

# STROBE MVS

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# User's Guide

Release 3.0



**COMPUWARE®**

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# Contents

<b>Figures</b> .....	<b>ix</b>
<b>Summary of Changes</b> .....	<b>xi</b>
Changes to STROBE .....	xi
Changes to this Manual .....	xi
<b>Introduction</b> .....	<b>xiii</b>
How This Manual Is Organized .....	xiii
How to Use This Manual .....	xiii
The STROBE Library .....	xiii
STROBE Feature Manuals .....	xiv
Online Documentation .....	xiv
Online Help .....	xiv
Other Compuware Application Performance Management Products .....	xv
iSTROBE .....	xv
SQL Analysis Feature .....	xv
APMpower .....	xv
Compuware APM Technical Support .....	xv
Compuware APM Training .....	xv
Compuware APM Service Offerings .....	xvi
APM Installation Assurance .....	xvi
Application Performance Management Consulting .....	xvi
Application Performance Assessment .....	xvi
<b>Chapter 1. Planning to Use STROBE</b> .....	<b>1-1</b>
Tasks and Key Terminology .....	1-2
Planning Your Tasks .....	1-3
Selecting Job Steps to Measure .....	1-3
Batch Processing Applications .....	1-3
Online Applications .....	1-4
Creating and Submitting the Measurement Request .....	1-4
Submitting Active and Queued Requests .....	1-4
Setting the Session Duration and the Target Sample Size .....	1-4
Creating the STROBE Performance Profile .....	1-5
Automatically Creating the Performance Profile .....	1-5
Controlling the Level of Detail in the Performance Profile .....	1-5
Suppressing Reports .....	1-6
Formatting the Performance Profile .....	1-6
Creating an iSTROBE Data File .....	1-6
Creating an APMpower Profile Data File .....	1-6
Analyzing Performance Profiles .....	1-6
Creating a Map Data Set to Index Source Code Modules .....	1-6
Planning for STROBE in a Multisystem Environment .....	1-7
Considerations for Creating and Submitting Measurement Requests .....	1-7
Considerations for Managing and Monitoring Measurement Requests .....	1-8
Where to Find More Information .....	1-8
Using STROBE/ISPF .....	1-8
Using STROBE Command Language and Procedures .....	1-9
<b>Chapter 2. Measuring with STROBE/ISPF</b> .....	<b>2-1</b>
Getting Started .....	2-1

Submitting Measurement Requests . . . . .	2-2
Adding Measurement Requests for Active Jobs . . . . .	2-2
Specifying the Target System . . . . .	2-3
Specifying the Target Job . . . . .	2-4
Configuring Measurement Sessions . . . . .	2-6
Specifying Sample Data Set Information . . . . .	2-6
Naming the Sample Data Set . . . . .	2-6
Reusing Sample Data Sets . . . . .	2-7
Adding Measurement Requests for Jobs Not Yet Executing . . . . .	2-8
Specifying Other Report and Measurement Options . . . . .	2-9
Specifying the Target Job Name . . . . .	2-10
Specifying the Target System for a Queued Measurement Request . . . . .	2-10
Specifying Other Options for a Queued Request . . . . .	2-11
Additional Measurement Options . . . . .	2-11
Specifying Data Collectors . . . . .	2-11
Special Considerations for Specifying Data Collectors . . . . .	2-12
Entering Module Mapping Specifications . . . . .	2-14
Specifying Session Management Parameters . . . . .	2-15
Specifying Other Parameters . . . . .	2-16
Retaining Measurement Requests . . . . .	2-17
Changing the Format of the Active Job Selection List . . . . .	2-18
Changing the Display Format . . . . .	2-18
Changing the List Limits . . . . .	2-19
Batch Submission of Measurement Requests . . . . .	2-20
Adding Batch Measurement Requests for Active Jobs . . . . .	2-20
Adding Batch Requests for Job Steps Not Yet Executing . . . . .	2-21
Displaying Information About Measurement Requests . . . . .	2-21
<b>Chapter 3. Producing Performance Profiles with STROBE/ISPF . . . . .</b>	<b>3-1</b>
Generating Performance Profiles . . . . .	3-1
Producing Profiles from the PROFILE Menu Option . . . . .	3-1
Specifying Sample Data Set Information . . . . .	3-2
Creating iSTROBE and APMpower Files . . . . .	3-3
Creating iSTROBE Data Files . . . . .	3-3
Ensuring Accuracy of SQL Information . . . . .	3-7
Specifying SQL Analysis Feature Report Settings . . . . .	3-8
Creating APMpower Profile Data Files . . . . .	3-10
Producing Profiles from the STATUS Menu Option . . . . .	3-11
Processing Multiple Data Sets . . . . .	3-12
Producing Profiles Automatically . . . . .	3-12
Customizing Performance Profiles . . . . .	3-13
Modifying the Level of Detail . . . . .	3-14
Tailoring Reports . . . . .	3-15
Specifying Formatting Options . . . . .	3-18
Specifying the Profile Report Width . . . . .	3-18
Specifying Files for iSTROBE . . . . .	3-19
Specifying Files for APMpower . . . . .	3-19
Printing Multiple Copies of the Profile . . . . .	3-19
Saving the Performance Profile . . . . .	3-19
Supplying Default Parameters . . . . .	3-19
Creating Indexed Performance Profiles . . . . .	3-19
Indexing from Compiler Source Listings . . . . .	3-19
Step 1: Creating Map Data Sets . . . . .	3-20
Step 2: Including Map Data Sets . . . . .	3-21
Indexing Source Modules from DDIO Files . . . . .	3-21
Indexing Automatic Performance Profiles . . . . .	3-23
Selecting Job Stream Options . . . . .	3-24

Browsing Performance Profiles . . . . .	3-25
Browsing Performance Profiles Created in Narrow Format . . . . .	3-25
Browsing an Automatically Generated Performance Profile . . . . .	3-26
Naming Conventions for Automatic Performance Profiles . . . . .	3-26
Multiple Performance Profiles . . . . .	3-26
<b>Chapter 4. Managing Measurement Requests with STROBE/ISPF . . . . .</b>	<b>4-1</b>
Monitoring Measurement Requests . . . . .	4-1
Viewing Measurement Requests . . . . .	4-4
Listing by System . . . . .	4-4
Listing by Owner ID . . . . .	4-5
Viewing the Parameters of a Measurement Request . . . . .	4-5
Changing the Status of Measurement Requests . . . . .	4-9
Changing an Active Measurement Request . . . . .	4-9
Changing a Suspended Measurement Session . . . . .	4-10
Changing a Stopped Measurement Session . . . . .	4-11
Changing a Queued Measurement Request . . . . .	4-12
Changing a Completed Measurement Request . . . . .	4-13
Terminating Measurement Requests . . . . .	4-13
Deleting Measurement Requests . . . . .	4-14
Changing Automatic Profile Requests . . . . .	4-14
Viewing Information About Messages . . . . .	4-15
Viewing the STROBE Log . . . . .	4-16
Viewing Changes to STROBE in the Current Release . . . . .	4-18
Setting User Defaults . . . . .	4-18
Specifying Defaults . . . . .	4-19
Setting the Job Statement . . . . .	4-19
Setting SYSOUT Parameters . . . . .	4-19
Using the STROBE Packaging Utility . . . . .	4-21
Managing Requests with Batch Jobs . . . . .	4-23
Changing Active Requests . . . . .	4-23
Changing Queued Measurement Requests . . . . .	4-24
Changing Completed Measurement Requests . . . . .	4-24
Listing and Deleting Measurement Requests . . . . .	4-24
Specifying Options for the Job Stream . . . . .	4-25
<b>Chapter 5. Measuring with the STROBE Command Language . . . . .</b>	<b>5-1</b>
Invoking the STROBE Command Language . . . . .	5-1
STROBE Commands . . . . .	5-1
Defining Command Syntax . . . . .	5-1
Conventions for Command Examples . . . . .	5-2
List of Commands . . . . .	5-2
Keyword Abbreviations . . . . .	5-2
STROBE Command Interface . . . . .	5-3
Entering Requests from a Batch Job . . . . .	5-3
Entering Requests from a TSO Terminal . . . . .	5-3
Adding and Changing Measurement Requests . . . . .	5-3
Identifying the Target Job . . . . .	5-5
Identifying the Target Program . . . . .	5-5
Identifying the Target System . . . . .	5-7
Specifying Sampling Controls . . . . .	5-8
Specifying Routing Information . . . . .	5-10
Specifying Sample Data Set Characteristics . . . . .	5-10
Specifying Request Retention Options . . . . .	5-11
Specifying Data Collector Options . . . . .	5-12
Additional Attribution Options . . . . .	5-14
Examples of ADD and CHANGE Commands . . . . .	5-15

Examples of the ADD and CHANGE Commands in a Multisystem Environment . . . . .	5-16
Viewing Measurement Requests with the LIST Command . . . . .	5-16
Controlling LIST Operands . . . . .	5-16
Specifying the List Format . . . . .	5-17
Format 1: List Selected Requests . . . . .	5-17
Format 2: List Requests with a Given Status . . . . .	5-18
Format 3: List Requests by Ownerid . . . . .	5-18
Format 4: Show the Status of All Requests. . . . .	5-18
Viewing UNIX Processes with the DISPPROC Command . . . . .	5-18
Deleting Measurement Requests. . . . .	5-19
Examples of the DELETE Command . . . . .	5-19
Controlling the Measurement Session . . . . .	5-19
Specifying Operands for the SEND Command . . . . .	5-20
Specifying New Sampling Control Operands . . . . .	5-20
Examples of the SEND Command. . . . .	5-20
Ending STROBE Command Language Operations . . . . .	5-21
Example of the END Command . . . . .	5-21
Submitting Commands with STROBE/ISPF . . . . .	5-21
Issuing Operational Operations. . . . .	5-21
Displaying Message Text . . . . .	5-21
<b>Chapter 6. Creating Performance Profiles Using Procedures . . . . .</b>	<b>6-1</b>
Specifying Options for Reports . . . . .	6-1
Providing a Report Subtitle . . . . .	6-4
Specifying Report Resolution. . . . .	6-4
Specifying Sort Core Size . . . . .	6-4
Specifying the Page Size of the Performance Profile . . . . .	6-4
Specifying the Date and Time Formats on the Performance Profile. . . . .	6-4
Obtaining Detailed Reporting for System Modules. . . . .	6-5
Specifying Modules to Be Treated as Pseudo-Sections. . . . .	6-5
Specifying the Suppression of Mapping for Modules . . . . .	6-6
Tailoring the Program Usage by Procedure Report . . . . .	6-6
Tailoring the DASD Usage by Cylinder Report . . . . .	6-7
Tailoring the Attribution Reports . . . . .	6-7
Tailoring the Transaction Usage by Control Section Report . . . . .	6-8
Tailoring the Time and Resource Demand Distribution Reports . . . . .	6-8
Expanding the Program Section Usage Summary Report . . . . .	6-8
Producing the Most Extensive Inactive Storage Areas Report. . . . .	6-8
Expanding the Wait Time by Module Report . . . . .	6-9
Suppressing the Data Set Characteristics Supplement Report. . . . .	6-9
Suppressing the Coupling Facility Activity Report . . . . .	6-9
Tailoring the Reporting of COOL:Gen Activity. . . . .	6-9
Tailoring the Reporting of SQL Activity . . . . .	6-10
Suppressing the DL/I CPU and Wait Reports. . . . .	6-11
Tailoring the Reporting of CICS Transaction Profile Information . . . . .	6-11
Compressing MQSeries Information . . . . .	6-12
Obtaining IMS Transaction-Level Information for MQSeries Calls . . . . .	6-12
Tailoring the Reporting of Java Information . . . . .	6-12
Specifying Parameters for a Temporary Work File for APMpower or iSTROBE. . . . .	6-12
Using STROE, the Reporting Procedure . . . . .	6-12
Using Procedures to Index Source Modules . . . . .	6-14
Specifying Data Sets as Input to the Procedures . . . . .	6-15
Products Supported by the Indexing Procedures. . . . .	6-15
Indexing Procedures . . . . .	6-16
Using STROzz, the Compile and Index Procedure . . . . .	6-16

Example of Indexing with STROzz .....	6-17
Using STROX, the Index Procedure .....	6-17
Creating Compiler SYSPRINT Data Sets .....	6-18
Specifying Indexing Program Names .....	6-18
Specifying the Map Data Set Name .....	6-19
Example of Indexing with STROX .....	6-19
Using STROXE, the Index and Report Procedure .....	6-19
Example of Indexing with STROXE .....	6-20
<b>Appendix A. Ways to Improve the Performance of the SQL Analysis Feature ...</b>	<b>A-1</b>
Improve Performance by Controlling Processing Options .....	A-1
Using Existing PLAN_TABLE Rows .....	A-1
<b>Index .....</b>	<b>I-1</b>



## Figures

1-1.	Overview of STROBE Tasks .....	1-2
2-1.	STROBE OPTIONS Menu .....	2-2
2-2.	STROBE - ADD ACTIVE REQUEST Panel .....	2-3
2-3.	STROBE - SYSTEM SELECTION LIST Panel - Active Measurement Request .....	2-4
2-4.	STROBE - ACTIVE JOB SELECTION LIST Panel .....	2-4
2-5.	STROBE - ADD QUEUED REQUEST Panel .....	2-8
2-6.	STROBE - SYSTEM SELECTION LIST Panel - Queued Measurement Request .....	2-10
2-7.	STROBE - DATA COLLECTORS Panel .....	2-12
2-8.	STROBE - MODULE MAPPING Panel .....	2-14
2-9.	STROBE - SESSION MANAGEMENT PARAMETERS Panel .....	2-16
2-10.	STROBE - OTHER PARAMETERS Panel .....	2-17
2-11.	STROBE - REQUEST RETENTION Panel .....	2-17
2-12.	STROBE - ACTIVE JOB DISPLAY FORMAT Panel .....	2-18
2-13.	STROBE - LIMIT ACTIVE JOB LIST Panel .....	2-19
2-14.	STROBE - BATCH SUBMISSION OPTIONS Menu .....	2-20
3-1.	STROBE - PRODUCE A PERFORMANCE PROFILE Panel .....	3-2
3-2.	STROBE - SAMPLE DATA SET LIST Panel .....	3-3
3-3.	STROBE - PRODUCE A PERFORMANCE PROFILE Panel .....	3-4
3-4.	STROBE - ISTROBE PERFORMANCE PROFILE OPTIONS Panel .....	3-5
3-5.	STROBE - SQL ANALYSIS FEATURE REPORT SETTINGS Panel .....	3-8
3-6.	STROBE - STATUS Panel .....	3-11
3-7.	STROBE - SAMPLE DATA SET LIST for a Default Performance Profile Panel .....	3-12
3-8.	STROBE - CREATE AN AUTO PERFORMANCE PROFILE Panel .....	3-13
3-9.	STROBE - DETAIL FOR A PERFORMANCE PROFILE Panel .....	3-14
3-10.	STROBE - TAILOR REPORTS Panel .....	3-16
3-11.	STROBE - INDEX TO CREATE A MAP DATA SET Panel .....	3-20
3-12.	STROBE - INCLUDE MAPS OF INDEXED SOURCE MODULES Panel .....	3-21
3-13.	STROBE - INCLUDE MAPS OF INDEXED SOURCE MODULES AND/OR DDIO FILES Panel .....	3-22
3-14.	STROBE - INCLUDE MAPS OF INDEXED SOURCE MODULES AND/OR DDIO FILE Panel .....	3-23
3-15.	STROBE - INCLUDE MAP DATA SETS Panel .....	3-23
3-16.	STROBE - SELECT OPTIONS FOR JOB STREAM Panel .....	3-24
3-17.	STROBE - PRINTED PROFILE DATA SET LIST Panel .....	3-26
4-1.	STROBE - STATUS Panel .....	4-2
4-2.	STROBE - STATUS Panel (Scrolled Right) .....	4-3
4-3.	STROBE - SYSTEM SELECTION LIST Panel .....	4-4
4-4.	Browse Panel for a Measurement Request .....	4-6
4-5.	STROBE - CHANGE ACTIVE REQUEST Panel .....	4-9
4-6.	STROBE - REQUEST RETENTION Panel .....	4-10
4-7.	STROBE - CHANGE SUSPENDED REQUEST Panel .....	4-11
4-8.	STROBE - CHANGE STOPPED REQUEST Panel .....	4-12
4-9.	STROBE - CHANGE QUEUED REQUEST Panel .....	4-13
4-10.	STROBE - REQUEST RETENTION Panel .....	4-13
4-11.	STROBE - CONFIRM PURGE OF DATA SET Panel .....	4-14
4-12.	STROBE - CHANGE AN AUTO PERFORMANCE PROFILE Panel .....	4-15
4-13.	STROBE - DISPLAY MESSAGE TEXT Panel .....	4-16
4-14.	STROBE - STROBE LOG UTILITIES Panel .....	4-16
4-15.	STROBE - SPECIFY STROBE LOG DATA SET(S) Panel .....	4-18
4-16.	STROBE - USER DEFAULT OPTIONS Panel .....	4-19
4-17.	STROBE - JOB STATEMENT Panel .....	4-19
4-18.	STROBE - SYSOUT PARAMETERS Panel .....	4-20
4-19.	STROBE PACKAGING UTILITY - SELECT INPUT DATA SET(S) Panel .....	4-21
4-20.	STROBE PACKAGING UTILITY - SELECT LOG DATA SET(S) Panel .....	4-22
4-21.	STROBE PACKAGING UTILITY - VERIFY DATA SET LIST Panel .....	4-22
4-22.	STROBE PACKAGING UTILITY - OUTPUT FILE LIST Panel .....	4-23

4-23.	STROBE - BATCH-SUBMISSION CHANGE ACTIVE REQUEST Panel.....	4-23
5-1.	STROBE Command Language Syntax.....	5-2

## Summary of Changes

This section discusses the functional changes to STROBE, as well as the changes to this manual, from STROBE MVS for Sysplex Release 2.5.0 to Release 3.0.

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### Changes to STROBE

STROBE MVS for Sysplex Release 3.0 introduces:

- z/OS Memory Object Storage report detailing information about z/OS memory objects
- Java Virtual Machine (JVM) Support
  - New Java code measurement targeting capabilities through ISPF panels.
  - New Java reports showing new types of JVM Java method measurement data at a summary and more detailed levels
- DDIO indexing-STROBE can use Compuware DDIO files in addition to map data sets as input to Performance Profile Report indexing.

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### Changes to this Manual

This section discusses the changes to this manual for STROBE MVS for Sysplex Release 3.0.

#### *Chapter 3*

An explanation of how to use DDIO files to index Performance Profiles is now included.

#### *Chapter 6*

A parameter used to produce the z/OS Memory Objects report is now described.



# Introduction

This manual is a guide to using the STROBE MVS Application Performance Measurement System, a product designed for IBM MVS/ESA, IBM OS/390, and IBM z/OS systems. It explains how to use STROBE to measure and report on the performance of online applications and batch processing programs.

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## How This Manual Is Organized

Chapter 1, “Planning to Use Strobe” provides an overview of the tasks associated with measuring application performance with STROBE, as well as a discussion of the various planning considerations for each of these tasks.

Chapter 2, “Measuring with STROBE/ISPF” describes how to use STROBE with STROBE/ISPF to measure application performance.

Chapter 3, “Producing Performance Profiles with STROBE/ISPF” describes how to create STROBE Performance Profiles with STROBE/ISPF.

Chapter 4, “Managing Measurement Requests with STROBE/ISPF” describes how to manage STROBE measurement requests using STROBE/ISPF.

Chapter 5, “Measuring with the Strobe Command Language” describes how to use the STROBE command language to submit and manage measurement requests.

Chapter 6, “Creating Performance Profiles Using Procedures” describes how to use procedures to create the STROBE Performance Profile.

Appendix A, “Ways to Improve the Performance of the SQL Analysis Feature” describes ways to improve the performance of the SQL Analysis Feature.

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## How to Use This Manual

All STROBE users should read Chapter 1, “Planning to Use Strobe”. If you use STROBE/ISPF panels to communicate with STROBE, read Chapter 2, “Measuring with STROBE/ISPF”, Chapter 3, “Producing Performance Profiles with STROBE/ISPF”, and Chapter 4, “Managing Measurement Requests with STROBE/ISPF”. If you use the STROBE command language to communicate with STROBE, read Chapter 5, “Measuring with the Strobe Command Language”. Read Chapter 6, “Creating Performance Profiles Using Procedures” to learn how to use procedures to create the STROBE Performance Profile.

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## The STROBE Library

The *STROBE* base product manuals include:

- *STROBE MVS Concepts and Facilities*, document number CWSTGX3A  
*STROBE MVS Concepts and Facilities* explains how to decide which programs and online regions to measure, when to measure them, and how to interpret the reports in the *STROBE* Performance Profile.
- *STROBE MVS Messages*, document number CWSTXM3A

*STROBE MVS Messages* lists all messages and abnormal termination (ABEND) codes, describes how to interpret them, and in many cases suggests a corrective action.

- *STROBE MVS System Programmer's Guide*, document number CWSTXI3A

The *STROBE MVS System Programmer's Guide* explains how to install and maintain *STROBE*.

- *STROBE MVS User's Guide*, document number CWSTUX3A and the *STROBE MVS User's Guide with Advanced Session Management*, document number CWSTUA3A

The *STROBE MVS User's Guide* explains how to use *STROBE* to measure application performance. The *STROBE MVS User's Guide with Advanced Session Management* explains how to use *STROBE* with the *STROBE* Advanced Session Management Feature to measure application performance. Users who have the *STROBE* Advanced Session Management Feature will use this manual rather than the *STROBE MVS User's Guide*.

- *STROBE MVS Application Performance Measurement System Quick Reference*

The *STROBE MVS Application Performance Measurement System Quick Reference* is a convenient reference for how to use *STROBE* and for interpreting the *STROBE* Performance Profile.

## STROBE Feature Manuals

These manuals describe the optional features of the *STROBE* MVS Application Performance Measurement System. Each manual describes measurement concepts applicable to and specific data made available by the feature.

- *STROBE MVS User's Guide with Advanced Session Management*, document number CWSTUA3A
- *STROBE ADABAS/NATURAL Feature*, document number CWSTUN3A
- *STROBE CA-IDMS Feature*, document number CWSTUR3A
- *STROBE CICS Feature*, document number CWSTUC3A
- *STROBE COOL:Gen Feature*, document number CWSTUG3A
- *STROBE CSP Feature*, document number CWSTUP3A
- *STROBE DB2 Feature*, document number CWSTUD3A
- *STROBE IMS Feature*, document number CWSTUI3A
- *STROBE Interface Feature*, document number CWSTUF3A
- *STROBE Java Feature*, document number CWSTUJ3A
- *STROBE MQSeries Feature*, document number CWSTUM3A
- *STROBE UNIX System Services Feature*, document number CWSTUU3A

## Online Documentation

*STROBE* manuals are available in HTML, Adobe Acrobat PDF format, and IBM BookManager format, on CD-ROM and at Compuware's technical support Web site at <http://frontline.compuware.com>.

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## Online Help

*STROBE* products provide the following online information:

- *STROBE/ISPF Online Tutorials*, Option T from the *STROBE/ISPF STROBE OPTIONS* menu

- STROBE/ISPF Online Message Facility, Option M from the STROBE/ISPF STROBE OPTIONS menu

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## Other Compuware Application Performance Management Products

The following products and features work in conjunction with the STROBE MVS Application Performance Measurement System. These tools extend the benefits of application performance management (APM).

### iSTROBE

iSTROBE enables you to view and analyze STROBE Performance Profile data on a workstation using a standard Web browser. Easy to install and easy to use, iSTROBE guides you through the performance analysis process and offers recommendations for improving performance. iSTROBE simplifies the performance analysis of applications that you measure with STROBE. For more information on iSTROBE, see the *iSTROBE Getting Started Guide*.

### SQL Analysis Feature

The SQL Analysis Feature works in conjunction with STROBE and iSTROBE or APMpower to supply access path analyses and database and SQL coding recommendations for DB2 applications measured by STROBE. The SQL Analysis Feature pinpoints the most resource-consuming static or dynamic SQL statements, explains why these statements might be inefficient, and provides recommendations to improve the performance of the DB2 application. For more information on the SQL Analysis Feature, see the *STROBE MVS User's Guide* or the *STROBE MVS User's Guide with Advanced Session Management*.

### APMpower

The APMpower Application Performance Analysis System extends the benefits of STROBE to application developers who use workstations to develop, test, and maintain MVS applications. Developers employ the APMpower graphical user interface and advanced analytical aids to navigate the Performance Profile, analyze and improve application performance, and share performance knowledge across the IS organization. For more information about APMpower, see the APMpower documentation.

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## Compuware APM Technical Support

For North American customers, for technical support, please contact the Technical Support department by telephone at (800) 585-2802 or (617) 661-3020, by fax at (617) 498-4010, or by e-mail at [strobe-sup@compuware.com](mailto:strobe-sup@compuware.com).

To access online technical support, visit Compuware's FrontLine page on the World Wide Web at <http://frontline.compuware.com> and select the product "STROBE and APMpower."

For other international customers, please contact your local Compuware office or STROBE supplier.

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## Compuware APM Training

Compuware's Education Resources Group offers a range of training options for organizations that use STROBE, iSTROBE, and APMpower. To arrange Application

Performance Management training, please contact Compuware at 1-800-835-3190 or visit Compuware's Education Resources Group at <http://www.compuware.com/training>

For other international customers, please contact your local Compuware office or STROBE supplier for a complete list of APM Training offerings.

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## Compuware APM Service Offerings

For North American customers, for information about current service offerings, please contact your local Compuware sales office or call Compuware Corporate Headquarters at 1-800-COMPUWARE (266-7892) or visit Compuware's APM Product page on the World Wide Web at <http://www.compuware.com/products/strobe>.

For other international customers, please contact your local Compuware office or STROBE supplier for a complete list of Services offerings.

### APM Installation Assurance

The APM Installation Assurance service assists you in planning for, installing, customizing and using APM products. The service will help you maximize the value and benefits derived from the APM product family.

Consulting engineers work closely with your IT personnel to understand your operating environment and your organization's APM goals. The engineer will assist you in developing a customization and installation plan for STROBE, iSTROBE, and APMpower. The engineer will oversee the installation process and verify product readiness. The engineer will also help set up measurement request schedules, request groups, history records, AutoSTROBE measurement requests, and will verify the installation of the SQL Analysis Feature.

With APM Installation Assurance services, your organization can immediately maximize the value received from your investment in the APM product family. You will also benefit from a fully customized installation that will enhance the product functionality and increase the automation aspects of your APM initiatives.

### Application Performance Management Consulting

The Application Performance Management (APM) Consulting services assist you in identifying and resolving specific performance problems in your OS/390 business-critical applications.

Using STROBE, iSTROBE, and APMpower, consulting engineers work closely with your IT personnel to measure an application's performance, identify performance improvement opportunities and make recommendations for implementing solutions.

With APM Consulting services, your organization cannot only resolve problems quickly and effectively, but also gain the skills necessary to prevent application performance degradation in the future.

### Application Performance Assessment

The Application Performance Assessment (APA) service assists you in achieving a higher level of performance for your OS/390 business-critical applications.

Using STROBE, iSTROBE, and APMpower, consulting engineers work closely with your IT personnel to evaluate the efficiency of business-critical applications, identify opportunities for improving performance and document the potential savings that can result from implementing recommended solutions.

With APA services, you cannot only improve application performance quickly and effectively, but also gain the knowledge and skills necessary to implement and sustain a process-oriented application performance management (APM) program.



# Chapter 1.

## Planning to Use STROBE

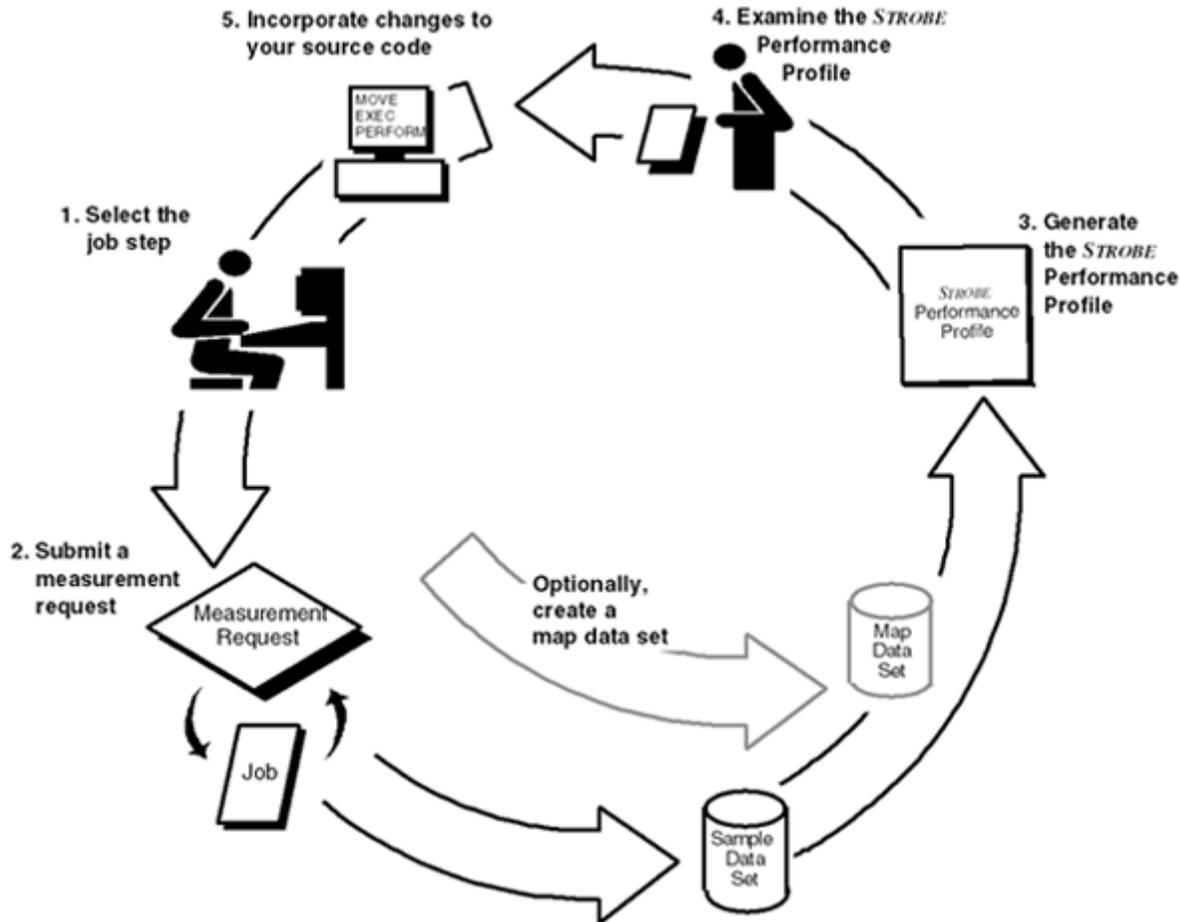
This chapter provides an overview of the tasks associated with measuring application performance with STROBE, as well as a discussion of the various planning considerations for each of these tasks.

**Note:** If you are new to measuring application performance with STROBE, you first need to become familiar with the fundamentals of STROBE. *STROBE MVS Concepts and Facilities* provides you with the basic knowledge required to use STROBE effectively. It discusses how to decide which programs and subsystems to measure, when you should measure them, and how to interpret the reports in the STROBE Performance Profile.

Follow the instructions in Chapter 2, “Measuring with STROBE/ISPF”, Chapter 3, “Producing Performance Profiles with STROBE/ISPF”, and Chapter 4, “Managing Measurement Requests with STROBE/ISPF” of this book to measure the performance of your application.

## Tasks and Key Terminology

Figure 1-1. Overview of STROBE Tasks



To obtain the maximum benefit from STROBE, you must complete a set of tasks. Figure 1-1 shows these tasks and the sequence in which you usually perform them. These tasks are briefly described below.

1. **Select the job step you want to measure.** STROBE can measure an application whether it runs as a batch processing job, uses TSO, or executes in an online region. The job step you decide to measure is called the *target job step*.
2. **Create a measurement request.** A measurement request specifies the measurement parameters for the target job step. You can specify the parameters through STROBE/ISPF or through the STROBE command language. Optionally, you can request that STROBE automatically create a Performance Profile upon completion of the measurement session.
3. **Submit the measurement request.** Once you have prepared the measurement request, submit the request using STROBE/ISPF or through the STROBE command language. As soon as the target job step is active, STROBE begins a *measurement session*, an interval during which STROBE collects application performance data for the application during the execution of the target job step. A measurement request can consist of one or more measurement sessions. During each session, STROBE collects and stores measurement data in a *sample data set*, a file that contains the information collected during a single measurement session. The measurement session begins

when STROBE opens the sample data set and ends when STROBE closes it. Each measurement session corresponds to one sample data set.

**Optionally, create a map data set.** A map data set is the repository for the information STROBE uses to relate hexadecimal offsets and addresses in the object module with procedures or statements in the source program. You can create a map data set with STROBE/ISPF or by using cataloged procedures. This step can be performed at any time. Typically, you create and review the Performance Profile to identify modules that display application performance improvement opportunities and then decide whether to create map data sets for any of those modules.

4. **Create the STROBE Performance Profile.** After STROBE closes the sample data set, you can create the Performance Profile.

The Performance Profile is a hierarchical series of reports that presents the application performance data collected by STROBE during a measurement session. These reports show where and how time is spent during application execution. You can create the Performance Profile using STROBE/ISPF or stored procedures. When using STROBE/ISPF, you can specify that STROBE automatically creates the Performance Profile upon completion of the measurement session.

If you supply a map data set when you create the Performance Profile, the resulting reports relate activity to line numbers and procedure names in your application, instead of hexadecimal offsets. This process is called *indexing*. Although indexing is optional, Compuware recommends you perform the indexing process to aid your program analysis.

5. **Examine the STROBE Performance Profile.** By interpreting the report data, you can identify where the resource demands are concentrated and determine where to make changes to improve the performance of the application. Performance improvement opportunities include
  - high concentrations of CPU activity
  - excessive wait time
  - how your application invokes system service routines
6. **Incorporate changes to your source code.** You may decide to make changes to your application, based on your analysis of the Performance Profile. For example, you may want to change how your application uses resources or rewrite the code so that certain statements are executed only when necessary. You may also conclude that you need to make JCL changes, or perhaps improve the way your application accesses files.
7. **Verify improvement by repeating the cycle.** Once you have decided on a course of action and implemented your changes, measure the application again with STROBE to verify the improvements you anticipated.

---

## Planning Your Tasks

This section describes the planning considerations for the tasks described in “Tasks and Key Terminology” on page 1-2. Before you measure an application, Compuware recommends that you consider the planning issues associated with each of these tasks.

### Selecting Job Steps to Measure

With STROBE you can measure applications that run as batch jobs, use TSO, or execute in online regions. Various conditions may indicate that a particular application should be measured with STROBE.

### Batch Processing Applications

A production batch processing program usually executes as a job step within a production job. A likely target for measurement is a batch job that has recently begun

consuming more resources and/or clock time than usual. For example, you would probably measure a batch processing job that is exceeding the available batch window and impairing the application performance or availability of online regions.

## Online Applications

The system demands of online applications vary during the course of a day. The first step is to determine what online regions require measuring, and what time frame you are interested in observing. There are several approaches to measuring online regions:

- Submit one measurement request that spans the time frame in which you are most interested.
- Submit one measurement request, but specify that the request use multiple measurement sessions (more than one sample data set associated with the request). STROBE allows you to change sample data sets and produce a Performance Profile while sampling continues in a different sample data set. This approach enables you to check application performance without interrupting the measurement process.

For example, the transaction response time for a crucial CICS application slows down every day at the same time. In this situation you can measure the application when the response time is acceptable, and measure it again when application performance degrades. By comparing the Performance Profile reports for the two measurement sessions, you can identify and examine potential areas for improvement in your online application.

## Creating and Submitting the Measurement Request

After you have targeted an application to measure, you need to configure your measurement request. Decide on your session duration and target sample size.

### Submitting Active and Queued Requests

You can submit a measurement request in two ways:

- If you submit your request while a target job step is executing, STROBE begins measurement immediately within the active job's address space. This type of measurement request is called an *active request* and is commonly used to measure online applications.
- If you submit your request before the target job step executes, STROBE begins measurement when the target job step becomes active. This type of measurement request is called a *queued request* and is helpful in measuring batch applications.

Another consideration is whether you are measuring a batch job or an online application. If you are measuring a batch job, you may want to measure only a certain step of the job. With an online application, you may want STROBE to conduct several measurement sessions for comparison purposes, as explained in "Online Applications" on page 1-4.

The following sections describe preparing the measurement request. In addition, there are several other measurement options that you may want to consider.

### Setting the Session Duration and the Target Sample Size

The *session duration* of the measurement session is an estimated length of time during which STROBE will measure the application. The value that you specify for this parameter depends on what you are measuring:

- To measure a batch job step that is not currently executing, the session duration should be an estimate of how long the step runs.

- To measure an online region, or a currently executing batch processing job step, session duration should be equal to the amount of time for which you want to collect measurement information. Very active regions or jobs can be accurately measured with short measurement sessions. For example, if you detect symptoms of poor performance in an online region (such as sluggish response) a brief measurement of the online region can help identify the cause. Less active regions or jobs require longer measurement sessions.

The *target sample size* for the measurement session is the number of measurement samples STROBE collects during the measurement session. In most cases, a value of 10,000 for the target sample size is sufficient. However, if the application you are measuring runs for a very short time, consider increasing this value to ensure that STROBE collects a sufficient number of samples for the reports in the Performance Profile to be statistically valid.

## Creating the STROBE Performance Profile

The Performance Profile is a hierarchical series of reports that presents the application performance data collected by STROBE. These reports show where and how time is spent during application execution.

When STROBE builds the Performance Profile, it processes, correlates, and merges information from the sample data set and, if provided, the map data set. Depending on the application you have measured, and the data you want to examine, you may be interested in only some of the information that STROBE has collected.

By default you get all the information you need, but you can specify which reports, and how much detail, the Performance Profile contains. Chapter 3, “Producing Performance Profiles with STROBE/ISPF” and Chapter 6, “Creating Performance Profiles Using Procedures” explain how to tailor reports and how to generate customized reports that include special details. You should first refer to *STROBE MVS Concepts and Facilities* to review all of the types of reports that can be generated in a Performance Profile.

The following sections explain how to customize the Performance Profile so you can view particular measurement data. If you are using STROBE/ISPF, these options are available on the STROBE - DETAIL FOR A PERFORMANCE PROFILE and STROBE - TAILOR REPORTS panels. If you are creating Performance Profiles with a batch job, specify these options by using the parameters described in “Specifying Options for Reports” on page 6-1.

## Automatically Creating the Performance Profile

You can manually create the Performance Profile using STROBE/ISPF or stored procedures, or you can specify that STROBE automatically create the Performance Profile upon completion of the measurement session. To automatically create the Performance Profile, specify this option when you submit the active or queued measurement request using STROBE/ISPF. Selecting the automatic Performance Profile option saves time because it combines two steps into one.

## Controlling the Level of Detail in the Performance Profile

You can either compress or expand the level of detail of the reports in the Performance Profile. You can control the size of the reports by specifying certain parameters when you create the Performance Profile. For several reports, you can specify a minimum percentage of activity that must occur in order for a procedure or cylinder to appear as an individual line on the report. If the percentage is not reached, contiguous procedures or cylinders are condensed to a single line. The lower the number you specify, the greater the level of detail in the reports.

The following reports have minimum percentage options:

- Program Usage by Procedure
- DASD Usage by Cylinder
- Transaction Usage by Control Section

- Attribution reports

You can also break the reports into manageable sections by specifying the report resolution; that is, the number of bytes to be considered a codeblock for detailed reporting. Once again, the lower the number you specify, the greater the level of detail in the reports. For more information, see *STROBE MVS Concepts and Facilities*.

## Suppressing Reports

Some of the reports can contain statistical data that is not relevant to your application and runtime environment. You can suppress these reports. You can also suppress all the Attribution reports for a specified type of attribution. You can suppress attribution reports for SVCs, DB2, CICS, CA-IDMS, CSP, PL/I, COBOL, COOL:Gen (formerly Composer), ADA3GL, IMS, Java, and MQSeries.

You can also suppress the following reports:

- Transaction Usage by Control Section
- Program Usage by Procedure
- DASD Usage by Cylinder
- Data Set Characteristics Supplement
- CICS Transaction Profile
- CICS Region Level

## Formatting the Performance Profile

STROBE provides several options that affect the appearance of the Performance Profile. For example, you can specify a subtitle that appears on the title line of the Performance Profile. You can also specify the maximum number of lines per page that appears on Performance Profile reports.

## Creating an iSTROBE Data File

If iSTROBE is installed at your site, you can use STROBE to create an iSTROBE data file that enables you to analyze the Performance Profile at a workstation using a standard Web browser. For more information, see “Creating iSTROBE Data Files” on page 3-3.

## Creating an APMpower Profile Data File

If APMpower is installed at your site, you can use STROBE to create an APMpower Profile data file to add to your APMpower Profile Library. For more information, see “Creating APMpower Profile Data Files” on page 3-10.

## Analyzing Performance Profiles

Analyzing reports in the Performance Profile can reveal areas of a program or subsystem that offer significant opportunities for improvement. How you perform the analysis can depend on several factors. For example, one factor is whether you are comparing application performance across time intervals. If so, make sure that the Performance Profiles reflect the time intervals that you want to compare.

For an in-depth analysis of a Performance Profile, see *STROBE MVS Concepts and Facilities*. To learn how to analyze Performance Profiles with iSTROBE, see the *iSTROBE Getting Started Guide*. To learn how to analyze Performance Profiles using APMpower, consult the *APMpower Reference Guide*.

## Creating a Map Data Set to Index Source Code Modules

Sometimes you may be fairly certain the source code is the cause of an application's poor performance problem. For example, you suspect a specific transaction is causing the sluggish response time for an online region. You can then measure the online region with

STROBE and, if the resulting data confirms what you suspected, you can change the source code to correct the problem.

However, you may not be able to pinpoint why an application is performing poorly. If you did not write the source code or if the code is very complex, you may not quickly be able to identify the source of the problem. In these cases, use STROBE's indexing capability to track down performance problems:

1. Measure the application with STROBE to identify potential problem areas.
2. Create the Performance Profile.
3. Use the Performance Profile to narrow possible problem areas down to specific source code modules.
4. Create a map data set for each of the selected modules.
5. Create the Performance Profile a second time, specifying the map data set(s) as input along with the sample data set created in the first step. The reports now show how the program activity relates to specific statements or procedures in your source code module.

Although the indexing process is optional, consider making it a part of your overall STROBE measurement process. The additional information indexing provides can significantly reduce the time you spend finding problem areas in your code.

**Note:** If you are indexing, make sure that you have the appropriate SYSPRINT data sets that STROBE requires to map measurement data to source code lines. For more information, see "Creating Compiler SYSPRINT Data Sets" on page 6-18.

---

## Planning for STROBE in a Multisystem Environment

With STROBE MVS for Sysplex you can operate STROBE on a member of a *sysplex*, IBM's multisystem environment. In this environment, an instance of STROBE on one system communicates with the instances of STROBE on other systems in the *sysplex*. This multisystem support offers you a single point of control for submitting, managing, and monitoring measurement requests across systems in the *sysplex*.

### Considerations for Creating and Submitting Measurement Requests

If you are using STROBE in a multisystem environment, you can target your measurement request for one, several, or all of the systems in the *sysplex*. If you do not specify a specific system or list of systems as potential targets, STROBE targets your measurement request for your current system. When the target job step becomes active on **one** of the systems that you specified, STROBE initiates a measurement session on that system.

You can also specify one or more systems for which you do not want to target your measurement request. Excluding a system greatly simplifies the system selection process if, for example, you want the measurement request to target seven of the eight systems in the *sysplex*.

To select or exclude specific systems when submitting measurement requests or when viewing their status, you need to know the systems (and their system identifiers) in the *sysplex* on which you are authorized to submit measurement requests. Although you can specify any system in the *sysplex* as a potential target for your measurement request, STROBE initiates a measurement session only on a system for which you are authorized. To find out what systems you are authorized for, check with your STROBE system programmer before submitting measurement requests in a multisystem environment.

After you submit a measurement request, you can view the status of the request regardless of the system on which it is executing. You can also monitor the status of

other measurement requests on other systems in the sysplex, as long as you are authorized to do so.

## Considerations for Managing and Monitoring Measurement Requests

Be careful when you change or delete measurement requests in a multisystem environment. STROBE ensures that all request numbers are unique across the sysplex. However, STROBE does not ensure that job name specifications on a measurement request are unique across the sysplex. Therefore, you should specify change or delete operations by request number, rather than job name. There may be several requests on multiple systems that all have the same job name specifications. If you submit a delete operation with only the job name as a qualifier, STROBE will delete all of the measurement requests specifying that job name on any active system in the sysplex.

When monitoring the status of measurement requests, note that the default is to display the measurement requests on all of the systems in the sysplex. To limit the scope to a system or set of systems, use the SYSTEM and EXCLUDE parameters when you are monitoring the status of measurement requests.

---

## Where to Find More Information

You can communicate with STROBE through any of these interfaces:

- STROBE/ISPF, an ISPF/PDF dialog that provides a menu-driven interface to the STROBE measurement and reporting functions.
- STROBE command language, which enables you to submit, monitor, and manage measurement requests through TSO commands and batch jobs
- cataloged procedures, which enable you to execute the STROBE reporting function through batch programs

For instructions on how to perform the necessary measurement tasks with STROBE, refer to the specific chapter according to the interface you choose.

### Using STROBE/ISPF

Measurement Requests	Refer To
Submitting (basic)	"Submitting Measurement Requests" on page 2-2
Submitting (with additional options)	"Additional Measurement Options" on page 2-11
Monitoring	"Monitoring Measurement Requests" on page 4-1
Managing	"Changing the Status of Measurement Requests" on page 4-9
	"Terminating Measurement Requests" on page 4-13
	"Listing and Deleting Measurement Requests" on page 4-24
Performance Profiles	Refer To
Producing a basic Performance Profile	"Generating Performance Profiles" on page 3-1

Producing a customized Performance Profile	“Customizing Performance Profiles” on page 3-13
Producing a Performance Profile automatically	“Producing Profiles Automatically” on page 3-12
Creating map data sets	“Indexing from Compiler Source Listings” on page 3-19

## Using STROBE Command Language and Procedures

<b>Measurement Requests</b>	<b>Refer To</b>
Submitting	“Adding and Changing Measurement Requests” on page 5-3
Monitoring	“Viewing Measurement Requests with the LIST Command” on page 5-16
Managing	“Viewing UNIX Processes with the DISPPROC Command” on page 5-18 and “Controlling the Measurement Session” on page 5-19
<b>Performance Profiles</b>	<b>Refer To</b>
Creating	“Using STROE, the Reporting Procedure” on page 6-12
Supplying a map data set for a Performance Profile	“Using STROXE, the Index and Report Procedure” on page 6-19
Creating a map data set	“Using STROzz, the Compile and Index Procedure” on page 6-16 and “Using STROX, the Index Procedure” on page 6-17



## Chapter 2.

# Measuring with STROBE/ISPF

Read this chapter for information about

- adding measurement requests for active jobs
- adding measurement requests for jobs that are not yet executing
- working with request groups
- customizing measurement requests
- submitting measurement requests as batch jobs

---

## Getting Started

STROBE/ISPF is arranged so you can specify the measurement information you want to obtain through a minimum number of panels.

The STROBE OPTIONS menu (Figure 2-1 on page 2-2) is the first screen that appears when you invoke STROBE. From this menu, the first seven options enable you to

- set defaults
- generate measurement requests
- control the measurement session commands
- produce STROBE Performance Profiles

The next four options (Options M, L, T, and C) provide additional information about STROBE and STROBE/ISPF. Option M provides information on messages, Option L accesses the STROBE log, Option T accesses the Tutorial, and Option C provides information on the enhancements to STROBE for the current release. The last option (Option X) allows you to end your STROBE/ISPF session. To access the STROBE/ISPF online help facility, select Option T (TUTORIAL) from the STROBE OPTIONS menu or press the **Help** PF key from any STROBE panel. The tutorial explains how to use STROBE/ISPF and includes a “Getting Started” section that provides an exercise for measuring and reporting with STROBE.

The current STROBE version, release number, and PTF level appear in the upper right corner of this panel. This information specifies the current version of the STROBE software that is installed.

Figure 2-1. STROBE OPTIONS Menu

```

----- STROBE OPTIONS ----- Ver 2 Rel 3.0
OPTION ==> PTF LEVEL FS000000

0 USER DEFAULTS - STROBE/ISPF user default options
1 ADD ACTIVE - Add a measurement request for an executing job
2 ADD QUEUED - Add a measurement request for a job not yet executing
3 STATUS - Monitor/change measurement requests and create profiles
4 PROFILE - Create a Profile of a STROBE measurement session
5 INDEX - Create a map data set
6 BATCH-SUBMISSION - Batch submission of STROBE commands
M MESSAGES - Display information about a STROBE message
L LOG UTILITY - Perform STROBE log utility function
P Packaging Utility- Perform STROBE packaging utility function
T TUTORIAL - Display information about STROBE
C CHANGES - Display summary of changes in this release

X EXIT - Terminate STROBE/ISPF

```

## Submitting Measurement Requests

You have the following options for submitting measurement requests with STROBE/ISPF:

- use the ADD ACTIVE option (Option 1) to submit a measurement request for a job step that is currently executing
- use the ADD QUEUED option (Option 2) to submit a measurement request for a job step that is not yet executing

When you submit an active request, STROBE immediately begins measuring the job step. When you submit a queued request, STROBE begins measuring the target job step when the job step becomes active.

## Adding Measurement Requests for Active Jobs

Submit an active request to measure online applications, as well as batch programs that are running far longer than you expected. For example, if you notice a decrease in the performance of an application executing in an online region, you can immediately initiate a measurement of the application to help determine the cause of the problem. When you submit the request, STROBE immediately begins measuring the job step.

To add a measurement request for a job step that is currently executing:

1. Select Option 1 (ADD ACTIVE) from the STROBE OPTIONS menu.
2. Press **Enter** to display the STROBE - ADD ACTIVE REQUEST panel (Figure 2-2).

Figure 2-2. STROBE - ADD ACTIVE REQUEST Panel

```

----- STROBE - ADD ACTIVE REQUEST -----
COMMAND ==>

JOBNAME ==> WPAFXC      (Jobname or clear to list active jobs)

SYSTEM ==> SCS01      (System or clear to list available systems)

AUTO PROFILE CREATION ==> Y (Y or N; Use Y only when overriding defaults)

MEASUREMENT SESSION INFORMATION:
  SESSION DURATION ==> 1      (Estimated time in minutes)
  TARGET SAMPLE SIZE ==> 10000 (Target number of samples)

TSO USERID TO NOTIFY ==> WPAFXC (Notify when session completes)

SAMPLE DATA SET INFORMATION:
  DATA SET NAME PREFIX ==> ZZ
  UNIT NAME ==> WPAANY VOLUME ==> DISP ==> CATLG (CATLG OR KEEP)

SELECT ADDITIONAL PARAMETERS: (Y or N; Use Y only when overriding defaults)
  DATA COLLECTORS ==> N      MODULE MAPPING DATA ==> N
  SESSION MANAGEMENT ==> N    REQUEST RETENTION ==> N
  OTHER PARAMETERS ==> N

```

3. Specify the target system in the SYSTEM field or clear this field to select from a list of systems. For details, see “Specifying the Target System” on page 2-3.
4. Specify the target job name in the JOBNAME field or clear this field to select from a list of active jobs. For details, see “Specifying the Target Job” on page 2-4.
5. Configure the measurement session by providing information for the following fields:
  - SESSION DURATION—how long you want to measure
  - TARGET SAMPLE SIZE—how many performance samples you want STROBE to take
  - TSO USER ID TO NOTIFY—the TSO user ID for STROBE to notify when the request is complete
 For details, see “Configuring Measurement Sessions” on page 2-6.
6. Specify the sample data set information in the SAMPLE DATA SET INFORMATION fields, if necessary. For details, see “Specifying Sample Data Set Information” on page 2-6.

## Specifying the Target System

To specify the system on which the target job is currently executing:

- Enter the system name in the SYSTEM field of the STROBE - ADD ACTIVE REQUEST panel.
- Or, to view a list of all active systems in the sysplex, clear the field.
- Press **Enter** to display the STROBE - SYSTEM SELECTION LIST panel (Figure 2-3).
- To select a system, type “S” to the left of the system name.

**Note:** Active requests can be targeted only for the system on which the job is currently executing.

Figure 2-3. STROBE - SYSTEM SELECTION LIST Panel - Active Measurement Request

```

----- STROBE - SYSTEM SELECTION LIST -----
COMMAND ==>                                SCROLL ==> PAGE

                                CURRENT SYSTEM: SCS01

S - Select ONE system

S SCS01      _ SCS02      _ TLP01      _ TLP04

```

## Specifying the Target Job

To specify the target job to be measured, choose one of the following:

- Enter the job name in the JOBNAME field of the STROBE - ADD ACTIVE REQUEST panel.
- Or, to view a list of all active jobs, clear the JOBNAME field.
- Press **Enter** to display the STROBE - ACTIVE JOB SELECTION LIST panel (Figure 2-4).

Figure 2-4. STROBE - ACTIVE JOB SELECTION LIST Panel

```

----- STROBE - ACTIVE JOB SELECTION LIST -----
COMMAND ==>                                SCROLL ==> PAGE

S - Select job to be measured (Press ENTER to update list)
Change List Limits ==> (Y or N) Change Display Format ==> (Y or N)

SEL  JOB   JOB   PROC   STEP   ASID   TCB   SRB   WSS
     NAME  NUM   STEPNAME  NAME   |      TIME  TIME
-----|-----|-----|-----|-----|-----|-----|-----
*MASTER* SLH
ALLOCAS SLL      ALLOCAS 00D      74.77  0.01  10052K
ANTMAIN SLH      IEFPROC ANTMAIN 00B      0.01  0.02  392K
APPC    S      APPC    025      1.24  0.07  320K
ASCH    S      ASCH    023      2.83  0.44  188K
CATALOG SLH      IEFPROC CATALOG 01C      1317.90 45.87 3144K
CHGSRVR S06208 START  CHGSRVR 06C      2.19  0.24  368K
CICSSJ  S06482 CIC170  CICSSJ  0A5      24.69  2.31  808K
CICSSK  S06468 CIC170  CICSSK  0A9      27.43  2.57  796K
CICSSL  S06487 CIC212  CICSSL  09E      57.68  4.90  744K
CICSSM  S06483 CIC170  CICSSM  0AC      32.03  3.64  776K
S  CICSSN S06521 CIC211  CICSSN  0BF      23.91  2.10  844K
S  CICSSO S06522 CIC211  CICSSO  0C0      24.42  3.00  812K
CIC333P S06484 R6400K00 CIC333P 0AD      168.91 4.43  1476K
CIC333S S06486 CIC330  CIC333S 0AF      30.92  3.38  1616K

```

- To select target jobs, type an “S” to the left of the job name. You can select as many as 32 jobs. If the list is longer than one page, press the **Down** or **Up** function keys to view the rest of the list. To refresh the list, press **Enter** without making a selection.
- When you have selected your target jobs, press **Enter**. STROBE/ISPF returns you to the STROBE - ADD ACTIVE REQUEST panel. The name of the first job you selected appears on the panel.

If the STROBE - ACTIVE JOB SELECTION LIST panel is wider than the screen, press the **Left Function** or **Right Function** keys to scroll the additional columns horizontally. To change the format of the STROBE - ACTIVE JOB SELECTION LIST panel, refer to the section “Changing the Format of the Active Job Selection List” on page 2-18.

The STROBE - ACTIVE JOB SELECTION LIST panel always contains the following types of information:

JOB NAME	The name of the active job.
JOB NUM	The MVS job number or a Limited Function Address Space (LFAS).  A value of "SLL", "SLH", or "SLLH" indicates an LFAS. STROBE will not measure LFASs. These address spaces are normally created by MVS. They are usually accessed by other address spaces via cross memory services and thus have little or no execution on their own behalf.  A value of "S" indicates that this job is one of multiple started tasks with the same job number.
PROC STEPNAME	The procedure step name of the active procedure.
STEP NAME	The name of the active step within the active procedure.

You can optionally display the following columns of information:

SMF ID	The system ID of the system on which the job is running.
ASID	The address space identifier of the active job.
SWAP	One of the following swap status values:  CI Composite input message IN The job is swapped in LW Long wait status NQ Enqueued hold processed NS Nonswappable OT Request to enter a swap-out state SW Logically swapped TW Terminal wait state WT Request to enter a wait state <> In transition into or out of main storage
WSS	The working set size.
SRB TIME	The total accumulated service request block CPU time for the job.
TCB TIME	The CPU time attributed to TCBs in this address space.
ELAPSED TIME	The wall clock time that the job has been running.
CPU RATE	The CPU time used by the job since you last pressed <b>Enter</b> .

**Note:** If you have selected multiple jobs to be measured, STROBE/ISPF displays the other jobs you selected in consecutive order. To bypass a selected job, clear the JOBNAME field and press **Enter**. STROBE/ISPF displays the name of the next selected job.

## Configuring Measurement Sessions

Specify the scope and duration of the measurement session in the MEASUREMENT SESSION INFORMATION fields. Specifying the amount of time you want STROBE to measure and the number of times your application should be sampled provides STROBE with the two most important parameters that determine whether the data collected during measurement is statistically valid.

Try to estimate the session duration as accurately as possible so that STROBE uses the most efficient sampling rate. If you overestimate the duration, STROBE may not gather enough execution samples. If you underestimate the duration, STROBE will gather too many samples and consequently reduce its sampling rate. Underestimation produces a statistically valid profile, but it wastes resources because STROBE discards the extra samples.

Note that for an active request, by default STROBE will stop sampling when the target sample size is reached. The following table provides some guidelines for each of these fields.

## Specifying Sample Data Set Information

Field	Action
SESSION DURATION	Enter a value between 1 and 1440 minutes (default 1). This value, with the target sample size, determines the initial sampling rate (rate=size/duration).
TARGET SAMPLE SIZE	Enter a value between 1000 and 150000 (default 10000). 10,000 samples provides a 0.98% margin of error at a confidence level of 0.95. Unless your application runs for a very short time, you should accept the default value of 10,000.
TSO USER ID TO NOTIFY	In this field, enter the user ID to which STROBE sends a NOTIFY message when the measurement session completes. If you clear this field, STROBE will not send a message.

STROBE stores measurement data in the sample data set. Therefore, before you submit either an active or queued request, you must supply information about the sample data set. For the name of the sample data set, you can accept the installation default prefix and suffix or provide your own. STROBE generates the rest of the name. You may need to enter other information if you are not using System Managed Storage (SMS). For example, if you are not using SMS, you can specify the unit name and the data set disposition.

If you are using SMS, fields for data, storage, and management classes appear instead of unit name, volume, and the data set disposition. Entering data in these fields is optional since SMS provides STROBE with the location of the sample data set.

## Naming the Sample Data Set

STROBE dynamically allocates a sample data set in the address space of the program being measured and creates the data set name. For the name prefix, STROBE uses the value either you or the system installer provided. The rest of the sample data set name is created by STROBE with the format:

*prefix.jobname.SsssDddd.[suffix]*

- *prefix* is a period-delimited string of data set name qualifiers. Your STROBE system programmer may have specified a default prefix. Because the sample data set is

allocated in the same address space as the target job, the prefix **must be** acceptable to any security package at your installation. This prefix cannot exceed 26 characters.

- *jobname* is the name of the job in which the target program executes.
- *sss* is the sequence number of the request measuring a particular job: 001 for the first measurement request, 002 for the second, and so on. When STROBE first activates a measurement request for a job, it increments by one the highest sequence number from its list of requests for the job name and assigns it to the request. It reserves this number until the request is deleted.
- *ddd* is the sequence number of the data set within the measurement request. It also denotes the number of measurement sessions conducted under the request.
- *suffix* is an optional string of characters that can be set at STROBE installation as a system-wide default.

For example, if request 456 measuring MYJOB had two measurement sessions, and request 477 measuring MYJOB had three measurement sessions, then the sample data sets for request 456 would be named:

*prefix*.MYJOB.S001D001, *prefix*.MYJOB.S001D002

and the sample data sets for request 477 would be named:

*prefix*.MYJOB.S002D001, *prefix*.MYJOB.S002D002, *prefix*.MYJOB.S002D003

## Reusing Sample Data Sets

If STROBE finds a sample data set with the same name as the one it is about to create, it reuses the data set, if the originating request has been deleted. When you delete a measurement request, you risk losing the contents of data sets associated with the request.

To preserve the contents of sample data sets for requests that might be deleted, you can

- rename the associated sample data set
- assign a different data set name prefix to new requests for the same job

The following table provides an explanation of each of the sample data set information fields.

Field	Action
DATA SET NAME PREFIX	Enter the high-order qualifiers for the sample data set name. If you leave this field blank, STROBE uses the default specified during STROBE installation. STROBE uses the sample data set name specified in the field, if no user exit overrides it. If you clear the field and a default data set name was specified at installation, STROBE supplies and retains the default. If no default data set name was specified at installation, STROBE supplies and retains STROBE as the prefix. If a null data set name prefix was specified at installation, STROBE supplies no prefix. When you return to the panel, STROBE specifies the TSO Profile Prefix as a default. If the TSO Profile parameter NOPREFIX was supplied, STROBE supplies the TSO user ID.
UNIT NAME	Enter the unit on which the sample data set is to be allocated. The default value is set at system installation. If the data set already exists, STROBE does not apply the UNIT specification.

VOLUME	Enter the volume serial number on which the sample data set is to be allocated. The default value is set at system installation. If the data set already exists, STROBE does not apply the VOLUME specification.
DISP	Enter the data set disposition (CATLG or KEEP). The default is set at system installation.
DATACLAS	For systems using SMS, enter the Data Class.
STORCLAS	For systems using SMS, enter the Storage Class.
MGMTCLAS	For systems using SMS, enter the Management Class.

## Adding Measurement Requests for Jobs Not Yet Executing

When you submit a queued request, STROBE initiates a measurement task when the target job becomes active. Because you are requesting a measurement session for a job that has not yet begun executing, you can target specific job steps.

To add a measurement request for a job that is not yet executing, complete the following steps:

1. Select Option 2 (ADD QUEUED) from the STROBE OPTIONS menu.
2. Press **Enter** to display the STROBE - ADD QUEUED REQUEST panel (Figure 2-5).

**Figure 2-5.** STROBE - ADD QUEUED REQUEST Panel

```

----- STROBE - ADD QUEUED REQUEST -----
COMMAND ==>

JOBNAME  ==> WPAFXC   (Jobname)
PROGRAM  ==> WPAFXC   (Program)
STEP     ==>          (Name, number or step.procstep)
SYSTEM   ==> SCS01   (System or clear for a list or *ALL for all systems)

AUTO PROFILE CREATION ==> Y (Y or N; Use Y only when overriding defaults)

MEASUREMENT SESSION INFORMATION:
SESSION DURATION  ==> 5      (Estimated time in minutes)
TARGET SAMPLE SIZE ==> 20000 (Target number of samples)

TSO USERID TO NOTIFY ==> WPAFXC (Notify when session completes)

SAMPLE DATA SET INFORMATION:
DATA SET NAME PREFIX ==> ZZ
UNIT NAME  ==> WPAANY  VOLUME ==>          DISP ==> CATLG (CATLG or KEEP)

SELECT ADDITIONAL PARAMETERS: (Y or N; Use Y only when overriding defaults)
DATA COLLECTORS      ==> N      MODULE MAPPING DATA      ==> N
SESSION MANAGEMENT  ==> N      REQUEST RETENTION          ==> N
OTHER PARAMETERS     ==> N

```

3. Specify the target job name in the JOBNAME field. For details, see “Specifying the Target Job Name” on page 2-10.
4. Specify the target job step in the PROGRAM or STEP fields.

To measure	Specify
The target job by its program name	The name (as it appears in the PGM= operand of the EXEC statement) in the PROGRAM field.

- The target job by its step name
- Enter one of the following in the STEP field:
- The relative step number.
  - The step name.
  - If the step is part of a procedure, specify the step name and procedure step name. For example, if the step name is STEP7 and the procedure step name is PLIXCLG, specify STEP7.PLIXCLG.
  - If the step is part of a nested procedure, specify the step name of the procedure containing the nested procedure, and the procedure step name of the nested procedure. STROBE measures the first executable step identified by the procedure step name. For more information on specifying nested procedures as target job steps, see “Identifying the Target Job” on page 5-5.

**Note:** If you specify more than one step identifier, make sure that the target job step satisfies all conditions. If STROBE identifies a job step that meets only some of the conditions, it does not measure the job step. If a specified job step name or program name appears more than once in a given job, STROBE measures the first occurrence. To measure a later execution of the step or program, specify the step number in the STEP field.

5. Specify the target system in the SYSTEM field. Clear this field to select from a list of systems. For more information, see “Specifying the Target System for a Queued Measurement Request” on page 2-10 below.
6. Configure the measurement session by providing information in the following fields:
  - SESSION DURATION—how long you estimate the job will run
  - TARGET SAMPLE SIZE—the number of performance samples
  - TSO USER ID TO NOTIFY—the TSO user ID for STROBE to notify when the request is complete

For more information, see “Configuring Measurement Sessions” on page 2-6.

7. Specify the sample data set information in the SAMPLE DATA SET INFORMATION fields. For details, see “Specifying Sample Data Set Information” on page 2-6.

## Specifying Other Report and Measurement Options

The steps for controlling the length and scope of the measurement session and identifying the sample data set are the same as those for an active request. For more information see “Configuring Measurement Sessions” on page 2-6 and “Specifying Sample Data Set Information” on page 2-6.

Optionally, you can

- Request that a Performance Profile be automatically created upon completion of the measurement session. For more information, see “Producing Profiles Automatically” on page 3-12.
- Specify values that govern how STROBE manages the request and specify additional measurement data beyond the basic information returned in a Performance Profile. These optional fields are described in “Additional Measurement Options” on page 2-11.



## Specifying Other Options for a Queued Request

The steps for controlling the length and scope of the measurement session and identifying the sample data set are the same as the steps for an active request. For more information, see “Configuring Measurement Sessions” on page 2-6 and “Specifying Sample Data Set Information” on page 2-6.

To learn more about optional fields, such as scheduling requests, saving a request in a request group, specifying data collectors and module mapping data, see “Additional Measurement Options” below.

---

## Additional Measurement Options

The procedures discussed up to this section describe the basics of submitting measurement requests. However, there are additional types of measurement data that you can collect, and additional ways to configure your measurement request. This section describes all of the advanced measuring options available to you with STROBE. These options include how to:

- specify data collectors
- specify additional module mapping facilities
- add session management parameters
- specify other parameters
- retain measurement requests for a specified length of time

To perform any of these tasks, enter “Y” in the corresponding field of the STROBE - ADD ACTIVE REQUEST panel (Figure 2-2 on page 2-3) or the STROBE - ADD QUEUED REQUEST panel (Figure 2-5 on page 2-8) and press **Enter** to display the selected panel.

STROBE/ISPF displays the selected panels. When you press **Enter** on the last panel, STROBE/ISPF submits the measurement request. The following sections describe each of these additional measurement options.

### Specifying Data Collectors

STROBE data collectors gather additional data for applications in ADABAS, CICS, DB2, CA-IDMS, IMS, Java, MQSeries and other subsystem environments. When you measure one or more of these subsystems and your installation uses the standard IBM-supplied names for the load modules that initialize the regions, STROBE automatically invokes the available data collectors.

STROBE invokes a data collector when the first four characters of the module name that begins execution in the target subsystem match the last four characters of any of the STROBE data collectors. For example, STROBE calls the CICS data collector STRBDFHS whenever it encounters a measurement request for a CICS address space, provided the name of your CICS initial program has a standard prefix of “DFHS” (for example, DFHSIP).

Use the STROBE - DATA COLLECTORS panel (Figure 2-7 on page 2-12) to override the STROBE defaults. If your installation uses a nonstandard name for any of the subsystems that STROBE supports, specify the appropriate data collector option.

The STROBE - DATA COLLECTORS panel displays only the STROBE features that are installed at your site.

- Available STROBE data collectors and language attributors are displayed in the DATA COLLECTORS fields.
- If your installation uses the STROBE CICS Feature, the CICS options fields appear on the panel.

- If your installation uses the STROBE IMS Feature or the STROBE DB2 Feature, the CAPTURE options fields appear on the panel.
- If your installation uses the MQSeries Feature, the Common MQ User Module and Always use as default option fields appear on the panel.

To invoke a STROBE data collector or language attributor, enter “Y” next to the subsystem or language name. To suppress a data collector or attributor, enter “N” next to the name.

**Figure 2-7.** STROBE - DATA COLLECTORS Panel

```

----- STROBE - DATA COLLECTORS -----
COMMAND ==>

OVERRIDE DATA COLLECTOR DEFAULTS FOR JOBNAME: WPAJEA
DATA COLLECTORS: (Y or N; Y adds to and N removes from your system defaults)
ADABAS      ==>   ADA3GL      ==>   C      ==>
CICS        ==>   COBOL      ==>   CSP     ==>
DB2         ==>   IDMS       ==>   IDMS BATCH DML ==>
IEF         ==>   IMS        ==>   JAVA    ==>
MQSERIES    ==>   NATURAL   ==>   PL/I    ==>
SVC         ==>   VSAM      ==>

CICS Options:
Collect Region Data ==>          OR   Produce Performance Supplement ==>
Detail Transaction (TRAN or TR*):    Collect Terminal Activity ==>
=>          =>          =>

CAPTURE Options: (Y or N; default is Y)
DB2      ==>   IMS      ==>

MQ Common User Module      ==>          Always use as default (Y/N) ==>

OTHER DATA COLLECTORS:
PROGRAM NAME      ==>          ==>          ==>          ==>

```

## Special Considerations for Specifying Data Collectors

STROBE always invokes the SVC attributor, and it invokes the VSAM attributor when VSAM activity is present.

**Note:** To obtain VSAM attribution data you must set the STROBE installation parameter LPALIB to YES. See Chapter 3 of the *STROBE System Programmer's Guide*.

STROBE invokes the C, COBOL, CSP, COOL:Gen (formerly Composer), Java, PL/I, MQSeries, and DB2 attributors, if they are installed at your site. (The IEF option enables attribution of COOL:Gen activity.) There are, however, some special considerations for specifying data collectors. These considerations are outlined in the following table:

Task	Enter
Gather Data Manipulation Language information for batch jobs that invoke CA-IDMS	“Y” in the CA-IDMS BATCH DML field. The CA-IDMS BATCH DML option cannot be used in conjunction with the CA-IDMS option.
Collect statement information in batch jobs that call NATURAL	“Y” in the NATURAL field.
Attribute wait time caused by a 3GL program written in COBOL, Assembler, C, or PL/I in an ADABAS/NATURAL environment	“Y” in the ADA3GL field. This option cannot be used in conjunction with the ADABAS option.

Suppress data collection for the CICS Performance Supplement	“N” in the Produce Performance Supplement field. To enter a value in this field, you must specify “Y” in the CICS data collector field. This option only appears on the panel if the STROBE CICS Feature is installed at your site.
Suppress data collection for the Network Activity report of the CICS Performance Supplement	“N” in the Collect terminal activity field. This option only appears on the panel if the STROBE CICS Feature is installed at your site.
Suppress data collection for CICS Region Data	“N” in the Collect Region Data field. To enter a value in this field, you must specify “Y” in the CICS data collector field. This option only appears on the panel if the STROBE CICS Feature with the CICS Transaction Profile option is installed at your site.
Collect detailed performance information for CICS transactions	From one to five CICS transaction names in the Detail Transaction field. Enter any valid CICS transaction name. To target sets of CICS transactions, use a wildcard (*) as the last character. To enter transactions, you must also specify “Y” in the CICS data collector field. You cannot use this option if you specify “Y” in the Produce Performance Supplement field. This option only appears on the panel if the STROBE CICS Feature with the CICS Transaction Profile option is installed at your site.  <b>Note:</b> The names of CICS system transactions are not valid in this field.
Identify the invokers of the module that is the common user routine that the application uses for MQSeries APIs.	The module name in the MQ Common User Module field. To use this option, you must specify “Y” in the MQSeries Data Collector field. This option only appears on the panel if the STROBE MQSeries Feature is installed at your site.
Apply the MQ Common User Module entered only to the current measurement request	“N” in the Always use as default field. If you specify “Y,” and you entered a valid name in the Common MQ User Module field, then STROBE uses this module as the default for all subsequent measurements. This option only appears on the panel if the STROBE MQSeries Feature is installed at your site.

For more information on these data collector options, see the appropriate STROBE Feature manual.

#### OTHER DATA COLLECTORS

To specify other data collectors, enter their names in these fields. STROBE first invokes the STROBE data collectors that have “Y” in the DATA COLLECTORS field, followed by any data collectors in the PROGRAM NAME fields. Finally, it invokes any other STROBE data collectors that are used by default for the measured address space. If your data collectors rely on information from the STROBE data collectors, enter “Y” next to the subsystem names in the DATA COLLECTORS portion of the panel to ensure that STROBE invokes the data collectors in the proper sequence.

## Entering Module Mapping Specifications

When STROBE maps the control section structure of a load module, it uses data from the library in which the load module resides. This mapping information enables STROBE to report activity in the control section that caused it, rather than in an offset from the beginning of the load module. For this reason, STROBE must map any modules that you want to index. STROBE automatically maps a load module if module mapping information is required for attribution, or if the percentage of execution samples for the module is greater than or equal to the percentage supplied in the DETAIL BASELINE parameter described below.

**Note:** To ensure that control section information is complete, you must compile all VisualAge products with the binder option EDIT=YES (the default).

The STROBE - MODULE MAPPING panel (Figure 2-8) enables you to enter module mapping specifications.

**Figure 2-8.** STROBE - MODULE MAPPING Panel

```

----- STROBE - MODULE MAPPING -----
COMMAND ==>

ADDITIONAL MEASUREMENT INFORMATION FOR JOBNAME:  SAJVSTST

LIBRARIES TO SEARCH to get module mapping data:
==>
==>
==>

DETAIL BASELINE  ==> 00           (Minimum percent of time spent executing
                                a module for it to be mapped)

BASELINE OVERRIDE ==>           ==> (Names of load modules to be
                                ==> mapped without regard to the
                                ==> BASELINE restriction)

SVC NUMBERS  ==> 19,20         ==> (Specify SVCs--a number or range
                                ==> of numbers (e.g., 1-5)--whose
                                ==> modules are to be identified)

```

### LIBRARIES TO SEARCH

STROBE searches the link pack area (LPA) libraries when

- The module is loaded from LPA.
- Your STROBE system programmer specifies in the STROBE parameter file that LPA libraries can be searched.

If the above conditions are not met, STROBE searches the following libraries, in this order, to obtain mapping data:

```

STRBLIB
STRBDD
TASKLIB (ATTACH macro with TASKLIB=)
DB2LIB (DB2 executed from TSO TMP)
DFHRPL (CICS)
CDMSLIB (CA-IDMS)
DFSRESLB (IMS)
ISPLLIB (ISPF)

```

```

ISPLoad (ISPF)
PGM=*.DD
STEPLIB
JOB LIB (not searched if STEPLIB is present)
LPA
LINK LIST LIBRARIES

```

If the module you want to map is not loaded from one of these libraries, you can enter the data set names of additional libraries here. STROBE searches these libraries first.

#### DETAIL BASELINE

To specify the minimum percentage of execution samples required for a module to be mapped, enter a value from 0 to 99 in this field (default 2).

#### BASELINE OVERRIDE

To designate modules to be mapped regardless of the percentage of execution samples gathered, enter the module names in these fields. For STROBE to gather attribution information for PL/I or COBOL library routines that are statically linked in subprograms, you must include the subprogram name in this field.

#### SVC NUMBERS

To specify SVC modules for which you want more detailed reporting, enter the SVC numbers in these fields. STROBE normally reports all execution in an SVC as occurring within an SVC pseudo-section named "SVC *nnn*". When you specify an SVC number, STROBE shows execution within the modules called by the invocation of the SVC, provided the SVC is loaded by standard MVS contents management, the SVC is a type 3 or type 4, and the SVC is not holding a local lock. Specify one of the following:

- a single number
- a list of numbers separated by commas
- a range of consecutive numbers separated by a hyphen (for example, 1-5)

## Specifying Session Management Parameters

A single measurement request comprises one or more measurement sessions; each session produces one sample data set. For an active request, by default STROBE terminates a the request after it collects the target number of samples. For a queued request, by default, STROBE continues sampling until the measured step terminates. The STROBE - SESSION MANAGEMENT PARAMETERS panel (Figure 2-9) enables you to change both the number of sessions and the action STROBE takes after the final session is complete.

Figure 2-9. STROBE - SESSION MANAGEMENT PARAMETERS Panel

```

----- STROBE - SESSION MANAGEMENT PARAMETERS -----
COMMAND ==>

ADDITIONAL MEASUREMENT INFORMATION FOR JOBNAME:  SAJVSTST

NUMBER OF SESSIONS  ==> 1      The number of consecutive times the target
                               sample size is to be collected.  Each
                               session creates a new sample data set.

FINAL SESSION ACTION ==> C     Action occurs at end of the last session.
                               (Q)uit--Stop sampling, close sample file.
                               Measurement session is terminated.
                               (S)top--Stop sampling, close sample file.
                               Measurement session remains active.
                               (C)ontinue sampling--Do not take any action
                               at target sample size. Number of
                               sessions must be 1.

```

### NUMBER OF SESSIONS

To specify the number of measurement sessions you want STROBE to conduct, enter a value between 1 and 99 in this field (default 1). If you specify more than one session, STROBE closes the sample data set when it reaches the target sample size and begins a new one immediately. This option enables you to produce several data sets when measuring one job step.

### FINAL SESSION ACTION

To specify the action STROBE takes after it reaches the target sample size in its last session, enter:

- Quit** Stop sampling, end the measurement session, and terminate the measurement request (default for an active request).
- Stop** Stop closes the current sample data set, making it available for report processing, and suspends the request. You can restart it later with a START operand. This allows you to measure an address space multiple times with the same STROBE measurement request. You can issue START via the Change option on the STROBE - STATUS panel. See “Changing a Stopped Measurement Session” on page 4-11 in Chapter 4, “Managing Measurement Requests with STROBE/ISPF” for details.
- Continue** Take no action when the target sample size is reached (default for a queued request); the number of sessions must be 1.

## Specifying Other Parameters

When you initiate an Add request, STROBE gathers the information you have entered on the STROBE - ADD ACTIVE REQUEST or STROBE - ADD QUEUED REQUEST panels and builds the appropriate ADD command. Before it submits this command to STROBE, however, STROBE/ISPF appends any additional STROBE operands that you have entered on the STROBE - OTHER PARAMETERS panel (Figure 2-10). Normally, the STROBE system programmer uses this panel under the direction of a Compuware Systems Engineer to enter parameters during STROBE problem determination.

**Figure 2-10.** STROBE - OTHER PARAMETERS Panel

```

----- STROBE - OTHER PARAMETERS -----
COMMAND ==>

OTHER PARAMETERS FOR JOBNAME :   SAJVSTST

OTHER PARAMETERS ==> IMS=(CAPTBUFF=100)

```

STROBE/ISPF does not interpret the text that you enter on this panel, nor does it verify the syntax. For more information on STROBE commands, see Chapter 5, “Measuring with the Strobe Command Language”.

## Retaining Measurement Requests

The STROBE - REQUEST RETENTION panel enables you to manage your requests by specifying how long STROBE keeps the requests on the system. Figure 2-11 shows the STROBE - REQUEST RETENTION panel for a queued request. The date format displayed on the panel depends on the date format specified in the STROBE parameter data set.

**Figure 2-11.** STROBE - REQUEST RETENTION Panel

```

----- STROBE - REQUEST RETENTION -----
COMMAND ==>

ADDITIONAL INFORMATION FOR JOBNAME:  WPAFXC

Today's date is 02/15/1999 (MM/DD/YYYY)

QUEUED RETENTION   ==> 3   (Specify the number of days from today that
                             the queued request should be deleted.)

COMPLETED RETENTION ==> 7   (Specify the number of days to retain
                             the completed request.)

```

- In the QUEUED RETENTION field, enter the number of days from today to retain a measurement request for a job that has not executed. If STROBE has not measured the requested job step after the specified number of days, STROBE deletes the request at the end of the final day. Enter a number between 0 and 999. Specifying 0 causes STROBE to delete the request at the end of the current day. Specifying 999 causes the request to remain queued until STROBE measures the requested job step. The QUEUED RETENTION field does not appear for active requests.
- In the COMPLETED RETENTION field, enter the number of days after the measurement request completes to retain the request on the system. After the specified number of days, STROBE deletes the request at the end of the final day. Enter a number between 0 and 999. Specifying 0 causes STROBE to delete the request at the end of the day of the measurement. Specifying 999 causes the request to remain on the system indefinitely.

If you clear a retention field, STROBE applies the system's default value.

The example in Figure 2-11 shows a setting that will keep the request on the queue for three days. If the request runs within that time, STROBE keeps the completed request on the system for one week.

## Changing the Format of the Active Job Selection List

To help you identify the jobs that are running, STROBE/ISPF provides the STROBE - ACTIVE JOB SELECTION LIST panel (Figure 2-4 on page 2-4), which identifies all jobs that are currently active. You can control the format of the columns on this panel as well as limit the job names and types of jobs that are included in the list. For each column on the panel, you can choose whether to display the column in the list, whether to sort the values in the column, and the column's sort sequence.

### Changing the Display Format

To customize the display format complete the following steps:

1. Type "Y" in the CHANGE DISPLAY FORMAT field of the STROBE - ACTIVE JOB SELECTION LIST (Figure 2-4 on page 2-4).
2. Press **Enter** to display the STROBE - ACTIVE JOB DISPLAY FORMAT panel (Figure 2-12), which controls the format of the Active Job Selection List. The STROBE - ACTIVE JOB DISPLAY FORMAT panel (Figure 2-12) lists the fields you can display on the ACTIVE JOB SELECTION LIST.

**Figure 2-12.** STROBE - ACTIVE JOB DISPLAY FORMAT Panel

```

----- STROBE - ACTIVE JOB DISPLAY FORMAT -----
COMMAND ===>

      DISPLAY      SORT      SORT      DISPLAY
      ORDER      COLUMN  SEQUENCE  TITLE
      -----      -
      1           _2      A         JOBNAME
      2           ---      -         JOBNUM
      3           ---      -         PROC STEPNAME
      4           ---      -         STEP NAME
      ---        ---      -         SMF ID
      ---        ---      -         ASID
      _8         ---      -         SWAP
      _7         ---      -         WSS
      _6         ---      -         SRB TIME
      _5         _1      D         TCB TIME
      _9         ---      -         ELAPSED TIME
      ---        ---      -         CPU RATE
  
```

3. Choose the display order, sort column, and sort sequence. DISPLAY TITLE shows the name of each column. These values are described in the section "Setting SYSOUT Parameters" on page 4-19.
  - To specify the order of the columns that display across the screen, enter the number sequence in the DISPLAY ORDER column. To omit a column from the display, leave DISPLAY ORDER blank.

**Note:** You must display JOBNAME, JOBNUM, PROC STEPNAME, and STEP NAME.

- To specify the category sort order, enter a number in the SORT COLUMN field. Enter "1" for the primary sort field, "2" for the secondary sort field, and so forth.
- To specify the sort order within a column, specify "A" for ascending or "D" for descending in the SORT SEQUENCE field.

For example, Figure 2-12 shows the STROBE - ACTIVE JOB DISPLAY FORMAT panel for the following requirements:

- Display a list of jobs in decreasing order of TCB time
- List jobs with the same TCB time listed in alphabetical order by job name.
- Display the columns in the following order: JOBNAME, JOBNUM, PROC STEPNAME, STEP NAME, TCB TIME, SRB TIME, WSS, SWAPSTATUS, and ELAPSED TIME.
- Sort the information by TCB TIME in descending order. Enter "1" in the SORT COLUMN field next to TCB TIME. To sort in descending order and enter "D" in the SORT SEQUENCE COLUMN field next to TCB TIME. To sort all entries with the same TCB TIME in alphabetical order, enter "2" in the SORT COLUMN and "A" in the SORT SEQUENCE column for the JOB NAME field.

## Changing the List Limits

To limit the job names and types of jobs included in the list of active jobs:

1. Type "Y" in the CHANGE LIST LIMITS field on the STROBE - ACTIVE JOB SELECTION LIST panel.
2. Press **Enter** to display the STROBE - LIMIT ACTIVE JOB LIST panel (Figure 2-13).

**Figure 2-13.** STROBE - LIMIT ACTIVE JOB LIST Panel

```

----- STROBE - LIMIT ACTIVE JOB LIST -----
COMMAND ==>

JOBNAME ==>          (Jobname or jobname prefix; enter * for a pattern match)

TYPE: (Y or N; use Y to view these address spaces on active job list)

JOB ==>   TSO ==>   STARTED TASK ==>   APPC ==>   OMVS ==>

```

3. To limit the ACTIVE JOB NAMES to job names beginning with a particular string of characters, enter the job name or enter the string followed by the wildcard character (\*) in the JOBNAME field. For example, to list job names beginning with ABC, enter "ABC\*". To list all job names, enter the wildcard character (\*).

4. Type "Y" in the appropriate field to limit the ACTIVE JOB SELECTION LIST to

JOB	Batch jobs
TSO	TSO sessions
STARTED TASK	Started tasks
APPC	Advanced Program-to-Program Communications
OMVS	OS/390 UNIX System Services

5. Press **Enter** to redisplay the ACTIVE JOB SELECTION LIST with your new choices.

## Batch Submission of Measurement Requests

You can add measurement requests as batch jobs.

To submit a measurement request as a batch job, select Option 6 (BATCH-SUBMISSION) from the STROBE OPTIONS menu and press **Enter**. STROBE/ISPF displays the BATCH-SUBMISSION OPTIONS menu (Figure 2-14), which enables you to submit requests as batch jobs and manage those requests.

To submit a measurement request, select Option 1 (ADD ACTIVE) or Option 2 (ADD QUEUED) from the BATCH-SUBMISSION OPTIONS menu. To change a request, select Option 3 (CHANGE ACTIVE), Option 4 (CHANGE QUEUED), Option 5 (CHANGE COMPLETED).

When you have completed adding and changing your measurement requests, select Option 7 (JOB STREAM MENU) to process your control statements, or press **End** to cancel processing.

**Note:** The automatic profile option is not available for batch measurement requests.

**Figure 2-14.** STROBE - BATCH SUBMISSION OPTIONS Menu

```

----- STROBE - BATCH-SUBMISSION OPTIONS -----
OPTION ==>

      1  ADD ACTIVE      - Add a measurement request for an executing job
      2  ADD QUEUED     - Add a measurement request for a job not yet executing
      3  CHANGE ACTIVE  - Send a sampling control command to an active request
      4  CHANGE QUEUED  - Change a queued measurement request
      5  CHANGE COMPLETED - Change a completed measurement request
      6  LIST/DELETE    - Display/delete measurement requests
      7  JOB STREAM MENU - Process the generated job stream

END  CANCEL          - Exit without submitting the generated job stream

```

## Adding Batch Measurement Requests for Active Jobs

To add a batch measurement request for an active job:

1. Select Option 6 (BATCH-SUBMISSION) from the STROBE OPTIONS menu.
2. Press **Enter** to display the STROBE - BATCH-SUBMISSION OPTIONS menu (Figure 2-14 on page 2-20).
3. Select Option 1 (ADD ACTIVE).
4. Press **Enter** to display the STROBE - BATCH-SUBMISSION ADD ACTIVE REQUEST panel. For instructions on using this panel, see "Adding Measurement Requests for Active Jobs" on page 2-2.
5. Because you cannot access the ACTIVE JOB SELECTION LIST when submitting batch requests, specify the target job by entering its name in the JOBNAME field.
6. Press **Enter** to create a STROBE control statement specifying the ADD operation.
7. Select Option 7 (JOB STREAM MENU) to process your control statements or press **End** to cancel processing.

## Adding Batch Requests for Job Steps Not Yet Executing

To add a measurement request for a job step that is not yet executing:

1. Select Option 6 (BATCH-SUBMISSION) from the STROBE OPTIONS menu.
2. Press **Enter** to display the STROBE - BATCH-SUBMISSION OPTIONS menu (Figure 2-14 on page 2-20).
3. Select Option 2 (ADD QUEUED).
4. Press **Enter** to display the STROBE - BATCH-SUBMISSION ADD QUEUED REQUEST panel. For instructions on using this panel, see “Adding Measurement Requests for Jobs Not Yet Executing” on page 2-8.
5. Press **Enter** to create a STROBE control statement specifying the ADD operation.
6. Select Option 7 (JOB STREAM MENU) to process your control statements or press **End** to cancel processing.

## Displaying Information About Measurement Requests

To obtain information about measurement requests:

1. Select Option 6 (BATCH-SUBMISSION) from the STROBE OPTIONS menu.
2. Press **Enter** to display the STROBE - BATCH-SUBMISSION OPTIONS menu (Figure 2-14 on page 2-20).
3. Select Option 6 (LIST/DELETE).
4. Select Option 7 (JOB STREAM MENU) to submit the jobs that process the LIST requests.
5. Retrieve and browse the SYSPRINT data sets of the jobs.



## Chapter 3.

# Producing Performance Profiles with STROBE/ISPF

Once you have determined that STROBE has completed measuring the target job you specified and the measurement data has been placed in a sample data set, you can generate a Performance Profile for the measurement session and evaluate the performance of the application. This chapter describes how to

- generate Performance Profiles
- customize Performance Profiles
- create performance Profile data files to use with iSTROBE or APMPOWER
- create indexed Performance Profiles
- browse Performance Profiles

---

## Generating Performance Profiles

You can generate the Performance Profile in any of the following ways:

- from Option 4 (PROFILE) of the STROBE OPTIONS menu
- from Option 3 (STATUS)
- automatically, as a part of the measurement request process

These three options are described in the following sections.

### Producing Profiles from the PROFILE Menu Option

To produce a Profile from the PROFILE option:

1. Select Option 4 (PROFILE) from the STROBE OPTIONS menu.
2. Press **Enter** to display the STROBE - PRODUCE A PERFORMANCE PROFILE panel (Figure 3-1 on page 3-2).

**Note:** If there is a name in the SAMPLE DATA SET NAME field, it is the sample data set name you last selected on the STROBE - STATUS panel, or the sample data set name for the last Profile request that you made.

**Figure 3-1.** STROBE - PRODUCE A PERFORMANCE PROFILE Panel

```

----- STROBE - PRODUCE A PERFORMANCE PROFILE -----
OPTION ==> F

      B - Background processing      F - Foreground processing

ENTER BLANKS TO VIEW A DATASET SELECTION LIST
SAMPLE DATA SET NAME ==> WPANAC.WPAJEA.S001D001

              UNIT ==> WPAANY      VOLUME ==> WPA002

SPECIFY PROFILE REPORT PARAMETERS: (Y or N)
  Detail Reports ==> Y      Tailor Reports ==> Y      Indexing ==> N

PROFILE REPORT FORMAT ==> N ((W)ide or (N)arrow)

NUMBER OF COPIES FOR BACKGROUND REPORTS ==>

Specify a data set name to save a copy of the STROBE Profile Report:
DATA SET NAME ==> 'WPAGFL.IMSV5.PROF'

              UNIT ==> WPAANY      VOLUME ==> WPA001

Specify a SYSIN data set containing parameters for the Reporter:
DATA SET NAME ==>

```

3. Specify processing options. You can produce a Performance Profile either as a batch job step (background) or online (foreground) by entering the appropriate option code in the OPTION field, as described below.
  - To select background processing, enter “B” on the OPTION line. STROBE/ISPF generates a job stream and either submits it to the internal reader or writes it to a data set, or both, depending on your selection on the STROBE - SELECT OPTIONS FOR JOB STREAM Panel (Figure 3-16 on page 3-24). STROBE/ISPF creates the Performance Profile in wide format (121 characters per line). To specify that STROBE/ISPF format the Performance Profile in narrow format (80 characters per line), specify “N” in the OUTPUT FORMAT field
  - To select foreground processing, enter “F” on the OPTION line. STROBE/ISPF displays the Performance Profile online in wide format (121 characters per line). To specify that STROBE/ISPF display the Performance Profile in narrow format (80 characters per line), specify “N” in the OUTPUT FORMAT field
4. Specify the name of the sample data set assigned to the measurement request. For more information, see “Specifying Sample Data Set Information” on page 3-2.
5. Press **Enter** to produce the Profiles.

## Specifying Sample Data Set Information

To specify sample data set information:

- If you know the name of the sample data set type its name in the SAMPLE DATA SET NAME field.
- If you do not know the name of the sample data set, clear the SAMPLE DATA SET NAME field.

Press **Enter**. STROBE/ISPF displays a list of all available sample data sets on the STROBE - SAMPLE DATA SET LIST panel (Figure 3-2).

Type “S” to the left of one or more data set names, indicating which Profiles you want to produce.

**Figure 3-2.** STROBE - SAMPLE DATA SET LIST Panel

```

----- STROBE - SAMPLE DATA SET LIST -----
COMMAND ==>                                SCROLL ==> PAGE

---REQ---OWNERID---JOBNAME---PROGRAM---STEPNAME/STEPNUM---STATUS---SAMPLES---EXEC
  13  WPAABD  WPAABD          $WPAPROC          ACTIVE              3155          26
      ZZ.WPAABD.S001D001.DATA
---REQ---OWNERID---JOBNAME---PROGRAM---STEPNAME/STEPNUM---STATUS---SAMPLES---EXEC
   8  WPAMJR  WPARZS          $WPAPROC          COMPLETED
      ZZ.WPARZS.S001D001.DATA
---REQ---OWNERID---JOBNAME---PROGRAM---STEPNAME/STEPNUM---STATUS---SAMPLES---EXEC
  14  WPASCS  WPASCS          $WPAPROC          CLOSED              94346          861
      ZZ.WPASCS.S001D001.DATA

```

The header line for each request in the STROBE - SAMPLE DATA SET LIST contains:

REQ	The request number (if you have entered “P” or “G” on the STROBE - STATUS panel, the appropriate option code precedes the request number).
OWNERID	The user ID or job name that initiated the request.
JOBNAME	The job name of the measured program.
PROGRAM	The name of the measured program.
STEPNAME/STEPNUM	The name or number of the measured step.
STATUS	The status of the session.

A list of sample data sets associated with the request follows this header line. Each list entry shows:

DSNAME	The name of the sample data set
STATUS	The status of the sample data set (either open or closed)
SAMPLES	The total number of samples in the data set
EXEC	The number of execution samples in the data set

## Creating iSTROBE and APMpower Files

If iSTROBE or APMpower is installed at your site, you can specify that STROBE create compatible formats of the Performance Profile. On the STROBE - PRODUCE A PERFORMANCE PROFILE panel (Figure 3-3 on page 3-4) in the OUTPUT FORMAT field, specify “I” for an iSTROBE data file or “A” for an APMPOWER PDF, and follow these instructions. If the “I” or “A” options are not available, contact your STROBE system programmer. They may need to update the STRBDFLT panel described in the *STROBE MVS System Programmer's Guide*.

### Creating iSTROBE Data Files

If iSTROBE is installed at your site, you can use STROBE to create a file that enables you to view and analyze the Performance Profile at a workstation using a standard Web browser. To create an iSTROBE data file and, optionally, transfer it directly to iSTROBE, follow these steps:

**Figure 3-3.** STROBE - PRODUCE A PERFORMANCE PROFILE Panel

```

----- STROBE - PRODUCE A PERFORMANCE PROFILE -----
OPTION ==>

      B - Background processing      F - Foreground processing

ENTER BLANKS TO BYPASS THIS DATASET
SAMPLE DATA SET NAME ==> 'WPAJEQ.BETH.ADA3GL.WPAJEQ72.S001D001.VERZ'
UNIT ==> SYSDA                      VOLUME ==> TMP924

SPECIFY PROFILE REPORT PARAMETERS: (Y or N)
  Detail Reports      ==> N    Tailor Reports    ==> N    Indexing    ==> N
CREATE HISTORY RECORD ==> N    History Parameter ==> N

OUTPUT FORMAT          ==> I    W -Wide Report      I -iSTROBE File
                       N -Narrow Report    A -APMPower PDF

NUMBER OF COPIES FOR BACKGROUND REPORTS ==>

Specify a data set name to save a copy of the STROBE Profile Report:
DATA SET NAME ==>
UNIT ==> SYSDA          VOLUME ==>

Specify a SYSIN data set containing parameters for the Reporter:
DATA SET NAME ==>

```

1. Enter **"I"** for iSTROBE file in the OUTPUT FORMAT field of any of the following panels:
  - STROBE - PRODUCE A PERFORMANCE PROFILE
  - STROBE - CREATE AN AUTO PERFORMANCE PROFILE
  - STROBE - CHANGE AN AUTO PERFORMANCE PROFILE
2. Press **Enter**.
3. STROBE displays the STROBE - ISTROBE PERFORMANCE PROFILE OPTIONS panel (Figure 3-4 on page 3-5).

If you access this panel from the STROBE - PRODUCE A PERFORMANCE PROFILE panel, enter the name of the iSTROBE data file in the ISTROBE DATA FILE field. If you access this panel from either the STROBE - CREATE AN AUTO PERFORMANCE PROFILE panel or the STROBE - CHANGE AN AUTO PERFORMANCE PROFILE panel, STROBE generates the iSTROBE data file name for you.

Figure 3-4. STROBE - ISTROBE PERFORMANCE PROFILE OPTIONS Panel

```

----- STROBE - ISTROBE PERFORMANCE PROFILE OPTIONS -----
COMMAND ==>

SAMPLE DATA SET: 'WPA.QA.R300.DR10.WPACLCMQ.S008D001'

ISTROBE DATA FILE ==> 'WPA.QA.R300.DR10.WPACLCMQ.X008D001'
UNIT ==> VOLUME ==>

SQL ANALYSIS FEATURE REPORTS ==> N (Y OR N)

IDENTIFICATION INFORMATION:
Short Name ==> UPDATE
Description ==> Measurement of update routine
Code Page ==> IBM-STD

DOWNLOAD PARAMETERS:
Submit FTP step ==> Y (Y or N)
IP Address ==> 172.42.148.159
Root Directory ==> /VDEV/COMPUWARE
New target file ==> Y (Y or N) If N, overwrite existing file ==> N
NETRC File ==> 'WPAAZS.NETRC'
Translate table ==>

```

4. Specify the appropriate values in the ISTROBE PERFORMANCE PROFILE OPTIONS fields.
  - Short Name is a name that you assign to the iSTROBE data file.
    - Short name can be as many as 12 characters and must not include spaces. Some sites may need to limit Short name to 8 characters.
    - When you open iSTROBE and update the Performance Profile list, Short Name will be the default name by which iSTROBE refers to the Profile.
    - If you use STROBE FTP to transfer the file, Short Name is the name of the directory in which the iSTROBE data file, PROFILE.XML, will be stored on the workstation or file server. If you use another method, you can define the destination directory name, as described in “Using FTP to Transfer iSTROBE Data Files Outside STROBE” and “Transferring iSTROBE Data Files Without FTP” on page 3-7.
  - Description is a phrase that you can use to help identify this iSTROBE data file. This description can be as many as 30 characters and will appear at the top of the iSTROBE Measurement Session Data report.
  - Code Page is the name of the code page to be used for translation to the ASCII character set from the EBCDIC character set. The code page is set on the STRBDFLT panel at STROBE installation, but you can change it on this panel.
    - At non-U.S. installations, enter your code page. See the *STROBE MVS System Programmer's Guide* for code pages that STROBE supports.
    - In the U.S., if you are using FTP to transfer the iSTROBE data file, enter **IBM-STD**. (This default code page, supplied with STROBE, will work correctly on most systems.) If you are using another transfer method, specify **IBM-037**.
5. Specify “Y” in the SUBMIT FTP STEP field if you want STROBE to use FTP to transfer the file to iSTROBE. Note that:
  - IP Address is the IP address of the network location of the root directory to which iSTROBE data files are sent. It defaults to the value of &IPADDR as specified on the STRBDFLT panel at STROBE installation, but you may modify it on this panel.
  - Root Directory is the name and network location under which iSTROBE is installed. The iSTROBE data file, PROFILE.XML, will be created in the

workstation location *root directory/ISTROBE/PROFILES/short name*. For example, using the values in Figure 3-4, the iSTROBE data file will be named /VDEV/COMPUWARE/ISTROBE/PROFILES/UPDATE/PROFILE.XML.

The maximum length of Root Directory value is 55 characters. Root Directory defaults to the value of &ISTRROOT as specified on the STRBDFLT panel at STROBE installation, but you may modify it on this panel.

- New target file applies to the Short Name field.
  - Enter “Y” if the name that you entered in the Short Name field is has not been used before.
  - Enter “N” if the name in the Short Name field is not unique. In this case, you must specify whether you want the existing file to be overwritten. If you do not want the existing file to be overwritten, the iSTROBE FTP function will assign a unique name to the iSTROBE data file. The first unique name the iSTROBE FTP function assigns to the XML file will be PROFI000.xml, the second will be PROFI001.xml, and so on.

**Note:** To use these data files in iSTROBE, you must first move them to separate folders and rename each one PROFILE.XML. Then, use iSTROBE to import the files and update the Performance Profile list.

- NETRC FILE applies to sites that require a userid and a password for FTP. Enter the fully-qualified name of the file. The file's content must be the following line:

```
machine targetmachine login user_id password password
```

Where:

- *targetmachine* is the name, IP address, or URL of the machine on which iSTROBE is installed.
  - *user\_id* and *password* are correct for your network logon. This user must have permission to connect to and create files and directories on the target.
- Translate table applies only to sites that use a customized translate table instead of the standard IBM code page. Specify the eight-character name that corresponds to the data set name middle qualifier that FTP uses to identify the customized code page.

**Note:** This field appears if &STRXLTSW is set to “Y” on the STRBDFLT panel at STROBE installation, and defaults to the value of &IXLATE as specified on the STRBDFLT panel at STROBE installation, but you may modify it on this panel.

6. If the STROBE DB2 Feature is installed and you are creating reports for the SQL Analysis Feature, enter “Y” in the SQL ANALYSIS FEATURE REPORTS field and press **Enter**. STROBE displays the STROBE - SQL ANALYSIS FEATURE REPORT SETTINGS panel. Specify values for the various SQL Analysis Feature options as described in “Ensuring Accuracy of SQL Information” on page 3-7. Press **Enter**.
7. STROBE creates the iSTROBE data file. If you specified Y in the SUBMIT FTP STEP field and provided the required information, STROBE FTPs the file to the specified address.

### **Using FTP to Transfer iSTROBE Data Files Outside STROBE**

If you are not using STROBE's automatic FTP function to download iSTROBE data files from the mainframe to the workstation, you can use your site's FTP function directly. Here is a sample of JCL created by STROBE for the FTP push step. You can also use this JCL to run the FTP manually from TSO.

- Ensure that you specify ASCII and CRLF for the downloaded file.

- In the accompanying job card, ensure that you specify the correct code page, usually CODEPAGE=IBM-STD.
- If you use a custom translate table, ensure that you specify the table with the XLATE parameter.
- When you use iSTROBE after transferring the file, you must update your Performance Profile list.

```

000042 //FTPSTEP EXEC PGM=FTP,
000043 // PARM='172.42.148.159'                               {specify IP address here}
000044 //NETRC DD DSN=WPADPP.NETRC,DISP=SHR                 {include if required for FTP}
000045 //SYSFTPD DD *
000046 CLIENTERRCODES TRUE
000047 //SYSPRINT DD SYSOUT=*
000048 //OUTPUT DD SYSOUT=*
000049 //INPUT DD *
000050 CD /PROGRAMS/ISTROBE/PROFILES/                          {substitute your path to the directory}
000051 ASCII
000052 SENDSITE
000053 MK DB2                                                  {include if destination directory does not exist yet}
000054 CD DB2
000055 PUT 'WPA.WPADPP.X003D001.VERZ' PROFILE.XML {specify correct source file;
                                                    destination file must be named PROFILE.XML}

000056 CLOSE
000057 QUIT
000058 /*

```

### ***Transferring iSTROBE Data Files Without FTP***

As an alternative to FTP, you can use your site's standard file transfer process (such as the utility IND\$FILE) to download iSTROBE data files from the mainframe to iSTROBE.

1. On the workstation or file server, create a folder for the iSTROBE data file. (For simplicity of maintenance, we suggest that you create it as a subfolder of the iSTROBE\PROFILES folder.) Use a name that you can easily identify, such as the name of the measured job. For example, if iSTROBE is located in K:\PROGRAMS\ISTROBE, and the job is named DB2, you might create the folder in K:\PROGRAMS\ISTROBE\PROFILES\DB2.
2. Use your file transfer program to download the iSTROBE data file from the host to the workstation. Ensure that you:
  - name the downloaded iSTROBE data file PROFILE.XML
  - download the file to the folder created in the previous step
  - specify ASCII and CRLF for the downloaded file.
3. When you use iSTROBE after transferring the file, update your Performance Profile list.
  - If you downloaded to a subfolder of iSTROBE\PROFILES, select **Manage**, and then **Update list**.
  - If you downloaded to another location, select **Manage**, and then **Import**.

## **Ensuring Accuracy of SQL Information**

If you specified “Y” in the SQL ANALYSIS FEATURE REPORTS field, the SQL Analysis Feature is invoked when you create the Profile, not when you measure the DB2 application. To ensure the reports produced by the SQL Analysis Feature accurately reflect the state of DB2 subsystem catalog and the access paths and associated catalog statistics at the time of measurement, you should create the Profile as soon as possible after measuring the application. For example, you want to ensure that the set of statistics updated by RUNSTATS used at measurement time are the same as those used when you create the Profile.

## Specifying SQL Analysis Feature Report Settings

If you specified “Y” in the SQL ANALYSIS FEATURE REPORTS field on either the ISTROBE or APMPOWER PERFORMANCE PROFILE OPTIONS panel, STROBE displays the STROBE - SQL ANALYSIS FEATURE REPORT SETTING panel (Figure 3-5). Specify settings for the SQL Analysis Feature reports.

**Figure 3-5.** STROBE - SQL ANALYSIS FEATURE REPORT SETTINGS Panel

```

----- STROBE - SQL ANALYSIS FEATURE REPORT SETTINGS -----
COMMAND ==>                               SQLAF PTF LEVEL 5.0.000000

ISTROBE DATA FILE: 'WPA.QA.R250.DR8.WPACLC.X001D001.VERZ'

REPORT OPTIONS: (Y or N; AT LEAST ONE REPORT TYPE MUST BE SELECTED)
EXPLAIN ==>      TRANSLATION ==>      OPPORTUNITIES ==>      STATISTICS ==>
RULE THRESHOLD ==>      (MODULE TO OVERRIDE OPPORTUNITY THRESHOLDS)

STATEMENTS TO PROCESS:
TOTAL CPU PERCENT ==>      or TOP N USERS ==>
TOTAL WAIT PERCENT ==>      or TOP N WAIT ==>
DBRM NAME ==>

ACCESS OPTIONS:
CONNECT AS AUTHORIZATION ID (Y or N) ==>      AUTHORIZATION ID ==>
USE EXISTING PLAN-TABLE ROWS (Y or N) ==>      CREATOR ID ==>
DATABASE NAME ==>      TABLESPACE NAME ==>

DB2 SUBSYSTEM OPTIONS:
CATALOG COLLECTION ID ==>
DB2 SUBSYSTEM ==>

```

### REPORT OPTIONS

- **EXPLAIN** - Specify “Y” in this field to produce a DB2 EXPLAIN report. The report provides a convenient way to view DB2 EXPLAIN output for an SQL statement. EXPLAIN populates the database table PLAN\_TABLE with data that describes the access path chosen for an SQL statement by the DB2 optimizer.
- **TRANSLATION** - Specify “Y” in this field to produce a translation report that analyzes the results of the DB2 EXPLAIN output. The report displays background information relevant to the access path and translation of the access path chosen by the DB2 optimizer for the SQL statement. Background information precedes the translated access path, and includes information such as definitions for synonyms, aliases, views, and referential constraints.
- **OPPORTUNITIES** - Specify “Y” in this field to produce a report that recommends ways to improve the access path chosen by the DB2 optimizer for your SQL statements, and that highlights other potential performance problems related to your database. The SQL Analysis Feature makes recommendations based on the contents of PLAN\_TABLE, SQL statement text, database schema, catalog statistics used by the DB2 optimizer, and installation-defined resource thresholds.
- **STATISTICS** - Specify “Y” in this field to produce a DB2 Catalog Statistics report. The report includes the catalog generated by the DB2 RUNSTATS utility for all tables referenced in SQL statements processed by the SQL Analysis Feature. The DB2 optimizer uses catalog statistics when it generates access paths for SQL statements. The DB2 Catalog contains tables that together describe the objects in a DB2 subsystem.
- **RULE THRESHOLD** - Enter a valid PDS member in this field that contains a set of rule threshold values to use during generation of the Opportunities report. The specified member must have been created by building a loadable module using the STRANRDA macro. If you do not specify a value for Rule threshold, the SQL Analysis Feature

applies default values. See the *STROBE MVS System Programmer's Guide* for a list of the default values.

### STATEMENTS TO PROCESS

- **TOTAL CPU PERCENT** - When you generate SQL access path information, the value you enter in this field specifies the minimum percentage of CPU time used by the SQL statements that you want the SQL Analysis Feature to process. Enter a number between 0 and 99; the default value is 2. APMPOWER or iSTROBE reports on only those statements that use at least that percentage of CPU time.

**Note:** You cannot specify a value for both TOTAL CPU PERCENT and TOP N USERS.

- **TOP N USERS** - When you generate SQL access path information, the value you enter in this field specifies how many of the most CPU-intensive SQL statements you want the SQL Analysis Feature to process, regardless of their actual CPU usage. Enter a value between 1 and 20. The default value is 5. If there are fewer than the number you specify, the SQL Analysis Feature processes all SQL statements in the Profile data file or the iSTROBE data file.

Specifying a value in TOP N USERS gives you an understanding of the range of CPU percentages for the SQL statements that are executed.

- **TOTAL WAIT TIME PERCENT** - When you generate SQL access path information, the value you enter in this field specifies the minimum percentage of wait time used by the SQL statements that you want the SQL Analysis Feature to process. Enter a number between 0 and 99; the default value is 2. APMPOWER or iSTROBE reports on only those statements that use at least that percentage of wait.

**Note:** You cannot specify a value for both TOTAL WAIT PERCENT and TOP N WAIT.

- **TOP N WAIT** - When you generate SQL access path information, the value you enter in this field specifies how many of the most wait-intensive SQL statements you want the SQL Analysis Feature to process, regardless of their actual wait usage. Enter a value for n between 1 and 20. The default value is 2. If there are fewer than the number you specify, the SQL Analysis Feature processes all SQL statements in the Profile data file.

Using Top n Wait Users will give you an understanding of the range of wait percentages for the SQL statements that are executed.

- **DBRM NAME** - DBRM name specifies the DBRM for which the SQL Analysis Feature produces SQL access path information. If you do not specify a name, the Feature produces information for SQL statements in all DBRMs observed during measurement. This option helps you focus your performance improvements on the SQL statements within a specific DBRM that you suspect is consuming a disproportionate amount of resources.

**Note:** The SQL Analysis Feature reduces the set of SQL statements processed to the value specified in TOTAL CPU PERCENT or TOP N USERS after it limits the DBRM named in your list.

### ACCESS OPTIONS

- **CONNECT AS AUTHORIZATION ID** - Select Connect as Authorization ID to use the AUTHORIZATION ID value entered.

**Note:** The AUTHORIZATION ID is used for authorizing access to the PLAN\_TABLE. Additionally, if you entered "Y" for the USE EXISTING PLAN\_TABLE ROWS value and did not enter a CREATOR ID, the AUTHORIZATION ID will also be used as the CREATOR ID to qualify an existing PLAN\_TABLE into which previous EXPLAIN results have been inserted. If you are not using exiting

PLAN\_TABLE ROWS, the AUTHORIZATION ID is used to qualify the PLAN\_TABLE.

- AUTHORIZATION ID - Authorization ID specifies a secondary authorization ID other than the one DB2 establishes for your TSO session. If you do not specify an Authorization ID, or did not enter "Y" for the CONNECT AS AUTHORIZATION ID value, the default value is the resolved authorization ID of your active TSO session.
- USE EXISTING PLAN-TABLE ROWS - Enter "Y" in this field to use existing EXPLAIN output from an instance of PLAN\_TABLE qualified by the creator ID you specify in CREATOR ID. Using existing PLAN\_TABLE rows applies to static SQL contained in DBRMs only. By specifying this option, no EXPLAIN output will be generated during Profile creation and any SQL statement that does not have corresponding rows in the specified PLAN\_TABLE will not be processed.
- CREATOR ID - Specify the ID of a PLAN\_TABLE qualified by a creator ID. This value is only used when using existing PLAN\_TABLE rows.
- DATABASE NAME - Enter the name of the database into which the SQL Analysis Feature creates a PLAN\_TABLE for the resolved Authorization ID. If you do not specify a Database name, the default value is DSNDB04. You can specify DATASPACE NAME, TABLESPACE NAME, or both.

**Note:** This field does not apply if you specify USE EXISTING PLAN-TABLE ROWS or the PLAN\_TABLE already exists.

- TABLESPACE NAME - Enter the name of the tablespace into which the SQL Analysis Feature creates a PLAN\_TABLE for the resolved Authorization ID. If you do not specify a Tablespace name, the default value is the name derived by DB2. You can specify Tablespace name, Database name, or both. You must have USE (resource) privilege for the specified tablespace.

### **DB2 SUBSYSTEM OPTIONS**

- CATALOG COLLECTION ID - enables you to specify the ID of a package set the SQL Analysis Feature will use to qualify catalog tables, matching the default collection ID specified when you installed the iSTROBE or APMpower MVS Component. For example, CATALOG COLLECTION ID enables you to do your processing against a copy of the DB2 catalog, a "shadow" catalog. If you do not specify a Catalog collection, the default value for the collection ID is STRANANA with the reserved DB2 creator ID, SYSIBM.
- DB2 SUBSYSTEM - Specifies the ID of the DB2 subsystem to which the SQL Analysis Feature connects. DB2 Subsystem overrides the subsystem ID captured during measurement. If you do not specify a DB2 Subsystem, the default value is the subsystem ID captured during measurement.

## **Creating APMpower Profile Data Files**

If APMpower is installed at your site, you can use STROBE to create an APMpower Profile data file (PDF) to add to your APMpower Profile Library. To use this option:

1. Enter "Y" in the CREATE APMPOWER PDF field of any of the following panels:
  - STROBE - PRODUCE A PERFORMANCE PROFILE, Figure 3-1 on page 3-2
  - STROBE - CREATE AN AUTO PERFORMANCE PROFILE or
  - STROBE - CHANGE AN AUTO PERFORMANCE PROFILE.
2. Specify the appropriate values in the Performance Profile fields.
3. Press **Enter**.
4. STROBE displays the STROBE - APMPOWER PERFORMANCE PROFILE OPTIONS panel. If you access this panel from the STROBE - PRODUCE A PERFORMANCE

PROFILE panel, enter the name of the APMpower Profile data file in the PROFILE DATA FILE field. If you access this panel from either the STROBE - CREATE AN AUTO PERFORMANCE PROFILE panel or the STROBE - CHANGE AN AUTO PERFORMANCE PROFILE panel, STROBE generates the Profile data file name for you.

5. If the STROBE DB2 Feature is installed and you are creating reports for the APMpower SQL Analysis Feature, enter "Y" in the SQL ANALYSIS FEATURE REPORTS field and press **Enter**. STROBE displays the STROBE - SQL ANALYSIS FEATURE REPORT SETTINGS panel. Specify values for the various APMpower SQL Analysis Feature options.
6. Press **Enter**. STROBE creates the APMpower Profile data file on the host. You must download it to the workstation and then add it to the APMpower Profile library.

For more information on APMpower, see the APMpower *Reference Guide* or the APMpower online help.

## Producing Profiles from the STATUS Menu Option

To produce a Performance Profile from the STROBE - STATUS panel

1. Select Option 3 (STATUS) from the STROBE OPTIONS menu.
2. Press **Enter** to display the STROBE - STATUS panel (Figure 3-6).
3. Type either "P" (Profile) or "G" (default Profile) for requests that have a closed sample data set.
  - To produce a Performance Profile in background using the installation defaults, enter "G" (default Profile) to the left of the request number.
  - To produce a Performance Profile with customized report parameters, enter "P" (Profile) to the left of the request number.

Figure 3-6. STROBE - STATUS Panel

```

----- STROBE - STATUS -----
COMMAND ==>                                SCROLL ==> PAGE

SYSTEM      ==> *LIST   (System or clear to select or *ALL for all systems)
OWNERID MASK ==> WPA*   (Enter * for a pattern match)
  V =View      C =Change  P =Profile Report      G =default Profile
  Q =Quit      D =Delete  X =Delete with data sets B =Browse Auto Profile

----- ACTIVE MEASUREMENT REQUESTS -----
--REQ-OWNERID--SYSTEM--JOBNAME--PROGRAM--STEPNAME/STEPNUM-TARGET--TOTAL--EXEC
   11 WPAKRM  SCS01  WPAWIB  WPAIEF53          20000    435    0

----- QUEUED MEASUREMENT REQUESTS -----
--REQ-OWNERID--SYSTEM--JOBNAME--PROGRAM--STEPNAME/STEPNUM-TARGET--DURATION--RESP
   6 WPAAG2  *LIST  TESTPGM2  STEP3          10000          1  CONT
  17 WPAAG2  TLP01  TESTPGM3  WPACIC33       10000          1  CONT

----- COMPLETED MEASUREMENT REQUESTS -----
--REQ-OWNERID--SYSTEM--JOBNAME--PROGRAM--STEPNAME/STEPNUM-TARGET--TOTAL--EXEC
   1 WPARLK  SCS01  WPARLK  $WPAPROC       10000  10000    11
   3 WPAKRM  SCS01  WPAWIB  WPAIEF53       20000  11171   924
   4 WPAKRM  SCS01  WPAWIB  WPAIEF53       20000  20000  16818
   5 WPARLK  SCS01  WPARLK  $WPAPROC       10000  10000    15
   8 WPAKRM  SCS01  WPAWIB  WPAIEF53       20000   5991    0
  
```

4. Press **Enter** to continue the processing.
  - If you chose default Profile (G), STROBE displays the STROBE - SELECT OPTIONS FOR JOB STREAM panel before your request is processed as a batch job step. See "Selecting Job Stream Options" on page 3-24.

- If you are customizing the Profile (P), STROBE displays the STROBE - PRODUCE A PERFORMANCE PROFILE panel. See “Customizing Performance Profiles” on page 3-13.

When you choose these options for a request that has more than one sample data set, STROBE/ISPF displays the STROBE - SAMPLE DATA SET LIST (Figure 3-7), from which you can make your selections.

To select a sample data set, enter “S” to the left of the sample data set name.

**Figure 3-7.** STROBE - SAMPLE DATA SET LIST for a Default Performance Profile Panel

----- STROBE - SAMPLE DATA SET LIST -----								
COMMAND ==>				SCROLL ==> PAGE				
---	REQ---	OWNERID---	JOBNAME---	PROGRAM--	STEPNAME/STEPNUM--	STATUS---	SAMPLES----	EXEC
P	556	WPAJPS	WPAJPS		*	COMPLETED		
		ZZ.WPAJPS.WPAJPS.S003D001				CLOSED	2909	116
S		ZZ.WPAJPS.WPAJPS.S003D002				CLOSED	3373	294
		ZZ.WPAJPS.WPAJPS.S003D003				CLOSED	5474	694

## Processing Multiple Data Sets

If you choose more than one sample data set from the STROBE - SAMPLE DATA SET LIST, STROBE processes each one in turn. To skip a sample data set, clear the SAMPLE DATA SET NAME field and press **Enter** to display the STROBE - PRODUCE A PERFORMANCE PROFILE panel with the name of the next sample data set. To cancel processing, press **End**.

When you choose background processing for multiple sample data sets, STROBE creates the Profiles as multiple steps of the same job.

## Producing Profiles Automatically

To automatically create a Performance Profile:

1. Type “Y” in the AUTO PROFILE CREATION field on the STROBE - ADD ACTIVE REQUEST panel (Figure 2-2 on page 2-3) or the STROBE - ADD QUEUED REQUEST panel (Figure 2-5 on page 2-8).
2. Press **Enter** to display the STROBE - CREATE AN AUTO PERFORMANCE PROFILE panel (Figure 3-8).

**Figure 3-8.** STROBE - CREATE AN AUTO PERFORMANCE PROFILE Panel

```

----- STROBE - CREATE AN AUTO PERFORMANCE PROFILE -----
OPTION ==>

SPECIFY PROFILE REPORT PARAMETERS: (Y or N)
  Detail Reports ==> N   Tailor Reports ==> N   Indexing ==> N

PROFILE REPORT FORMAT ==> N ((W)ide or (N)arrow)

Specify characteristics for copy of the STROBE Profile Report:
  UNIT ==> WPAANY   VOLUME ==>

Specify a SYSIN data set containing parameters for the Reporter:
DATA SET NAME ==>

JOB STATEMENT INFORMATION FOR AUTO PROFILE CREATION:
//WPAJEADS JOB (WPAJEA,WPAOSDCON,,99,,.0),'STROBE',CLASS=1,USER=WPAJEA,
//*JOBPARM FORMS=0000
//*ROUTE PRINT RMT89
//DEFAULT OUTPUT DEFAULT=YES,JESDS=ALL,FCB=2SID

```

3. Specify the values for the fields on this panel as you would on the STROBE - PRODUCE A PERFORMANCE PROFILE panel described in “Generating Performance Profiles” on page 3-1.
4. Ensure that the job statement information at the bottom of the panel is valid, and that you have specified the USER parameter.

**Note:** To prevent exposing user logon passwords, the PASSWORD keyword is not allowed on the job statement.

5. Press **Enter** to return to the panel from which you started (STROBE - ADD ACTIVE REQUEST or STROBE - ADD QUEUED REQUEST).

**Note:** If iSTROBE or APMpower is installed at your site, you can use STROBE to create an iSTROBE data file or an APMpower Profile data file (PDF) automatically upon completion of the measurement session. To automatically create a data file for iSTROBE, specify “I” in the OUTPUT FORMAT field and follow the instructions in “Creating iSTROBE Data Files” on page 3-3. To automatically create a PDF file for APMpower, specify “A” in the OUTPUT FORMAT field and follow the instructions in “Creating APMpower Profile Data Files” on page 3-10.

For information on changing or cancelling an automatic Performance Profile request, see “Changing Automatic Profile Requests” on page 4-14.

---

## Customizing Performance Profiles

You can also customize the reports that are part of the Performance Profile. You can control the level of detail in the report and the amount of information contained in the reports. To alter the makeup of the Performance Profile, enter “Y” in the appropriate field on the STROBE - PRODUCE A PERFORMANCE PROFILE panel or the STROBE - CREATE AN AUTO PERFORMANCE PROFILE panel

- To modify the level of detail or the Performance Profile's print characteristics, enter “Y” next to Detail Reports.
- To suppress, condense, or expand reports, or show the location of wait, enter “Y” next to Tailor Reports.

## Modifying the Level of Detail

The STROBE - DETAIL FOR A PERFORMANCE PROFILE panel (Figure 3-9) enables you to compress and expand information in the Performance Profile.

**Figure 3-9.** STROBE - DETAIL FOR A PERFORMANCE PROFILE Panel

```

----- STROBE - DETAIL FOR A PERFORMANCE PROFILE -----
-
COMMAND ==>

SAMPLE DATA SET: 'WPANAC.WPAJPS.S001D001'

REPORT OPTIONS:
TITLE      ==>

COMPRESS  ==> AAA  =.AAAA  ==>      =.      ==>      =.
          ==>      =.      ==>      =.      ==>      =.
          ==>      =.      ==>      =.      ==>      =.
          ==>      =.      ==>      =.      ==>      =.

DETAIL    ==>      ==>      ==>      ==>
          ==>      ==>      ==>      ==>
          ==>      ==>      ==>      ==>

RESOLUTION ==> 32  SORT SIZE ==>      LINES/PAGE ==>

OTHER PARAMETERS ==>

```

### TITLE

To specify the title that appears on the title line of the Performance Profile, enter its text in this field. The title can be up to 40 characters long and can include commas, blanks, and other special characters. To include an apostrophe in the title, you must enter it twice, as follows:

```
JOHN' 'S REPORT
```

If you clear this field, STROBE uses the name of the measured program as the title.

### COMPRESS

To compress modules with identical initial characters into your own named pseudo-sections, specify the module names and the pseudo-section names in these fields. Each prefix can contain as many as eight characters, and each group name can contain as many as seven characters. (STROBE/ISPF prefixes a period (.) to each group name.)

For example:

```
XYZ=.OURMODS
```

**Note:** Specifying the full eight-character prefix compresses an individual module, and only that module, into the pseudo-section.

You can also use the wildcard character (\*) to replace characters two through eight in the prefix.

For example:

```
XY*=.OURMODS
X* =.OURMODS
```

To place modules with different prefixes into the same pseudo-section, specify them separately:

```
XYZ=.OURMODS
RST=.OURMODS
```

#### DETAIL

STROBE normally compresses the reporting of system modules (for example, IOCS modules, compiler library routines, CICS and IMS system modules) in the Program Usage by Procedure report. To override this compression, enter the module names in these fields.

#### RESOLUTION

To specify the number of bytes STROBE will consider as a codeblock for detailed reporting on the Program Usage by Procedure report, enter a value from 2 to 9999 in this field (default 64). For indexed modules, STROBE uses this parameter to subdivide large procedures, combining consecutive source language statements until their size approximates the report resolution. For unindexed modules, STROBE defines each codeblock as a block of code equal in length to the report resolution.

#### SORT SIZE

To specify the amount of virtual storage (in bytes) available to the system sort/merge program, enter a value of 0 or from 12000 to 999999 in this field (default 999999). To give the sort/merge program access to all the available space in the region, omit this parameter. To instruct the sort/merge program to use its system default, enter a value of 0.

#### LINES/PAGE

To specify the number of lines STROBE prints on each page of the Performance Profile, enter a value between 45 and 80 in this field (defaults to the installation parameter or 60).

#### OTHER PARAMETERS

To supply additional reporting information to STROBE, enter other report parameters in this field. For example, the parameter NODSCS causes STROBE to suppress the Data Characteristics Supplement report. See Chapter 6, "Creating Performance Profiles Using Procedures" for details about Reporter parameters.

## Tailoring Reports

The STROBE - TAILOR REPORTS panel (Figure 3-10) enables you to alter some of the reports in the Performance Profile. You can change the Wait Time by Module report, the Program Usage by Procedure report, the DASD Usage by Cylinder report, the Transaction Usage by Control Section report, the Attribution reports, the Program Section Usage Summary report and the Time and Resource Demand Distribution reports.

Figure 3-10. STROBE - TAILOR REPORTS Panel

```

----- STROBE - TAILOR REPORTS -----
COMMAND ==>

WAIT TIME BY MODULE -- Show location of wait ==> (Specify Y)
----- Report ----- Compress below OR Suppress (Specify Y)
PROGRAM USAGE BY PROCEDURE ==> % ==>
DASD USAGE BY CYLINDER ==> % ==>
TRANSACTION USAGE BY CONTROL SECTION ==> % ==>
CICS TRANSACTION PROFILE ==> sec ==>
CICS REGION LEVEL ==> sec ==>
MQSERIES CALLS ==> % ==>
ATTRIBUTION Reports ==> % ==>
  Suppress reports for: C ==> CICS ==> COBOL ==>
                       CSP ==> DB2 ==> DL/I ==>
                       IDMS ==> IEF ==> JAVA ==>
                       MQSERIES ==> PL/I ==> SVC ==>
                       VSAM ==>

PROGRAM SECTION USAGE SUMMARY Display inactive ==>
TIME and RESOURCE DEMAND DISTRIBUTION
Combine tasks ==> Display all tasks ==> Display all DDs ==>

CICS TRANSACTION PROFILE FILTERS => => => => =>
  Suppress non-CICS TRANSACTION REPORTS ==> (Specify Y)
USE DATE AND TIME FORMAT FROM PARMLIB ==>

```

**WAIT TIME BY MODULE**

The Wait Time by Module report does not normally show the location of wait within a module.

To show the location of wait in each module, enter “Y” in the “Show location of wait” field.

**PROGRAM USAGE BY PROCEDURE**

To compress the Program Usage by Procedure report, specify the baseline percentage of CPU activity for a procedure codeblock in the “Compress below” field (default 0). Enter a value from 0 to 99.9 (do not exceed one decimal place). STROBE condenses all contiguous procedures that exhibit less than this percentage on a single line in the Program Usage by Procedure report. Enter whole percentages with or without a decimal point (for example, 2 or 2.0).

To suppress the report, enter “Y” in the “Suppress” field.

**DASD USAGE BY CYLINDER**

To compress the DASD Usage by Cylinder report, specify the baseline percentage of activity on a cylinder in the “Compress below” field (default 2). Enter a value from 0 to 99.9 (do not exceed one decimal place). STROBE condenses activity in all contiguous cylinders that exhibit less than this percentage on a single report line in the DASD Usage by Cylinder report. Enter whole percentages with or without a decimal point (for example, 2 or 2.0).

To suppress the report, enter “Y” in the “Suppress” field.

**TRANSACTION USAGE BY CONTROL SECTION**

To compress the Transaction Usage by Control Section report, specify the baseline percentage of transaction usage in the “Compress below” field (default 0). Enter a value from 0 to 99.9 (do not exceed one decimal place). STROBE suppresses the section of the report for all transactions that exhibit less than this percentage of CPU usage. Enter the percentage with or without a decimal point (for example, 2 or 2.0).

To suppress the Transaction Usage by Control Section report, enter “Y” in the “Suppress” field.

**CICS TRANSACTION PROFILE**

To compress the CICS Transaction Profile reports, specify the baseline CPU time in seconds in the “Compress below” field (default 0). Enter a value from 0 to 99.99. STROBE suppresses the lines of the reports for all transactions that exhibit less than the specified amount of CPU time. Enter the value with or without a decimal point (for example, 2 or 2.0). If you do not have the STROBE CICS Feature with the CICS Transaction Profile option, this field does not appear.

To suppress the CICS Transaction Profile reports, enter “Y” in the “Suppress” field. The following reports are not produced:

- Transaction Summary
- Transaction Profile
- Region Level reports

**CICS REGION LEVEL**

To compress the CICS Region Level reports, specify the baseline CPU time in seconds in the “Compress below” field (default 0). Enter a value from 0 to 99.99. STROBE suppresses the sections of the reports for all regions that exhibit less than the specified amount of CPU usage. Enter the value with or without a decimal point (for example, 2 or 2.0). If you do not have the STROBE CICS Feature with the CICS Transaction Profile option, this field does not appear.

To suppress the CICS Region Level reports, enter “Y” in the “Suppress” field.

**MQSERIES CALLS**

To compress the reporting of activity in MQSeries calls, in the “Compress below” field specify the minimum percentage of samples in which STROBE detects an MQSeries call at a given location in a module (default 0). Enter a value from 0 to 99.9 (do not exceed one decimal place). STROBE suppresses all MQSeries calls that exhibit less than this percentage of activity, and these calls do not appear on the CPU Usage by Module by MQSeries Call and the Wait by Module by MQSeries Call reports. Enter the percentage with or without a decimal point (for example, 2 or 2.0).

**ATTRIBUTION Reports**

To suppress all Attribution reports in which the total CPU or wait time percentage is less than a specified baseline percentage, enter a value from 0 to 99.9 (do not exceed one decimal place) in the “Compress below” field. To suppress all Attribution reports, enter “Y” in the “Suppress” field.

You can also suppress Attribution reports for a specific type by entering “Y” in the appropriate “Suppress reports” field. The IEF option enables you to suppress COOL:Gen (formerly Composer) attribution reports.

If you specify a baseline percentage, you can also suppress the reports for a particular type of attribution, regardless of its execution percentage. You cannot combine the Suppress All option with either the baseline or the type-dependent suppression option.

**PROGRAM SECTION USAGE SUMMARY**

To include a report line for each inactive control section in the Program Section Usage Summary report, enter “Y” in the “Display inactive” field. If you clear this field, STROBE displays only active control sections.

**Note:** To include control sections that show no activity, you must have specified “0” in the DETAIL BASELINE field on the STROBE - MODULE MAPPING panel when you submitted the measurement request.

**TIME and RESOURCE DEMAND DISTRIBUTION**

To condense time spent in all MVS tasks into a single report line in the Time Distribution and Resource Demand Distribution reports, enter "Y" in the "Combine tasks" field. If you clear this field, STROBE creates a separate line for each active MVS task.

To show all tasks, including those that show no activity, in the Time Distribution and Resource Demand Distribution reports, enter "Y" in the "Display all tasks" field. If you clear this field, STROBE shows the six tasks that display the highest execution activity.

To show all dd statements, including those that show no activity, in the Time Distribution and Resource Demand Distribution reports, enter "Y" in the "Display all DDs" field. If you clear this field, STROBE shows the 11 dd statements with the highest activity.

**CICS TRANSACTION PROFILING**

In the FILTERS fields, specify up to five CICS transactions or sets of transactions for which STROBE reports detailed performance information. To target sets of transactions that match the pattern defined in your entry, enter up to the first three characters of any valid name for a CICS transaction followed by a wildcard character (\*). The wildcard must be in the last position (for example, TRN\*). If you do not have the STROBE CICS Feature with the CICS Transaction Profile option, these fields do not appear.

**Note:** The names of CICS system transactions are not valid in this field.

**Suppress Non-CICS TRANSACTION REPORTS**

Specify "Y" to focus your analysis on the performance of CICS transactions. When you specify "Y", STROBE suppresses all reports in the Performance Profile except the Measurement Session Data report, the Token - Longname Cross Reference report, and the CICS Transaction reports. If you choose this option, STROBE produces the following CICS-related reports: the Transaction Summary, the Transaction Profile, and the CICS Region Level reports, as well as the Measurement Session Data and the Token - Longname Cross Reference reports. If you do not have the STROBE CICS Feature with the CICS Transaction Profile option, this field does not appear.

**USE DATE AND TIME FORMAT FROM PARMLIB**

The STROBE system programmer has specified one of the supported four-digit year formats and international time formats in the STROBE parameter data set. This format appears on certain STROBE/ISPF panels and Performance Profile reports. To use this format, enter "Y" in this field. Specify this option if the STROBE parameter data set date and time formats have recently changed.

## Specifying Formatting Options

Besides controlling the Performance Profile report contents, you can also specify the layout of the report and some other reporting options. For example, you can control report width and the number of Performance Profiles that should be printed. If you have installed iSTROBE at your site, you can also specify that STROBE create an iSTROBE data file that enables the reports to be viewed with a standard browser using iSTROBE. If you have installed APMPOWER at your site, you can specify that STROBE create a Profile data file (PDF) to add to your APMPOWER Profile Library.

## Specifying the Profile Report Width

To specify that the Performance Profile be generated in a wide (121 character) or narrow (80 character) format, enter either "W" or "N" in this field. If you clear the field, the report generated will be in wide format.

## Specifying Files for iSTROBE

If you have installed iSTROBE and want to use iSTROBE to view the Performance Profile, enter “I” in the OUTPUT FORMAT field, and follow the instructions in “Creating iSTROBE Data Files” on page 3-3.

## Specifying Files for APMPOWER

If you have installed APMPOWER and want to create a Profile data file (PDF) to add to your APMPOWER Profile Library, enter “A” in the OUTPUT FORMAT field, and follow the instructions in “Creating APMpower Profile Data Files” on page 3-10.

## Printing Multiple Copies of the Profile

To print multiple copies of the Performance Profile when using background processing, enter a value between 1 and 255 in PRINT MULTIPLE COPIES field (default 1).

## Saving the Performance Profile

To save a copy of the Performance Profile, enter a data set name in the DATA SET NAME field.

To specify a unit name and volume serial number for the copy of the Performance Profile, enter them in the UNIT and VOLUME fields.

## Supplying Default Parameters

To specify a SYSIN data set containing STROBE report parameters, enter its name in the SYSIN DATA SET field. The parameters you supply through STROBE/ISPF override any parameters specified in this data set. If you enter new DETAIL and COMPRESS options, however, STROBE adds them to those supplied in the data set. This data set specification overrides a SYSIN data set named at system installation.

---

# Creating Indexed Performance Profiles

You can create a mapping of a job’s source code that correlates information in the Performance Profile to statements within the source code. The process of creating this association from observed activity to source code statement text is called *indexing*.

For example, if STROBE finds that some operation invoked by the target job is a very high user of CPU resources, an indexed Performance Profile can help you determine where in the source code this high consumption is taking place.

You can also use DDIO files for indexing. DDIO is a Compuware Shared Services (CSS) file access method. If you have created DDIO files that contain either COBOL or PL/I listings, these can be selected to cause the Performance Profiles generated for the COBOL or PL/I application to include DDIO file indexing. These profiles will contain indexing for all matching programs. See “Indexing Source Modules from DDIO Files” on page 3-21 for more information.

## Indexing from Compiler Source Listings

Including indexed information in a Performance Profile is a two-step process:

1. Create the map data set. To create a map data set, you need a SYSPRINT data set from a source code compilation or assembly listing. If you do not have one, override the SYSPRINT data definition in your compile or assembly listing procedure to create a permanent data set. (See “Specifying Data Sets as Input to the Procedures” on page 9-16.)

2. Include map data sets when you create the Performance Profile.

The following sections explain these steps.

## Step 1: Creating Map Data Sets

Once you have a SYSPRINT data set and a sample data set that is closed, create the map data set as follows:

1. Select **Option 5** (INDEX) from the STROBE OPTIONS menu.
2. Press **Enter** to display the STROBE - INDEX TO CREATE A MAP DATA SET panel (Figure 3-11).

**Figure 3-11.** STROBE - INDEX TO CREATE A MAP DATA SET Panel

```

----- STROBE - INDEX TO CREATE A MAP DATA SET -----
OPTION ==> B
          B - Background processing   F - Foreground processing

PROGRAM LANGUAGE: (Specify Y -- select one language)
ADABAS/NATURAL ==> ADS/O              ==> ASSEMBLER           ==>
C (IBM OR SAS) ==> CA OPTIMIZER        ==> COBOL                ==> Y
CSP             ==> FORTRAN G          ==> FORTRAN VS OR H ==>
IEF             ==> PL/I                ==>

OUTPUT: MAP DATA SET
       ==> 'WPA.TST.SASC.SAMPLE.MAP'

UNIT ==> WPAANY      VOLUME ==>

INPUT: COMPILER SYSPRINT DATA SETS
      ==> 'WPA.TST.SASC.SAMPLE.SYSPRINT'
      ==>
      ==>
      ==>
      ==>
      ==>

```

3. Specify the processing option.
  - To select background processing, type “B” on the OPTION line.
  - To select foreground processing, type “F” on the OPTION line.
4. Specify the source code language of the program by typing “Y” in the appropriate PROGRAM LANGUAGE field. You must run a separate index step for each source language. For language-specific rules that cover indexing, see *STROBE MVS Concepts and Facilities*.

**Note:** This panel displays only those programming languages that STROBE supports at your site. The IEF option enables you to create a map data set for programs written in COOL:Gen (formerly Composer).

5. Specify a data set name for your map data set, entering the name of a sequential data set or the name of a previously allocated partitioned data set and member name in the OUTPUT: MAP DATA SET field. The data sets must have DCB characteristics of RECFM=FB, LRECL=36. If the sequential data set does not exist, it is dynamically allocated.
6. Specify a unit name and volume serial number, entering them in the UNIT and VOLUME fields. To use the installation defaults, clear the fields.
7. Specify the data sets containing SYSPRINT listings, entering their names in the INPUT: COMPILER SYSPRINT DATA SETS fields. You can specify sequential data set names or partitioned data set member names.

8. Press **Enter** to create the map data set.

## Step 2: Including Map Data Sets

After you have created a map data set, specify that STROBE use the indexing information when creating the Performance Profile by following these steps:

1. Type “Y” in the Indexing field of the STROBE - PRODUCE A PERFORMANCE PROFILE panel (Figure 3-1 on page 3-2).
2. Press **Enter** to display the STROBE - INCLUDE MAPS OF INDEXED SOURCE MODULES panel (Figure 3-12).
3. Specify the names of map data sets:
  - Specify the names of existing map data sets in the MAP DATA SET NAMES field. (Clear the names of map data sets you do not want to use.)
  - To create a new map data set, type “Y” in the NEW MAPS field and follow the directions in “Step 1: Creating Map Data Sets” on page 3-20. When you have finished indexing, press **Enter** to return to the INCLUDE MAPS OF INDEXED SOURCE MODULES AND/OR DDIO FILES panel where your map data set has been added to the list of names.

**Figure 3-12.** STROBE - INCLUDE MAPS OF INDEXED SOURCE MODULES Panel

```

----- STROBE - INCLUDE MAPS OF INDEXED SOURCE MODULES AND/OR DDIO FILES --
COMMAND ==>

SAMPLE DATA SET: 'COA01.STQ80.ATTRTEST.S001D001'

NEW MAPS: Do you want to execute an Indexer
           to create a new map data set
           and add it to the list below? (Y or N) ==> Y

Specify names of map and/or DDIO files for inclusion in the STROBE Profile
DDIO languages supported
COBOL      PL/I

==>
==>
==>
==>
==>
==>
==>

```

## Indexing Source Modules from DDIO Files

You can also specify DDIO files for indexing in combination with map data sets. DDIO files are repositories for product information. For example, ABEND-AID places ABEND reportss with data extracted from the affected regions and associated control blocks in a DDIO report files. If you select “Y” in the “Indexing” field on the ISPF panel shown in “STROBE - PRODUCE A PERFORMANCE PROFILE Panel” on page 3-4, then the ISPF panel shown in Figure 3-13 appears and you can specify the DDIO file names. STROBE uses the names of the files identified in the MAP DATA SET NAMES field to determine if the files are map data sets or DDIO files.

**Note:** You may have to identify the CSS load library if the CSS modules are not in the systems link list or you wish to override the CSS load modules in the link list. See Chapter 3 of the *STROBE MVS System Programmer's Guide* for more information about setting this parameter.

To specify DDIO files that you want to be used for Performance Profile indexing:

1. Type "Y" in the INDEXING field on the STROBE - PRODUCE A PERFORMANCE PROFILE panel (Figure 3-3 on page 3-4).
2. Press **Enter** to display the STROBE - INCLUDE INDEXED SOURCE MODULES AND/OR DDIO FILES panel shown in Figure 3-13.

**Figure 3-13.** STROBE - INCLUDE MAPS OF INDEXED SOURCE MODULES AND/OR DDIO FILES Panel

```

----- STROBE - INCLUDE MAPS OF INDEXED SOURCE MODULES AND/OR DDIO FILES --
COMMAND ==>

SAMPLE DATA SET: 'COA01.STQ80.ATTRTEST.S001D001'

NEW MAPS: Do you want to execute an Indexer
          to create a new map data set
          and add it to the list below? (Y or N) ==> Y

Specify names of map and/or DDIO files for inclusion in the STROBE Profile
DDIO languages supported
COBOL    PL/I

==>
==>
==>
==>
==>
==>
==>

```

3. Specify the names of the DDIO files you want to use.

**Note:** To generate a Performance Profile containing indexing information in a DDIO file, STROBE requires that the measured module was compiled using the Compuware preprocessor that is part of the Compuware Shared Services Language Processor.

If you selected to process the Performance Profile in the background, (Option "B" shown in Figure 3-11 on page 20), and the files are uncatalogued so that STROBE cannot determine if the file(s) are map data set(s) by the time the step runs in background, the pop-up window contained in the ISPF panel shown in Figure 3-14 on page 3-23 appears.

**Figure 3-14.** STROBE - INCLUDE MAPS OF INDEXED SOURCE MODULES AND/OR DDIO FILE Panel

```

----- STROBE - INCLUDE MAPS OF INDEXED SOURCE MODULES AND/OR DDIO FILE(S)--
COMMAND ==>

SA | STROBE - INDICATE MAP OF INDEXED SOURCE OR DDIO DATASET-----
   | COMMAND ==>
NE | DATASET NOT CATALOGED
   | Enter 'M' for map of indexed source or 'D' for DDIO dataset
   |
   | WPAZZZ.DDIO.PROFILE                               ==> _ (M or D)
Sp |                                                         ==> _ (M or D)
DD |                                                         ==> _ (M or D)
   |
   | ==>
   | ==>
   | ==>

```

You should specify “M” or “D” in the field following the dataset name to indicate whether it will be a map data set or a DDIO file and then press ENTER. You will return to the STROBE - INCLUDE MAPS OF INDEXED SOURCE MODULES AND/OR DDIO FILES panel. Press ENTER again to generate the Performance Profile.

## Indexing Automatic Performance Profiles

To include map data sets or DDIO files for automatic Performance Profiles:

1. Type “Y” in the INDEXING field on the STROBE - CREATE AN AUTO PERFORMANCE PROFILE panel (Figure 3-8 on page 3-13).
2. Press **Enter** to display the STROBE - INCLUDE MAP DATA SETS panel (Figure 3-15).

**Figure 3-15.** STROBE - INCLUDE MAP DATA SETS Panel

```

----- STROBE - INCLUDE MAPS OF INDEXED SOURCE MODULES AND/OR DDIO FILES --
COMMAND ==>

SAMPLE DATA SET: 'COA01.STQ80.ATTRTEST.S001D001'

NEW MAPS: Do you want to execute an Indexer
          to create a new map data set
          and add it to the list below? (Y or N) ==> Y

Specify names of map and/or DDIO files for inclusion in the STROBE Profile
DDIO languages supported
COBOL   PL/I

==>
==>
==>
==>
==>
==>
==>

```

You must specify the map data sets or DDIO files to be used for indexing prior to submitting a measurement request that includes an automatically generated Performance Profile. For more information, see “Step 1: Creating Map Data Sets” on page 3-20

## Selecting Job Stream Options

The STROBE - SELECT OPTIONS FOR JOB STREAM Panel (Figure 3-16) enables you to specify the disposition of the job control statements that STROBE/ISPF generates when you have selected one of the following:

- Option G (default Profile) from the STROBE - STATUS panel. If invoked from this option, Generate Another Job Step (Option 4) is not available.
- Background processing from the STROBE - PRODUCE A PERFORMANCE PROFILE panel.
- Background processing from the STROBE - INDEX TO CREATE A MAP DATA SET panel.

**Figure 3-16.** STROBE - SELECT OPTIONS FOR JOB STREAM Panel

```

----- STROBE - SELECT OPTIONS FOR JOB STREAM ----- JCL GENERATED
OPTION ===>

  1 - Submit the job stream for execution
  2 - Write the job stream to a data set and edit
  3 - Write the job stream to a data set and submit for execution
  4 - Generate another job step
END - Cancel

JOB STATEMENT INFORMATION:
  //SACHR12 JOB (62,SMP72,6201,90-0000), 'STROBE BG',CLASS=I
  //MSGCLASS=R
  /*JOBPARM FORMS=0000
  /*ROUTE PRINT RMT89

If you select option 2 or 3, specify:
DATA SET NAME ===>
      UNIT ===> SYSDA      VOLUME ===>

```

Select one of the following options:

- 1 - Submit but do not save the job stream.
  - 2 - Save but do not submit the job stream. When you press **Enter**, STROBE/ISPF displays the job stream in the data set for you to edit.
  - 3 - Save and submit the job stream.
  - 4 - Generate additional job steps to be added to the current job stream.
- END - Cancel the job stream and terminate background processing.

### JOB STATEMENT INFORMATION

To modify the job card and other job control statements before you submit the job, enter your changes in the JOB STATEMENT INFORMATION field. STROBE/ISPF initially copies these statements from the STROBE USER DEFAULT OPTIONS panel. If you clear all four

job card fields, STROBE/ISPF uses the job information from the STROBE USER DEFAULT OPTIONS panel. Any changes made on this panel will be saved for this panel only.

#### DATA SET NAME

To save the job stream, enter the name of a data set or a previously allocated partitioned data set member in this field.

#### UNIT and VOLUME

To specify a unit name and volume serial number, enter them in the UNIT and VOLUME fields.

---

## Browsing Performance Profiles

When you create Performance Profiles in foreground mode, or when you create them automatically, you can browse the Performance Profile online using STROBE/ISPF.

### Browsing Performance Profiles Created in Narrow Format

If you create a Performance Profile and specify a narrow format, each report is assigned a four-character report identifier. This identifier makes it easier to locate individual reports in the Performance Profile. The following table shows the reports in the Performance Profile and their report identifier. The reports are listed in the order in which they appear in the Performance Profile.

Report Name	Identifier
Measurement Session Data	#MSD
Time Distribution of Activity Level	#TDA
Resource Demand Distribution	#RDD
Working Set Size Through Time	#WSS
Wait Time by Module	#WTM
Data Set Characteristics	#DSC
Data Set Characteristics Supplement	#DSS
VSAM LSR Pool Statistics	#LSR
I/O Facility Utilization Summary	#IOF
Most Intensively Executed Procedures	#IEP
Program Section Usage Summary	#PSU
Program Usage by Procedure	#PUP
Coupling Facility Activity	#CFA
DASD Usage by Cylinder	#DUC
Attribution of CPU Execution Time	#ACE
Attribution of CPU Wait Time	#ACW
Token - Longname Cross Reference	#XRF

## Browsing an Automatically Generated Performance Profile

If you specified the AUTO PROFILE CREATION option when you submitted the measurement request, you can browse the Performance Profile from the STROBE - STATUS panel once the measurement session is completed and the Performance Profile has been generated. A measurement request has an automatic Performance Profile associated with it if "AUTO" appears in the PROFILE column of the STROBE - STATUS panel.

To browse the Performance Profile, type "B" next to the request number on the STROBE - STATUS panel and press **Enter**. STROBE/ISPF displays a browse panel that enables you to review the Performance Profile.

## Naming Conventions for Automatic Performance Profiles

STROBE dynamically allocates a profile data set and creates the data set name. The data set name is based on the name of the sample data set for the target job. The format for the profile data set name is

```
prefix.jobname.PsssDddd.[suffix]
```

For example, if the sample data set for the measured job is

```
WPA.JOBNAME.S001D002
```

then the profile data set name is

```
WPA.JOBNAME.P001D002
```

## Multiple Performance Profiles

If there are multiple Performance Profiles associated with a completed measurement request, the STROBE - PRINTED PROFILE DATA SET LIST panel appears (Figure 3-17).

To browse the Performance Profile associated with a specific measurement session, type "S" to the left of the profile data set name and press **Enter**.

**Figure 3-17.** STROBE - PRINTED PROFILE DATA SET LIST Panel

```
----- STROBE - INCLUDE MAPS OF INDEXED SOURCE MODULES AND/OR DDIO FILES --
COMMAND ==>

SAMPLE DATA SET: 'COA01.STQ80.ATTRTEST.S001D001'

NEW MAPS: Do you want to execute an Indexer
          to create a new map data set
```

## Chapter 4.

# Managing Measurement Requests with STROBE/ISPF

You can use STROBE/ISPF to manage your measurement requests. This chapter provides information about:

- monitoring measurement requests
- changing the status of measurement requests
- viewing messages and the STROBE log
- setting user defaults
- managing batch submission of measurement requests

---

## Monitoring Measurement Requests

To monitor the status of your STROBE measurement requests:

1. Select Option 3 (STATUS) from the STROBE OPTIONS menu.
2. Press **Enter** to display the STROBE - STATUS panel (Figure 4-1 on page 4-2).
3. Press **Enter** to refresh the list. STROBE/ISPF updates all the information given for each request, allowing you to monitor the sample counts for your active requests and any change in the status of a request. Scrolling to the right provides you with additional information about the measurement request, as shown in Figure 4-2 on page 4-3.

The STROBE - STATUS panel (Figure 4-1 on page 4-2) shows the status of each measurement request as follows:

<b>Status</b>	<b>Meaning</b>
Active	STROBE is currently placing samples in the sample data set.
Suspended	STROBE is not sampling. <ul style="list-style-type: none"> <li>• If you have suspended the measurement session, the sample data set is open.</li> <li>• If you have ended the measurement session, the sample data set is closed.</li> </ul>
Queued	The target program has not yet begun executing.
Completed	The request has been terminated and all sample data sets have been closed.

The displayed list is limited to the requests on a specific system that belong to the owner IDs specified in the OWNERID MASK field at the top of the panel. For more information, see "Listing by Owner ID" on page 4-5.

You can modify any measurement request that appears on the STROBE - STATUS panel and filter the requests by system or by owner ID. The following table directs you to the sections that describe how to monitor and manage measurement requests.

To	See section
Find descriptions of the panel columns	"Viewing the Parameters of a Measurement Request" on page 4-5
Select a system	"Listing by System" on page 4-4
Set the owner ID mask	"Listing by Owner ID" on page 4-5
View requests	"Viewing the Parameters of a Measurement Request" on page 4-5
Change requests	"Changing the Status of Measurement Requests" on page 4-9
Terminate requests	"Terminating Measurement Requests" on page 4-13
Delete requests	"Deleting Measurement Requests" on page 4-14
Produce Performance Profiles	"Generating Performance Profiles" on page 3-1
Change automatic Performance Profile requests	"Changing Automatic Profile Requests" on page 4-14

Figure 4-1. STROBE - STATUS Panel

```

----- STROBE - STATUS -----
COMMAND ==>                                SCROLL ==> PAGE

SYSTEM      ==> *LIST   (System or clear to select or *ALL for all systems)
OWNERID MASK ==> WPA*   (Enter * for a pattern match)
  V =View    C =Change  P =Profile Report      G =default Profile
  Q =Quit    D =Delete  X =Delete with data sets B =Browse Auto Profile

----- ACTIVE MEASUREMENT REQUESTS -----
--REQ-OWNERID--SYSTEM--JOBNAME--PROGRAM--STEPNAME/STEPNUM-TARGET--TOTAL---EXEC
  11 WPAKRM   SCS01   WPAWIB      WPAIEF53      20000   435   0
----- QUEUED MEASUREMENT REQUESTS -----
--REQ-OWNERID--SYSTEM--JOBNAME--PROGRAM--STEPNAME/STEPNUM-TARGET-DURATION-RESP
  6 WPAAG2   *LIST   TESTPGM2     STEP3         10000   1   CONT
  17 WPAAG2   TLP01   TESTPGM3     WPAIC33       10000   1   CONT
----- COMPLETED MEASUREMENT REQUESTS -----
--REQ-OWNERID--SYSTEM--JOBNAME--PROGRAM--STEPNAME/STEPNUM-TARGET--TOTAL---EXEC
  1 WPARLK   SCS01   WPARLK      $WPAPROC     10000  10000  11
  3 WPAKRM   SCS01   WPAWIB      WPAIEF53     20000  11171  924
  4 WPAKRM   SCS01   WPAWIB      WPAIEF53     20000  20000  16818
  5 WPARLK   SCS01   WPARLK      $WPAPROC     10000  10000  15
  8 WPAKRM   SCS01   WPAWIB      WPAIEF53     20000  5991   0
    
```

Figure 4-2. STROBE - STATUS Panel (Scrolled Right)

```

----- STROBE - STATUS -----
COMMAND ==>                               SCROLL ==> PAGE

SYSTEM      ==> *LIST   (System or clear to select or *ALL for all systems)
OWNERID MASK ==> WPA*   (Enter * for a pattern match)
  V =View    C =Change  P =Profile Report      G =default Profile
  Q =Quit    D =Delete  X =Delete with data sets B =Browse Auto Profile

----- ACTIVE MEASUREMENT REQUESTS -----
--REQ-OWNERID--SYSTEM--JOBNAME--PROGRAM--STEPNAME/STEPNUM--PROFILE-----
   11 WPAKRM   SCS01   WPAWIB   WPAIEF53   AUTO
----- QUEUED MEASUREMENT REQUESTS -----
--REQ-OWNERID--SYSTEM--JOBNAME--PROGRAM--STEPNAME/STEPNUM--PROFILE-----
   6 WPAAG2   *LIST   TESTPGM2   STEP3
  17 WPAAG2   TLP01   TESTPGM3   WPACIC33   AUTO
----- COMPLETED MEASUREMENT REQUESTS -----
--REQ-OWNERID--SYSTEM--JOBNAME--PROGRAM--STEPNAME/STEPNUM--PROFILE-----
   1 WPARLK   SCS01   WPARLK   $WPAPROC
   3 WPAKRM   SCS01   WPAWIB   WPAIEF53   AUTO
   4 WPAKRM   SCS01   WPAWIB   WPAIEF53   AUTO
   5 WPARLK   SCS01   WPARLK   $WPAPROC
   8 WPAKRM   SCS01   WPAWIB   WPAIEF53

```

The STROBE - STATUS panel displays the following information for each measurement request.

REQ	The request number.
OWNERID	The user ID or job name that initiated the request.
SYSTEM	The system on which the measurement session was initiated. This column is displayed only in a multisystem environment.
JOBNAME	The job name of the target measurement.
PROGRAM	The name of the target program.
STEPNAME/ STEPNUM	The name or number of the target step (an asterisk (*) indicates the current step).
TARGET	The target sample size.

For all requests, scrolling to the right provides the following information:

PROFILE	<p>If an automatic Profile request is associated with this measurement request, one of the following values appears:</p> <ul style="list-style-type: none"> <li>• AUTO-W: output will be in wide format</li> <li>• AUTO-N: narrow will be in narrow format</li> <li>• AUTO-I: output will be formatted for use by iSTROBE</li> <li>• AUTO-A: output will be formatted for use by APMpower but was submitted from STROBE.</li> <li>• APMPOWER: output will be formatted for use by APMpower and was submitted from APMpower.</li> </ul>
---------	--

Otherwise, the column is blank.



## Listing by Owner ID

To control your view of requests on the STROBE - STATUS panel and the sample data sets that appear on the SAMPLE DATA SET LIST panel, you can specify an owner identification in the OWNERID MASK field. You have the following options:

- To view requests for another TSO user, enter the user ID or the job name of a batch job that submitted the measurement request. The STROBE/ISPF default is your TSO user ID.
- To view requests submitted either by a group of TSO users whose user IDs begin with the same characters or through batch jobs whose job names begin with a common prefix, enter those characters followed by the wildcard character (\*). If you enter "SA\*", for example, STROBE/ISPF displays all requests submitted by users whose TSO user IDs begin with "SA" and all requests submitted by batch jobs whose job names begin with "SA".

To view all requests, enter "\*" in this field or clear the field. When you clear the field, STROBE/ISPF resets it to your TSO user ID the next time you invoke STROBE/ISPF.

## Viewing the Parameters of a Measurement Request

To view the measurement parameters that have been supplied for a request:

1. Type "V" to the left of the request.
2. Press **Enter** to display a view panel (Figure 4-4).
3. Press the **Up** or **Down** function keys to view all the data. The panel displays the options selected for the request.

The first line of the view panel identifies the request number and the status of the request. The remainder of the view panel is divided into sections that display information about each type of measurement request field. The DATA COLLECTORS, MODULE MAPPING DATA, SESSION MANAGEMENT, and REQUEST RETENTION sections are described further in the section "Additional Measurement Options" on page 2-11.

**Figure 4-4. Browse Panel for a Measurement Request**

```

BROWSE -- SYS96045.T145132.RA000.WPAFXC.R0036933 --- LINE 00000000 COL 001 080
COMMAND ==>                                SCROLL ==> PAGE
***** TOP OF DATA *****
REQUEST 17 IS QUEUED

JOBNAME: TESTPGM3          SESSION DURATION: 1          CREATED: 14:41:13PM
PROGRAM:                   TARGET SAMPLE SIZE: 10000        01/10/1999
STEP:   WPACIC33          NOTIFY TSO USERID: WPAAG2          (MM/DD/YYYY)
SYSTEM:  TLP01

-----
SYSTEMS REQUESTED: TLP01
-----
SAMPLE DSNNAME PREFIX:  ZZ
UNIT NAME:   WPAANY     VOLUME: WPA002     DISP: CATLG
-----
SAMPLE DATA SET SMS PARAMETERS :
MGMTCLAS :             DATACLAS :             STORCLAS :
-----
SAMPLE DATA SET NAME  ZZ.WPAAG2.S001D001
UNIT NAME:   WPAANY     VOLUME: WPA002     DISP: CATLG
-----
DATA COLLECTORS

DATA COLLECTORS:      ADABAS          CICS          PLI
CICS OPTIONS:        NONE
CAPTURE OPTIONS:     NONE
OTHER DATA COLLECTORS: NONE
-----
MODULE MAPPING DATA

LIBRARIES TO SEARCH:  NONE
DETAIL BASELINE:      2
BASELINE OVERRIDE:   NONE
SVC NUMBERS:         NONE
-----
SESSION MANAGEMENT

NUMBER OF SESSIONS:  1   FINAL SESSION ACTION:  CONT
-----
REQUEST RETENTION
QUEUED   REQUEST SCHEDULED TO BE REMOVED 01/14/96 (MM/DD/YY)
COMPLETED REQUEST RETENTION 7   DAYS
-----
AUTO PROFILE JCL

//WPAFXCB1 JOB (WPAFXC,WPAOSTXXX,,99,,0),'APC',USER=WPAFXC
//          NOTIFY=WPAFXC,CLASS=1,MSGCLASS=Q
//*
//*
//*****
//DELETE EXEC PGM=IDCAMS          BACKGROUND PROFILE
//SYSPRINT DD DUMMY
//SYSIN DD *
DELETE <PRINTDSN>
SET MAXCC=0
//ALLOC EXEC PGM=IEFBR14
//SYSPRINT DD DSN=<PRINTDSN>,
//          DISP=(NEW,CATLG,DELETE),
//          UNIT=WPAANY,

```

**HEADER INFORMATION Fields**

The following fields always appear.

- JOBNAME                    The name of the job.
- PROGRAM                   The name of the measured program.
- STEP                      The name of the step.

SYSTEM	The MVS system name you identified as a target for the measurement request. If you entered a list of systems, or specified all systems as potential targets for the requests, the value “*LIST” or “*ALL” appears in this field.
SESSION DURATION	Time in minutes of session duration.
TARGET SAMPLE SIZE	The number of samples to collect.
NOTIFY TSO USER ID	The specified user ID to which STROBE sends a notify message.
CREATED	Time and date that the request was created; the formats depend on the date and time formats specified in the STROBE parameter data set.

#### SYSTEMS REQUESTED Fields

These fields appear only if you are viewing measurement requests in a multisystem environment. The SYSTEMS REQUESTED field lists the systems you identified as potential targets for the measurement request. Systems that you excluded as potential targets for the measurement request appear next to the EXCLUDED field.

#### SAMPLE DSNNAME PREFIX Fields

This part of the view panel appears only if your system does not use System Managed Storage:

PREFIX	The high-order qualifiers for the sample data set name
UNIT NAME	The specified unit on which the data set is or will be allocated
VOLUME	The volume on which the data set is or will be allocated
DISP	The specified data set disposition

#### SAMPLE DATA SET SMS PARAMETERS Fields

This part of the view panel appears only if your system uses System Managed Storage:

MGMTCLAS	The Management Class of the data set
DATACLAS	The Data Class of the data set
STORCLAS	The Storage Class of the data set

#### SAMPLE DATA SET Fields

This section of the view panel appears only when you examine completed, active, or suspended requests:

NAME	The name of the data set
UNIT NAME	The unit name of the allocated data set
VOLUME	The volume on which the data set is allocated
DISP	The data set disposition

**DATA COLLECTORS Fields**

DATA COLLECTORS	The data collectors supplied with STROBE that you specified
CICS OPTIONS	The CICS options that you specified
CAPTURE OPTIONS	The capture options that you specified
TRANSACTION DETAIL	The CICS transactions for which you requested detailed performance information
MQ COMMON USER MODULE	The name of the common MQSeries user module that you specified
OTHER DATA COLLECTORS	Program names of data collectors that you specified in the OTHER DATA COLLECTORS field or specified with the STROBE Command Language

**MODULE MAPPING DATA Fields**

LIBRARIES TO SEARCH	Specified search libraries
DETAIL BASELINE	The specified minimum percentage of execution samples required
BASELINE OVERRIDE	Named modules that are mapped regardless of the percentage of execution samples
SVC NUMBERS	SVC modules that you specified for more detailed reporting

**SESSION MANAGEMENT Fields**

NUMBER OF SESSIONS	The number of sessions specified for sampling
FINAL SESSION ACTION	The specified action that STROBE will take after it reaches its target number of samples
	Quit      Stop sampling and terminate the measurement request
	Stop      Stop sampling, end the measurement session, and terminate the measurement request (default for an active request)
	Continue   Take no action when the target sample size is reached (default for a queued request)

**REQUEST RETENTION Fields**

The following fields appear only if you have specified a retention period for the measurement request. For information on specifying a request retention period, see "Retaining Measurement Requests" on page 2-17.

**Note:** For deferred requests, the request retention period does not begin until the request moves from the deferred to the queued category.

QUEUED RETENTION	Appears for queued requests only; the date on which the system will remove the request. The date format depends on the date format specified in the STROBE parameter data set.
COMPLETED RETENTION	For completed requests, the number of days the system will retain the request after it completes

#### AUTO PROFILE JCL Field

This section appears only if you have submitted the measurement request with the automatic profile option and contains the JCL required to produce the Performance Profile.

## Changing the Status of Measurement Requests

To change measurement parameters for active, suspended, queued, or deferred requests, type "C" (Change) to the left of the request you want to change. STROBE/ISPF determines the status of the request and displays the appropriate change panel. Each panel displays the request's status and the available options, as described below.

### Changing an Active Measurement Request

Figure 4-5 shows the STROBE - CHANGE ACTIVE REQUEST panel for an active measurement session.

**Figure 4-5.** STROBE - CHANGE ACTIVE REQUEST Panel

```

----- STROBE - CHANGE ACTIVE REQUEST -----
OPTION ==>

A measurement session is ACTIVE                REQUEST NUMBER: 276
                                                JOBNAME: SAJLA
                                                STEP: $WPAPROC

  1 - End the current measurement session,
      terminating request 276

  2 - End the current measurement session and
      begin a new session, using the following parameters:

      SESSION DURATION   ==> 1             (Estimated time in minutes)
      TARGET SAMPLE SIZE ==> 10000        (Target number of samples)
      FINAL SESSION ACTION ==> Q         (Q)uit, (S)top, or (C)ontinue

  3 - Suspend sampling in the currently completed request

  4 - End the current measurement session,
      but do not terminate request 276

  5 - Change retention period for completed request

  6 - Change auto profile

```

Select one of the following options to change an active measurement request:

1. End the current measurement session and terminate the request. The request will appear in the COMPLETED session status group.

2. End the current measurement session and begin a new measurement session. The request will remain in the ACTIVE session status group. You can choose new session duration, target sample size, and final session action parameters for the new measurement session. You can produce a Performance Profile from the sample data set for the completed session.
3. Suspend sampling in the current measurement session and leave the sample data set open. You can restart sampling, appending the data to this data set, at a later time. The request will move to the SUSPENDED session status group. You cannot produce a Performance Profile from the sample data set until you have ended the session.
4. End the current measurement session and close the sample data set but do not terminate the request. The request is stopped, and will move to the SUSPENDED session group. You can produce a Performance Profile from the closed sample data set.
5. Change the length of time that the system retains the measurement request after it completes. STROBE/ISPF displays the STROBE - REQUEST RETENTION panel (Figure 4-6), showing the number of days, if any, that the system will keep the request after it completes. Enter a new number in the COMPLETED RETENTION field. For more information about retaining requests, see the section "Retaining Measurement Requests" on page 2-17.
6. Change the characteristics of an existing automatic Performance Profile request, or add an automatic Performance Profile request, depending on what you specified in the AUTO PROFILE CREATION field when you submitted the request. You can also delete an existing automatic Performance Profile request.

If you had requested an automatic Performance Profile when you submitted the measurement request, STROBE/ISPF displays the STROBE - CHANGE AN AUTO PERFORMANCE PROFILE panel (Figure 4-12 on page 4-15). If you did not request an automatic Performance Profile when you submitted the measurement request, STROBE/ISPF displays the STROBE - CREATE AN AUTO PERFORMANCE PROFILE panel (Figure 3-8 on page 3-13).

**Figure 4-6.** STROBE - REQUEST RETENTION Panel

```

----- STROBE - REQUEST RETENTION -----
COMMAND ===>
JOBNAME:  SAJLA           REQUEST NUMBER:  276

COMPLETED REQUEST SCHEDULED TO BE REMOVED 03/16/1999 (MM/DD/YYYY)
COMPLETED RETENTION ===> 7           (Number of days from completion)

```

## Changing a Suspended Measurement Session

A suspended measurement session may have an open or a closed sample data set. Figure 4-7 shows the STROBE - CHANGE SUSPENDED REQUEST panel for a suspended measurement session that has an open data set.

Figure 4-7. STROBE - CHANGE SUSPENDED REQUEST Panel

```

----- STROBE - CHANGE SUSPENDED REQUEST -----
OPTION ==>

A measurement session is SUSPENDED.          REQUEST NUMBER: 26
A sample data set is open.                   JOBNAME: WPAFXC
                                             STEP: $WPAPROC

  1 - Close the current sample data set and
      terminate request 26

  2 - Close the current sample data set and open a new one and
      begin a new session, applying the following parameters:

      SESSION DURATION   ==> 5             (Estimated time in minutes)
      TARGET SAMPLE SIZE ==> 20000        (Target number of samples)
      FINAL SESSION ACTION ==> Q         ((Q)uit, (S)top, or (C)ontinue)

  3 - Restart sampling using this sample data set

  4 - Close the current sample data set,
      but do not terminate request 26

  5 - Change retention period for completed request

  6 - Change auto profile

```

If the sample data set is open, you can change the session status by selecting one of the following options:

1. End the current suspended measurement session and terminate the request. The request will move to the COMPLETED session status group.
2. End the current suspended measurement session and begin a new measurement session. You can choose new session duration, target sample size, and final session action parameters. The request will move to the ACTIVE session status group. You can produce a Performance Profile from the sample data set for the ended session.
3. Restart sampling using the sample data set already opened for this request. The suspended session will move to the ACTIVE session status group.
4. End the current suspended measurement session and close the sample data set but do not terminate the request. The request will remain in the SUSPENDED session status group. You can then produce a Performance Profile from the sample data set.
5. Change the number of days that the system retains the request after it completes. STROBE/ISPF displays the STROBE - REQUEST RETENTION panel (Figure 4-6 on page 4-10), showing the number of days, if any, that you specified when you submitted the measurement request. Enter a new number for completed retention days in the COMPLETED RETENTION field.
6. Change the characteristics of an existing automatic Performance Profile request, or add an automatic Performance Profile request, depending on what you specified in the AUTO PROFILE CREATION field on the STROBE - ADD ACTIVE REQUEST panel. You can also delete an existing automatic Performance Profile request.

If you had requested an automatic Performance Profile when you submitted the measurement request STROBE/ISPF displays the STROBE - CHANGE AN AUTO PERFORMANCE PROFILE panel (Figure 4-12 on page 4-15). If you did not request an automatic Performance Profile when you submitted the measurement request STROBE/ISPF displays the STROBE - CREATE AN AUTO PERFORMANCE PROFILE panel (Figure 3-8 on page 3-13).

## Changing a Stopped Measurement Session

Figure 4-8 shows the STROBE - CHANGE STOPPED REQUEST panel for a suspended measurement session with a closed data set.

**Figure 4-8.** STROBE - CHANGE STOPPED REQUEST Panel

```

----- STROBE - CHANGE STOPPED REQUEST -----
OPTION ==>

A measurement session is STOPPED.          REQUEST NUMBER: 26
There is no open sample data set.         JOBNAME: WPAFXC
                                           STEP: $WPAPROC

1 - Terminate measurement request  26

2 - Begin a new measurement session,
   using the following parameters:

   SESSION DURATION   ==> 5             (Estimated time in minutes)
   TARGET SAMPLE SIZE ==> 20000        (Target number of samples)
   FINAL SESSION ACTION ==> Q         ((Q)uit, (S)top, or (C)ontinue)

3 - Change retention period for completed request

4 - Create auto profile

```

You have the following options for changing a request when no measurement session is in progress:

1. Terminate the request. The request will move to the COMPLETED session status group.
2. Begin a new measurement session. You can choose new session duration, target sample size, and final session action parameters. The request will move from the SUSPENDED status group to the ACTIVE status group.
3. Change the number of days that the system retains the request after it completes. STROBE/ISPF displays the STROBE - REQUEST RETENTION panel (Figure 4-6 on page 4-10), showing the number of days, if any, that you specified when you submitted the measurement request. Enter a new number for completed retention days in the COMPLETED RETENTION field.
4. Change the characteristics of an existing automatic Performance Profile request, or add an automatic Performance Profile request, depending on what you specified in the AUTO PROFILE CREATION field on the measurement request. You can also delete an existing automatic Performance Profile request.

If you requested an automatic Performance Profile when you submitted the measurement request STROBE displays the STROBE - CHANGE AN AUTO PERFORMANCE PROFILE panel (Figure 4-12 on page 4-15). If not, STROBE displays the STROBE - CREATE AN AUTO PERFORMANCE PROFILE panel (Figure 3-8 on page 3-13).

## Changing a Queued Measurement Request

Figure 4-9 shows a STROBE - CHANGE QUEUED REQUEST panel for a queued request. This panel is similar to the STROBE - ADD QUEUED REQUEST panel (Figure 2-5 on page 2-8), except that you cannot change the job name and the request number. STROBE displays the values that you specified when you submitted the measurement request. You can change any of these values.

Figure 4-9. STROBE - CHANGE QUEUED REQUEST Panel

```

----- STROBE - CHANGE QUEUED REQUEST -----
COMMAND ==>

A measurement session is QUEUED.  REQUEST NUMBER: 239  JOBNAME: WPAJEA
PROGRAM  ==> NATURAL  (Program)
STEP    ==> REPTJCL  (Name, number or step.procstep)
SYSTEM  ==> SCS01    (System or clear for a list or *ALL for all systems)

AUTO PROFILE CREATION  ==> N (Y or N; S indicates previously 'selected')

MEASUREMENT SESSION INFORMATION:
SESSION DURATION      ==> 1      (Estimated time in minutes)
TARGET SAMPLE SIZE    ==> 10000  (Target number of samples)

TSO USERID TO NOTIFY  ==> WPAJEA (Notify when session completes)

SAMPLE DATA SET INFORMATION:
DATA SET NAME PREFIX ==> ZZ
UNIT NAME            ==> WPAANY  VOLUME ==>          DISP ==> CATLG (CATLG OR KEEP)

SELECT ADDITIONAL PARAMETERS: (Y or N; S indicates previously 'selected')
DATA COLLECTORS       ==> N      MODULE MAPPING DATA    ==> N
SESSION MANAGEMENT    ==> N      REQUEST RETENTION        ==> S
OTHER PARAMETERS      ==> N

```

If you selected AUTO PROFILE CREATION or any of the fields under SELECT ADDITIONAL PARAMETERS, these fields are indicated by an “S”. If you wish to change of the parameters on these subsidiary panels, type a “Y” in the field and press **Enter**.

## Changing a Completed Measurement Request

For a completed request, you can change only the number of days that STROBE retains it. Select Option 3 to display the REQUEST RETENTION panel (Figure 4-10).

Figure 4-10. STROBE - REQUEST RETENTION Panel

```

----- STROBE - REQUEST RETENTION -----
COMMAND ==>

JOBNAME:  WPAMXM          REQUEST NUMBER:  0086

COMPLETED REQUEST SCHEDULED TO BE REMOVED 10/28/1999 (MM/DD/YYYY)
COMPLETED RETENTION ==> 7      (Number of days from completion)

```

This panel shows the date on which the request is scheduled to be removed. The date format depends on the date format specified in the STROBE parameter data set. In the COMPLETED RETENTION field, enter the number of days (0-999) from today that you want the system to keep the request and press **Enter**.

## Terminating Measurement Requests

To close the current sample data set and terminate an active or suspended request, select “Q” (Quit). STROBE moves the request to the COMPLETED session status group.

## Deleting Measurement Requests

To delete a request but save the associated sample data sets, enter “D” to the left of the request number on the STROBE - STATUS panel.

To delete both a request and all its associated sample data sets, enter “X” to the left of the request number.

If the data set that you select to delete has an expiration date, and the date has not yet been reached, the STROBE - CONFIRM PURGE OF DATA SET panel (Figure 4-11) appears. Type “Yes” to delete the data set or “No” to save the data set.

**Note:** The date format displayed on this panel depends on the date format specified in the STROBE parameter data set.

**Figure 4-11.** STROBE - CONFIRM PURGE OF DATA SET Panel

```

----- STROBE - CONFIRM PURGE OF DATA SET -----
OPTION ==>

The data set associated with the request being deleted
has an expiration date which has not yet expired.

REQUEST NUMBER: 0759
DATA SET NAME: 'ZZ.WPAJEA.S001D001'
VOLUME: WPA003
CREATION DATE: 04/13/1999 (MM/DD/YYYY)
EXPIRATION DATE: 07/20/1999 (MM/DD/YYYY)

PURGE DATA SET ==> YES (YES or NO; Enter YES to confirm purge of data set
                          Enter NO or press END to save the data set.)

```

## Changing Automatic Profile Requests

You can change the characteristics of an automatic Performance Profile request, or cancel the automatic Performance Profile, provided the measurement session has not yet completed.

To cancel an automatic Performance Profile request, perform the following steps:

1. Type “C” to the left of the request number on the STROBE - STATUS panel.
2. Press **Enter** to display the STROBE - CHANGE ACTIVE REQUEST panel or STROBE - CHANGE QUEUED REQUEST panel.

If the panel is	Then
STROBE - CHANGE ACTIVE REQUEST	Select Option 6
STROBE - CHANGE QUEUED REQUEST	Enter “Y” in the AUTO PROFILE CREATION field

The STROBE - CHANGE AN AUTO PERFORMANCE PROFILE panel appears.

3. Press **Enter** to display the STROBE - CHANGE AN AUTO PERFORMANCE PROFILE panel.
4. Type “Y” in the DELETE AUTO PERFORMANCE PROFILE field.
5. Press **Enter** to complete the cancellation.

To change an automatic Performance Profile request, perform the following steps:

1. Enter “C” to the left of the request number on the STROBE - STATUS panel.

2. Press **Enter** to display the STROBE - CHANGE ACTIVE REQUEST panel or STROBE - CHANGE QUEUED REQUEST panel.

If the panel is	Then
STROBE - CHANGE ACTIVE REQUEST	Select Option 6
STROBE - CHANGE QUEUED REQUEST	Type "Y" in the AUTO PROFILE CREATION field

The STROBE - CHANGE AN AUTO PERFORMANCE PROFILE panel appears (Figure 4-12).

3. Press **Enter** to display the STROBE - CHANGE AN AUTO PERFORMANCE PROFILE panel Figure 4-12.
4. Change any of the Performance Profile characteristics.
5. Press **Enter** to complete the change.

**Note:** If APMpower is installed at your site, the option to create an APMpower Profile data file (PDF) automatically upon completion of the measurement session is available. To select this option, type "Y" in the CREATE APMPOWER PDF field and follow the instructions in "Creating APMpower Profile Data Files" on page 3-10.

**Figure 4-12.** STROBE - CHANGE AN AUTO PERFORMANCE PROFILE Panel

```

----- STROBE - CHANGE AN AUTO PERFORMANCE PROFILE -----
OPTION ==>

DELETE AUTO PERFORMANCE PROFILE ==> N (Y or N)

                                or

SPECIFY PROFILE REPORT PARAMETERS: (Y or N; S indicates previously 'selected')
  Detail Reports ==> N   Tailor Reports ==> N   Indexing ==> N

PROFILE REPORT FORMAT ==> N ((W)ide or (N)arrow)

Specify characteristics for copy of the STROBE Profile Report:
  UNIT ==> WPAANY   VOLUME ==>

Specify a SYSIN data set containing parameters for the Reporter:
DATA SET NAME ==>

JOB STATEMENT INFORMATION FOR AUTO PERFORMANCE PROFILE
//WPAAZSRR JOB (WPAAZS,WPAOSMSID.,99.,.,0),'BG',CLASS=1,USER=WPAAZS
/*JOBPARM FORMS=0000
/*ROUTE PRINT RMT89
//DEFAULT OUTPUT DEFAULT=YES,JESDS=ALL,FCB=2SID

```

## Viewing Information About Messages

To see an explanation of any STROBE message, select Option M (MESSAGES) from the STROBE OPTIONS menu. STROBE/ISPF displays the STROBE - DISPLAY MESSAGE TEXT panel (Figure 4-13). (For a description of all STROBE messages, see *STROBE MVS Messages*.)

To view information about a message, enter only the message key (the numeric portion of the message identifier) in the MESSAGE NUMBER field and press **Enter**. For example, to view specific information about STROBE message STR0109W, enter 0109 in the MESSAGE NUMBER field.

**Figure 4-13.** STROBE - DISPLAY MESSAGE TEXT Panel

```

----- STROBE - DISPLAY MESSAGE TEXT -----
COMMAND ==>

MESSAGE NUMBER--STR ==>                               (Numeric portion)

Enter the message number (the numeric portion of the message identifier)
to display the text associated with the message.

```

## Viewing the STROBE Log

As you work, STROBE generates messages in response to your requests, and stores them in a log. (STROBE only displays responses to status commands to the issuing terminal, and does not store them in the log.) These messages provide a valuable record of your work with STROBE. To view log messages, select Option L (LOG UTILITY) from the STROBE OPTIONS menu. STROBE/ISPF displays the STROBE - STROBE LOG UTILITIES panel (Figure 4-14).

**Figure 4-14.** STROBE - STROBE LOG UTILITIES Panel

```

----- STROBE - STROBE LOG UTILITIES -----
COMMAND ==>

FUNCTION ==> B (B for BROWSE, P for PRINT, or C for COPY)

PRINT SYSOUT CLASS ==>
COPY DATA SET NAME ==>
UNIT NAME ==> TSOANY VOLUME ==> DISP ==> KEEP (CATLG/KEEP)

Limit the extraction by specifying criteria below or leave BLANK for all data

REQUEST NUMBER ==> (Limit by request number)
OWNERID ==> WPA* (Limit by ownerid)
JOBNAME ==> (Limit by jobname)
STARTING DATE ==> 03 / 26 /1999 (Limit by dates -
ENDING DATE == 03 / 27 /1999 format is (MM/DD/YYYY))

SYSTEM: (Limit by system, e.g. SYSA,SYSB)
==> ==> ==> ==>
==> ==> ==> ==>

SPECIFY: LOG DATA SET(S) ==> N

```

You can browse, print, or copy any messages currently in a STROBE log. You can limit your selection by any combination of the parameters described next. To remove a limit, clear the field.

STROBE/ISPF groups the messages into sets with a header line that contains the date and time that STROBE generated the messages, the system identification, and the job name (usually a TSO user ID) of the issuer of the command. The format of the dates and times in the header line is consistent with the formats in the messages that follow the header. If the messages refer to a measurement request, the header line also contains a request number and job name. For example, the header line

```
01/21/1999 08:37:41 SCS006 SAWKFSW 0315 SAWKFSS
```

identifies the date as January 21, 1999, the time as 8:37:41, the system identification as SCS006, the issuer's job name as SAWKFSW, the request number as 0315, and the job

name of the measured program as SAWKFSS. The format of the dates and times on this panel depends on the date and time formats specified in the STROBE parameter data set.

The following are fields on the LOG UTILITIES panel:

Field	Function
FUNCTION	Enter the type of log function you want to perform: <ul style="list-style-type: none"> <li>• <b>B</b> to browse through log messages,</li> <li>• <b>P</b> to print them</li> <li>• <b>C</b> to copy them to a data set</li> </ul>
PRINT SYSOUT CLASS	If you are printing log messages, enter the appropriate SYSOUT class in the PRINT SYSOUT CLASS field. Use any output class appropriate to your installation.
COPY DATA SET NAME	If you are copying log messages, enter the location in the UNIT NAME and VOLUME fields, and the disposition (CATLG or KEEP) in the DISP field.
REQUEST NUMBER	To limit messages to those that STROBE has generated for a particular request, enter the request number.
OWNERID	To limit messages to those sent to one issuer of STROBE commands, enter a specific user ID. To limit messages to those sent to all issuers whose job names begin with a particular string of characters, enter the string followed by the wildcard character (*). For example, to view the messages for all issuers whose job names begin with ABC, enter "ABC*".
JOB NAME	To limit messages to those associated with a specific job, enter the job name. To see all messages about jobs whose job names begin with the same string of letters, enter the string followed by the wildcard character (*). For example, to see the messages for all jobs whose job names begin with DEF, enter "DEF*".
STARTING DATE	To limit messages to those STROBE generated starting at a certain date, enter that date in the format requested on the panel. The format of the dates and times on this panel depends on the date and time formats specified in the STROBE parameter data set.
ENDING DATE	To limit messages to those STROBE generated up to and including a certain date, enter that date in the format requested on the panel. The format of the dates and times on this panel depends on the date and time formats specified in the STROBE parameter data set.
SYSTEM	To limit messages to those generated from specific systems, enter the system identification in one of the eight fields. This option enables you to select one or more systems that share the log. To view messages on all systems, clear all eight fields.
SPECIFY: LOG DATA SETS	To select messages from a particular data set, type "Y" in this field. STROBE goes to a panel where you can select the logs you want.

**SPECIFY: LOG DATA SET(S)**

To select messages from a particular log data set

1. Type "Y" in the SPECIFY LOG DATA SET field.
2. Press **Enter** to display the STROBE - SPECIFY STROBE LOG DATA SET(S) panel (Figure 4-15).
3. Type the name of the log data set in the SPECIFY LOG DATA SET field. If your system uses generation data groups for the data sets that contain log messages, STROBE displays a list of available generation data sets. Designate the one you want by typing "S" next to its name. The starting date and time of the log data set are the date and time that STROBE opened it. The format of the dates and times on this panel depends on the date and time formats specified in the STROBE parameter data set.

**Figure 4-15.** STROBE - SPECIFY STROBE LOG DATA SET(S) Panel

```

----- STROBE - SPECIFY STROBE LOG DATA SET(S) ----- ROW 1 TO 2 OF 2
COMMAND ==>                                           SCROLL ==> PAGE

SPECIFY LOG
DATA SET      ==>

                                OR

S - Select log(s)

  STARTING   STARTING   LOG
SEL   DATE   TIME     DATA SET NAME
  (MM/DD/YYYY)

    03/10/1999   11:25:05   'WPA.STROBE.A.LOG.G0002V00'
S 02/09/1999   10:06:21   'WPA.STROBE.A.LOG.G0001V00'

```

## Viewing Changes to STROBE in the Current Release

To view a list of changes made to the current release of STROBE, select Option C (CHANGES) from the STROBE OPTIONS menu.

---

## Setting User Defaults

Most of the fields that are displayed on STROBE/ISPF panels have default values. STROBE/ISPF gets these values from

- installation defaults set by your STROBE system programmer, such as data set name prefix, unit, and volume
- STROBE system defaults, such as the target sample size, session duration, and report resolution
- information from the TSO/ISPF environment, such as your TSO user ID
- user defaults that you specify from within STROBE/ISPF

When you press **Enter** on any panel, STROBE/ISPF uses the values that appear in the fields and then retains them. When a field is blank, STROBE/ISPF uses the default, if one exists. When you return to a panel, STROBE/ISPF displays the values you last specified.

For example, during installation the STROBE system programmer specified a default unit (STRANY) on which to allocate STROBE sample data sets. At a later time, you enter a different unit (NEWUNT) on the panel. The next time you add a request, STROBE/ISPF would display NEWUNT as the unit value for sample data sets. If you clear the UNIT field on the ISPF panel before you press **Enter**, STROBE/ISPF restores the installation default of

STRANY. The next time you add a request, STROBE/ISPF displays STRANY as the unit on which the sample data sets are allocated.

## Specifying Defaults

If you choose Option 0 (USER DEFAULTS) from the STROBE OPTIONS menu, STROBE/ISPF displays the STROBE - USER DEFAULT OPTIONS panel (Figure 4-16). This panel enables you to define two types of default values. Select Option 1 (JOB STATEMENT) to define default job card values for jobs you submit while STROBE is running. Select Option 2 (SYSOUT PARAMETERS) to specify default values for SYSOUT parameters. By setting these defaults, you can eliminate the need to specify certain STROBE parameters repeatedly.

Figure 4-16. STROBE - USER DEFAULT OPTIONS Panel

```

----- STROBE - USER DEFAULT OPTIONS -----
OPTION ==>

      1 JOB STATEMENT      - Specify template job statement
      2 SYSOUT PARAMETERS - Specify SYSOUT parameters

```

## Setting the Job Statement

STROBE/ISPF optionally performs many tasks by submitting and running background jobs. To complete these tasks, you **must** have a valid jobcard for Performance Profile jobs, indexing jobs, batch-submission jobs, and automatic Performance Profile requests.

To set defaults for these statements, select Option 1 (JOB STATEMENT), which displays the STROBE - JOB STATEMENT panel (Figure 4-17). This panel controls the statements that are part of your default job card. Alter these statements as necessary to specify the attributes of your background jobs. STROBE/ISPF will apply them to any job that does not already have a job card.

Figure 4-17. STROBE - JOB STATEMENT Panel

```

----- STROBE - JOB STATEMENT -----
COMMAND ==>

JOB STATEMENT INFORMATION:
(Used to initialize job statements on all other panels)

==> //WPAJEADS JOB (WPAJEA,WPAOSDCON,,99,,0),'STROBE',CLASS=1,MSGCLASS=Q
==> /*JOBPARM FORMS=0000
==> /*ROUTE PRINT RMT89
==> //DEFAULT OUTPUT DEFAULT=YES,JESDS=ALL,FCB=2SID

```

## Setting SYSOUT Parameters

Option 2 (SYSOUT PARAMETERS) on the STROBE - USER DEFAULT OPTIONS panel enables you to specify individualized defaults for print output on the STROBE - SYSOUT PARAMETERS panel (Figure 4-18). You can specify a number of SYSOUT options. For example, you can specify a SYSPRINT output class with additional options:

```
A,DEST=(N39,WPAJEA)
```

You can enter any parameter for SYSOUT that the *IBM MVS/ESA JCL Reference* specifies. If you leave a field blank, STROBE will route the output to the destination specified in the Message Class destination on the job card.

**Figure 4-18.** STROBE - SYSOUT PARAMETERS Panel

```

----- STROBE - SYSOUT PARAMETERS -----
COMMAND ==>

BACKGROUND INDEX PRINT OUTPUT

  SYSPRINT ==> A,DEST=(N39,WPAJEA)
  SYSUDUMP ==> X

BACKGROUND PROFILE PRINT OUTPUT

  PROFILE  ==> A
  SORT     ==> A
  SYSUDUMP ==> Z

BATCH SUBMISSION OUTPUT

  CLASS    ==> X

```

The subsequent sections describe the fields displayed on the STROBE - SYSOUT PARAMETERS panel.

#### BACKGROUND INDEX PRINT OUTPUT Fields

<b>SYSPRINT</b>	Destination of the echoed output of the Indexer
<b>SYSUDUMP</b>	Destination of the formatted dump output that appears in the case of an ABEND

#### BACKGROUND PROFILE PRINT OUTPUT Fields

<b>PROFILE</b>	Destination of the Performance Profile
<b>SORT</b>	Destination of information generated by the system sort/merge program
<b>SYSUDUMP</b>	Destination of the formatted dump output that appears in the case of an ABEND

#### BATCH SUBMISSION OUTPUT Fields

<b>CLASS</b>	Destination of the output produced on another system by STROBE
--------------	--

## Using the STROBE Packaging Utility

The STROBE packaging utility provides a fast and reliable way of preparing data sets, including sample and log data sets with variable-length records, for delivery to Compuware Technical Support. To use this utility:

1. Select Option P from the STROBE OPTIONS panel to display the STROBE PACKAGING UTILITY - SELECT INPUT DATA SET(S) Panel.
  - Enter an “S” to the left of the sample data sets that you want to send to Compuware Technical Support.
  - Enter the names of additional data sets, such as data sets from dumps, in the upper portion of the panel. You can select log data sets from the next panel.

**Figure 4-19.** STROBE PACKAGING UTILITY - SELECT INPUT DATA SET(S) Panel

```

-----STROBE PACKAGING UTILITY - SELECT INPUT DATA SET(S)-----
COMMAND ==>                                     SCROLL ==> PAGE

Specify input data set names to include
==>
==>
==>
==>

S - SELECT THE SAMPLE DATA SET(S) TO BE PREPARED FOR TRANSFER

SEL SAMPLE DATA SET NAME                                REQ  MEASUREMENT
NUM  DATE  TIME
WPAEAC.WPAEAC.S001D001.VERX                             0394  2001/04/18  10:34:55
WPAEAC.WPAEACSM.S001D001.VERX                           0395  2001/04/18  10:34:06
WPA.WPAJQ1.S001D001.VERX                                0415  2001/04/18  14:21:37
WPA.QA.ADA712.S001D001.VERX                             0427  2001/04/19  10:27:59
WPA.QA.ADA712.S001D002.VERX                             0427  2001/04/19  10:27:59
S  WPAMXP.STROBE.WPAMXP.S001D001.VERX                   0436  2001/04/19  12:02:10
WPA.WPAEAGA.S024D001.VERX                                0438  2001/04/19  14:02:11
WPA.WPAEAGA.S025D001.VERX                                0439  2001/04/19  14:04:43
WPA.WPAEAGA.S026D001.VERX                                0440  2001/04/19  14:29:32
WPA.QA.WPACLC.S019D001.VERX                             0441  2001/04/19  14:59:21
WPA.QA.WPACLCVS.S003D001.VERX                           0442  2001/04/19  14:59:21

```

2. Press **Enter** to display the STROBE PACKAGING UTILITY - SELECT LOG DATA SET(S) Panel.
  - Enter an “S” to the left of the log data sets that you want to send to Compuware Technical Support.

**Figure 4-20.** STROBE PACKAGING UTILITY - SELECT LOG DATA SET(S) Panel

```

-----STROBE PACKAGING UTILITY - SELECT STROBE LOG DATA SET(S)-----
COMMAND ==>                                SCROLL ==> PAGE

S - Select the log data set(s) to be prepared for transfer

Press ENTER to continue or use END to exit the Strobe Packaging Utility.

  STARTING   STARTING   LOG
SEL DATE    TIME      DATA SET NAME
S  2001/04/17 16:49:35  WPA.STROBE.V2R4M0X.LOG.G0012V00
   2001/04/11 17:37:05  WPA.STROBE.V2R4M0X.LOG.G0011V00
   2001/04/10 12:08:03  WPA.STROBE.V2R4M0X.LOG.G0010V00
   2001/04/06 14:49:45  WPA.STROBE.V2R4M0X.LOG.G0009V00
   2001/04/04 13:59:10  WPA.STROBE.V2R4M0X.LOG.G0008V00
   2001/04/02 16:45:54  WPA.STROBE.V2R4M0X.LOG.G0007V00
   2001/04/02 15:25:43  WPA.STROBE.V2R4M0X.LOG.G0006V00
   2001/04/02 14:38:26  WPA.STROBE.V2R4M0X.LOG.G0005V00
   2001/03/26 14:46:44  WPA.STROBE.V2R4M0X.LOG.G0004V00
   2001/03/19 13:55:43  WPA.STROBE.V2R4M0X.LOG.G0003V00

```

3. Press **Enter** to display the STROBE PACKAGING UTILITY- VERIFY DATA SET LIST Panel.

- Enter **Y** to modify the list of data sets. Doing so will return you to the SELECT INPUT DATA SET(S) Panel.
- Enter a prefix for the name of the output file that will contain all the data sets that you specified to be included. This is a required field.

**Note:** You must enclose the prefix in single quotes.

**Figure 4-21.** STROBE PACKAGING UTILITY - VERIFY DATA SET LIST Panel

```

-----STROBE PACKAGING UTILITY - VERIFY DATA SET LIST-----
COMMAND ==>                                SCROLL ==> PAGE

The data set(s) listed below have been selected to be prepared for transfer.

To modify this list, enter Y ==>

To cancel the Strobe Packaging Utility, enter END.

To accept this data set list, enter output file prefix
  OUTPUT FILE NAME PREFIX ==> 'WSX'
                                and press ENTER.

Data set list:
  'WPAMXP.STROBE.WPAMXP.S001D001.VERX'
  'WPA.STROBE.V2R4M0X.LOG.G0012V00'

```

4. Press **Enter** to display the STROBE PACKAGING UTILITY - OUTPUT FILE LIST Panel. This panel lists:

- The output file name, which is the prefix you entered with an extension of either XMT, XM1, or XM2, depending upon how your STROBE system programmer configured the utility.
- The names of the files that you selected to be included in the output file.

**Figure 4-22.** STROBE PACKAGING UTILITY - OUTPUT FILE LIST Panel

```

----- STROBE PACKAGING UTILITY - OUTPUT FILE LIST-----
COMMAND ==>                                SCROLL ==> PAGE

The following file has been prepared for transfer.
This file is now ready to be transferred to Compuware.

'WSX.XMT'

The following data set(s) are contained in the above file
'WPAMXP.STROBE.WPAMXP.S001D001.VERX'
'WPA.STROBE.V2R4MOX.LOG.G0012V00'

```

5. Press **END** to return to the STROBE OPTIONS menu.
6. Send the output file to Compuware Technical Support.

---

## Managing Requests with Batch Jobs

You can change, list, and delete measurement requests that you submitted as batch jobs.

### Changing Active Requests

To change an active request for a job that is currently executing:

1. Select Option 3 (CHANGE ACTIVE) from the BATCH-SUBMISSION OPTIONS menu.
2. Press **Enter** to display the STROBE - BATCH-SUBMISSION CHANGE ACTIVE REQUEST panel (Figure 4-23).
3. To identify the request you want to change, specify the request number in the REQUEST NUMBER field or the job name in the JOBNAME field.

**Figure 4-23.** STROBE - BATCH-SUBMISSION CHANGE ACTIVE REQUEST Panel

```

----- STROBE - BATCH-SUBMISSION CHANGE ACTIVE REQUEST -----
OPTION ==>

REQUEST NUMBER ==>    or    JOBNAME ==>

1 - Terminate the request
2 - Begin a new measurement session applying the following parameters:
   SESSION DURATION   ==>    (Estimated time in minutes)
   TARGET SAMPLE SIZE ==>    (Target number of samples)
   FINAL SESSION ACTION ==>  (Q)uit, (S)top, or (C)ontinue
3 - Suspend sampling in the current measurement session
4 - Restart sampling in the current measurement session
5 - End the measurement session, but do not terminate the request
6 - Change retention period for completed request

```

4. Select one of the following options:

- Option 1. End the current measurement session and terminate the request. The request will move to the completed status group.
- Option 2. Begin a new measurement session, changing the session duration, target sample size, and final session action parameters. This action will end an active or suspended measurement session and start a new one.
- Option 3. Suspend sampling in the current measurement session and leave the sample data set open. You can restart sampling, appending the data to this data set, at a later time. Select this option only if the measurement session is active.
- Option 4. Restart sampling for the current measurement session with the sample data set that was previously allocated. Select this option if the measurement session is suspended.
- Option 5. End the current measurement session and close the sample data set but do not terminate the request.
- Option 6. Increase the length of time that the system retains the request after it completes. When you select this option, the STROBE - REQUEST RETENTION panel (Figure 4-6 on page 4-10) appears. In the CHANGE COMPLETED RETENTION field, enter an additional number of days for STROBE to retain the request. STROBE adds this number to the number of days you originally specified.

## Changing Queued Measurement Requests

To change a queued request:

1. Select Option 4 (CHANGE QUEUED) from the BATCH-SUBMISSION OPTIONS menu.
2. Press **Enter** to display the STROBE - BATCH SUBMISSION CHANGES QUEUED REQUEST panel.
3. Identify a request by request number or job name. This panel accepts the same information as the STROBE - ADD QUEUED REQUESTS panel (Figure 2-5 on page 2-8).

## Changing Completed Measurement Requests

To increase the number of days that the system retains a completed request:

1. Select Option 5 (CHANGE COMPLETED) from the STROBE - BATCH-SUBMISSION OPTIONS menu
2. Press **Enter** to display the STROBE - REQUEST RETENTION panel.
3. To identify the request you want to change, specify the request number or the job name in the REQUEST NUMBER or JOBNAME field.
4. Enter the additional number of days you want STROBE to retain the request in the CHANGE COMPLETED RETENTION field.

## Listing and Deleting Measurement Requests

To display measurement requests and to delete completed requests:

1. Select Option 6 (LIST/DELETE) from the BATCH-SUBMISSION OPTIONS menu.
2. Press **Enter** to display the STROBE - BATCH-SUBMISSION LIST/DELETE REQUEST panel (Figure 4-23 on page 4-23).

Select from these options:

- Option 1. Delete the measurement requests specified in the REQUEST NUMBER or JOBNAME fields. This option does not delete the associated sample data sets.
- Option 2. List all requests, showing only request number, job name, and status.

- Option 3. List all requests submitted by a particular user ID or job name, showing request parameters and status. To display all requests, type an asterisk (\*) in the OWNERID field or clear the field.
- Option 4. List measurement requests specified in the REQUEST NUMBER or JOBNAME fields, showing session parameters and status.
- Option 5. List all requests by selected status, showing session parameters. Enter the following values for STATUS TYPE:

<b>Enter</b>	<b>To view all</b>
Q	Queued requests
A	Active requests
C	Completed requests
Blank	Requests

To view the results from a LIST/DELETE operation, browse the SYSPRINT data set of the STROBE job that submitted the request.

#### ***REQUEST NUMBER OR JOBNAME***

To specify requests and job names that you want to delete or list when you have selected Option 1 or 4, enter the request numbers or job names in these fields.

## **Specifying Options for the Job Stream**

To process the STROBE control statements that you have generated with the panels of the batch-submission options 1 through 6:

1. Select Option 7 (JOB STREAM MENU) from the STROBE - BATCH SUBMISSION OPTIONS panel
2. Press **Enter** to display the STROBE - BATCH-SUBMISSION JOB STREAM OPTIONS menu. For instructions on using this panel, see “Selecting Job Stream Options” on page 3-24.

To execute your batch-submission request on the target system, you add a control statement identifying the system on which the batch job will run.



## Chapter 5.

# Measuring with the STROBE Command Language

You can initiate a STROBE measurement request either through the STROBE/ISPF panel interface or through the STROBE command language. Both methods provide you with all you need to submit and manage your measurement requests. The STROBE command language is provided as an alternative in case you do not have the STROBE/ISPF interface available. You can issue the commands to measure a job step by executing them in the same batch job that executes the target job step or in a separate batch job. Or you can use a TSO session, invoked by a CLIST, to submit commands. This chapter describes all the commands and command operands you use for measuring with the STROBE command language.

**Note:** The STROBE command language does not provide an interface to the STROBE reporting functions. Chapter 6, “Creating Performance Profiles Using Procedures” explains how to create a Performance Profile if you are not using STROBE/ISPF.

---

## Invoking the STROBE Command Language

You can invoke the STROBE command language by

- submitting a batch job that executes the procedure called STRBSSR
- executing a STROBE command TSO CLIST called SRCLIST and then issuing STROBE commands by entering them as input records

When you execute a STROBE command from TSO, an interactive dialog takes place between you and STROBE.

---

## STROBE Commands

With STROBE commands, you can add, change, or delete measurement requests, and control measurement session operations.

A command consists of

- the command itself, followed by one or more spaces
- a required positional operand that identifies the job in which the target job step or program executes by job name, request number, or TSO user ID, followed by a comma (,)
- additional operands consisting of a keyword parameter followed optionally by an equal sign “=” and a keyword subparameter or a value that you supply, delimited by commas and terminated by one or more spaces
- an optional comment beginning with a semicolon (;)

## Defining Command Syntax

Figure 5-1 shows an example of STROBE command syntax.

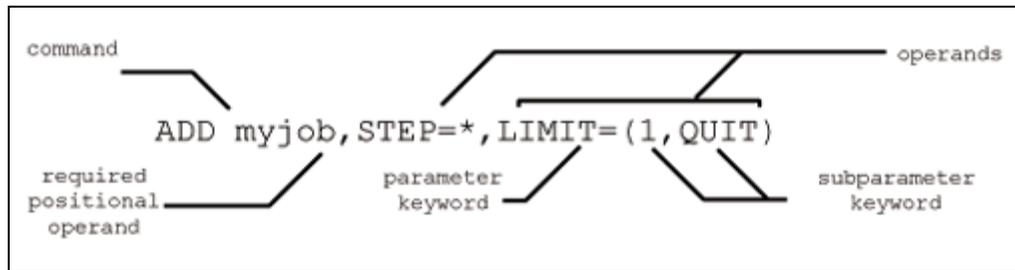
**Figure 5-1.** STROBE Command Language Syntax

Figure 5-1 shows the command “ADD”, the required positional operand “myjob”, and the operands “STEP=\*” and “LIMIT=(1,QUIT)”. Within the LIMIT=(1,QUIT) operand, “LIMIT” is the parameter keyword and “1” and “QUIT” are subparameter keywords.

## Conventions for Command Examples

The command syntax example shown in Figure 5-1 and in examples throughout this chapter use the following conventions:

- Commands and keywords are capitalized.
- Lowercase words represent the names of variables for which you substitute specific values.
- Brackets [ ] enclose optional operands.
- Alternatives within operands are grouped within braces { } and separated by vertical bars |.

**Note:** *Do not code* brackets, braces, and vertical bars.

## List of Commands

The STROBE command language provides the following functions to manage measurement sessions:

ADD	Add a measurement request.
CHANGE	Change a measurement request.
LIST	List requests and messages.
DELETE	Delete a measurement request or a request group element.
SEND	Send a command to an active measurement session.
END	End STROBE command language operations.

Other keywords, positional operands, and subparameter keywords are described later in this chapter.

## Keyword Abbreviations

The STROBE command language allows you to use any unique abbreviation for a command, keyword, or subparameter keyword within its frame of reference. All the STROBE operations constitute one frame of reference. In turn, each command has a frame of reference that governs a set of operands. Likewise, each operand for that command governs a set of subparameter keywords.

For example, in Figure 5-1 on page 5-2, “L” is an acceptable abbreviation for the LIMIT keyword because no other keyword begins with the letter L. However, “ST” is not an acceptable abbreviation for the STEP keyword because “ST” could also be the abbreviation for STRBLIB or STRBDD. An acceptable abbreviation for STEP would then be “STE.” When you choose an abbreviation, remember that you must supply as many consecutive characters as required to make the operand unique.

---

## STROBE Command Interface

You can submit a measurement request within a batch job or from the command line of a TSO terminal. After you initiate the request, there is no difference between using the STROBE command language in a batch job or through TSO.

### Entering Requests from a Batch Job

To submit one or more STROBE commands from a batch job, execute the STRBSSR procedure, specifying the commands as records in a SYSIN data set.

For example:

```
//      EXEC STRBSSR
//SYSIN DD *
command syntax
      .
      .
      .
/*
```

STROBE processes each command in turn, and then terminates. If you are submitting only one STROBE command, you can enter the command syntax in the PARM field of the EXEC statement.

For example:

```
// EXEC STRBSSR,PARM='command syntax'
```

In this case, the SYSIN data set is not processed.

### Entering Requests from a TSO Terminal

To enter STROBE commands from a TSO command line, execute the SRCLIST command list. STROBE returns a message indicating that the STROBE environment has been established. In this environment, STROBE waits for one or more commands. Enter the commands as input records following the SRCLIST command list. STROBE processes each command as you enter it, and displays any associated output messages. To exit the environment, enter “/\*”.

For example:

```
TSO EXEC 'xxxxx.yyyyy.zzzz(SRCLIST)'
command syntax
      .
      .
/*
```

---

## Adding and Changing Measurement Requests

To add a measurement request for a target program, specify an ADD command. STROBE, by default, continues sampling until the job completes. If a request is currently active for a job step, STROBE marks subsequent ADD commands directed to that job step as complete.

See the section called “Specifying Sampling Controls” on page 5-8 for more information about controlling how STROBE conducts a measurement session.

To change an existing request, specify a CHANGE command. If the measurement session is already active, you can specify only the GOMIN, SAMPLES, LIMIT, and RETAIN operands. STROBE applies the change to the next sample data set it creates. If the request is queued, you can change any of the operands.

To specify the default value for an operand on the ADD command, omit the operand. To specify the default value for an operand on the CHANGE command, code the keyword followed only by an equal sign (=).

The following is the complete STROBE command language syntax for the ADD and CHANGE commands. The only required operands are the statements identifying the target job and job step or program. To measure an active job, you have to specify the job as “ADD \*” so STROBE measures the job currently executing. The remaining operands are optional and are explained in subsequent sections.

```

ADD|CHANGE {jobname}*|jobname*|rrrr|
[, {PROGRAM|PGM}=programid(s)]
[, STEP={stepname(s)[.procstepname]}|*]
[, SYSTEM={*ALL|systemname|(systemname,...)}]
[, EXCLUDE={systemname|(systemname,...)}]
[, NUMBER=stepnumber]
[, ASID=address space identifier]
[, GOMIN=5]
[, SAMPLES=sssss]
[, {LIMIT=( {nn, } {QUIT|STOP} ) | NOLIMIT} ]
[, {START|NOSTART} ]
[, BASELINE=nnn]
[, MAPPROGRAM|MAPP={loadmod|(loadmod,...)}]
[, SVCS={svcno|(svcno,svcno-svcno,...)}]
[, STRBLIB={dsname|(dsname,dsname,...)}]
[, STRBDD=ddname]
[, OPTIONS=options]
[, {NOTIFY=tsoid|NONOTIFY} ]
[, {DSNAME|SAMDSN}=dsname]
[, UNIT=unitname]
[, VOLUME=volser]
[, DISPOSITION={CATLG|KEEP} ]
[, {STORCLAS=sms storage class} ]
[, {MGMTCLAS=sms management class} ]
[, {DATACLAS=sms data class} ]
[, RETAIN=( [QUEUED=nnn] [ , COMPLETE=nnn] ) ]
[, {CICS=( {CPS|NOCPS} | {TERM|NOTERM} | {ATTR|NOATTR} |
{RLI|NORLI} | {DSSIZE=nn} | {CAPTBUFF=nn} |
{TRAN= ( {tran|tr*} | {tran,tran,...|tr*,tr*,...} ) | NOCICS} ]
[, {IMS={ATTR|NOATTR} | NOIMS | (CAPTURE|NOCAPTURE) |
CAPTBUFF=nnnn} ]
[, {DB2=( {SQLATTR|NOSQLATTR} | {QMFTRACE|NOQMFTRACE} | ) } | NODB2 |
(CAPTURE|NOCAPTURE) | (CAPTBUFF=nnnn) | (MAXMEM=nnnn) ]
[, {NATURAL|NONATURAL} ]
[, {ADABAS|NOADABAS} ]
[, {ADA3GL|NOADA3GL} ]
[, {IDMS={ADSO|NOADSO} } | NOIDMS} ]
[, {CSP|NOCSP} ]
[, {DML|NODML} ]
[, {IEF|NOIEF} ]
[, DCC={program|(program,program,...)} ]
[, DCCLIB=dsname]
[, {ATTRSVC|NOATTRSVC} ]
[, {PLI|NOPLI} ]
[, {C|NOC} ]

```

```
[, {COBOL|NOCOBOL}]
[, {MQSERIES {=MQRoutine=modulename}
|NOMQSERIES}]
[, {JAVA|NOJAVA}]
[, {ATTRLNK|NOATTRLNK}]
[, {VSAM|NOVSAM}]
```

## Identifying the Target Job

The first operand that is specified for a command identifies the job that you want STROBE to target. You must specify this operand.

*jobname*|\*|*jobname*\*|*rrrr* identifies the job in which the target job step or program will be executed.

- *jobname* specifies the name of the job.
- \* (*asterisk*) specifies that the measurement request is for the currently executing job. The \* keyword is valid only when STROBE is run as a step within the same job as the target program.
- *rrrr* specifies the request number of an outstanding STROBE measurement request (valid in CHANGE commands only).

To add or change multiple requests, specify a comma-delimited, parenthesized list of request numbers or job names.

ADD *, step=stp2	Adds a measurement request for a step named “stp2” in the same batch job that is running STROBE.
ADD (JOB1,JOB2,JOB3)	Adds measurement requests for JOB1, JOB2, and JOB3.
CHANGE 24,GOMIN=15,SAMPLES=15000	Changes the GOMIN and SAMPLES operands.
CHANGE (24,37,42,JOB4),LIMIT=(1,STOP)	Changes the LIMIT operand for request numbers 24, 37, 42, and for the requests that target JOB4.

## Identifying the Target Program

To identify the target program of a queued measurement request, specify one of the three operands that begins with the keyword PGM, STEP, or NUMBER. If you specify more than one operand, make sure the target job step satisfies all conditions.

If a specified step or program appears more than once in a job, STROBE measures only the first occurrence of the step or program. To measure a subsequent step or program, use the NUMBER operand.

### PROGRAM | PGM

PROGRAM|PGM=*programid(s)* specifies the name of any target program, as given in the PGM= operand of an EXEC statement. For example:

```
ADD MYJOB,PGM=MYNAME
```

### STEP

STEP={*stepname(s)*[,*procstepname*]}\* specifies the name of the target job step.

- *stepname(s)* specifies the stepname that invokes the target program or procedure.

- *procstepname* specifies the stepname within the procedure that executes the target program.
- \* (*asterisk*) specifies that the measurement request is for the step currently executing.

The example below shows the job control statements for a job (MYJOB) that contains three procedures. The third procedure (PROC3) contains two executions of PROC2, with stepnames NEST1 and NEST2.

```
//PROC1 PROC OUTDEST='*'
//P1 EXEC PGM=MYPROG1
//INFILE1 DD DISP=SHR,DSN=MYINFILE1
//OUTFIL1 DD DISP=SHR,DSN=MYOUTFL1
//SYSPRINT DD SYSOUT=&OUTDEST
// PEND
//*
//PROC2 PROC OUTNEST='*'
//P2 EXEC PGM=MYPROG2
//SYSPRINT DD SYSOUT=&OUTNEST
//INFILE2 DD DISP=SHR,DSN=MYINFILE2
//OUTFIL2 DD DISP=SHR,DSN=MYOUTFL2
//*
//P3 EXEC PGM=MYPROG3
//SYSPRINT DD SYSOUT=&OUTNEST
//INFILE3 DD DISP=SHR,DSN=MYINFILE3
//OUTFIL3 DD DISP=SHR,DSN=MYOUTFL3
// PEND
//*
/* PROC3 EXECUTES STEP P4 AND NESTED PROCSTEPS
/* NEST1 AND NEST2
//PROC3 PROC OUTNEST3='*'
//P4 EXEC PGM=MYPROG4
//SYSPRINT DD SYSOUT=&OUTNEST3
//INFILE4 DD DISP=SHR,DSN=MYINFILE4
//OUTFIL4 DD DISP=SHR,DSN=MYOUTFL4
/*
//NEST1 EXEC PROC2,OUTNEST='*'
/*
//NEST2 EXEC PROC2,OUTNEST='*'
// PEND
/*
//PROCSTP1 EXEC PROC1,OUTDEST='*'
/*
//NESTSTP1 EXEC PROC3,OUTNEST3='*'
//
```

To measure a step that is not part of a procedure, specify only the stepname. Code:

```
ADD MYJOB,STEP=STEP1
```

To measure a step that is part of a procedure, specify both *stepname* and *procstepname*, separating the names by a period (.), as in *stepname.procstepname*. STROBE will measure the first executable step identified by the procedure step name. To measure step P1 in the first procedure in the example above (PROC1), code:

```
ADD MYJOB,STEP=PROCSTP1.P1
```

To measure a step that is part of a nested procedure, specify the *stepname* of the procedure containing the nested procedure and *procstepname* of the nested procedure, separating the names by a period (.), as in *stepname.procstepname*. If the procedure containing the nested procedure executes an identically named stepname before the nested procedure executes, STROBE measures only the first step. In order to measure identically named steps, specify the NUMBER operand.

To measure the first execution of the second step of the nested procedure, PROC2, in the example, code:

```
ADD MYJOB,STEP=NEST1.P3
```

To measure the second execution of the second step of the nested procedure, PROC2, in the example, code:

```
ADD MYJOB,STEP=NEST2.P3
```

To measure a step that is currently executing, specify *STEP=\** without the PROGRAM or NUMBER operands.

```
ADD MYJOB,STEP=*
```

To measure all steps in a job, code:

```
ADD MYJOB,STEP=*ALL
```

To measure job steps that are distributed across multiple systems in the sysplex (for example, in an IBM SmartBatch environment), ensure that you enter “\*ALL” for the SYSTEM parameter.

### NUMBER

NUMBER=*stepnumber* specifies the number of the step within the target job.

**Note:** When measuring job steps that are distributed across multiple systems in the sysplex (for example, in an IBM SmartBatch environment), STROBE may not be able to locate the job step.

To measure a specific step number code:

```
ADD MYJOB,NUMBER=4
```

### ADDRESS SPACE ID

ASID=*nn* specifies the address space ID of a job. Specify ASID for identically named active jobs.

For example:

```
ADD MYJOB,ASID=0FE
```

## Identifying the Target System

If you are using STROBE in a multisystem environment, identify the system, or systems, you want to be potential targets for the measurement request by specifying the SYSTEM or the EXCLUDE parameter.

### SYSTEM

SYSTEM=*systemname* specifies the system, or systems, you wish to be potential targets for the measurement request. When the target job becomes active on one of the systems that you specified, STROBE initiates a measurement session on that system.

**Note:** To measure job steps that are distributed across multiple systems in the sysplex (for example, in an IBM SmartBatch environment), ensure that you enter “\*ALL” for the SYSTEM parameter.

For example:

```
ADD MYJOB,NUMBER=11,SYSTEM=(SYSTEMA,SYSTEMC)
```

**Note:** Although you may specify any system as a potential target for your measurement request, STROBE will only initiate measurement sessions on those systems on which you are authorized.

**EXCLUDE**

EXCLUDE=*systemname* specifies the system, or systems, on which you do not want to target the measurement request. In the following example, STROBE targets all of the systems in the sysplex, except SYSTEMD, as potential targets for the measurement request:

```
ADD MYJOB,PGM=MYNAME,EXCLUDE=SYSTEMD
```

**Specifying Sampling Controls**

The following operands allow you to control the duration of the measurement session.

**GOMIN**

GOMIN=*gggg* (default 1) specifies the estimated minimum measurement time in minutes. Specify a value between 1 and 1440 minutes. For batch programs, GOMIN should represent the estimated run time (clock time, not CPU time) of the program. For online systems, GOMIN should represent your estimate of the duration of the measurement session. Supply this operand to prevent STROBE from taking an unnecessarily high number of samples. If the job runs longer than the GOMIN value estimate, STROBE will decrease the sampling rate.

The GOMIN operand is used to determine the initial sampling rate STROBE uses. It controls the time interval between each instance of STROBE taking a sample of the program activity. STROBE will sample the job it is measuring until it completes, unless you specify the LIMIT operand.

**SAMPLES**

SAMPLES=*sssss* (default 10,000) specifies the target number of samples to be taken during the measurement session. Specify a value between 1,000 and 150,000. The default value of 10,000 samples provides a 0.98% margin of error at a confidence level of 0.95.

**LIMIT | NOLIMIT**

LIMIT={{*nm*},{QUIT|STOP}}|NOLIMIT (default NOLIMIT, except for CICS) controls the automatic suspension of sampling when the target number of samples is reached. To specify the number of sample data sets to create, supply the *nm* value (default 1). To control the measurement session when the final data set has been completed, specify QUIT or STOP. Each sample data set will contain the number of samples specified in the SAMPLES operand. If you specify LIMIT without a value, STROBE uses (1,QUIT).

**Note:** When measuring CICS to produce the CICS Performance Supplement or to collect CICS Transaction Profiling data, STROBE ignores NOLIMIT. If you specify NOLIMIT, STROBE uses LIMIT=(1,QUIT).

NOLIMIT specifies that sampling is to continue until the target program completes execution. If you specify this keyword, STROBE creates only one sample data set.

When measuring batch job steps, you generally should *not* specify LIMIT because sampling should continue until the step completes, producing a complete picture of all phases of the program's execution. LIMIT is useful when you are measuring online subsystems that run continuously because it provides a convenient way to control sampling and it allows you to produce STROBE Performance Profiles from the closed sample data sets while continuing to measure the job step.

For example:

```
ADD MYJOB,STEP=*,LIMIT=(2,STOP)
ADD MYJOB,STEP=*,LIMIT=(,QUIT)
```

**START | NOSTART**

**START|NOSTART** controls the beginning of the measurement session. To initialize the measurement session and begin sampling, use the **START** operand. To initialize the measurement session but defer sampling, use the **NOSTART** operand. **STROBE** sets the request's status to suspended and does not allocate a sample data set. To begin sampling, issue a **SEND START** command. For more information, see “Specifying Operands for the **SEND** Command” on page 5-20.

Specify **NOSTART** to coordinate sampling between requests. If you want to ensure that several jobs are measured at the same time, you can first issue the **ADD** command with the **NOSTART** operand, and begin sampling later with a series of **SEND** commands.

For example:

```
ADD MYJOB,PGM=MYPROG,NOSTART
```

**BASELINE**

**BASELINE=*nn*** (default 2) specifies the percentage of all execution samples that must occur within modules loaded, linked, or attached by the target program in order for **STROBE** to obtain control section mapping data for those modules. Specify a value between 0 and 100. To map all load modules in which **STROBE** detects execution, specify 0.

For example:

```
ADD MYJOB,PGM=MYPROG,BASELINE=3
```

**MAPPROGRAM**

**MAPPROGRAM={(*loadmod*|(*loadmod*,...))}** specifies modules that are loaded, linked, or attached by the target program and for which control section mapping data is to be obtained regardless of the value assigned to **BASELINE**.

For example:

```
ADD MYJOB,PGM=MYPROG,MAPPROGRAM=MODULE1
ADD MYJOB,PGM=MYPROG,MAPP=(MODULE2,MODULE3,MODULE4)
```

**SVCS**

**SVCS={*svcno*|(*svcno*,*svcno*|*svcno*-*svcno*,...)}** specifies SVC numbers, or ranges of SVC numbers, for which you want to see more detailed reporting. **STROBE** normally reports all execution of an SVC as occurring within an SVC pseudo-section named “SVC *nnn*”. When you use the **SVCS** operand, **STROBE** shows execution within the modules called by the invocation of the SVC, provided: the SVC is loaded by standard MVS contents management, the SVC is a type 3 or type 4, and the SVC is not holding a local lock. You can supply this parameter if you have written your own SVC and want to examine it for performance improvement opportunities.

For example:

```
ADD MYJOB,PGM=MYPROG,SVCS=5
ADD MYJOB,PGM=MYPROG,SVCS=(1,4-6,8,12)
```

**STRBLIB**

**STRBLIB={*dsname*|(*dsname*,*dsname*,...)}** specifies the names of additional load libraries for **STROBE** to search to find module mapping data. **STROBE** searches the libraries you specify before it searches other libraries.

For example:

```
ADD MYJOB,PGM=MYPROG,STRBLIB=MYLIB
```

For a list of these libraries, see “LIBRARIES TO SEARCH” on page 2-14.

### STRBDD

If you often specify the same list of additional load libraries using STRBLIB, STRBDD=*ddname* provides a convenient shortcut. Use STRBDD to specify a ddname that includes a concatenated list of the additional load libraries you want STROBE to search.

For example:

```
STRBDD=MYDDLIBS
```

### OPTIONS

OPTIONS=*options* allows you to send additional parameters to STROBE. Normally, the STROBE system programmer uses this operand under the direction of a Compuware systems engineer to enter parameters for STROBE problem determination.

## Specifying Routing Information

Use the NOTIFY command to specify which user ID receives the STROBE messages, once the measurement session completes.

### NOTIFY | NONOTIFY

NOTIFY=*tsoid*|NONOTIFY determines whether, when a measurement session completes, STROBE issues a TSO NOTIFY message to a user ID on the system where the measurement request originated. If you submit the job through TSO, the default is for STROBE to issue a NOTIFY message. If you submit the request through a batch job or started task, the default is for STROBE not to issue a NOTIFY message.

To receive a NOTIFY message when you submit a request through a batch job or started task, specify NOTIFY=*tsoid*. To suppress the NOTIFY message, specify NONOTIFY.

```
ADD BATCHJOB,PGM=MYPROG,NOTIFY=MYID
```

## Specifying Sample Data Set Characteristics

The sample data set contains the data collected during the measurement session. You can provide the data set name prefix, unit, volume, and disposition information as described below. For more information on the format of the data set name, see “LIBRARIES TO SEARCH” on page 2-14.

### DSNAME | SAMDSN

{DSNAME|SAMDSN}=*dsname* specifies all high-order qualifiers of the sample data set name. If you do not specify a prefix, STROBE uses the default qualifiers specified during system installation. The prefix cannot exceed 26 characters. The character limit does not include quotation marks or parentheses.

STROBE appends to the prefix the job name of the target job step or program and an eight-character session/data set number identifier. The length of the data set name must not exceed the MVS operating system maximum of 44 characters.

The sample data set is allocated in the address space of the target program. Therefore, you should choose a prefix that conforms to the security requirements for your installation.

For example:

```
ADD MYJOB,PGM=MYPROG,SAMDSN=MYDATA.MYPREFIX
```

or,

```
ADD MYJOB,PGM=MYPROG,DSNAME=MYDATA.MYPREFIX
```

**UNIT**

UNIT=*unitname* specifies the name of the unit on which sample data sets are to be allocated. Your system programmer may have specified a default value during system installation. If you do not specify a unit, the operating system determines it. If the data set already exists, STROBE ignores the UNIT specification.

**VOLUME**

VOLUME=*volser* specifies the serial number of the volume on which sample data sets are to be allocated. Your system programmer may have specified a default value during system installation. If you do not specify a volume, the operating system determines it. If the data set already exists, STROBE ignores the VOLUME specification.

**DISPOSITION**

DISPOSITION=CATLG|KEEP specifies the disposition of the sample data sets. If you omit this parameter, STROBE uses the system default, specified by your system programmer during STROBE installation.

**STORCLAS**

STORCLAS=*sms storage class* specifies the storage class of the sample data set, for installations with System Managed Storage (SMS).

**MGMTCLAS**

MGMTCLAS=*sms management class* specifies the management class of the sample data set, for installations with SMS.

**DATACLAS**

DATACLAS=*sms data class* specifies the data class of the sample data set for installations with SMS.

## Specifying Request Retention Options

RETAIN=(QUEUED=*nnn*, COMPLETE=*nnn*) (default 7) specifies how long STROBE keeps a submitted request on the system.

- The QUEUED subparameter specifies how many days from today to retain a measurement request for a job that has not executed. If STROBE has not measured the requested job step after the specified number of days, STROBE deletes the request at the end of the final day. Specify a value between 0 and 999. Specifying QUEUED=999 causes the request to remain queued until STROBE measures the requested job step. QUEUED is not valid for active and completed requests.
- The COMPLETE subparameter specifies how long to retain a request after measurement completes. After the specified number of days elapses, STROBE deletes a request at the end of the final day. Specify a value between 0 and 999. Specifying COMPLETE=999 causes the request to remain on the system indefinitely. If you change a completed request, the COMPLETE subparameter specifies the number of days from the current day to retain the request.

If you specify 0, STROBE will delete the request at midnight of the day on which you make the specification.

For example:

```
CHANGE 110,RETAIN=(QUEUED=7,COMPLETE=30)
ADD MYJOB,R=C=7
```

## Specifying Data Collector Options

You need to use the following command operands only rarely. Under normal circumstances, STROBE invokes the STROBE features in a configuration appropriate for the environment.

You must specify a data collector option if your installation uses a nonstandard name for any of the subsystems that STROBE supports, unless your STROBE system programmer has provided an alias for the STROBE data collector during system installation.

STROBE loads a data collector whenever it finds a module with the name (or alias) `STRBnnnn`, where `nnnn` is the unique four-character prefix of the name of the module that begins execution in the target subsystem. For example, if the load module that initializes a CICS job step begins with the IBM standard prefix "DFHSIP," STROBE loads the CICS data collector `STRBDFHS` whenever it encounters a measurement request for a CICS address space.

To force the loading of a data collector when STROBE would not normally load it, specify the keyword. To override the loading of a data collector, prefix the keyword that loads the data collector with "NO". For example, "NOCICS".

**Note:** You must specify DML and ADA3GL for STROBE to load the data collector, as discussed in "ADA3GL" and "DML" on page 5-14.

### CICS

CICS|NOCICS is the keyword for the STROBE CICS Feature. These keyword subparameters can follow it:

- **CPS|NOCPS** determines whether STROBE collects information for the CICS Performance Supplement.
- **TERM|NOTERM** controls whether STROBE produces the Terminal Statistics report in the CICS Performance Supplement.
- **ATTR|NOATTR** controls whether STROBE collects CICS attribution data.
- **TRAN=** {*tran (tran,tran,...)*} enables you to specify up to five transactions for which STROBE collects detailed performance information. Enter any valid CICS transaction name.

**Note:** The names of CICS system transactions are not valid in this field.

To target sets of transactions, enter a wildcard (\*) as the last character. When you specify this parameter, STROBE uses the following defaults: **RLI**, **NOCPS**, **NOTERM**. You cannot specify this parameter with CPS, TERM, or NOATTR.

- **RLI|NORLI** determines whether STROBE collects region-level information. The defaults that STROBE uses depend upon other values specified:

If you specify	Default is
RLI	NOCPS and NOTERM
TRAN=	RLI
CPS or TERM	NORLI

You cannot specify RLI with CPS or TERM.

- **DSSIZE = *nm*** (default **2048K**) enables you to specify the size of the dataspace, in kilobytes, for the STROBE CICS Feature. The minimum value is 100K, and the maximum value is 3072K. You cannot specify this parameter with CPS or TERM.

- **CAPTBUFF=nm** (default **34K**) enables you to determine the size, in kilobytes, of the service time capture buffer the STROBE CICS Feature uses. The minimum value is 34K, and the maximum value is 1000K. You cannot specify this parameter with CPS or TERM.

**Note:** When you specify either CAPTBUFF or DSSIZE, you must also specify either RLI or TRAN, or both RLI and TRAN.

To suppress the terminal statistics reports from the CICS Performance Supplement, code:

```
ADD MYCICSJOB,PROGRAM=MYPROG,CICS=NOTERM
```

For more information on these options, see the STROBE *STROBE CICS Feature*.

## IMS

IMS|NOIMS is the keyword for the STROBE IMS Feature. You may follow it with these keyword subparameters:

- **ATTR|NOATTR** controls whether STROBE collects IMS attribution data.
- **CAPTURE|NOCAPTURE** controls whether STROBE collects IMS transaction counts and service time data.
- **CAPTBUFF=nnnn** (default **100K**) specifies the maximum amount, in kilobytes, of virtual storage used for the data capture buffer.

For information on these options, see the STROBE *STROBE IMS Feature*.

## DB2

DB2|NODB2 is the keyword for the STROBE DB2 Feature. You may follow it with these keyword subparameters:

- **SQLATTR|NOSQLATTR** determines whether STROBE activates the attribution of DB2 SQL CPU activity.
- **QMFTRACE|NOQMFTRACE** determines whether STROBE activates the STROBE QMF TRACE portion of the DB2 Attributor. QMFTRACE cannot be used with NOSQLATTR.
- **CAPTURE|NOCAPTURE** controls whether STROBE collects SQL statement counts.
- **CAPTBUFF=nnnn** (default **100K**) specifies the maximum amount, in kilobytes, of virtual storage used for the data capture buffer.
- **MAXMEM=nnnn** (default **2 Mb**) specifies the maximum amount of storage, in megabytes, the STROBE DB2 Feature will use to store SQL statements.

For information on these options, see the STROBE *STROBE DB2 Feature*.

To suppress the collection of DB2 data while measuring within a DB2 region, enter the following:

```
ADD MYJOB,PROGRAM=MYPROG,NODB2
```

## IEF

IEF|NOIEF is the keyword subparameter for the STROBE COOL:Gen Feature (formerly the STROBE Composer/IEF Feature).

## NATURAL

NATURAL|NONATURAL is the keyword subparameter for the NATURAL language attributor. NATURAL is required for batch programs that invoke NATURAL.

## ADABAS

ADABAS|NOADABAS is the keyword subparameter for the ADABAS data collector.

**ADA3GL**

ADA3GL|NOADA3GL is the keyword subparameter for attributing wait time caused by a 3GL program written in COBOL, FORTRAN, Assembler, or PL/I, in an ADABAS/NATURAL environment.

**Note:** This option cannot be used in conjunction with the ADABAS option.

**IDMS**

IDMS|NOIDMS is the keyword for the STROBE CA-IDMS Feature. You may follow it with this keyword subparameter:

ADSO|NOADSO controls whether STROBE collects ADS/O attribution data.

**DML**

DML|NODML determines whether STROBE collects CA-IDMS attribution data for DML wait time. DML is required for batch DML wait attribution. Do not specify IDMS if you specify DML. The IDMS data collector is automatically invoked if you specify DML.

**DCC**

DCC={*program*|(*program,program,...*)} allows you to specify your own user-written data collectors. When you specify more than one data collector program, STROBE invokes the programs in the order you specify. For instructions on writing a data collector program, see the *STROBE Interface Feature*.

You can also include the name of STROBE features in the list if you want to have them execute after your data collector.

For example:

```
ADD MYJOB,PGM=MYPROG,DCC=(DC1,STRBDFH2,DC2)
ADD MYJOB,PGM=MYPROG,DCC=COLLECTR
```

**DCCLIB**

DCCLIB=*dsname* allows you to specify the load library that contains your data collector programs. The library must be authorized.

For example:

```
ADD MYJOB,PGM=MYPROG,DCC=MYDCC,DCCLIB=COLLIB
```

**JAVA**

JAVA|NOJAVA is the keyword for the STROBE Java Feature. It determines whether STROBE gathers Java-related data collector and attribution data.

**MQSERIES**

MQSERIES|NOMQSERIES is the keyword for the STROBE MQSeries Feature. It determines whether STROBE gathers MQSeries-related data collector and attribution data. The following keyword subparameter can be specified:

MQROUTINE=*modulename* enables you to specify the name of a common MQSeries User Module so that STROBE identifies the module in the measured application that invoked the common MQSeries user module.

## Additional Attribution Options

Use the following operands to determine whether STROBE collects attribution data.

**ATTRSVC | NOATTRSVC**

**ATTRSVC|NOATTRSVC** collects data that shows sites of SVC invocation. STROBE collects the data to produce the SVC Attribution reports in the Performance Profile.

**PLI | NOPLI**

**PLI|NOPLI** determines whether STROBE collects PL/I attribution data. This data is used to produce the PL/I Attribution reports in the Performance Profile.

**C | NOC**

**C|NOC** controls whether STROBE collects C attribution data. This information is used to produce the C Attribution reports in the Performance Profile.

**COBOL | NOCOBOL**

**COBOL|NOCOBOL** controls whether STROBE collects COBOL attribution data. This information is used to produce the COBOL Attribution reports in the Performance Profile.

**CSP | NOCSP**

**CSP|NOCSP** determines whether CSP attribution data is to be collected. This data is used to produce the CSP Attribution reports in the Performance Profile.

**ATTRLNK | NOATTRLNK**

**ATTRLNK | NOATTRLNK** determines whether STROBE collects attribution data for applications that use OS/390 UNIX System Services, MQSeries OS/390 middleware product, or MVS Coupling Facilities. Specifying **NOATTRLNK** severely restricts STROBE's ability to collect attribution data for UNIX System Services, MQSeries, and MVS Coupling Facilities activity.

**VSAM | NOVSAM**

**VSAM | NOVSAM** determines whether STROBE collects VSAM attribution data.

**Note:** To obtain VSAM attribution data you must set the STROBE installation parameter **LPALIB** to **YES**. See Chapter 3 of the *STROBE System Programmer's Guide*.

---

## Examples of ADD and CHANGE Commands

Suppose you want to submit a request to measure the program named MYPROG in job MYJOB and you estimate the program will run about seven minutes. Code:

```
ADD MYJOB,PROGRAM=MYPROG,GOMIN=7
```

STROBE creates your request, assigning it the request number 34. You discover that the program uses two modules, MYMOD1 and MYMOD2, which you want STROBE to map, but you are not sure that they will be executed frequently enough to be mapped automatically. You also want to add a prefix, MYSAMPLE, to the sample data set for easier reference. Code:

```
CHANGE MYJOB,DSNAME=MYSAMPLE,MAPPROGRAM=(MYMOD1,MYMOD2)
```

You realize that MYJOB will run twice, and you want to measure the second instance as well. The program executes three times in this second job, and you want to measure its second execution, which is the fifth step in the job. The step will very likely run for an hour. Code:

```
ADD MYJOB,NUMBER=5,GOMIN=60,DSNAME=MYSAMPLE
```

STROBE schedules your request, assigning it the request number 35. Now you want to change the first measurement session again, to see information about SVCs 236, 237, and 238. If you code:

```
CHANGE MYJOB,MAPSVC=(236-238)
```

you will change both requests since two requests for MYJOB are queued. To change only request number 34, code:

```
CHANGE 34,MAPSVC=(236-238)
```

## Examples of the ADD and CHANGE Commands in a Multisystem Environment

Suppose that you want to measure MYJOB the next time it runs, regardless of which system it runs on. Code:

```
ADD MYJOB,SYSTEM=*ALL
```

STROBE creates your request, assigning it the request number 192. You discover that a particular system in the sysplex, TLP007, is used exclusively for testing purposes. You want to change the measurement request to exclude system TLP007 as a potential target:

```
CHANGE 192,EXCLUDE=TLP007
```

STROBE changes the system specification for request 192 from SYSTEM=\*ALL to EXCLUDE=TLP007 and will measure the first instance of MYJOB on any system except TLP007.

---

## Viewing Measurement Requests with the LIST Command

The following is the STROBE command language syntax for the LIST command, which shows information about STROBE measurement requests that have not been deleted:

```
LIST  {{jobname|rrrr*}|{jobname|rrrr}|({jobname|rrrr,jobname|rrrr,|rrrr-rrrr,...})|
      SYSTEM={*ALL|systemname|(systemname,...)}
      EXCLUDE={systemname|(systemname,...)}
      TYPE={QUEUED|ACTIVE|COMPLETE|ALL|DEFERRED}|
      OWNERID=ownerid|
      {QUEUE=qqq|COMPLETE=ccc|QUEUE=qqq,COMPLETE=ccc}
      [,QUEUE=qqq]
      [,COMPLETE=ccc]
      [,DELETE]
```

## Controlling LIST Operands

The operands in the following table control the attributes of the LIST command. The SYSTEM and EXCLUDE operands pertain to all LIST command formats. The TYPE and OWNERID operands pertain to format 2 and format 3. The QUEUE, COMPLETE, and

DELETE operands pertain to formats 1 through 3. Format 4 uses only QUEUE and COMPLETE.

SYSTEM	SYSTEM specifies the systems for which you would like to view the status of measurement requests.
EXCLUDE	EXCLUDE specifies the systems for which you do not want to view the status of measurement requests.
TYPE	TYPE specifies the type of requests to be listed: <ul style="list-style-type: none"> <li>• QUEUED for all queued requests</li> <li>• ACTIVE for all active requests</li> <li>• COMPLETE for all completed requests</li> <li>• ALL for all requests of any status</li> </ul>
OWNERID	<i>ownerid</i> is either the TSO user ID or a job name of a batch job that submitted a measurement request
QUEUE	The QUEUE= <i>qqq</i> operand allows you to limit the display to those queued requests that have been queued longer than the number of days specified in <i>qqq</i> .
COMPLETE	The COMPLETE= <i>ccc</i> operand allows you to limit the display to those completed requests that have been completed longer than the number of days specified in <i>ccc</i> .
DELETE	The DELETE operand allows you to delete completed requests after any pending messages have been listed.

## Specifying the List Format

The LIST command allows you to view the status of measurement requests in four different formats:

- selected requests
- requests with a given status
- requests according to a specified user ID
- all requests and their status

In a multisystem environment, the default for each of the LIST formats is all of the systems in the sysplex. For example, if you specify the following LIST command,

```
LIST MYJOB
```

STROBE returns status information for each request on any system in the sysplex with the job name specification of "MYJOB".

If you would like to limit the scope of the LIST command, use the SYSTEM or the EXCLUDE parameters with any of the LIST formats.

### Format 1: List Selected Requests

Format 1 of the LIST command lists status, request operands, and pending (as yet unlisted) messages for selected STROBE measurement requests. If a request is active, LIST

also displays the sampling status and the number of samples collected. It also allows you to delete completed requests after their messages have been displayed. For example:

LIST 236,DELETE	Shows the request information for request 236, then deletes the request
LIST (MYJOB,44)	Shows request information for the jobname MYJOB and for request 44
LIST MY*	Shows requests submitted for jobs whose names begin with the characters "MY"

## Format 2: List Requests with a Given Status

Format 2 of the LIST command lists status, request operands, and pending messages for all requests of a specified status. If a request is active, LIST also displays the sampling status and the number of samples collected. It also allows you to delete completed requests after their messages have been listed. For example:

LIST TYPE=ACTIVE Shows all active requests

## Format 3: List Requests by Ownerid

Format 3 of the LIST command lists the request number, job name, and the status for each request submitted under the specified TSO user ID or job name. If a request is active, LIST also displays the sampling status and the number of samples collected. It also allows you to delete completed requests after their messages have been listed. For example:

LIST OWNERID=MYT\* Shows all requests submitted by a TSO user ID or job names beginning with the characters "MYT"

To view requests submitted under TSO user IDs or job names that begin with a common prefix, specify the common characters followed by an asterisk (\*), which is the global search character.

## Format 4: Show the Status of All Requests

Format 4 of the LIST command lists the request number, job name, and the status (queued, active, or complete) for all requests. For example:

LIST QUEUE=002	Shows all queued requests that are more than two days old, giving request number, job name, and status
LIST QUEUE=005,COMPLETE=005	Shows all queued and completed requests that are more than five days old, giving request number, job name, and status

---

## Viewing UNIX Processes with the DISPPROC Command

The DISPPROC command enables you to display a list of currently executing processes in an OS/390 UNIX System Services environment. You can follow the DISPPROC command with the SYSTEM parameter, which displays the processes on a given system. If you do not specify the SYSTEM parameter, STROBE displays the processes on the system on which



```
[,SAMPLES=sssss]
```

```
[,{LIMIT=({{nn,}{QUIT|STOP})}|NOLIMIT)]
```

```
QUIT}
```

## Specifying Operands for the SEND Command

You can issue the following STROBE operands for the SEND command:

STATUS	Displays the current status of sampling (active, suspended, or completed), the name of the current sample data set, and the current counts of total and execution samples.
STOP	Closes the current sample data set, making it available for report processing, and suspends the request. You can restart sampling later with a START operand.
SUSPEND	Stops the sampling process until you issue a START or SWITCH operand. The sample data set remains open so that additional samples can be appended to those already collected. Thus, the sample data set is not available for report processing.
START	Restarts the sampling process following a SUSPEND or STOP operand. When START follows a STOP operand, a new sample data set is allocated and opened. When START follows a SUSPEND operand, samples are written to the open sample data set. You can specify only new GOMIN, SAMPLES, and LIMIT operands for the new sample data set.
SWITCH	Closes the current sample data set so that it can be processed to produce a Performance Profile, and continues sampling, opening a new sample data set. You can specify new GOMIN, SAMPLES, and LIMIT operands for the new sample data set. (For more information, see “Specifying New Sampling Control Operands” below.) If you previously suspended the request, the SWITCH operand causes STROBE to begin sampling, opening a new sample data set.
QUIT	Terminates sampling, closes the current sample data set, and terminates the measurement task. To restart the measurement, issue an ADD command.

## Specifying New Sampling Control Operands

When you use the SWITCH or START operand to begin a new measurement session, you can specify the GOMIN, SAMPLES, and LIMIT | NOLIMIT operands for the new measurement session. These operands are discussed in “Specifying Sampling Controls” on page 5-8.

## Examples of the SEND Command

To close the current sample data set and suspend the measurement session for the job named MYJOB, code:

```
SEND MYJOB,STOP
```

For request 23, you want to close the current sample data set and begin sampling, saving the data into a new data set. The next session should be about 15 minutes long, and you

want to conduct two more measurement sessions, then terminate the measurement request when the final target sample size is reached. Code:

```
SEND 23,SWITCH,GOMIN=15,LIMIT=(2,QUIT)
```

To suspend the sampling session, leaving the sample data set open, code:

```
SEND MYJOB,SUSPEND
```

---

## Ending STROBE Command Language Operations

To signal the end of STROBE command language operations, use the END command. This command serves the same purpose as coding “/” in TSO and batch environments.

```
END
```

### Example of the END Command

This example TSO session adds a request to measure a currently active job, lists all active requests, and terminates STROBE processing:

```
ADD MYJOB,STEP=*
LIST T=A
END
```

---

## Submitting Commands with STROBE/ISPF

On any STROBE/ISPF panel displaying a command or option line, you can enter one of the following types of commands:

### Issuing Operational Operations

To issue commands directly to STROBE, enter a period (.) followed by the command; for example:

```
.LIST 29
```

displays information about measurement request 29.

### Displaying Message Text

To view the text of a message currently displayed on a STROBE/ISPF panel or menu, type “.M” in the panel’s COMMAND or OPTION field. To view the text of any STROBE message, type “.M” followed by a space and the message key in the panel’s COMMAND or OPTION field. For example:

```
.M 0109
```

displays the text associated with message STR0109.

To view all the messages produced in response to your last interaction with STROBE, type “.CVM”. STROBE/ISPF displays the messages associated with the request.



## Chapter 6.

# Creating Performance Profiles Using Procedures

Chapter 2, “Measuring with STROBE/ISPF” and Chapter 3, “Producing Performance Profiles with STROBE/ISPF” explained how to use STROBE/ISPF to submit measurement requests and create STROBE Performance Profiles. However, you can create Performance Profiles without the STROBE/ISPF interface. This chapter explains how to specify reporting options in your JCL with a SYSIN data set or the STROBE-supplied procedures. STROBE provides four types of procedures for your use.

Procedure	Used to
STROE	Create a Performance Profile
STROzz	Compile and index a source module, where the zz in the procedure name is a two-character identifier for a source program language
STROX	Index a source module from a saved compiler SYSPRINT data set
STROXE	Index a source module from a saved compiler SYSPRINT data set, and create a Performance Profile

**Note:** These procedures can be installed with STROBE. If you are uncertain how to access these procedures, see your STROBE system programmer.

**Note:** For SYSPRINT, use the DDname of the data set in which your compiler places the listing. In some cases this will not be SYSPRINT. For example, with the C/370 compiler, the file name is SYSCPRT.

The STROE procedure processes the data that was collected during the measurement session, creating the Performance Profile.

The STROzz and STROX procedures both create map data sets. They collect information from listing outputs of source language compilers and produce the map data sets that match programmer-assigned procedure labels to addresses within the compiled object modules. The STROXE procedure creates a map data set and then creates a Performance Profile.

You can supply the map data sets to the STROE procedure at any time following the measurement session. It will associate execution and wait time with program procedures within a control section by procedure name or statement number or both. STROBE merges this data with the measurement data it obtained from the sample data set and presents all of it in the Performance Profile.

---

## Specifying Options for Reports

STROBE accepts processing options first from the parameter field of the EXEC statement that invokes a STROBE procedure. It then accepts options from a SYSIN data set or the OTHER PARAMETERS field in the STROBE - DETAIL FOR A PERFORMANCE PROFILE panel in STROBE/ISPF. If the same parameter is found more than once, it uses the last one specified, except for COMPRES and DETAIL, where all values are concatenated. If you specify a parameter, but do not specify a value, STROBE uses the default value. The parameters are identified by keywords.

Keyword	Description
ALLCSECT	Show inactive control sections.
ALLDD	Show all DD statements on the Time and Resource Distribution Demand reports.
ALLTASK	Show all tasks on the Time and Resource Distribution Demand reports.
ALOCUNIT= <i>type</i>	Specify the unit type for a temporary work file for APMpower: BLK, TRK, or CYL.
ATTR= <i>nn.n</i>	Minimum percentage of activity for the Attribution reports.
ATTRLINE= <i>nn.n</i>	Minimum percentage of activity for Attribution report line item.
CF={YES NO}	Produce the Coupling Facility Activity report if there is coupling facility activity on the system (YES) or never produce this report (NO).
COMPRES=[(] <i>(xxx=.grpname)</i> [, <i>(xxxxxxxx=.grpname)</i> ,...)]	Suppress detail.
DASD= <i>nn.n</i>	Minimum percentage of DASD usage to appear on the DASD Usage by Cylinder report.
DASDGAP= <i>nn</i>	The number of inactive cylinders for the DASD Usage by Cylinder report.
DATE= <i>dateformat</i>	Date format to be printed in reports.
DATESEP= <i>dateseparator</i>	Date separator to be used in date format.
DETAIL=[{ <i>modname</i> }( <i>modname1</i> , <i>modname2</i> ,...)]	Detail system modules.
IEF=[(] <i>(OFFSET)</i> [[ <i>(TIMEPCT=nn.n)</i> ] [, <i>(TOPTEXT=nn)</i> ]]	Tailor the reporting of COOL:Gen (formerly Composer) activity. <i>TIMEPCT</i> is the minimum percentage of CPU or run time. <i>TOPTEXT</i> is the number of IEF statements with the most CPU activity.
JAVARPT= <i>nn.n</i>	Minimum percentage of activity for Java reports.
LINEMAX= <i>nmn</i>	Lines per page.
MEISA	Produce Most Extensive Inactive Storage Areas Report.
MEMOBJ	Produces the z/OS Memory Object report
MQTRAN	Report IMS transaction-level detail on the CPU Usage by Module by MQSeries Call and Wait by Module by MQSeries Call reports.

MQCALL= <i>nn.n</i>	Minimum percentage of activity for the MQSeries Call reports.
NOATTR[=( <i>xxx[,xxx,...]</i> )]	Suppress the Attribution reports.
NODASD	Suppress DASD Usage by Cylinder.
NODLI	Suppress the DL/I CPU and Wait reports.
NODSCS	Suppress the Data Set Characteristics Supplement report.
NOJAVRPT	Suppress Java reports.
NOMAP[=( <i>modname[,modname,...]</i> )]	Suppress module mapping.
NOPROC	Suppress Program Usage by Procedure.
NORLIRPT	Suppress CICS Region Level reports.
NOTASK	Suppress time distribution detail.
NOTRAN	Suppress transaction usage detail.
NOTXPRPT	Suppress CICS Transaction Profiling and Region Level reports.
PUBP= <i>nn.n</i>	Minimum percentage of activity for a procedure on the Program Usage by Procedure report.
REPNAME= <i>text</i>	Performance Profile title.
RESLTN= <i>nn</i>	Report resolution in bytes.
RLIBASE= <i>nn.nn</i>	Minimum value in seconds for the CICS Region Level reports.
SORTSIZ= <i>nnnnnn</i>	Sort core size in bytes.
SQL[=(DETAIL={PROC QUERY}  NOPROC  MAXLEN= <i>nnnn</i> )CPUTEXT= <i>nn.n</i> WAITTEXT= <i>nn.n</i> )]	Customize the reporting of SQL activity. MAXLEN specifies bytes. CPUTEXT and WAITTEXT specify percentages.
TIME= <i>timeformat</i>	Time format to be printed in reports.
TIMESEP= <i>timeseparator</i>	Time separator to be used in time format.
TLIBASE= <i>nn.nn</i>	Minimum value in seconds for reporting on CICS Transaction Profile reports.
TUCS= <i>nn.n</i>	Minimum percentage of activity for the Transaction Usage by Control Section report.
TXPONLY	Suppress non-CICS Transaction Profile reports.
TXPRPT = ( <i>tran tran,tran,... trn*</i> )	Specify up to five CICS transactions or sets of transactions for which STROBE provides detailed performance information.
WAITLOC	Show location of wait in program.

<code>WRKPRIM=<i>nnnn</i></code>	Primary space allocation for a temporary work file for APMpower or iSTROBE.
<code>WRKSEC=<i>nnnn</i></code>	Secondary space allocation for a temporary work file for APMpower or iSTROBE.
<code>WRKUNIT=<i>unit</i></code>	The unit for a temporary work file for APMpower or iSTROBE.
<code>WRKVOL=<i>volume</i></code>	The volume for a temporary work file for APMpower or iSTROBE.

## Providing a Report Subtitle

You can define `REPNAME` to specify a subtitle that will appear on the title line of the Performance Profile. `REPNAME` defaults to the name of the target program. The report subtitle cannot exceed 40 characters. If the name contains commas, spaces, or other special characters, enclose it in apostrophes or parentheses. Use parentheses within apostrophes when the value contains special characters and is specified as an `EXEC` parameter; for example:

```
REPNAME='(MY PROGRAM NAME)'
```

## Specifying Report Resolution

You can set `RESLTN` (default **64**) to break up the report into manageable sections. `RESLTN` specifies the report resolution—the number of bytes to be considered a codeblock for detailed reporting on the Program Usage by Procedure report. Enter a value between 2 and 9999. For indexed modules, `STROBE` uses this value to subdivide large procedures into codeblocks. `STROBE` combines consecutive source language statements within a procedure until their size approximates the specified report resolution. For unindexed modules, each codeblock is defined as a block of machine code equal in length to the report resolution.

```
RESLTN=100
```

## Specifying Sort Core Size

`SORTSIZ` (default **999999**) specifies the sort core size in bytes that is available to the system sort/merge program invoked by `STROBE`. Enter a value of 0 or from 12000 to 999999. To allow the sort/merge program access to all available space in the region, omit this parameter. To instruct the sort/merge program to use its system default, enter a value of 0; for example:

```
SORTSIZ=999999
```

## Specifying the Page Size of the Performance Profile

`LINEMAX` (default **60**) specifies the number of lines that appears on each page of the Performance Profile. Change this value if your installation uses a short paper stock or prints eight lines per inch. Use a value from 45 to 80; for example:

```
LINEMAX=80
```

## Specifying the Date and Time Formats on the Performance Profile

There are four parameters that control the date and time formats printed in various reports in the Performance Profile: `DATE`, `DATESEP`, `TIME`, and `TIMESEP`.

DATE specifies the date format printed in various reports in the Performance Profile. The format options are:

```
DATE=  mmddyy
       ddmmyy
       yymmdd
       mmdyyy
       ddmyyyy
       yyyymmdd
```

DATESEP specifies the date separator printed in various reports in the Performance Profile. The separator options are:

```
DATESEP=  S    slash (/)
          D    dash (-)
          P    period (.)
```

TIME specifies the time format printed in various reports in the Performance Profile. The format options are:

```
TIME=  hhmmss    24 hour format
       zhmmss    24 hour format with leading zero suppressed
       apmmss    12 hour with AM/PM indicator
       zpmmss    12 hour with AM/PM indicator, leading zero suppressed
```

TIMESEP specifies the time separator printed in various reports in the Performance Profile. The separator options are

```
TIMESEP=  O    colon (:)
          C    comma (,)
          P    period (.)
```

## Obtaining Detailed Reporting for System Modules

DETAIL allows you to provide a list of system modules or control sections that STROBE normally treats as pseudo-entities. (See the discussion on pseudo-entities in *STROBE MVS Concepts and Facilities*.) To obtain detailed Program Usage by Procedure subreports for operating system modules, supply the module names after the DETAIL keyword. If you specify more than one name, use a comma-delimited, parenthetical list. You can specify as many as 50 names. For example:

```
DETAIL=DFHKCP
DETAIL=(IGG019AI,ILBOEXT)
```

## Specifying Modules to Be Treated as Pseudo-Sections

COMPRES allows you to combine modules with identical initial characters into your own named pseudo-sections on the Program Section Usage Summary and the Program Usage by Procedure reports. The pseudo-sections that you specify are added to those provided by STROBE. You can specify as many as 25 pseudo-sections to compress.

**Note:** STROBE features may also specify pseudo-sections, which apply to the limit of 25.

In parentheses, specify the prefix, followed by an equal sign (=), and your pseudo-section name. Each prefix can contain as many as eight characters, and each pseudo-section name can contain as many as seven characters preceded by a period (.). Specifying the full eight-character prefix compresses one module, and only that module, into a pseudo-section.

For example, if the common prefix is three characters long, specify:

```
COMPRES=(IKJ=.TSO)
```

To compress more than one group, use a second set of parentheses:

```
COMPRES=((IKJ=.TSO),(IGX00=.RMF))
```

To place modules with different prefixes into the same pseudo-section, specify them separately:

```
COMPRES=((IKJP=.TSO),(IKJEF=.TSO))
```

To compress one module into a pseudo-section, specify:

```
COMPRES=(IKJEFE11=.TSO)
```

## Specifying the Suppression of Mapping for Modules

NOMAP enables you to specify that module mapping will not occur for any module. To suppress module mapping for all modules, specify:

```
NOMAP
```

For example, to suppress module mapping for a module named MOD1, specify:

```
NOMAP=MOD1
```

To suppress module mapping for more than one module (to a maximum of 10), use a comma-delimited, parenthesized list. For example:

```
NOMAP=(MODNAME1,MODNAME2)
```

## Tailoring the Program Usage by Procedure Report

NOPROC suppresses the detailed Program Usage by Procedure report. Specify:

```
NOPROC
```

Specify PUBP (default 0) to specify a minimum percentage of CPU activity that a procedure codeblock must exhibit for STROBE to produce a line for it in the Program Usage by Procedure report, specify:

```
PUBP=nn.n
```

All contiguous procedures that exhibit less than this percentage are condensed on a single line in the Program Usage by Procedure report. You can specify a value anywhere between 0 and 99.9. For example to specify a minimum CPU activity of 10%, specify

```
PUBP=10
```

If the result for a control section would be only one report line, STROBE suppresses reporting for that control section.

## Tailoring the DASD Usage by Cylinder Report

There are two parameters you can specify to condense the DASD Usage by Cylinder report: NODASD|DASD and DASDGAP=*nn*.

NODASD suppresses the detailed DASD Usage by Cylinder report. Specify

```
NODASD
```

DASD=*nn.n* (default 2) condenses information about all contiguous cylinders that exhibit less than the specified percentage of DASD usage into a single line in the DASD Usage by Cylinder report. Specify a value from 0 to 99.9. For example, to set a minimum of 25 percent of DASD usage, specify

```
DASD=25
```

Used with the DASD= parameter, DASDGAP=*nn* (default 5) specifies the number of inactive cylinders that can be passed over while STROBE continues to accrue DASD usage. These cylinders are then presented as a single line on the DASD Usage by Cylinder report. Specify a value from 0 to 99.

Consider the following example. You specify DASD=10 and DASDGAP=4. During the measurement session, STROBE identifies activity for cylinder numbers 103 through 107, and then for cylinder numbers 109 through 113; however, all of the identified activity is below the specified minimum of 10%. STROBE presents this information as a single line in the DASD Usage by Cylinder report, even though there is a gap between the cylinder ranges.

For example, to specify that 10 contiguous cylinders without identified activity can be passed over, specify

```
DASDGAP=10
```

## Tailoring the Attribution Reports

NOATTR suppresses all the Attribution reports. Specify

```
NOATTR
```

NOATTR=*attrtype* suppresses all the Attribution reports for the specified type of attribution. You can suppress reports for SVCs, DB2, CICS, CA-IDMS, CSP, COOL:Gen (formerly Composer), PL/I, COBOL, C, IMS, MQSeries, JAVA, and VSAM. To suppress COOL:Gen attribution reports, use the IEF keyword.

For example, to suppress Attribution reports for DB2, specify

```
NOATTR=DB2
```

To suppress reports for more than one type of attribution, use a comma-delimited, parenthesized list. For example, to suppress Attribution reports for SVCs, DB2 and COBOL, specify

```
NOATTR=(SVC,DB2,COBOL)
```

ATTR=*nn.n* (default 2) suppresses Attribution reports for any system service modules in which the total CPU or wait time percentage is less than a specified baseline percentage. Specify a value from 0 to 99.9. For example, to suppress Attribution reports for system service modules that show less than 9.9 percent of the total CPU or wait time, specify

```
ATTR=9.9
```

ATTRLINE=*nn.n* (default 0) specifies the minimum percentage of CPU time or wait time that a module/transaction must exhibit to produce a separate line in the Attribution reports. Specify a value from 0 to 99.9. For example, to show only modules or

transactions that exhibit more than 25 percent of CPU or wait time on a single line, specify

```
ATTRLINE=25
```

**Note:** The ATTR parameter applies to entire reports, while the ATTRLINE parameter applies to the detail lines on the reports. For example, if you have specified ATTRLINE=1 and ATTR=3, a system service module must exhibit at least 3% CPU time or wait time to produce an Attribution report. The modules or transactions that invoked the system service module must exhibit at least 1% CPU time or wait time to appear as a detail on the report.

## Tailoring the Transaction Usage by Control Section Report

NOTRAN suppresses the detailed Transaction Usage by Control Section report. For example, specify

```
NOTRAN
```

TUCS=*nn.n* (default 0) specifies the minimum percentage of CPU activity that a transaction must exhibit to produce a report within the Transaction Usage by Control Section report. Specify a value from 0 to 99.9. For example, to limit transactions appearing in the report to those showing at least 49.9 percent of CPU activity, specify

```
TUCS=49.9
```

## Tailoring the Time and Resource Demand Distribution Reports

NOTASK combines the execution activity for all tasks into one execution line in the Time and Resource Demand Distribution reports. For example, specify

```
NOTASK
```

ALLTASK shows all tasks, including those that show no activity, in the Time and Resource Demand Distribution reports. The default is for STROBE to show only the six tasks that display the highest execution activity. To show all tasks, specify

```
ALLTASK
```

ALLDD shows all dd statements, including those that show no activity, in the Time and Resource Demand Distribution reports. The default is for STROBE to show only the 11 DD statements with the highest activity. To show all DD statements, specify

```
ALLDD
```

## Expanding the Program Section Usage Summary Report

ALLCSECT shows all control sections, including those that show no activity, in the Program Section Usage Summary report. The default is for STROBE to show only active control sections. To include control sections that show no activity, specify

```
ALLCSECT
```

**Note:** To include control sections that show no activity, you must have specified "0" in the DETAIL BASELINE field on the STROBE - MODULE MAPPING panel when you submitted the measurement.

## Producing the Most Extensive Inactive Storage Areas Report

The Most Extensively Inactive Storage Areas report is suppressed by default, unless you specify MEISA. To produce the report, specify

MEISA

**Note:** To ensure that the information on the report is complete, you must specify 0 in the DETAIL BASELINE field on the STROBE - MODULE MAPPING panel when you submit the measurement request.

## Expanding the Wait Time by Module Report

Specifying WAITLOC causes the location of program wait in each module to be shown in the Wait Time by Module report. To show the wait time, specify

WAITLOC

## Suppressing the Data Set Characteristics Supplement Report

NODSCS suppresses the Data Set Characteristics Supplement report. To suppress the report, specify

NODSCS

## Suppressing the Coupling Facility Activity Report

CF=YES|NO controls the production of the Coupling Facility Activity report. Specify YES to produce the Coupling Facility Activity report if there is coupling facility activity on the system. Specify NO to suppresses production of this report. If you do not specify the CF parameter, STROBE produces the report if it detects activity in IXL modules.

## Tailoring the Reporting of COOL:Gen Activity

IEF enables you to specify how you want the Performance Profile to present COOL:Gen (formerly Composer) activity in the CPU Usage by IEF Statement report and in the Wait Time by IEF Statement report. The following are the keywords for the IEF parameter:

*TIMEPCT=nn.n* (default 0) is a value from 0.0 to 99.9 representing the minimum percentage of CPU or run time for an IEF statement detail line to be printed on the report. The higher the percentage you specify, the more concise the report. The lower the percentage, the more detailed the report. For example, to print detail lines that display activity above 15%, specify

IEF=TIMEPCT=15

*TOPTTEXT=nn* (default 3) is a value from 0 to 99 representing the number of IEF statements with the most identified CPU activity for which you want to see full statement text. A value of 99 shows full statement text for all IEF statements. For example, to print the statement text for the five IEF statements that consumed the most CPU, specify

IEF=TOPTTEXT=5

OFFSET specifies that activity is reported by offset within each COBOL statement within SQL statement within IEF statement number. (The default is to suppress the offset.) To show activity by offset, specify

IEF=OFFSET  
IEF=TOPTTEXT=5

NOSQL suppresses the display of SQL statement numbers associated with IEF statements. Specifying NOSQL results in a more concise report. (The default is to display the SQL statement numbers.)

To suppress the display of SQL statement numbers, specify

```
IEF=NOSQL
```

## Tailoring the Reporting of SQL Activity

In the CPU Usage by SQL Statement and the Wait by SQL Statement reports, STROBE normally combines activity or wait for all executions of a particular Procedure or Query into one entity. The SQL parameter enables you to specify how you want the Performance Profile to present SQL activity.

For detailed reports of Procedures only, specify

```
SQL=DETAIL=PROC
```

For detail reports of Queries only, specify

```
SQL=DETAIL=QUERY
```

For detail reports of both Procedures and Queries, specify

```
SQL=DETAIL=(PROC,QUERY)
```

To suppress Procedures in the reports, specify

```
SQL=NOPROC
```

**Note:** You cannot specify both SQL=DETAIL=PROC and SQL=NOPROC.

SQL=CPUTEXT=*nn.n* (default **10.0**) enables you to specify the SQL statements for which full text will be printed. *nn.n* can range from 0.0 to 99.9 representing the minimum percentage of CPU or run time for full SQL statement text, regardless of its length, to be printed in the CPU Usage by SQL Statement report. The higher the percentage you specify, the more concise the report. The lower the percentage, the more detailed the report. SQL statements that do not meet the specified percentage default to the length specified in the MAXLEN parameter described previously. For example, to print full SQL text for statements that display activity above 15%, specify:

```
SQL=CPUTEXT=15
```

SQL=WAITTEXT=*nn.n* (default **5.0**) enables you to specify the SQL statements for which full text will be printed. *nn.n* can range from 0.0 to 99.9 representing the minimum percentage of wait time for full SQL statement text, regardless of its length, to be printed in the Wait by SQL Statement report. The higher the percentage you specify, the more concise the report. The lower the percentage, the more detailed the report. SQL statements that do not meet the specified percentage default to the length specified in the MAXLEN parameter described next. For example, to print detail lines that show wait above 25%, specify:

```
SQL=WAITTEXT=25
```

SQL=MAXLEN=*mmm* enables you to control the length of the SQL text printed in the CPU Usage by SQL Statement and the Wait by SQL Statement reports. Enter a value that is a multiple of 100 from 100 to 9900 (default **300**). This value represents the maximum number of characters printed on the report for those statements that do not meet the threshold defined in the CPUTEXT or WAITTEXT parameters. To print all the SQL text regardless of its length, enter 9999. Values that are not multiples of 100 are rounded up to the next multiple of 100. To suppress all SQL text, enter 0. For example, to print the entire SQL text for each DB2 query, specify:

```
SQL=MAXLEN=9999,CPUTEXT=0,WAITTEXT=0
```

**Note:** Due to a DB2 limitation, STROBE prints a maximum length of 4,096 for static SQL statement text.

## Suppressing the DL/I CPU and Wait Reports

NODLI suppresses the DL/I CPU and Wait reports, for installations with the STROBE IMS Feature. To suppress the reports, specify

```
NODLI
```

## Tailoring the Reporting of CICS Transaction Profile Information

The following CICS keywords enable you to tailor how STROBE reports data for the CICS transactions and regions for which STROBE has gathered detailed information.

TXPRPT= (*tran|tran,tran,...|tran\**) enables you to specify up to five CICS transactions or sets of transactions for which STROBE provides detailed performance information. Transaction names may be any valid CICS transaction name. To specify sets of CICS transactions, use a wildcard character (\*) as the final character.

**Note:** The names of CICS system transactions are not valid in this field.

NOTXPRPT enables you to suppress the following CICS-related reports: Transaction Summary, Transaction Profile, and the Region Level.

NORLIRPT enables you to suppress CICS-Region Level reports. When you specify this parameter, STROBE does not produce the Region Suspend by Class and Region Suspend by Resource within Class reports.

TXPONLY enables you to suppress all Performance Profile reports except the Measurement Session Data, the Token - Longname Cross Reference, and all CICS Transaction Profile reports. When you specify this keyword, STROBE produces the following reports: Transaction Summary, the Transaction Profile, the Region Suspend by Class, the Region Suspend by Resource within Class, the Measurement Session Data, and the Token - Longname Cross Reference reports. If you also specify NORLIRPT, STROBE additionally suppresses the CICS Region Level reports.

TLIBASE=*nn.nn* (default **00.01**) enables you to control the level of detail in the following Transaction Profile reports by specifying a minimum value in seconds.

- On the CICS API Service Time report, STROBE reports the Exec and Suspend Mean Service times that are less than this value under the pseudo-section .COMPRES.
- On the Non-API Service Time report, STROBE reports under the pseudo-section .COMPRES all Resource Names, Resource Types, modules and control sections that have Mean Service times that are less than this value.
- On the API Service Time Detail report, STROBE suppresses all Resource Type and Resource Name combinations with Mean Service Time less than the time specified. STROBE does not report this activity under a pseudo-section. Similarly, STROBE suppresses all modules and control sections with Exec Mean Service Time that is less than this value. These modules and control sections do not appear on the report. If the detail lines for a command do not meet or exceed this value, STROBE suppresses the command. If STROBE suppresses all commands, STROBE does not produce the report.

RLIBASE=*nn.nn* (default **00.01**) enables you to control the level of detail in the Region Suspend by Class and the Region Suspend by Resource within Class reports by specifying a minimum value in seconds.

- On the Region Suspend by Class report, STROBE reports under the pseudo-section .COMPRES all Suspend Classes with Suspend Time for an Average Transaction that is less than this value.
- On the Region Suspend by Resource within Class report, STROBE suppresses a Resource with Suspend Time for an Average Transaction that is less than this value. This

resource does not appear on the report. If STROBE suppresses all Resources for a Class, STROBE does not produce the report for that class.

## Compressing MQSeries Information

The MQCALL=*nn.n* (0) variable enables you to condense activity reported for MQSeries calls on the CPU Usage by Module by MQSeries Call and the Wait by Module by MQSeries Call reports. The value *nn.n* stipulates the minimum percentage of activity for an MQSeries call at a given location in which STROBE detects activity. STROBE suppresses reporting of all activity below this percentage.

## Obtaining IMS Transaction-Level Information for MQSeries Calls

The MQTRAN parameter enables you to obtain IMS transaction-level information, in addition to MQSeries module-level information, on the CPU Usage by Module by MQSeries Call and the Wait by Module by MQSeries Call reports.

## Tailoring the Reporting of Java Information

The JAVARPT=*nn.nn* keyword (00.01) enables you to condense activity reported on the CPU Usage by Java Method report. The value *nn.nn* indicates the minimum percentage of solo and total CPU time that STROBE reports. STROBE suppresses solo and total CPU time less than this percentage.

NOJAVRPT enables you to suppress the JAVA Class Summary and the CPU Usage by JAVA Method reports.

## Specifying Parameters for a Temporary Work File for APMpower or iSTROBE

If APMpower or iSTROBE is installed at your site, you can use the following parameters to specify values for a temporary work file for APMpower or iSTROBE:

- ALOCUNIT=*type* enables you to determine the type of unit: BLK (block), CYL (cylinder), or TRK (track). The default is **BLK**.
- WRKUNIT=*unit* enables you to specify the unit for the temporary work file. The default is **SYSDA**.
- WRKVOL=*volume* enables you to specify the volume for the temporary work file.
- WRKPRIM=*nnnn* enables you to specify the primary space allocation for the temporary work file. For the following ALOCUNIT specifications, these are the defaults: BLK, **600**; CYL, **8**; TRK, **120**.
- WRKSEC=*nnnn* enables you to specify the secondary space allocation for the temporary work file. For the following ALOCUNIT specifications, these are the defaults: BLK, **600**; TRK, **120**; CYL, **8**.

For the WRKPRIM and WRKSEC parameters, if the value you specify is less than the default value, STROBE uses the default value.

---

## Using STROE, the Reporting Procedure

The procedure STROE provides a convenient way to produce a Performance Profile. STROE produces a Performance Profile from saved sample and optional map data sets. You can set the following parameters in the procedure:

```
STROE PROC PRTCLAS='*'      Print class
```

DAUNIT=SYSDA,	Disk data set unit name
STRLIB='STROBLIB',	STROBE load library
SAMDSN='STRSAM',	Sample data set name
MAPDSN='NULLFILE',	Map data set name
SORTUT=300,	Sort work space
REPNAME=,	Performance Profile title
RESLTN=,	Report resolution
SORTSIZ=,	Sort core size
LINEMAX=,	Lines per page
DETAIL=,	Detail system modules
COMPRES=,	Suppress detail
NOPROC=,	Suppress Program Usage by Procedure (NOPROC)
PUBP=,	Condense Program Usage by Procedure
NODASD=,	Suppress DASD Usage by Cylinder (NODASD)
DASD=,	Condense DASD Usage by Cylinder
NOATTR=,	Suppress one or more Attribution reports
ATTR=,	Condense the Attribution reports
NOTRAN=,	Suppress transaction usage detail (NOTRAN)
WAITLOC=,	Show location of wait (WAITLOC)
RPTPARM=	Additional reporting options

To obtain a Performance Profile, you need only invoke the STROE procedure, supplying the name of your sample data set and the names of optional map data sets. You can supply these data set names by giving values for the SAMDSN and MAPDSN symbolic parameters. For example:

```
// EXEC STROE,MAPDSN='MYMAP',SAMDSN='MYSAM.SAMPLE'
```

Alternatively, you can override the data definition statements for the data sets STRSAMPL (the sample data set ddname) and STRMAP (the map data set ddname).

For example:

```
//REPORT EXEC STROE
//REP.STRSAMPL DD DSN=MYSAM.SAMPLE,DISP=SHR
//REP.STRMAP DD DSN=MYMAP,DISP=SHR
```

For any report options without a symbolic parameter listed previously, use the RPTPARM symbolic parameter. Use RPTPARM to enter the following options:

NOMAP=	Suppress module mapping
ATTRLINE=	Minimum percentage for Attribution report line item

TUCS=	Condense Transaction Usage by Control Section
DASDGAP=	Condense DASD Usage by Cylinder
ALLTASK	Show all tasks on Time and Resource Distribution Demand reports
NOTASK	Suppress time distribution detail
ALLCSECT	Show inactive control sections
ALLDD	Show all dd statements on Time and Resource Distribution Demand reports
MEISA	Produce Most Extensively Inactive Storage Areas report
NODSCS	Suppress the Data Set Characteristics Supplement report
IEF=	Tailor reporting of COOL:Gen (formerly Composer) activity
SQL=	Tailor reporting of SQL activity
NODLI	Suppress the DL/I CPU and Wait reports
DATE=	Date format to be printed in reports
DATESEP=	Date separator to be used in date format

For example:

```
// EXEC STROE,NOPROC=NOPROC,RPTPARM='MEISA,ATTRLINE=0.0,
SQL=DETAIL=PROC'
```

---

## Using Procedures to Index Source Modules

When you use STROBE to measure the performance of programs or online subsystems comprising many different load modules, each module could contain multiple control sections. However, you rarely need to index every control section in a load module. First, analyze the Performance Profile to identify the control sections that make the greatest resource demands. Then you can recompile and index those control sections and produce a new Performance Profile that shows source procedure names and statement numbers from the original sample data set.

Indexed source modules must match load module maps constructed by the measurement task. The measurement task cannot construct a load module map unless it finds the module in a library identified on a DD statement. (For a list of the libraries STROBE automatically searches, see “Entering Module Mapping Specifications” on page 2-14.)

If the compilation step that has produced the map data set is not the same compilation step that has produced the object code for the measured program, you must perform both compilations with identical source program input using the identical compiler version and options; otherwise, execution activity may be reported in a procedure other than that in which it actually occurred. If a mismatch between map and sample data sets occurs, STROBE prints an error message. Check the sizes of the control sections obtained from the load module library during the measurement session and reported in the Performance Profile (in the Program Section Usage Summary report) against the sizes shown in the compilation listing used for indexing. Then recompile and index the source program with the same compiler options as those that produced the object code.

## Specifying Data Sets as Input to the Procedures

You can concatenate compiler SYSPRINT data sets as input to the procedures. You can also concatenate map data sets as input by specifying them as STRMAP overrides as shown in the following example:

```
// EXEC STROE,
//      SAMDSN='USER.PREFIX.JOBNAME.S001D002'
//REP.STRMAP DD DSN=MY.MAP.DATASET1,DISP=SHR
//          DD DSN=MY.MAP.DATASET2,DISP=SHR
```

You cannot concatenate sample data sets.

## Products Supported by the Indexing Procedures

STROBE reads the SYSPRINT listing produced by a compiler or by the assembler and links procedure statement names to the address of each statement generated by the language processor. For STROBE to index language processors, specify the following options when you compile your program.

**Note:** OFFSET nullifies LIST in the required options listed in the table.

Product	Supported Levels	Required Options
ADS/O	CA-IDMS Version 10.2, 12.1, 14, 14.1	REPORTS=ALL
Assembler	VS, F, G, H Version 2.1, (High Level Releases 1 and 2), High Level Assembler for MVS and VM Releases 1 and 2	LIST, ESD
C	C/370 Version 2.1, AD/Cycle C/370 Versions 1.1 and 1.2	SOURCE, LIST, NOOFFSET
	SAS/C Versions 4.0-5.5, 6, and 6.5	PRINT, OMD
	IBM C/C++ for MVS/ESA, Versions 3.1.0 and 3.1.1	SOURCE, LIST, NOOFFSET, CSECT
	IBM OS/390 V1R1 - R3 and V2R4 C/C++	SOURCE, LIST, NOOFFSET, CSECT
COBOL	IBM OS/390 R5, R6, R7, R8 LE C/C++	SOURCE, LIST, NOOFFSET, CSECT
	VS Release 2.4; ANS Versions 2, 3, and 4; F	SOURCE, PMAP, VERB
	COBOL II Releases 1.0, 1.1, 2.0, 3.0, 3.1, 3.2, 4.0	SOURCE, LIST, NOOFFSET
	AD/Cycle COBOL/370 Version 1.1	SOURCE, LIST, NOOFFSET
	IBM COBOL for MVS and VM Version 1.2 IBM COBOL for OS/390 and VM Version 2.1	SOURCE, LIST, NOOFFSET
VisualAge COBOL for OS/390 Version 2.2	SOURCE,LIST, NOOFFSET	
CA-Optimizer Releases 4.2, 5.0, 5.1, 6.0	SOURCE, PMAP, VERB	

Product	Supported Levels	Required Options
	CA-OptimizerII Release 1.3	SOURCE, LIST, NOOFFSET
COOL:Gen (formerly Composer)	COOL:Gen 5, COOL:Gen 4.11, COOL:Gen 4.1, COOL:Gen 4.1a. IEF Release 5.2, Composer by IEF (Release 5.3 and 5.3.1), Composer 3, and Composer 4	See the STROBE <i>STROBE COOL:Gen Feature</i>
CSP	CSP/370 AD Release 4.1	COMMLVL=3
FORTRAN	VS Versions 1.1.1, 1.2.3, 1.3.1, 1.4.1, 2.1.1, 2.3, 2.4, 2.5, 2.6; H extended Version 2.3, G; G1 Version 2.1	SOURCE, LIST
NATURAL	NATURAL Version 2.2, 2.3, 3.1	IM=D
PL/I	Optimizing Version 1.4, 1.5.1; F; AD/Cycle PL/I Version 1.1; OS Version 2.1, 2.2, 2.3	SOURCE, LIST, OBJECT
	IBM PL/I for MVS and VM Version 1.1.1	SOURCE, LIST, OBJECT
VisualAge PL/I	VisualAge PL/I for OS/390 Version 2.2.1	LIST, OBJECT

## Indexing Procedures

Three types of STROBE procedures can be used to index your source programs:

STROzz	Compile and index
STROX	Index from a saved compiler SYSPRINT data set
STROXE	Index from a saved compiler SYSPRINT data set and report

---

## Using STROzz, the Compile and Index Procedure

STROzz invokes the required compiler and then produces a map data set for later use. The *zz* in the procedure name stands for a two-character source program language identifier.

AF	For assembler programs
CI	For IBM C/370, AD/Cycle C/370 programs, C/C++ for MVS/ESA
CS	For SAS/C programs
CU	For VS COBOL programs
CX	For programs processed by CA-Optimizer
C2	For COBOL II and AD/Cycle COBOL programs
FG	For FORTRAN G programs
FH	For FORTRAN H and FORTRAN VS programs
PF	For PL/I programs

PV	VisualAge PL/I for MVS	
X2	For programs processed by CA-OptimizerII	
STROzz PROC	PRTCLAS='*',	Print class
	DAUNIT=SYSDA,	Disk data set unit name
	STRLIB='STROBLIB',	STROBE load library
	COMPARM=NODECK,	Compiler parameters
	COMPREG=256K,	Compiler region size
	UTBLOCK=300,	Space allocation
	MAPDSN='STRMAP',	Map data set name
	MAPVOL=,	Map data set volser
	MAPUNIT=SYSDA,	Map data set unit name
	MAPDISP=CATLG,	Map data set disposition
	MAPLABL='(1,SL)'	Map data set label

To invoke the STROzz procedure, supply

- values for parameters to specify the map data set name and other map data set characteristics
- data definition statement(s) identifying the source program(s) to be compiled and indexed

## Example of Indexing with STROzz

In this example, STROzz compiles the COBOL source program, creates a map data set, catalogs it under the name MYLIB.MYMAP, and produces a COBOL source program listing with SOURCE, VERB, and PMAP compilation options:

```
//INDEX      EXEC STROC2,MAPDSN='MYLIB.MYMAP',
//              MAPVOL=MY1234,COMPARM='DECK,NOLOAD'
//COB.SYSIN DD DSN=MYSOURCE,DISP=SHR
```

---

## Using STROX, the Index Procedure

The STROX procedure produces a map data set from a compiler-generated listing data set. The default language for this procedure is COBOL, though you can override the default by specifying an indexer program name for the MAPPGM parameter.

STROX PROC	MAPPGM=STRXCBF,	Indexing program
	PRTCLAS='*',	Print class
	DAUNIT=SYSDA,	Map data set unit name
	SORTTUT=300,	Sort work disk space

STRLIB='STROBLIB',	STROBE load library
LISTDSN='LISTDSN',	Data set name of compiler SYSPRINT
MAPDSN='STRMAP',	Map data set name
MAPVOL=,	Map data set volser
MAPUNIT=SYSDA,	Map data set unit name
MAPDISP=CATLG,	Map data set disposition
MAPLABL='(1,SL)'	Map data set label

Prior to using this procedure, you must create a compiler listing data set.

## Creating Compiler SYSPRINT Data Sets

Use your normal compiler procedure to compile your program, specifying the options described in "Products Supported by the Indexing Procedures" on page 6-15. Override the SYSPRINT data definition statement in your procedure, assigning SYSPRINT to a data set.

```
//COB.SYSPRINT DD DSN=&&PRINT,UNIT=SYSDA,
//              SPACE=(TRK,(50,10),RLSE),
//              DISP=(MOD,PASS),
//              DCB=(dcb parameters)
```

DCB parameters for each of the languages supported by STROBE follow.

Assembler	DCB=(RECFM=FBA,LRECL=121)
ADS/O CA-IDMS	DCB=(RECFM=FBA,LRECL=133)
C/370	DCB=(RECFM=VBA,LRECL=137)
OS/VIS COBOL	DCB=(RECFM=FBA,LRECL=121)
VS COBOL II	DCB=(RECFM=FBA,LRECL=133)
COBOL/370	DCB=(RECFM=FBA,LRECL=133)
FORTRAN G	DCB=(RECFM=FBA,LRECL=120)
FORTRAN H and VS	DCB=(RECFM=VBA,LRECL=137)
PL/I	DCB=(RECFM=VBA,LRECL=137)
VisualAge PL/I	DCB=(RECFM=VBA,LRECL=137)
SAS/C	DCB=(RECFM=VBA,LRECL=137)

When you invoke the STROX procedure, specify the SYSPRINT data set name in the LISTDSN parameter.

## Specifying Indexing Program Names

The MAPPGM parameter requires you to use the following names for the indexing program:

STRXADS     ADS/O programs

STRXAS	Assembler programs
STRXC	C/370, AD/Cycle C/370, SAS/C programs, C/C++ for MVS/ESA
STRXCBF	COBOL programs
STRXCBX	COBOL programs processed by CA-Optimizer
STRXCSP	CSP generated COBOL programs
STRXFTG	FORTRAN G programs
STRXFTH	FORTRAN H and FORTRAN VS programs
STRXIEF	IEF generated COBOL programs
STRXNAT	NATURAL 4GL programs
STRXPLF	PL/I programs

## Specifying the Map Data Set Name

Specify the MAPDSN parameter to specify a name for the map data set that the indexing program creates.

## Example of Indexing with STROX

This example invokes your installation's FORTRAN compile procedure and overrides the SYSPRINT data definition statement so that the listing produced by the compiler is retained on a disk data set for the FORTRAN indexing program. STROBE processes the data set, producing the listing and a map data set named MY.FORTRAN.MAP.

```
//FORT EXEC FORTVS, PARM.FORT='SOURCE,LIST'
//FORT.SYSPRINT DD DSN=&&FORTLS,UNIT=SYSDA,
//             DISP=(MOD,PASS),
//             SPACE=(TRK,(50,10)),
//             DCB=(RECFM=VBA,LRECL=137,BLKSIZE=3018)
//FORT.SYSIN DD DSN=SOURCLIB(MYSOURCE),DISP=SHR
//*
//MAP EXEC STROX,MAPPGM=STRXFTH,
//          LISTDSN='&&FORTLS',
//          MAPDSN='MY.FORTRAN.MAP'
```

---

## Using STROXE, the Index and Report Procedure

The STROXE procedure produces a map data set from a previously generated compiler listing data set and then creates a Performance Profile from an existing sample data set.

STROXE PROC	MAPPGM=STRXCBF,	Indexing program
	PRTCLAS='*',	Print class
	DAUNIT=SYSDA,	Disk data set unit name
	STRLIB='STROBLIB',	STROBE load library
	LISTDSN='LISTDSN',	Data set name of compiler SYSPRINT
	SAMDSN='STRSAM',	Sample data set name

SORTUT=300,	Sort work disk space
REPNAME=,	Performance Profile title
RESLTN=,	Report resolution
SORTSIZ=,	Sort core size
LINEMAX=,	Lines per page
DETAIL=,	Detail system modules
COMPRES=,	Suppress detail
NOPROC=,	Suppress Program Usage by Procedure
PUBP=,	Condense Program Usage by Procedure
NODASD=,	Suppress DASD Usage by Cylinder
DASD=,	Condense DASD Usage by Cylinder
NOATTR=,	Suppress the Attribution reports
ATTR=,	Condense the Attribution reports
NOTRAN=,	Suppress transaction usage detail
WAITLOC=,	Show location of wait
RPTPARM=	Additional reporting options

To invoke the STROXE procedure, first prepare a compiler listing data set, as described in "Using STROX, the Index Procedure" on page 6-17. Then invoke the STROXE procedure by supplying:

- values for the MAPPGM and LISTDSN parameters, as described in "Using STROX, the Index Procedure" on page 6-17
- the name of a sample data set in the SAMDSN parameter
- any of the report option parameters described in "Specifying Options for Reports" on page 6-1.

## Example of Indexing with STROXE

In this example, a PL/I SYSPRINT data set, 'MY.PLI.LISTING', has been cataloged by a prior invocation of the PL/I compiler. STROBE processes the data set and produces the compiler listing data set and a temporary map data set. STROBE then processes the map data set and the sample data set MY.PLI.SAMPLE to produce a Performance Profile.

```
//XE EXEC STROXE,MAPPGM=STRXPLF,
//          LISTDSN='MY.PLI.LISTING',
//          SAMDSN='MY.PLI.SAMPLE'
```

## Appendix A.

# Ways to Improve the Performance of the SQL Analysis Feature

---

## Improve Performance by Controlling Processing Options

You can improve the execution time of the SQL Analysis Feature by controlling the following processing options:

- **The requested SQL Analysis Feature reports.** The Opportunities and Catalog Statistics reports require the most time to produce; the EXPLAIN output and Translation reports require much less. To minimize execution time, request only the reports you need.
- **Using background processing.** Because of the time it takes to execute, you may prefer to invoke the SQL Analysis Feature in the background. On the STROBE - PRODUCE A PERFORMANCE PROFILE panel, Figure 3-3 on page 3-4, enter “B” for Background processing.
- **Minimizing statements to process.** You can reduce the resource requirements of the SQL Analysis Feature and the corresponding contention for database resources by processing only the most resource-consumptive SQL statements. To limit the SQL statements processed by the SQL Analysis Feature, enter the appropriate CPU or wait threshold values in the fields listed below that appear on the STROBE - SQL ANALYSIS FEATURE REPORT SETTINGS panel, Figure 3-5 on page 3-8.
  - TOTAL CPU PERCENT
  - TOTAL WAIT PERCENT
  - TOP N USERS
  - TOP N WAIT
  - DBRM NAME
  - USE EXISTING PLAN TABLE ROWS

---

## Using Existing PLAN\_TABLE Rows

Selecting from or making a copy of a populated PLAN\_TABLE for a DB2 subsystem and using it for your SQL Analysis Feature work provides the following advantages:

- **It eliminates database object privileges required for users of the SQL Analysis Feature.** If the PLAN\_TABLE the APMpower SQL Analysis Feature is to use was populated by specifying EXPLAIN(YES) during BIND processing, users of the Feature need only SELECT privilege for that PLAN\_TABLE. (Remember, if you request that the Feature produce EXPLAIN output dynamically, the resolved authorization ID must have all database privileges required of the statements processed against the measured DB2 subsystem.)
- **It lets you tune production DB2 applications in a nonproduction subsystem.** The populated PLAN\_TABLE represents the access strategies that the DB2 optimizer chose for the production subsystem. You can copy the PLAN\_TABLE to a nonproduction subsystem for analysis.

- **It reduces the processing time of the SQL Analysis Feature.** Like dynamic execution of any SQL statement, producing EXPLAIN at execution time incurs overhead. If you routinely request EXPLAIN output as part of production check-in, you have no reason to repopulate the PLAN\_TABLE when you create Profiles with the SQL Analysis Feature.
- **It reflects the access paths at the time of measurement.** When you use existing PLAN\_TABLE rows, the access path information produced by the SQL Analysis Feature represents the state of the application at BIND time, provided that EXPLAIN=YES was specified on the BIND statement. If your site does not REBIND regularly, or if you do not create a Profile shortly after measurement, the access path information generated by the SQL Analysis Feature may not reflect the actual access path currently executed in production if new explain information is created.

You could migrate a complete production environment, including the catalog and PLAN\_TABLE, to another DB2 subsystem and then analyze it in that subsystem using the SQL Analysis Feature.

For example, follow these steps to analyze SQL statements measured in one subsystem within a different subsystem.

1. Copy appropriate PLAN\_TABLE from subsystem 1 to subsystem 2.
2. Create a shadow catalog of subsystem 1 in subsystem 2.
3. Grant users SELECT privilege against the PLAN\_TABLE in subsystem 2.
4. Run the SQL Analysis Feature against subsystem 2, filling in the values for subsystem and create ID.

# Index

## A

ACTIVE JOB DISPLAY FORMAT panel  
described, 2-18

ACTIVE JOB SELECTION LIST panel  
changing display format of, 2-18  
described, 2-4  
fields on, 2-5

active measurement requests  
changing, 4-9  
for batch-submissions, 2-20

ADA3GL data collector, 2-12

ADA3GL parameter, described, 5-14

ADABAS parameter, described, 5-13

ADD command  
described, 5-2  
example of in multisystem environment, 5-16  
examples of, 5-15  
syntax for, 5-3

ADD QUEUED REQUEST panel  
described, 2-8

adding measurement requests  
for active jobs (of batch-submission), 2-20  
for jobs not yet executing (queued), 2-8  
for queued (of batch-submissions), 2-21

ADS/O  
versions supported by indexers, 6-15

ALLCSECT parameter, described, 6-8

ALOCUNIT parameter, described, 6-12

APMpower  
specifying temporary work file parameters, 6-12

APMpower Profile Data File (PDF)  
creating, 3-10  
creating automatically, 3-13

ASID parameter, described, 5-7

Assembler  
procedures, two-character source identifier, 6-16  
versions supported by STROBE, 6-15

ATTR parameter, described, 6-7

attribution  
parameters for, 5-14  
reports  
tailoring, 6-7

ATTRLINE parameter, described, 6-7

ATTRLNK parameter, described, 5-15

ATTRSVC parameter, described, 5-15

auto Performance Profile  
browsing, 3-26  
changing characteristics of, 4-10–4-12, 4-14  
creating with active or queued measurement requests, 3-12  
overview of, 1-3  
planning for, 1-5

automatic Performance Profile  
generating with measurement requests, 2-9  
including map data sets, 3-22–3-23

## B

BASELINE parameter, described, 5-9

batch jobs, planning for, 1-3

BATCH-SUBMISSION CHANGE ACTIVE REQUEST panel  
described, 4-23  
fields on, 4-23

BATCH-SUBMISSION LIST/DELETE REQUEST panel  
described, 4-24  
fields on, 4-24

batch-submission measurement requests  
adding  
active, 2-20  
queued, 2-21  
managing, 4-23

browsing an automatic Performance Profile, 3-26

## C

C language, versions supported by indexers, 6-15

C parameter, described, 5-15

CF parameter, described, 6-9

CHANGE AN AUTO PERFORMANCE PROFILE panel  
described, 3-26

CHANGE command  
described, 5-2  
example of in multisystem environment, 5-16  
examples of, 5-15  
syntax for, 5-4

CHANGE QUEUED REQUEST panel  
described, 4-12

CHANGE REQUEST panel  
for active request, described, 4-9  
for closed data set/suspended request  
described, 4-11  
for open data set/suspended request, described, 4-10

CHANGE STOPPED REQUEST panel  
described, 4-12

changing  
automatic Performance Profile characteristics, 4-10–4-12, 4-14  
measurement requests  
active, 4-9  
suspended, 4-11

CICS parameter, described, 5-12

COBOL language  
versions/releases supported by indexers, 6-15

COBOL parameter, described, 5-15

command language  
invoking, 5-1  
notation conventions for, 5-2

commands  
ADD, 5-2, 5-15  
CHANGE, 5-2, 5-15  
common components of, 5-1  
DELETE, 5-2, 5-19  
DISPPROC, 5-18  
END, 5-2, 5-21

- LIST, 5-2, 5-16–5-17
- SEND, 5-2, 5-19–5-20
  - submitting additional, 5-21
- compiler SYSPRINT data sets
  - DCB parameters for, 6-18
- COMPLETE parameter, described, 5-17
- Composer, versions supported by indexers, 6-16
- COMPRES parameter, described, 6-5
- CONFIRM PURGE OF DATA SET panel
  - described, 4-14
- controlling measurement sessions, 5-19
- COOLGen, versions supported by indexers, 6-16
- Coupling Facility Activity report
  - suppressing, 6-9
- CPUTEXT parameter, described, 6-10
- CREATE AN AUTO PERFORMANCE PROFILE panel
  - described, 3-13
- creating
  - data sets, map, 3-20
- CSP
  - parameter described, 5-15
  - versions supported by indexers, 6-16

## D

- DASD Usage by Cylinder report
  - tailoring, 6-7
- data collector
  - specifying
    - for additional applications, 2-11
    - options for, 5-12
- DATA COLLECTORS panel
  - described, 2-11
- Data Set Characteristics Supplement report
  - suppressing, 6-9
- data sets
  - creating compiler SYSPRINT, 6-18
  - specifying Indexer, 6-15
- DATACLAS parameter, described, 5-11
- DATE parameter, described, 6-5
- DATESEP parameter, described, 6-5
- DB2 parameter, described, 5-13
- DCB parameters, for compiler SYSPRINT data sets, 6-18
- DCC parameter, described, 5-14
- DCCLIB parameter, described, 5-14
- DDIO files, using for indexing, 3-22
- defaults, setting user, 4-18
- DELETE command
  - described, 5-2
  - examples of, 5-19
- DELETE parameter, described, 5-17
- DETAIL FOR A PERFORMANCE PROFILE panel
  - described, 3-12, 3-14
- DETAIL parameter, described, 6-5
- DISPLAY MESSAGE TEXT panel
  - described, 4-15
- DISPOSITION parameter, described, 5-11
- DISPPROC command, described, 5-18
- DL/I CPU and Wait reports, suppressing, 6-11
- DML parameter, described, 5-14
- DSNAME parameter, described, 5-10

## E

- END command
  - described, 5-2
  - ending command language operations with, 5-21
  - examples of, 5-21
- EXCLUDE parameter, described, 5-8

## F

- FORTTRAN
  - versions supported by indexers, 6-16

## G

- GOMIN parameter, described, 5-8

## H

- help, online accessing, 2-1

## I

- identifying
  - target system, 5-7
- IDMS parameter, described, 5-14
- IEF parameter, described, 5-13, 6-9
- IMS parameter, described, 5-13
- INCLUDE MAPS OF INDEXED SOURCE MODULES
  - panel
    - described, 3-21
- indexers
  - procedures of, 6-16
  - specifying data sets, 6-15
- indexing
  - procedures for, 6-16
  - source modules for, 3-19, 6-14
    - with STROX procedure, 6-19
    - with STROXE procedure, 6-20
    - with STROzz procedure, 6-17
  - indexing, using DDIO files, 3-22
- iSTROBE data file
  - creating, 3-3
- iSTROBE Data File, creating for iSTROBE, 3-3
- iSTROBE data files, downloading, 3-7

## J

- JAVA parameter, described, 5-14
- JAVARPT parameter, described, 6-12
- job name
  - specifying for target job, 2-10
- job statement, setting defaults for, 4-19
- job step
  - described, 1-2
  - measuring

- of target, 2-8
- selecting
  - more than one, 1-2
  - overview of, 1-2
- specifying, 2-8
- job stream
  - selection options for, 3-24
  - specifying options (for batch submission), 4-25

## K

- keywords
  - abbreviating, 5-2

## L

- LIMIT ACTIVE JOB LIST panel
  - described, 2-19
  - fields on, 2-19
- LIMIT parameter, described, 5-8
- LINEMAX parameter, described, 6-4
- LIST command
  - described, 5-2
  - examples of, 5-16–5-17
  - parameters of, 5-16
- LOG UTILITIES panel
  - described, 4-16
  - fields on, 4-16

## M

- map data sets
  - creating, 3-20
    - overview of, 1-3
    - planning for, 1-6
  - including in Performance Profile, 3-21
  - using existing, 3-21
- MAPPROGRAM parameter, described, 5-9
- MAXLEN parameter, described, 6-10
- measurement requests
  - adding
    - queued (for jobs not yet executing), 2-8
    - syntax for, 5-3
  - additional options when submitting, 2-11
  - changing
    - completed (for batch-submission), 4-24
    - queued (for batch-submission), 4-24
    - syntax for, 5-3
  - creating
    - automatic Performance Profiles, 3-12
  - deleting, 4-14
    - (for batch submission), 4-24
    - with DELETE command, 5-19
  - described, 1-2
  - listing (for batch-submission), 4-24
  - overview of, 2-2
  - planning for, 1-3
  - quitting, 4-13
  - retaining, 2-17
  - specifying
    - retention time for, 5-11
  - standard status information for all, 4-3

- submitting
  - from batch job or from TSO terminal, 5-3
  - overview of, 1-2
  - viewing, with LIST command, 5-16
- measurement sessions
  - controlling, 5-19
    - active requests (for batch-submissions), 4-23
  - controlling scope of, 5-8
  - described, 1-2
  - setting length of, 2-6
  - specifying
    - number of, 2-16
    - parameters of, 2-15
- MEISA parameter, described, 6-8
- messages
  - printing, 4-16
  - selecting from a particular log, 4-18
  - viewing
    - information about, 4-15
    - text of, 5-21
- MGMTCLAS parameter, described, 5-11
- module mapping
  - entering modules for, 2-14
- MODULE MAPPING panel
  - described, 2-14
- Most Extensively Inactive Storage Areas report, producing, 6-8
- MQCALL parameter, described, 6-12
- MQSeries calls, compressing, 6-12
- MQSERIES parameter, described, 5-14
- MQTRAN parameter, described, 6-12

## N

- NATURAL parameter, described, 5-13
- NATURAL, versions supported by indexers, 6-16
- NOATTR parameter, described, 6-7
- NOATTRLNK parameter, described, 5-15
- NOATTRSVC parameter, described, 5-15
- NOC parameter, described, 5-15
- NOCOBOL parameter, described, 5-15
- NOCSP parameter, described, 5-15
- NODASD parameter, described, 6-7
- NODLI parameter, described, 6-11
- NODSC parameter, described, 6-9
- NOJAVA parameter, described, 5-14
- NOJAVRPT parameter, described, 6-12
- NOLIMIT parameter, described, 5-8
- NOMAP parameter, described, 6-6
- NOMQSERIES parameter, described, 5-14
- NONOTIFY parameter, described, 5-10
- NOPLI parameter, described, 5-15
- NOPROC parameter, described, 6-6
- NORLIRPT parameter, described, 6-11
- NOSQL parameter, described, 6-9
- NOSTART parameter, described, 5-9
- NOTASK parameter, described, 6-8
- NOTIFY parameter, described, 5-10
- NOTRAN parameter, described, 6-8
- NOTXPRPT parameter, described, 6-11
- NOVSAM parameter, described, 5-15
- NUMBER parameter, described, 5-7

## O

OFFSET parameter, described, 6-9  
 online applications, planning for, 1-4  
 OPTIONS parameter, described, 5-10  
 OTHER PARAMETERS panel  
   described, 2-16  
 OWNERID parameter, described, 5-17

## P

Packaging Utility, use of, 4-21  
 panels  
   INCLUDE MAP DATA SETS, 3-22–3-23  
 parameters  
   described  
     ADA3GL, 5-14  
     ADABAS, 5-13  
     ALLCSECT, 6-8  
     ALOCUNIT, 6-12  
     ASID, 5-7  
     ATTR, 6-7  
     ATTRLINE, 6-7  
     ATTRLNK, 5-15  
     ATTRSVC, 5-15  
     BASELINE, 5-9  
     C, 5-15  
     CF, 6-9  
     CICS, 5-12  
     COBOL, 5-15  
     COMPLETE, 5-17  
     COMPRES, 6-5  
     CPUTEXT, 6-10  
     CSP, 5-15  
     DATACLAS, 5-11  
     DATE, 6-5  
     DATESEP, 6-5  
     DB2, 5-13  
     DCC, 5-14  
     DCCLIB, 5-14  
     DELETE, 5-17  
     DETAIL, 6-5  
     DISPOSITION, 5-11  
     DML, 5-14  
     DSNAME, 5-10  
     EXCLUDE, 5-8  
     GOMIN, 5-8  
     IDMS, 5-14  
     IEF, 5-13, 6-9  
     IMS, 5-13  
     JAVA, 5-14  
     JAVARPT, 6-12  
     LIMIT, 5-8  
     LINEMAX, 6-4  
     MAPPROGRAM, 5-9  
     MAXLEN, 6-10  
     MEISA, 6-8  
     MGMTCLAS, 5-11  
     MQCALL, 6-12  
     MQSERIES, 5-14  
     MQTRAN, 6-12  
     NATURAL, 5-13  
     NOATTR, 6-7  
     NOATTRLNK, 5-15

NOATTRSVC, 5-15  
 NOC, 5-15  
 NOCOBOL, 5-15  
 NOCSP, 5-15  
 NODASD, 6-7  
 NODLI, 6-11  
 NODSCS, 6-9  
 NOJAVA, 5-14  
 NOJAVRPT, 6-12  
 NOLIMIT, 5-8  
 NOMAP, 6-6  
 NOMQSERIES, 5-14  
 NONOTIFY, 5-10  
 NOPLI, 5-15  
 NOPROC, 6-6  
 NORLIRPT, 6-11  
 NOSQL, 6-9  
 NOSTART, 5-9  
 NOTASK, 6-8  
 NOTIFY, 5-10  
 NOTRAN, 6-8  
 NOTXPRPT, 6-11  
 NOVSAM, 5-15  
 NUMBER, 5-7  
 OFFSET, 6-9  
 OPTIONS, 5-10  
 OWNERID, 5-17  
 PGM, 5-5  
 PLI, 5-15  
 QUEUE, 5-17  
 REPNAME, 6-4  
 RESLTN, 6-4  
 RLIBASE, 6-11  
 SAMDSN, 5-10  
 SAMPLES, 5-8  
 SORTSIZ, 6-4  
 SQL, 6-10  
 START, 5-9  
 STATUS, 5-20  
 STEP, 5-5  
 STOP, 5-20  
 STORCLAS, 5-11  
 STRBDD, 5-10  
 STRBLIB, 5-9  
 SVCS, 5-9  
 SWITCH, 5-20  
 SYSTEM, 5-7  
 TIME, 6-5  
 TIMEPCT, 6-9  
 TIMESEP, 6-5  
 TLIBASE, 6-11  
 TOPTXT, 6-9  
 TXPONLY, 6-11  
 TXPRPT, 6-11  
 TYPE, 5-17  
 VOLUME, 5-11  
 VSAM, 5-15  
 WAITLOC, 6-9  
 WAITTEXT, 6-10  
 WRKPRIM, 6-12  
 WRKSEC, 6-12  
 WRKUNIT, 6-12  
 WRKVOL, 6-12  
 for controlling measurement session scope, 5-8  
 for data collecting, described, 5-12  
 for identifying  
   target job, 5-5  
   target program, 5-5

- for measuring, described, 5-20
  - for specifying
    - data collector options, 5-12
    - request retention options, 5-11
    - routing information, 5-10
    - sample data set characteristics, 5-10
  - for specifying attribution options, 5-14
  - specifying sampling control for new session, 5-20
  - UNIT, described, 5-11
  - Performance Profile
    - automatically generated
      - creating, 3-12
      - overview of, 1-3
      - planning for, 1-5
    - browsing, 3-25
    - controlling
      - level of detail in, 1-5
    - creating automatically from a request, 3-12
    - customizing parameters of, 3-11
    - examining, overview of, 1-3
    - formatting reports in, 1-6
    - generating, overview of, 1-3
    - indexing, 3-19
    - invoking STROE to create, 6-12
    - planning for
      - analyzing data in, 1-6
      - generating reports in, 1-5
    - printing of, 3-19
    - producing
      - from STATUS panel, 3-11
    - saving, 3-19
    - setting
      - advanced options for, 3-13
      - LINE/SPACE of, 3-15
      - OTHER PARAMETERS for, 3-15
      - RESOLUTION of, 3-15
      - SORT SIZE for, 3-15
    - specifying
      - page size of, 6-4
      - title for, 3-14
    - subtitled reports of, 6-4
    - summarizing data of, 1-5
    - suppressing reports, 1-6
  - PGM parameter, described, 5-5
  - PL/I
    - versions supported by indexers, 6-16
  - planning for
    - batch jobs, 1-3
    - creating an automatic Performance Profile, 1-5
    - creating map data sets, 1-6
    - measurement requests, 1-4
    - Performance Profile, 1-5
    - using STROBE, 1-3
  - PLI parameter, described, 5-15
  - printing
    - messages of STROBE, 4-16
    - Performance Profile, 3-19
  - procedures
    - for specifying reporting options, 6-1
    - indexer, 6-16
    - STROE, 6-12
    - STROX, 6-17
    - STROXE, 6-19
    - STROzz, 6-16
  - Profile Data File (PDF), creating automatically for AP-Mpower, 3-13
  - Profile Data File (PDF), creating for APMpower, 3-10
  - Program Section Usage Summary report
    - expanding, 6-8
  - Program Usage by Procedure report
    - tailoring, 6-6
- ## Q
- QUEUE parameter, described, 5-17
  - queued requests
    - adding, 2-8
      - adding (for batch submissions), 2-21
      - adding (for batch-submissions), 2-21
      - changing (for batch-submission), 4-24
  - quitting measurement requests, 4-13
- ## R
- REPNAME parameter, described, 6-4
  - reporter
    - limiting constraints of, 6-1
    - procedures of, 6-1
  - reports
    - compressing/expanding information on, 3-12, 3-14
    - controlling
      - Composer activity, 6-9
      - COOLGen Activity, 6-9
      - IEF activity, 6-9
      - layout of, 3-18
      - level of detail in, 3-13
      - SQL activity, 6-9–6-10
      - system modules, 6-5
    - printing multiple copies of, 3-19
    - specifying
      - date and time formats, 6-4
      - modules treated as pseudo-sections, 6-5
      - page size, 6-4
      - resolution, 6-4
      - sort core size, 6-4
      - subtitle, 6-4
      - suppression of mapping for modules, 6-6
      - width of, 3-18
  - tailoring/altering, 3-15
  - working with
    - attribution, 6-7
    - Coupling Facility Activity, 6-9
    - DASD Usage by Cylinder, 6-7
    - Data Set Characteristics Supplement, 6-9
    - DL/I CPU and Wait, 6-11
    - Most Extensively Inactive Storage Areas, 6-8
    - Program Section Usage Summary, 6-8
    - Program Usage by Procedure, 6-6
    - Time and Resource Demand Distribution, 6-8
    - Transaction Usage by Control Section, 6-8
    - Wait Time by Module, 6-9
- REQUEST RETENTION panel
  - for active requests
    - described, 4-10
  - for batch-submission, described, 4-24
  - for completed requests
    - described, 4-13
  - for completed requests for batch-submission, described, 4-24
  - for queued requests
    - described, 2-17
- RESLTN parameter, described, 6-4

RETAIN parameter, components of, 5-11  
 RLIBASE parameter, described, 6-11

## S

SAMDSN parameter, described, 5-10  
 sample data set  
   described, 1-2  
   example for naming, 2-7  
   overriding, 2-7  
   reusing, 2-7  
   selecting, 3-12  
   specifying characteristics of, 5-10  
 SAMPLE DATA SET LIST for a Default Performance Profile panel  
   described, 3-11  
 SAMPLE DATA SET LIST panel  
   described, 3-2  
   header line described, 3-3  
 SAMPLES parameter, described, 5-8  
 saving  
   Performance Profile, 3-19  
 SELECT OPTIONS FOR JOB STREAM panel  
   described, 3-24  
   fields on, 3-24  
 selecting  
   a job, overview of, 1-2  
   job steps, planning for, 1-3  
 SEND command  
   described, 5-2  
   examples of, 5-20  
   operands of, 5-20  
   syntax of, 5-19  
 SESSION MANAGEMENT PARAMETERS panel  
   described, 2-15  
 setting defaults  
   for job statement, 4-19  
   from OPTIONS menu, 4-18  
 setting measuring duration of online applications, 1-4  
 SORTSIZ parameter, described, 6-4  
 source code, incorporating changes, overview of, 1-3  
 source modules  
   indexing, 3-19, 6-14  
 SPECIFY STROBE LOG DATA SET(S) panel  
   described, 4-18  
 SQL Analysis Feature report settings, 3-8  
 SQL Analysis Feature, ensuring the accuracy of reports, 3-7  
 SQL Analysis Feature, ways to improve performance, A-1  
 SQL parameter, described, 6-10  
 START operand for the SEND command, described, 5-20  
 START parameter, described, 5-9  
 STATUS panel  
   information displayed on, 4-3  
   status types found on, 4-1  
 STATUS parameter, described, 5-20  
 STEP parameter, described, 5-5  
 STOP parameter, described, 5-20  
 STORCLAS parameter, described, 5-11  
 STRBDD parameter, described, 5-10  
 STRBLIB parameter, described, 5-9  
 STROE procedure, using, 6-12  
 STROX procedure  
   examples of, 6-19

  specifying indexer program names for, 6-18  
   using, 6-17  
 STROXE procedure  
   examples of, 6-20  
   using, 6-19  
 STROZz procedure  
   examples of, 6-17  
   invoking, 6-17  
   using, 6-16  
 submitting measurement requests  
   from a batch job, 5-3  
   from a TSO terminal, 5-3  
   overview of, 1-2  
   planning for, 1-4  
 SUSPEND operand for the SEND command, described, 5-20  
 SVCS parameter, described, 5-9  
 SWITCH parameter, described, 5-20  
 syntax  
   for ADD command, 5-4  
   for CHANGE command, 5-4  
   for DELETE command, 5-19  
   for END command, 5-21  
   for LIST command, 5-16  
   for SEND command, 5-19  
 SYSOUT PARAMETERS panel  
   described, 4-19  
   setting fields on, 4-20  
 SYSPRINT  
   creating compiler data sets, 6-18  
 SYSTEM parameter, described, 5-7  
 SYSTEM SELECTION LIST panel  
   described, 2-3, 4-4

## T

TAILOR REPORTS panel  
   described, 3-15  
   fields on, 3-15  
 target job  
   identifying, 5-5  
   specifying, 2-3–2-4, 4-4  
   specifying job name of, 2-10  
 target job step  
   described, 1-2  
 target programs  
   identifying, 5-5  
 target system, identifying, 5-7  
 Time and Resource Demand Distribution reports, condensing, 6-8  
 TIME parameter, described, 6-5  
 TIMEPCT parameter, described, 6-9  
 TIMESEP parameter, described, 6-5  
 TLIBASE parameter, described, 6-11  
 TOPTTEXT parameter, described, 6-9  
 Transaction Usage by Control Section report  
   tailoring, 6-8  
 TUCS  
   for tailoring reports, 6-8  
 tutorial, for STROBE, accessing, 2-1  
 TXPONLY parameter, described, 6-11  
 TXPRPT parameter, described, 6-11  
 TYPE parameter, described, 5-17

## U

UNIT parameter, described, 5-11  
USER DEFAULT OPTIONS panel  
described, 4-19

## V

VIEW REQUEST panel  
described, 4-5  
information displayed on, 4-6–4-9  
viewing  
current release changes, 4-18  
measurement  
parameters of requests, 4-5  
requests, 5-16  
measurement information, 4-1  
messages of STROBE text, 5-21  
VisualAge PL/I, supported by indexers, 6-16  
VOLUME parameter, described, 5-11  
VSAM parameter, described, 5-15

## W

Wait Time by Module report  
expanding, 6-9  
WAITLOC parameter, described, 6-9  
WAITTEXT parameter, described, 6-10  
WRKPRIM parameter, described, 6-12  
WRKSEC parameter, described, 6-12  
WRKUNIT parameter, described, 6-12  
WRKVOL parameter, described, 6-12

