chart version of Sample Report 1.
**Figure 54.** shows the tabular version of Sample Report 1.

### Sample Report 1

<---------------------------Department name--------------------------->

<table>
<thead>
<tr>
<th>Time</th>
<th>Appl Dev</th>
<th>Finance</th>
<th>Manufacturing</th>
<th>Marketing</th>
<th>Retail</th>
<th>SyS Supp</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CPU seconds</td>
<td>CPU seconds</td>
<td>CPU seconds</td>
<td>CPU seconds</td>
<td>CPU seconds</td>
<td>CPU seconds</td>
<td>CPU seconds</td>
</tr>
<tr>
<td>07.00</td>
<td>70.45</td>
<td>37.94</td>
<td>59.64</td>
<td>34.55</td>
<td>36.94</td>
<td>33.67</td>
<td>275.19</td>
</tr>
<tr>
<td>08.00</td>
<td>211.18</td>
<td>134.12</td>
<td>137.35</td>
<td>66.45</td>
<td>105.73</td>
<td>84.02</td>
<td>738.85</td>
</tr>
<tr>
<td>09.00</td>
<td>114.02</td>
<td>205.97</td>
<td>267.25</td>
<td>87.63</td>
<td>105.80</td>
<td>38.65</td>
<td>619.32</td>
</tr>
<tr>
<td>10.00</td>
<td>217.00</td>
<td>254.56</td>
<td>233.83</td>
<td>129.98</td>
<td>243.34</td>
<td>123.26</td>
<td>1201.97</td>
</tr>
<tr>
<td>11.00</td>
<td>178.85</td>
<td>107.87</td>
<td>234.51</td>
<td>163.52</td>
<td>204.87</td>
<td>100.02</td>
<td>989.64</td>
</tr>
<tr>
<td>12.00</td>
<td>38.74</td>
<td>68.49</td>
<td>36.60</td>
<td>16.74</td>
<td>51.48</td>
<td>39.54</td>
<td>251.59</td>
</tr>
<tr>
<td>13.00</td>
<td>165.48</td>
<td>156.54</td>
<td>185.19</td>
<td>65.45</td>
<td>175.58</td>
<td>76.02</td>
<td>824.26</td>
</tr>
<tr>
<td>14.00</td>
<td>204.09</td>
<td>186.38</td>
<td>198.06</td>
<td>41.67</td>
<td>104.72</td>
<td>105.56</td>
<td>840.48</td>
</tr>
<tr>
<td>15.00</td>
<td>278.02</td>
<td>268.75</td>
<td>159.89</td>
<td>89.63</td>
<td>114.41</td>
<td>76.31</td>
<td>987.01</td>
</tr>
<tr>
<td>16.00</td>
<td>103.34</td>
<td>171.02</td>
<td>178.80</td>
<td>89.73</td>
<td>102.26</td>
<td>88.08</td>
<td>733.23</td>
</tr>
<tr>
<td>17.00</td>
<td>36.93</td>
<td>19.73</td>
<td>44.10</td>
<td>59.58</td>
<td>43.30</td>
<td>3.79</td>
<td>207.43</td>
</tr>
</tbody>
</table>

1618.10 1611.37 1735.22 844.93 1290.43 768.92 7868.97

**Figure 54. Sample Report 1—tabular version**

### Sample Report 2

Sample Report 2

<table>
<thead>
<tr>
<th>Month start date</th>
<th>Department name</th>
<th>User ID</th>
<th>Transactions</th>
<th>Average response seconds</th>
<th>CPU seconds</th>
<th>Pages printed</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000-01-01</td>
<td>Appl Dev</td>
<td>ADAMS</td>
<td>1109</td>
<td>3.84</td>
<td>244.13</td>
<td>821</td>
</tr>
<tr>
<td></td>
<td></td>
<td>JONES</td>
<td>1138</td>
<td>3.40</td>
<td>228.79</td>
<td>1055</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SMITH</td>
<td>870</td>
<td>4.27</td>
<td>183.03</td>
<td>864</td>
</tr>
<tr>
<td></td>
<td></td>
<td>*</td>
<td>3117</td>
<td>3.84</td>
<td>655.95</td>
<td>2740</td>
</tr>
<tr>
<td>Finance</td>
<td>GEYER</td>
<td>509</td>
<td>4.29</td>
<td>115.97</td>
<td>529</td>
<td></td>
</tr>
<tr>
<td></td>
<td>HAAS</td>
<td>786</td>
<td>3.56</td>
<td>137.48</td>
<td>648</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PARKER</td>
<td>462</td>
<td>6.79</td>
<td>171.51</td>
<td>704</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SPENCER</td>
<td>800</td>
<td>3.33</td>
<td>172.82</td>
<td>640</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>*</td>
<td>2557</td>
<td>4.50</td>
<td>597.78</td>
<td>2521</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>36396</td>
<td>4.03</td>
<td>7868.97</td>
<td>38711</td>
</tr>
</tbody>
</table>

**Figure 55. Sample Report 2**
Figure 56 shows Sample Report 3.
Chapter 8. Using Other Reporting Dialog Functions

This chapter describes how to change batch settings for reports, define reports for batch processing, run reports in batch mode, view and send messages in Tivoli Decision Support for OS/390, and set dialog parameters.

Changing the batch settings for a report

You can associate batch settings with a report to specify whether the report should be run in batch, how often it should be run (daily, weekly, or monthly), and where the batch reporting utility should direct the report output.

You set the batch settings from the Batch Settings pop-up, which you can display for a report using either of these methods:

- Selecting the report in the Reports window and then selecting 1, Set batch options for report, from the Batch pull-down
- Pressing F11 in the Report Definition pop-up for the selected report

Figure 57 shows the Batch Settings pop-up.

![Sample Batch Settings](image)

Figure 57. Batch Settings pop-up
To change the settings in the Batch Settings pop-up:

1. To have Tivoli Decision Support for OS/390 produce the report in batch, type 1 in the Produce report in batch field. Type 2 (the default) to produce the report in the foreground (interactively).

2. For reports you want Tivoli Decision Support for OS/390 to produce in batch, specify in the Run cycle field the frequency with which you want the report run.

3. For reports you want Tivoli Decision Support for OS/390 to produce in batch, specify in the Output option field where to direct the output of the report.

4. If you specified Save or Print and save in the Output option field, specify a member name in which to save the report in the Save member name field.

   **Note:** You can select Print for graphic reports only if you are using QMF with the reporting dialog.

5. When you have completed the fields in the Batch Settings pop-up, press Enter.

   Tivoli Decision Support for OS/390 saves the settings for the report and returns to either the Reports window or the Report Definition pop-up, depending on how you invoked the Batch Settings pop-up.

---

**Defining reports for batch execution**

All Tivoli Decision Support for OS/390 reports can be produced in batch. However, most of them are not suited for it because you must supply values for all the variables used in the queries and forms.

For example, a typical query looks like this:

```sql
SELECT column1, column2, ...
FROM table
WHERE DATE <= &FROM_DATE
   AND DATE >= &TO_DATE
   AND SYSTEM_ID = &SYSTEM_ID
```

When the report is displayed in the dialog, Tivoli Decision Support for OS/390 prompts you for the values for FROM_DATE, TO_DATE, and SYSTEM_ID. If you run this report in batch must supply these values in the job, and you must change them when you want the reports to cover a different time period.

It would be better to change the query to something like this:

```sql
SELECT SYSTEM_ID, column1, column2, ...
FROM table
WHERE DATE >= CURRENT DATE - 7 DAYS
```

This query requires no variables and always covers the last week.

The forms used for the Tivoli Decision Support for OS/390 reports also contain at least three variables (REPORT_TITLE, PRODUCT_NAME, and REPORT_ID). For a batch report, you should create a new form without these variables.

"Using an existing report as a template for a new report" on page 43 describes how to create a new report by using an existing report as a base. You can use this method to create reports that are better suited for batch processing.
Running reports in batch mode

You can run reports that you need on a regular basis using the batch utility instead of running them in the foreground. The reporting dialog lets you specify criteria for running batch jobs. Typically, you use the reporting dialog to prepare reports for batch reporting, and then use the batch reporting utility to run them. For more information about Tivoli Decision Support for OS/390 batch reporting, refer to the Administration Guide.

To run one or more individual reports in batch mode using the reporting dialog:

1. From the Reports window, select the reports you want to run in batch mode. Then select 2, Invoke batch, from the Batch pull-down.
2. After you complete all the necessary fields on the Batch Reports Data Selection pop-up, press Enter.

Tivoli Decision Support for OS/390 begins an ISPF editing session with the JCL file to be submitted to run the reports.

Figure 58. Batch Reports Data Selection pop-up

Provide values for the variables by typing the values in the fields provided. Note that the Batch Reports Data Selection pop-up does not let you specify values using prompted fields.

2. After you complete all the necessary fields on the Batch Reports Data Selection pop-up, press Enter.

Tivoli Decision Support for OS/390 begins an ISPF editing session with the JCL file to be submitted to run the reports. Figure 59 shows a sample JCL. If your installation does not use QMF, no QMF libraries will be included.

Figure 59 shows a sample JCL. If your installation does not use QMF, no QMF libraries will be included.
3. If necessary, make changes in the job card information. When the JCL is ready, type `SUBMIT` at the command line and press Enter.

Tivoli Decision Support for OS/390 submits the batch job and returns to the Reports window.

To run reports that are members of a particular group or associated with a particular batch cycle:

1. Without selecting any reports in the Reports window, select 2, Invoke batch, from the Batch pull-down.

Tivoli Decision Support for OS/390 displays the Batch Reports Selection pop-up [Figure 60].

**Note:** If you are using the reporting dialog without QMF, the Printer field is not shown on this window.
2. Select the execution cycle of the batch reports you want to submit (daily, weekly, or monthly) and type the corresponding number in the Cycle selection field. The default is 1 (daily).

3. If the reports you want to run are in a group, type the name of the group in the Group name entry field. The Group name is a prompted field; to see a list of groups that are currently defined, move the cursor to the Group name field and press F4. If the group is not public, type the name of the owner in the Group owner field. (For more information about working with report groups, see Chapter 4, “Working with report groups”, on page 35.) If you do not specify a report group, Tivoli Decision Support for OS/390 uses all reports included in the specified batch execution cycle.

After you specify the execution cycle and (optionally) the group name and owner, press Enter.

If any of the reports contain variables, Tivoli Decision Support for OS/390 displays the Batch Reports Data Selection pop-up. Type the values for the variables in the fields and press Enter to return to the Batch Reports Selection pop-up.

4. When you have completed all of the fields in the Batch Reports Selection pop-up, press Enter. Tivoli Decision Support for OS/390 begins an ISPF editing session with the JCL for the batch job.

5. If necessary, edit the job card information in the JCL. Submit the job by typing SUBMIT at the command line and pressing Enter.

Tivoli Decision Support for OS/390 submits the job for batch processing and returns to the Reports window.

---

**Viewing and sending messages**

Tivoli Decision Support for OS/390 administrators and users can send messages to each other using the Tivoli Decision Support for OS/390 messages option.
Note: Tivoli Decision Support for OS/390 users can use this option to send messages to Tivoli Decision Support for OS/390 administrators, but not to each other. An administrator can send messages to any Tivoli Decision Support for OS/390 user.

To send a message to a administrator (or, if you are an administrator, to a Tivoli Decision Support for OS/390 user):

1. Select 6, Messages, from the Other pull-down on the Reports window. Tivoli Decision Support for OS/390 displays the Message Options pop-up.
2. In the Message Options pop-up, select 2, Send message. Tivoli Decision Support for OS/390 displays the Message Text pop-up.
3. Complete the Message Text pop-up with the user ID of the administrator to whom you are sending the message, the subject of the message, and the message text itself. When you finish typing the message, press F5 to send it. Tivoli Decision Support for OS/390 sends the message and returns to the Message Options pop-up.

You can look at messages that you have sent to the Tivoli Decision Support for OS/390 administrator and that the administrator has sent to you (and, if you are an administrator, messages the Tivoli Decision Support for OS/390 users have sent to you). To view messages that you have sent or received:

1. In the Reports window, select 6, Messages, from the Other pull-down. Tivoli Decision Support for OS/390 displays the Message Options pop-up.
2. In the Message Options pop-up, select 1, View messages. Tivoli Decision Support for OS/390 displays the Message Log window (Figure 61).

3. Select the message that you want to display from the list in the Message Log window and press Enter. Tivoli Decision Support for OS/390 displays the Message Text pop-up containing the text of the message you select.
4. When you finish viewing the message, press F12 to return to the Message Log window.
To delete a message in the Message Log window, select the message you want to delete and press F11. Tivoli Decision Support for OS/390 prompts you to confirm the delete action.

**Customizing the reporting dialog**

You can set dialog parameters to control which data sets Tivoli Decision Support for OS/390 uses to store your reports, charts, and messages. These dialog parameters also control some aspects of the Tivoli Decision Support for OS/390 environment.

To view or change the dialog parameters, select 1, Dialog parameters, from the Options pull-down in the Reports window. Tivoli Decision Support for OS/390 displays the Dialog Parameters pop-up. You can change the values of the parameters by typing over the information that you want to change, and then pressing Enter. Some of these parameters do not take effect in the dialog until you exit and restart.

Not all of the parameters in the Dialog Parameters pop-up are related to the reporting dialog. For a complete description of the Tivoli Decision Support for OS/390 dialog parameters, refer to the *Administration Guide*. 

Chapter 8. Using Other Reporting Dialog Functions  87
Appendix. Reporting Dialog Navigation Reference

This appendix describes the functions you can access from the Reports window. You access these functions by moving the cursor to the menu-bar option whose pull-down contains the function you want, and pressing Enter. With the pull-down displayed, choose an option in one of these ways:

- Type its number in the selection field inside the pull-down and press Enter.
- Press the up arrow (↑) or down arrow (↓) keys until the cursor is on the line of the action you want to perform, and then press Enter.

Figure 62 shows the Reports window.

Figure 62. The Reports window
The Report pull-down

The Report pull-down (Figure 63) provides options to let you perform actions on individual reports. If QMF is installed on your system, it will be used to perform some of the actions below. Otherwise, Tivoli Decision Support for OS/390’s built-in report generator will be used.

The Report pull-down contains these options:

**New**

**Open report definition**
See “Opening a report definition” on page 30.

**Display**
See “Displaying a report” on page 21.

**Save Report Data**
See “Saving report data” on page 26.

**Delete**
See “Deleting a report” on page 30.

**Print**
See “Printing a report” on page 27.

**Print list**
See “Printing a list of reports” on page 29.

**Exit**
See “Exiting the reporting dialog” on page 20.
The Batch pull-down

The Batch pull-down (Figure 64) provides options that let you use the batch utility to process reports.

<table>
<thead>
<tr>
<th>Report</th>
<th>Batch</th>
<th>Group</th>
<th>Search</th>
<th>Options</th>
<th>Other</th>
<th>Help</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. Set batch options for report...</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. Invoke batch...</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 64. Batch pull-down

The Batch pull-down contains these options:

**Set batch options for report**
See "Changing the batch settings for a report" on page 81

**Invoke batch**
See "Running reports in batch mode" on page 83
The Group pull-down

The Group pull-down (Figure 65) provides options that let you perform actions on groups of reports.

The Group pull-down contains these options:

- **Save selected reports as a group**
  See “Creating a report group” on page 37.

- **List report groups**
  See “Listing report groups” on page 35.
The Search pull-down

The Search pull-down (Figure 66) provides options that let you search the list of reports for reports that meet criteria you specify.

<table>
<thead>
<tr>
<th>Report</th>
<th>Batch</th>
<th>Group</th>
<th>Search</th>
<th>Options</th>
<th>Other</th>
<th>Help</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>1. Show all reports</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2. Search for reports...</td>
<td>F5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3. List saved criteria of searches...</td>
<td>F6</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4. Save current search criteria...</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 66. Search pull-down

The Search pull-down contains these options:

**Show all reports**
Shows all available reports.

**Search for reports**
See “Searching by description and attributes” on page 39

**List saved criteria of searches**
See “Listing, modifying, and deleting saved search criteria” on page 41

**Save current search criteria**
See “Saving search criteria” on page 40
The Options pull-down

The Options pull-down (Figure 67) provides options that let you customize the way the reporting dialog works for you.

The Options pull-down contains these options:

- **Dialog parameters**
  
  See “Customizing the reporting dialog” on page 87

- **Reporting dialog defaults**
  
  See “Starting the reporting dialog for the first time” on page 7
The Other pull-down

The Other pull-down (Figure 68) provides options that let you access services outside of the reporting dialog.

<table>
<thead>
<tr>
<th>Report</th>
<th>Batch</th>
<th>Group</th>
<th>Search</th>
<th>Options</th>
<th>Other</th>
<th>Help</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- 1. QMF
- 2. DB2I
- 3. ISPF/PDF
- 4. BookManager
- 5. Process Tivoli Decision Support for OS/390 statements..
- 6. Messages...

Figure 68. Other pull-down

The Other pull-down contains these options:

**QMF**  Initiates a QMF session, if QMF is available in your installation.

**DB2I**  Initiates a DB2I session.

**ISPF/PDF**  Initiates an ISPF/PDF session.

**BookManager**  Initiates a BookManager session. See “Finding information in online books” on page 14.

**Process Tivoli Decision Support for OS/390 statements**  Refer to the Administration Guide.

**Messages**  See “Viewing and sending messages” on page 85.
The Help pull-down (Figure 69) provides options that let you access online help information, including online books.

The Help pull-down contains these options:

- **Using help**: 
  See “Getting help on using help” on page 14

- **General help**: 
  See “Getting general help” on page 13

- **Keys help**: 
  See “Getting keys help” on page 14

- **Online books**: 
  See “Finding information in online books” on page 14

- **Search books**: 
  See “Listing books with search matches” on page 17

- **Product information**: 
  Displays licensed program number, copyright, and support information for Tivoli Decision Support for OS/390.
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Glossary

A

administration. A Tivoli Decision Support for OS/390 task that includes maintaining the database, updating environment information, and ensuring the accuracy of data collected.

asterisk length. The length of a field that extends to the end of the containing structure.

attribute. A single-word text string that can be associated with a report to categorize it.

C

case expression. An expression that specifies a value as being dependent on a given condition.

collect. A process used by Tivoli Decision Support for OS/390 to read data from input log data sets, interpret records in the data set, and store the data in DB2 tables in the Tivoli Decision Support for OS/390 database.

component. An optionally-installable part of a Tivoli Decision Support for OS/390 feature.

E

environment information. All of the information that is added to the log data to create reports. This information can include data such as performance groups, shift periods, installation definitions, and so on.

F

form. The template that contains the specifications for displaying or printing a report or chart.

G

graphic report. Tivoli Decision Support for OS/390 report data displayed using a GDDM/ICU chart format.

I

internal data type. A data type used within Tivoli Decision Support for OS/390 during the processing of data.

K

key columns. The columns of a DB2 table that together constitute the key.

key values. Values that are used to sort records into groups.

L

log. Any sequential data set used as input to Tivoli Decision Support for OS/390.

log collector. A Tivoli Decision Support for OS/390 program that processes log data sets, and provides other Tivoli Decision Support for OS/390 services.

log collector language. A collection of Tivoli Decision Support for OS/390 statements used to supply definitions to and invoke services of the log collector.

log definition. The description of a log data set processed by the log collector.

log procedure. A program module called as a user exit to process certain log data sets.

lookup expression. Returns a value from a lookup table.

lookup table. A Tivoli Decision Support for OS/390 DB2 table that contains grouping, translation, or substitution information.

P

Tivoli Decision Support for OS/390 database. A set of DB2 tables that contain the environment information and performance data used by Tivoli Decision Support for OS/390 to generate reports.

private report. A report owned by a user. Only the owner or an Tivoli Decision Support for OS/390 administrator can use a private report. Contrast with public report.

prompted query. A query created using QMF’s prompted query language. The prompted query language is an intuitive method that non-SQL users can use to create queries.

public report. A report that is not owned by any user. There are no restrictions on who uses the report, but only the creator of the report or the Tivoli Decision Support for OS/390 administrator can modify or delete it. Contrast with private report.
**purge conditions.** Instructions for purging old data from the Tivoli Decision Support for OS/390 database.

**Q**

query. A statement that acts as a request to a database for information that meets specific conditions.

**R**

record definitions. The descriptions of different types of records contained in the log data sets used by Tivoli Decision Support for OS/390, including detailed record layout and data formats.

record procedure. A program module that is called to process some or all types of log records.

record type. The classification of records in a log data set.

repeated section. A section of a record that occurs more than once, with each occurrence adjacent to the previous one.

report definition language. Tivoli Decision Support for OS/390 statements used to define reports and report groups.

report group. A collection of Tivoli Decision Support for OS/390 reports that can be referred to by a single name or label.

reporting dialog. A set of host or workstation panels used to request reports.

resource group. A collection of resources that are identified as belonging to a particular department or division. Resources are organized into groups to reflect the structure of an organization.

resource information. Environment information that describes the elements in a system (for example, a network).

**S**

section. A structure within a record that contains one or more fields and may contain other sections.

source. The record or DB2 table that contains data used to update a Tivoli Decision Support for OS/390 DB2 table.

**Structured Query Language (SQL).** The language used to define the specific conditions that data must meet to be included in a report.

system tables. DB2 tables that store information that controls log collector processing, Tivoli Decision Support for OS/390 dialogs, and reporting.

**T**

tabular report. Tivoli Decision Support for OS/390 report data displayed using a tabular format.

target. The DB2 table in which Tivoli Decision Support for OS/390 stores data from the source record or table.

threshold. The maximum or minimum acceptable level of utilization. Utilization measurements are compared with threshold levels.

**U**

update definitions. Instructions for entering data into DB2 tables from records of different types or from other DB2 tables.

updates. Instructions in Tivoli Decision Support for OS/390 for how to process data from log data sets to DB2 tables.
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