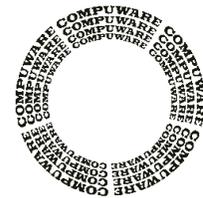


STROBE MVS

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User's Guide with  
Advanced Session Management

Release 3.0



**COMPUWARE®**

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# Contents

<b>Figures</b> .....	<b>xi</b>
<b>Summary of Changes</b> .....	<b>xv</b>
Changes to STROBE .....	xv
Changes to this Manual .....	xvi
<b>Introduction</b> .....	<b>xvii</b>
How This Manual Is Organized .....	xvii
How to Use This Manual .....	xvii
The STROBE Library .....	xviii
STROBE Feature Manuals .....	xviii
Online Documentation .....	xix
Online Help .....	xix
Other Compuware Application Performance Management Products .....	xix
iSTROBE .....	xix
SQL Analysis Feature .....	xix
APMpower .....	xix
Compuware APM Technical Support .....	xx
Compuware APM Training .....	xx
Compuware APM Service Offerings .....	xx
APM Installation Assurance .....	xx
Application Performance Management Consulting .....	xx
Application Performance Assessment .....	xxi
<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 .....	1-4
Batch Processing Applications .....	1-4
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 .....	1-5
Submitting the Measurement Request with a Schedule .....	1-5
Saving the Measurement Request in a Request Group .....	1-5
Creating the STROBE Performance Profile .....	1-6
Automatically Creating the Performance Profile .....	1-6
Controlling the Level of Detail in the Performance Profile .....	1-6
Collecting Measurement Session History .....	1-6
Suppressing Reports .....	1-7
Formatting the Performance Profile .....	1-7
Creating an iSTROBE Data File .....	1-7
Creating an APMpower Profile Data File .....	1-7
Analyzing Performance Profiles .....	1-7
Indexing Source Code Modules .....	1-8
Planning for Advanced Session Management .....	1-8
Planning for AutoSTROBE .....	1-8
AutoSTROBE Measurement Candidate Lists .....	1-9
Managing AutoSTROBE Measurement Candidates and Requests .....	1-9
Comparing Application Performance Data Over Time .....	1-9
Viewing Measurement Session History .....	1-10

Comparing Measurement Sessions . . . . .	1-10
Measuring Multiple Steps of a Job . . . . .	1-10
Scheduling a Measurement Request . . . . .	1-11
Creating, Saving, and Submitting Measurement Request Groups . . . . .	1-12
Benefits of Using Request Groups . . . . .	1-12
Planning for Request Groups . . . . .	1-13
Creating Request Groups . . . . .	1-13
Concurrently Measuring Related Address Spaces . . . . .	1-13
Identifying Measurement Sessions That Exceed Thresholds for Resource Utilization . . . . .	1-14
Identifying the Job Name Using the Wildcard Character . . . . .	1-15
Planning for STROBE in a Multisystem Environment . . . . .	1-15
Considerations for Creating and Submitting Measurement Requests . . . . .	1-15
Considerations for Managing and Monitoring Measurement Requests . . . . .	1-15
Where to Find More Information . . . . .	1-16
Using STROBE/ISPF . . . . .	1-16
Using AutoSTROBE . . . . .	1-17
Using STROBE Command Language and Procedures . . . . .	1-17
<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
Measuring Multiple Steps in a Job . . . . .	2-10
Specifying the Target System for a Queued Measurement Request . . . . .	2-11
Specifying Other Options for a Queued Request . . . . .	2-12
Working with Request Groups . . . . .	2-12
Creating a Request Group . . . . .	2-13
Copying and Merging Request Groups . . . . .	2-14
Creating Request Group Elements . . . . .	2-15
Creating a Set of Requests for Concurrent Measurement . . . . .	2-16
Creating the Trigger Request . . . . .	2-16
Creating the Related Requests . . . . .	2-17
Viewing the Elements in a Concurrent Set . . . . .	2-18
Submitting a Request Group . . . . .	2-18
Submitting a Request Group for Immediate Processing . . . . .	2-19
Submitting a Request Group to be Processed at a Later Time . . . . .	2-19
Editing a Request Group . . . . .	2-19
Adding a Request Group Element to a Request Group . . . . .	2-20
Copying a Request Group Element . . . . .	2-20
Deleting a Request Group Element . . . . .	2-21
Editing a Request Group Element . . . . .	2-21
Viewing the Elements of a Request Group . . . . .	2-22
Deleting a Request Group . . . . .	2-23
Additional Measurement Options . . . . .	2-23
Scheduling Measurement Requests . . . . .	2-23
Creating a Weekly Schedule . . . . .	2-24
Creating a Customized List of Schedule Dates . . . . .	2-25

Modifying a Weekly Schedule . . . . .	2-25
Specifying Data Collectors . . . . .	2-25
Special Considerations for Specifying Data Collectors . . . . .	2-26
Entering Module Mapping Specifications . . . . .	2-28
Specifying Session Management Parameters . . . . .	2-29
Specifying Other Parameters . . . . .	2-30
Retaining Measurement Requests . . . . .	2-31
Saving a Measurement Request in a Request Group . . . . .	2-32
Saving the Request in a New Group . . . . .	2-32
Saving the Request in an Existing Group . . . . .	2-33
Listing Request Group Elements . . . . .	2-33
Changing the Format of the Active Job Selection List . . . . .	2-33
Changing the Display Format . . . . .	2-33
Changing the List Limits . . . . .	2-34
Batch Submission of Measurement Requests . . . . .	2-35
Adding Batch Measurement Requests for Active Jobs . . . . .	2-35
Adding Batch Requests for Job Steps Not Yet Executing . . . . .	2-36
Displaying Information About Measurement Requests . . . . .	2-37
<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
Collecting Measurement Session History . . . . .	3-2
Specifying Sample Data Set Information . . . . .	3-3
Creating iSTROBE and APMpower Files . . . . .	3-4
Creating iSTROBE Data Files . . . . .	3-4
Ensuring Accuracy of SQL Information . . . . .	3-8
Specifying SQL Analysis Feature Report Settings . . . . .	3-8
Creating APMpower Profile Data Files . . . . .	3-11
Producing Profiles from the STATUS Menu Option . . . . .	3-11
Processing Multiple Data Sets . . . . .	3-12
Producing Profiles Automatically . . . . .	3-13
Customizing Performance Profiles . . . . .	3-14
Modifying the Level of Detail . . . . .	3-14
Tailoring Reports . . . . .	3-15
Specifying Output Format . . . . .	3-18
Specifying the Profile Report Width . . . . .	3-18
Specifying Files for iSTROBE . . . . .	3-18
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 . . . . .	4-6
Listing by System . . . . .	4-6
Listing by Owner ID . . . . .	4-6
Setting Measurement Thresholds . . . . .	4-7
Viewing the Parameters of a Measurement Request . . . . .	4-7
Changing the Status of Measurement Requests . . . . .	4-13
Changing an Active Measurement Request . . . . .	4-13
Changing a Suspended Measurement Session . . . . .	4-15
Changing a Stopped Measurement Session . . . . .	4-16
Changing a Queued Measurement Request . . . . .	4-17
Changing a Completed Measurement Request . . . . .	4-17
Changing Deferred Measurement Requests . . . . .	4-18
Terminating Measurement Requests . . . . .	4-19
Deleting Measurement Requests . . . . .	4-19
Deleting AutoSTROBE Requests . . . . .	4-19
Changing Automatic Profile Requests . . . . .	4-19
Viewing Information About Messages . . . . .	4-21
Viewing the STROBE Log . . . . .	4-21
Viewing Changes to STROBE in the Current Release . . . . .	4-24
Setting User Defaults . . . . .	4-24
Specifying Defaults . . . . .	4-24
Setting the Job Statement . . . . .	4-25
Setting SYSOUT Parameters . . . . .	4-25
Changing the REQUEST GROUP PROCESSING Panel Format . . . . .	4-26
Using the STROBE Packaging Utility . . . . .	4-27
Managing Requests with Batch Jobs . . . . .	4-29
Changing Active Requests . . . . .	4-29
Changing Queued Measurement Requests . . . . .	4-30
Changing Completed Measurement Requests . . . . .	4-31
Listing and Deleting Measurement Requests . . . . .	4-31
Changing Deferred Active Measurement Requests . . . . .	4-32
Changing Deferred Queued Measurement Requests . . . . .	4-32
Batch Submission of Request Groups . . . . .	4-32
Specifying Options for the Job Stream . . . . .	4-33
<b>Chapter 5. Working with Measurement History Information . . . . .</b>	<b>5-1</b>
Before You Begin . . . . .	5-1
Deciding What to Collect . . . . .	5-1
Collecting Measurement Session History . . . . .	5-1
A Walkthrough of Measurement Session History . . . . .	5-2
About the Walkthrough . . . . .	5-2
Displaying Measurement Session History Information . . . . .	5-2
Examining the Summary View . . . . .	5-4
Examining the Detail View . . . . .	5-4
Examining Trends in Performance . . . . .	5-6
Calculating Changes in Operating Costs . . . . .	5-7
Printing the Results . . . . .	5-8
Managing Measurement History Information . . . . .	5-9
Modifying Filters and Sort Values . . . . .	5-9
Changing Filters and Sort Values for Summary Panels . . . . .	5-9
Changing Filters and Sort Values for Detail Panels . . . . .	5-10
Comparing Jobs or Steps with Different Names . . . . .	5-10
Changing Machine Costs . . . . .	5-11
About Cost Records and Cost Categories . . . . .	5-11
Updating Cost Records and Cost Categories . . . . .	5-13
Modifying Measurement Session History Records . . . . .	5-14
Deleting Measurement History Information . . . . .	5-15

Printing and Exporting Measurement Session History Information . . . . .	5-17
Printing Measurement Session History . . . . .	5-17
Exporting Measurement Session History . . . . .	5-18
Working with the DBRM View . . . . .	5-18
Examining the DBRM Summary View . . . . .	5-18
Examining the DBRM Detail View . . . . .	5-19
Examining Trends in DBRM Activity . . . . .	5-21
Calculating Changes in DBRM Operating Costs . . . . .	5-22
Working with the Transaction View . . . . .	5-23
Examining Trends in Transaction Activity . . . . .	5-26
Calculating Changes in Transaction Operating Costs . . . . .	5-28
Automating the Collection of Measurement Session History . . . . .	5-29
<b>Chapter 6. Using AutoSTROBE . . . . .</b>	<b>6-1</b>
Overview of AutoSTROBE . . . . .	6-1
Planning to Use AutoSTROBE . . . . .	6-1
Selecting Job Steps to Monitor . . . . .	6-2
User-Specified Steps to Monitor . . . . .	6-2
AutoSTROBE-Generated Lists of Job Steps to Monitor . . . . .	6-2
AutoSTROBE SMF Candidate PreLoader Utility . . . . .	6-2
AutoSTROBE AutoLoader . . . . .	6-3
Tailoring AutoSTROBE-Generated Candidate Lists . . . . .	6-3
Implementing AutoSTROBE . . . . .	6-3
Accessing AutoSTROBE . . . . .	6-5
AutoSTROBE SMF Candidate PreLoader Utility . . . . .	6-5
AutoSTROBE PreLoader Configuration . . . . .	6-6
Running the AutoSTROBE SMF Candidate Utility . . . . .	6-7
AutoSTROBE Candidate Exclusion List . . . . .	6-8
AutoSTROBE AutoLoader . . . . .	6-9
Adding an AutoSTROBE Request . . . . .	6-10
Designating the Program to be Monitored . . . . .	6-10
Overriding AutoStrobe Generated Thresholds . . . . .	6-12
Suppressing the AutoSTROBE Action for Abnormal Behavior . . . . .	6-12
Other Options for AutoSTROBE Add Requests . . . . .	6-13
<b>Chapter 7. Managing AutoSTROBE Requests . . . . .</b>	<b>7-1</b>
AutoSTROBE Request Status Management . . . . .	7-1
Managing an AutoSTROBE Request Once a STROBE Measurement is Initiated . . . . .	7-1
Understanding AutoSTROBE Request Status Information . . . . .	7-3
Managing Requests from the AutoSTROBE Status Panel . . . . .	7-5
Changing AutoSTROBE Requests . . . . .	7-6
Verify Basis Data . . . . .	7-6
Archived Basis Data . . . . .	7-7
Managing AutoSTROBE Archived Data . . . . .	7-7
AutoSTROBE Threshold Calculations . . . . .	7-9
Minimum Run Time for Basis Data Collection . . . . .	7-9
Threshold for Elapsed Time . . . . .	7-10
Threshold for TCB Time . . . . .	7-10
Threshold for I/O Activity . . . . .	7-10
Establishing a Norm for I/O Activity . . . . .	7-10
Detecting Abnormal I/O Activity . . . . .	7-11
Managing AutoSTROBE Candidates . . . . .	7-12
List Filters . . . . .	7-13
Line Options and Commands . . . . .	7-14
Additional Panel Fields . . . . .	7-14
Managing Frequently Run AutoSTROBE Monitoring Candidates . . . . .	7-16

List Filters . . . . .	7-16
Line Options and Commands . . . . .	7-16
Changing the AutoSTROBE Candidate Sort Order . . . . .	7-17
<b>Chapter 8. Measuring with the STROBE Command Language . . . . .</b>	<b>8-1</b>
Invoking the STROBE Command Language . . . . .	8-1
STROBE Commands . . . . .	8-1
Defining Command Syntax . . . . .	8-2
Conventions for Command Examples . . . . .	8-2
List of Commands . . . . .	8-2
Keyword Abbreviations . . . . .	8-3
STROBE Command Interface . . . . .	8-3
Entering Requests from a Batch Job . . . . .	8-3
Entering Requests from a TSO Terminal . . . . .	8-4
Adding and Changing Measurement Requests . . . . .	8-4
Identifying the Target Job . . . . .	8-5
Identifying the Target Program . . . . .	8-6
Identifying the Target System . . . . .	8-8
Specifying Sampling Controls . . . . .	8-9
Specifying Routing Information . . . . .	8-11
Specifying Sample Data Set Characteristics . . . . .	8-11
Specifying Request Retention Options . . . . .	8-12
Specifying Data Collector Options . . . . .	8-13
Additional Attribution Options . . . . .	8-16
Examples of ADD and CHANGE Commands . . . . .	8-17
ADD and CHANGE Commands Examples in a Multisystem Environment . . . . .	8-17
Viewing Measurement Requests with LIST Command . . . . .	8-18
Controlling LIST Operands . . . . .	8-18
Specifying the List Format . . . . .	8-18
Format 1: List Selected Requests . . . . .	8-19
Format 2: List Requests with a Given Status . . . . .	8-19
Format 3: List Requests by Ownerid . . . . .	8-19
Format 4: Show the Status of All Requests . . . . .	8-20
Viewing UNIX Processes with the DISPPROC Command . . . . .	8-20
Deleting Measurement Requests . . . . .	8-20
Examples of the DELETE Command . . . . .	8-20
Deleting Request Group Elements . . . . .	8-21
Controlling the Measurement Session . . . . .	8-21
Specifying Operands for the SEND Command . . . . .	8-21
Specifying New Sampling Control Operands . . . . .	8-22
Examples of the SEND Command . . . . .	8-22
Using the STROBE Advanced Session Management Feature . . . . .	8-22
Creating a Request Group . . . . .	8-23
Examples . . . . .	8-23
Adding a Request to an Existing Request Group . . . . .	8-24
Submitting a Request Group . . . . .	8-24
Scheduling a Measurement Request . . . . .	8-24
Examples . . . . .	8-25
Specifying Parameters to Retry a Measurement Request or Request Group . . . . .	8-26
Example . . . . .	8-26
Measuring Multiple Address Spaces Concurrently . . . . .	8-26
Examples . . . . .	8-27
Changing Request Group Elements . . . . .	8-27
Listing Group Elements . . . . .	8-28
Copying Group Elements . . . . .	8-29

Deleting a Group . . . . .	8-29
Ending STROBE Command Language Operations . . . . .	8-29
Example of the END Command . . . . .	8-29
Submitting Commands with STROBE/ISPF . . . . .	8-30
Issuing Operational Operations . . . . .	8-30
Displaying Message Text . . . . .	8-30
<b>Chapter 9. Creating Performance Profiles Using Procedures . . . . .</b>	<b>9-1</b>
Specifying Options for Reports . . . . .	9-1
Providing a Report Subtitle . . . . .	9-4
Specifying Report Resolution . . . . .	9-5
Specifying Sort Core Size . . . . .	9-5
Specifying the Page Size of the Performance Profile . . . . .	9-5
Specifying the Date and Time Formats on the Performance Profile . . . . .	9-5
Obtaining Detailed Reporting for System Modules . . . . .	9-6
Specifying Modules to Be Treated as Pseudo-Sections . . . . .	9-6
Specifying the Suppression of Mapping for Modules . . . . .	9-7
Tailoring the Program Usage by Procedure Report . . . . .	9-7
Tailoring the DASD Usage by Cylinder Report . . . . .	9-7
Tailoring the Attribution Reports . . . . .	9-8
Tailoring the Transaction Usage by Control Section Report . . . . .	9-8
Tailoring the Time and Resource Demand Distribution Reports . . . . .	9-9
Expanding the Program Section Usage Summary Report . . . . .	9-9
Producing the Most Extensively Inactive Storage Areas Report . . . . .	9-9
Expanding the Wait Time by Module Report . . . . .	9-9
Suppressing the Data Set Characteristics Supplement Report . . . . .	9-9
Suppressing the Coupling Facility Activity Report . . . . .	9-9
Suppressing the z/OS Memory Objects Report . . . . .	9-9
Tailoring the Reporting of COOL:Gen Activity . . . . .	9-10
Tailoring the Reporting of SQL Activity . . . . .	9-10
Suppressing the DL/I CPU and Wait Reports . . . . .	9-11
Tailoring the Reporting of CICS Transaction Profiling Information . . . . .	9-11
Compressing MQSeries Information . . . . .	9-12
Obtaining IMS Transaction-Level Information for MQSeries Calls . . . . .	9-12
Tailoring the Reporting of Java Information . . . . .	9-12
Specifying Parameters for a Temporary Work File for APMpower or iSTROBE . . . . .	9-13
Collecting and Customizing Measurement Session History Records . . . . .	9-13
Using STROE, the Reporting Procedure . . . . .	9-14
Using Procedures to Index Source Modules . . . . .	9-16
Specifying Data Sets as Input to the Procedures . . . . .	9-16
Products Supported by the Indexing Procedures . . . . .	9-16
Indexing Procedures . . . . .	9-18
Using STROzz, the Compile and Index Procedure . . . . .	9-18
Example of Indexing with STROzz . . . . .	9-20
Using STROX, the Index Procedure . . . . .	9-20
Creating Compiler SYSPRINT Data Sets . . . . .	9-20
Specifying Indexing Program Names . . . . .	9-21
Specifying the Map Data Set Name . . . . .	9-21
Example of Indexing with STROX . . . . .	9-22
Using STROXE, the Index and Report Procedure . . . . .	9-22
Example of Indexing with STROXE . . . . .	9-23
<b>Appendix A. Printed History Reports . . . . .</b>	<b>A-1</b>
Job/Step/Program Reports . . . . .	A-1
Summary Level Report - Job/Step/Program View . . . . .	A-1
Detail Level History Report - Job/Step/Program View . . . . .	A-3

- Measurement Comparison Report - Job/Step/Program View . . . . . A-5
- Cost Comparison Report - Job/Step/Program View . . . . . A-9
- Transaction Reports . . . . . A-11
  - Summary Level History Report - Transaction View . . . . . A-12
  - Detail Level History Report - Transaction View . . . . . A-13
  - Measurement Comparison Report - Transaction View . . . . . A-15
  - Cost Comparison Report - Transaction View . . . . . A-18
- DBRM Reports . . . . . A-20
  - Summary Level History Report - DBRM View . . . . . A-20
  - Detail Level History Report - DBRM View . . . . . A-21
  - Measurement Comparison Report - DBRM View . . . . . A-23
  - Cost Comparison Report - DBRM View . . . . . A-26
- Appendix B. Data Structure of Exported Reports . . . . . B-1**
  - Summary Report Data Structure . . . . . B-1
  - Detail Report Data Structure . . . . . B-2
  - Measurement Comparison Data Structure . . . . . B-3
  - Cost Comparison Data Structure . . . . . B-4
- Appendix C. Ways to Improve SQL Analysis Feature Performance . . . . . C-1**
  - Improve Performance by Controlling Processing Options . . . . . C-1
  - Using Existing PLAN\_TABLE Rows . . . . . C-1
- Index . . . . . I-1**

## Figures

1-1.	Overview of STROBE Tasks .....	1-2
1-2.	Collecting Measurement Session History .....	1-10
1-3.	Measuring Multiple steps in a Job .....	1-11
1-4.	Submitting a Scheduled Measurement Request .....	1-11
1-5.	Submitting a Request Group .....	1-12
1-6.	Submitting a Concurrent Set of Requests.....	1-14
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 - ADD QUEUED REQUEST - MULTIPLE STEPS Panel .....	2-11
2-7.	STROBE - SYSTEM SELECTION LIST Panel - Queued Measurement Request .....	2-12
2-8.	STROBE - REQUEST GROUP PROCESSING Panel .....	2-13
2-9.	STROBE - REQUEST GROUP ELEMENTS Panel .....	2-14
2-10.	STROBE - COPY A REQUEST GROUP Panel.....	2-14
2-11.	STROBE - CREATE AN 'ADD ACTIVE' ELEMENT Panel.....	2-15
2-12.	STROBE - CONCURRENT REQUEST Panel for a Trigger Request .....	2-17
2-13.	STROBE - CONCURRENT REQUEST Panel for a Related Request.....	2-18
2-14.	STROBE - REQUEST GROUP ELEMENTS Panel with Concurrent Sets.....	2-18
2-15.	STROBE - REQUEST GROUP PROCESSING Panel - Submitting a request Group ..	2-19
2-16.	STROBE - COPY AN 'ADD QUEUED' ELEMENT Panel .....	2-21
2-17.	STROBE - EDIT AN 'ADD QUEUED' ELEMENT Panel.....	2-22
2-18.	STROBE - LIST GROUP ELEMENTS Panel.....	2-23
2-19.	STROBE - REQUEST SCHEDULER Panel.....	2-24
2-20.	STROBE - DATA COLLECTORS Panel.....	2-26
2-21.	STROBE - MODULE MAPPING Panel .....	2-28
2-22.	STROBE - SESSION MANAGEMENT PARAMETERS Panel.....	2-30
2-23.	STROBE - OTHER PARAMETERS Panel.....	2-31
2-24.	STROBE - REQUEST RETENTION Panel .....	2-31
2-25.	STROBE - SAVE REQUEST IN A GROUP Panel .....	2-32
2-26.	STROBE - ACTIVE JOB DISPLAY FORMAT Panel .....	2-34
2-27.	STROBE - LIMIT ACTIVE JOB LIST Panel .....	2-35
2-28.	STROBE - BATCH-SUBMISSION OPTIONS Menu .....	2-36
3-1.	STROBE - PRODUCE A PERFORMANCE PROFILE PANEL .....	3-2
3-2.	STROBE - HISTORY - PARAMETERS Panel .....	3-3
3-3.	STROBE - SAMPLE DATA SET LIST Panel .....	3-3
3-4.	STROBE - PRODUCE A PERFORMANCE PROFILE Panel .....	3-4
3-5.	STROBE - ISTROBE PERFORMANCE PROFILE OPTIONS Panel .....	3-5
3-6.	STROBE - SQL ANALYSIS FEATURE REPORT SETTINGS Panel .....	3-8
3-7.	STROBE - STATUS Panel .....	3-12
3-8.	STROBE - SAMPLE DATA SET LIST for a Default Performance Profile Panel.....	3-12
3-9.	STROBE - CREATE AN AUTO PERFORMANCE PROFILE Panel .....	3-13
3-10.	STROBE - DETAIL FOR A PERFORMANCE PROFILE Panel .....	3-14
3-11.	STROBE - TAILOR REPORTS Panel .....	3-16
3-12.	STROBE - INDEX TO CREATE A MAP DATA SET Panel .....	3-20
3-13.	STROBE - INCLUDE MAPS OF INDEXED SOURCE MODULES AND/OR DDIO FILES Panel.....	3-21
3-14.	STROBE - INCLUDE MAPS OF INDEXED SOURCE MODULES Panel .....	3-22
3-15.	STROBE - INCLUDE MAPS OF INDEXED SOURCE MODULES AND/OR DDIO FILE Panel.....	3-23
3-16.	STROBE - INCLUDE MAP DATA SETS Panel .....	3-23
3-17.	STROBE - SELECT OPTIONS FOR JOBSTREAM Panel .....	3-24
3-18.	STROBE - PRINTED PROFILE DATA SET LIST Panel .....	3-26
4-1.	STROBE - STATUS Panel .....	4-3
4-2.	STROBE - STATUS Panel (Scrolled Right Once).....	4-3

4-3.	STROBE - STATUS Panel (Scrolled Right Twice).....	4-4
4-4.	STROBE - SYSTEM SELECTION LIST Panel.....	4-6
4-5.	STROBE - THRESHOLD DEFINITIONS Panel .....	4-7
4-6.	View Panel for Measurement Request.....	4-9
4-7.	STROBE - CHANGE ACTIVE REQUEST Panel .....	4-14
4-8.	STROBE - REQUEST RETENTION Panel .....	4-15
4-9.	STROBE - CHANGE SUSPENDED REQUEST Panel.....	4-15
4-10.	STROBE - CHANGE STOPPED REQUEST Panel.....	4-16
4-11.	STROBE - CHANGE QUEUED REQUEST Panel .....	4-17
4-12.	STROBE - REQUEST RETENTION Panel .....	4-18
4-13.	STROBE - CHANGE DEFERRED QUEUED Panel .....	4-18
4-14.	STROBE - CONFIRM PURGE OF DATA SET Panel .....	4-19
4-15.	STROBE - CHANGE AN AUTO PERFORMANCE PROFILE Panel .....	4-21
4-16.	STROBE - DISPLAY MESSAGE TEXT Panel.....	4-21
4-17.	STROBE - STROBE LOG UTILITIES Panel .....	4-22
4-18.	STROBE - SPECIFY STROBE LOG DATA SET(S) Panel .....	4-24
4-19.	STROBE - USER DEFAULT OPTIONS Panel .....	4-25
4-20.	STROBE - JOB STATEMENT Panel .....	4-25
4-21.	STROBE - SYSOUT PARAMETERS Panel .....	4-26
4-22.	STROBE - REQUEST GROUP SORT Panel .....	4-27
4-23.	STROBE PACKAGING UTILITY - SELECT INPUT DATA SET(S) Panel .....	4-28
4-24.	STROBE PACKAGING UTILITY - SELECT LOG DATA SET(S) Panel .....	4-28
4-25.	STROBE PACKAGING UTILITY- VERIFY DATA SET LIST Panel.....	4-29
4-26.	STROBE PACKAGING UTILITY - OUTPUT FILE LIST Panel.....	4-29
4-27.	STROBE - BATCH-SUBMISSION CHANGE ACTIVE REQUEST Panel.....	4-30
4-28.	STROBE - BATCH-SUBMISSION LIST/DELETE REQUEST Panel .....	4-31
4-29.	STROBE - BATCH-SUBMISSION OF REQUEST GROUPS Panel.....	4-33
5-1.	STROBE OPTIONS Menu .....	5-3
5-2.	STROBE - HISTORY - JOB/STEP/PROGRAM SUMMARY Panel .....	5-3
5-3.	STROBE - HISTORY - JOB/STEP/PROGRAM DETAIL Panel.....	5-4
5-4.	STROBE - HISTORY - JOB/STEP/PROGRAM DETAIL panel (One Scroll Right).....	5-5
5-5.	STROBE - HISTORY - JOB/STEP/PROGRAM DETAIL Panel (Two Scrolls Right) .....	5-6
5-6.	STROBE - HISTORY - JOB/STEP/PROGRAM DETAIL Panel (Baseline Selected) .....	5-6
5-7.	STROBE - HISTORY - JOB/STEP/PROGRAM COMPARISON Panel .....	5-7
5-8.	STROBE - HISTORY - JOB/STEP/PROGRAMCOST COMPARISON Panel .....	5-7
5-9.	STROBE - HISTORY - JOB/STEP/PROGRAM SUMMARY CHANGE SORT/FILTERS Panel.....	5-9
5-10.	STROBE - HISTORY - JOB/STEP/PROGRAM DETAIL SORT Panel.....	5-10
5-11.	Examining the Cost Category .....	5-12
5-12.	STROBE - HISTORY - MACHINE COSTS DIPSLAY Panel .....	5-13
5-13.	STROBE - HISTORY - MACHINE COST EDIT Panel .....	5-14
5-14.	STROBE - HISTORY - UPDATE HISTORY RECORD Panel .....	5-15
5-15.	STROBE - HISTORY - JOB/STEP/PROGRAM SUMMARY Panel - Deleting Measurement Session History Records .....	5-16
5-16.	STROBE - HISTORY - DELETE CONFIRMATION Panel.....	5-17
5-17.	STROBE - HISTORY - PRINT/EXPORT Panel .....	5-18
5-18.	STROBE - HISTORY - DBRM SUMMARY Panel .....	5-19
5-19.	STROBE - HISTORY - DBRM DETAIL Panel.....	5-19
5-20.	STROBE - HISTORY - DBRM DETAIL Panel (One Scroll Right).....	5-20
5-21.	STROBE - HISTORY - DBRM DETAIL Panel (Two Scrolls Right) .....	5-21
5-22.	STROBE - HISTORY - DBRM COMPARISON Panel .....	5-21
5-23.	STROBE - HISTORY - DBRM COMPARISON Panel (One Scroll Right) .....	5-22
5-24.	STROBE - HISTORY - DBRM COST COMPARISON Panel .....	5-23
5-25.	STROBE - HISTORY - TRANSACTION SUMMARY Panel.....	5-24
5-26.	STROBE - HISTORY - TRANSACTION DETAIL Panel .....	5-24
5-27.	STROBE - HISTORY - TRANSACTION DETAIL Panel .....	5-25
5-28.	STROBE - HISTORY - TRANSACTION DETAIL Panel (Two Scrolls Right).....	5-26
5-29.	STROBE - HISTORY - TRANSACTION COMPARISON Panel.....	5-26
5-30.	STROBE - HISTORY - TRANSACTION COMPARISON Panel (One Scroll Right)....	5-27
5-31.	STROBE - HISTORY - TRANSACTION COMPARISON Panel (Two Scrolls Right) ..	5-28
5-32.	STROBE - HISTORY - TRANSACTION COST COMPARISON Panel .....	5-28

6-1.	STROBE OPTIONS Menu .....	6-5
6-2.	STROBE - AUTOSTROBE Options Panel .....	6-5
6-3.	STROBE - AUTOSTROBE SMF CANDIDATE UTILITY Panel.....	6-6
6-4.	STROBE - SELECT OPTIONS FOR JOB STREAM PANEL (SMF JCL POPUP PANEL) .	6-8
6-5.	STROBE - AUTOSTROBE CANDIDATE EXCLUSIONS Panel.....	6-9
6-6.	STROBE - AUTOSTROBE CANDIDATE EXCLUSIONS Panel.....	6-9
6-7.	STROBE - ADD AUTOSTROBE REQUEST Panel.....	6-10
6-8.	STROBE - AUTOSTROBE REQUEST SCHEDULER Panel.....	6-13
6-9.	STROBE - AUTOSTROBE REQUEST - ACTIVE MEASUREMENT Panel.....	6-15
6-10.	STROBE - AUTOSTROBE REQUEST QUEUED MEASUREMENT Panel.....	6-15
6-11.	STROBE - AUTOSTROBE REQUEST MULTIPLE MEASUREMENTS Panel.....	6-16
7-1.	STROBE - AUTOSTROBE OPTIONS Panel .....	7-1
7-2.	STROBE - AUTOSTROBE REQUEST STATUS Panel.....	7-2
7-3.	STROBE - AUTOSTROBE REQUEST STATUS Panel (One Scroll Right).....	7-3
7-4.	STROBE - AUTOSTROBE REQUEST STATUS Panel (Two Scrolls right).....	7-3
7-5.	STROBE - CHANGE AUTOSTROBE REQUEST Panel .....	7-6
7-6.	STROBE - AUTOSTROBE BASIS DATA LIST Panel .....	7-7
7-7.	STROBE - AUTOSTROBE ARCHIVED DATA LIST Panel .....	7-8
7-8.	STROBE - AUTOSTROBE ARCHIVED DATA LIST Panel (One Scroll Right).....	7-8
7-9.	STROBE - AUTOSTROBE ARCHIVED DATA LIST Panel (Two Scrolls Right) .....	7-9
7-10.	STROBE - AUTOSTROBE ARCHIVED DATA LIST Panel (Three Scrolls Right) .....	7-9
7-11.	Example of How AutoSTROBE Detects Abnormal I/O Activity .....	7-11
7-12.	STROBE - AUTOSTROBE PROCESS CANDIDATES Panel .....	7-13
7-13.	STROBE - AUTOSTROBE PROCESS CANDIDATES Panel .....	7-15
7-14.	STROBE - AUTOSTROBE PROCESS CANDIDATES Panel .....	7-15
7-15.	STROBE - AUTOSTROBE FREQUENCY LIST Panel.....	7-16
7-16.	STROBE - AUTOSTROBE CANDIDATE SORT Panel .....	7-17
8-1.	STROBE Command Language Syntax .....	8-2
A-1.	Summary Level History Report - Job/Step/Program/View .....	A-1
A-2.	Detail Level History Report - Job/Step/Program View.....	A-3
A-3.	Detail Level History Report - Job/Step/Program View - Right Page .....	A-5
A-4.	Measurement Comparison Report - Job/Step/Program View.....	A-5
A-5.	Measurement Comparison Report - Job/step/Program View - Right Page.....	A-8
A-6.	Cost Comparison Report - Job/Step/Program View .....	A-9
A-7.	Cost Comparison Report - Job/step/Program View - Right Page .....	A-11
A-8.	Summary Level History Report - Transaction View .....	A-12
A-9.	Detail Level History Report - Transaction View .....	A-13
A-10.	Detail Level History Report - Transaction View - Right Page.....	A-14
A-11.	Measurement Comparison Report - Transaction View .....	A-15
A-12.	Measurement Comparison Report - Transaction View - Right Page.....	A-17
A-13.	Cost Comparison Report - Transaction View.....	A-18
A-14.	Cost Comparison Report - Transaction View - Right Page .....	A-19
A-15.	Summary Level History Report - DBRM View .....	A-20
A-16.	Detail Level History Report - DBRM View.....	A-21
A-17.	Detail Level History Report - DBRM View - Right Page .....	A-23
A-18.	Measurement Comparison Report - DBRM View.....	A-23
A-19.	Measurement Comparison Report - DBRM View - Right Page .....	A-25
A-20.	Cost Comparison Report - DBRM View .....	A-26
A-21.	Cost Comparison Report - DBRM View - Right Page .....	A-27



# 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:

- AutoSTROBE enhancements
  - AutoSTROBE SMF Candidate Utility-This tool enables you to scan System Management Facility (SMF) data sets to determine which job steps may require AutoSTROBE monitoring and measuring. A list of candidates is generated that you can analyze for resource consumption and add AutoSTROBE requests for job steps through ISPF. (See Chapter 6)
  - AutoSTROBE Autoloader- AutoSTROBE will look at each batch job and its resource consumption as it ends. If the resource consumption is significant enough, the Autoloader will add the job step to the AutoSTROBE monitor candidate list. (See Chapter 6)
  - STROBE - CHANGE AUTOSTROBE REQUEST panel allows you to make changes an AutoSTROBE request.(See Chapter 6)
  - STROBE - AutoSTROBE STATUS panel provides an option to generate Performance Profiles (See Chapter 6)
  - STROBE - ADD AUTOSTROBE REQUEST panel contains: (See Chapter 6)
    - fields to disable AutoSTROBE action for a specific criteria regardless of whether basis data thresholds are exceeded.
    - a field allowing you specify an ADD ACTIVE request, an ADD QUEUED request or both generated when thresholds are exceeded
    - a field that allows to set by individual AutoSTROBE request whether a measurement or warning is generated when thresholds are exceeded.
  - Installation parameter to set minimum program execution time required to trigger AutoSTROBE basis data collection. (See Chapter 3 of the *STROBE MVS System Programmer's Guide*)
  - Installation parameter to set input values for AutoSTROBE algorithms that calculate thresholds (See Chapter 3 of the *STROBE MVS System Programmer's Guide*)
  - STROBE - STATUS panel identifies AutoSTROBE-initiated requests
- 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.

## Changes to this Manual

This section discusses the changes to this manual for STROBE MVS for Sysplex Release 3.0. This manual has a two new chapters. Chapter 6 details how to create AutoSTROBE measurement candidate lists and how to add and schedule AutoSTROBE measurement requests. Chapter 7 explains how to manage the measurement candidate list and AutoSTROBE monitoring and measurement requests and the basis data generated for them. AutoSTROBE Measuring with Command Language is now Chapter 8 (previously Chapter 7). Creating Performance Profiles Using Procedures is now Chapter 9 (previously Chapter 8). Additionally, the following chapters have these updates:

### ***Chapter 1***

This chapter provides a more detailed overview of using AutoSTROBE

### ***Chapter 3***

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

### ***Chapter 4***

The STROBE - STATUS panel now contains two new fields that will show data about an AutoSTROBE measurement.

### ***Chapter 6***

This chapter explains how to add AutoSTROBE requests and generate AutoSTROBE measurement candidate lists.

### ***Chapter 7***

This chapter explains how to manage AutoSTROBE requests and AutoSTROBE measurement candidates.

### ***Chapter 9***

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, “Working with Measurement History Information” describes how to collect, display, and manage measurement session history records.

Chapter 6, “Using AutoSTROBE” explains how to add and schedule AutoSTROBE measurement requests and how to build AutoSTROBE measurement candidate lists.

Chapter 7, “Managing AutoSTROBE Requests” explains how manage AutoSTROBE measurement requests and candidate lists.

Chapter 8, “Measuring with the STROBE Command Language” describes how to use the STROBE command language to submit and manage measurement requests.

Chapter 9, “Creating Performance Profiles Using Procedures” describes how to use procedures to create the STROBE Performance Profile.

Appendix A, “Printed History Reports” describes printed History reports.

Appendix B, “Data Structure of Exported Reports” describes exported History reports.

Appendix C, “Ways to Improve SQL Analysis Feature Performance” 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”. Read Chapter 5, “Working with Measurement History Information” to learn how to collect, display, and manage measurement session history records. Read Chapter 6, “Using AutoSTROBE” and Chapter 7, “Managing AutoSTROBE Requests” to learn how to use the AutoSTROBE function of the STROBE Advanced Session Management Feature. If you use the STROBE command language to communicate with STROBE, read Chapter 8, “Measuring with the

STROBE Command Language". Read Chapter 9, "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.

## 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.

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## 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.

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## 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. This chapter also discusses planning considerations for the STROBE Advanced Session Management Feature and for using STROBE in a multisystem environment.

**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.

AutoSTROBE, a function of the Advanced Session Management Feature, automates your use of STROBE by initiating a STROBE measurement or a warning when it detects abnormal behavior in designated batch applications. This increases your ability to analyze sporadic problems and saves you time identifying for applications that need improvement. For detailed information about using AutoSTROBE see Chapter 6, “Using AutoSTROBE”, and Chapter 7, “Managing AutoSTROBE Requests”.

The STROBE Advanced Session Management Feature’s other functions improve productivity by streamlining the application performance measurement and analysis process. The following table lists some of the benefits provided by the STROBE Advanced Session Management Feature.

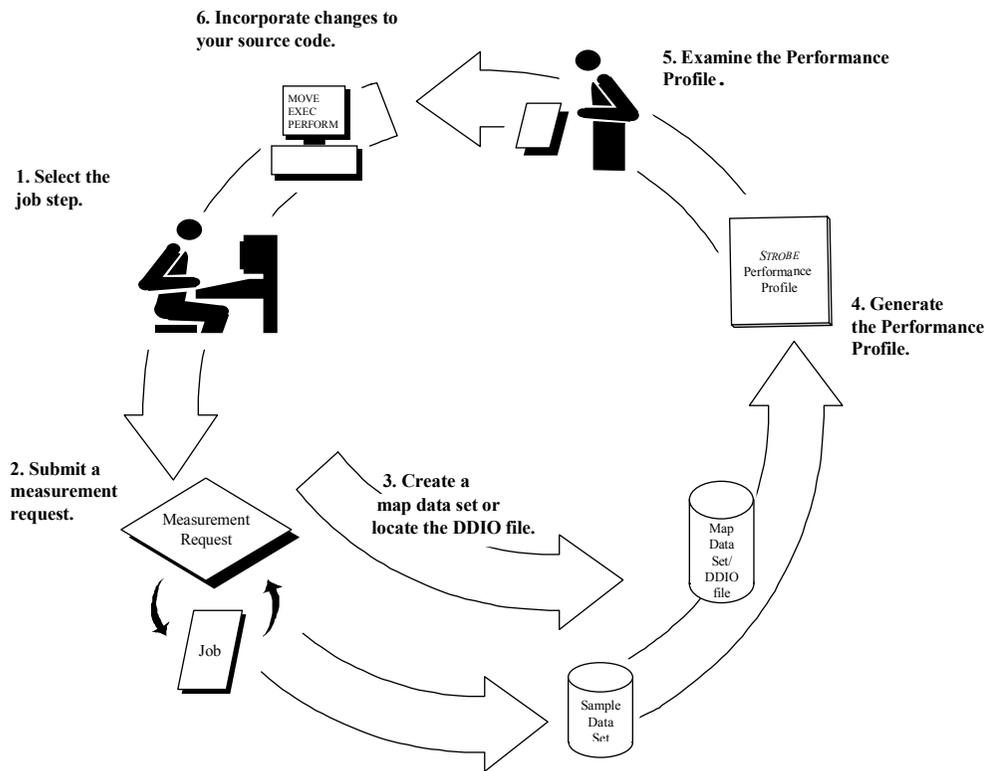
Capability	Benefit
Compare application performance data over time.	Enables you to gain a historical perspective on application performance by collecting and retaining measurement session statistics (such as CPU utilization, wait time, and I/O counts). You can track trends in the performance of a job step, transaction, or DBRM over time and quickly identify application performance anomalies that warrant further analysis.
Minimize the time needed to manage application performance proactively	Enables organizations to increase the efficiency of their application performance management process. You can create reusable groups of measurement session requests and submit them with a single action. You can also schedule measurement sessions and groups by day, date, or time-of-day, enabling you to easily gather application performance data at regular intervals during peak processing times. Additionally, you can save time by measuring multiple steps of the same job with a single request, and concurrently measuring multiple, related address spaces.
Identify measurement sessions that exceed thresholds for resource utilization	Enables you to focus your application performance analysis efforts on those measured application components that are consuming significant resources. This capability highlights those measurement sessions that exceed user-defined thresholds for measurement session statistics such as CPU time, wait time, and I/O counts.

These facilities, as well as some additional planning considerations, are described in “Planning for Advanced Session Management” on page 1-8.

Follow the instructions in Chapter 2, “Measuring with STROBE/ISPF” and in Chapter 3, “Producing Performance Profiles 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*. You can target one job step, multiple job steps, or all of the job steps for measurement.
2. **Creating 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. You can also save the measurement request in a *request group*. A request group is a stored set of one or more measurement requests that can be submitted at the same time. 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. **Creating 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.
8. **Analyze the application performance trends.** With the STROBE Advanced Session Management Feature, you can collect and display a history of measurement session information. With this information, you can quickly identify application performance anomalies that warrant further analysis, and see the cost savings resulting from application performance improvements. For more information, see “Comparing Application Performance Data Over Time” on page 1-9.

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## 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.

Planning considerations associated with the STROBE Advanced Session Management Feature are described in “Planning for Advanced Session Management” on page 1-8.

## 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. If you are using AutoSTROBE, it provides you with two tools that will select applications that might require measurement. See Chapter 6, “Using AutoSTROBE” for more information about using AutoSTROBE to select job steps to measure.

## 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.
- Submit a scheduled measurement request that initiates a measurement session at two different times over the course of the day.

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. Also, decide if you want to assign a schedule to the measurement request, and whether you want the measurement requests placed in a request group so that you can use them again.

## 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.

## Submitting the Measurement Request with a Schedule

You can submit a measurement request that automatically initiates measurement sessions at a later date and time, or over a series of dates and times. Comparing the information from these measurement sessions over time can reveal trends in an application’s demand for resources.

For convenience, you can also schedule a request so that it repeatedly initiates measurement sessions on specific dates and times. For example, you can create a schedule to initiate a measurement session every Friday at 5 p.m. for the next ten weeks. This capability allows you to submit measurement requests in advance, so that you can conveniently measure jobs that run on a regular schedule.

For more information on scheduling measurement requests, see “Scheduling Measurement Requests” on page 2-23.

## Saving the Measurement Request in a Request Group

If you submit the same measurement request frequently, consider saving the measurement request in a request group. This option lets you quickly and easily submit an identical measurement request step the next time you want to measure the job. For more information on how to plan for and use request groups, see “Creating, Saving, and Submitting Measurement Request Groups” on page 1-12.

## 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 4, "Managing Measurement Requests with STROBE/ISPF" 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 9-1.

### 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*.

### Collecting Measurement Session History

STROBE can collect and store measurement session history information as you create a Performance Profile. When you specify this option, STROBE saves selected measurement session data, and several calculated values, in the history data set. The measurement session data is essentially the information you would see on the Measurement Session

Data report in the STROBE Performance Profile. The calculated values are items such as the annual cost per year for a selected job step, transaction, or DBRM.

To minimize the time needed to manage application performance proactively, you can streamline the process of collecting measurement session history by combining the scheduling and automatic Profile creation functions. Once you have identified a target job step, create a schedule for the request selecting the automatic Profile creation option and the measurement session history collection option. When you submit the request, STROBE/ISPF will perform the following tasks:

- initiate measurement sessions according to the schedule
- create the Performance Profile
- save a measurement session history record for that Profile

Automating the process makes it easier to manage application performance proactively.

For more information, see “Collecting Measurement Session History” on page 3-2.

## 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 3-4.

## 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 3-11.

## 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*.

## Indexing 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, or locate the DDIO file containing the source listing for the program you have determined to require indexing.
5. Create the Performance Profile a second time, specifying the map data set(s) or DDIO files 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 using map data sets, 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 9-20.

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## Planning for Advanced Session Management

Whether you are using STROBE with or without the STROBE Advanced Session Management Feature, the tasks described in "Planning Your Tasks" on page 1-3 are identical. STROBE Advanced Session Management Feature, however, makes creating and submitting measurement requests simpler and more convenient. This section highlights the benefits of the STROBE Advanced Session Management Feature, and describes the additional considerations associated with the capabilities it provides.

### Planning for AutoSTROBE

The AutoSTROBE function of the STROBE Advanced Session Management Feature automates STROBE measurements of designated batch program. There are two facets of AutoSTROBE use that you need to consider:

1. Building AutoSTROBE measurement candidate lists and then adding AutoSTROBE requests for applications demonstrating poor or abnormal performance.

2. Managing the AutoSTROBE candidate lists and AutoSTROBE monitoring and measurement and the resulting performance data.

## AutoSTROBE Measurement Candidate Lists

You can issue AutoSTROBE measurement requests on a job-by-job basis. If you identify the jobs that you think should be monitored, AutoSTROBE will begin collecting *basis data* for them, which is a collection of performance statistics that reflect how the job runs each time. After AutoSTROBE has gathered enough data to determine what is “normal” performance for the job, it will prompt measurement each the job performance deviates too far from that norm.

If aren’t sure what job steps should be AutoSTROBE monitor candidates, you can determine what job steps in your system might offer performance improvement opportunities by either of two options.

### ***AutoSTROBE SMF Candidate Utility PreLoader***

The AutoSTROBE SMF Candidate Utility reviews Session Management Facility (SMF) summary data sets and using a set of performance thresholds builds an AutoSTROBE measurement candidate list. Then you can choose whatever job steps on the list that should be monitored by AutoSTROBE.

### ***AutoSTROBE AutoLoader***

After you run the SMF Candidate Utility, you can use the AutoSTROBE Autoloader to supplement the candidate list. Each time a batch job ends, its resource consumption is noted. If any of a set of AutoSTROBE-calculated thresholds are exceeded, the job is added to the candidate list.

For more information about the AutoSTROBE SMF Candidate Utility or the Autoloader, see Chapter 6, “Using AutoSTROBE”.

## Managing AutoSTROBE Measurement Candidates and Requests

Once you have built a list of AutoSTROBE measurement candidates and/or have selected job step(s) for AutoSTROBE monitoring and measurement, you can begin managing them. The STROBE - AUTOSTROBE CANDIDATE PROCESSING ISPF panel provides the ability to review performance data about jobs that have been placed on the measurement candidate list. You adjust threshold values and even add AutoSTROBE measurement requests from the panel.

The STROBE - AUTOSTROBE REQUEST STATUS panel allows you to manage jobs being monitored and measured by AutoSTROBE. You can also manage these jobs’s basis data from this panel on the STROBE - AUTOSTROBE BASIS DATA LIST panel. To review or delete basis data for jobs no longer being monitored and measured by AutoSTROBE, you can go to the STROBE - AUTOSTROBE ARCHIVED DATA list panel. Chapter 7, “Managing AutoSTROBE Requests” explains how to use these panels to perform AutoSTROBE management tasks.

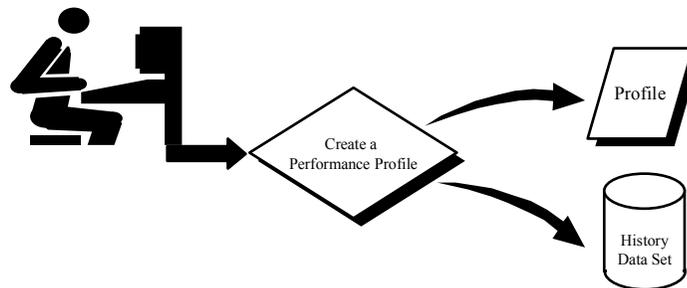
## Comparing Application Performance Data Over Time

With the STROBE Advanced Session Management Feature, you can collect and store historical information about the measurement session as you create a Performance Profile. When this option is specified, STROBE saves selected historical information for the measurement session, as well as some calculated values, in the history data set, as shown in Figure 1-2. This process is called creating a *measurement session history record*.

To minimize the time needed to manage application performance proactively, you can streamline the process of collecting measurement session history by combining the scheduling and automatic Profile creation functions. This process is described in

“Automating the Collection of Measurement Session History” on page 5-29. Automating the process makes it easier to manage application performance proactively.

**Figure 1-2.** Collecting Measurement Session History



You access the historical measurement session data using STROBE/ISPF or APMpower.

## Viewing Measurement Session History

You can view the measurement session history by any one of three views:

- job name, step name, and program name
- transaction name
- DBRM name

You can specify filters and sorting criteria to obtain a more selective view of the measurement session history. STROBE/ISPF then displays a summary list matching the specified filters in the requested sort order. Each row in this summary list represents a set of measurement session history records. Selecting an item from this summary view produces a detail view listing each iteration of the measurement sessions associated with the summary row.

At this detail level, you can quickly identify application performance anomalies that warrant further analysis, and see the cost savings resulting from application performance improvements.

## Comparing Measurement Sessions

By selecting one measurement as a baseline, you can then compare other measurements of the job step or online region to see changes in application performance. Also, you can see calculated costs per run and total cost per year, relative to the baseline measurement.

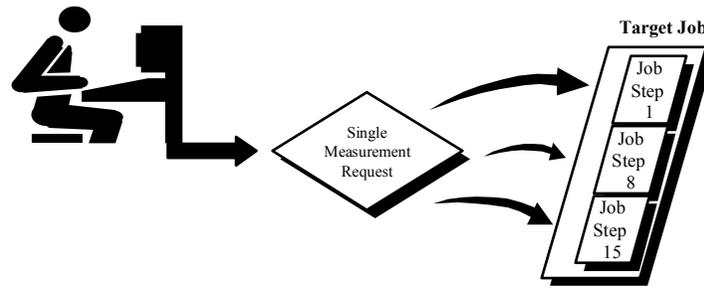
For more information, see Chapter 5, “Working with Measurement History Information”.

## Measuring Multiple Steps of a Job

With the STROBE Advanced Session Management Feature, you can easily measure multiple steps of a job with a single action.

As shown in Figure 1-3, when you submit a measurement request for a job that is not yet executing, you can specify a list of job step names, job step numbers, or program names to be measured. Or, you can specify that STROBE measure all steps of the job. This capability eliminates the need to submit an individual measurement request for each job step.

Figure 1-3. Measuring Multiple steps in a Job



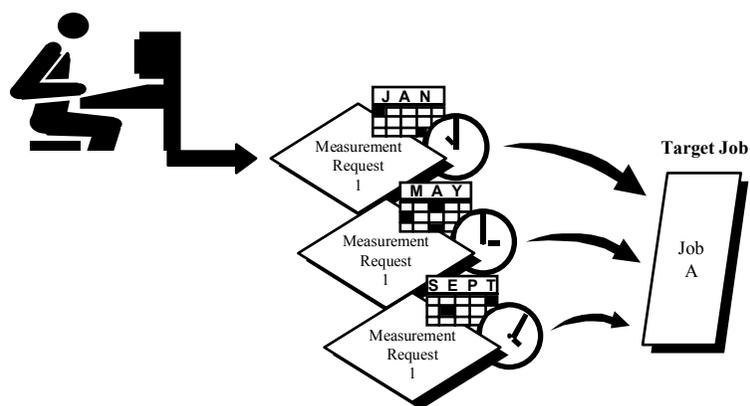
When measuring multiple steps in a job, consider how you will specify what you want STROBE to measure. You can specify lists of program names, procedure step names, or procedure step numbers, or measure all of the steps in the job. If the same measurement parameters apply to each of the steps you want to measure, consider using one measurement request to measure the multiple steps. For more information, see “Measuring Multiple Steps in a Job” on page 2-10.

### Scheduling a Measurement Request

As shown in Figure 1-4, you can also schedule a measurement request, or a request group, to initiate measurement sessions automatically on certain dates and times. This scheduling capability conveniently enables you to submit STROBE measurement requests ahead of time. It also simplifies measuring the performance of production applications, for instance, that execute at predictable times.

To schedule a measurement request, specify a starting date and an ending date, and a pattern of reoccurrence, such as every Monday and Friday at 6:00 a.m. Optionally, you can specify a list of specific dates and times. STROBE automatically initiates measurement sessions on these scheduled dates and times.

Figure 1-4. Submitting a Scheduled Measurement Request



For a scheduled request, STROBE will automatically initiate measurement sessions up to three times a day for a maximum of 52 weeks. When the schedule is close to expiring, STROBE issues a message indicating that it is time to reschedule the request.

When creating a schedule for a measurement request or a request group, you can enter specific dates and times that you want to include, or exclude from, your overall schedule.

The ability to add or exclude specific dates is an important and powerful option to keep in mind as you design your schedules. Make sure to tailor your schedule to accommodate holidays or other dates you may want to add or omit. For example, you may want to exclude Monday holidays from your overall schedule, and instead substitute Tuesdays.

**Note:** Keep in mind that when you submit a request group with a schedule, the schedule applies to each request group element in the request group. When you are viewing the status, each request appears as deferred (not yet active or queued) until it reaches the scheduled date and time. At this point the status of the request is changed from deferred to queued, awaiting the activation of the target program, or immediately changed to active.

## Creating, Saving, and Submitting Measurement Request Groups

You can create and save groups of STROBE measurement requests to be processed at a later time. These collections of measurement requests are called request groups. Each of the measurement requests in a request group is known as a request group element.

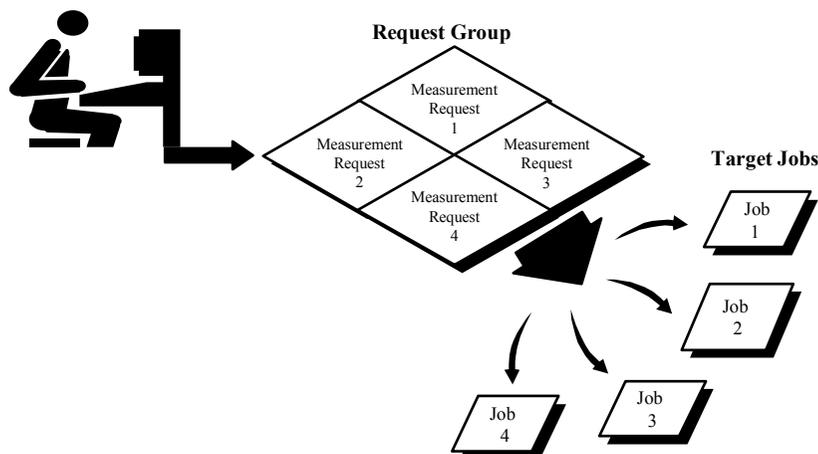
### Benefits of Using Request Groups

As shown in Figure 1-5 on page 1-12, a request group is a time-saver; you can repeatedly measure the same set of jobs without recreating the individual measurement requests each time. This function is especially convenient during critical production times, such as the end of the month or business quarter, when a specific set of jobs is regularly run.

A request group can contain a single request that you plan to submit frequently. For example, you may want to measure the performance of an application after each milestone in the development process. You can create a request group containing a measurement request that specifies the application as the target job and submit this request group whenever you want to measure the application, without reentering the measurement parameters. This approach ensures that you measure the application in a consistent manner by removing the possibility of inadvertently omitting or changing any of the measurement request parameters.

In addition, you can schedule a request group, using the approach described in “Scheduling a Measurement Request” on page 1-11.

**Figure 1-5.** Submitting a Request Group



The contents and function of a request group can vary from simple to complex. For example, you may want a request group that measures three different jobs scheduled to

run this afternoon. Or you may have another request group with a request group element that will be triggered by the activation of a particular target job.

## Planning for Request Groups

The first step is to identify the opportunities for incorporating request groups into the measurement process. For example, do you

- measure the same jobs at approximately the same time on particular days?
- have multiple online regions that you need to measure at approximately the same time on any given day?
- have several jobs that you need to measure later in the day?
- want to see the overall performance impact of an application across multiple address spaces?
- measure the same application regularly during its development?

These situations are all good candidates for request groups.

## Creating Request Groups

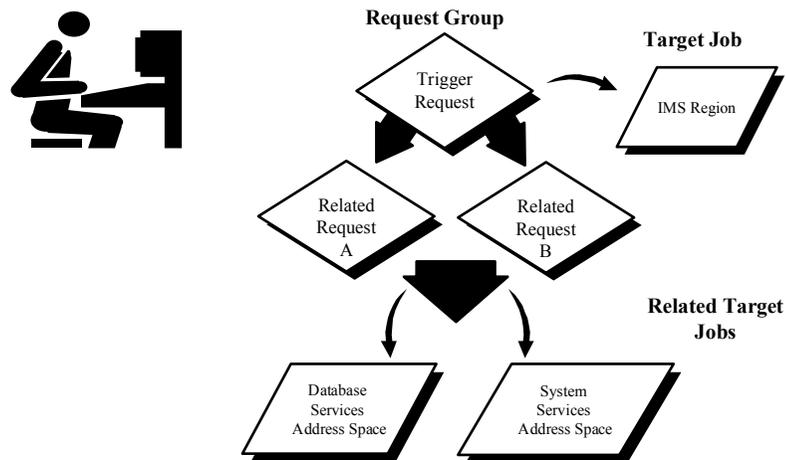
The second step is to create the request groups. How do you go about creating request groups? Plan them and then create them all at once? Or gradually create them over time, as a part of your normal use of STROBE? The STROBE Advanced Session Management Feature offers you the flexibility of either approach. No matter how you create the request groups, structure them according to your measurement goals. The following table offers some suggestions for defining request groups.

<b>A request group can consist of</b>	<b>So that you can</b>
One request group element	Save a measurement request and submit it again at a later time
Several request group elements	Submit multiple measurement requests at one time  Repeatedly measure several jobs at one time
A set of concurrent (related) request group elements	Measure multiple address spaces at the same time
A combination of individual request group elements and concurrent sets	Perform all of the above activities at the same time

## Concurrently Measuring Related Address Spaces

You can create associations between request group elements and measure jobs that are executing in different, but related, address spaces at the same time. For example, you can measure an IMS application that processes data managed by DB2, as shown in Figure 1-6. By reviewing the Performance Profiles for both the IMS and the DB2 regions, you can analyze the complete performance impact of the application. Measuring multiple address spaces can be particularly useful during the testing phase of application development.

Figure 1-6. Submitting a Concurrent Set of Requests



Once a request group is submitted, the activation of one request can immediately activate one or more related requests. These request group elements are called trigger requests and related requests, respectively. A collection of one trigger request and one or more related requests is known as a concurrent set. When the trigger request becomes active, its measurement session and the measurement sessions of the related requests both begin at the same time and end at the same time.

To measure multiple address spaces concurrently, set up a request group containing one trigger request and one or more related requests. After measurement, STROBE reports the application performance data for each region individually.

After you submit a request group that contains a concurrent set, all related requests in the concurrent set are considered *deferred* requests until they are activated by the trigger request.

**Note:** Be careful when you change the characteristics of a trigger request, particularly the schedule. Any changes that you make apply to all iterations of the scheduled request, not just the next one on the schedule. For example, if you delete the schedule associated with a trigger request, STROBE deletes all subsequent iterations of that schedule for both the trigger request, and the related requests associated with it. If you delete a trigger request after it has been submitted, STROBE deletes all of its associated related requests as well.

As with any other measurement request, there is at least one sample data set associated with each measurement request in a concurrent set. However, note that you should analyze the Performance Profiles produced for concurrent measurement sessions together, so that you see the complete performance impact of the application.

## Identifying Measurement Sessions That Exceed Thresholds for Resource Utilization

You can specify one or more threshold values (such as CPU time, wait time, and I/O counts) that STROBE can use to categorize completed measurement requests. The measurement requests that exceed the threshold criterion you specified are separated from other completed measurement requests, making it easy for you to identify those requests that warrant further investigation. For more information, see “Setting Measurement Thresholds” on page 4-7.

## Identifying the Job Name Using the Wildcard Character

By including a wildcard character (\*) in the job name, you can measure a job without knowing the entire job name. For example, a production job that is automatically initiated by a vendor's scheduling package appends an arbitrary sequence number to the end of the job name. With the STROBE Advanced Session Management Feature, you do not have to know the sequence number to measure the job. You can specify one or more initial characters of the job name and an asterisk (\*) when you submit the measurement request for a job that is not yet executing. STROBE finds the first job that meets the search criteria and measures it.

See "Adding Measurement Requests for Jobs Not Yet Executing" on page 2-8 for more information about specifying jobs using the wildcard character (\*).

To ensure an accurate match, specify as complete a string as possible before submitting the request.

---

## 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 2-23
Monitoring	"Monitoring Measurement Requests" on page 4-1
Managing	"Changing the Status of Measurement Requests" on page 4-13 "Setting Measurement Thresholds" on page 4-7 "Terminating Measurement Requests" on page 4-19 "Listing and Deleting Measurement Requests" on page 4-31
Submitting request groups	"Working with Request Groups" on page 2-12
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 3-14
Producing a Performance Profile automatically	"Producing Profiles Automatically" on page 3-13
Creating map data sets	"Indexing from Compiler Source Listings" on page 3-19

Measurement Session History	Refer To
Collecting measurement session history	“Collecting Measurement Session History” on page 3-2
Displaying measurement session history records	“A Walkthrough of Measurement Session History” on page 5-2
Managing measurement session history records	“Managing Measurement History Information” on page 5-9

## Using AutoSTROBE

AutoSTROBE Topic	Refer To
Planning considerations	“Planning to Use AutoSTROBE” on page 6-1
Running the AutoSTROBE SMF Candidate Utility	“AutoSTROBE SMF Candidate PreLoader Utility” on page 6-5
Steps required to implement AutoSTROBE	“Implementing AutoSTROBE” on page 6-3
Step-by-step instructions for using AutoSTROBE	“AutoSTROBE can screen the execution of batch programs that run on a nightly schedule, weekly schedule or monthly schedule. AutoSTROBE can also detect unacceptable processing in programs that do not run on a normal schedule or follow resource consumption patterns. For these programs you may want to enter thresholds rather than have AutoSTROBE calculate them since the collected basis data may not reflect normal or acceptable processing.” on page 6-4

## Using STROBE Command Language and Procedures

“Using STROBE, the Reporting Procedure” on page 9-14

Measurement Requests	Refer To
Submitting	“Adding and Changing Measurement Requests” on page 8-4
Submitting request groups	“Using the STROBE Advanced Session Management Feature” on page 8-22
Monitoring	“Viewing Measurement Requests with LIST Command” on page 8-18
Managing	“Viewing UNIX Processes with the DISPPROC Command” on page 8-20 and “Controlling the Measurement Session” on page 8-21

<b>Performance Profiles</b>	<b>Refer To</b>
Creating	"Using STROE, the Reporting Procedure" on page 9-14
Supplying a map data set for a Performance Profile	"Using STROXE, the Index and Report Procedure" on page 9-22
Creating a map data set	"Using STROzz, the Compile and Index Procedure" on page 9-18 and "Using STROX, the Index Procedure" on page 9-20

## 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 eight options enable you to

- set defaults
- generate measurement requests
- schedule measurement requests
- save the measurement request in a request group
- control the measurement session commands
- produce STROBE Performance Profiles
- invoke AutoSTROBE

Option G (REQUEST GROUPS) enables you to create, edit, and submit groups of measurement requests. For more information, see “Working with Request Groups” on page 2-12. Option H (HISTORY) enables you to display and analyze measurement session history records. For more information, see Chapter 5, “Working with Measurement History Information”.

Four of the next five 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. Option P accesses the STROBE packaging utility, which is a tool that enables you to send sample data sets to the STROBE technical support department, if necessary. 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 3 Rel 00
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
G REQUEST GROUPS - Create, edit and submit groups of measurement requests
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
A AUTOSTROBE - Add delete and display AUTOSTROBE requests
H HISTORY - Access historical data
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
- use the AutoSTROBE option (Option A) to submit an AutoSTROBE request. For more information about AutoSTROBE, see Chapter 6, “Using AutoSTROBE” and Chapter 7, “Managing AutoSTROBE Requests”.
- use the REQUEST GROUPS option (Option G) to create, edit, and submit groups of measurement requests. For more information on request groups see “Working with Request Groups” on page 2-12.

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. When you submit a request group, you can submit the request group for STROBE to process immediately, or schedule the request group for STROBE to process at a later time or several dates and times.

## 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 ==> WPAAZSRR  (Jobname or clear to list active jobs)

SYSTEM ==> TLP1      (System or clear to list available systems)
SCHEDULE REQUEST ==> N (Y or N; Use Y only when overriding the default)
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 ==> WPAAZS (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    SAVE REQUEST IN GROUP ==> 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
ANTMAIN  SLH   IEFPROC  ANTMAIN  00B   0.01  0.02  100K
APPC     S     APPC     APPC     025   1.24  0.07  320K
ASCH     S     ASCH     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  CICS170  CICSSJ   0A5   24.69  2.31  808K
CICSSK   S06468  CICS170  CICSSK   0A9   27.43  2.57  796K
CICSSL   S06487  CICS212  CICSSL   09E   57.68  4.90  744K
CICSSM   S06483  CICS170  CICSSM   0AC   32.03  3.64  776K
S  CICSSN  S06521  CICS211  CICSSN   0BF   23.91  2.10  844K
S  CICSSO  S06522  CICS211  CICSSO   0C0   24.42  3.00  812K
CICS33P  S06484  R6400K00  CICS33P  0AD   168.91  4.43  1476K
CICS33S  S06486  CICS330  CICS33S  0AF   30.92  3.38  1616K

```

**Note:** If are using the *STROBE UNIX System Services Feature*, you will select process IDs to measure off of the STROBE - ACTIVE PROCESS SELECTION LIST panel. See the *STROBE UNIX System Services Feature* for more information about selecting process IDs to measure.

- 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 2-33.

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.

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 <b>10000</b> ). 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.

## Specifying Sample Data Set Information

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. You can also specify lists of step names, step numbers, or program names to measure, or even measure all steps of the job.

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  ==> WPAAZSRR (Jobname or jobname* for pattern match)
PROGRAM  ==> PGMX    (Program or clear both PROGRAM & STEP to input a list)
STEP     ==>        (Name,num,step.procstep or *ALL for all steps)
SYSTEM   ==> SCS01  (System or clear for a list or *ALL for all systems)
SCHEDULE REQUEST ==> N (Y or N; Use Y only when overriding the default)
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 ==> WPAAZS (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 SAVE REQUEST IN GROUP ==> 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 or clear these fields to input a list.

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: <ul style="list-style-type: none"> <li>• The relative step number.</li> <li>• The step name.</li> <li>• 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.</li> <li>• 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 8-5.</li> </ul>
Multiple steps of a job	Clear the PROGRAM and STEP fields and press <b>Enter</b> . Complete the STROBE - ADD QUEUED REQUEST - MULTIPLE STEPS panel (Figure 2-6 on page 2-11) as described in “Measuring Multiple Steps in a Job” on page 2-10.
All of the steps of a job	Specify “*ALL” in the STEP field or <b>Option 4</b> on the STROBE - ADD QUEUED REQUEST - MULTIPLE STEPS panel.

**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 2-11.
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 3-13.
- Schedule a measurement session to be initiated at a later time (or series of dates and times). For more information, see “Scheduling Measurement Requests” on page 2-23.
- Save the measurement request in a request group. For more information, see “Saving a Measurement Request in a Request Group” on page 2-32.
- 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 2-23.

## Specifying the Target Job Name

Specify the name of the target job in the JOBNAME field. You can use a wildcard character (“\*”) after a string of one or more characters in the JOBNAME field to measure the first job that meets the specified search criteria. For example, if your installation uses an automated operations package that appends a suffix to an alphanumeric sequence for a job name, you can measure the job without knowing the suffix. If you specify “MYJOB\*”, STROBE measures the first job whose name begins with “MYJOB” followed by any string of characters, including blanks.

**Note:** A wildcard character is not valid when inserted between two alphanumeric sequences.

## Measuring Multiple Steps in a Job

To measure more than one job step at a time:

1. Clear the PROGRAM and STEP fields of the STROBE - ADD QUEUED REQUEST panel (Figure 2-5 on page 2-8).
2. Press **Enter** to display the STROBE - ADD QUEUED REQUEST - MULTIPLE STEPS panel (Figure 2-6).
3. In the OPTION field, enter the number that corresponds to the type of list you wish to specify (“1” for programs, “2” for step names, “3” for step numbers, or “4” for all steps in the job).

**Figure 2-6.** STROBE - ADD QUEUED REQUEST - MULTIPLE STEPS Panel

```

----- STROBE - ADD QUEUED REQUEST - MULTIPLE STEPS -----
COMMAND ==>                                                    SCROLL ==> PAGE
OPTION ==> 3 (Enter 1, 2, 3 or 4)                               JOBNAME: WPA1DBM1

  1 - List of PROGRAM names
  2 - List of STEP names and/or STEP.PROCSTEP names
  3 - List of STEP numbers and/or range of step numbers (Example: 1-100)
  4 - All Steps

      1_____          5_____          6-10_____
      99-111_____      _____          _____
      _____          _____          _____
      _____          _____          _____
      _____          _____          _____
      _____          _____          _____
      _____          _____          _____
      _____          _____          _____

```

4. Enter the program names, step names, or step numbers on the underscored lines. You do not have to enter the numbers or names in any particular sequence. STROBE will automatically sort the entries.
5. Press **Enter** to return to the STROBE - ADD QUEUED REQUEST panel (Figure 2-5 on page 2-8). The value \*LIST appears in the PROGRAM or STEP field, indicating that you have specified multiple job steps to be measured as a part of this request.

**Note:** To measure job steps that are distributed across multiple systems in the sysplex ensure that you enter “\*ALL” in the SYSTEM field.

## Specifying the Target System for a Queued Measurement Request

To view a list of all active systems in the sysplex:

1. Clear the SYSTEM field on the STROBE - ADD QUEUED REQUEST panel (Figure 2-5 on page 2-8).
2. Press **Enter** to display the STROBE - SYSTEM SELECTION LIST panel (Figure 2-7 on page 2-12). STROBE lists the active systems in the sysplex on the bottom half of this panel.

To specify one or more target systems for a measurement session do one of the following:

- To specify one system, enter the system name in the SYSTEM field of the STROBE - ADD QUEUED REQUEST panel and, to the left of the name type “S”.
- To specify one or more systems, enter “S” to the left of the system name the STROBE - SYSTEM SELECTION LIST panel and press **Enter**. When the target job becomes active on one of the systems that you specified, STROBE initiates a measurement session on that system. If you select more than one system, STROBE returns the value “\*LIST” to the SYSTEM field of the STROBE - ADD QUEUED REQUEST panel.
- To specify all of the systems in the sysplex, enter “\*ALL” in the SYSTEM field of the STROBE - ADD QUEUED REQUEST panel.

It may be easier to exclude a system rather than select many systems. When you exclude one or more systems, all systems, except the ones that you excluded, are potential targets for the measurement request. To exclude a system:



## Creating a Request Group

From the STROBE - REQUEST GROUP PROCESSING panel (Figure 2-8), you can create a request group in two ways:

- enter a new group name
- copy an existing group

If you copy a request group, your new group will contain all of the request group elements that are contained in the request group you copied. For information on copying request groups, see “Copying and Merging Request Groups” on page 2-14.

**Figure 2-8.** STROBE - REQUEST GROUP PROCESSING Panel

```

----- STROBE - REQUEST GROUP PROCESSING -----
COMMAND ==>                                     SCROLL ==> PAGE

Group Name ==> CICSGRP1           (New group name)
Change Sort Criteria ==> N       (Y or N)
-----

Line Options:
  C - Copy Group           E - Edit Group Elements       U - Submit Group
  D - Delete Group        L - List Group Elements       T - Submit Group w/Schedule
                                           (MM/DD/YYYY)

-OPTION- ---GROUP NAME-----OWNER----ELEMENT CNT---LAST SUBMIT---LAST EDIT---
-      DB2_GRP1_PROD         WPAABD          18    04/30/1999  09/21/2002
-      DB2_GRP1_TEST         WPAABD           7     07/06/1999  09/11/2002
-      DB2_CICS_CON1         WPAABD          15     07/06/1999  09/23/2002

```

The STROBE - REQUEST GROUP PROCESSING panel (Figure 2-8) displays the request groups you have created. The date format shown on the panel depends on the date format specified in the STROBE parameter data set. You can change the order in which the request groups are listed on this panel. For more information, see “Changing the REQUEST GROUP PROCESSING Panel Format” on page 4-26.

To create a new request group:

1. Select **Option G** from the STROBE OPTIONS menu.
2. Press **Enter** to display the STROBE - REQUEST GROUP PROCESSING panel.
3. Type the request group name in the GROUP NAME field of the STROBE - REQUEST GROUP PROCESSING panel. (Valid group names cannot exceed 18 characters in length and cannot include embedded blanks.)
4. Press **Enter** to display the STROBE - REQUEST GROUP ELEMENTS panel (Figure 2-9).

**Figure 2-9.** STROBE - REQUEST GROUP ELEMENTS Panel

```

----- STROBE - REQUEST GROUP ELEMENTS -----
COMMAND ==> A                                SCROLL ==> PAGE

GROUP NAME: CICSGRP1

A - Create an 'Add Active' Element
Q - Create an 'Add Queued' Element

-----
Line Options:      C - Copy      D - Delete      E - Edit      V - View
OPT-JOBNAME--A/Q-SEQ-PROGRAM--STEPNAME/STEPNUM--TARGET--DUR-PROFILE-CONCURRENT-

```

5. To create the request group, you must add at least one measurement request. For information on creating active and queued request group elements, see “Creating Request Group Elements” on page 2-15.

## Copying and Merging Request Groups

You can also create a request group by copying an existing request group and giving it a new name. To copy a request group:

1. Select **Option G** from the STROBE OPTIONS menu.
2. Press **Enter** to display the STROBE - REQUEST GROUP PROCESSING panel.
3. Type “C” to the left of the group you want to copy.
4. Press **Enter** to display the STROBE - COPY A REQUEST GROUP panel (Figure 2-10).
5. Type the name of the new group in the TARGET GROUP NAME field.
6. Press **Enter** to return to the STROBE - REQUEST GROUP PROCESSING panel.
7. The name of the new request group appears in the GROUP NAME column.

**Figure 2-10.** STROBE - COPY A REQUEST GROUP Panel

```

----- STROBE - COPY A REQUEST GROUP -----
COMMAND ==>

Target group name ==>                        (Enter new or existing group name)

To copy the elements of the selected group(s) to a new group,
enter the new group name.

To copy the elements of the selected group(s) into an existing
group, enter the existing group name.

```

8. To change the request group elements, follow the instructions in “Editing a Request Group” on page 2-19.

To merge the contents of one request group into another request group:

1. Select **Option G** from the STROBE OPTIONS menu.
2. Press **Enter** to display the STROBE - REQUEST GROUP PROCESSING panel.
3. Type **"C"** to the left of the name of an existing group.
4. Press **Enter** to display the STROBE - COPY A REQUEST GROUP panel (Figure 2-10).
5. Type the name of the request group into which you want to copy the contents of the request group in the TARGET GROUP NAME field.
6. Press **Enter** to return to the STROBE - REQUEST GROUP PROCESSING panel.

## Creating Request Group Elements

Once you have named the request group, you must add at least one request group element for the request group to be created. As with other measurement requests, the request group elements that you add can be designated as active or queued.

To create a request group element:

1. Select **Option G** from the STROBE OPTIONS menu.
2. Press **Enter** to display the STROBE - REQUEST GROUP PROCESSING panel.
3. Type the request group name of a new group in the GROUP NAME field of the STROBE - REQUEST GROUP PROCESSING panel. If the request group already exists and you are adding a request element, type **"E"** to the left of the group name.
4. Press **Enter** to display the STROBE - REQUEST GROUP ELEMENTS panel (Figure 2-9 on page 2-14).
5. Type **"A"** to create an Add Active element or type **"Q"** to create a Queued element.
6. Press **Enter** to display the STROBE - CREATE AN 'ADD ACTIVE' ELEMENT panel (Figure 2-11) or the STROBE - CREATE AN 'ADD QUEUED' ELEMENT panel.
7. Complete the appropriate fields (as described in "Adding Measurement Requests for Active Jobs" on page 2-2 or in "Adding Measurement Requests for Jobs Not Yet Executing" on page 2-8) and press **Enter**.

**Figure 2-11.** STROBE - CREATE AN 'ADD ACTIVE' ELEMENT Panel

```

----- STROBE - CREATE AN 'ADD ACTIVE' ELEMENT -----
COMMAND ==>

GROUP NAME: CICSGRP1

JOBNAME ==> WPMRDSC   (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   ==> 5           (Estimated time in minutes)
  TARGET SAMPLE SIZE ==> 20000      (Target number of samples)

TSO USERID TO NOTIFY ==> WPAABD    (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           CONCURRENT REQUEST        ==> N

```

## Creating a Set of Requests for Concurrent Measurement

Your request group can contain one or more sets of request group elements that measure different address spaces at the same time. These related request group elements are called a *concurrent set*. A concurrent set consists of two types of request group elements: one *trigger request*, and one or more *related requests*. The trigger request is the request that initiates the activation and termination of the related requests. A trigger request can be an active or a queued request group element, while the related requests must be active request group elements. For more information, see “Concurrently Measuring Related Address Spaces” on page 1-13.

A concurrent set of requests measures multiple jobs simultaneously, providing you with a broad picture of what is happening on a system at a given time. For example, although you are most interested in measuring your online CICS region, it may also be useful to know what is happening in the associated DB2 region at the same time.

Follow these overall steps to create a concurrent set of request group elements:

1. Select **Option G** from the STROBE OPTIONS panel
2. Press **Enter** to display STROBE - REQUEST GROUP PROCESSING panel.
3. Create the request group in which you want to place the concurrent set (as described in “Creating a Request Group” on page 2-13).
4. Create the trigger request, which can be an active or queued request element
5. Create one or more related requests, which must be active request group elements.

Steps 4 and 5 are described in more detail in the following sections.

### Creating the Trigger Request

To create a trigger request, complete the following steps:

1. On the STROBE - REQUEST GROUP PROCESSING panel (Figure 2-8 on page 2-13), type a new group name in the GROUP NAME field or type “E” next to a request group to add the trigger request to that group.
2. Press **Enter** to display the STROBE - REQUEST GROUP ELEMENTS panel (Figure 2-9 on page 2-14).
3. Type “A” to create an Add Active element trigger request or type “Q” to create a Add Queued element trigger request.
4. Press **Enter** to display the STROBE - CREATE AN ‘ADD ACTIVE’ ELEMENT panel (Figure 2-11 on page 2-15) or the STROBE - CREATE AN ‘ADD QUEUED’ ELEMENT panel
5. Type “Y” in the CONCURRENT REQUEST field located at the bottom of the panel.
6. Press **Enter** to display the STROBE - CONCURRENT REQUEST panel (Figure 2-13 on page 2-18).
7. Specify a name in the CONCURRENT SET NAME field. The name cannot exceed eight characters and cannot be the word “SCHEDULE.”
8. Type “Y” in the TRIGGER field.
9. Press **Enter** to assign the group element trigger request as the trigger request for the concurrent set.

**Figure 2-12.** STROBE - CONCURRENT REQUEST Panel for a Trigger Request

```

----- STROBE - CONCURRENT REQUEST -----
COMMAND ==>

GROUP NAME: CICSGRP1
JOB NAME:  WMMRDSC

Concurrent Set Name ==> CICSIMS1  (Specify a name that relates two or
                                more concurrent measurement requests)

Trigger           ==> Y          (Y or N)

Specify 'Y' for Trigger if you want this Add Active request to
initiate (trigger) concurrent measurement of all jobs in the
concurrent set.

Specify 'N' for Trigger if you want this Add Active request to be
initiated (triggered) by another request in the concurrent set.

```

## Creating the Related Requests

To create the related requests that will be initialized by the trigger request, complete the following steps:

1. On the STROBE - REQUEST GROUP PROCESSING panel, type a new group name in the GROUP NAME field or type "E" next to an existing group to add the related request to that group.
2. Press **Enter** to display the STROBE - REQUEST GROUP ELEMENTS panel (Figure 2-9 on page 2-14).
3. Type "A" to create the related request. All related requests must be active request group elements.
4. Press **Enter** to display the STROBE - CREATE AN 'ADD ACTIVE' ELEMENT panel (Figure 2-11 on page 2-15).
5. Type "Y" in the CONCURRENT REQUEST field located at the bottom of the panel.
6. Press **Enter** to display the STROBE - CONCURRENT REQUEST panel (Figure 2-13).
7. Specify a name in the CONCURRENT SET NAME field. The name cannot exceed eight characters and cannot be the word "SCHEDULE."
8. Type "N" in the TRIGGER field
9. Press **Enter** to assign the related request group element to the concurrent set.

**Figure 2-13.** STROBE - CONCURRENT REQUEST Panel for a Related Request

```

----- STROBE - CONCURRENT REQUEST -----
COMMAND ==>

GROUP NAME: CICSGRP1
JOB NAME:  WGMDDEB

Concurrent Set Name ==> CICSIMS1  (Specify a name that relates two or
                                more concurrent measurement requests)

Trigger           ==> N          (Y or N)

Specify 'Y' for Trigger if you want this Add Active request to
initiate (trigger) concurrent measurement of all jobs in the
concurrent set.

Specify 'N' for Trigger if you want this Add Active request to be
initiated (triggered) by another request in the concurrent set.
    
```

### Viewing the Elements in a Concurrent Set

When you return to the STROBE - REQUEST GROUP ELEMENTS panel, the concurrent set name is indicated in the CONCURRENT column. If you designated the request group element as a trigger request, a "(T)" appears to the right of the concurrent set name, as shown in Figure 2-14.

**Figure 2-14.** STROBE - REQUEST GROUP ELEMENTS Panel with Concurrent Sets

```

----- STROBE - REQUEST GROUP ELEMENTS -----
COMMAND ==>                                     SCROLL ==> PAGE

GROUP NAME: CICSGRP1

A - Create an 'Add Active' Element
Q - Create an 'Add Queued' Element

-----
Line Options:      C - Copy      D - Delete      E - Edit      V - View
-----
OPT-JOBNAME--A/Q-SEQ-PROGRAM--STEPNAME/STEPNUM--TARGET--DUR-PROFILE-CONCURRENT-
_  WMRDSC   A  001           WMRDSC           20000   5  AUTO  CICSIMS1(T)
_  WGMDDEB  A  002           WGMDDEB           20000   5             CICSIMS1
    
```

**Note:** Each concurrent set can have only one request group element designated as the trigger. STROBE/ISPF does not allow you to exit this panel unless you have designated one trigger request and at least one related request for each concurrent set.

The request group elements in a request group are sorted first by concurrent set name, with the trigger request appearing before the related requests, and then by job name.

### Submitting a Request Group

Once you have created a request group, you can submit the request group for immediate processing, or schedule the request group to be processed at a later time, or on several

dates and times. Select **Option G** (REQUEST GROUPS) from the STROBE OPTIONS menu. Press **Enter** to display the STROBE - REQUEST GROUP PROCESSING panel (Figure 2-15).

The STROBE - REQUEST GROUP PROCESSING panel displays the request groups you have previously created. The date format shown on the panel depends on the date format specified in the STROBE parameter data set. You can change the order in which the request groups are listed on this panel. For more information, see “Changing the REQUEST GROUP PROCESSING Panel Format” on page 4-26.

**Figure 2-15.** STROBE - REQUEST GROUP PROCESSING Panel - Submitting a request Group

```

----- STROBE - REQUEST GROUP PROCESSING -----
COMMAND ==>                                     SCROLL ==> PAGE
Group Name ==>                                     (New group name)
Change Sort Criteria ==> N                         (Y or N)
-----
Line Options:
C - Copy Group           E - Edit Group Elements       U - Submit Group
D - Delete Group        L - List Group Elements       T - Submit Group w/Schedule
                                                                (MM/DD/YYYY)
-OPTION---GROUP NAME-----OWNER---ELEMENT CNT---LAST SUBMIT---LAST EDIT---
-   DB2_GRP1_PROD        WPAABD           18   09/30/1999   09/21/2002
-   DB2_GRP1_TEST        WPAABD           7    09/11/2002
U   DB2_CICS_CON1        WPAABD           15   08/03/1999   06/21/2002
-   CICSGRP1             WPAABD           2    09/06/1999   08/23/2002

```

## Submitting a Request Group for Immediate Processing

To submit a request group for immediate processing:

1. Select **Option G** (REQUEST GROUPS) from the STROBE - OPTIONS panel.
2. Type “U” next to the left of the name of the request group on the STROBE - REQUEST GROUP PROCESSING panel as shown in Figure 2-15.
3. Press **Enter**.

**Note:** If the request group you submit contains a concurrent set with a trigger request designated as an active request, the concurrent set will not be submitted unless the target job for the trigger request is active.

## Submitting a Request Group to be Processed at a Later Time

To submit a request group for processing at a later time or a later date:

1. Select **Option G** (REQUEST GROUPS) from the STROBE - OPTIONS panel.
2. Type “T” next to the left of the name of the request group on the STROBE - REQUEST GROUP PROCESSING panel as shown in Figure 2-15.
3. Press **Enter** to display the STROBE - REQUEST SCHEDULER panel.
4. Set up a schedule for STROBE to automatically initiate measurement sessions for the requests in the request group on the dates and times that you specify by following the instructions in “Scheduling Measurement Requests” on page 2-23.

**Note:** In the event of your absence, the STROBE system administrator can submit a request group for you. For more information, see Chapter 5 of the *STROBE MVS System Programmer's Guide*.

## Editing a Request Group

To edit a request group:

1. Select **Option G** (REQUEST GROUPS) from the STROBE OPTIONS menu.
2. Press **Enter** to display the STROBE - REQUEST GROUP PROCESSING panel.
3. Type "E" next to the name of the group you want to edit.
4. Press **Enter** to display the STROBE - REQUEST GROUP ELEMENTS panel (Figure 2-14 on page 2-18). From this panel, you can add new request group elements to the request group, as well as copy, delete, edit, or view the existing request group elements. To distinguish request group elements with the same job name, STROBE assigns a sequence number to each request group element in the request group.

**Note:** You cannot change the type of the request (active or queued) after you have created it.

## Adding a Request Group Element to a Request Group

From the STROBE - REQUEST GROUP ELEMENTS panel, you can add active or queued request group elements to your request group. Follow the steps in "Creating Request Group Elements" on page 2-15.

## Copying a Request Group Element

Another way to add request group elements to a request group is to copy an existing request group element.

To copy a request group element within a request group:

1. Select **Option G** (REQUEST GROUPS) from the STROBE OPTIONS menu.
2. Press **Enter** to display the STROBE - REQUEST GROUP PROCESSING panel.
3. Type "E" next to the name of the group that contains the element that you want to copy.
4. Press **Enter** to display the STROBE - REQUEST GROUP ELEMENTS panel (Figure 2-14 on page 2-18).
5. Type "C" to the left of the request group element you want to copy.
6. Press **Enter** to display the STROBE - COPY AN 'ADD QUEUED' ELEMENT (Figure 2-16) or the STROBE - COPY AN 'ADD ACTIVE' ELEMENT panel, depending on the type of request group element you are copying.
7. If desired, change any of the available parameters on the panel and press **Enter**. A message in the upper right hand corner indicates that the element has been copied.

Figure 2-16. STROBE - COPY AN 'ADD QUEUED' ELEMENT Panel

```

----- STROBE - COPY AN 'ADD QUEUED' ELEMENT -----
COMMAND ==>

                                GROUP NAME: CICSGRP1
JOBNAME  ==> WPA3MSTR (Jobname or jobname* for pattern match)
PROGRAM  ==>          (Program or clear both PROGRAM & STEP to input a list)
STEP     ==> DB2310  (Name,num,step.procstep or *ALL for all steps)
SYSTEM   ==> SYS01   (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  ==> 2      (Estimated time in minutes)
TARGET SAMPLE SIZE ==> 10000 (Target number of samples)

TSO USERID TO NOTIFY ==> WPAEAC (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     CONCURRENT REQUEST ==> Y

```

## Deleting a Request Group Element

To delete a request group element:

1. Select **Option G** (REQUEST GROUPS) from the STROBE OPTIONS menu.
2. Press **Enter** to display the STROBE - REQUEST GROUP PROCESSING panel.
3. Type **"E"** next to the name of the group that contains the request group element that you want to delete.
4. Press **Enter** to display the STROBE - REQUEST GROUP ELEMENTS panel (Figure 2-14 on page 2-18).
5. Type **"D"** to the left of the request group element you want to delete on the STROBE - REQUEST GROUP ELEMENTS panel.
6. Press **Enter**. A message in the upper right hand corner of the panel indicates that the request group element has been deleted.

**Note:** Deleting the only request group element in a request group **deletes the entire group**. You cannot have an empty request group.

## Editing a Request Group Element

To edit the characteristics of a request group element:

1. Select **Option G** (REQUEST GROUPS) from the STROBE OPTIONS menu.
2. Press **Enter** to display the STROBE - REQUEST GROUP PROCESSING panel.
3. Type **"E"** next to the name of the group that contains the request group element that you want to edit.
4. Press **Enter** to display the STROBE - REQUEST GROUP ELEMENTS panel.
5. Type **"E"** to the left of the request group element that you want to edit.
6. Press **Enter** to display the STROBE - EDIT AN 'ADD ACTIVE' ELEMENT panel or the STROBE - EDIT AN 'ADD QUEUED' ELEMENT panel (Figure 2-17 on page 2-22), depending on whether you are editing an active or queued request group element.

7. Edit the request group element by changing any of the available parameters on the panel. To change any of the parameters on the subsidiary panels under SELECT ADDITIONAL PARAMETERS, enter "Y" in the appropriate field.
8. Press **Enter**. A message in the upper right hand corner of the panel indicates that the request group element has been copied.

**Note:** An "S" in the AUTO PROFILE CREATION or any of the fields under SELECT ADDITIONAL PARAMETERS indicates that this field was previously selected.

**Figure 2-17.** STROBE - EDIT AN 'ADD QUEUED' ELEMENT Panel

```

----- STROBE - EDIT AN 'ADD QUEUED' ELEMENT -----
COMMAND ==>

GROUP NAME: DB2_GRP1_PROD          JOBNAME: WPA3MSTR

PROGRAM ==>                        (Program or clear both PROGRAM & STEP to input a list)
STEP   ==> *LIS                    (Name,num,step.procstep or *ALL for all steps)
SYSTEM ==> SCS01                  (System or clear for a list or *ALL for all systems)
AUTO PROFILE CREATION ==> S (Y or N; S indicates previously 'selected')

MEASUREMENT SESSION INFORMATION:
SESSION DURATION   ==> 10          (Estimated time in minutes)
TARGET SAMPLE SIZE ==> 50000      (Target number of samples)

TSO USERID TO NOTIFY ==> WPAABD   (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         ==> N
OTHER PARAMETERS     ==> N        CONCURRENT REQUEST        ==> S

```

## Viewing the Elements of a Request Group

To list the elements of a request group:

1. Select **Option G** (REQUEST GROUPS) from the STROBE OPTIONS menu.
2. Press **Enter** to display the STROBE - REQUEST GROUP PROCESSING panel (Figure 2-15 on page 2-19).
3. Type "L" next to the name of the group that contains the element that you want to view.
4. Press **Enter** to display the STROBE - LIST GROUP ELEMENTS panel (Figure 2-18).
5. Type "V" next to the request group element.
6. Press **Enter** to view the characteristics of the request group element.

Figure 2-18. STROBE - LIST GROUP ELEMENTS Panel

```

----- STROBE - LIST GROUP ELEMENTS -----
COMMAND ==>                                SCROLL ==> PAGE

GROUP NAME: CICSGRP1

-----
Line Option:  V - View

OPT-JOBNAME--A/Q-SEQ-PROGRAM--STEPNAME/STEPNUM--TARGET--DUR-PROFILE-CONCURRENT-
- WMRDSC   A  001      WMRDSC           20000   5  AUTO  CICSIMS1(T)
- WGMDedb  A  002      WGMDedb           20000   5             CICSIMS1

```

## Deleting a Request Group

To delete a request group:

1. Select **Option G** (REQUEST GROUPS) from the STROBE OPTIONS menu.
2. Press **Enter** to display the STROBE - REQUEST GROUP PROCESSING panel.
3. Type **"D"** next to the name of the group that you want to delete.
4. Press **Enter** to delete the group.

---

## 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:

- schedule a measurement request
- specify data collectors
- specify additional module mapping facilities
- add session management parameters
- specify other parameters
- retain measurement requests for a specified length of time
- save the measurement request in a request group

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.

## Scheduling Measurement Requests

To schedule a measurement request:

1. Select **Option 1** (ADD ACTIVE) or **Option 2** (ADD QUEUED) from the STROBE OPTIONS menu.
2. Press **Enter** to display the STROBE - ADD ACTIVE or the STROBE - ADD QUEUED panel.
3. Enter a **"Y"** in the SCHEDULE REQUEST field.

4. Press **Enter** to display the STROBE - REQUEST SCHEDULER panel (Figure 2-19).
5. On this panel specify the dates and the times for measurement requests to be automatically submitted.

**Note:** The format of the times and dates shown on the panel depends on the format the STROBE system programmer specified in the STROBE parameter data set.

**Figure 2-19.** STROBE - REQUEST SCHEDULER Panel

```

----- STROBE - REQUEST SCHEDULER -----
COMMAND ==>

JOBNAME:      WPAFXC                               Specify dates in MM/DD/YYYY format
                                           Current Date: 06/12/2002
Select day of week  MON TUE WED THU  FRI  SAT  SUN  Time: 12:46
by entering a Y  ==>  Y   -   -   -   Y   -   -

Starting Time(s) ==> 1) 10 : 00   24HR  2) 12 : 00   24HR  3) ___ : ___   24HR
Starting Date    ==> 06 / 13 / 2002
Number of Weeks  ==> 06 (1-52)   OR   Ending Date    ==> ___ / ___ / ____
Retry Interval   ==> ___ (0-60 minutes)  Retry Attempts ==> ___ (0-24)

Add or exclude dates and times generated above or create a customized list
(OPT: A - Add a date and time      E - Exclude a date and time)

OPT   DATE           TIME 24HR   OPT   DATE           TIME 24HR
A    07 / 03 / 2002   10 : 00   A    07 / 03 / 2002   12 : 00
E    07 / 04 / 2002   10 : 00   E    07 / 04 / 2002   12 : 00
-    ___ / ___ / ____   ___ : ___   -    ___ / ___ / ____   ___ : ___
-    ___ / ___ / ____   ___ : ___   -    ___ / ___ / ____   ___ : ___
-    ___ / ___ / ____   ___ : ___   -    ___ / ___ / ____   ___ : ___
-    ___ / ___ / ____   ___ : ___   -    ___ / ___ / ____   ___ : ___

```

## Creating a Weekly Schedule

To create a weekly schedule for an individual measurement request or a request group:

1. Select **Option 1** (ADD ACTIVE) or **Option 2** (ADD QUEUED) from the STROBE OPTIONS menu.
2. Press **Enter** to display the STROBE - ADD ACTIVE or the STROBE - ADD QUEUED panel.
3. Enter a "Y" in the SCHEDULE REQUEST field.
4. Press **Enter** to display the STROBE - REQUEST SCHEDULER panel (Figure 2-19).
5. Enter a "Y" below the day or days of the week on which you want STROBE to initiate a measurement session.
6. In the Starting Time(s) field, specify the time that you want the measurement session to move from the deferred category to active or queued. You can enter up to three daily start times for the request. If you enter three start times then three measurement sessions are initiated on each of the days you specified. To submit more than three measurement requests for a particular target job step, enter additional times on the bottom half of the panel.

**Note:** The time you enter in these fields must be at least three minutes later than the time you actually submit the request or request group.

7. Enter the date when you want the schedule to begin.
8. Enter the number of weeks that you want the scheduled request to run or the date that you want the schedule to end. If you enter the number of weeks, STROBE automatically calculates the end date for you.

**Note:** A measurement request or a request group can be scheduled for a maximum of one calendar year from the date on which you created the schedule.

For active requests and request groups, you can also specify a time interval during which STROBE will try to initiate the measurement sessions again, if the target job cannot be found. To specify a retry interval, enter the number of minutes that you want STROBE to wait between retry attempts in the Retry Interval field. Specify the maximum number of retry attempts in the Retry Attempts field.

## Creating a Customized List of Schedule Dates

You can customize a schedule by entering a list of specific dates on the bottom half of the STROBE - REQUEST SCHEDULER panel. For example, you can create a schedule that would initiate a measurement session on a specific date during each fiscal quarter. To create a list of dates, specify the dates and times and enter an "A" in the OPT field to the left of the date.

You can also supplement the schedule for a measurement request or a request group by adding or excluding certain dates on your weekly schedule. For example, you could create a schedule that would automatically initiate a measurement session every Monday for the next 22 weeks. However, there are two Monday holidays that you would like to exclude from the schedule, and instead initiate a measurement session on Tuesday. Specifying the Monday dates and times with an "E" in the OPT field to the left of the date excludes those dates from the schedule. Specifying the Tuesday dates and times with an "A" in the OPT field to the left of the date adds those dates to the schedule.

To customize your schedule, enter the dates and times on the lines at the bottom of the STROBE - REQUEST SCHEDULER panel, and specify the add or exclude option in the OPT field. STROBE will then automatically initiate (or omit, in the case of the exclude option) a measurement session on those dates.

## Modifying a Weekly Schedule

To change the characteristics of a scheduled request

1. Select **Option 3** (STATUS) from the STROBE OPTIONS menu.
2. Press **Enter** to display the STROBE - STATUS panel (Figure 4-1 on page 4-3). Scheduled requests that have not yet run are listed under the DEFERRED REQUEST category.
3. Type a "C" to the left of the request you wish to change.
4. Press **Enter** to display the STROBE - CHANGE DEFERRED ACTIVE REQUEST or the STROBE - CHANGE DEFERRED QUEUED REQUEST panel, depending on the type of scheduled request you are changing.
5. Type a "Y" in the SCHEDULE REQUEST field.
6. Press **Enter** to display the STROBE - REQUEST SCHEDULER panel.
7. Modify the schedule as necessary.
8. Press **Enter** to save the changes.

**Note:** Any changes made to the schedule apply to the remaining schedule. For example, if you change the Starting Time field, the change applies to all the remaining weeks on the schedule.

## 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 2-20) 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. For information about the "Java targeting data" field, see the *STROBE Java Feature*.

**Figure 2-20.** STROBE - DATA COLLECTORS Panel

```

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

OVERRIDE DATA COLLECTOR DEFAULTS FOR JOBNAME: WPAJQ1
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      ==>
Java targeting data (y/n) ==>

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 or your system programmer 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.
Identify the invokers of the module that is the common user routine that the application uses for MQSeries APIs.	<p><b>Note:</b> The names of CICS system transactions are not valid in this field.</p> <p>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.</p>

Task	Enter
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 the percentage of execution samples for the module is greater than or equal to the percentage supplied in the DETAIL BASELINE parameter described below.

The STROBE - MODULE MAPPING panel (Figure 2-21) enables you to enter module mapping specifications.

**Figure 2-21.** 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
JOBLIB (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 *nmn*". When you specify an SVC number, STROBE shows execution within the modules called by the invocation of the SVC, provided the modules are loaded by MVS contents management. 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 2-22) enables you to change both the number of sessions and the action STROBE takes after the final session is complete.

Figure 2-22. 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:

- |                 |   |
|-----------------|---|
| <b>Quit</b>     | Stop sampling, end the measurement session, and terminate the measurement request (default for an active request).  |
| <b>Stop</b>     | 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 4-16 in Chapter 4 for details. |
| <b>Continue</b> | 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 2-23). Normally, the STROBE system programmer uses this panel under the direction of a Compuware Systems Engineer to enter parameters during STROBE problem determination.

**Figure 2-23.** 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 7.

## 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 2-24 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 2-24.** STROBE - REQUEST RETENTION Panel

```

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

ADDITIONAL INFORMATION FOR JOBNAME:  WPAFXC

Today's date is 09/15/2002 (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 2-24 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.

## Saving a Measurement Request in a Request Group

In addition to submitting the measurement request, you can also save an individual measurement request in a new request group or save the request in an existing group. To save the request, enter a "Y" in the SAVE REQUEST IN GROUP field on the STROBE - ADD ACTIVE or the STROBE - ADD QUEUED panel. The STROBE - SAVE REQUEST IN A GROUP panel (Figure 2-25) appears.

**Note:** This option is for saving the measurement request in a request group only. All other group processing options are performed through Option G (REQUEST GROUPS) from the STROBE OPTIONS panel.

The STROBE - SAVE REQUEST IN A GROUP panel displays the request groups you have previously created. You can change the order in which the request groups are listed on this panel. For more information, see "Changing the REQUEST GROUP PROCESSING Panel Format" on page 4-26.

**Figure 2-25.** STROBE - SAVE REQUEST IN A GROUP Panel

```

----- STROBE - SAVE REQUEST IN A GROUP -----
COMMAND ==>                                     SCROLL ==> PAGE

Group Name ==>                                     (New group name)
Change Sort Criteria ==> N                         (Y or N)
-----
Line Options: S - Save Request in Group           L - List Group Elements
                                                    (MM/DD/YYYY)
-OPTION---GROUP NAME-----OWNER---ELEMENT CNT---LAST SUBMIT---LAST EDIT----
-   DB2_GRP1_PROD      WPAABD      18   10/30/1999   09/21/2002
-   DB2_GRP1_TEST      WPAABD       7    10/11/2002
-   DB2_CICS_CON1      WPAABD      15   09/06/1999   06/23/2002

```

## Saving the Request in a New Group

To save a request in a request group, complete the following steps:

1. Select **Option 1** ADD ACTIVE or **Option 2** ADD QUEUED from the STROBE OPTIONS menu.
2. Press **Enter** to display either the STROBE - ADD ACTIVE panel or the STROBE - ADD QUEUED panel.
3. Enter "Y" in the SAVE REQUEST IN GROUP field on the STROBE - ADD ACTIVE or the STROBE - ADD QUEUED panel.
4. Press **Enter** to display the STROBE - SAVE REQUEST IN A GROUP panel (Figure 2-25).
5. On the STROBE - SAVE REQUEST IN A GROUP panel, enter a name for the request group in the GROUP NAME field.
6. Press **Enter**. STROBE creates the new request group and adds this request as a request group element. A message indicating that the request group has been created is displayed in the upper right hand corner of the panel.

If you wish to add other requests to this request group, or change the request you just added, select **Option G** (REQUEST GROUPS) from the STROBE OPTIONS menu. STROBE/ISPF displays the STROBE - REQUEST GROUP PROCESSING panel. From this panel, you can select the request group and modify it by adding new request group

elements or changing existing ones. For more information on request groups, see “Working with Request Groups” on page 2-12.

## Saving the Request in an Existing Group

Once you have some request groups created, you may want to save a new request in an existing group. To add a new measurement request to an existing request group, complete the following steps:

1. Enter a “Y” in the SAVE REQUEST IN GROUP field on the STROBE - ADD ACTIVE or the STROBE - ADD QUEUED panel.
2. Press **Enter** to display the STROBE - SAVE REQUEST IN A GROUP panel (Figure 2-25).
3. Enter an “S” next to the name of the request group in which you want the request to be saved.
4. Press **Enter**. STROBE adds that request as a request group element. If this group is scheduled, the new request will be processed according to the request group schedule.

**Note:** If you are saving the measurement request in a request group and submitting the measurement request with a schedule (a “Y” in both the SCHEDULE REQUEST and the SAVE REQUEST IN GROUP fields) STROBE removes the schedule before saving the request in the request group. The schedule does apply for the individual measurement request you are submitting, but not for the one you are saving in the request group.

## Listing Request Group Elements

To list the contents of a request group before adding a new request, enter an “L” next to the request group name you wish to view on the STROBE - SAVE REQUEST IN GROUP panel. The STROBE - LIST GROUP ELEMENTS panel appears, listing all of the request group elements.

---

## 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 2-26), which controls the format of the Active Job Selection List. The STROBE - ACTIVE JOB DISPLAY FORMAT panel (Figure 2-26) lists the fields you can display on the ACTIVE JOB SELECTION LIST.

Figure 2-26. 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 4-25.
  - 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 2-26 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 2-27).

**Figure 2-27.** 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 ==>

```

- 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 (\*).
- 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

- 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 2-28 on page 2-36), 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) **Option 8** (CHANGE DEF/ACTIVE) or **Option 9** (CHANGE DEF/QUEUED).

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.

### Adding Batch Measurement Requests for Active Jobs

To add a batch measurement request for an active job:

- Select **Option 6** (BATCH-SUBMISSION) from the STROBE OPTIONS menu.
- Press **Enter** to display the STROBE - BATCH-SUBMISSION OPTIONS menu (Figure 2-28 on page 2-36).

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.

**Figure 2-28.** 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
      8  CHANGE DEF/ACTIVE   - Change a deferred active measurement request
      9  CHANGE DEF/QUEUED   - Change a deferred queued measurement request
      G  SUBMIT A GROUP      - Submit a request group

END  CANCEL                 - Exit without submitting the generated job stream

```

## 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 2-28 on page 2-36).
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 2-28 on page 2-36).
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 Profiles data files for 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 ==>

      B - Background processing      F - Foreground processing

ENTER BLANKS TO BYPASS THIS DATASET
SAMPLE DATA SET NAME ==> 'WPA.QA.R250.DR8.WPACLC.S001D001.VERZ'
UNIT ==> SYSDA                      VOLUME ==> PRD942

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

OUTPUT FORMAT      ==> W      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 ==>

```

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 3-17 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. Collect Measurement Session History. You can request that STROBE collect and store historical information as you create a Performance Profile. If this option is specified, STROBE saves selected historical information, as well as some calculated values for the measurement session. For more information, see “Collecting Measurement Session History” on page 3-2.
5. Specify the name of the sample data set assigned to the measurement request. For more information, see “Specifying Sample Data Set Information” on page 3-3.
6. Press **Enter** to produce the Profiles.

## Collecting Measurement Session History

To request the collection of measurement session history, perform the following steps:

1. Enter “Y” in the CREATE HISTORY RECORD field of the PRODUCE A PERFORMANCE PROFILE panel.
2. Enter “Y” in the HISTORY PARAMETERS field. STROBE/ISPF displays the STROBE - HISTORY - PARAMETERS panel (Figure 3-2). Once these options are specified, STROBE/ISPF retains these values for the next time you visit this panel.

**Figure 3-2.** STROBE - HISTORY - PARAMETERS Panel

```

----- STROBE - HISTORY - PARAMETERS -----
COMMAND ==>

COMMENT      ==>

DBRM BASELINE ==> 1      (Minimum CPU percent for a DBRM to be
                          added to the history database)

TRAN BASELINE ==> 1      (Minimum CPU percent for the TRANSACTION to be
                          added to the history database)

```

3. Enter a descriptive comment for the measurement session history record in the COMMENT field. The comment can be up to 55 characters in length, and cannot include underscores (\_) or embedded double quotes.
4. In the DBRM BASELINE field, enter the minimum CPU percent a DBRM must exhibit to be stored in the measurement session history record.
5. In the TRAN BASELINE field, enter the minimum CPU percent a transaction must exhibit to be stored in the measurement session history record.
6. Press **Enter**.

## 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 3-3).

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

**Figure 3-3.** 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
  ZZ.WPAABD.S001D001.DATA      OPEN           3155       26
---REQ---OWNERID---JOBNAME---PROGRAM---STEPNAME/STEPNUM---STATUS---SAMPLES---EXEC
   8  WPAMJR   WPARZS   $WPAPROC      COMPLETED
  ZZ.WPARZS.S001D001.DATA      CLOSED        94346      861
---REQ---OWNERID---JOBNAME---PROGRAM---STEPNAME/STEPNUM---STATUS---SAMPLES---EXEC
  14  WPASCS   WPASCS   $WPAPROC      COMPLETED
  ZZ.WPASCS.S001D001.DATA      CLOSED         34202       7

```

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 3-4 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 3-4.** 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 3-5 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 3-5.** 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 3-5, 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 PROFIO00.xml, the second will be PROFIO01.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 3-8. 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 3-6). Specify settings for the SQL Analysis Feature reports.

**Figure 3-6.** 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 for 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 3-4 on page 3-4
  - STROBE - CREATE AN AUTO PERFORMANCE PROFILE or
  - STROBE - CHANGE AN AUTO PERFORMANCE PROFILE.
2. Specify the appropriate values in the Performance Profile fields. Press **Enter**.
3. 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.
4. 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 as described in “Specifying SQL Analysis Feature Report Settings” on page 3-8. Press **Enter**.
5. 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 3-7).
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 3-7. STROBE - STATUS Panel

```

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

SYSTEM      ==> *ALL      (System or clear to select or *ALL for all systems)
OWNERID MASK ==> WPA*    (Enter * for a pattern match)
CHANGE THRESHOLDS ==> N (Y or N; to classify completed requests important)
  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
 245 WPAFXC   SCS1   WPAFXC           $WPAPROC.$WPAPROC 10000  953   39

----- QUEUED MEASUREMENT REQUESTS -----
--REQ-OWNERID--SYSTEM--JOBNAME--PROGRAM--STEPNAME/STEPNUM--TARGET--DURATION--RESP
 219 WPAWXYRC SCS1   WPAWXYRC           GO             10000    1   QUIT
 243 WPAHXS   SCS1   WPAHXS           *ALL           10000    10  CONT

----- COMPLETED MEASUREMENT REQUESTS EXCEEDING THRESHOLDS -----
--REQ-OWNERID--SYSTEM--JOBNAME--PROGRAM--STEPNAME/STEPNUM--TARGET--TOTAL--EXEC
 217 WPAWXYAL SCS1   WPAWXYAL           ADDREQ.ALSRTEST 30000 14494 6448
 222 WPAEAC   TLP1   WPAMJ2           $WPAPROC.$WPAPROC 50000 50000 310

----- COMPLETED MEASUREMENT REQUESTS -----
 203 WPAR1S   SCS1   WPAR1S           $WPAPROC.$WPAPROC 10000 3429  13
 206 WPAWXYSA SCS1   WPAWXYSA           GO             10000  1803 342

----- DEFERRED MEASUREMENT REQUESTS -----
--REQ-OWNERID--SYSTEM--JOBNAME--PROGRAM--STEPNAME/STEPNUM--TARGET--DUR--REASON-
 122 WPACLC   SCS1   WPAALC           *             100000 65  CICSIMS1

```

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 3-14.

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 3-8), 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 3-8. 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 2-6 on page 2-11).
2. Press **Enter** to display the STROBE - CREATE AN AUTO PERFORMANCE PROFILE panel (Figure 3-9).

**Figure 3-9.** STROBE - CREATE AN AUTO PERFORMANCE PROFILE Panel

```

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

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
                   N -Narrow Report

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

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

JOB STATEMENT INFORMATION FOR AUTO PROFILE CREATION:
//USERID  JOB  (ACCOUNT),'NAME'
//*
//*
//*
```

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 3-4. 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 3-11.

For information on changing or cancelling an automatic Performance Profile request, see “Deleting AutoSTROBE Requests” on page 4-19.

## 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 3-10) enables you to compress and expand information in the Performance Profile.

**Figure 3-10.** STROBE - DETAIL FOR A PERFORMANCE PROFILE Panel

```

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

SAMPLE DATA SET: 'WPA.QA.R250.DR8.AUTO.WPAMP1A.S001D001.VERZ'

REPORT OPTIONS:
TITLE      ==>

COMPRESS  ==>      =.      ==>      =.
          ==>      =.      ==>      =.
          ==>      =.      ==>      =.
          ==>      =.      ==>      =.
          ==>      =.      ==>      =.
          ==>      =.      ==>      =.

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

RESOLUTION ==>      SORT SIZE ==>      LINES/PAGE ==> 60

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 8 for details about Reporter parameters.

## Tailoring Reports

The STROBE - TAILOR REPORTS panel (Figure 3-11) 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 3-11. 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.

**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 Output Format**

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 3-4.

## 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 3-11.

## 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 3-12).

**Figure 3-12.** 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 AND/OR DDIO FILES panel (Figure 3-13).
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 panel where your map data set has been added to the list of names. You can also specify DDIO files in addition to map data set names, as explained in the next section.

**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

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

```

## 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 reports 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 3-14 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 3-1 on page 3-2).
2. Press **Enter** to display the STROBE - INCLUDE MAPS OF INDEXED SOURCE MODULES AND/OR DDIO FILES panel shown in Figure 3-14.

**Figure 3-14.** 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

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

```

3. Specify the names of the DDIO files, in combination with map data sets, 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 3-12 on page 20), and the files are uncataloged 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 3-15 on page 3-23 appears.

**Figure 3-15.** 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 3-9 on page 3-13).
2. Press **Enter** to display the STROBE - INCLUDE MAP DATA SETS panel (Figure 3-16).

**Figure 3-16.** 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 3-17 on page 3-24) 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 3-17.** STROBE - SELECT OPTIONS FOR JOBSTREAM 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 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 to identify it 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
z/OS Memory Objects Report	#ZMO

## 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 3-18).

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 3-18.** STROBE - PRINTED PROFILE DATA SET LIST Panel

```
----- STROBE - PRINTED PROFILE DATA SET LIST -----
COMMAND ==>                                     SCROLL ==> PAGE
-----
-S-DATA SET NAME -----
s WPAAZS.WPAAS1.P001D001.VERU
  WPAAZS.WPAAS1.P001D002.VERU
```

## 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 4-3).
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 4-3) 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 exceeding thresholds	The request is completed and has exceeded one or more of the specified threshold criteria.

Completed The request has been terminated and all sample data sets have been closed.

**Note:** For measurements of multiple steps, STROBE creates one measurement session to act as a *template request* for each job step you specified. As each job step becomes active, STROBE copies the template request and adds an active request for the specified job step. This template request is never used for an actual measurement session. When all of the job steps have been measured the template request is marked complete.

Deferred The request has been delayed for a later time, either because it is a scheduled request or a related request in a concurrent set that is waiting to be initiated by the trigger request.

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 4-6.

You can modify any measurement request that appears on the STROBE - STATUS panel and filter the requests by system or by owner ID. You can also categorize completed requests that have exceeded one or more specific thresholds. 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	"Setting Measurement Thresholds" on page 4-7
Select a system	"Listing by System" on page 4-6
Set the owner ID mask	"Listing by Owner ID" on page 4-6
Set thresholds	"Setting Measurement Thresholds" on page 4-7
View requests	"Viewing the Parameters of a Measurement Request" on page 4-7
Change requests	"Changing the Status of Measurement Requests" on page 4-13
Terminate requests	"Terminating Measurement Requests" on page 4-19
Delete requests	"Deleting Measurement Requests" on page 4-19
Produce Performance Profiles	"Generating Performance Profiles" on page 3-1
Change automatic Performance Profile requests	"Deleting AutoSTROBE Requests" on page 4-19

Figure 4-1. STROBE - STATUS Panel

```

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

SYSTEM      ==> *ALL      (System or clear to select or *ALL for all systems)
OWNERID MASK ==> WPA*    (Enter * for a pattern match)
CHANGE THRESHOLDS ==> N  (Y or N; to classify completed requests important)
  V =View    C =Change   P =Profile Report      G =default Profile
  Q =Quit    D =Delete   X =Delete with data sets B =Browse Auto Profile
                                                    MORE>>

----- ACTIVE MEASUREMENT REQUESTS -----
--REQ-OWNERID--SYSTEM--JOBNAME--PROGRAM--STEPNAME/STEPNUM--TARGET--TOTAL--EXEC
 245 WPAFXC   SCS1   WPAFXC           $WPAPROC.$WPAPROC 10000  953   39

----- QUEUED MEASUREMENT REQUESTS -----
--REQ-OWNERID--SYSTEM--JOBNAME--PROGRAM--STEPNAME/STEPNUM--TARGET--DURATION--RESP
 219 WPAWXYRC SCS1   WPAWXYRC           GO             10000    1  QUIT
 243 WPAHXS   SCS1   WPAHXS           *ALL           10000    10  CONT

----- COMPLETED MEASUREMENT REQUESTS EXCEEDING THRESHOLDS -----
--REQ-OWNERID--SYSTEM--JOBNAME--PROGRAM--STEPNAME/STEPNUM--TARGET--TOTAL--EXEC
 217 WPAWXYAL SCS1   WPAWXYAL           ADDREQ.ALSRTEST 30000 14494 6448
 222 WPAEAC   TLP1   WPAMJ2           $WPAPROC.$WPAPROC 50000 50000  310

----- COMPLETED MEASUREMENT REQUESTS -----
 203 WPAR1S   SCS1   WPAR1S           $WPAPROC.$WPAPROC 10000  3429  13
 206 WPAWXYSA SCS1   WPAWXYSA           GO             10000   1803  342

----- DEFERRED MEASUREMENT REQUESTS -----
--REQ-OWNERID--SYSTEM--JOBNAME--PROGRAM--STEPNAME/STEPNUM--TARGET--DUR--REASON-
 122 WPACLC   SCS1   WPAALC           *              100000  65  CICSIMS1
    
```

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

```

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

SYSTEM      ==> *ALL      (System or clear to select or *ALL for all systems)
OWNERID MASK ==> WPA*    (Enter * for a pattern match)
CHANGE THRESHOLDS ==> N  (Y or N; to classify completed requests important)
  V =View    C =Change   P =Profile Report      G =default Profile
  Q =Quit    D =Delete   X =Delete with data sets B =Browse Auto Profile
                                                    <MORE>

----- ACTIVE MEASUREMENT REQUESTS -----
--REQ-OWNERID--SYSTEM--JOBNAME--PROGRAM--STEPNAME/STEPNUM--PROFILE--AUTOS-REAS
 245 WPAFXC   SCS1   WPAFXC           $WPAPROC.$WPAPROC           ELAPSED

----- QUEUED MEASUREMENT REQUESTS -----
--REQ-OWNERID--SYSTEM--JOBNAME--PROGRAM--STEPNAME/STEPNUM--PROFILE--AUTOS-REAS
 219 WPAWXYRC SCS1   WPAWXYRC           GO
 243 WPAHXS   SCS1   WPAHXS           *ALL           AUTO-I   TCB
 255 WPATHK   SCS1   WPATHK           AUTO-W       APMPOWER

----- COMPLETED MEASUREMENT REQUESTS EXCEEDING THRESHOLDS -----
--REQ-OWNERID--SYSTEM--JOBNAME--PROGRAM--STEPNAME/STEPNUM--PROFILE--AUTOS-REAS
 217 WPAWXYAL SCS1   WPAWXYAL           ADDREQ.ALSRTEST
 222 WPAEAC   TLP1   WPAMJ2           $WPAPROC.$WPAPROC

----- COMPLETED MEASUREMENT REQUESTS -----
--REQ-OWNERID--SYSTEM--JOBNAME--PROGRAM--STEPNAME/STEPNUM--PROFILE--AUTOS-REAS
 203 WPAR1S   SCS1   WPAR1S           $WPAPROC.$WPAPROC           AUTO-W   I/O
 206 WPAWXYSA SCS1   WPAWXYSA           GO

----- DEFERRED MEASUREMENT REQUESTS -----
    
```

Figure 4-3. STROBE - STATUS Panel (Scrolled Right Twice)

```

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

SYSTEM      ==> *ALL      (System or clear to select or *ALL for all systems)
OWNERID MASK ==> WPA*    (Enter * for a pattern match)
CHANGE THRESHOLDS ==> N  (Y or N; to classify completed requests important)
  V =View      C =Change  P =Profile Report      G =default Profile
  Q =Quit      D =Delete  X =Delete with data sets B =Browse Auto Profile
                                                    <MORE>

----- ACTIVE MEASUREMENT REQUESTS -----
--REQ-OWNERID--SYSTEM--JOBNAME--PROGRAM--STEPNAME/STEPNUM--CONCURRENT--GROUP N
 245 WPAFXC   SCS1   WPAFXC           $WPAPROC.$WPAPROC TESTGRPS(T)  NON-PRO

----- QUEUED MEASUREMENT REQUESTS -----
--REQ-OWNERID--SYSTEM--JOBNAME--PROGRAM--STEPNAME/STEPNUM--CONCURRENT--GROUP N
 219 WPAWXYRC SCS1   WPAWXYRC           GO
 243 WPAHXS   SCS1   WPAHXS           *ALL
 255 WPATHK   SCS1   WPATHK

----- COMPLETED MEASUREMENT REQUESTS EXCEEDING THRESHOLDS -----
--REQ-OWNERID--SYSTEM--JOBNAME--PROGRAM--STEPNAME/STEPNUM--CONCURRENT--GROUP N
 217 WPAWXYAL SCS1   WPAWXYAL           ADDREQ.ALSRTEST
 222 WPAEAC   TLP1   WPAMJ2           $WPAPROC.$WPAPROC

----- COMPLETED MEASUREMENT REQUESTS -----
--REQ-OWNERID--SYSTEM--JOBNAME--PROGRAM--STEPNAME/STEPNUM--CONCURRENT--GROUP N
 203 WPAR1S   SCS1   WPAR1S           $WPAPROC.$WPAPROC
 206 WPAWXYSA SCS1   WPAWXYSA           GO

----- DEFERRED MEASUREMENT REQUESTS -----

```

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 once 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.

AUTO-REAS	If the measurement request was generated by AutoSTROBE, this column shows what category of data caused the measurement to start. (I/O, TCB, or ELAPSED)
-----------	---

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

CONCURRENT	The concurrent set name, if any, for the measurement request. If the request is the trigger request for the concurrent set, a '(T)' appears to the right of the concurrent set name. Scroll to the right to view this column.
GROUP N(AME)	This column, which indicates the group name if the measurement request is part of a group, only shows partially after two right scrolls. To obtain the full group name, scroll once more to the right.

For active, suspended, and completed requests, STROBE/ISPF also displays

TOTAL	The total number of samples taken.
EXEC	The number of times STROBE observed the task executing

For queued requests, STROBE/ISPF also displays

DURATION	The estimated duration of the measurement session, in minutes, as specified in the SESSION DURATION field of the STROBE - ADD QUEUED REQUEST panel.
RESP	The final session action to be taken when the target sample size is reached (STOP, QUIT, or CONT).

For deferred requests, STROBE/ISPF also displays

DUR	The estimated duration of the measurement session, in minutes, as specified in the SESSION DURATION field of the STROBE - ADD QUEUED REQUEST or STROBE - ADD ACTIVE REQUEST panel.
-----	--

**REASON** The type of deferred request. If the request is a scheduled request, then SCHEDULE appears in this field. In this case you will only see one deferred request, regardless of how many days or times the request is scheduled. Once a scheduled measurement session is initiated, the next scheduled measurement session for this request appears in the deferred category. If the request is a related request in a concurrent set, then the concurrent set name appears in this field. If the concurrent set is also scheduled, then SCHEDULE appears in this field.

## Viewing Measurement Requests

You can view the parameters of a measurement request as well as listing them by system and owner ID.

### Listing by System

To view the status of measurement requests on a particular system, enter the system name in the SYSTEM field.

To view a list of all active systems in the sysplex:

1. Clear the SYSTEM field.
2. Press **Enter** to display the STROBE - SYSTEM SELECTION LIST panel (Figure 4-4). On this panel, STROBE lists the active systems in the sysplex on the bottom half of the screen.
  - To select one or more of these systems, type “S” to the left of the system name.
  - To exclude one or more systems, type “E” to the left of the system name. This option specifies the system, or systems, that you do not want to view.

**Figure 4-4.** STROBE - SYSTEM SELECTION LIST Panel

```

----- STROBE - SYSTEM SELECTION LIST -----
COMMAND ==>                                SCROLL ==> PAGE
S - Select system(s) or                      Current System:  SCS01
E - Exclude system(s)

  Enter system names not included below and (S)elect or (E)xclude:
  - - - - -  - - - - -  - - - - -  - - - - -  - - - - -

S  SCS01      S  SCS02      _  TLP01      _  TLP04

```

### 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.

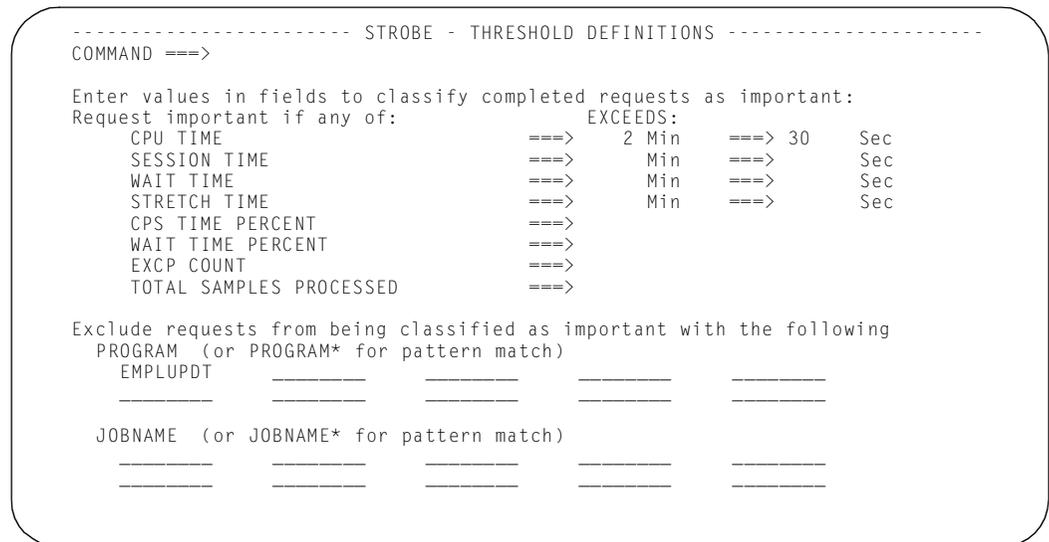
## Setting Measurement Thresholds

You can categorize the measurement requests on the STROBE - STATUS panel by listing those requests that have exceeded specific measurement thresholds.

To set thresholds for measurement requests, complete the following steps:

1. Select Option 3 (STATUS) from the STROBE OPTIONS menu.
2. Press **Enter** to display the STROBE - STATUS panel.
3. Type “Y” in the CHANGE THRESHOLDS field.
4. Press **Enter** to display the STROBE - THRESHOLD DEFINITIONS panel (Figure 4-5).

**Figure 4-5.** STROBE - THRESHOLD DEFINITIONS Panel



5. Enter the baseline value in any of the threshold fields in the top half of the panel. For example, if you specify two minutes and thirty seconds as a CPU Time threshold, as shown in Figure 4-5, measurement requests with a CPU time greater than or equal to two minutes and 30 seconds will appear in the “Completed Measurement Requests Exceeding Thresholds” category on The STROBE - STATUS panel (Figure 4-1 on page 4-3).
6. Enter the names of programs that you do not want the threshold to apply to in the PROGRAM field. Measurements of steps that execute this program will never be displayed in the “Completed Measurement Requests Exceeding Thresholds” category.
7. Enter the names of jobs that you do not want the threshold to apply to in the JOBNAME field.
8. Press **Enter** to return to the STROBE - STATUS panel.

## 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 4-6 on page 4-9).
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 2-23.

#### 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.

The following fields appear only if the request is an element in a request group.

CONCURRENT NAME	The name of the concurrent set with which this request is associated.
TRIGGER	Whether or not this request has been designated as the trigger for the concurrent set.

Figure 4-6. View Panel for Measurement Request

```

BROWSE -- SYS96045.T145132.RA000.WPAFXC.R0036933 --- LINE 00000000 COL 001 080
COMMAND ==>                                SCROLL ==> PAGE
***** TOP OF DATA *****
REQUEST 0241 IS COMPLETED
GROUP:   DB2_GRP1_PROD      CONCURRENT NAME:   CICSIMS1   TRIGGER:   Y
JOBNAME: WPA3MSTR          SESSION DURATION:   1           CREATED:   02:32:27PM
PROGRAM: *LIST              TARGET SAMPLE SIZE: 10000        05/14/2002
STEP:    *LIST              NOTIFY TSO USERID: WPAFXC      (MM/DD/YYYY)
SYSTEM:   SCS01

-----
SYSTEMS REQUESTED: SCS01

-----
CONCURRENT REQUESTS IN CONCURRENT SET NAME - CICSIMS1:
233-240

-----
MULTIPLE STEP NAMES: ORIGINAL REQUEST
STEP1                STEP2

-----
SAMPLE DSNAME PREFIX: ZZ
UNIT NAME:           WPAANY      VOLUME:           DISP: CATLG

-----
SAMPLE DATA SET NAME: ZZ.WPA3MSTR.S001D001.VERS
UNIT NAME:           WPAANY      VOLUME: WPA007     DISP: CATLG
CPU TIME   WAIT TIME  SESSION TIME  STRETCH TIME  CPS%  WAIT%  EXCPS  SAMPLES
32.08S    2M38.10S   9M06.78S    5M56.88S    16.74 83.26  16961 10000
THRESHOLDS EXCEEDED:

-----
THRESHOLDS:
CPU TIME   WAIT TIME  SESSION TIME  STRETCH TIME  CPS%  WAIT%  EXCPS  SAMPLES
2M30.00S

-----
DATA COLLECTORS

DATA COLLECTORS:      DB2
CICS OPTIONS:         NONE
CAPTURE OPTIONS:     NONE
OTHER DATA COLLECTORS: NONE

-----
MODULE MAPPING DATA

LIBRARIES TO SEARCH:  NONE
DETAIL BASELINE:     NONE
BASELINE OVERRIDE:   NONE
SVC NUMBERS:         NONE

-----
SESSION MANAGEMENT

NUMBER OF SESSIONS:   1   FINAL SESSION ACTION:  QUIT

-----
REQUEST RETENTION
QUEUED REQUEST RETENTION 005 DAYS
COMPLETED REQUEST RETENTION 005 DAYS

-----
REQUEST SCHEDULE: ORIGINAL REQUEST
RETRY INTERVAL: 5   RETRY ATTEMPTS: 3
DAY   DATE   TIME1  TIME2  TIME3  TIME4  TIME5  TIME6  TIME7  TIME8
---   ---   ---    ---    ---    ---    ---    ---    ---    ---
WED  05/14/2002 04:45P 08:45P
FRI  05/16/2002 04:45P 08:45P

-----
AUTO PROFILE JCL

//WPAFXCB1 JOB (WPAFXC,WPAOSTXXX,,99,,0),'APC',USER=WPAFXC,
//          NOTIFY=WPAFXC,CLASS=1,MSGCLASS=Q
//*
//*
//*****
/

```

GROUP

The name of the request group of which this request is a request group element.

**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.

**CONCURRENT REQUESTS IN CONCURRENT SET NAME Fields**

These fields appear only if you have assigned a request to be part of a concurrent set and designated it as the trigger request. The CONCURRENT REQUESTS IN CONCURRENT SET NAME fields list the name of the concurrent set to which the request belongs and the request numbers of the other related requests in the concurrent set.

**MULTIPLE STEP Fields**

This part of the view panel appears only if you specified multiple steps of the job to be measured:

**MULTIPLE STEPS** A list of the step numbers, step names, or program names that will be measured as a part of this request.

When you submit a single measurement request to measure multiple steps of a job, STROBE creates one measurement session to act as a *template request* for each job step you specified. As each job step becomes active, STROBE copies the template request and adds an active request (with the same options) for the specified job step.

The template request is never used for an actual measurement session. When all of the job steps have been measured the template request is marked complete. This field also displays the number of the template request.

**SAMPLE DSNAME PREFIX Fields**

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

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

<b>MGMTCLAS</b>	The Management Class of the data set
<b>DATACLAS</b>	The Data Class of the data set
<b>STORCLAS</b>	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
CPU TIME	The amount of time during the measurement session that one or more CPUs were executing tasks in the measured job step, exclusive of STROBE itself, expressed in minutes and seconds to the nearest hundredth
WAIT TIME	The portion of run time during which no task within the measured address space was able to make use of the CPU time available to it
SESSION TIME	The actual duration of the measurement session, expressed in minutes and seconds to the nearest hundredth
STRETCH TIME	The estimated amount of time that the CPU was unavailable to process programs executing in the measured address space because of demands made by higher-priority address spaces and by service request block (SRB) processing time for all address spaces
CPS%	The percentage of time during which the central processing subsystem (comprising one or more CPUs) was in use by application tasks executing within the measured job step
WAIT%	The percentage of time during which the central processing subsystem was available but was not in use by application tasks executing within the measured job step
EXCPS	The number of EXCP requests (direct invocations of execute channel programs, representing I/O) issued from the measured address space during the measurement session
SAMPLES	The total number of samples collected during the measurement session

**THRESHOLD Fields**

These fields appear only if you have assigned one or more thresholds on the STROBE - THRESHOLD DEFINITION panel:

THRESHOLDS EXCEEDED	The thresholds that were exceeded for this measurement session
THRESHOLDS	The threshold criteria specified on the STROBE - THRESHOLD DEFINITION panel

**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 2-31.

**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

#### REQUEST SCHEDULE Fields

The following columns appear only if you have submitted the measurement request with a schedule, or if the request is in a request group that was submitted with a schedule:

DAY	The day of the week that the measurement session is scheduled to be initiated.
DATE	The month, day, and year that the measurement session is scheduled to be initiated. The date format depends on the date format specified in the STROBE parameter data set.
TIME1- <i>n</i>	The time of day that the measurement session is scheduled to be initiated. If you have specified more than one time on the STROBE - REQUEST SCHEDULER panel, or have added or excluded specific times, you will see more than one TIME column. The format depends on the time format specified in the STROBE parameter data set.

#### 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 4-7 shows the STROBE - CHANGE ACTIVE REQUEST panel for an active measurement session.

Figure 4-7. 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 4-8 on page 4-15), 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 2-31.
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 4-15 on page 4-21). 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 3-9 on page 3-13).

**Figure 4-8.** STROBE - REQUEST RETENTION Panel

```

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

JOBNAME: SAJLA          REQUEST NUMBER: 276

COMPLETED REQUEST SCHEDULED TO BE REMOVED 09/16/2002 (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 4-9 on page 4-15 shows the STROBE - CHANGE SUSPENDED REQUEST panel for a suspended measurement session that has an open data set.

**Figure 4-9.** 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 4-8 on page 4-15), 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 4-15 on page 4-21). 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 3-9 on page 3-13).

## Changing a Stopped Measurement Session

Figure 4-10 on page 4-16 shows the STROBE - CHANGE STOPPED REQUEST panel for a suspended measurement session with a closed data set.

**Figure 4-10.** 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 ==> 0       ((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 4-8 on page 4-15), 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 4-15 on page 4-21). If not, STROBE displays the STROBE - CREATE AN AUTO PERFORMANCE PROFILE panel (Figure 3-9 on page 3-13).

## Changing a Queued Measurement Request

Figure 4-11 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 4-11.** STROBE - CHANGE QUEUED REQUEST Panel

```

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

A measurement session is QUEUED   REQUEST NUMBER: 405 JOBNAME: WPAAZSRR
PROGRAM   ==> PGMX             (Program or clear both PROGRAM & STEP to input a list)
STEP      ==>                  (Name,num,step.procstep or *ALL for all steps)
SYSTEM    ==> SCS01           (System or clear for a list or *ALL for all systems)
SCHEDULE REQUEST ==> N       (Y or N; S indicates previously selected)
AUTO PROFILE CREATION ==> S   (Y or N; S indicates previously selected)

MEASUREMENT SESSION INFORMATION:
  SESSION DURATION   ==> 2       (Estimated time in minutes)
  TARGET SAMPLE SIZE ==> 10000   (Target number of samples)

TSO USERID TO NOTIFY ==> WPAAZS (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         ==> N
  OTHER PARAMETERS      ==> N   SAVE REQUEST IN GROUP     ==> 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 4-12).

Figure 4-12. STROBE - REQUEST RETENTION Panel

```

----- STROBE - REQUEST RETENTION -----
COMMAND ==>
JOBNAME:  WPAMXM          REQUEST NUMBER:  0086

COMPLETED REQUEST SCHEDULED TO BE REMOVED 10/28/2002 (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**.

## Changing Deferred Measurement Requests

To change the measurement parameters for a deferred request (either a scheduled request or a related request in a concurrent set of requests):

1. Type "C" to the left of the request you wish to change.
2. Press **Enter** to display the active or queued request change panel. (STROBE determines whether the request is deferred, active or queued and displays the appropriate change panel.)

Figure 4-13. STROBE - CHANGE DEFERRED QUEUED Panel

```

----- STROBE - CHANGE DEFERRED QUEUED-----
COMMAND ==>
A measurement session is DEFERRED.  REQUEST NUMBER: 22  JOBNAME: WPAEACA7
PROGRAM  ==> PGMX          (Program or clear both PROGRAM & STEP to input a list)
STEP    ==>              (Name,num,step.procstep or *ALL for all steps)
SYSTEM  ==> SCS01        (System or clear for a list or *ALL for all systems)
SCHEDULE REQUEST ==> N  (Y or N; S indicates previously selected)
AUTO PROFILE CREATION ==> S (Y or N; S indicates previously selected)

MEASUREMENT SESSION INFORMATION:
SESSION DURATION  ==> 15          (Estimated time in minutes)
TARGET SAMPLE SIZE ==> 10000     (Target number of samples)

TSO USERID TO NOTIFY ==> WPAAZS  (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          ==> N
OTHER PARAMETERS     ==> N  SAVE REQUEST IN GROUP      ==> N

```

Figure 4-13 shows the change panel for a queued request that is deferred. 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. You can change any of the other values. STROBE displays the values that you specified when you submitted the measurement request.

If you selected AUTO PROFILE CREATION or any of the fields under SELECT ADDITIONAL PARAMETERS, these fields are indicated with an “S”. If you wish to change any of the parameters on these subsidiary panels, specify a “Y” in the field 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 4-14) 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 4-14.** 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: 09/13/2002 (MM/DD/YYYY)
EXPIRATION DATE: 11/20/2002 (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.)

```

## Deleting AutoSTROBE Requests

Unlike STROBE measurement requests, AutoSTROBE requests do not have retention periods and are not automatically deleted. If the combined number of STROBE and AutoSTROBE requests gets too large, you may receive the STROBE message STR6107W indicating that the total number of requests is approaching the maximum limit. To delete AutoSTROBE requests see “Managing Requests from the AutoSTROBE Status Panel” on page 7-5.

## 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.

<b>If the panel is</b>	<b>Then</b>
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.

<b>If the panel is</b>	<b>Then</b>
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 4-15 on page 4-21).

3. Press **Enter** to display the STROBE - CHANGE AN AUTO PERFORMANCE PROFILE panel Figure 4-15 on page 4-21.
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 3-11.

Figure 4-15. STROBE - CHANGE AN AUTO PERFORMANCE PROFILE Panel

```

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

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

CREATE HISTORY RECORD ==> Y  History Parameters ==> Y (Y or 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:
//WPAFXC JOB (WPAFXC,WPAOSDXXX,,99,,0),'APC',USER=WPAFXC,
//          NOTIFY=WPAFXC,CLASS=1,MSGCLASS=Q
/*
/*

```

## 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 4-16). (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 4-16. 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 4-17 on page 4-22).

Figure 4-17. 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 ==> 10 / 26 /2002 (Limit by dates -
ENDING DATE == 10 / 27 /2002 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 to browse through log messages,</li> <li>• P to print them</li> <li>• C 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 4-18).
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 4-18. 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)

      10/10/2002  11:25:05  'WPA.STROBE.A.LOG.G0002V00'
S 11/09/2002   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 4-19). 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 4-19. 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 4-20). 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 4-20. 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 4-21). 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 4-21. 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
--------------	--

## Changing the REQUEST GROUP PROCESSING Panel Format

You can control the sort criteria on the STROBE - REQUEST GROUP PROCESSING, the STROBE - SAVE REQUEST IN A GROUP, and the STROBE - BATCH-SUBMISSION OF REQUEST GROUPS panels. For each column on the panel, you can choose whether to sort the values in the column, and how to sort the values in the column.

To change the sort criteria for any of these panels, enter “Y” in the CHANGE SORT CRITERIA field and press **Enter**. STROBE/ISPF displays the STROBE - REQUEST GROUP SORT panel (Figure 4-22).

**Figure 4-22.** STROBE - REQUEST GROUP SORT Panel

```

----- STROBE - REQUEST GROUP SORT -----
COMMAND ==>

      DISPLAY      SORT      SORT      DISPLAY
      ORDER      COLUMN      SEQUENCE
      =====
          1          -          -          GROUP NAME
          2          -          -          ELEMENT COUNT
          3          -          -          LAST SUBMIT DATE
          4          -          -          LAST EDIT DATE
  
```

The STROBE - REQUEST GROUP SORT panel lists the fields you can sort on the STROBE - REQUEST GROUP PROCESSING, the STROBE - SAVE REQUEST IN A GROUP, and the STROBE - BATCH-SUBMISSION OF REQUEST GROUPS panels. For each field, you can choose whether to sort the values in the column by a particular sort sequence. DISPLAY shows the name of each column.

- 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.

---

## 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 4-23. 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 4-24. 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 4-25. 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.V2R4MOX.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 4-26. 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 4-27).
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 4-27.** 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 4-8 on page 4-15) 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 4-28).

**Figure 4-28.** STROBE - BATCH-SUBMISSION LIST/DELETE REQUEST Panel

```

----- STROBE - BATCH-SUBMISSION LIST/DELETE REQUEST -----
OPTION  ==>

    1 - Delete measurement requests specified below
    2 - List all requests, showing request number, jobname, and status
    3 - List all requests by OWNERID showing session parameters
      OWNERID   ==> WPA*      (Blank for all users)
    4 - List measurement requests specified below showing session parameters
    5 - List all requests by selected status showing session parameters
      (Q=Queued  A=Active   C=Completed  D=Deferred or Blank for all)
      STATUS TYPE ==>

REQUEST NUMBER or JOBNAME:
    ==>           ==>           ==>           ==>
    ==>           ==>           ==>           ==>
    ==>           ==>           ==>           ==>
    ==>           ==>           ==>           ==>
  
```

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:

Enter	To view all
Q	Queued requests
A	Active requests
C	Completed requests
D	Deferred 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.

## **Changing Deferred Active Measurement Requests**

To change a deferred active measurement request, select Option 8 (CHANGE DEF/ACTIVE) from the BATCH-SUBMISSION OPTIONS menu. To identify the request you want to change, specify the request number or the job name in the REQUEST NUMBER or JOBNAME field. This panel accepts the same information as the STROBE - ADD ACTIVE REQUEST panel (Figure 2-2 on page 2-3).

## **Changing Deferred Queued Measurement Requests**

To change a deferred queued measurement request, select Option 9 (CHANGE DEF/QUEUED) from the BATCH-SUBMISSION OPTIONS menu. To identify the request you want to change, specify the request number or the job name in the REQUEST NUMBER or JOBNAME field. The remaining fields are the same as the STROBE - ADD QUEUED REQUEST panel (Figure 2-5 on page 2-8).

## **Batch Submission of Request Groups**

To submit a request group as a batch job, select Option G (SUBMIT A GROUP) from the STROBE - BATCH-SUBMISSION OPTIONS menu. STROBE/ISPF displays the STROBE - BATCH-SUBMISSION OF REQUEST GROUPS panel (Figure 4-29). 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 4-29. STROBE - BATCH-SUBMISSION OF REQUEST GROUPS Panel

```

----- STROBE - BATCH-SUBMISSION OF REQUEST GROUPS -----
COMMAND ==>                                     SCROLL ==> PAGE

Change Sort Criteria ==> N      (Y or N) -----
-----
Line Options:
      U - Submit Group           T - Submit Group w/Schedule
                                     (MM/DD/YYYY)
-OPTION---GROUP NAME-----OWNER---ELEMENT CNT---LAST SUBMIT---LAST EDIT---
-   _   DB2_GRP1_PROD      WPAABD      18   10/30/2002   09/21/2002
-   _   DB2_GRP1_TEST      WPAABD       7    09/06/2002   10/11/2002
-   U   DB2_CICS_CON1      WPAABD      15    09/06/2002   08/23/2002

```

To submit a request group as a batch job, type “U” next to the name of the request group and press **Enter**.

To submit a request group for processing at a later time or a later date, type “T” next to the name of the request group you want to schedule and press **Enter**. The STROBE - REQUEST SCHEDULER panel appears. From this panel, you can set up a schedule for STROBE to automatically initiate measurement sessions for the requests in the request group on the dates and times that you specify. For information about scheduling individual requests and request groups, see “Scheduling Measurement Requests” on page 2-23.

**Note:** The LAST SUBMIT column on the STROBE - BATCH SUBMISSION OF REQUEST GROUPS Panel reflects the last time the request group was submitted for processing on the current system. Therefore, this column is not updated when the request group is submitted using the batch submission option.

## 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.
3. 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.

# Working with Measurement History Information

With the STROBE Advanced Session Management Feature you can collect, display, and manage measurement session history information. This information enables you to more easily identify trends in the performance of a particular job step or online region and to quantify the results of your application performance management program.

This chapter explains how to

- decide how to implement measurement session history
- work with measurement session history, using a walkthrough approach
- manage measurement session history records
- focus the analysis on DBRMs
- focus the analysis on transactions
- automate the measurement, Performance Profile, and measurement session history collection processes

---

## Before You Begin

This section describes the tasks you need to perform before you can analyze the trends of a specific job step, DBRM, or transaction.

### Deciding What to Collect

The first step is to select the job steps or online regions in which you are most interested. Possible candidates are:

- job steps or critical online regions that you are tracking for performance improvement
- modules that you have recently measured with STROBE and targeted for improvement based on analysis of the Performance Profiles
- job steps that you have identified as CPU intensive

One approach would be to collect measurement session history for every job step that you measure with STROBE. The main benefit of this approach is that you can easily identify performance anomalies that warrant further analysis. Although the amount of data that you collect using this approach could become significant, you would not have to analyze each measurement. Instead, you could use the measurement data for trending analysis.

Implementing a more proactive approach to application performance improvement would realize greater benefits over time. Collecting measurement session history for the job steps, transactions, and DBRMs that you have specifically targeted for performance improvement enables you to focus your efforts.

### Collecting Measurement Session History

To create and store measurement history records, specify the “Create History Record” option on the STROBE - PRODUCE A PERFORMANCE PROFILE or STROBE - CREATE AN

AUTO PERFORMANCE PROFILE panel. STROBE saves selected historical information for the measurement session, as well as some calculated values. This information is stored as a *measurement session history record* in the history data set.

To display history information you must first collect and store measurement session history records. For more information, see "Collecting Measurement Session History" on page 1-6.

---

## A Walkthrough of Measurement Session History

This section guides you through the process of examining measurement session history information. The example used in this section focuses on a specific job step that was targeted for performance improvement. The step, EMPLRD12, is part of a payroll application that is run twice a month. Code improvements were made to this step in January. Therefore, this example focuses only on the measurement sessions that were taken after the first of the year.

### About the Walkthrough

The flow of the panels described in this section applies to all three views of measurement session history: job step, DBRM, and transaction. This example discusses the job step view of measurement session history.

In this example you will perform the following tasks:

- display the data by the job step view
- customize the view of the measurement history information by specifying filters and sort criteria
- see changes in the performance of a particular job step over time and relate these changes in performance to changes in operating costs
- print the results
- manage the measurement session history records by deleting records and adding and modifying comments
- update cost records

The sections following the overview describe additional tasks, such as managing the history information and working with the DBRM and transaction views, in more detail.

### Displaying Measurement Session History Information

To view measurement session history information:

1. Select the H - HISTORY option from the STROBE OPTIONS menu (Figure 5-1 on page 5-3).

**Figure 5-1.** STROBE OPTIONS Menu

```

----- STROBE OPTIONS ----- Ver 3 Rel 00
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
G REQUEST GROUPS - Create, edit and submit groups of measurement requests
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
A AUTOSTROBE - Add delete and display AUTOSTROBE requests
H HISTORY - Access historical data
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

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```

2. Press **Enter** to display one of three summary view panels (Job step, DBRM, or Transaction), depending on the view you last selected. The first time you select History, you see the job step view. In this example, STROBE/ISPF displays the STROBE - HISTORY - JOB/STEP/PROGRAM SUMMARY panel (Figure 5-2).

**Figure 5-2.** STROBE - HISTORY - JOB/STEP/PROGRAM SUMMARY Panel

```

----- STROBE - HISTORY - JOB/STEP/PROGRAM SUMMARY -----
COMMAND ==> SCROLL ==> PAGE

DBRM - Switch to DBRM Summary View PE - Print/Export MORE>>
TRAN - Switch to TRANSACTION Summary View CS - Change Sort/Filters
CM - Change Machine Costs

-----
Line Options: S - Select D - Delete
----- LAST MEASUREMENT -----
HISTORY (MM/DD/YYYY) SERV UNITS
--JOBNAME--STEPNAME-----PROGRAM--RECORDS--DATE-----TIME----- (1000S)--
- EMPPAY03 EMPLWRIT EMPLWRIT 5 09/15/2002 10:05:33 3
S EMPPAY03 EMPLRD12 EMPRPT12 4 09/12/2002 19:03:48 20
- EMPPAY03 EMPLFORM EMPLFORM 1 09/29/2002 15:20:23 54
----- BOTTOM OF DATA -----

```

3. To select one or more displayed lines for further detail, type “S” to the left of the line.
4. Optionally, enter on the command line any of the following:

**Option Description**

STEP Change to a job step view.

DBRM Change to a DBRM summary view. See “Working with the DBRM View” on page 5-18.

TRAN Change to a Transaction summary view. See “Working with the Transaction View” on page 5-23.

- CS      Modify the filters and sort values. See “Modifying Filters and Sort Values” on page 5-9.
- CM      Change machine costs (the values used to calculate costs per run and total cost per year). See “Changing Machine Costs” on page 5-11.
- PE      Request either Print or Export. The print option provides a formatted report of the panel you are currently viewing. Export converts the information on the panel into a format that can be imported into a spreadsheet. See “Printing and Exporting Measurement Session History Information” on page 5-17.

## Examining the Summary View

The summary view (Figure 5-7 on page 5-7) is created by specifying filters and sort keys. In this example, the filters are job name, job step, and measurement session date. For more information see “Modifying Filters and Sort Values” on page 5-9.)

Each summary row on this panel represents a set of measurement session history records for a unique job, step, and program combination. The HISTORY RECORDS column represents the number of times the job step was measured.

Select one of the summary rows to further investigate all of the measurement sessions for this job step. The row you are interested in contains measurement session history records for measurements of the payroll processing job step that runs twice each month.

To select a summary row and display a detail view complete the following steps:

1. On the STROBE - HISTORY - JOB/STEP/PROGRAM SUMMARY panel, type an “S” to the left of the summary row, as shown in Figure 5-2 on page 5-3.
2. Press **Enter** to display the STROBE - HISTORY - JOB/STEP/PROGRAM DETAIL panel (Figure 5-3).

**Figure 5-3.** STROBE - HISTORY - JOB/STEP/PROGRAM DETAIL Panel

```

----- STROBE - HISTORY - JOB/STEP/PROGRAM DETAIL -----
COMMAND ==>                                                    SCROLL ==> PAGE
Job:      EMPPAY03                                           PE - Print/Export      MORE>>
Step:     EMPLRD12                                           CS - Change Sort
Program:  EMRPT12      Annual Frequency ==> 24             CM - Change Machine Costs
-----
Line Options:  D - Delete      U - Update History Record  B - Baseline
               P - Profile    V - View more details      O - Compare to Baseline
MEASUREMENT
----DATE-----TIME---COST-SESSION TIME---CPU TIME---WAIT TIME-STRETCH TIME--
- 09/29/2002 18:03:18 NP   12M 54.53S   2M 25.41S   9M 11.33S   1M 17.79S
- 09/12/2002 17:56:24 NP    8M 31.49S   1M  9.41S   6M 13.76S   1M  8.32S
- 09/26/2002 17:50:59 NP    7M 54.74S   1M  0.14S   6M 49.03S   0M  5.57S
- 09/12/2002 19:03:48 NP    7M 52.65S   1M  5.14S   6M 36.30S   0M 11.21S
-----
                        BOTTOM OF DATA -----
    
```

## Examining the Detail View

The detail view lists all measurement session history records for the selected job step, DBRM, or transaction. From this view, you can examine the changes in the performance of the payroll job step.

Measurements of this job step prior to the first of the year showed that the performance was gradually degrading. Performance improvement opportunities were identified for this job step after examining the Performance Profile for the measurement performed on

September 29. The changes were implemented, and the job was measured each week since that time.

Examine the CPU time column (Figure 5-3 on page 5-4). You can see the decrease in CPU time from the measurement on January 29 to the February 12 measurement. You can also see that these application performance changes resulted in a consistent improvement in CPU time, as shown in the subsequent measurements.

**Figure 5-4.** STROBE - HISTORY - JOB/STEP/PROGRAM DETAIL panel (One Scroll Right)

```

----- STROBE - HISTORY - JOB/STEP/PROGRAM DETAIL -----
COMMAND ==> SCROLL ==> PAGE

Job:      WPALKSL2                      PE - Print/Export    <<MORE>>
Step:     EMRPT12                       CS - Change Sort
Program:  EMRPT12      Annual Frequency ==> 24  CM - Change Machine Costs
-----
Line Options:  D - Delete      U - Update History Record  B - Baseline
               P - Profile    V - View more details        O - Compare to Baseline
MEASUREMENT
----DATE-----TIME-----EXCPS-SERVICE UNITS-SYSTEM---CPU MODEL--HISTORIAN-
- 11/29/2002 18:03:18      31,687      22,488 SCS1      9672-R42 WPAFXC
- 12/12/2002 17:56:24       8,786       4,328 SCS1      9672-R42 WPAFXC
- 12/26/2002 17:50:59       8,561       4,049 SCS1      9672-R42 WPAFXC
- 10/12/2002 19:03:48       8,005       4,504 SCS1      9672-R42 WPAFXC
-----
                                BOTTOM OF DATA

```

At this detail level, you can specify any of the following line options:

**Option Description**

- D     **Delete:** removes the measurement session history record
- P     **Profile:** presents the Produce a Performance Profile panel and fills in the options with the reporter parameters obtained from the SYSIN data set (after determining if the sample data set exists)
- U     **Update History Record:** enables you to modify the comment and the cost category associated with the measurement session history record
- V     **View more details:** displays a browse panel with additional information about the measurement request
- B     **Baseline:** enables you to select a measurement session history record with which to compare other measurement session history records
- O     **Compare to Baseline:** enables you to select measurement session history records to compare to the selected baseline

Scroll to the right again to display the comments associated with the measurement session history records (Figure 5-5).

**Figure 5-5.** STROBE - HISTORY - JOB/STEP/PROGRAM DETAIL Panel (Two Scrolls Right)

```

----- STROBE - HISTORY - JOB/STEP/PROGRAM DETAIL -----
COMMAND ==>                                     SCROLL ==> PAGE

Job:      WPASMR12                               PE - Print/Export    <<MORE
Step:     STEP1.IDMS120                           CS - Change Sort
Program:  IDMSDC      Annual Frequency ==> 24     CM - Change Machine Costs
-----
Line Options:  D - Delete    U - Update History Record  B - Baseline
               P - Profile   V - View more details      O - Compare to Baseline
MEASUREMENT
----DATE-----TIME----COMMENT-----
- 11/29/2002 18:03:18 MEASUREMENT PRIOR TO CODE CHANGE.
- 12/12/2002 17:56:24 MEASUREMENT AFTER ADDING INDEX.
- 12/26/2002 17:50:59 VERIFICATION MEASUREMENT.
- 10/12/2002 19:03:48 VERIFICATION MEASUREMENT.
-----
                        BOTTOM OF DATA -----
    
```

In the next section, you will select one measurement as a baseline and compare other measurements of the job step to see changes in performance.

## Examining Trends in Performance

You already know that the overall performance of the payroll application has improved because CPU time and overall session time have decreased. However, by comparing the most recent measurement session with the measurements of the job prior to implementing the coding improvements, you can calculate exactly how much performance has improved.

To see changes in the performance of a job step relative to a baseline, complete the following steps:

1. On the STROBE HISTORY - JOB/STEP/PROGRAM DETAIL panel, specify a baseline measurement session history record by typing a “B” to the left of the record, as shown in Figure 5-6.
2. Select one or more records to compare to the baseline selection by typing “O” to the left of each record, as shown in Figure 5-6.

**Figure 5-6.** STROBE - HISTORY - JOB/STEP/PROGRAM DETAIL Panel (Baseline Selected)

```

----- STROBE - HISTORY - JOB/STEP/PROGRAM DETAIL -----
COMMAND ==>                                     SCROLL ==> PAGE

Job:      WPALKSL2                               PE - Print/Export    MORE>>
Step:     EMRPT12                               CS - Change Sort
Program:  EMRPT12      Annual Frequency ==> 24     CM - Change Machine Costs
-----
Line Options:  D - Delete    U - Update History Record  B - Baseline
               P - Profile   V - View more details      O - Compare to Baseline
MEASUREMENT
----DATE-----TIME----COST-SESSION TIME---CPU TIME---WAIT TIME--STRETCH TIME--
B 11/29/2002 18:03:18 NP   12M 54.53S    2M 25.41S    9M 11.33S    1M 17.79S
O 12/12/2002 17:56:24 NP    8M 31.49S    1M  9.41S    6M 13.76S    1M  8.32S
- 12/26/2002 17:50:59 NP    7M 54.74S    1M  0.14S    6M 49.03S    0M  5.57S
O 10/12/2002 19:03:48 NP    7M 52.65S    1M  5.14S    6M 36.30S    0M 11.21S
-----
                        BOTTOM OF DATA -----
    
```

3. Press **Enter** to display the STROBE - HISTORY - JOB/STEP/PROGRAM COMPARISON panel (Figure 5-7).

Figure 5-7. STROBE - HISTORY - JOB/STEP/PROGRAM COMPARISON Panel

```

----- STROBE - HISTORY - JOB/STEP/PROGRAM COMPARISON -----
COMMAND ==>                                     SCROLL ==> PAGE

Job:      WPALKSL2                               PE - Print/Export      MORE>>
Step:     EMRPT12                                CC - Cost Comparison
Program:  EMRPT12    Annual Frequency ==> 0      CM - Change Machine Costs
-----
Line Options: U - Update History Record
BASELINE MEASUREMENT
----DATE-----TIME---COST-SESSION TIME-----CPU TIME----WAIT TIME-STRETCH TIME-
B 11/29/2002 18:03:18 NP    12M 54.53S    2M 25.41S    9M 11.33S    1M 17.79S
--COMPARE TO BASELINE-----
- 12/12/2002 17:56:24 NP    -4M 23.04S    -1M 16.00S    -2M 57.57S    -0M  9.47S
- 10/12/2002 19:03:48 NP    -5M 41.88S    -1M 20.27S    -2M 35.03S    -1M  6.58S
-----
----- BOTTOM OF DATA -----

```

The STROBE - HISTORY - JOB/STEP/PROGRAM COMPARISON panel shows that the overall session time decreased by approximately five and a half minutes. The CPU time also decreased, by a little over a minute. Scroll to the right to see additional information, such as the differences in EXCPs and service units used by the job step.

The COST column indicates whether the measurement session history record was assigned a prime (PR) or non-prime (NP) rate. The default values for both the prime and non-prime rates are assigned according to the time of day, and according to the system on which the job step was executed. In this example, the job step was assigned a non-prime rate because it ran in the evening. For more information, see “About Cost Records and Cost Categories” on page 5-11.

In the next section you will further quantify the changes you have identified by calculating the changes in operating costs. You will see calculated costs per run and total cost per year compared to the baseline measurement.

## Calculating Changes in Operating Costs

To see changes in operating costs, such as calculated costs per run and total cost per year, complete the following steps:

1. Type “CC” at the command line on the STROBE - HISTORY - JOB/STEP/PROGRAM COMPARISON panel.
2. Press **Enter** to display the STROBE - HISTORY - JOB/STEP/PROGRAM COST COMPARISON panel Figure 5-8.

Figure 5-8. STROBE - HISTORY - JOB/STEP/PROGRAMCOST COMPARISON Panel

```

----- STROBE - HISTORY - JOB/STEP/PROGRAMCOST COMPARISON -----
COMMAND ==>                                     SCROLL ==> PAGE

Job:      WPALKSL2                               PE - Print/Export      MORE>>
Step:     EMRPT12                                CM - Change Machine Costs
Program:  EMRPT12    Annual Frequency ==> 24
-----
Line Options: U - Update History Record
BASELINE MEASUREMENT
----DATE-----TIME---COST---CPU TIME-----EXCPS--(1000S)----/RUN-----/YEAR
- 11/29/2002 08:03:18 NP    2M 25.41S    31,687    22 18,976    2,855,424
--COMPARE TO BASELINE-----
- 12/12/2002 17:56:24 NP    -1M 16.00S    -22,901    -18-98,092    -2,354,208
- 10/12/2002 19:03:48 NP    -1M 20.27S    -23,682    -18-96,050    -2,305,200
-----
----- BOTTOM OF DATA -----

```

From the STROBE - HISTORY - JOB/STEP/PROGRAM COST COMPARISON panel, you can quickly see changes in the cost per run and the cost per year (total annualized savings) for instances of the selected job step, as compared to the baseline measurement. To see the annualized costs for this job step, you must enter the *annual frequency* in the ANNUAL FREQUENCY field in the top center portion of the panel. Annual frequency is the estimated number of times per year that a job step, transaction, or DBRM is executed.

The values STROBE uses to calculate these operating costs are derived from the cost record associated with this measurement session history record. For more information on cost records and how they are used, see “Example of How Cost Records Are Used” on page 5-12.

Scroll to the right to see the comments associated with the measurement session history records. The comments may help you identify those measurement session history records that are of interest to you.

You have analyzed the performance improvement for this job step, quantified the improvements, and calculated the savings. Your next step is to save the results by printing the report (described below and in “Printing Measurement Session History” on page 5-17), or exporting it to a format that can later be imported into a spreadsheet program for further tracking (described in “Exporting Measurement Session History” on page 5-18).

## Printing the Results

The print option produces a formatted report of the information you are currently viewing. It is available from any summary, detail, or comparison panel. To print the information displayed on these panels, complete the following steps:

1. Type “PE” at the command line of the cost comparison panel.
2. Press **Enter** to display the STROBE - HISTORY - PRINT/EXPORT panel.
3. Type “P” in the SELECT FUNCTION field.
4. Complete one of the following:
  - **Write the output to a data set:** specify the data set name in the DATA SET NAME field. Enter the unit on which the data set is to be allocated in the UNIT NAME field. Enter the volume serial number on which the data set is to be allocated in the VOLUME field.
  - **Route the output:** specify the output class in the SYSOUT CLASS field. Use any output class appropriate to your installation.
5. To specify the number of lines STROBE prints on each page of the report, enter a value from 45 to 80 LINES/PAGE field.
6. Type a “Y” in the INCLUDE COMMENTS field to print any comments associated with the measurement session history records on the panel. At the summary level panel, the option to print associated comments is not available.

When you include comments on the printed reports the format becomes two-page: the measurement session history information is printed on the left-hand page, and any associated comments (as well as the user ID of the person who created the record) are printed on the right-hand page. Page numbering for the right-hand pages is “1A”, “2A”, and so on.

7. Press **Enter**.

You have now completed a basic analysis of the performance trends for a particular job step. The remaining sections in this chapter discuss managing the measurement session history records, changing machine costs, displaying the DBRM and Transaction views, and automating the history collection process.

## Managing Measurement History Information

From any summary or detail panel, you can

- modify the filters and sort values for the view you are using
- change machine costs (the values used to calculate costs per run and total cost per year)
- add or modify comments
- print or export the measurement session history information

These options are described in the following sections.

### Modifying Filters and Sort Values

To create a more selective view of the measurement history information, specify filters and sort criteria from any summary panel. These filters include job name, step name, program name, DBRM name, and transaction name. Sort criteria includes measurement date and time, session time, and CPU time, as shown in

Figure 5-9. Once the filters and sort criteria are specified, STROBE retrieves, sorts, and displays the information.

**Figure 5-9.** STROBE - HISTORY - JOB/STEP/PROGRAM SUMMARY CHANGE SORT/FILTERS Panel

```

----- STROBE - HISTORY - JOB/STEP/PROGRAM SUMMARY CHANGE SORT/FILTERS -----
COMMAND ==>

FILTERS:
JOB      ==> *                (Jobname or jobname* for pattern match)
STEP    ==> *                (Stepname or stepname* for pattern match)
PROGRAM ==> *                (Program or program* for pattern match)
HISTORIAN ==> *              (Historian or historian* for pattern match)
SYSTEM  ==> *                (System or system* for pattern match)
DATE RANGE ==> / /          TO ==> / /          (MM/DD/YYYY)

SORT:
      SORT ORDER      SORT SEQUENCE      DISPLAY
      (1-9)           (A or D)           TITLE
      -----
      1                A                JOBNAME
      2                A                STEPNAME
      3                A                PROGRAM
      -                -                NUMBER OF HISTORY RECORDS
      -                -                LAST MEASUREMENT DATE AND TIME
      -                -                LAST MEASUREMENT SERVICE UNITS
      -                -                LAST MEASUREMENT SESSION TIME
      -                -                LAST MEASUREMENT CPU TIME
      -                -                LAST MEASUREMENT EXCPS
  
```

### Changing Filters and Sort Values for Summary Panels

To change the filter or sort values, complete the following steps:

1. Type “CS” at the command line on any summary panel.
2. Press **Enter** to display the appropriate summary panel. Figure 5-9 shows an example of the STROBE - HISTORY - JOB/STEP/PROGRAM SUMMARY CHANGE SORT/FILTERS panel.
3. In the top half of the panel, specify the list of filters for the view you want to create.

**Note:** A wildcard character (\*) is only valid as the last character in an alphanumeric sequence or as the only character in the field. It is not valid when inserted between two alphanumeric sequences.

4. In the bottom half of the panel, specify the sort order and the sort sequence for the columns that appear on the panel. DISPLAY TITLE shows the name of each column.
  - To specify the category sort order, enter a number in the SORT ORDER 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.
5. Press **Enter** to return to the appropriate summary panel. STROBE populates the panel according to the specified filters and sort values.

### Changing Filters and Sort Values for Detail Panels

To change the sort order for the columns on any detail panel, complete the following steps:

1. Type "CS" at the command line of any detail panel.
2. Press **Enter** to display the appropriate detail change sort panel.

**Note:** Note that the filters you specified at the summary level are automatically applied at the detail level. Figure 5-10 shows an example of the STROBE - HISTORY - JOB/STEP/PROGRAM DETAIL SORT panel.

3. Specify the sort order and the sort sequence for the columns that appear on the panel. DISPLAY TITLE shows the name of each column.
  - To specify the category sort order, enter a number in the SORT ORDER 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, type "A" for ascending or "D" for descending in the SORT SEQUENCE field.
4. Press **Enter** to- return to the appropriate detail panel. STROBE populates the panel according to the specified sort values.

Figure 5-10. STROBE - HISTORY - JOB/STEP/PROGRAM DETAIL SORT Panel

```

----- STROBE - HISTORY - JOB/STEP/PROGRAM DETAIL SORT -----
COMMAND ==>

      SORT          SORT          DISPLAY
      ORDER        SEQUENCE      TITLE
      (1-9)        (A or D)
      =====
          1             A      MEASUREMENT DATE AND TIME
          2             A      SESSION TIME
          -             -      CPU TIME
          -             -      WAIT TIME
          -             -      STRETCH TIME
          -             -      EXCPS
          -             -      SERVICE UNITS
          -             -      SYSTEM
          -             -      HISTORIAN
    
```

### Comparing Jobs or Steps with Different Names

You can compare the performance of jobs that may have different job names or step names but are essentially the same program execution.

For example, you may run the same job multiple times during the week, but each run is assigned a different accounting code and a unique job name. The program executed, however, is the same for all instances. To compare the performance of these runs, replace the job name or the step name with a substitute name that is common for all runs. If you

want to compare the measurement session history records with job names of CYCLE01 and CYCLE02, recreate the Performance Profile for each measurement, specifying CYCLEXX as the substitute job name. You can then compare the two measurement session history records.

To replace a job name or a step name, enter the appropriate parameter in the OTHER PARAMETERS field of the STROBE - PRODUCE A PERFORMANCE PROFILE panel when you create the Performance Profile.

Parameter	Description
REPJOB= <i>jobname</i>	Use this parameter to override the actual job name with a substitute job name. The job name can be up to eight characters in length, but cannot include asterisks (*) or embedded blanks.
REPSTP= <i>stepname</i>	Use this parameter to override the actual step name with a substitute step name. The step name can be up to seventeen characters in length, but cannot include asterisks (*) or embedded blanks.

Even though the job name or step name has been overridden in the measurement session history record, you can view the original job name or step name by selecting the extended view option from any detail level panel. Optionally, you can enter the name in the COMMENT field on the STROBE - HISTORY - UPDATE HISTORY RECORD panel to keep track of the original job name or step name.

Once you have created the Performance Profile using the job or step name replacement parameters, you can compare the performance of the job to other jobs with the same name. For more information on comparing the performance of jobs, see “Examining Trends in Performance” on page 5-6.

## Changing Machine Costs

STROBE uses a cost record to calculate changes in cost and to project the annualized savings that were described in “Calculating Changes in Operating Costs” on page 5-7. A *cost record* comprises prime cost values, non-prime cost values, and a time range that is considered prime machine time. Each cost record is associated with a particular system and CPU model.

Use the machine costs panels to add, change, or delete cost records. The machine cost panels are accessible from all summary, detail, measurement comparison, and cost comparison panels.

## About Cost Records and Cost Categories

A default cost record is created during STROBE installation. This record is used to calculate the changes in operating costs shown on the cost comparison panels. In addition, you can also create cost records for each system and CPU model in the sysplex. For example, you could create a cost record for a test system called TESTLPAR that runs on an IBM 9021, and for a production system called PROD1 that runs on an IBM 9672. For each of these system/CPU model pairs, you assign a value for either the cost of one CPU hour and the cost of 1000 I/Os, or the cost of 1000 service units. The costs of a job running on the test system would then be different from the costs of the same job running in production. In addition to the cost values, you could also assign different time ranges for the prime processing period.

### *Working With Cost Categories*

For each system/CPU model pair, there are two sets of cost values: one set of cost values for the “prime” time (designated by “PR”) and one set of cost values for “non-prime”

(designated by “NP”) time. The prime time and non-prime time designations are called *cost categories*. Just as one run of a job may cost more on a different machine, one run of a job may cost more if it executes during prime time, rather than non-prime time.

There are other ways of assigning a prime or non-prime processing designation in addition to time range. You can also categorize the measurement session history records by the environment in which the target program executed: online region or batch processing. For example, you may want to designate all online region execution as “prime” and all batch execution as “non-prime”. To do so, update the cost categories on the measurement session history records. For more information, see “Updating Cost Records and Cost Categories” on page 5-13.

### Types of Cost Records

There are two other types of cost records, *user* cost records and *system* cost records, in addition to the default cost record. *User* cost records are cost records that apply only to you. *System* cost records are cost records that can be used globally by all users. The STROBE - HISTORY - MACHINE COSTS DISPLAY panel (Figure 5-12 on page 5-13) lists the default cost record first, followed by all the user and system cost records for each system/CPU model pair.

### Example of How Cost Records Are Used

When STROBE calculates changes in operating costs, it first looks for a user cost record. If a user cost record does not exist for the particular system/CPU model, STROBE looks for an applicable system cost record. If an appropriate system cost record does not exist, STROBE uses the default cost record. This flexibility allows you to create your own cost records to simulate different operating cost scenarios without affecting other users.

In Figure 5-11 on page 5-12, note that the November 29th measurement is categorized as having run during the prime processing period.

Figure 5-11. Examining the Cost Category

```

----- STROBE - HISTORY - JOB/STEP/PROGRAM DETAIL ----- PAGE
COMMAND ==> SCROLL ==>

Job:      WPALKSL2                PE - Print/Export      MORE>>
Step:     EMRPRT12               CS - Change Sort
Program:  EMRPRT12      Annual Frequency ==> 52  CM - Change Machine Costs
-----
Line Options:  D - Delete      U - Update History Record  B - Baseline
               P - Profile    V - View more details      O - Compare to Baseline
MEASUREMENT
----DATE-----TIME---COST-SESSION TIME---CPU TIME---WAIT TIME-STRETCH TIME--
B 11/29/2002 08:03:48 PR   2M 34.53S   0M 25.41S   1M 51.33S   0M 17.79S
_ 12/12/2002 18:56:24 NP   1M 11.49S   0M  9.41S   0M 53.76S   0M  8.32S
O 12/26/2002 07:50:49 PR   0M 47.01S   0M  5.14S   0M 36.30S   0M  5.57S
-----
                        BOTTOM OF DATA -----

```

However, the measurement on December 12th is categorized as non-prime. All three of the measurements shown in Figure 5-11 executed on system SYSC, which runs on an IBM 7490-P/R390. To assign this cost category, STROBE refers to the cost record for the system/CPU model on which the measurement took place. As shown in Figure 5-12 on page 5-13, the prime processing period on system SYSC is 7:30 a.m. to 4:30 p.m. The first measurement was taken at 8:03 a.m., therefore it was categorized as prime time. The second measurement was taken at 6:56 p.m., therefore STROBE assigns it a category of non-prime.

STROBE then uses the appropriate cost values for the assigned cost category to calculate the cost differences shown on the various cost comparison panels. For example, when calculating costs for the November 29th measurement, STROBE would use the CPU and

I/O costs assigned for the prime processing period. In Figure 5-12 on page 5-13, these values are shown as \$172 per CPU hour, and slightly over \$21 per thousand I/Os.

## Updating Cost Records and Cost Categories

To access the machine cost panels, complete the following steps:

1. Type "CM" on the command line of any summary, detail, or comparison panel
2. Press **Enter** to display the STROBE - HISTORY - MACHINE COSTS DISPLAY panel (Figure 5-12).

The MACHINE COSTS DISPLAY panel shows the cost per CPU hour, cost per 1000 I/Os, and cost per 1,000 service units for each system/ CPU model pair.

**Figure 5-12.** STROBE - HISTORY - MACHINE COSTS DISPLAY Panel

```

----- STROBE - HISTORY - MACHINE COSTS DISPLAY -----
COMMAND ==>                                     SCROLL ==> CSR
Add Cost Record ==> N   (Y or N)                                     MORE>>
-----
Line Options:   U - Update Cost Record   D - Delete Cost Record
-----
          -- DEFAULT --          ----- PRIME COST PER -----
          RECORD  PRIME  PRIME          CPU HOUR   1000 I/O   1000 SERV
          TYPE    START  END          CPU HOUR   1000 I/O   UNITS
-----
- *          *          DEFAULT 07:00   18:00         250.00    50.000
- SCSTST    9672-R42   USER   08:00   17:00         10.00    50.000
- SYSA      7490-P/R390 SYSTEM 07:00   17:30        112.00    12.559
- SYSB      7490-P/R390 SYSTEM 07:00   17:30        141.00    17.889
- SYSC      7490-P/R390 SYSTEM 07:30   16:30        172.00    21.221
- SYSD      7490-P/R390 SYSTEM 08:00   16:00
                                     89.889
  
```

From this panel, you can create a cost record, update a cost record, or delete a cost record.

To do this	Enter
Create a cost record	"Y" in the "Add Cost Record" field
Update a cost record	"U" to the left of the cost record
Delete a cost record	"D" to the left of the cost record

The first two actions display the STROBE - HISTORY - MACHINE COST EDIT panel (Figure 5-13). When you delete a cost record, STROBE/ISPF displays a confirmation panel asking you to verify the delete request. Following the delete, you remain at the STROBE - HISTORY - MACHINE COSTS DISPLAY panel.

**Note:** You cannot delete the global default record.

Figure 5-13. STROBE - HISTORY - MACHINE COST EDIT Panel

```

----- STROBE - HISTORY - MACHINE COST EDIT -----
COMMAND ==>

SYSTEM DEFINITION:
SYSTEM      ==> SCS1PROD
CPU MODEL   ==> 9672
RECORD TYPE ==> S      (S for SYSTEM - to be used globally by all users or
                        U for USER - to be used by this user only)

PRIME COST:
CPU HOUR    ==>      4.90      (99999.99)
1000 I/O    ==>      3.750     (999999.999)
OR
1000 SERVICE UNITS ==>      (99999.999)

NON-PRIME COST:
CPU HOUR    ==>      3.09      (99999.99)
1000 I/O    ==>      1.900     (999999.999)
OR
1000 SERVICE UNITS ==>      (99999.999)

TIME USED TO DEFAULT COST CATEGORY WHEN NOT USER SPECIFIED:
PRIME COST START ==> 07 00      (24 Hr Format)
PRIME COST END   ==> 15 00      (24 Hr Format)

```

The STROBE - HISTORY - MACHINE COSTS EDIT panel displays fields for both the prime and non-prime cost categories associated with the system/CPU model pair selected on the STROBE - HISTORY - MACHINE COSTS DISPLAY panel. For a new cost record, the fields are initially set to the values of the default cost record.

To update the cost record, perform the following steps:

1. Specify the type of cost record in the RECORD TYPE field. If you want these values to apply only to you, enter "U". If you want the values to apply to all users of measurement session history, enter "S".
2. Change the values in the PRIME COST and NON-PRIME COST fields as appropriate. Note that you change values for CPU time and I/O, or for service units.
3. Verify that the times shown at the bottom of the panel reflect what you want to use as the default for prime time. (If you always want the cost values for this system/CPU model to be non-prime, enter the same time in the FROM and the TO fields.)
4. Press **Enter**. If you are updating a system record or the default record, STROBE/ISPF displays a confirmation panel asking you to verify your changes. STROBE/ISPF returns you to the STROBE - HISTORY - MACHINE COSTS DISPLAY panel.

**Note:** When updating values for the global default record, you cannot enter values for the SYSTEM or CPU MODEL.

## Modifying Measurement Session History Records

You can modify measurement session history records these ways:

- add a descriptive comment for the measurement session history record (if one does not already exist)
- update an existing comment
- update the cost category for the record

To accomplish these tasks, complete the following steps:

1. From any detail, measurement comparison, and cost comparison panel, type "U" to the left of the measurement session history record. STROBE/ISPF displays the STROBE - HISTORY - UPDATE HISTORY RECORD panel Figure 5-14 on page 5-15.

2. To add a comment, enter the text in the COMMENT field.
3. To modify a comment, change the text in the COMMENT field.
4. To override the default cost category for this measurement session history record, enter one of the following in the VALUE TO BE SAVED ON RECORD field:
  - PR for prime
  - NP for non-prime
  - **blanks** for the system default

The measurement session history record will retain this cost category, regardless of the values associated with the default prime time on the cost record. The bottom section of the panel displays information about the cost record currently associated with the measurement session history record.

**Note:** Using a time range for cost categories is just one way of assigning a prime or non-prime processing designation. You can also categorize the measurement session history records by the environment in which the target program executed: online region or batch processing. To do so, override the default cost category in this field.

5. Press **Enter** to return to the appropriate detail, measurement comparison, or cost comparison panel.

**Figure 5-14.** STROBE - HISTORY - UPDATE HISTORY RECORD Panel

```

----- STROBE - HISTORY - UPDATE HISTORY RECORD -----
COMMAND ==>

Job:      WPAKRM12          Date: 10/03/2002
Step:     DB2STEP          Time: 09:39:15
Program:  MCAFB010        Cost Category being used: PRIME
-----

COMMENT
COMMENT ==> INITIAL LOAD

COST CATEGORY
VALUE TO BE SAVED ON RECORD ==>      (PR for PRIME, NP for NON-PRIME or
                                       clear to use machine time shown below)

--DEFAULT COST RECORD BEING USED--
SYSTEM DEFINITION                                DEFAULT PRIME TIME
SYSTEM:     TLP1                                FROM 07 : 00 AM
CPU MODEL:  9672-R42                            TO    06 : 00 PM

PRIME COST                                       NON-PRIME COST
CPU HOUR:           250.00                       CPU HOUR:           200.00
1000 I/O:           50.000                       1000 I/O:           45.000
1000 SERVICE UNITS: 0.000                       1000 SERVICE UNITS: 0.000

```

## Deleting Measurement History Information

You can delete measurement session history records either individually from a detail panel or as a group from the STROBE - HISTORY - JOB/STEP/PROGRAM SUMMARY panel.

**Note:** You cannot delete groups of measurement session history records from the DBRM or the transaction summary panels.

**Figure 5-15.** STROBE - HISTORY - JOB/STEP/PROGRAM SUMMARY Panel - Deleting Measurement Session History Records

```

----- STROBE - HISTORY - JOB/STEP/PROGRAM SUMMARY -----
COMMAND ==> SCROLL ==> PAGE

DBRM - Switch to DBRM Summary View PE - Print/Export MORE>>
TRAN - Switch to TRANSACTION Summary View CS - Change Sort/Filters
CM - Change Machine Costs

-----
Line Options: S - Select D - Delete
-----
--JOBNAME--STEPNAME-----PROGRAM--RECORDS--DATE-----TIME-----SERV UNITS
--(1000S)--
_ EMPPAY03 EMPLWRIT EMPLWRIT 5 11/15/2002 10:05:33 3
D EMPPAY03 EMPLRD12 EMRPT12 3 12/26/2002 08:03:48 22
_ EMPPAY03 EMPLFORM EMPLFORM 1 11/29/2002 15:20:23 54
-----
BOTTOM OF DATA
-----

```

To delete an individual measurement session history record:

1. Select the H - HISTORY option from the STROBE OPTIONS menu (Figure 5-1 on page 5-3).
2. Press **Enter** to display one of three summary view panels (job step, DBRM, or transaction), depending on the view you last selected.
3. Type an “S” to the left of the row containing the measurement session history record you wish to delete on any summary panel.
4. Press **Enter** to display the appropriate job step, DBRM, or transaction detail panel.
5. Type “D” to the left of the record, or records, you wish to delete.
6. Press **Enter**.

**Note:** When deleting from the DBRM or transaction view, only the DBRM or transaction information is deleted, not the entire measurement session history record. In this case, STROBE/ISPF retains the job step information.

To delete a “set” (group) of measurement session history records:

1. Select the H - HISTORY option from the STROBE OPTIONS menu (Figure 5-1 on page 5-3).
2. Press **Enter** to display one of three summary view panels (job step, DBRM, or transaction), depending on the view you last selected.
3. Display the job step summary level panel, if necessary, by entering “STEP” at the command line.
4. Type “D” to the left of the summary row whose measurement session history records you wish to delete.
5. Press **Enter** to display the STROBE - HISTORY - DELETE CONFIRMATION panel (Figure 5-16).
6. Press **Enter** to delete the measurement session history records.

**Note:** Any DBRM or transaction measurement session history records associated with this job step will also be deleted.

**Figure 5-16.** STROBE - HISTORY - DELETE CONFIRMATION Panel

```

----- STROBE - HISTORY - DELETE CONFIRMATION -----
COMMAND ==>

The following Job/Step/Program History Summary records will be
deleted:

      JOBNAME:  WPACLC14
      STEPNAME: STEP1.IDMS140
      PROGRAM:  IDMSDC
      NUMBER OF RECORDS:  11

NOTE: Any DBRM or transaction records associated with this
      Job/Step/Program will also be deleted.

Press ENTER to delete the Job/Step/Program records.
Enter the END command to skip deleting the Job/Step/Program records.

```

## Printing and Exporting Measurement Session History Information

To save the information created when you display measurement session history information, you can either print a report of the panel, or export the panel to a comma separated file.

- The print option provides a formatted report of the type of information you are currently viewing.
- The export option converts the information into a format that can be imported into a spreadsheet.

### Printing Measurement Session History

To print a panel:

1. Type “PE” at the command line on any summary, detail, or comparison panel.
2. Press **Enter** to display the STROBE - HISTORY - PRINT/EXPORT panel (Figure 5-17 on page 5-18).
3. Type “P” in the SELECT FUNCTION field.
4. Complete one of the following steps:
  - **write the output to a data set:** specify the data set name in the DATA SET NAME field. Enter the unit on which the data set is to be allocated in the UNIT NAME field. Enter the volume serial number on which the data set is to be allocated in the VOLUME field.
  - **Route the output:** specify the output class in the SYSOUT CLASS field. Use any output class appropriate to your installation.
5. Specify the number of lines STROBE prints on each page of the report. Enter a value from 45 to 80 in the LINES/PAGE field.
6. Print any comments associated with the measurement session history records on the panel by typing a “Y” in the INCLUDE COMMENTS field. When you include comments on the printed reports the format becomes two-page: the measurement session history information prints on the left-hand page, and any associated comments (as well as the user ID of the person who created the record) prints on the right-hand page. When printing from the DBRM panels, the right-hand page also includes the DBRM create date.

**Note:** The option to include comments is only available at the detail level.

7. Press **Enter**.

**Figure 5-17.** STROBE - HISTORY - PRINT/EXPORT Panel

```

----- STROBE - HISTORY - PRINT/EXPORT -----
COMMAND ==>

SELECT FUNCTION ==> P    (P for PRINT or E for EXPORT)

PRINT OPTIONS:

  DATA SET NAME ==> WPAFXC.HIST.REPORT
    UNIT NAME ==> WPAANY   VOLUME ==>

-OR-

SYSOUT CLASS    ==>

LINES/PAGE      ==> 60

EXPORT OPTIONS:

  DATA SET NAME ==>
    UNIT NAME ==> WPAANY   VOLUME ==>

```

## Exporting Measurement Session History

To export the contents of the panel to a comma separated file, complete the following steps:

1. Type **"PE"** at the command line on any summary, detail, or comparison panel.
2. Press **Enter** to display the STROBE - HISTORY - PRINT/EXPORT panel (Figure 5-17).
3. Type **"E"** in the SELECT FUNCTION field.
4. Under EXPORT OPTIONS on the bottom of the panel, specify the data set name in the DATA SET NAME field. Enter the unit on which the data set is to be allocated in the UNIT NAME field. Enter the volume serial number on which the data set is to be allocated in the VOLUME field.
5. Press **Enter**.

---

## Working with the DBRM View

You can also focus your examination of measurement session history on a specific DBRM. This approach can reveal the overall effect on performance that can be traced to a specific DBRM.

### Examining the DBRM Summary View

To focus your analysis on DBRMs:

1. Select the H - HISTORY option from the STROBE OPTIONS menu (Figure 5-1 on page 5-3).
2. Press **Enter** to display one of three summary view panels (job step, DBRM, or Transaction), depending on the view you last selected.
3. If necessary, enter DBRM at the command line to display the STROBE - HISTORY - DBRM SUMMARY panel (Figure 5-18). Each summary row on this panel represents a set of measurement session history records that have information on the DBRM

indicated in the DBRM NAME column. The HISTORY RECORDS column indicates the number of measurement sessions in the set. Information relating to the most recent measurement session in the set is displayed to the right of the HISTORY RECORDS column.

Figure 5-18. STROBE - HISTORY - DBRM SUMMARY Panel

```

----- STROBE - HISTORY - DBRM SUMMARY -----
COMMAND ==>                                     SCROLL ==> PAGE

TRAN - Switch to TRANSACTION Summary View      PE - Print/Export      MORE>>
STEP - Switch to JOB/STEP/PROGRAM Summary View CS - Change Sort/Filters
                                                CM - Change Machine Costs

-----
Line Options:   S - Select
-----
          DBRM   HISTORY   (MM/DD/YYYY)   LAST MEASUREMENT
-----NAME---RECORDS---DATE-----TIME-----COUNT-----CPU %-----SECS/STMT--
S NDBIOM0      5         12/09/2002 11:51:46      97      0.87      0.0009
-  TDB2DBRM    2         12/09/2002 11:35:48      13      2.41      0.0119
-----
                                BOTTOM OF DATA -----

```

4. Type an “S” to the left of the row for which you want to examine the measurement session history records.
5. Press **Enter** to display the STROBE - HISTORY - DBRM DETAIL panel (Figure 5-19).

## Examining the DBRM Detail View

Figure 5-19. STROBE - HISTORY - DBRM DETAIL Panel

```

----- STROBE - HISTORY - DBRM DETAIL -----
COMMAND ==>                                     SCROLL ==> PAGE

DBRM: NDBIOM0                                     PE - Print/Export      MORE>>
                                                CS - Change Sort
Annual Frequency ==> 26                          CM - Change Machine Costs

-----
Line Options:  D - Delete   U - Update History Record  B - Baseline
               P - Profile  V - View more details      0 - Compare to Baseline
-----
          DATE-----TIME---JOBNAME---STEPNAME-----PROGRAM-----COUNT-----CPU %
-----
- 10/09/2002 10:57:54 WPACI410 WPACI410      DFHSIP      91      2.49
- 10/09/2002 11:03:02 WPACI410 WPACI410      DFHSIP      23      1.83
- 10/09/2002 11:06:53 WPACI410 WPACI410      DFHSIP     122      3.62
- 10/09/2002 11:27:25 WPACI410 WPACI410      DFHSIP      88      2.36
- 10/09/2002 11:51:46 WPACI410 WPACI410      DFHSIP      97      0.87
-----
                                BOTTOM OF DATA -----

```

As shown in Figure 5-19, you can examine the measurement session history records associated with a particular DBRM, focusing on the number of SQL statements STROBE observed during the measurement session or on the total percentage of all CPU time used within the address space by this DBRM. The date and time of the measurement session are fixed columns and appear on all of the DBRM detail panels. As shown in Figure 5-20 on page 5-20, scrolling to the right provides the following additional information:

STMT-EXEC AVG TIME      Average amount of elapsed time per SQL statement that STROBE observed during the measurement session.

- AVG CPU SECS/STMT      Average number of CPU seconds per statement used to execute one SQL statement during the measurement session.
- AVG SERV UNITS/STMT    Average number of service units per SQL statement that STROBE observed during the measurement session. A service unit is a machine-independent unit of work consisting of a fixed number of instructions.
- DBRM CREATE DATE        Date and time that the database request module was created.

Figure 5-20. STROBE - HISTORY - DBRM DETAIL Panel (One Scroll Right)

```

----- STROBE - HISTORY - DBRM DETAIL -----
COMMAND ==>                                     SCROLL ==> PAGE
DBRM: NDBIOM0                                     PE - Print/Export    <<MORE>>
                                                CS - Change Sort
                                                CM - Change Machine Costs
Annual Frequency ==> 26
-----
Line Options: D - Delete    U - Update History Record  B - Baseline
              P - Profile  V - View more details    O - Compare to Baseline
              STMT-EXEC   AVG CPU      AVG SERV      DBRM
----DATE-----TIME-----AVG TIME---SECS/STMT---UNITS/STMT-----CREATE DATE-----
- 10/09/2002 10:57:54    0.8604    0.0010    0.9347 05/30/2002 17:43:00
- 10/09/2002 11:03:02    0.0073    0.0025    2.2254 05/30/2002 17:43:00
- 10/09/2002 11:06:53    0.0029    0.0010    0.9610 05/30/2002 17:43:00
- 10/09/2002 11:27:25    0.0046    0.0013    1.2175 05/30/2002 17:43:00
- 10/09/2002 11:51:46    0.0013    0.0009    0.8127 05/30/2002 17:43:00
-----
                                BOTTOM OF DATA
-----

```

As shown in Figure 5-21 on page 5-21, scrolling to the right twice provides the following information:

- COST                    Whether the program is assigned a prime (PR) or non-prime (NP) cost designation.
- SYSTEM                 System on which the measurement session took place.
- CPU MODEL             CPU model on which the measurement session took place.
- HISTORIAN             Jobname or the TSO user ID of the person who created the measurement session history record.

**Figure 5-21.** STROBE - HISTORY - DBRM DETAIL Panel (Two Scrolls Right)

```

----- STROBE - HISTORY - DBRM DETAIL -----
COMMAND ==>                                     SCROLL ==> PAGE
DBRM: NDBIOM0                                     PE - Print/Export    <<MORE>>
                                                CS - Change Sort
                                                CM - Change Machine Costs
-----
Annual Frequency ==> 26
-----
Line Options:  D - Delete      U - Update History Record  B - Baseline
                P - Profile    V - View more details    O - Compare to Baseline
-----
----DATE-----TIME---COST-SYSTEM---CPU MODEL---HISTORIAN-----
- 10/09/2002 10:57:54 NP          9672-R42 WPASEH
- 10/09/2002 11:03:02 NP          9672-R42 WPASEH
- 10/09/2002 11:06:53 NP          9672-R42 WPASEH
- 10/09/2002 11:27:25 NP          9672-R42 WPASEH
- 10/09/2002 11:51:46 NP          9672-R42 WPASEH
-----
----- BOTTOM OF DATA -----

```

Scrolling to the right three times displays the comments associated with the measurement session history records.

## Examining Trends in DBRM Activity

To examine the changes in the performance of a DBRM, relative to other measurement sessions, complete the following steps:

1. On the STROBE - HISTORY - DBRM DETAIL panel (Figure 5-21), specify a baseline measurement session history record by typing a “B” to the left of the record.
2. Select one or more records to compare to the baseline selection by typing “O” to the left of the record.
3. Press **Enter** to display the STROBE - HISTORY - DBRM COMPARISON panel (Figure 5-22).

**Figure 5-22.** STROBE - HISTORY - DBRM COMPARISON Panel

```

----- STROBE - HISTORY - DBRM COMPARISON -----
COMMAND ==>                                     SCROLL ==> PAGE
DBRM: TDB2DBRM                                     PE - Print/Export    MORE>>
                                                CC - Cost Comparison
                                                CM - Change Machine Costs
-----
Annual Frequency ==> 26
-----
Line Options:  U - Update History Record
-----
----- STMT-EXEC -----
----DATE-----TIME---JOBNAME---STEPNAME-----PROGRAM-----COUNT-----CPU %
- 10/09/2002 10:39:05 WPACI410 WPACI410          DFHSIP          761    0.90
--COMPARE TO BASELINE--
- 10/09/2002 10:43:52 WPACI410 WPACI410          DFHSIP          -593   -0.30
- 10/09/2002 11:35:48 WPACI410 WPACI410          DFHSIP          -748    1.51
-----
----- BOTTOM OF DATA -----

```

The STROBE - HISTORY - DBRM COMPARISON panel provides the following DBRM-specific information:

**STMT-EXEC COUNT** Number of times SQL statements were executed in this DBRM during the measurement session

TOTAL CPU% Total percentage of all CPU time used within the address space by this DBRM

As shown in Figure 5-24 on page 5-23, scrolling to the right once provides the following additional information:

- STMT-EXEC AVG TIME Average number of times an SQL statement was executed during the measurement session.
- AVG CPU SECS/STMT Average number of CPU seconds used to execute one SQL statement during the measurement session.
- AVG SERV UNITS/STMT Average number of service units used to execute one SQL statement during the measurement session.
- DBRM CREATE DATE Date and time that the database request module was created

Figure 5-23. STROBE - HISTORY - DBRM COMPARISON Panel (One Scroll Right)

```

----- STROBE - HISTORY - DBRM COMPARISON -----
COMMAND ==>                                     SCROLL ==> PAGE
DBRM: TDB2DBRM                                  PE - Print/Export    <<MORE>>
                                                CC - Cost Comparison
                                                CM - Change Machine Costs
Annual Frequency ==> 26
-----
Line Options: U - Update History Record
-----
----DATE-----TIME-----STMT-EXEC  AVG CPU   AVG SERV   DBRM
--COMPARE TO BASELINE-----SECS/STMT---UNITS/STMT-----CREATE DATE-----
- 10/09/2002 10:39:05      0.0012    0.0000    0.0570 07/23/2002 23:43:27
- 10/09/2002 10:43:52      0.0009    0.0000    0.0292 07/23/2002 23:43:27
- 10/09/2002 11:35:48      0.0001    0.0119    10.5080 07/23/2002 23:43:27
-----
----- BOTTOM OF DATA -----

```

Scrolling to the right again displays the comments associated with the measurement session history records.

## Calculating Changes in DBRM Operating Costs

From the STROBE - HISTORY - DBRM COST COMPARISON panel, you can quickly see changes in the cost per run and the cost per year (total annualized savings) for the selected DBRMs, as compared to the baseline DBRM. To view the changes in operating costs:

1. Type "CC" at the command line of the STROBE - HISTORY - DBRM COMPARISON panel.
2. Press **Enter** to display the STROBE - HISTORY - DBRM COST COMPARISON panel (Figure 5-25).

Figure 5-24. STROBE - HISTORY - DBRM COST COMPARISON Panel

```

----- STROBE - HISTORY - DBRM COST COMPARISON -----
COMMAND ==>                                         SCROLL ==> PAGE
DBRM: TDB2DBRM                                     PE - Print/Export      MORE>>
                                                CM - Change Machine Costs

Annual Frequency ==> 26
-----
Line Options: U - Update History Record
              AVG CPU      AVG SERV      COST
----DATE-----TIME---COST---SECS/STMT---UNITS/STMT---/STMT---COST/YEAR---
- 10/09/2002 10:39:05 PR      0.0000      0.0570      0.0000      0
--COMPARE TO BASELINE-----
- 10/09/2002 10:43:52 PR      0.0000      0.0292      0.0000      0
- 10/09/2002 11:35:48 PR      0.0119      10.5080     1.1900      31
-----
              BOTTOM OF DATA -----

```

To see the annualized costs for this DBRM, you must enter the *annual frequency* in the ANNUAL FREQUENCY field in the top center portion of the panel. Annual frequency is the estimated number of times per year that the DBRM is executed.

On the STROBE - HISTORY - DBRM COST COMPARISON panel, you can examine the following DBRM-specific information:

COST	Whether the program is assigned a prime (PR) or non-prime (NP) cost designation.
AVG CPU SECS/STMT	Average number of CPU seconds used to execute one SQL statement during the measurement session
AVG SERV UNITS/STMT	Average number of service units used to execute one SQL statement during the measurement session
COST/STMT	Estimated cost to execute one SQL statement. This amount is based on the dollar value per CPU hour or per 1000 service units for the particular system and CPU model on which the measurement session was executed.
COST/YEAR	The estimated cost to execute the SQL statement over the course of one year. This amount is based on the specified dollar value per CPU hour or per 1000 service units for the particular system and CPU model on which the measurement session was executed.

Scrolling to the right once displays the comments associated with the measurement session history records.

---

## Working with the Transaction View

You can also choose to focus your examination of measurement session history records on a specific transaction. This approach can reveal the overall effect on performance that can be traced to a specific transaction.

To focus your analysis on transactions, complete the following steps:

1. Select the H - HISTORY option from the STROBE OPTIONS menu (Figure 5-1 on page 5-3).
2. Press **Enter** to display one of three summary view panels (job step, DBRM, or Transaction), depending on the view you last selected.

- If necessary, display the STROBE - HISTORY - TRANSACTION SUMMARY panel by entering "TRAN" at the command line. Each summary row on this panel represents a set of measurement session history records that have information on the transaction indicated in the TRAN NAME column. The number of records in the set is indicated in the HISTORY RECORDS column. Information relating to the most recent measurement session in the set is displayed to the right of the HISTORY RECORDS column.

Figure 5-25. STROBE - HISTORY - TRANSACTION SUMMARY Panel

```

----- STROBE - HISTORY - TRANSACTION SUMMARY -----
COMMAND ==>                                     SCROLL ==> PAGE

DBRM - Switch to DBRM Summary View              PE - Print/Export      MORE>>
STEP - Switch to JOB/STEP/PROGRAM Summary View  CS - Change Sort/Filters
                                                CM - Change Machine Costs

-----
Line Options:   S - Select
-----
              LAST MEASUREMENT
TRAN  HISTORY (MM/DD/YYYY)  TRANSACTION  TOTAL  AVG CPU
-----NAME-----RECORDS---DATE-----TIME-----COUNT-----CPU %---SECS/TRAN--
- CSAC          1    10/11/2002 09:08:46          19    3.33    0.0070
- CSAC-X        1    10/18/2002 11:56:28           1    0.00    0.0000
- CSCKP-X       1    10/18/2002 11:56:28           1    0.00    0.0000
S CCOM          3    10/13/2002 18:29:17           1    4.55
- DCMT          1    12/18/2002 12:34:46           3    2.48    0.0246
- DEC1          1    12/11/2002 09:08:46           2    1.67    0.0334
- DSN8CS        1    11/08/2002 13:25:56          10   97.83    0.1350
- EMPTASK       4    11/28/2002 08:19:01          36   95.11    0.1762
- EXEC          1    11/16/2002 09:39:17           1    0.36    0.0295
- EXED          2    11/20/2002 12:02:02           1    0.76    0.0418
- EXER          2    11/20/2002 12:02:02           1    1.52    0.0837

```

- Type an "S" to the left of the row for which you want to examine the measurement session history records.
- Press **Enter** to display the STROBE - HISTORY - TRANSACTION DETAIL panel (Figure 5-27).

Figure 5-26. STROBE - HISTORY - TRANSACTION DETAIL Panel

```

----- STROBE - HISTORY - TRANSACTION DETAIL -----
COMMAND ==>                                     SCROLL ==> PAGE

Transaction: CCOM                               PE - Print/Export      MORE>>
                                                CS - Change Sort
Annual Frequency ==> 1000                     CM - Change Machine Costs

-----
Line Options:  D - Delete   U - Update History Record  B - Baseline
               P - Profile  V - View more details      O - Compare to Baseline
               TRANSACTION TOTAL
-----DATE-----TIME---JOBNAME--STEPNAME-----PROGRAM-----COUNT-----CPU %
- 10/10/2002 18:29:17  CICS41  CICS41          DFHSIP           1    1.82
- 10/12/2002 10:27:08  CICS41  CICS41          DFHSIP           1    2.08
- 10/13/2002 08:29:16  CICS52  CICS52          DFHSIP           6    4.55
-----
                BOTTOM OF DATA -----

```

As shown in Figure 5-27, you can now examine the measurement session history records associated with a particular transaction, focusing on:

TRANSACTION COUNT    Number of times the transaction was executed during the measurement session

**TOTAL CPU%** Total percentage of all CPU time used within the address space by this transaction

The date and time of the measurement session are fixed columns and appear on all of the transaction detail panels. As shown in Figure 5-28 on page 5-26, scrolling to the right provides the following additional information:

**AVG SERVICE TIME** Average service time, in seconds, for a transaction. Service time represents the time the transaction is being processed or awaiting processing within the region.

**AVG CPU SECS/TRAN** Average number of CPU seconds used to execute one transaction during the measurement session.

**AVG SERVICE UNITS/TRAN** Average number of service units, per transaction, that STROBE observed during the measurement session.

**Figure 5-27.** STROBE - HISTORY - TRANSACTION DETAIL Panel

```

----- STROBE - HISTORY - TRANSACTION DETAIL -----
COMMAND ==>                                     SCROLL ==> PAGE
Transaction: CCOM                                PE - Print/Export   <<MORE>>
                                                CS - Change Sort
                                                CM - Change Machine Costs
Annual Frequency ==> 1000
-----
Line Options: D - Delete   U - Update History Record   B - Baseline
              P - Profile  V - View more details       O - Compare to Baseline
              AVG SERVICE   AVG CPU   AVG SERVICE
----DATE-----TIME-----TIME-----SECS/TRAN---UNITS/TRAN-----
- 10/10/2002 18:29:17      13.36      0.3851      94.3488
- 10/12/2002 10:27:08      20.26      0.5318      130.3120
- 10/13/2002 08:29:16       5.87      1.2805      313.7316
-----
                                  BOTTOM OF DATA -----

```

As shown in Figure 5-28, scrolling to the right twice provides the following additional information:

**COST** Whether the transaction is assigned a prime (PR) or non-prime (NP) cost designation.

**SYSTEM** MVS system name on which the measurement session took place.

**CPU MODEL** Model number of the central processing unit (CPU) that executed the target program or subsystem.

**HISTORIAN** TSO user ID of the person who created the measurement session history record.

**Figure 5-28.** STROBE - HISTORY - TRANSACTION DETAIL Panel (Two Scrolls Right)

```

----- STROBE - HISTORY - TRANSACTION DETAIL -----
COMMAND ==>                                     SCROLL ==> PAGE
Transaction: CCOM                                PE - Print/Export    <<MORE>>
                                                CS - Change Sort
                                                CM - Change Machine Costs
-----
Line Options:  D - Delete      U - Update History Record  B - Baseline
                P - Profile    V - View more details    O - Compare to Baseline

----DATE-----TIME---COST-SYSTEM---CPU MODEL---HISTORIAN-----
_ 10/10/2002 18:29:17 PR          7490-P/R390 NJM
_ 10/12/2002 10:27:08 PR          7490-P/R390 NJM
_ 10/13/2002 08:29:16 PR          7490-P/R390 NJM
-----
----- BOTTOM OF DATA -----
    
```

Scrolling to the right three times displays the comments associated with the measurement session history records.

## Examining Trends in Transaction Activity

To see the changes in performance of a transaction, relative to other measurement sessions with that transaction, complete the following steps:

1. On the STROBE - HISTORY - TRANSACTION DETAIL panel (Figure 5-26 on page 5-24) specify a baseline measurement session history record by typing a “B” to the left of the record.
2. Select one or more records to compare to the baseline selection by typing “O” to the left of the record.
3. Press **Enter** to display the STROBE - HISTORY - TRANSACTION COMPARISON panel (Figure 5-29).

**Figure 5-29.** STROBE - HISTORY - TRANSACTION COMPARISON Panel

```

----- STROBE - HISTORY - TRANSACTION COMPARISON -----
COMMAND ==>                                     SCROLL ==> CSR
Transaction: N228                                PE - Print/Export    MORE>>
                                                CC - Cost Comparison
                                                CM - Change Machine Costs
-----
Line Options:  U - Update History Record

-----DATE-----TIME---JOBNAME--STEPNAM-----PROGRAM-----COUNT-----CPU %
_ 10/13/2002 13:40:28 WPACI410 WPACI410    DFHSIP              75  94.44
--COMPARE TO BASELINE--
_ 10/09/2002 10:31:33 WPACI410 WPACI410    DFHSIP              -63  -7.51
_ 10/09/2002 10:43:52 WPACI410 WPACI410    DFHSIP              -64 -14.32
-----
----- BOTTOM OF DATA -----
    
```

The STROBE - HISTORY - TRANSACTION COMPARISON panel provides the following transaction-specific information:

**TRANSACTION COUNT** Number of times a transaction was executed during the measurement session.

TOTAL CPU% Total percentage of all CPU seconds used within the address space by this transaction.

As shown in Figure 5-30, scrolling to the right once provides the following additional information:

AVG SERVICE TIME Average service time, in seconds, for a transaction

AVG CPU SECS/TRAN Average number of CPU seconds used to execute one transaction during the measurement session.

AVG SERVICE UNITS/TRAN Average number of service units, per transaction, that STROBE observed during the measurement session

**Figure 5-30.** STROBE - HISTORY - TRANSACTION COMPARISON Panel (One Scroll Right)

```

----- STROBE - HISTORY - TRANSACTION COMPARISON -----
COMMAND ==>                                     SCROLL ==> CSR
Transaction: N228                                PE - Print/Export   <<MORE>>
                                                CC - Cost Comparison
                                                CM - Change Machine Costs
-----
Line Options: U - Update History Record
              AVG SERVICE      AVG CPU      AVG SERVICE
----DATE-----TIME-----TIME-----SECS/TRAN-----UNITS/TRAN-----
- 10/13/2002 13:40:28      1.63      0.3579      316.8273
--COMPARE TO BASELINE-----
- 10/09/2002 10:31:33      -1.09      -0.1001      -88.5637
- 10/09/2002 10:43:52      -0.96      -0.1591      -140.8547
-----
                          BOTTOM OF DATA -----

```

Scrolling to the right twice provides the following information, as shown in Figure 5-31.

COST Whether the transaction is assigned a prime (PR) or non-prime (NP) cost designation.

SYSTEM MVS system name on which the measurement session was performed

CPU MODEL Model number of the central processing unit (CPU) that executed the target program or subsystem

HISTORIAN TSO user ID of the person who created the measurement session history record.

Figure 5-31. STROBE - HISTORY - TRANSACTION COMPARISON Panel (Two Scrolls Right)

```

----- STROBE - HISTORY - TRANSACTION COMPARISON -----
COMMAND ==>                                     SCROLL ==> CSR
Transaction: N228                                PE - Print/Export   <<MORE>>
                                                CC - Cost Comparison
                                                CM - Change Machine Costs
-----
Line Options: U - Update History Record
-----
----DATE-----TIME---COST-SYSTEM---CPU MODEL---HISTORIAN-----
- 10/13/2002 13:40:28 NP          9672-R42   WPASEH
--COMPARE TO BASELINE-----
- 10/09/2002 10:31:33 PR          9672-R42   WPASEH
- 10/09/2002 10:43:52 PR          9672-R42   WPASEH
-----
----- BOTTOM OF DATA -----
    
```

Scrolling to the right three times displays the comments associated with the measurement session history records.

### Calculating Changes in Transaction Operating Costs

From the STROBE - HISTORY - TRANSACTION COMPARISON panel, you can quickly see changes in the cost per run and the cost per year (total annualized savings) for the selected transactions, as compared to the baseline transaction. To see calculated costs per run and total cost per year:

1. Type "CC" at the command line on the STROBE - HISTORY - TRANSACTION COMPARISON panel.
2. Press **Enter** to display the STROBE - HISTORY - TRANSACTION COST COMPARISON panel (Figure 5-32).

Figure 5-32. STROBE - HISTORY - TRANSACTION COST COMPARISON Panel

```

----- STROBE - HISTORY - TRANSACTION COST COMPARISON -----
COMMAND ==>                                     SCROLL ==> CSR
Transaction: N228                                PE - Print/Export   MORE>>
                                                CM - Change Machine Costs
-----
Line Options: U - Update History Record
-----
              AVG CPU      AVG SERVICE      COST
----DATE-----TIME---COST---SECS/TRAN---UNITS/TRAN---/TRAN---COST/YEAR---
- 10/13/2002 13:40:28 NP          0.3579      316.8273      0.0000          0
--COMPARE TO BASELINE-----
- 10/09/2002 10:31:33 PR          -0.1001      -88.5637      25.7800         25,780
- 10/09/2002 10:43:52 PR          -0.1591      -140.8547     19.8800         19,880
-----
----- BOTTOM OF DATA -----
    
```

To see the annualized costs for this transaction, you must enter the *annual frequency* in the ANNUAL FREQUENCY field. Annual frequency is the estimated number of times per year that the transaction is executed.

The STROBE - HISTORY - TRANSACTION COST COMPARISON panel provides the following transaction-specific information:

COST	Whether the program is assigned a prime (PR) or non-prime (NP) cost designation
------	---

AVG CPU SECS/TRAN	Average number of CPU seconds used to execute one transaction during the measurement session
AVG SERV UNITS/TRAN	Average number of service units used to execute one transaction during the measurement session.
COST/TRAN	Estimated cost to execute one transaction (as shown in the column). This amount is based on the dollar value per CPU hour or per 1,000 service units for the particular system and CPU model on which the measurement session was executed.
COST/YEAR	Estimated cost to execute the transaction over the course of one year. This amount is based on the specified dollar value per CPU hour or per 1,000 service units for the particular system and CPU model on which the measurement session was executed.

Scrolling to the right once displays the comments associated with the measurement session history records.

---

## Automating the Collection of Measurement Session History

To automate the process of collecting measurement session history, combine the scheduling and automatic Profile creation functions. Identify a target job step and create a schedule for the request selecting the automatic Profile creation option and the measurement session history collection option. Once you submit the request, STROBE will:

- initiate measurement sessions according to the schedule
- create the Performance Profile
- save a measurement session history record for that Performance Profile

Automating the process makes it easier to proactively manage application performance.

For more information, refer to the following sections:

<b>For information on</b>	<b>Refer to</b>
Creating a schedule	“Scheduling Measurement Requests” on page 2-23
Automatically creating a Performance Profile	“Producing Profiles Automatically” on page 3-13
Collecting measurement session history	“Collecting Measurement Session History” on page 3-2



## Chapter 6.

# Using AutoSTROBE

This chapter explains how to add AutoSTROBE requests to help manage application performance.

---

## Overview of AutoSTROBE

AutoSTROBE is a function of the STROBE Advanced Session Management Feature that screens designated batch programs and automatically initiates a STROBE measurement when abnormal behavior is detected. AutoSTROBE:

- observes and initiates measurements for applications that sporadically perform poorly, so you have the information necessary to improve them.
- identifies applications with a gradual increase in resource usage and initiates measurements for them so the trend can be addressed.
- allows users to specify limits defining acceptable performance in the monitored programs.
- eliminates the need to look at daily reports of job step run times and CPU times to identify programs that have performance issues.

AutoSTROBE characterizes a program's normal behavior by recording performance data during the first ten observed executions of the targeted program. AutoSTROBE collects information about the program's elapsed time, CPU time, and I/O activity. AutoSTROBE uses this information, referred to as *basis data*, to calculate thresholds that define the limits of the program's normal behavior for these three resources.

When the program's behavior in subsequent executions exceeds or, in the case of I/O activity, deviates significantly from the thresholds, AutoSTROBE initiates a STROBE measurement and notifies the user. This notification identifies the reason it initiated the STROBE measurement, such as "excessive elapsed time" or "abnormal I/O activity."

This chapter explains how to determine what job steps should be candidates for AutoSTROBE monitoring and how to add and schedule an AutoSTROBE request.

---

## Planning to Use AutoSTROBE

When selecting programs for AutoSTROBE, choose those programs that are business critical or execute as part of the critical path in the batch processing system. AutoSTROBE can pinpoint performance problems that occur suddenly or detect when, over time, a program's performance has gradually degraded. You can use AutoSTROBE to oversee the execution of programs that occasionally run too long or use excessive resources in an unpredictable way.

You can also use AutoSTROBE, for example, after you have changed a program based on the information from a previous STROBE measurement. In these cases, AutoSTROBE can help you to verify or quantify the impact of these changes. This combined use of STROBE and AutoSTROBE provides the capability to continuously screen the operation of a program and to initiate measurements only when the performance of that program deviates from a preestablished norm.

When submitting an AutoSTROBE request to screen a program, you can set the value for the ASSOCIATED ACTION field on the STROBE - ADD AUTOSTROBE REQUEST panel to designate that AutoSTROBE issue a warning instead of a STROBE measurement when the program exhibits abnormal behavior. If you want a measurement to be initiated when abnormal behavior occurs, you can specify through the ASSOCIATED ACTION field what type of measurement (active, queued or both) should take place.

Choosing to initiate a warning when AutoSTROBE detects abnormal behavior allows you to verify the validity of the basis data and the thresholds without initiating any unnecessary STROBE measurements. Once you have verified that the basis data and the thresholds are valid, you can change the AutoSTROBE request to initiate a measurement.

---

## Selecting Job Steps to Monitor

Before you can use AutoSTROBE to evaluate application performance, you have to select which job steps that you want to monitor. You have three methods to make your selections:

- User-specified selection — AutoSTROBE users can designate the job steps that should be monitored by entering an AutoSTROBE request
- AutoSTROBE SMF Candidate Utility PreLoader — AutoSTROBE users can run a utility that processes SMF data and places job steps showing high resource usage on a monitoring candidate list. From this list, you can select the steps that you want AutoSTROBE to monitor.
- AutoSTROBE AutoLoader — AutoSTROBE itself will add job steps observed to exceed a set of thresholds to the monitoring candidate list. Then you can select them as additional job steps you want AutoSTROBE to monitor.

If you use the AutoSTROBE PreLoader or AutoLoader, you can define what job steps are eligible for the monitoring candidate list by specifying thresholds as criteria to make the list. “Tailoring AutoSTROBE-Generated Candidate Lists” on page 6-3 describes this function.

### User-Specified Steps to Monitor

Anytime you suspect a job step requires AutoSTROBE monitoring, you can submit an AutoSTROBE request. Basis data collection will occur until the job step has been monitored ten times. On subsequent executions, AutoSTROBE monitors the step for abnormal behavior. See “Adding an AutoSTROBE Request” on page 6-10 for more information about specifying AutoSTROBE measurement requests on a step-by-step basis.

### AutoSTROBE-Generated Lists of Job Steps to Monitor

AutoSTROBE provides two tools to help you build a monitoring candidate list. You can first use the SMF Candidate PreLoader to scan SMF data to find monitoring candidates. Then to supplement what the PreLoader determined to be candidates, the AutoSTROBE AutoLoader will continue to survey job steps and add candidates to the list as they are found.

### AutoSTROBE SMF Candidate PreLoader Utility

This tool examines SMF information such as the frequency an application runs or number of EXCPS accumulated during program execution and builds an AutoSTROBE monitor candidate list of job steps with resource usage that exceeds designated threshold values. See the section called “AutoSTROBE SMF Candidate PreLoader Utility” on page 6-5 for more information about running the utility.

## AutoSTROBE AutoLoader

Once you have created an initial monitoring candidate list by running the PreLoader utility, the AutoSTROBE AutoLoader will continue to track performance. If it observes high resource consumption by any job step, that step will be added to the monitoring candidate list. See Chapter 7, “Managing AutoSTROBE Requests” for information about managing candidates after the AutoLoader has added them to the monitoring list.

## Tailoring AutoSTROBE-Generated Candidate Lists

Both the AutoSTROBE PreLoader and the AutoLoader use threshold parameter values for resource usage to determine if a job step is eligible for the monitor candidate list. AutoSTROBE provides default threshold values, but these can be overridden for both the PreLoader and the AutoLoader. AutoSTROBE also allows you to control what job steps should be excluded from the candidate list by name, regardless of their performance.

### *Excluding Job Steps from the Candidate List*

The exclusion list allows you to winnow out applications that should never be a candidate for AutoSTROBE monitoring. System functions such IEBGENER and other applications that are inappropriate can be placed on the exclusion list and will not be considered for the candidate list. See the section called “AutoSTROBE Candidate Exclusion List” on page 6-8 for more information about building an exclusion list.

### *Thresholds for Candidate List Eligibility*

The AutoSTROBE SMF Candidate PreLoader Utility adds data for a job step from the SMF data set(s) to the AutoSTROBE monitor-candidate lists for resource usage only if that step’s usage of one of the monitored resources met a “minimum threshold”. The PreLoader uses the values that are designated in the STROBE parameter library for these thresholds. The resources are:

- EXCPS
- TCB Time
- Elapsed Time
- Frequency of Run (Only for the PreLoader)

When STROBE is installed, parameters can be specified to change these values in the parameter library. If you want to change the value used by the PreLoader to ones that differ from the parameter library, specify new ones on the STROBE - AUTOSTROBE SMF CANDIDATE UTILITY panel shown in Figure 6-3 on page 6-6.

Similarly, STROBE has a default value for the number of times per week a job step must run to be eligible for the “frequency-of-run” candidate list. STROBE’s default value for frequency is 30 executions per week. This parameter, AUTOCANFREQ, can be changed in the STROBE parameter library. However, this parameter value will always be overridden if you specify a new value on the STROBE - AUTOSTROBE SMF CANDIDATE UTILITY panel.

The next section outlines several considerations for you to make about adding AutoSTROBE requests.

---

## Implementing AutoSTROBE

AutoSTROBE detects abnormal behavior when a program’s elapsed time is too long, the program’s CPU consumption is high, or the ratio of I/O to CPU is not within normal limits. AutoSTROBE identifies and measures those programs whose performance deviates from normal processing.

Follow these general steps to implement AutoSTROBE:

1. Identify mission-critical applications or applications that execute as part of the critical path in the batch processing system. From these, identify candidate programs: for example, those with long runtimes or that use large amounts of system resources. You can select these yourself by either adding an AutoSTROBE request, using the AutoSTROBE SMF Candidate utility, or by waiting for the AutoSTROBE Candidate Loader to determine what are good candidates.
2. Create and submit AutoSTROBE requests that target these programs. AutoSTROBE will screen subsequent executions of these programs.
3. Check the status of the AutoSTROBE requests. During the first ten executions of the program, AutoSTROBE collects *basis data* — data that defines the program's normal behavior. AutoSTROBE uses this basis data to establish norms for the program's elapsed time, CPU time, and I/O activity.
4. View the basis data to verify that it is a valid representation of the program's normal execution. Look at the threshold values that AutoSTROBE has calculated for elapsed time and CPU time to serve as the boundaries of normal processing. If you think any basis data record are not representative of normal processing, you can delete them. AutoSTROBE will collect new basis data to replace the deleted records and recalculate the thresholds.
5. After AutoSTROBE has collected the basis data, subsequent monitorings are to detect abnormal behavior. When AutoSTROBE initiates a measurement for abnormal behavior, it will notify you via a TSO send operation.

When abnormal behavior is detected, AutoSTROBE also puts the request associated with the program into the "held" state. This suspends monitoring of the program so that AutoSTROBE won't continually detect the same abnormality on subsequent executions and possibly initiate redundant measurements.

6. Once the measurement that AutoSTROBE has initiated has completed, create a Performance Profile and change the program based on your analysis of the Profile. You then may want to measure the program again with STROBE to verify the effect of the changes.
7. Because you have changed the program, the existing basis data is probably not representative of its improved performance. Before allowing AutoSTROBE to resume its monitoring of the program, you should delete the basis data collected before the program was changed.
8. Release the request associated with the program so that AutoSTROBE will resume its monitoring of the program's execution and, if necessary, collect new basis data.
9. Periodically review and verify the basis data to ensure that it reflects the program's current normal behavior.
10. Continue to use AutoSTROBE to screen the program's execution. AutoSTROBE will detect any inefficiencies that are introduced and automatically measure the program to capture performance problems when they occur.

AutoSTROBE can screen the execution of batch programs that run on a nightly schedule, weekly schedule or monthly schedule. AutoSTROBE can also detect unacceptable processing in programs that do not run on a normal schedule or follow resource consumption patterns. For these programs you may want to enter thresholds rather than have AutoSTROBE calculate them since the collected basis data may not reflect normal or acceptable processing.

The rest of this chapter discusses:

- accessing AutoSTROBE
- configuring and running the AutoSTROBE SMF Candidate utility
- adding an AutoSTROBE request
- scheduling an AutoSTROBE request.

## Accessing AutoSTROBE

Enter “A” from the STROBE OPTIONS panel (Figure 6-1) and press **Enter** to display the sTROBE - AUTOSTROBE OPTIONS panel.

**Figure 6-1.** STROBE OPTIONS Menu

```

----- STROBE OPTIONS ----- Ver 3 Rel 00
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
G  REQUEST GROUPS     - Create, edit and submit groups of measurement requests
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
A  AUTOSTROBE         - Add, delete and display AUTOSTROBE requests
H  HISTORY            - Access historical data
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

```

From the AUTOSTROBE OPTIONS panel shown in Figure 6-2, you can:

- add an AutoSTROBE request (Option 1)
- track and manage the request and its associated basis data (Option 2)
- retrieve and manage archived data, which is data for a request that has been deleted (Option 3).
- manage AutoSTROBE monitoring candidate lists (Option 4)
- run the AutoSTROBE SMF Candidate PreLoader Utility (Option C)

**Figure 6-2.** STROBE - AUTOSTROBE Options Panel

```

----- STROBE - AUTOSTROBE OPTIONS -----
OPTION ==>

1  ADD AUTOSTROBE REQUEST - Add a new AutoSTROBE request
2  AUTOSTROBE REQUEST STATUS - List AutoSTROBE requests
3  MANAGE ARCHIVED DATA  - View/delete archived data
4  MANAGE CANDIDATES      - View/process candidate watch list
C  CANDIDATE CREATION     - Run candidate pre-loader

```

## AutoSTROBE SMF Candidate PreLoader Utility

This section explains how to use the AutoSTROBE System Management Facility (SMF) Candidate PreLoader Utility. To identify job steps that have high resource consumption, you can run this utility to scan the SMF data sets. The AutoSTROBE PreLoader uses a set of thresholds that must be exceeded to qualify a step as an AutoSTROBE candidate. After

the utility has examined the specified SMF datasets, it builds a list of the job steps that exceed the thresholds and that might require AutoSTROBE monitoring. Chapter 7 explains how to manage AutoSTROBE candidates.

To run the utility, select the “C CANDIDATE CREATION” choice from the STROBE - AUTOSTROBE OPTIONS panel shown in Figure 6-2 on page 6-5 and the STROBE - AUTOSTROBE SMF UTILITY panel shown in Figure 6-3 on page 6-6 is displayed.

**Note:** The AutoSTROBE SMF Candidate Utility should be run rarely because it takes significant amounts of time before it completes. Check with your STROBE system programmer before you submit the job step that runs the utility and make sure to use an appropriate JOB CLASS, or TYPRUN=HOLD before you submit the job. Once a candidate list is built, you should not be required to run the utility again if the system performance is fairly stable over long periods of time.

If you run the utility you should deactivate AUTOSTROBE, which will cause the utility to run more quickly. See Chapter 5 of the *STROBE MVS System Programmer's Guide* for more information about deactivating AUTOSTROBE using the STOPAUTO function of the MVS MODIFY command.

## AutoSTROBE PreLoader Configuration

The AutoSTROBE SMF Candidate PreLoader Utility adds data for a job step from the SMF data set(s) to the monitor candidate list only if that step's usage of the monitored resources exceeded a threshold. You can configure the utility through the STROBE - AUTOSTROBE SMF CANDIDATE UTILITY panel shown in Figure 6-3 on page 6-6. To configure the utility:

1. Compuware recommends that you exclude system applications such as IEBGENER that should not be considered as candidates. To exclude job steps, enter “Y” in the MODIFY EXCLUSION LIST field and press ENTER. The “STROBE - AUTOSTROBE CANDIDATE EXCLUSIONS Panel” on page 6-9 is displayed. Creating an exclusion list is explained in the section “AutoSTROBE Candidate Exclusion List” on page 6-8.
2. Change the values in the “ELAPSED TIME”, “TCB TIME”, “EXCPS” and “FREQUENCY OF RUN” fields to ones you want to use. (Full explanations of the fields and their default and minimum values are shown after Figure 6-3.)
3. Specify the names of the SMF data sets that should be used as input to the utility.
4. Press ENTER and the STROBE - SELECT OPTIONS for JOB STREAM panel shown in Figure 6-4 on page 6-8 appears.

**Figure 6-3.** STROBE - AUTOSTROBE SMF CANDIDATE UTILITY Panel

```

----- STROBE - AUTOSTROBE SMF CANDIDATE UTILITY-----
COMMAND ==>
MODIFY EXCLUSION LIST   ==>          (Y or N)

Entry is a candidate if any of:      EXCEEDS:
  ELAPSED TIME           ==> 10      (Minutes)
  TCB TIME               ==> 2       (Minutes)
  EXCPS                  ==> 20000
  FREQUENCY OF RUN      ==> 30      (Runs per week)

SMF DATASETS  ==> 'WPAPRD.SMFDATA.MONTH(0)'
              ==>
              ==>
              ==>
              ==>
              ==>

```

**ELAPSED TIME**

Minimum number of minutes a step must run to be included in the AutoSTROBE candidate list. (Default is 60 and minimum value allowed is 10)

**TCB TIME**

Minimum aggregate task time in minutes for all Task Control Blocks (TCBs) in the step for it to be included in the AutoSTROBE candidate list. (Default is 20 and minimum value allowed is 2 )

**EXCPS**

Minimum number of EXCP requests (direct invocations of execute channel programs, representing I/O) that must occur for a step to be included in the SMF candidate list. (Default is 1000000 and lowest value allowed is 20000)

**FREQUENCY OF RUN**

Average minimum number of times a step must run a week to be included in the SMF candidate list. (Default is 30 and lowest value allowed is 7)

**SMF DATA SETS**

The name(s) of the SMF summary data sets to use as input to the AutoSTROBE SMF Candidate Utility. Read the following note before you specify the SMF data set name.

**Note:** Only SMF record type 30, subtype 04 records are used by the utility. Make sure the SMF data set includes as few SMF records as possible in addition to those used by the utility. If an extract file exists that includes type 30, subtype 04 records, use it. If it does not exist, then use the most recent full monthly and/or weekly files. Depending on your schedule approach, you may want to use two months or more or several weeks of SMF records.

You can run the run the IBM utility IFASFDLP program to create an extract file. To create one, use the following "SYSIN OUTDD" control statement to an IFASMFDP step:

```
OUTDD(ddname,TYPE(30(4)))
```

where the variable "ddname" is the DD name that defines your extract file.

During the IBM utility run, you could further limit your extract record to contain certain systems, dates, start times, and end times. For example to select only steps running on systems DEV1 and DEV3 between dates 02106 and 02166 and starting after 15:59 and ending before 20:01, you should specify:

```
SID(DEV1)
SID(DEV3)
DATE(02106,02166)
START(1559)
END(2001)
```

**Running the AutoSTROBE SMF Candidate Utility**

The SMF Candidate Utility provides JCL that builds the candidate list. You can edit this JCL to run according to the conditions that are required by your system environment.

**Figure 6-4.** STROBE - SELECT OPTIONS FOR JOB STREAM PANEL (SMF JCL POPUP PANEL)

```

----- STROBE - SELECT OPTIONS FOR JOB STREAM -----
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
  END - Cancel

JOB STATEMENT INFORMATION:
  //USERID      JOB (ACCOUNT),'NAME'
  //*
  /*
  /*

This job contains an intensive I/O step. It
may be long running. Make sure appropriate
job parameters are applied so no
production jobs are impacted

Press ENTER to clear this message.

```

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 displays the job stream in the data set for you to edit.
- 3 - Save and submit the job stream.
- END - Cancel the job stream and terminate background processing.

The AutoSTROBE SMF Candidate utility will then populate the candidate list. You can then select the ones you want AutoSTROBE to start monitoring.

**Note:** See Chapter 5 of the *STROBE MVS System Programmer's Guide* for more information about the naming conventions used for the temporary data set that was created to contain the SMF data to be processed by the AutoSTROBE SMF Candidate Utility.

## AutoSTROBE Candidate Exclusion List

The AutoSTROBE SMF Candidate Utility has to scan large amounts of data in the SMF data sets you want to use. To reduce this data, you should first exclude jobs (such as IEBGENER). If you want to exclude job steps, specify "Y" in the MODIFY EXCLUSION LIST field shown in "STROBE - AUTOSTROBE SMF CANDIDATE UTILITY Panel" on page 6-6 and press ENTER. The "STROBE - AUTOSTROBE CANDIDATE EXCLUSIONS" panel is displayed as shown in Figure 6-5.



will not be on the list. To make sure that all job steps that might require monitoring are placed on the candidate list after the AutoSTROBE PreLoader has run, the AutoSTROBE AutoLoader continuously checks the resource consumption of batch job steps as they end. If any exceed the threshold values for elapsed time, TCB time or EXCPs, the AutoLoader places the job step on the monitoring candidate list. (The AutoLoader only runs if the AUTOCANDIDATE parameter value in the STROBE parameter library is "YES", the default value.) To change the threshold values used by the AutoSTROBE AutoLoader, see Chapter 3 of the *STROBE MVS System Programmer's Guide*.

## Adding an AutoSTROBE Request

You add an AutoSTROBE request by selecting Option 1 from the STROBE - AUTOSTROBE OPTIONS shown in Figure 6-2 on page 6-5. (For information about adding AutoSTROBE requests from one of the AutoSTROBE Candidate Management panels, see Chapter 7.)

Select Option 1 (ADD AUTOSTROBE REQUEST) from the STROBE - AUTOSTROBE OPTIONS panel. Press **Enter**. The STROBE - ADD AUTOSTROBE REQUEST panel, shown in Figure 6-7, is displayed.

**Figure 6-7.** STROBE - ADD AUTOSTROBE REQUEST Panel

```

----- STROBE - ADD AUTOSTROBE REQUEST -----
COMMAND ==>

JOBNAME          ==>          (Jobname or jobname*)
STEP NAME       ==>          (Name or step.procstep, blank for first
PROGRAM         ==>          occurrence. Use '' for unnamed step.)
                                (Program)

SYSTEM          ==> CW09      (System or *ALL for all systems)

OVERRIDE AUTOSTROBE GENERATED THRESHOLDS
SPECIFY: Minimum (minutes) OR Suppress (Y or N)
ELAPSED TIME   ==> 20        ==> N
TCB TIME       ==>          ==> N
I/O ACTIVITY   ==>          ==> Y

SCHEDULE        ==> N        Y OR N

ASSOCIATED ACTION ==> A      Measure: (A)ctive, (Q)ueued or (B)oth
                                or Warn (W)arn

USERID TO NOTIFY ==> WPAJEA  (Notify when threshold is exceeded)

```

## Designating the Program to be Monitored

This section explains how to designate what program you want AutoSTROBE to monitor. The specifications you make on the STROBE - ADD AUTOSTROBE REQUEST panel can include the job name, the job step name, the program name and the system name. Note the following considerations for these fields:

### **Jobname**

- Designate the job name. This is a required field.
- You can specify a wildcard for the job name, but if you do so, you must specify the step name and program name. AutoSTROBE will monitor the program when it runs under any job that corresponds to the wildcard designation. The basis data collected for monitorings of the program under different jobnames will be combined.

**Example of a Jobname with a Wildcard**

AutoSTROBE screens these jobs that were submitted by a job submission package daily with unique jobnames:

Job	Program	Step
WPAJ01	TEST	STEP5
WPAJ02	TEST	STEP5
WPAJ03	TEST	STEP5

AutoSTROBE Request	What AutoSTROBE Screens
--------------------	-------------------------

Jobname = WPAJ* Program= TEST Step Name= STEP5	Screens program TEST in the three jobs and combines the data. AutoSTROBE records this as 3 monitorings of the same job-step program.
--	--

**Step Name**

- Designate a step name. The step name is optional except when the request has a wild card job name.

Compuware recommends that you assign step names in the JCL for programs that might be monitored and specify these step names on the AUTOSTROBE ADD request.

You can complete the step name field one of three ways:

- Specify a step name. AutoSTROBE will monitor the program only when it runs in the designated step.
- Leave the STEP NAME field blank. AutoSTROBE will screen the first step that executes of the designated job and program whether or not the step that executes is named. AutoSTROBE then updates the request so that AutoSTROBE will monitor only that step in subsequent executions of the program.
- Enter two single quotes (‘’) in the step field. AutoSTROBE will screen only those instances of the specified program that runs in unnamed steps.

**Example of Step Name Designations**

The following MVS batch job executes the same job-step program with named and unnamed steps:

```
JOB   XYZ
STEP1 EXEC  PGM=ABC
      EXEC  PGM=ABC
      EXEC  PGM=ABC
STEP4 EXEC  PGM=ABC
```

AutoSTROBE Request	What AutoSTROBE Screens
--------------------	-------------------------

Jobname = XYZ Step Name= STEP4 Program= ABC	Screens program ABC only in STEP4.
---	------------------------------------

Jobname = XYZ Step Name= Program= ABC	Screens only program ABC in STEP1 because it is the first step AutoSTROBE encountered for job XYZ and program ABC. The AutoSTROBE request is modified to Step Name = STEP1.
---	---

AutoSTROBE Request	What AutoSTROBE Screens
Jobname = XYZ Step Name= '' Program= ABC	Screens program ABC in the two unnamed steps and combines the data. AutoSTROBE records this as 2 monitorings of the same step.

**Note:** AutoSTROBE will not recognize a step number nor \*ALL as a step name to measure all steps of a job.

### **Program**

- Designate a specific program name. This is a required field.

### **System**

- Enter a system name in the SYSTEM field. This field appears only if STROBE is being run in a multisystem environment. Specify that the program be watched on a specific system or on all MVS systems in a STROBE XCF group. Specify \*ALL to monitor on all on MVS images.

**Note:** Because different systems in a sysplex have different capabilities, the observations on different systems are independent of each other. Each of the ten executions during which AutoSTROBE collects basis data must run on the same system. For the same program that runs on different systems, AutoSTROBE saves the basis data separately by system.

## **Overriding AutoStrobe Generated Thresholds**

This section explains how to change or suppress AutoSTROBE monitored condition thresholds (Elapsed time, TCB time and I/O activity). AutoSTROBE's first ten monitorings of a given job step are to collect the basis data from which it calculates the thresholds for abnormal behavior for the three monitored conditions.

When you submit an AutoSTROBE request, you can specify your own threshold for that job step's usage of elapsed time or TCB time (or both). AutoSTROBE will then enforce these thresholds on all subsequent monitorings of the step. Even with a user-specified threshold, AutoSTROBE still collects basis data from the first ten monitorings of the step except for any that exceed the user threshold. After ten monitorings in which no user threshold was reached, AutoSTROBE calculates its own thresholds for all of the conditions.

Even on requests having user-specified thresholds, the AutoSTROBE-calculated thresholds for elapsed and TCB time might be useful for comparison with ones specified by the user. Also, if the user subsequently changed this AutoSTROBE request to delete a user-specified threshold, the corresponding AutoSTROBE threshold would then be immediately applied to subsequent monitorings.

**Note:** You cannot specify a threshold for I/O activity.

## **Suppressing the AutoSTROBE Action for Abnormal Behavior**

You can also suppress AutoSTROBE from using a threshold value as the basis for starting a measurement request for a job step. You can suppress the action for one or two but not all three of the monitored conditions. For example, if you only want the elapsed time that a job step has to run to cause AutoSTROBE to start measurement of it, you can enter "Y" in the "Suppress" column for "TCB TIME" and "I/O Activity". Suppressing all three actions causes the AutoSTROBE request to be rejected.

## Other Options for AutoSTROBE Add Requests

After you have specified which programs you want AutoSTROBE to monitor and determined what threshold values you want AutoSTROBE to use, you can set three other options for the AutoSTROBE ADD request.

### Defining a Schedule for AutoSTROBE Monitoring

Defining a schedule for an ADD request directs AutoSTROBE to screen a program only on specific dates. If you have a program that runs every day but always has an unusual work load on specific days, an AutoSTROBE request to screen that program could specify a schedule that suppresses screening on those days.

To define a schedule for the AutoSTROBE request:

- Enter the required information on the ADD AUTOSTROBE REQUEST panel, specifying "Y" in the SCHEDULE field. Press **Enter**.
- STROBE displays the STROBE - AUTOSTROBE REQUEST SCHEDULER panel (Figure 6-8).
- Specify "Y" below the days of the week on which you want AutoSTROBE to initiate observing.
- Specify a date on which you want the schedule to begin.
- Specify the number of weeks that you want the AutoSTROBE request to run or the date that you want the schedule to end. If you enter the number of weeks, AutoSTROBE automatically calculates the end date for you.

**Note:** An AutoSTROBE request can be scheduled for a maximum of one calendar year from the date on which you created the schedule.

**Figure 6-8.** STROBE - AUTOSTROBE REQUEST SCHEDULER Panel

```

----- STROBE - AUTOSTROBE REQUEST SCHEDULER -----
COMMAND ==>

JOBNAME:      WPAJEA                               Specify dates in MM/DD/YYYY format
                                                    Current Date: 10/16/2001
Select day of week  MON  TUE  WED  THU  FRI  SAT  SUN
by entering a Y  ==>  _   _   _   _   _   _   _

Starting Date   ==>  __ / __ / ____
Number of Weeks ==>  __ (1-52)  OR   Ending Date   ==>  __ / __ / ____

Add or exclude dates and times generated above or create a customized list
(OPT: A - Add a date and time          E - Exclude a date and time)
(Clear to delete data below)

OPT      DATE                                     OPT      DATE
-  __ / __ / ____                                -  __ / __ / ____
-  __ / __ / ____                                -  __ / __ / ____
-  __ / __ / ____                                -  __ / __ / ____
-  __ / __ / ____                                -  __ / __ / ____
-  __ / __ / ____                                -  __ / __ / ____
-  __ / __ / ____                                -  __ / __ / ____

```

You can customize a schedule by entering a list of specific dates on the bottom half of the STROBE - AUTOSTROBE REQUEST SCHEDULER panel. For example, you can create a schedule that would initiate observations on a specific date during each fiscal quarter. To create a list of dates, specify the dates in the lower portion of the panel, and enter an "A" in the OPT field to the left of the date.

You can also supplement the schedule for an AutoSTROBE request by adding or excluding certain dates on your weekly schedule. For example, you could create a schedule that

would automatically initiate monitoring every Monday for the next 22 weeks. However, there are two Monday holidays that you would like to exclude from the schedule, and instead initiate a measurement session on Tuesday. Specifying the Monday dates with an "E" in the OPT field to the left of the date excludes those dates from the schedule. Specifying the Tuesday dates with an "A" in the OPT field to the left of the date adds those dates to the schedule.

To customize your schedule, enter the dates on the lines at the bottom of the STROBE - AUTOSTROBE REQUEST SCHEDULER panel, and specify the add or exclude option in the OPT field. AutoSTROBE will then automatically initiate (or omit, in the case of the exclude option) observations on those dates.

### ***Specifying the AutoSTROBE ACTION***

The "ASSOCIATED ACTION" field value determines what action AutoSTROBE takes when a monitored condition threshold is exceeded. Enter "A" to specify an Add Active request, "Q" to specify an Add Queued request, or "B" to request both an active and a queued measurement request. Entering "W" causes AutoSTROBE to take a Warn action when a condition threshold is exceeded.

- Specifying "A" for an ADD ACTIVE will cause AutoSTROBE to initiate a measurement when the abnormal behavior threshold is reached. Press **Enter** and AutoSTROBE brings you to the STROBE - AUTOSTROBE REQUEST - ACTIVE MEASUREMENT panel (Figure 6-9). This measurement, however, could occur too late in the program to obtain significant data. If the duration of the measurement is less than two minutes or the value of the AUTODBMIN parameter, and the threshold exceeded was elapsed time, AutoSTROBE does not consider the data collected representative, discards the measurement, and schedules an Add Queued to measure the next execution of the program. Specifying an active measurement causes AutoSTROBE to immediately start measuring a job step if abnormal activity is detected as it is being monitored.
- Specifying "Q" for an ADD QUEUED will cause AutoSTROBE to initiate a measurement of the entire step the next time it runs, but it may not be exhibiting abnormal behavior at the time of the measurement. Press **Enter** and AutoSTROBE brings you to the STROBE - AUTOSTROBE REQUEST - QUEUED MEASUREMENT panel (Figure 6-9). Specifying a queued measurement causes AutoSTROBE to measure a job step showing abnormal behavior during monitoring the next time the job step runs.
- Specifying "B" to request both an active and a queued measurement causes AutoSTROBE to both measure a job step when abnormal activity is reached and the next time the job step runs regardless of whether abnormal behavior is detected. Press **Enter** and AutoSTROBE brings you to the STROBE - AUTOSTROBE MULTIPLE MEASUREMENTS panel (Figure 6-10). Specifying the multiple measurement, AutoSTROBE will measure a job step immediately if abnormal behavior occurs during monitoring and also the next time the job step runs.
- Specifying "W" causes AutoSTROBE to issue a warning that abnormal behavior was observed if the threshold values are exceeded for this particular AutoSTROBE request only.

Figure 6-9. STROBE - AUTOSTROBE REQUEST - ACTIVE MEASUREMENT Panel

```

----- STROBE - AUTOSTROBE REQUEST - ACTIVE MEASUREMENT -----
COMMAND ==>

JOBNAME: WPAJEA
PROGRAM: PROG1
STEP: STEPNEW
SYSTEM: CW09

AUTO PROFILE CREATION ==> N (Y or N; Use Y only when overriding defaults)
MEASUREMENT SESSION INFORMATION:
  REQUEST TYPE: ACTIVE
  SESSION DURATION ==> 1 (Estimated time in minutes)
  TARGET SAMPLE SIZE ==> 10000 (Target number of samples)
  FINAL SESSION ACTION ==> Q (Quit or Continue)
  TSO USERID TO NOTIFY ==> WPAJEA (Notify when session completes)

SAMPLE DATA SET INFORMATION:
  DATA SET NAME PREFIX ==> WPA
  UNIT NAME ==> SYSDA VOLUME ==> TMP924 DISP ==> CATLG (CATLG OR KEEP)

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

```

Figure 6-10. STROBE - AUTOSTROBE REQUEST QUEUED MEASUREMENT Panel

```

----- STROBE - AUTOSTROBE REQUEST - QUEUED MEASUREMENT -----
COMMAND ==>

JOBNAME: WPAJEA
PROGRAM: PROG1
STEP: STEPNEW
SYSTEM: CW09

AUTO PROFILE CREATION ==> N (Y or N; Use Y only when overriding defaults)
MEASUREMENT SESSION INFORMATION:
  REQUEST TYPE: QUEUED
  SESSION DURATION ==> 1 (Estimated time in minutes)
  TARGET SAMPLE SIZE ==> 10000 (Target number of samples)
  FINAL SESSION ACTION ==> C (Quit or Continue)
  TSO USERID TO NOTIFY ==> WPAJEA (Notify when session completes)

SAMPLE DATA SET INFORMATION:
  DATA SET NAME PREFIX ==> WPA
  UNIT NAME ==> SYSDA VOLUME ==> TMP924 DISP ==> CATLG (CATLG OR KEEP)

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

```

Figure 6-11. STROBE - AUTOSTROBE REQUEST MULTIPLE MEASUREMENTS Panel

```

----- STROBE - AUTOSTROBE REQUEST - MULTIPLE MEASUREMENTS -----
-
COMMAND ==>

JOBNAME: WPAJEA
PROGRAM: PROG1
STEP:
SYSTEM: CW09

AUTO PROFILE CREATION ==> N (Y or N; Use Y only when overriding defaults)
MEASUREMENT SESSION INFORMATION:
  REQUEST TYPE:      ACTIVE          QUEUED
  SESSION DURATION  ==> 1            ==> 1      (Estimated time in minutes)
  TARGET SAMPLE SIZE ==> 10000       ==> 10000  (Target number of samples)
  FINAL SESSION ACTION ==> Q        ==> C      (Quit or Continue)
TSO USERID TO NOTIFY ==> WPAJEA    (Notify when session completes)

SAMPLE DATA SET INFORMATION:
  DATA SET NAME PREFIX ==> WPA
  UNIT NAME             ==> SYSDA   VOLUME ==> TMP924 DISP ==> CATLG (CATLG OR KEEP)

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

```

**UserID to Notify**

You can use this field to specify a user ID that should be notified when an AutoSTROBE request is made.

- The USERID TO NOTIFY field is initialized to the user's TSO ID; however, you may change it.
- Clear the field to have no notifications sent on behalf of the AutoSTROBE request.

## Chapter 7.

# Managing AutoSTROBE Requests

AutoSTROBE maintains both a list of monitoring requests and a list of possible job steps (candidates) to monitor. This chapter explains how manage the two lists and the data associated with them. The first part of the chapter explains how to manage the data collected by AutoSTROBE each time the job step runs in either the basis data collection phase or after the ten executions of the program. The chapter next covers how AutoSTROBE calculates performance thresholds and how you can adjust the calculation and then explains how to manage your AutoSTROBE monitoring candidates. Finally, the monitoring candidate list and how you can use it are described.

Options 2, 3, and 4 of the STROBE - AUTOSTROBE OPTIONS panel shown in Figure 7-1 enable you to perform these tasks. To adjust AutoSTROBE performance threshold calculations, refer to Chapter 3 of the *STROBE MVS System Programmer's Guide*.

Figure 7-1. STROBE - AUTOSTROBE OPTIONS Panel

```

----- STROBE - AUTOSTROBE OPTIONS -----
OPTION ==>

      1  ADD AUTOSTROBE REQUEST      - Add a new AutoSTROBE request
      2  AUTOSTROBE REQUEST STATUS - List AutoSTROBE requests
      3  MANAGE ARCHIVED DATA      - View/delete archived data
      4  MANAGE CANDIDATES          - View/process candidate watch list
      C  CANDIDATE CREATION         - Run candidate pre-loader

```

---

## AutoSTROBE Request Status Management

After you create the AutoSTROBE request, you can manage your AutoSTROBE request from the AUTOSTROBE REQUEST STATUS panel. This section discusses how to:

- verify the basis data that AutoSTROBE has collected
- check the status of an AutoSTROBE request
- manage an AutoSTROBE request once a STROBE measurement has been initiated
- view the AutoSTROBE request
- hold an AutoSTROBE request so that the program will not be screened
- release an AutoSTROBE request so that the next execution of the targeted program will be screened
- delete the AutoSTROBE request
- delete the basis data that AutoSTROBE has collected for that request

### Managing an AutoSTROBE Request Once a STROBE Measurement is Initiated

When AutoSTROBE initiates a STROBE measurement, it sends the designated user a message. To check the status of an AutoSTROBE request and manage a request once AutoSTROBE has initiated a STROBE measurement:

1. Enter "2" on the STROBE - AUTOSTROBE OPTIONS panel, and press **Enter**.
2. The STROBE - AUTOSTROBE REQUEST STATUS panel (Figure 7-2) appears. See "Understanding AutoSTROBE Request Status Information" on page 7-3 for an explanation of the values on this panel.
3. Review the STATUS - REASON column. Look for a status of HELD-MS indicating that AutoSTROBE has initiated a measurement for the targeted program.
4. Create a Performance Profile from the measurement, review it, and make the performance improvements. Follow the instructions in Chapter 3, Producing Performance Profiles, to create a Performance Profile. Measure again with STROBE to verify the effect of your performance improvements.

**Note:** You can also generate Performance Profiles using the STROBE - AUTOSTROBE REQUEST STATUS panel (Figure 7-2) using the "P" line option.

5. Since you have changed the program, the existing basis data may not reflect the program's current execution so you may want to delete it. To view and delete basis data, follow the steps in "Verify Basis Data" on page 7-6.
6. Release the AutoSTROBE request so that AutoSTROBE can again screen the program's execution and collect new basis data.

**Note:** AutoSTROBE will calculate thresholds from the first ten times the program is screened, not the most recent ten.

When you delete an AutoSTROBE request, the basis data for that request is retained and called "archived data." You can access archived basis data records from the STROBE - AUTOSTROBE ARCHIVED DATA LIST panel. For more information see "Managing AutoSTROBE Archived Data" on page 7-7.

**Figure 7-2.** STROBE - AUTOSTROBE REQUEST STATUS Panel

```

----- STROBE - AUTOSTROBE REQUEST STATUS -----
COMMAND ==>
                                           SCROLL ==> CSR

Jobname ==> *           Program ==> *           Step name ==> *
Ownerid ==> *           System  ==> CW09

Line Options:
  V =View           H =Hold           P =Profile           D =Delete
  B =Basis Data     R =Release          C =Change           X =Delete with basis data  MORE>>

C Status Jobname Program Step name           System  --Monitor Information--
-Reason                                     # Last Date  First date
-----
- HELD-MS WPAACLMQ PB4BPUT1 RUNMQ           CW09     17 10/03/2002 09/20/2001
- HELD-MS WPAENFS  STRTRNP1 GO              CW09     3  10/23/2002 10/23/2001
- HELD-MS WPAMJH11 WAIT                ' '      CW09     2  10/09/2002 10/09/2001
- HELD-MS WPAMQCLC PB4BGET1 RUNMQ           CW09     1  10/11/2002 10/11/2001
- HELD-MS WPAREPPS WAITER GO.PGO          CW09    14  10/14/2002 09/28/2001
- HELD-MS WPATEST2 PB4BGET1 RUNMQ           CW09     1  10/15/2002 10/15/2001
- MON-COL WPATEST1 PB4BPG02 RUNMQ           CW09     3  11/15/2002 11/15/2001
- PENDING WPATRY1  ASMA90  ASM.ASM          CW09     2  11/14/2002 10/31/2001
- PEN-COL WPATEST2 PB4BGET1 RUNMQ           CW09     1  10/15/2002 10/15/2001
- PEN-COL WPATEST2 PB4BPUT1 ' '          CW09

```

Figure 7-3. STROBE - AUTOSTROBE REQUEST STATUS Panel (One Scroll Right)

```

----- STROBE - AUTOSTROBE REQUEST STATUS -----
COMMAND ==>                                     SCROLL ==> CSR

Jobname ==> *           Program ==> *           Step name ==> *
Ownerid ==> *          System ==> CW09
Line Options:
  V =View             H =Hold           P =Profile         D =Delete
  B =Basis Data       R =Release        C =Change         X =Delete with basis data  <MORE>

C Status Jobname Program Step name          System  -Measurement Information
-Reason                                     # Last Date  Ownerid
-----
- HELD-MS WPACLCMQ PB4BPUT1 RUNMQ          CW09    8 10/03/2002 WPACLC
- HELD-MS WPAENFS  STRTRNP1 GO             CW09    2 10/23/2002 WPAENF
- HELD-MS WPAMJH11 WAIT                    CW09    2 10/09/2002 PBTMJH1
- HELD-MS WPAMQCLC PB4BGET1 RUNMQ          CW09    1 10/11/2002 WPACLC
- HELD-MS WPAREPPS WAITER GO.PGO          CW09    1 10/14/2002 WPAREP
- HELD-MS WPATEST2 PB4BGET1 RUNMQ          CW09    1 10/15/2002 WPACLC
- MON-COL WPATEST1 PB4BPG02 RUNMQ          CW09    3 11/15/2002 WPACLC
- PENDING WPATRY1  ASMA90  ASM.ASM         CW09
- PEN-COL WPATEST2 PB4BGET1 RUNMQ          CW09    1 10/15/2002 WPACLC
- PEN-COL WPATEST2 PB4BPUT1 ''            CW09    WPACLC
    
```

Figure 7-4. STROBE - AUTOSTROBE REQUEST STATUS Panel (Two Scrolls right)

```

----- STROBE - AUTOSTROBE REQUEST STATUS -----
COMMAND ==>                                     SCROLL ==> CSR

Jobname ==> *           Program ==> *           Step name ==> *
Ownerid ==> *          System ==> CW09
Line Options:
  V =View             H =Hold           P =Profile         D =Delete
  B =Basis Data       R =Release        C =Change         X =Delete with basis data  <<MORE

C Status Jobname Program Step name          System  ---Last Measurement---
-Reason                                     Reason
-----
- HELD-MS WPACLCMQ PB4BPUT1 RUNMQ          CW09    EXCESSIVE ELAPSED TIME
- HELD-MS WPAENFS  STRTRNP1 GO             CW09    EXCESSIVE ELAPSED TIME
- HELD-MS WPAMJH11 WAIT                    CW09    EXCESSIVE ELAPSED TIME
- HELD-MS WPAMQCLC PB4BGET1 RUNMQ          CW09    EXCESSIVE TCB TIME
- HELD-MS WPAREPPS WAITER GO.PGO          CW09    EXCESSIVE TCB TIME
- HELD-MS WPATEST2 PB4BGET1 RUNMQ          CW09    EXCESSIVE ELAPSED TIME
- MON-COL WPATEST1 PB4BPG02 RUNMQ          CW09    EXCESSIVE ELAPSED TIME
- PENDING WPATRY1  ASMA90  ASM.ASM         CW09
- PEN-COL WPATEST2 PB4BGET1 RUNMQ          CW09    EXCESSIVE ELAPSED TIME
- PEN-COL WPATEST2 PB4BPUT1 ''            CW09
    
```

## Understanding AutoSTROBE Request Status Information

The AUTOSTROBE REQUEST STATUS panel shows all AutoSTROBE requests, their statuses, identifying information, monitoring information, and measurement information. The following sections describe the information provided on the panel.

### Status - Reason

- **MONITOR** - the job/step/program specified by the request is running and currently being monitored. When a request has this status, you cannot delete the request or the associated basis data.
- **MON - COL** -the job/step/program specified by the request is running and currently being monitored for the collection of basis data.
- **HELD** - the request is suspended; the program will not be screened. There are five types of HELD statuses:

- WN - AutoSTROBE detected abnormal behavior and the request's AUTOACTION parameter is set to WARNING. The request will remain held until the user releases it. These requests appear at the top of the panel. For more information on the AUTOACTION parameter, see the section called "Adding an AutoSTROBE Request" on page 6-10.
- MS - AutoSTROBE measured the program and the request is held until the user releases it.
- SC - the request has a schedule and the current day is not on the schedule.
- US - the user issued a hold against the request. It will remain held until the user releases it.
- AC - security rules for the STROBE access filter are enabled and it has determined that the issuer of the request does not have the authority to access the job under which the program was running.

**Note:** If you designate a wildcard jobname and the security match fails, you will not have access to use AutoSTROBE on those jobs.

- PENDING - the job/step/program specified by the request is not currently running, but when it does run, it will be monitored for abnormal behavior.
- PEN-COL - the job/step/program specified by the request is not currently running, but when it does run, it will be monitored for the collection of basis data.

### ***Jobname***

Lists what you specified in the Jobname field. This could be a jobname or a prefix followed by a wildcard character (\*).

### ***Step Name***

If you specified a step name or two single quotes, this field lists what you specified in the Step Name field. If you left the Step Name field blank, this field is updated to contain the name of the first step that AutoSTROBE screens. If that step is unnamed, this field will be blank.

### ***Program Name***

Lists what you specified as the program name.

### ***System***

Lists the targeted system or \*ALL for all systems in the sysplex.

**Note:** When you specify \*ALL to indicate that the request will execute on multiple systems, AutoSTROBE assigns one status to the request, but records the monitoring and measurement information separately by system. For each system, AutoSTROBE separately saves the basis data collected.

### ***Monitor Information***

- # - Number of times AutoSTROBE has monitored the program.

**Note:** This number represents the total number of times AutoSTROBE has monitored and will increment even if AutoSTROBE encounters an internal error while monitoring a program.

**Note:** If you delete basis data records, this number does not change.

- **Last Date** - Date of the last time AutoSTROBE monitored the program.
- **First Date** - Date of the first time AutoSTROBE monitored the program.

**Measurement Information**

- **#** - number of times AutoSTROBE has detected abnormal behavior for the program targeted in the request
- **Last Date** - Date of the most recent instance of abnormal behavior detected for the program targeted in the AutoSTROBE request
- **Ownerid** - the TSO ID of the user who submitted the AutoSTROBE request

**Last Measurement Reason**

The most recently detected abnormal condition, either:

- Excessive elapsed time
- Excessive TCB time
- Abnormal I/O activity

**Managing Requests from the AutoSTROBE Status Panel**

From the AUTOSTROBE REQUEST STATUS panel you can enter these line commands to the left of the AutoSTROBE request:

- **V (View)** - On the AutoSTROBE Browse panel you can view status data about the request: jobname, program, and stepname that is monitored; threshold values; observation information; measurement information; AutoSTROBE request identifying information; and measurement parameters.
- **B (Basis Data)** - you can look at the basis data for the program covered by the request so that you can evaluate the validity of thresholds that AutoSTROBE has calculated or that you have entered. You can delete one or more basis data records. AutoSTROBE will use the next observation of the program to collect basis data so that ten observations of the program are completed. AutoSTROBE lists the thresholds it has calculated from the basis data under the heading CALCULATED THRESHOLD.

**Note:** If the elapsed time of the step is less than the value specified with the AUTODBMIN parameter (or the default of 2 minutes), AutoSTROBE discards the basis data it collected because it would probably not be statistically representative.

- **H (Hold)** - You can hold the request so that monitoring does not take place until the request is released by the user. You cannot hold a subrequest (iterations of a request specified for \*ALL systems).
- **R (Release)** - You can change the status from Held to Pending. When the target program subsequently runs, it will be monitored.
- **P (Profile)** - You can request a Performance Profile for the most recent AutoSTROBE-initiated measurement associated with the request.
- **C (Change)** - You can change parameters for the AutoSTROBE request by entering values on the STROBE - CHANGE AUTOSTROBE REQUEST panel shown in Figure 7-5 on page 7-6.
- **D (Delete)** - You can delete the request, and the basis data will be archived. You cannot delete requests that have Monitor status.

**Note:** AutoSTROBE requests do not have retention periods and are not automatically deleted. Once a request is no longer being used, you must use the Delete or the Delete with Basis Data line command to remove it.

- **X (Delete with Basis Data)** - You can delete the request and the associated basis data. Nothing will be archived.

## Changing AutoSTROBE Requests

The STROBE - CHANGE AUTOSTROBE REQUEST panel shown in Figure 7-5 is displayed when you enter “C” on the STROBE - AUTOSTROBE REQUEST STATUS panel shown in Figure 7-3 on page 7-3. The STROBE - CHANGE AUTOSTROBE REQUEST panel allows you to adjust measurement parameter values you set for the request when it was originally made. It contains the same fields as the STROBE - ADD AUTOSTROBE REQUEST panel.

Entering “Y” in the CHANGE MEASUREMENT PARAMETERS field causes the display of a STROBE panel for the type of measurement designated for the request being changed. For example if the ASSOCIATED ACTION for the request is “A” or active, then entering “Y” in the CHANGE MEASUREMENT PARAMETERS field causes the STROBE - CHANGE AUTOSTROBE REQUEST - ACTIVE MEASUREMENT panel to appear.

**Figure 7-5.** STROBE - CHANGE AUTOSTROBE REQUEST Panel

```

----- STROBE - CHANGE AUTOSTROBE REQUEST -----
COMMAND ==>

JOBNAME          B*
STEPNAME         PROFILE
PROGRAM         STROBEDT
SYSTEM          SS11

OVERRIDE AUTOSTROBE GENERATED THRESHOLDS
  SPECIFY: Minimum (minutes) OR Suppress (Y or N)
ELAPSED TIME    ==> 20                ==> N
TCB TIME        ==>                  ==> N
I/O ACTIVITY    ==>                  ==> Y

SCHEDULE        ==> N                Y or N

ASSOCIATED ACTION ==> A                Measure: (A)ctive, (Q)ueued or (B)oth
                                         or Warn: (W)arn

CHANGE MEASUREMENT PARAMETERS ==> N    Y or N (if action is not Warn)

USERID TO NOTIFY ==> WPAZZC            Notify when threshold is exceeded

```

## Verify Basis Data

AutoSTROBE collects basis data during the first ten executions of the program targeted in the AutoSTROBE request.

**Note:** If the elapsed time of a program that AutoSTROBE is screening is less than two minutes, AutoSTROBE ignores the basis data it collected and does not save it.

To view the basis data so that you can verify its validity:

1. Enter “2” from the STROBE - AUTOSTROBE OPTIONS panel and press **Enter** to display the STROBE - AUTOSTROBE REQUEST STATUS panel.
2. Refer to “Understanding AutoSTROBE Request Status Information” on page 7-3 for information about the meanings of the status field.
3. Specify “B” to the left of the AutoSTROBE request for which you want to view the basis data and press **Enter**. AutoSTROBE displays the STROBE - AUTOSTROBE BASIS DATA LIST panel (Figure 7-6 on page 7-7).
4. Review the basis data and delete any basis data records that do not reflect normal processing. A value of “N/A” in the CALCULATED THRESHOLD field for elapsed time or TCB time indicates that AutoSTROBE has not screened a sufficient number of executions of the program to obtain enough data to calculate this value. (EXCP values are presented for information only and not used in threshold calculations, so the CALCULATED THRESHOLD field is always set to N/A.)

5. To delete basis data records, enter “D” to the left of the record.

**Note:** When you delete basis data records, AutoSTROBE uses subsequent monitoring of the program to collect basis data to replace the deleted records so that there is a total of ten basis data records. AutoSTROBE then recalculates the related thresholds.

**Note:** If a job step that AutoSTROBE is screening to collect basis data abnormally terminates or encounters an internal error, AutoSTROBE does not save the basis data collected. This screening of the job step, however, is included in the count of the number of times AutoSTROBE has monitored. This count is displayed on the AutoSTROBE REQUEST STATUS panel under “Monitor Information” (Figure 7-2 on page 7-2).

After you have created the AutoSTROBE request, AutoSTROBE notifies you when it initiates the associated STROBE measurement for the target program. The message lists the number of the associated STROBE measurement, the program, job, and step name (if specified), and the reason AutoSTROBE initiated the measurement.

**Figure 7-6.** STROBE - AUTOSTROBE BASIS DATA LIST Panel

```

----- STROBE - AUTOSTROBE BASIS DATA LIST -----
COMMAND ==>>                                     SCROLL ==>> CSR

JOBNAME:    WPABTRW6
PROGRAM:    TVREAD
STEPNAME:   ''
SYSTEM:    CW09
-----
( MM/DD/YYYY )                               Line Options:  D =Delete

  RUN DATE  RUN TIME          SESSION  TCB      TOTAL EXCP
-----
          CALCULATED THRESHOLD:          26      10          N/A
- 10/05/2002 02.01.49          28      6          237764
- 10/05/2002 02.31.30          18      6          237454
- 10/05/2002 02.50.26          15      6          236448
- 10/05/2002 03.05.57          16      6          237031
- 10/05/2002 03.22.31          15      6          236880
- 10/05/2002 03.38.07          15      6          237203
- 10/05/2002 03.53.42          15      6          235455
- 10/05/2002 04.09.32          13      6          234679
- 10/05/2002 04.23.36          15      6          236364
- 10/05/2002 04.38.52          15      6          236429
-----
          BOTTOM OF DATA -----

```

## Archived Basis Data

When you use the “D” line command to delete an AutoSTROBE request, the basis data collected under that request is retained and stored in an “archived” state. Archived basis data is available to refer to or use again if you re-enter the deleted AutoSTROBE request to resume monitoring of the program.

---

## Managing AutoSTROBE Archived Data

When a request is deleted, AutoSTROBE stores basis data on that program as archived data. The collected basis data for that program can be viewed and reused if the user issues another AutoSTROBE request for that program. From the STROBE - AUTOSTROBE OPTIONS panel, enter a “3” to list Archived Data. Press **Enter** to display the STROBE - AUTOSTROBE ARCHIVED DATA LIST panel, Figure 7-7.

**Figure 7-7.** STROBE - AUTOSTROBE ARCHIVED DATA LIST Panel

```

----- STROBE - AUTOSTROBE ARCHIVED DATA LIST -----
COMMAND ==>
                                                                    SCROLL ==> PAGE

Jobname ==> *           Program ==> *           Stepname ==> *
System  ==> *

Line Options:   B =Basis Data  D =Delete           ( MM/DD/YYYY )   MORE>>
----- MONITOR INFORMATION -----
- JOBNAME  PROGRAM  STEPNAME           SYSTEM  #  LAST DATE    TIME
-----
- WPAMC1SM  SAMPLONG  MAC                CW09    1  09/26/2002  16.06.55
- WPAMC1SM  SAMPLONG  MC1                CW09   33  09/17/2002  15.11.13
- WPAMJH1W  WAIT      PPPP                CW09   12  09/27/2002  14.32.49
- WPARUNMQ  PB4BPUT1  CRISTINA           CW09    1  09/20/2002  13.18.27
    
```

From this panel you can:

- look at the basis data associated with the archived data.
- delete records of archived data. Deleting archived data records deletes the associated basis data.

**Figure 7-8.** STROBE - AUTOSTROBE ARCHIVED DATA LIST Panel (One Scroll Right)

```

----- STROBE - AUTOSTROBE ARCHIVED DATA LIST -----
COMMAND ==>
                                                                    SCROLL ==> PAGE

Jobname ==> *           Program ==> *           Stepname ==> *
System  ==> *

Line Options:   B =Basis Data  D =Delete           ( MM/DD/YYYY )   <<MORE>>
----- MONITOR INFORMATION -----
- JOBNAME  PROGRAM  STEPNAME           SYSTEM  #  FIRST DATE    TIME
-----
- WPAMC1SM  SAMPLONG  MAC                CW09    1  09/26/2002  16.06.55
- WPAMC1SM  SAMPLONG  MC1                CW09   33  09/19/2002  14.08.39
- WPAMJH1W  WAIT      PPPP                CW09   12  09/27/2002  14.57.07
- WPARUNMQ  PB4BPUT1  CRISTINA           CW09    1  09/20/2002  13.18.27
    
```

Figure 7-9. STROBE - AUTOSTROBE ARCHIVED DATA LIST Panel (Two Scrolls Right)

```

----- STROBE - AUTOSTROBE ARCHIVED DATA LIST -----
COMMAND ==>                                     SCROLL ==> PAGE

Jobname ==> *           Program ==> *           Stepname ==> *
System ==> *

Line Options:   B =Basis Data   D =Delete           ( MM/DD/YYYY )   <<MORE>>
----- MEASUREMENT INFORMATION -----
- JOBNAME  PROGRAM  STEPNAME           SYSTEM  #  LAST DATE  TIME
-----
- WPAMC1SM  SAMPLONG  MAC                CW09    0
- WPAMC1SM  SAMPLONG  MC1                CW09    0
- WPAMJH1W  WAIT      PPPP                CW09    2  09/27/2002  14.58.17
- WPARUNMQ  PB4BPUT1  CRISTINA           CW09    1  09/20/2002  13.20.37
    
```

Figure 7-10. STROBE - AUTOSTROBE ARCHIVED DATA LIST Panel (Three Scrolls Right)

```

----- STROBE - AUTOSTROBE ARCHIVED DATA LIST -----
COMMAND ==>                                     SCROLL ==> PAGE

Jobname ==> *           Program ==> *           Stepname ==> *
System ==> *

Line Options:   B =Basis Data   D =Delete           ( MM/DD/YYYY )   <<MORE
----- MEASUREMENT INFORMATION -----
- JOBNAME  PROGRAM  STEPNAME           SYSTEM  REASON
-----
- WPAMC1SM  SAMPLONG  MAC                CW09
- WPAMC1SM  SAMPLONG  MC1                CW09
- WPAMJH1W  WAIT      PPPP                CW09  EXCESSIVE ELAPSED TIME
- WPARUNMQ  PB4BPUT1  CRISTINA           CW09  EXCESSIVE ELAPSED TIME
    
```

## AutoSTROBE Threshold Calculations

Once AutoSTROBE has collected basis data from monitoring ten executions of a job-step program, it calculates thresholds that define abnormal behavior in that program for each of the three monitored conditions (elapsed time, TCB time, and I/O activity). For elapsed time and TCB time, this threshold is a number that designates the maximum minutes that an instance of the program can use before its usage of the that resource is considered abnormal.

### Minimum Run Time for Basis Data Collection.

When AutoSTROBE is monitoring an execution of a program to collect basis data, the elapsed time of that execution must exceed a minimum value to cause AutoSTROBE to keep the data from that execution as basis data. This prevents brief executions of a program (when it finds no work to do) from artificially lowering the thresholds that will be used on subsequent executions where the program does do work and therefore runs longer. AutoSTROBE's default for the minimum elapsed time required to retain basis data is two minutes. This parameter can be set to any value from 1 to 999. See Chapter 3 of the *STROBE MVS System Programmer's Guide* for more information about adjusting minimum time values for basis data collection.

## Threshold for Elapsed Time

AutoSTROBE determines the threshold for elapsed time as follows:

- the elapsed time for each of ten executions of the program is collected
- the highest and lowest values for the ten executions are discarded
- the threshold is the highest of the remaining eight execution values plus 50 percent of the average of the eight values.

For example, the average elapsed time of the eight program runs is 40 minutes. The longest any of the eight ran was 50 minutes. If AutoSTROBE uses a percentage value of 50, then the threshold for measurement kickoff for this program is 70 minutes. 50 plus 50 percent of 40 (20) equals 70. If you lowered the percentage value to 10, then the threshold would drop to 54 minutes based on a calculation of 50 plus 10 percent of 40 (4) equals 54. Or if you upped the percentage value to 120, then the threshold for elapsed time is set at 98 minutes - 50 plus 120 percent of 40 (48) equals 98. Acceptable values for this parameter are 1 through 99.

See the explanation of the AUTOELAPPERCNT parameter in Chapter 3 of the *STROBE MVS System Programmer's Guide* for more information about adjusting the elapsed time percentage.

## Threshold for TCB Time

AutoSTROBE calculates the TCB time threshold to kickoff a measurement using the same formula as for elapsed time. As an example, a program uses on average 32 TCB minutes after the high and low TCB figures are discounted. The high of the eight runs was 40 TCB minutes. Using the 50% default value, AutoSTROBE will initiate a measurement of the program if it uses 56 TCB minutes. Acceptable values for this parameter are 1 through 10000. See the explanation of the AUTOTCBPERCNT parameter in Chapter 3 of the *STROBE MVS System Programmer's Guide* for more information about adjusting the elapsed time percentage.

## Threshold for I/O Activity

AutoSTROBE collects basis data and calculates a norm for I/O activity so that it can initiate a measurement when the program's activity deviates significantly from that norm. Since either high or low I/O activity indicates a problem at the point in time when the activity occurs, the calculations are significantly different from those for elapsed time or TCB time.

You can control how AutoSTROBE determines what should be identified as abnormal elapsed time, TCB time, or I/O activity by specifying what performance evaluation parameters are used to calculate the thresholds that define abnormal activity. These percentages are set in the STROBE parameter library that contains parameter value definitions required by STROBE.

## Establishing a Norm for I/O Activity

To establish a norm, AutoSTROBE monitors the first ten executions of the program to determine how many I/O and CPU service units the program uses in each execution. AutoSTROBE collects this basis data in the following manner: for each of these ten executions, AutoSTROBE builds a matrix that divides the CPU service units of the program into 25 intervals. This matrix is a time-line of I/O activity in each of the 25 CPU intervals. When each of the program's executions to collect basis data completes, AutoSTROBE combines the time-line data collected from this execution with that collected from previous executions and creates a new basis-data time-line that is a composite of this program's I/O activity.

After the tenth execution, AutoSTROBE:

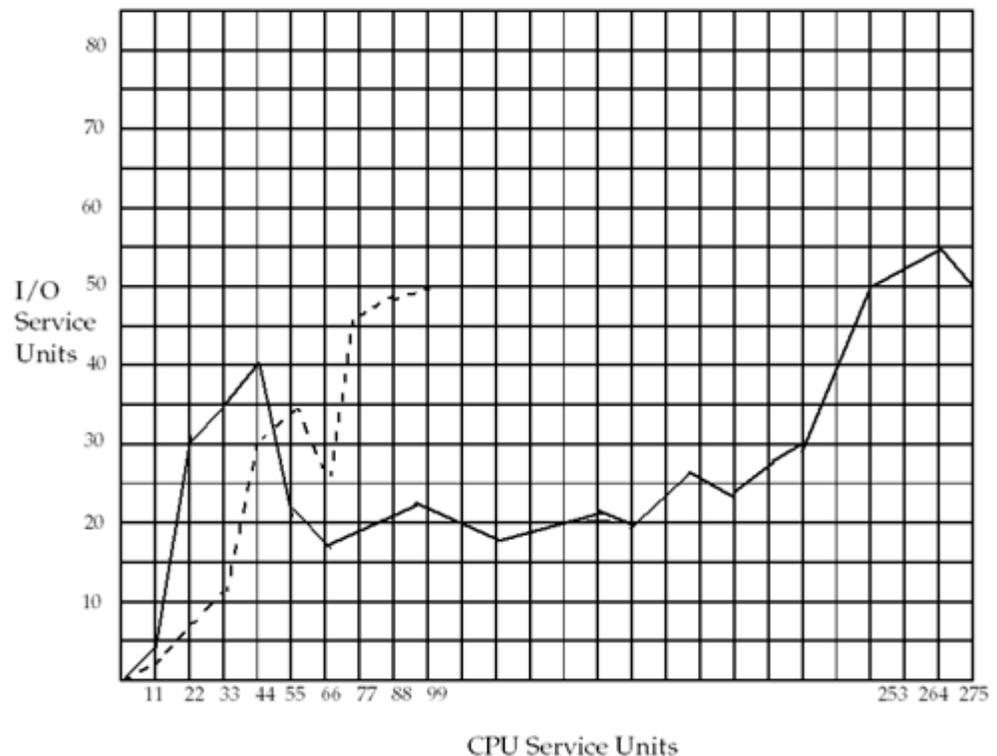
1. Calculates the average of the total CPU Service Units for the ten executions and divides them into 25 intervals.
2. Calculates the average I/O Service Unit usage for the execution for each interval.
3. Applies this average I/O usage for each interval as the composite average for each composite interval calculated in step 1.

This is the basis data that represents normal I/O activity during the program's execution.

## Detecting Abnormal I/O Activity

Once this composite time line of I/O usage is established, AutoSTROBE monitors subsequent executions of the program to detect deviations from this matrix as the execution proceeds along the time-line. Each deviation is specified as an event. An event is a combination of a percentage of how much the detected I/O activity is greater than or less than the mean value in the average interval of the composite time line and the number of consecutive intervals in which the deviation occurs. Figure 7-11 shows an example of a composite time-line for I/O activity in a program that AutoSTROBE is monitoring and how AutoSTROBE could detect abnormal activity in a subsequent execution of that program.

**Figure 7-11.** Example of How AutoSTROBE Detects Abnormal I/O Activity



This example assumes that the average CPU service units used by the program in its first ten monitored executions is 275. This means that for this example each interval in the time-line for the composite of these ten executions represents 11 CPU service units.

The solid line in the graph shows the average number of I/O service units used in the first ten monitored instances of the program relative to the CPU service units consumed as their executions proceeded. In this example, the first ten monitoring indicate that the normal I/O activity for this program is:

- relatively heavy (between 30 and 40 I/O service units in each CPU interval) in the intervals at the points in the program's execution where it has consumed approximately 20 - 50 CPU service units.
- lower I/O activity (between 15 and 30 service units per interval) for most of the rest of the program's execution (as measured by CPU service units).
- very high I/O activity (over 40 I/O service units per interval) in the intervals at the points in the program's execution where it has consumed between 250 and 275 CPU service units.

The broken line on the graph represents the I/O activity for an execution of the program after its basis data has been collected. AutoSTROBE monitoring of this execution is for abnormal behavior. Assume that AutoSTROBE's standard (that is, event) for abnormal consumption of I/O service-units is either 75% higher or 50% lower for three consecutive intervals than the norm established for those intervals.

In this example, the I/O activity in the execution being monitored was significantly lower in the second and third interval but moved closer to the norm in the fourth interval so AutoSTROBE did not mark this usage as abnormal. However, in the middle of the program's execution (at the points where it has consumed between 66 and 99 CPU service units), the consumption of I/O service units was significantly higher than the norm for three consecutive intervals. When AutoSTROBE detected this abnormal behavior at the third of these intervals, it initiated a STROBE measurement of the monitored program.

AutoSTROBE has one default event defining abnormal I/O activity (greater than 100%, or less than 75% for 3 consecutive intervals) when I/O activity is compared to the "norm" calculated over the first ten program executions. If you want to define additional events (high and low percentages and a number of consecutive intervals) for abnormal I/O activity, you can set the values using the AUTOIOEVENTx parameter in the STROBE parameter library. If multiple I/O events are defined, only one needs to be exceeded to be recognized as abnormal behavior.

You can define as many as five sets of high and low percentages and a number of intervals that AutoSTROBE will use as benchmarks of abnormal I/O activity. For example, in addition to the default event of 100% over or 75% under for three intervals, you could define the following two events:

- I/O Event A (30,50,9)-This combination of values would initiate a measurement if a long period of somewhat minor abnormal I/O activity (30% higher or 50% lower than average for 9 consecutive periods) was observed by AutoSTROBE.
- I/O Event B (300,99,1)-This combination of values would initiate a measurement anytime a huge swing in I/O activity (300% higher or 99% lower than average for one period) was observed by AutoSTROBE.

See the explanation of the five AUTOIOEVENTx parameters in Chapter 3 of the *STROBE MVS System Programmer's Guide* for more information about setting up the events that define abnormal I/O activity.

---

## Managing AutoSTROBE Candidates

To create a list of monitoring candidates, both the AutoSTROBE SMF Candidate PreLoader Utility and the AutoSTROBE AutoLoader uses various performance standards to determine if the job step should be placed on the candidate list. Three of these standards were based on criteria that would indicate heavy resource consumption. Both the PreLoader and the AutoLoader use elapsed time, TCB time and the number of EXCPS consumed by a job step to determine whether it should be placed on the monitor candidate list. Even if a job step runs only occasionally, it may require AutoSTROBE monitoring if any of these three criteria indicate high usage.

**Note:** If a job step exceeds any of the criteria on more than one date, the job step name could appear on the list more than once.

Another indicator of a job step that may be eligible for AutoSTROBE monitoring is frequency-of-run. The job step's resource consumption may be not be high enough to qualify it for the candidate list on an individual run, but if the job runs often enough, it may equal or surpass the resource consumption of a job step that runs infrequently. So a job step that executes on a high weekly average may also require AutoSTROBE monitoring. (A frequency-of-run threshold only applies if you are using the AutoSTROBE PreLoader.)

Choosing option 4 MANAGE CANDIDATES on the STROBE - AUTOSTROBE OPTIONS panel displays the STROBE - AUTOSTROBE PROCESS CANDIDATES panel shown in Figure 7-12. This panel shows the job steps that were placed on the monitor candidate list because either the AutoSTROBE preloader or autoloader determined that on at least one occasion that the step ran, it exceeded the threshold for elapsed time, or TCB time or number of EXCPs. Following Figure 7-12, descriptions are provided of how to use the STROBE - AUTOSTROBE PROCESS CANDIDATE panel to manage the monitoring candidates.

To manage job steps that made the candidate monitoring list because the AutoSTROBE PreLoader found it ran more often than the minimum value for the frequency of run threshold, enter "Y" in the "VIEW FREQUENCY LIST" panel field shown in Figure 7-12. The STROBE - AUTOSTROBE FREQUENCY LIST shown in Figure 7-15 on page 7-16 is displayed. The section called "Managing Frequently Run AutoSTROBE Monitoring Candidates" on page 7-16 explains how to manage these AutoSTROBE monitoring candidates.

**Figure 7-12.** STROBE - AUTOSTROBE PROCESS CANDIDATES Panel

```

----- STROBE - AUTOSTROBE PROCESS CANDIDATES-----
COMMAND ==>
                                                                    SCROLL PAGE

Jobname ==>*      Stepname ==>*      Program ==>*      MORE>>
System ==>> BB03
Modify Exclusion List==>> N View Frequency List ==>>N Change Sort ==>>N
Line Options: A -AutoStrobe Q -Add Queued E -Add to Exclude List D -Delete

C JOBNAME  STEPNAME  PROGRAM  SYSTEM  DATE/TIME  EXCEEDED  ELAPSED  TCB
- - - - -  - - - - -  - - - - -  - - - -  - - - - -  - - - - -  - - - - -
- FTPGET0  FTP        FTP      BB03    12/27/2002 14:01:01   13       0
a ASMFMS9  STEP1     COB310  BB03    12/24/2002 06:25:33   17       7
- ASMFMS9  STEP4     COB2PAY  BB03    12/23/2002 00:47:24  5809     7
- AA94VBCT  GONEW.PLI COB2PAY  BB03    12/20/2002 00:56:11  5788     10
q AA945611  COB.RUNT  STROBEDT BB03    12/18/2002 13:23:55   20      10
    
```

## List Filters

The "Jobname", "Stepname", "Program" and "System" fields can be used as filters to sort what programs that you want appear on this panel.

### **JOBNAME**

Lists the job name for the AutoSTROBE candidate. This field can used as a filter. You could specify a field value "S\*" which only lists candidates with a job name that begins with "S".

### **STEP NAME**

Lists the step name for the AutoSTROBE candidate.

**PROGRAM**

Lists the program name for the AutoSTROBE candidate.

**SYSTEM**

Lists the system name for the AutoSTROBE candidate.

## Line Options and Commands

There are several line commands and options you can choose to manage and perform other types of AutoSTROBE-related tasks.

**Modify Exclusion List**

Entering "Y" in the Modify Exclusion List field displays the STROBE - AUTOSTROBE CANDIDATES EXCLUSION panel shown in Figure 6-5 on page 6-9. You can then edit the list if necessary.

**View Frequency List**

Entering "Y" for the View Frequency List field displays the STROBE - AUTOSTROBE FREQUENCY LIST shown in Figure 7-15. This panel displays the frequency with which the job step ran. This threshold is set in "STROBE - AUTOSTROBE SMF CANDIDATE UTILITY Panel" on page 6-6. From the STROBE - AUTOSTROBE FREQUENCY LIST panel, you can add AutoSTROBE requests, view and edit the exclusion list, add a queued measurement request or delete a candidate from the frequency list. Deleting a candidate from the frequency list does not delete it from the STROBE - AUTOSTROBE PROCESS CANDIDATES panel list.

**Change Sort**

Entering "Y" in the Change Sort field displays the "STROBE - AUTOSTROBE CANDIDATE SORT Panel" on page 7-17.

**A - AutoStrobe**

Enables you to add an AutoSTROBE request for the job step. Entering "A" as a line option displays the STROBE - ADD AUTOSTROBE REQUEST panel shown in Figure 6-7 on page 6-10.

**Q - Add Queued**

Enables you to add an ADD QUEUED request for the job step. Entering "Q" as a line option displays the STROBE - ADD QUEUED MEASUREMENT panel.

**E - Add to Exclusion List**

Enables you to add the job step to AutoSTROBE Candidate Exclusion List. Entering "E" as a line option displays the STROBE - AUTOSTROBE CANDIDATE EXCLUSIONS panel shown in Figure 6-5 on page 6-9.

**D - Delete**

Enables you to delete the job step from the AutoSTROBE Candidate Process list.

## Additional Panel Fields

The remaining STROBE AUTOSTROBE PROCESS CANDIDATES panel fields provide additional information about the candidate.

**DATE TIME EXCEEDED**

Lists the last date and time that the job ran and exceeded the thresholds defined for making the AutoSTROBE measurement candidate list.

**ELAPSED MINUTES**

Total amount of elapsed time (expressed in minutes) observed during the run.

**TCB MINUTES**

Total amount of TCB time (expressed in minutes) observed during the run.

**EXCPS**

Once scroll right of the screen displays an additional field shown in Figure 7-13 that indicates the total amount of EXCPS observed during the run.

**Figure 7-13. STROBE - AUTOSTROBE PROCESS CANDIDATES Panel**

```

----- STROBE - AUTOSTROBE PROCESS CANDIDATES-----
COMMAND ==>                                     SCROLL PAGE

Jobname ==>*          Stepname ==>*              Program ==>*
System ==**          <MORE>
Modify Exclusion List====> N View Frequency List ==>N Change Sort ==>N
Line Options: A -AutoStrobe Q -Add Queued E -Add to Exclude List D -Delete

  JOBNAME  STEPNAME  PROGRAM  SYSTEM DATE TIME EXCEEDED  EXCPS
-----
- JOB1     STEPA     PROGRAM  SYSTEM 10/19/2002 14:01:01    24,717
a JOB2     STEPB     PROGRAM  SYSTEM 10/19/2002 14:01:01    24,717
- JOB3     STEPC     PROGRAM  SYSTEM 10/19/2002 14:01:01     717
- JOB4     STEPD     PROGRAM  SYSTEM 10/19/2002 14:01:01  1,024,717
q WPAAZSRE PROFILE  STROBEDT SYSTEM 10/19/2002 14:01:01    124,717
    
```

**LAST ACTION**

Two scrolls of the panel shown in Figure 7-14 displays the last action taken by in regard to the job.

**Figure 7-14. STROBE - AUTOSTROBE PROCESS CANDIDATES Panel**

```

----- STROBE - AUTOSTROBE PROCESS CANDIDATES-----
COMMAND ==>                                     SCROLL PAGE

Jobname ==>*          Stepname ==>*              Program ==>*
System ==**          <<MORE
Modify Exclusion List====> N View Frequency List ==>N Change Sort ==>N
Line Options: A -AutoStrobe Q -Add Queued E -Add to Exclude List D -Delete

  JOBNAME  STEPNAME  PROGRAM  SYSTEM DATE/TIME EXCEEDED  LAST ACTION
-----
- JOB1     STEPA     PROGRAM  SYSTEM 10/19/2001 14:01:01  AUTOSTROBED
a JOB2     STEPB     PROGRAM  SYSTEM 10/19/2001 14:01:01
- JOB3     STEPC     PROGRAM  SYSTEM 10/19/2001 14:01:01  STROBED
- JOB4     STEPD     PROGRAM  SYSTEM 10/19/2001 14:01:01
q WPAAZSRE PROFILE  STROBEDT SYSTEM 10/19/2001 14:01:01
    
```

## Managing Frequently Run AutoSTROBE Monitoring Candidates

This section explains how to manage AutoSTROBE monitoring candidates that were placed on the list because the job step exceeded the SMF PreLoader utility frequency of run threshold. You can manage these job steps from the STROBE - AUTOSTROBE FREQUENCY LIST panel shown in Figure 7-15 on page 7-16. After the example panel, descriptions of using the panel fields to manage the monitoring candidate list are provided.

**Figure 7-15.** STROBE - AUTOSTROBE FREQUENCY LIST Panel

```

----- STROBE -AUTOSTROBE FREQUENCY LIST -----
COMMAND ==>                                     SCROLL ==> PAGE
Jobname ==> *           Stepname ==> *           Program ==> *
System ==> *
Modify Exclusion List ==> N   View Candidate List ==> N   MORE>>
Line Options: A -AutoStrobe   Q -Add Queued   E -Add to Exclude List   D -Delete

  JOBNAME   STEPNAME       PROGRAM   SYSTEM   AVG FREQ   DATA COLLECTION
-----
- JOB1     STEPA           PROGRAM   SYSTEM   30         07/25/2002-09/23/2002
a JOB2     STEPB           PROGRAM   SYSTEM   10         08/12/2002-10/01/2002
- JOB3     STEPC           PROGRAM   SYSTEM   9          09/02/2002-09/28/2002
- JOB4     STEPD           PROGRAM   SYSTEM   8          08/20/2002-10/05/2002
q WPAAZS   PROFILE        STROBEDT  SYSTEM   7          09/23/2002-09/29/2002

```

### List Filters

The “Jobname”, “Stepname”, “Program” and “System” fields can be used as filters to sort what programs that you want appear on this panel.

#### **JOBNAME**

Lists the job name for the AutoSTROBE candidate. This field can be used as a filter. You could specify a field value “S\*” which only lists candidates with a job name that begins with “S”.

#### **STEP NAME**

Lists the step name for the AutoSTROBE candidate.

#### **SYSTEM**

Lists the system name for the AutoSTROBE candidate.

#### **PROGRAM**

Lists the program name for the AutoSTROBE candidate.

### Line Options and Commands

There are several line commands and options you can choose to manage and perform other types of AutoSTROBE-related tasks.

#### **Modify Exclusion List**

Entering “Y” in the Modify Exclusion List field displays the STROBE - AUTOSTROBE CANDIDATES EXCLUSION panel shown in Figure 6-5 on page 6-9. You can then edit the list if necessary.

**View Candidate List**

Entering “Y” in the View Candidate List field displays the STROBE - AUTOSTROBE PROCESS CANDIDATES panel shown in Figure 7-12 on page 7-13.

**A - AutoStrobe**

Enables you to add an AutoSTROBE request for the job step. Entering “A” as a line option displays the STROBE - ADD AUTOSTROBE REQUEST panel shown in Figure 6-7 on page 6-10.

**Q - Add Queued**

Enables you to add a ADD QUEUED measurement request for the job step. Entering “Q” as a line option displays the STROBE - ADD QUEUED MEASUREMENT panel.

**E - Add to Exclude List**

Enables you to add the job step to AutoSTROBE Candidate Exclusion List. Entering “E” as a line option displays the STROBE - AUTOSTROBE CANDIDATE EXCLUSIONS panel shown in Figure 6-5 on page 6-9.

**D - Delete**

Enables you to delete the job step from the AutoSTROBE Frequency list. Deleting a job step from this list does not delete it from the AutoSTROBE PROCESS CANDIDATES list.

**Changing the AutoSTROBE Candidate Sort Order**

The STROBE -AUTOSTROBE CANDIDATE SORT panel shown in Figure 7-16 enables you change the sort order and sequence of the fields on the STROBE - AUTOSTROBE PROCESS CANDIDATE panel. See “Changing the Display Format” on page 2-33 for information about changing the sort order of this panel. (If you are not running in a multisystem environment, this panel displays the seven remaining fields.)

**Figure 7-16.** STROBE - AUTOSTROBE CANDIDATE SORT Panel

----- STROBE -AUTOSTROBE CANDIDATE SORT -----		
COMMAND ==>		SCROLL ==> PAGE
SORT ORDER (1-8)	SORT SEQUENCE (A or D)	DISPLAY TITLE
-----	-----	-----
_2	A	JOBNAME
_3	A	STEPNAME
_4	A	PROGRAM
_	_	SYSTEM
_1	D	LAST RUN DATE/TIME
_5	A	ELAPSED
_	_	TCB
_	_	EXCPS



## Chapter 8.

# 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 8 explains how to create a Performance Profile if you are not using STROBE/ISPF.

This chapter also explains how you can use the STROBE command language to take advantage of the capabilities provided by the STROBE Advanced Session Management Feature. Chapter 2, “Measuring with STROBE/ISPF” provides a detailed description of how the STROBE Advanced Session Management Feature can streamline the process of creating, submitting, and managing measurement requests. The section called “Using the STROBE Advanced Session Management Feature” on page 8-22 describes how to use the Feature with the STROBE command language.

---

## 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 8-1 shows an example of STROBE command syntax.

**Figure 8-1.** STROBE Command Language Syntax

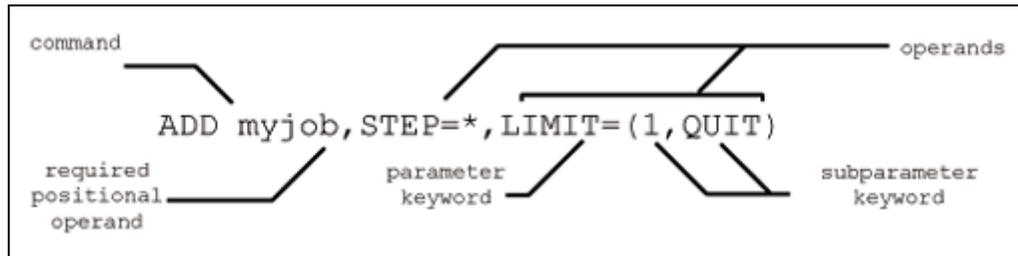


Figure 8-1 shows the command “ADD”, the required positional operand “myjob”, and the operands “STEP=\*” and “LIMIT=(1,QUIT)”. Within the LIMIT=(1,QUIT) operand, “LIMIT” is the parameter keyword and “1” and “QUIT” are subparameter keywords.

## Conventions for Command Examples

The command syntax example shown in Figure 8-1 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. You can specify a schedule for a measurement request using the STROBE Advanced Session Management Feature STARTTIME and STARTDATE operands. For information about setting up a schedule using these operands, see “Scheduling a Measurement Request” on page 8-24.
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.

ADDGRP	Create a request group or add request group elements to a request group.
SUBMIT	Submit a request group.
CHGGRP	Change a request group or change request group elements of a request group.
LISTGRP	List a request group.
COPYGRP	Copy a request group.
DELGRP	Delete a request group or groups.

Other keywords, positional operands, and subparameter keywords are described later in this chapter. The STROBE Advanced Session Management Feature commands and their operands are described in the section called “Using the STROBE Advanced Session Management Feature” on page 8-22.

## 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 8-1, “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 8-9 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.

**Note:** If you specify the GROUP operand with the ADD command, the command will execute, but the request will not be added to a request group. If you use the GROUP operand with the CHANGE command, the changes you specify will take place. To make a change to a request group element, you must use the CHGGRP command. If the group containing the element has been submitted and you want to make a change that will affect the submitted request, you use the CHANGE command with the element's request number.

```
ADD|CHANGE {jobname|*|jobname*|rrrr|}
[, {PROGRAM|PGM}=programid(s)]
[, STEP={stepname(s)[.procstepname]|*|*ALL}]
[, 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-vcno,...)]
[,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.
- *jobname*\*(*asterisk*), for a queued request, specifies that STROBE should measure the next job that starts to execute and begins with the alphanumeric sequence preceding the \* character. There is no limit on the number of sequences you can specify. For example, you can specify an ADD command of *ADD(PR1\*,PR2\*)*. The statement will cause STROBE to measure the first two jobs that start to execute with names that begin with the characters *PR1* and *PR2*. You cannot use the \* character between two alphanumeric sequences, such as *abc\*job*.

- *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. The STROBE Advanced Session Management Feature allows you to measure multiple programs with one request; for example:

```
ADD MYJOB,PGM=MYNAME
```

or

```
ADD FIRSTJOB,PGM=(F1,F2,F3)
```

### STEP

STEP={*stepname(s)*[*.procstepname*],...}\*|\*ALL} specifies the name of the target job step.

- *stepname(s)* specifies the stepname that invokes the target program or procedure. You can also specify multiple stepnames to be measured.
- *procstepname* specifies the stepname within the procedure that executes the target program.
- \* (asterisk) specifies that the measurement request is for the step currently executing.
- \*ALL specifies that all steps of the job should be measured for a queued request (nested procedure steps will not be measured if they have previously executed).

**Note:** Have your STROBE system programmer check the MAXREQ parameter value described in Chapter 2 of the *STROBE MVS System Programmer's Guide* to make sure it has been changed to MAXREQ=400. The STROBE installation assigned a default value of 200, but a job could contain more than 200 steps.

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(s)* specifies the number of the step within the target job. You specify the number of the job step within the target job you want to measure. You can specify one step number, multiple step numbers, or a range of step numbers that you want to measure.

**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
```

To measure multiple step numbers, code:

```
ADD MYJOB,NUMBER=(1,3-12)
```

**Note:** When you measure more than one step or program with an ADDGRP command, you can use only one of the formats to specify multiple programs, job step names, or job step numbers. You can specify a set of multiple program names, a set of multiple step names, or a set of multiple step numbers, but you cannot specify a combination of the formats.

### ADDRESS SPACE ID

ASID=*m* 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=*ssssss* (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 8-21.

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. The STROBE Advanced Session Management Feature provides two operands to enable you to measure several jobs at the same time. You should use these operands instead of **NOSTART**. See “Measuring Multiple Address Spaces Concurrently” on page 8-26 for information about these operands.

For example:

```
ADD MYJOB,PGM=MYPROG,NOSTART
```

## BASELINE

**BASELINE=*nm*** (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 *nm*”. When you use the **SVCS** operand, STROBE shows execution within the modules called by the invocation of the SVC, provided the modules are loaded by MVS contents management. 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 2-29.

### 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 2-29.

### 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=*mmn*, COMPLETE=*mmn*) (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) STRB*nnnn*, 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 8-15.

### 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 = *nn*** (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=*nn*** (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)
```

## ADD and CHANGE Commands Examples 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=TLPO07
```

STROBE changes the system specification for request 192 from SYSTEM=\*ALL to EXCLUDE=TLPO07 and will measure the first instance of MYJOB on any system except TLP007.

## Viewing Measurement Requests with 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]
      [,DEFERRED=ddd]
      [,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.

<b>SYSTEM</b>	SYSTEM specifies the systems for which you would like to view the status of measurement requests.
<b>EXCLUDE</b>	EXCLUDE specifies the systems for which you do not want to view the status of measurement requests.
<b>TYPE</b>	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> <li>• DEFERRED for all deferred requests</li> <li>• AUTOSTROBE for all AutoSTROBE requests</li> </ul>
<b>OWNERID</b>	<i>ownerid</i> is either the TSO user ID or a job name of a batch job that submitted a measurement request
<b>QUEUE</b>	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> .
<b>COMPLETE</b>	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> .
<b>DELETE</b>	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, deferred, 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 you issued the DISPPROC command. You can also specify the LOG subcommand, which writes the information STROBE displays to the STROBE log.

```
DISPPROC {SYSTEM=system,LOG} |
         {SYSTEM=system}|{LOG}
```

---

## Deleting Measurement Requests

The DELETE command shows information about completed or queued measurement requests, and then deletes them. (To delete an active request, first issue a SEND command with a QUIT operand as explained in “Controlling the Measurement Session” on page 8-21.) As STROBE deletes each request, it displays and deletes from the message queue all messages related to the request that have not previously been listed.

STROBE also automatically deletes measurement requests when the retention period ends. You can change the retention period with the RETAIN operand of the CHANGE command as explained in “Specifying Request Retention Options” on page 8-12.

```
DELETE {jobname|rrr*}|{jobname|rrr}|({jobname|rrr,jobname|rrr,...})
```

**Note:** When deleting measurement requests by job name, note that the DELETE command is **system-wide in a multisystem environment**. For example, the following DELETE command deletes all requests with a given job name on all active systems in the sysplex:

```
DELETE MYJOB
```

**Note:** You cannot delete AutoSTROBE requests using STROBE command language. You must use the STROBE/ISPF interface. For more information see “Managing Requests from the AutoSTROBE Status Panel” on page 7-5.

## Examples of the DELETE Command

To delete three requests, code:

```
DELETE (365,352,MYJOB)
```

To list and delete all requests with the job name of the current batch job, code:

```
DELETE *
```

## Deleting Request Group Elements

To delete individual request group elements, use the GROUP operand with the DELETE command. The format is:

```
DELETE element-seq-no|( element-seq-1,...element-seq-n),GROUP=groupname
```

The following example removes a request group element with the sequence number 0004 from a group named GROUPM:

```
DELETE 0004,GROUP=groupm
```

This example removes two request group elements with sequence numbers 0007 and 0008 from the group named GROUPM:

```
DELETE(0007,0008),GROUP=groupm
```

You can use the names of the request group elements rather than the sequence number. However, if you have two request group elements that are measuring different steps of the same job and you specify the job name, both request group elements are deleted. Also, whenever you delete the last request group element of a request group, the request group is deleted as well.

---

## Controlling the Measurement Session

Once STROBE has begun measuring a program, you can issue the SEND command to control the activity of the measurement session.

For example, specifying the SUSPEND operand for the SEND command allows you to momentarily stop a measurement session. Using the SWITCH operand you can switch to a new sample data set and release the previous data set. Then, using the START operand, you can resume the measurement session.

The following is the syntax for the SEND command:

```
SEND {jobname|rrr|*}, {STATUS|
                        STOP|
                        SUSPEND|
                        START|
                        SWITCH [ ,GOMIN=gggg]
                               [ ,SAMPLES=ssssss]
                               [ ,LIMIT={{(nn,){QUIT|STOP}}|NOLIMIT]}|
                        QUIT}
```

## Specifying Operands for the SEND Command

You can issue the following STROBE operands for the SEND command:

- |               |  |
|---------------|--|
| <b>STATUS</b> | 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. |
| <b>STOP</b>   | 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” on page 8-22 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 8-9.

## 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
```

---

## Using the STROBE Advanced Session Management Feature

Six commands and several operands have been added to the **STROBE** command language to work with the **STROBE** Advanced Session Management Feature. The commands relate to using request groups and request group elements. Two of the operands are used to define schedules for measurement sessions. All of these commands and operands are described in this section.

For the ADDGRP and CHGGRP commands, you can use any of the operands that were described earlier for the ADD and CHANGE commands. For example, you can assign a session duration (GOMIN) and a number of samples (SAMPLES) for a measurement request with the ADDGRP command and then make the request an element of a request group. You could also use the CHGGRP command to change the session duration or the number of samples after the request becomes a request group element.

This section describes how to perform the following tasks using the STROBE Advanced Session Measurement Feature with the STROBE command language:

- Creating a request group
- Submitting a request group
- Submitting a measurement request or a request group with a schedule
- Specifying operands to retry a measurement request
- Measuring multiple address spaces concurrently
- Changing a request group element
- Listing request group elements
- Copying a request group
- Deleting a request group or a request group element

Note also that by using the STROBE command language for Advanced Session Management you do not realize many of the usability enhancements provided with the STROBE/ISPF implementation of the STROBE Advanced Session Management Feature.

## Creating a Request Group

To create request groups and request group elements, use the ADDGRP command.

### ADDGRP

The ADDGRP command specifies a measurement request that you want placed in a request group. To create a measurement request group, the first task is to specify the job and the job step that you want assigned as a request group element as described in “Adding and Changing Measurement Requests” on page 8-4. Setting these operands is mandatory. A request group cannot exist unless it contains at least one request group element. You must also specify the name of the request group in which you want to place the request group element.

### GROUP

The GROUP operand specifies the name of the request group in which you want to add the request group element. If the request group name you specify does not exist, STROBE creates a request group with the name you specified and places the job name and job step as a request group element in the request group. If the request group name does exist, the job name and job step to be measured are placed as a request group element in the existing request group. For information about changing a request group element with the CHGGRP command, see “Changing Request Group Elements” on page 8-27.

## Examples

This example shows how to create a request group element that measures a step that is not part of a procedure:

```
ADDGRP MYJOB,STEP=STEP1,GROUP=GROUPONE
```

This example shows how to create a request group element that measures multiple steps that are not part of a procedure:

```
ADDGRP MYJOB,STEP=(STEP1,STEP2,STEP3),GROUP=GROUPONE
```

This example adds a measurement request to a request group named GROUPX for a job step named "SS1", in the same batch job that runs STROBE:

```
ADDGRP *,STEP=SS1,GROUP=GROUPX
```

This example adds the measurement request for the first job STROBE finds beginning with the alphanumeric sequence STR to a request group named GROUPY:

```
ADDGRP STR*,STEP=*,GROUP=GROUPY
```

## Adding a Request to an Existing Request Group

Use the GROUP operand with the ADDGRP command to identify the request group to which you want to add a new request group element. Request group elements can be created for either active or queued requests. The following example places a measurement request named JOBFIVE in a group named GRP1 :

```
ADDGRP JOBFIVE,STEP=*,GOMIN=5,SAMPLES=5000,GROUP=GRP1
```

## Submitting a Request Group

To submit a request group you have created, use the SUBMIT command.

**SUBMIT**

SUBMIT dispatches the request group so STROBE can begin measuring the jobs specified in it. The request group can contain both active and queued jobs.

- If a request group element in the request group specifies a job that is active, STROBE begins to measure the job immediately.
- If a request group element in the request group specifies a job that is not active, STROBE creates a queued measurement request that begins when the job becomes active.

STROBE marks subsequent SUBMIT commands for any jobs in a request group that are already being measured as complete. The following example submits a request group named GRP\_1:

```
SUBMIT GRP_1
```

## Scheduling a Measurement Request

To set up a schedule for a measurement request or a request group, you specify the STARTDATE and STARTTIME operands. You can supply these operands with either the ADD, CHANGE, or SUBMIT commands. You cannot use these operands with ADDGRP.

**STARTDATE**

To indicate the dates when you want STROBE to measure the job or request group, you specify the STARTDATE operand, which uses one of the following formats:

```
STARTDATE= ('mm/dd/yy','mm/dd/yy',...|
            'dd/mm/yy','dd/mm/yy',...|
            'yy/mm/dd','yy/mm/dd',...|
            'mm/dd/yyyy','mm/dd/yyyy',...|
            'dd/mm/yyyy','dd/mm/yyyy',...|
            'yyyy/mm/dd','yyyy/mm/dd',...)
```

**Note:** Any of the following special characters are valid date separators: the slash (/), the hyphen (-), or the period (.). Enclose the entire string in single quotes, as shown in the syntax example. The format you enter depends on the format specified in the STROBE parameter data set.

The first date you specify is the first scheduled date that the job or request group should be measured. Additional date specifications designate when subsequent measurements take place (up to one year from the date submitted) and must be entered in the order in which they occur.

### STARTTIME

To indicate the times you want STROBE to measure the job or request group, use the STARTTIME operand, which uses one of the following formats:

STARTTIME=	('hh:mm','hh:mm',...	24 hour format
	'zh:mm','zh:mm',...	24 hour format with leading zero suppressed
	'ap:mmam','ap:mmpm',...	12 hour with AM/PM indicator
	'zp:mmam','zp:mmpm',...)	12 hour with AM/PM indicator, leading zero suppressed

**Note:** Any of the following special characters are valid time separators: the colon (:), the period (.), or the comma (,). Enclose the entire string in single quotes, as shown in the syntax example. The format you enter depends on the format specified in the STROBE parameter data set.

The first hour and minute designation is the first time during the day that the job or request group is measured. A one-to-one correspondence must exist between each STARTDATE and STARTTIME operand. Allow at least two minutes between the time of day when you submit a request with a schedule and the first time you have scheduled a measurement request. STROBE will delete the scheduled request if it determines that less than two minutes exist between the time of the request submission and the time of the first scheduled request.

## Examples

The following example submits request group GROUPA with a schedule calling for a measurement session to start on 10/15/2002 and 10/22/2002 at 5:00 p.m.

```
SUBMIT GROUPA,STARTDATE=('10/15/2002','10/22/2002'),
STARTTIME=('17:00','17:00')
```

This example submits request group GROUPQ with a schedule calling for a measurement session to start on 10/20/02 at 8:00 a.m. and 6:00 p.m.:

```
SUBMIT GROUPQ,STARTDATE=('10/20/2002','10/20/2002'),
STARTTIME=('08:00','18:00')
```

This example submits a measurement request for a job named JOBNINE with a schedule to measure on 10/19/02 at 10:00 PM.

```
ADD JOBNINE,STEP=*,STARTDATE=('10/19/2002'),STARTTIME=('22:00')
```

## Specifying Parameters to Retry a Measurement Request or Request Group

If the job your measurement request targets is not running when your measurement request is scheduled, you can set operands that cause STROBE to attempt to measure it again. The operands used to retry a measurement request or a request group are the INCREMENT and COUNT operands.

### INCREMENT

The INCREMENT operand, which uses the format INCREMENT=*ii*, specifies the number of minutes that must elapse before STROBE attempts to measure an active job again if the job is not running the first time STROBE attempts to measure it.

### COUNT

The COUNT operand, which uses the format COUNT=*cc*, controls how many additional times STROBE will attempt to measure after the time period specified by INCREMENT expires.

INCREMENT and COUNT apply only to measurement requests for active jobs or active jobs within a request group that you have scheduled using the STARTDATE and STARTTIME operands with either the ADD or SUBMIT commands. You can specify a value of anywhere from 0 to 60 minutes for INCREMENT and a value of anywhere from 0 to 24 for COUNT. You cannot use one operand without the other.

## Example

The following example creates a schedule for a request group named GP\_1 that has an entry to measure a set of jobs on 10/30/2002 at 10:00 a.m. If the job is not active at that specific time, STROBE will attempt to measure again in as many minutes as the value specified by INCREMENT. If INCREMENT is set to 5 and COUNT is set to 2, STROBE tries to measure again five minutes after the original scheduled time. If the job still is not active, STROBE will try again in another five minutes. If the job is not active on the second remeasurement attempt, STROBE discards the measurement request. To set up the just described schedule, code:

```
SUBMIT GP_1,STARTDATE=('10/30/2002'),STARTTIME=('10:00'),
INCREMENT=5,COUNT=2
```

## Measuring Multiple Address Spaces Concurrently

The STROBE Advanced Session Management Feature allows you to easily define a group of jobs so STROBE measures them concurrently. This capability lets you produce Performance Profiles from each job's measurement session that can indicate any performance impact that one job has upon another. To run concurrent measurement sessions, you have to designate the start of one measurement session as the "trigger" that starts the other measurement sessions.

### CONCURRENT

The CONCURRENT operand, which uses the format CONCURRENT=*setname*, allows you to specify a name for the set of jobs that you want to measure simultaneously. If the name for the set of jobs to be measured concurrently does not exist, STROBE creates the set with the name you specify. If the set name does exist, STROBE adds the measurement request to the request group containing the concurrent set with that name. All members of a concurrent set must be contained in the same request group.

### TRIGGER

The TRIGGER operand, which uses the format TRIGGER =*YES/NO*, identifies which measurement session triggers the other measurement sessions. The job with the

measurement session that is designated as the trigger is called the trigger request group element. The jobs with measurement sessions that are started by the trigger request group element are called related request group elements.

When STROBE begins to measure the job designated as the trigger, STROBE also starts measuring the other active jobs that are part of the concurrent set. When the measurement of the trigger job step ends, STROBE also ends the related measurement sessions. If the request serving as the trigger specifies multiple steps to be measured, the related measurement sessions last only until STROBE finishes measuring the first specified step. Any measurement request designated as a trigger is always specified by STROBE to have the operand values of "LIMIT=(1,QUIT)" to ensure the measurement session stops when the target number of samples has been taken.

Both active and queued measurement requests can be specified with the TRIGGER operand set to YES and both types of requests can be specified with the CONCURRENT operand. However, within a concurrent set, only measurement sessions for active jobs can be related elements and started by the trigger measurement request. CONCURRENT and TRIGGER can be specified as operands for both the ADDGRP and CHGGRP commands.

By making a request group element a member of a concurrent set, you indicate that it is related to other members of the set and will execute concurrently only with its related request group elements. For a detailed explanation of concurrent sets and trigger and related request group elements, refer to Chapter 2, "Measuring with STROBE/ISPF".

## Examples

This example shows three ADDGRP commands that create and use a concurrent set called CON1 in a group called GRP1. Three request group elements called JOB1, JOB2, and JOB3 are placed in the request group. JOB1 and JOB2 are the active related request group elements and JOB3 is the queued trigger request group element.

```
ADDGRP JOB1,STEP=*,GOMIN=5,CONCURRENT=con1,GROUP=grp1
ADDGRP JOB2,STEP=*,GOMIN=10,CONCURRENT=con1,GROUP=grp1,
ADDGRP JOB3,NUMBER=22,GOMIN=20,TRIGGER=yes,CONCURRENT=con1,GROUP=grp1
```

**Note:** Since the default value for the TRIGGER operand is NO, you do not have to specify the operand for active job measurement requests that should start when the trigger measurement request begins. For queued requests, the default value of NO means that STROBE rejects any attempts to add a queued request with a CONCURRENT operand value unless it also has a TRIGGER operand value of YES.

## Changing Request Group Elements

After you have created the request group elements you require, they retain default values for operands such as GOMIN and SAMPLES unless you specified other values for them when you created the elements. If you need to change any of the operand values for the request group elements before you submit the request group for measurement, you can use the CHGGRP command to make the adjustment.

### CHGGRP

The syntax format for the CHGGRP command is

```
CHGGRP (element-seq-no, ...),GROUP=group-name,operand-value
```

or

```
CHGGRP (element-name,.....),GROUP=groupname,operand-value
```

The request group element sequence numbers for a request group can be obtained with the LSTGRP command. If the measurement session for the request group element you

want to change is already active, you can specify only the GOMIN, SAMPLES, LIMIT, and RETAIN operands. If the request is queued, you can change any of the operands.

You must specify two operands to change request group elements: the sequence numbers or names for the elements you want to change in the group and the group name. You cannot specify a request group name only to change all of its request group elements. Each sequence number or name for the request group elements in the request group must be specified.

If you specify a request group element name, it is the name of the job to be measured. If the group contains several elements that measure different steps of the same job and you only specify the job name, the change will apply to all elements in the group using the job name. For example, if you had three elements in a group named GRP5 that measured the first, second and third step of a job named MULTISTP and wanted to change the session length to 20 minutes for each of them, you could use the following syntax:

```
CHGGRP (multistp),GROUP=grp5,GOMIN=20
```

This example changes the measurement session length to 15 minutes for two request group elements with sequence numbers 0002 and 0004 in a request group named GRPZ, code:

```
CHGGRP (0002,0004),GROUP=grpz,GOMIN=15
```

To change an operand value for a request group element that has been submitted, you use the CHANGE command. To obtain the request number for a submitted request group element, you can use the LIST command with either the TYPE=DEFERRED or TYPE=QUEUED specifications. If you submit a request group for measurement and then change it using the CHGGRP command, the changes only apply to subsequent times that you submit the request group.

## Listing Group Elements

To list the elements of a request group, use the LISTGRP command.

### LISTGRP

LISTGRP allows you to list the request groups you have created. If you specify a request group name, the request group elements contained in the request group and their sequence numbers are listed. The syntax for the LISTGRP command is:

```
LISTGRP groupname
```

Depending on whether you specify a group name, the LISTGRP command produces two types of listings. If you do not specify a group name, a listing with the following format appears:

```
STR6915I GRP1 0005 0002 10/31/2002 11/05/2002 11/10/2002 WPAABC
```

This message displays the message number, request group name, the number of elements in the group, the date the request group was created, the date it was last modified, the date it was submitted, and the owner ID of the request group creator. The message is repeated for each group that you own.

Using a group name with the LISTGRP command produces a different listing that contains the operands you designated for each request group element that you added to the group. The format for the listing is:

```
STR6266I TESTGRP GRPOwner=WPAFXC
STR6261I 0001 WPAABD SAVED REQUEST STEP=*ALL SYSTEM=SCS01
          CREATED=(10:45:56 10/18/2002) GOMIN=2 SAMPLES=20000
          NOLIMIT DSN='WPA' UNIT=WPAANY
          DISPOSITION=CATLG NOTIFY=WPAFXC GROUP=TESTGRP
          CONCURRENT=Y2KTEST TRIGGER=YES
```

The first message identifies the request group name. This message is followed by one message for each element in the group. These messages display the element sequence number, the target job name and program or stepname, the date and time the request group was created, and the request group name.

The four columns shown in the example are always displayed. Additional operands, such as GOMIN, are displayed if you provided values for them rather than accept the default values assigned to them by STROBE.

## Copying Group Elements

To copy request group elements to another request group, use the COPYGRP command.

### COPYGRP

COPYGRP allows you to copy all of the request group elements contained in one request group into another request group. You cannot copy individual request group elements from one request group to another. The syntax for the COPYGRP command is:

```
COPYGRP GROUP=groutobecopiedname,NEWGROUP=newgroupname
```

The following example copies the request group elements of a request group named MYGROUP to a request group called YOURGROUP.

```
COPYGRP GROUP=mygroup,NEWGROUP=yourgroup
```

## Deleting a Group

To delete a request group, use the DELGRP command.

### DELGRP

DELGRP allows you to delete a request group or delete several request groups at once. The syntax for the DELGRP command is:

```
DELGRP{group|(group1....groupn)}
```

This example deletes a request group named GRPTWO.

```
DELGRP GRPTWO
```

The following example deletes two request groups named GRPJAN and GRPFEB:

```
DELGRP (grpjan,grpfeb)
```

To delete individual request group elements, you use the DELETE command with the GROUP operand. See “Deleting Request Group Elements” on page 8-21 for more information about deleting request group elements.

---

## 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 9.

# Creating Performance Profiles Using Procedures

Chapter 2, “Measuring 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.

<b>Keyword</b>	<b>Description</b>
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).
CMT=" <i>comment</i> "	Add a comment for the measurement session history record.
COLLHIST	Create measurement session history record.
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.
DBRMBASE= <i>nn.n</i>	Minimum percentage for collection of measurement session history for a DBRM.
DETAIL=[{ <i>modname</i>  ( <i>modname1</i> , <i>modname2</i> ,...)}]	Detail system modules.

IEF=[([OFFSET]  [,TIMEPCT= <i>nn.n</i> ]   [,TOPTEXT= <i>nn</i> ])]	Tailor the reporting of COOL:Gen (formerly Composer) activity. <b>TIMEPCT</b> is the minimum percentage of CPU or run time. <b>TOPTEXT</b> 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>mmm</i>	Lines per page.
MEISA	Produce Most Extensively Inactive Storage Areas Report.
MEMOBJ	Produces the z/OS Memory Object report
MQCALL= <i>nn.n</i>	Minimum percentage of activity for the MQSeries Call reports.
MQTRAN	Report IMS transaction-level detail on the CPU Usage by Module by MQSeries Call and Wait by Module by MQSeries Call reports.
NOATTR=[( <i>xxx</i> [, <i>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</i> [, <i>modname</i> ,...])]	Suppress module mapping.
NOMEMOBJ	Suppresses z/OS Memory Objects report
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.
REPJOB= <i>jobname</i>	Replacement name for job name in measurement session history record.
REPNAME= <i>text</i>	Performance Profile title.

REPSTP= <i>stepname</i>	Replacement name for step name in measurement session history record.
RESLTN= <i>nm</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.
TRANBASE= <i>nn.n</i>	Minimum percentage for collection of measurement session history for a transaction.
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.
WRKPRIM= <i>nnnn</i>	Primary space allocation for a temporary work file for APMpower or iSTROBE.
WRKSEC= <i>nnnn</i>	Secondary space allocation for a temporary work file for APMpower or iSTROBE.
WRKUNIT= <i>unit</i>	The unit for a temporary work file for APMpower or iSTROBE.
WRKVOL= <i>volume</i>	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=    mmdyy
         ddmyy
         yymmdd
         mmdyyyyy
         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
	zpmss	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
```

## Producing the Most Extensively 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
```

## 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.

## Suppressing the z/OS Memory Objects Report

NOMEMOBJ suppresses the z/OS Memory Objects report. To suppress the report, specify

```
NOMEMOBJ
```

## 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=mm.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
```

`TOPTXT=mm` (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=TOPTXT=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=TOPTXT=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=mm.n` (default 10.0) enables you to specify the SQL statements for which full text will be printed. *mm.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,SQL=CPUTEXT=0,SQL=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 Profiling 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 Java Class CPU Summary and the CPU Usage by Java Method reports. 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.

## Collecting and Customizing Measurement Session History Records

The following parameters enable you to collect and customize measurement session history records.

`COLLHIST` requests the creation of a measurement session history record for this measurement session. Once the record is created, you can examine the measurement session history for a specific job step, DBRM, or a transaction using STROBE/ISPF or APMpower. To request the creation of a measurement session history record, specify:

```
COLLHIST
```

`CMT="ddd"` adds a comment to a measurement history record, if one does not already exist. The character string, enclosed in double quotes, that follows `CMT=` represents the comment. Comments have a maximum length of 55 bytes. Embedded double quotes and underscores are not allowed in the character string.

To enter a comment for a measurement session history record, specify:

```
CMT="yourcomment"
```

`DBRMBASE` and `TRANBASE` enable you to control the amount of information stored in the measurement session history record.

`DBRMBASE=nn.n` specifies a baseline percentage of CPU execution samples a DBRM must exhibit for STROBE to save measurement session history record for that DBRM. If the DBRM has less than the specified baseline percentage, it is not included in the measurement session history. The default baseline is 1.0. To enter a DBRM baseline of 10%, for example, specify:

```
DBRMBASE=10.0
```

`TRANBASE=nn.n` specifies a baseline percentage of CPU execution samples a transaction must exhibit for STROBE to save measurement session history record for that transaction. If the transaction has less than the specified baseline percentage, it is not included in the measurement session history. The default baseline is 1.0. To enter a DBRM baseline of 8.5%, for example, specify:

```
TRANBASE=8.5
```

REPJOB=*jobname* specifies the replacement name for the job name in the measurement session history record. Use this parameter to override the actual job name with a substitute job name. This parameter enables you to compare jobs that are the same program execution, but may have different job names. The job name can be up to eight characters in length, but cannot include an asterisk (\*) or embedded blanks.

REPSTP=*stepname* specifies the replacement name for the step name in the measurement session history record. Use this parameter to override the actual step name with a substitute step name. This parameter enables you to compare job steps that execute the same program, but may have different step names. The step name can be up to 17 characters in length, but cannot include asterisks (\*) or embedded blanks.

---

## 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.SRSAMPL 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
COLLHIST	Create measurement session history record
CMT=	Add comment for measurement session history record
DBRMBASE=	Minimum percentage for collection of measurement session history for DBRMs
TRANBASE=	Minimum percentage for collection of measurement session history for transactions
REPJOB=	Replace job name on measurement session history record

REPSTP=                    Replace step name on measurement session history record

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 2-28.)

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.

<b>Product</b>	<b>Supported Levels</b>	<b>Required Options</b>
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
	IBM OS/390 R5, R6, R7, R8, R9, R10 LE C/C++	SOURCE, LIST, NOOFFSET, CSECT
	IBM z/OS V1.4 and C/C++ XPLINK	SOURCE, LIST, NOOFFSET, CSECT
COBOL	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
	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

Product	Supported Levels	Required Options
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
MAPLABEL=(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 MAPPINGM parameter.

STROX PROC	MAPPINGM=STRXCBF,	Indexing program
	PRTCLAS='*',	Print class
	DAUNIT=SYSDA,	Map data set unit name
	SORTUT=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 9-16. 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/VS 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 9-20. Then invoke the STROXE procedure by supplying:

- values for the MAPPGM and LISTDSN parameters, as described in “Using STROX, the Index Procedure” on page 9-20
- 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 9-1.

## 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. Printed History Reports

This appendix describes the reports that are specific to the STROBE Advanced Session Management Feature. The reports shown in this appendix were created using STROBE/ISPF. For information on how to print the reports using STROBE/ISPF, see "Printing and Exporting Measurement Session History Information" on page 5-17.

This appendix describes the following reports:

- Summary Level History Report - Job/Step/Program View
- Detail Level History Report - Job/Step/Program View
- Measurement Comparison Report - Job/Step/Program View
- Cost Comparison Report - Job/Step/Program View
  
- Summary Level History Report - Transaction View
- Detail Level History Report - Transaction View
- Measurement Comparison Report - Transaction View
- Cost Comparison Report - Transaction View
  
- Summary Level History Report - DBRM View
- Detail Level History Report - DBRM View
- Measurement Comparison Report - DBRM View
- Cost Comparison Report - DBRM View

---

## Job/Step/Program Reports

This section describes the following reports:

- Summary Level History Report - Job/Step/Program View
- Detail Level History Report - Job/Step/Program View
- Measurement Comparison Report - Job/Step/Program View
- Cost Comparison Report - Job/Step/Program View

### Summary Level Report - Job/Step/Program View

**Figure A-1.** Summary Level History Report - Job/Step/Program/View

STROBE*		SUMMARY LEVEL HISTORY REPORT - JOB/STEP/PROGRAM VIEW				11/09/2002		PAGE 1			
FILTERED BY: JOB NAME=ACCTPAY*											
----- LAST MEASUREMENT -----											
JOB NAME	STEP NAME	PROGRAM	HISTORY RECS	-----MEASUREMENT-----		SESSION		CPU TIME		SERVICE UNITS	
				DATE	TIME	MIN	SEC	MIN	SEC		EXCPS
ACCTPAYA	UPDTDBSE	UPDT0001	5	10/23/2002	9:30:24PM	42	15.20	0	28.46	27,879	110,435
ACCTPAYB	UPDTDBSE	UPDT0001	5	10/23/2002	10:55:04PM	45	7.34	0	30.76	30,093	136,607
ACCTPAYC	UPDTDBSE	UPDT0001	5	10/24/2002	0:30:57AM	36	49.96	0	20.54	24,643	98,466
ACCTPAYD	UPDTDBSE	UPDT0001	5	10/24/2002	2:04:40AM	24	55.04	0	15.89	22,987	87,998

The Summary Level History Report - Job/Step/Program View (Figure A-1) displays a list of the measurement sessions that match the filters specified on the STROBE - HISTORY - JOB/STEP/PROGRAM CHANGE SORT/FILTERS panel. Each line in this report represents the measurement sessions for the job step. The number of individual measurement sessions associated with each row is shown in the HISTORY RECS column.

The following table describes the fields in the report.

<b>Field</b>	<b>Description</b>
FILTERED BY	The list of filters used to retrieve this view of the measurement session history. This field displays only the filters you specified on the CHANGE/SORT FILTERS panel.
JOB NAME	The name of the job under which the target program or subsystem was executed.
STEP NAME	The name of the job step, or of the procedure step and job step, in which the program or subsystem was executed.
PROGRAM	The name of the program or subsystem that was the target of the measurement session.
HISTORY RECS	The number of individual measurement session history records associated with this job/step/program name.

The following fields represent values from the last measurement session.

MEASUREMENT DATE	The calendar date of the last STROBE measurement session included in the set of records. The format of the date depends on the date format specified by the STROBE system programmer in the STROBE parameter data set.
MEASUREMENT TIME	The time of day of the most recent STROBE measurement session that matches the specified filter. The format of the time depends on the time format specified by the STROBE system programmer in the STROBE parameter data set.
SESSION MIN / SEC	The actual duration of the measurement session, expressed in minutes and seconds to the nearest hundredth. If you have suspended and subsequently restarted the measurement session, this field represents the elapsed time from the beginning of the measurement session. The time that the session was suspended is not factored out.
CPU TIME	The amount of time during the measurement session that one or more CPUs were executing tasks in the measured job step, exclusive of STROBE itself, expressed in minutes and seconds to the nearest hundredth.
EXCPS	The number of EXCP requests (direct invocations of execute channel programs, representing I/O) issued from the measured address space during the measurement session.
SERVICE UNITS	The number of service units, in thousands, that STROBE observed during the measurement session.

## Detail Level History Report - Job/Step/Program View

Figure A-2. Detail Level History Report - Job/Step/Program View

```

STROBE*
JOB/STEP/PROGRAM VIEW      11/09/2002    DETAIL LEVEL HISTORY REPORT -
                               PAGE 1
FILTERED BY: JOB NAME=ACCTPAY*

JOB:      ACCTPAYB
STEP:     UPDTDBSE
PROGRAM:  UPDT0001
ANNUAL FREQUENCY: 260

-----MEASUREMENT-----
DATE      TIME      CAT    SESSION  CPU TIME  WAIT TIME  STRETCH TIME  EXCPS  SERVICE  SYSTEM  CPU
MM/DD/YYYY      MIN SEC    MIN SEC    MIN SEC    MIN SEC    MIN SEC    MIN SEC    UNITS   ID      MODEL
10/19/2002 11:25:53PM NP    60 10.01   0 40.50   0 2.50     0 2.10     39,100   224,590 TLP01  7490-P/R390
10/20/2002 11:05:10PM NP    65 22.10   0 44.01   0 2.98     0 2.22     44,657   278,432 TLP01  7490-P/R390
10/21/2002 11:45:03PM NP    78 34.65   0 49.62   0 3.16     0 2.75     65,987   357,092 TLP01  7490-P/R390
10/22/2002 11:27:00PM NP    56 33.99   0 38.59   0 2.42     0 2.01     34,369   175,899 TLP01  7490-P/R390
10/23/2002 10:55:04PM NP    45 07.34   0 30.76   0 0.78     0 1.45     30,093   136,607 TLP01  7490-P/R390
    
```

The Detail Level History Report - Job/Step/Program View (Figure A-2) displays the list of measurement sessions that comprise the selected row on the summary report. Each line in this report represents a specific measurement session.

The following table describes the fields in the report.

Field	Description
FILTERED BY	The list of filters used to retrieve the summary level view of the measurement session history.
JOB	The name of the job under which the target program or subsystem was executed.
STEP	The name of the job step, or of the procedure step and job step, in which the program or subsystem was executed.
PROGRAM	The name of the program or subsystem that was the target of the measurement session.
ANNUAL FREQUENCY	The approximate number of times per year the job step is executed. This value is used to calculate the annualized cost fields on the cost comparison reports.
MEASUREMENT DATE	The calendar date of the STROBE measurement. The format of the date depends on the date format specified by the STROBE system programmer in the STROBE parameter data set.
MEASUREMENT TIME	The time of day of the STROBE measurement. The format of the time depends on the time format specified by the STROBE system programmer in the STROBE parameter data set.
COST CAT	This value indicates whether the program was assigned a prime (PR) or non-prime (NP) rate. The default values for both the prime and non-prime rates are assigned according to the time of day. The time intervals for prime and non-prime are set by the STROBE system programmer during installation. If the default value is not specified, STROBE displays a value of "***".

SESSION	<p>The actual duration of the measurement session, expressed in minutes and seconds to the nearest hundredth.</p> <p>If you have suspended and subsequently restarted the measurement session, this field represents the elapsed time from the beginning of the measurement session. The time that the session was suspended is not factored out.</p>
CPU TIME	<p>The amount of time during the measurement session that one or more CPUs were executing tasks in the measured job step, exclusive of the measurement task itself, expressed in minutes and seconds to the nearest hundredth.</p>
WAIT TIME	<p>The portion of run time during which no task within the measured address space was able to make use of the CPU time available to it. Wait time usually occurs when a step is waiting for I/O to complete, an operator to respond, a user to provide input, or data to come from an allied address space.</p>
STRETCH TIME	<p>The estimated amount of time that the CPU was unavailable to process programs executing in the measured address space because of demands made by higher-priority address spaces and by service request block (SRB) processing time for all address spaces. Stretch time may be high when multiple logical partitions (LPARs) are executing on the same complex of processors.</p> <p>The value in the STRETCH TIME field can vary widely, even when you run STROBE under what seem to be identical conditions. This may result from a variation in system load.</p>
EXCPS	<p>The number of EXCP requests (direct invocations of execute channel programs, representing I/O) issued from the measured address space during the measurement session. If a timing control table (TCT) was not in use during the measurement session, this value is zero.</p>
SERVICE UNITS	<p>The number of service units, in thousands, that STROBE observed during the measurement session.</p>
SYSTEM ID	<p>The MVS system name on which the measurement session was performed.</p>
CPU MODEL	<p>The model number of the central processing unit (CPU) that executed the target program or subsystem. Sometimes, to understand certain aspects of performance, you need to identify the manufacturer's CPU timing information for the specific CPU identified in the measurement session.</p>

Figure A-3. Detail Level History Report - Job/Step/Program View - Right Page

```

STROBE*                               DETAIL LEVEL HISTORY REPORT -
JOB/STEP/PROGRAM VIEW                 11/09/2002                PAGE 1A

FILTERED BY: JOB NAME=ACCTPAY*

JOB:      ACCTPAYB
STEP:     UPDTDBSE
PROGRAM:  UPDT0001                                ANNUAL FREQUENCY: 260

-----MEASUREMENT-----
DATE      TIME                COMMENT                                HISTORIAN
MM/DD/YYYY
10/19/2002 11:25:53PM        PRODUCTION CYCLE- 280                WPAFXC
10/20/2002 11:05:10PM        PRODUCTION CYCLE- 293                WPAJAS
10/21/2002 11:45:03PM        PRODUCTION CYCLE- 294                WPAABD
10/22/2002 11:27:00PM        PRODUCTION CYCLE- 295                WPANJM
10/23/2002 10:55:04PM        PRODUCTION CYCLE- 296                WPAAXS
    
```

The right-hand page of the report displays several fields from Detail Level History Report - Job/Step/Program View report, as well as some additional information about the measurement session history record. This page only appears if you have requested to print the comments for the report. The following table describes the additional fields.

Field	Description
COMMENT	The user-supplied annotation for the measurement session history record.
HISTORIAN	The creator of the measurement session history record. The value in this field represents one of the following: <ul style="list-style-type: none"> <li>• the TSO user ID of the person who created the measurement session history record</li> <li>• the job step name, if the measurement session history record was created in batch</li> </ul>

## Measurement Comparison Report - Job/Step/Program View

Figure A-4. Measurement Comparison Report - Job/Step/Program View

```

STROBE*                               MEASUREMENT COMPARISON REPORT -
JOB/STEP/PROGRAM VIEW                 11/09/2002                PAGE 1

FILTERED BY: JOB NAME=ACCTPAY*

JOB:      ACCTPAYB
STEP:     UPDTBASE
PROGRAM:  UPDT0001                                ANNUAL FREQUENCY: 260

-----MEASUREMENT-----  COST  SESSION  CPU TIME  WAIT TIME  STRETCH TIME  SERVICE  SYSTEM  CPU
DATE      TIME                CAT    MIN  SEC    MIN  SEC    MIN  SEC    MIN  SEC    UNITS    ID      MODEL
MM/DD/YYYY
-----
BASELINE MEASUREMENT
10/21/2002 11:45:03PM  NP      78 34.65    0 49.62    0 3.16    0 2.75    65,987    357,092 TLP01  7490-P/R390
-----
COMPARE TO BASELINE
10/22/2002 11:27:00PM  NP     -22 0.66    -0 11.03   -0 0.74    -0 0.74   -31,618   -181,193 TLP01  7490-P/R390
10/23/2002 10:55:04PM  NP     -33 27.31   -0 18.86   -0 2.38    -0 1.30   -35,894   -220,485 TLP01  7490-P/R390
    
```

The Measurement Comparison Report - Job/Step/Program View (Figure A-4) shows the differences between the selected baseline measurement session and the values in one or more comparison measurement sessions.

The following table describes the fields in the report.

Field	Description
FILTERED BY	The list of filters used to retrieve the summary view of the measurement session history.
JOB	The name of the job under which the target program or subsystem was executed.
STEP	The name of the job step, or of the procedure step and job step, in which the program or subsystem was executed.
PROGRAM	The name of the program or subsystem that was the target of the measurement session.
ANNUAL FREQUENCY	The approximate number of times per year the job step is executed.
MEASUREMENT DATE	The calendar date of the STROBE measurement that matches the specified filter. The format of the date depends on the date format specified by the STROBE system programmer in the STROBE parameter data set.
MEASUREMENT TIME	The time of day of the STROBE measurement that matches the specified filter. The format of the time depends on the time format specified by the STROBE system programmer in the STROBE parameter data set.
COST CAT	This value indicates whether the program was assigned a prime (PR) or non-prime (NP) rate. The default values for both the prime and non-prime rates are assigned according to the time of day. The time intervals for prime and non-prime are set by the STROBE system programmer during installation. If the default value is not specified, STROBE displays a value of "***".
SESSION	The actual duration of the measurement session, expressed in minutes and seconds to the nearest hundredth. If you have suspended and subsequently restarted the measurement session, this field represents the elapsed time from the beginning of the measurement session. The time that the session was suspended is not factored out.
CPU TIME	The amount of time during the measurement session that one or more CPUs were executing tasks in the measured job step, exclusive of the measurement task itself, expressed in minutes and seconds to the nearest hundredth.
WAIT TIME	The portion of run time during which no task within the measured address space was able to make use of the CPU time available to it. Wait time usually occurs when a step is waiting for I/O to complete, an operator to respond, a user to provide input, or data to come from an allied address space.

STRETCH TIME	<p>The estimated amount of time that the CPU was unavailable to process programs executing in the measured address space because of demands made by higher-priority address spaces and by service request block (SRB) processing time for all address spaces. Stretch time may be high when multiple logical partitions (LPARs) are executing on the same complex of processors.</p> <p>The value in the STRETCH TIME field can vary widely, even when you run STROBE under what seem to be identical conditions. This may result from a variation in system load.</p>
EXCPS	<p>The number of EXCP requests (direct invocations of execute channel programs, representing I/O) issued from the measured address space during the measurement session. If a timing control table (TCT) was not in use during the measurement session, this value is zero.</p>
SERVICE UNITS	<p>The number of service units, in thousands, that STROBE observed during the measurement session.</p>
SYSTEM ID	<p>The MVS system name on which the measurement session was performed.</p>
CPU MODEL	<p>The model number of the central processing unit (CPU) that executed the target program or subsystem. Sometimes, to understand certain aspects of performance you need to identify the manufacturer's CPU timing information for the specific CPU identified in the measurement session.</p>
BASELINE MEASUREMENT	<p>The measurement session history record with which other measurement session history records are compared.</p>
COMPARE TO BASELINE	<p>The list of measurement session history records being compared with the baseline selection. The values shown in these rows are the measurement differentials (comparison <i>minus</i> baseline), as compared to the baseline measurement.</p>

Figure A-5. Measurement Comparison Report - Job/step/Program View - Right Page

```

STROBE*                MEASUREMENT COMPARISON REPORT -
JOB/STEP/PROGRAM VIEW  11/09/2002                PAGE  1A

FILTERED BY: JOB NAME=ACCTPAY*

JOB:    ACCTPAYB
STEP:   UPDTBASE
PROGRAM: UPDT0001                ANNUAL FREQUENCY:  260

-----MEASUREMENT-----
DATE      TIME                COMMENT                HISTORIAN
MM/DD/YYYY
BASELINE MEASUREMENT -----
-----
10/21/2002 11:45:03PM  PRODUCTION CYCLE- 280                WPAGXD

COMPARE TO BASELINE -----
-----
10/22/2002 11:27:00PM  PRODUCTION CYCLE- 295                WPAGXD
10/23/2002 10:55:04PM  PRODUCTION CYCLE- 294                WPAABD
    
```

The right-hand page of the report (Figure A-5) displays some fields from the Measurement Comparison Report - Job/Step/Program View report, as well as additional information about the measurement session history record. This page only appears if you have requested to print the comments for the report. The following table describes these additional fields.

Field	Description
COMMENT	The user-supplied annotation for the measurement session history record.
HISTORIAN	The creator of the measurement session history record. The value in this field represents one of the following: <ul style="list-style-type: none"> <li>the TSO user ID of the person who created the measurement session history record</li> <li>the job step name, if the measurement session history record was created in batch</li> </ul>
BASELINE MEASUREMENT	The measurement session history record with which other measurement session history records are compared.
COMPARE TO BASELINE	The list of measurement session history records being compared with the baseline selection. The values shown in these rows are the measurement differentials (comparison <i>minus</i> baseline), as compared to the baseline measurement.

# Cost Comparison Report - Job/Step/Program View

Figure A-6. Cost Comparison Report - Job/Step/Program View

```

STROBE*
JOB/STEP/PROGRAM VIEW          11/09/2002    COST COMPARISON REPORT -
                                      PAGE 1

FILTERED BY: JOB NAME=ACCTPAY*

JOB:      ACCTPAYB
STEP:     UPDTBASE
PROGRAM:  UPDT0001                ANNUAL FREQUENCY: 260

-----MEASUREMENT-----
      DATE      TIME      COST  CPU TIME      EXCPS      SERVICE      PER  -COST-  PER  SYSTEM  CPU
MM/DD/YYYY      CAT      MIN  SEC      UNITS      UNITS      RUN  PER  YEAR  ID      MODEL
-----
BASELINE MEASUREMENT -----
10/21/2002 11:45:03PM NP      0 49.62      65,987      357,092      143      37,138  TLP01  7490-P/R390
-----
COMPARE TO BASELINE -----
10/22/2002 11:27:00PM NP     -0 11.03     -31,618     -181,193     -73     -18,845  TLP01  7490-P/R390
10/23/2002 10:55:04PM NP     -0 18.86     -35,984     -220,485     -88     -22.930  TLP01  7490-P/R390
    
```

The Cost Comparison Report - Job/Step/Program View (Figure A-6) displays the changes in operating costs between the selected baseline measurement session and one or more comparison measurement sessions.

The following table describes the fields in the report.

Field	Description
FILTERED BY	The list of filters used to retrieve the summary view of the measurement session history.
JOB	The name of the job under which the target program or subsystem was executed.
STEP	The name of the job step, or of the procedure step and job step, in which the program or subsystem was executed.
PROGRAM	The name of the program or subsystem that was the target of the measurement session.
ANNUAL FREQUENCY	The approximate number of times per year the job step is executed.
MEASUREMENT DATE	The calendar date of the STROBE measurement. The format of the date depends on the date format specified by the STROBE system programmer in the STROBE parameter data set.
MEASUREMENT TIME	The time of day of the STROBE measurement. The format of the time depends on the time format specified by the STROBE system programmer in the STROBE parameter data set.
COST CAT	This value indicates whether the program was assigned a prime (PR) or non-prime (NP) rate. The default values for both the prime and non-prime rates are assigned according to the time of day. The time intervals for prime and non-prime are set by the STROBE system programmer during installation. If the default value is not specified, STROBE displays a value of "***".

CPU TIME	The amount of time during the measurement session that one or more CPUs were executing tasks in the measured job step, exclusive of the measurement task itself, expressed in minutes and seconds to the nearest hundredth.
EXCPS	The number of EXCP requests (direct invocations of execute channel programs, representing I/O) issued from the measured address space during the measurement session. If a timing control table (TCT) was not in use during the measurement session, this value is zero.
SERVICE UNITS	The number of service units, in thousands, that STROBE observed during the measurement session.
COST PER RUN	The estimated cost to execute the job step. This amount is based on the dollar value per CPU hour and per I/O, or per 1000 service units for the particular system and CPU model on which the measurement session was executed.
ANNUALIZED COST	The estimated cost to execute the job step over the course of one year. This amount is based on the specified dollar value per CPU hour and per I/O, or per 1000 service units for the particular system and CPU model on which the measurement session was executed. To calculate this value, you must have entered an amount in the "ANNUAL FREQUENCY" field on any of the Detail or Comparison panels.
SYSTEM ID	The MVS system name on which the measurement session was performed.
CPU MODEL	The model number of the central processing unit (CPU) that executed the target program or subsystem. Sometimes, to understand certain aspects of performance you need to identify the manufacturer's CPU timing information for the specific CPU identified in the measurement session.
BASELINE COST	The costs associated with the measurement session history record with which other measurement session history records are compared.
COMPARE TO BASELINE	The list of measurement session history records being compared with the baseline selection. The values shown in these rows are the measurement costs (comparison <i>minus</i> baseline), as compared to the baseline measurement.

Figure A-7. Cost Comparison Report - Job/step/Program View - Right Page

```

STROBE*
JOB/STEP/PROGRAM VIEW      11/09/2002      COST COMPARISON REPORT -
                              PAGE 1A

FILTERED BY: JOB NAME=ACCTPAY*

JOB:      ACCTPAYB
STEP:     UPDTBASE
PROGRAM:  UPDT0001          ANNUAL FREQUENCY: 260

-----MEASUREMENT-----
DATE      TIME              COMMENT              HISTORIAN
MM/DD/YYYY
-----
BASELINE COST -----
10/21/2002 11:45:03PM    PRODUCTION CYCLE- 280      WPAADB
-----
COMPARE TO BASELINE -----
10/22/2002 11:27:00PM    PRODUCTION CYCLE- 293      WPAENF
10/23/2002 10:55:04PM    PRODUCTION CYCLE- 294      WPAGXD

```

The right-hand page of the report (Figure A-7) displays some fields from the Cost Comparison Report - Job/Step/Program View report, as well as some additional information about the measurement session history record. This page only appears if you have requested to print the comments for the report.

The following table describes these additional fields.

Field	Description
COMMENT	The user-supplied annotation for the measurement session history record.
HISTORIAN	The creator of the measurement session history record. The value in this field represents one of the following: <ul style="list-style-type: none"> <li>the TSO user ID of the person who created the measurement session history record</li> <li>the job step name, if the measurement session history record was created in batch</li> </ul>
BASELINE COST	The costs associated with the measurement session history record with which other measurement session history records are compared.
COMPARE TO BASELINE	The list of measurement session history records being compared with the baseline selection. The values shown in these rows are the measurement costs (comparison <i>minus</i> baseline), as compared to the baseline measurement.

---

## Transaction Reports

This section describes the following reports:

- Summary Level History Report - Transaction View
- Detail Level History Report - Transaction View
- Measurement Comparison Report - Transaction View
- Cost Comparison Report - Transaction View

## Summary Level History Report - Transaction View

Figure A-8. Summary Level History Report - Transaction View

```

STROBE*
TRANSACTION VIEW          11/09/2002          SUMMARY LEVEL HISTORY REPORT -
                                  PAGE 1

FILTERED BY: TRANSACTION NAME=TRANA*

-----MEASUREMENT----- LAST MEASUREMENT -----PER TRANSACTION-----
TRANSACTION HISTORY      DATE      TIME      TRANSACTION  TOTAL      AVERAGE      AVERAGE
NAME      RECORDS      MM/DD/YYYY      CPU %      CPU SECONDS  SERVICE UNITS
TRANA001      703      10/25/2002  8:35:24PM      1,003      13.56      1.5162      371.4789
TRANA002      778      10/25/2002  7:20:24PM     105,567      47.21      0.3851      998.9629
TRANA003        5      10/25/2002  6:40:10AM         25      0.02      0.0701      18.6624
TRANA007      290      10/25/2002  2:15:10PM     21,046      28.13      2.3196      568.3042
    
```

The Summary Level History Report - Transaction View (Figure A-8) displays a list of the measurement sessions that match the filters specified on the STROBE - HISTORY - TRANSACTION CHANGE SORT/FILTERS panel. Each line in this report represents one or more iterations of a specific measurement session. The number of individual measurement sessions associated with each row is shown in the HISTORY RECS column.

The following table describes the fields in the report.

Field	Description
FILTERED BY	The list of filters used to retrieve this view of the measurement session history. This field displays only the filters you specified on the CHANGE/SORT FILTERS panel.
TRANSACTION NAME	A transaction, pseudo-transaction, or function name supplied by STROBE. If the name contains unprintable characters, STROBE shows it in hexadecimal notation.
HISTORY RECORDS	The number of individual measurement session history records associated with this row.
The following fields represent values from the last measurement session.	
MEASUREMENT DATE	The calendar date of the last STROBE measurement included in the set of records. The format of the date depends on the date format specified by the STROBE system programmer in the STROBE parameter data set.
MEASUREMENT TIME	The time of day of the last STROBE measurement that matches the specified filter. The format of the time depends on the time format specified by the STROBE system programmer in the STROBE parameter data set.
TRANSACTION COUNT	This column displays the number of times a transaction was executed during the measurement session. It appears for measurements of CICS online regions, IMS Message Processing regions (MPRs), IMS Batch Message Processing regions (BMPs), or CA-IDMS online regions.
TOTAL CPU %	The total percentage of all CPU time used within the address space by this transaction.

AVERAGE CPU  
SECONDS PER  
TRANSACTION

The average number of CPU seconds used to execute one transaction during the measurement session.

AVERAGE SERVICE  
UNITS PER  
TRANSACTION

The average number of service units, per transaction, for the measurement session.

## Detail Level History Report - Transaction View

Figure A-9. Detail Level History Report - Transaction View

```

STROBE*                                DETAIL LEVEL HISTORY REPORT - TRANSACTION VIEW                                11/09/2002                                PAGE 1

FILTERED BY: TRANSACTION NAME=TRANA*

TRANSACTION: TRANA003                    ANNUAL FREQUENCY: 16,499,995

----MEASUREMENT----- JOBNAME  STEPNAME          PROGRAM  TRANSACTION  TOTAL  AVERAGE  ----PER TRANSACTION----  SYSTEM  CPU
      DATE      TIME          W          S          P          C          CPU %  SERV TIME  AVERAGE  AVERAGE  ID      MODEL
MM/DD/YYYY
10/19/2002 11:25:53PM WPATRNC  STEP0001    DFHSIP    3,299,999    0.65    0.09    0.0102    0.0045  SYSA    7490-P/R390
10/20/2002 11:05:10PM WPATRN  DELSTEP    DFHSIPXX  2,466,003    0.52    0.07    0.0098    0.0040  SYSA    7490-P/R390
10/21/2002 11:45:03PM WPATRN  EDTSTEP    DFHSIPXX  4,085,875    0.70    0.10    0.0133    0.0049  SYSA    7490-P/R390
10/22/2002 11:27:00PM WPAXCTR  COUNTER    DFHSIP    1,078,455    0.39    0.04    0.0035    0.0032  SYSA    7490-P/R390
10/23/2002 10:55:04PM WPASYS  SMFRPT     DFHSIP    2,674,611    0.41    0.04    0.0037    0.0034  SYSA    7490-P/R390
    
```

The Detail Level History Report - Transaction View (Figure A-9) displays the list of measurement sessions that comprise the selected row on the summary report. Each line in this report represents a specific measurement session.

The following table describes the fields in the report.

Field	Description
FILTERED BY	The list of filters used to retrieve the summary view of the measurement session history.
TRANSACTION	A transaction, pseudo-transaction, or function name supplied by a data collector program. If the name contains unprintable characters, STROBE shows it in hexadecimal notation.
ANNUAL FREQUENCY	The approximate number of times per year the transaction is executed. This value is used to calculate the annualized cost fields on the cost comparison reports.
MEASUREMENT DATE	The calendar date of the STROBE measurement. The format of the date depends on the date format specified by the STROBE system programmer in the STROBE parameter data set.
MEASUREMENT TIME	The time of day of the STROBE measurement. The format of the time depends on the time format specified by the STROBE system programmer in the STROBE parameter data set.
JOBNAME	The name of the job under which the target program or subsystem was executed.
STEPNAME	The name of the job step, or of the procedure step and job step, in which the program or subsystem was executed.

PROGRAM	The name of the target program or subsystem.
TRANSACTION COUNT	The number of times a transaction was executed during the measurement session. It appears for measurements of CICS online regions, IMS Message Processing regions (MPRs), IMS Batch Message Processing regions (BMPs), or CA-IDMS online regions.
TOTAL CPU %	The total percentage of all CPU time used within the address space by this transaction.
AVERAGE SERV TIME	The average processing time, in seconds, for a transaction. Service time represents the time the transaction is being processed or awaiting processing within the region.
AVERAGE CPU SECONDS PER TRANSACTION	The average number of CPU seconds used to execute one transaction during the measurement session.
AVERAGE SERV UNITS PER TRANSACTION	The average number of service units, per transaction, for the measurement session.
SYSTEM ID	The MVS system name on which the measurement session was performed.
CPU MODEL	The model number of the central processing unit (CPU) that executed the target program or subsystem. Sometimes, to understand certain aspects of performance you need to identify the manufacturer's CPU timing information for the specific CPU identified in the measurement session.

Figure A-10. Detail Level History Report - Transaction View - Right Page

```

STROBE*          DETAIL LEVEL HISTORY REPORT -
TRANSACTION VIEW      11/09/2002          PAGE  1A

FILTERED BY: TRANSACTION NAME=TRANA*

TRANSACTION: TRANA005          ANNUAL FREQUENCY: 16,499,995

-----MEASUREMENT-----
  DATE      TIME          COMMENT          HISTORIAN
MM/DD/YYYY
10/19/2002 11:25:53PM    PRODUCTION CYCLE- 280    WPATOS
10/20/2002 11:05:10PM    PRODUCTION CYCLE- 293    WPATOS
10/21/2002 11:45:03PM    PRODUCTION CYCLE- 294    WPATOS
10/22/2002 11:27:00PM    PRODUCTION CYCLE- 295    WPARXS
10/23/2002 10:55:04PM    PRODUCTION CYCLE- 296    WPARXS
    
```

The right-hand page of the report (Figure A-10) displays some fields from the Detail Level History Report - Transaction View, as well as some additional information about the measurement session history record. This page only appears if you have requested to print the comments for the report. The following table describes these additional fields.

Field	Description
COMMENT	The user-supplied annotation for the measurement session history record.

HISTORIAN The creator of the measurement session history record. The value in this field represents one of the following:

- the TSO user ID of the person who created the measurement session history record
- the job step name, if the measurement session history record was created in batch

## Measurement Comparison Report - Transaction View

Figure A-11. Measurement Comparison Report - Transaction View

```

STROBE*                                MEASUREMENT COMPARISON REPORT - TRANSACTION VIEW                                11/09/2002                                PAGE 1
FILTERED BY: TRANSACTION NAME=TRANA*

TRANSACTION: TRANA005                                ANNUAL FREQUENCY: 16,499,999

-----MEASUREMENT----- JOBNAME  STEPNAME          PROGRAM  TRANSACTION  TOTAL AVERAGE  -----PER TRANSACTION----- SYSTEM  CPU
      DATE    TIME                                COUNT      CPU %  SERV TIME  AVERAGE  AVERAGE  ID      MODEL
      MM/DD/YYYY                                CPU SECONDS  SERV UNITS

BASELINE TRANSACTION -----
10/19/2002 11:25:53PM WPATRNC  STEP0001    DFHSIP    3,299,999  0.65    0.09    0.0102    0.0045 SYSA  7490-P/R390

COMPARE TO BASELINE -----
10/20/2002 11:05:10PM WPATRN  DELSTEP    DFHSIPXX  -833,996  -0.13   -0.02   -0.0004   -0.0005 SYSA  7490-P/R390
10/21/2002 11:45:03PM WPATRN  EDTSTEP    DFHSIPXX   785,876   0.05    0.01    0.0031    0.0004 SYSA  7490-P/R390
10/22/2002 11:27:00PM WPACTT  COUNTER    DFHSIP    -2,221,544 -0.26   -0.05   -0.0067   -0.0013 SYSA  7490-P/R390
10/23/2002 10:55:04PM WPASYS  SMFRPT     DFHSIP    -625,388  -0.24   -0.05   -0.0065   -0.0011 SYSA  7490-P/R390
    
```

The Measurement Comparison Report - Transaction View (Figure A-11) shows the differences between the selected baseline measurement session and one or more comparison measurement sessions.

The following table describes the fields in the report.

Field	Description
FILTERED BY	The list of filters used to retrieve the summary view of the measurement session history.
TRANSACTION	A transaction, pseudo-transaction, or function name supplied by a data collector program. If the name contains unprintable characters, STROBE shows it in hexadecimal notation.
ANNUAL FREQUENCY	The approximate number of times per year the transaction is executed. This value is used to calculate the annualized cost fields on the cost comparison reports.
MEASUREMENT DATE	The calendar date of the STROBE measurement. The format of the date depends on the date format specified by the STROBE system programmer in the STROBE parameter data set.
MEASUREMENT TIME	The time of day of the STROBE measurement. The format of the time depends on the time format specified by the STROBE system programmer in the STROBE parameter data set.
JOBNAME	The name of the job under which the target program or subsystem was executed.
STEPNAME	The name of the job step, or of the procedure step and job step, in which the program or subsystem was executed.

PROGRAM	The name of the program or subsystem that was the target of the measurement session.
TRANSACTION COUNT	This column displays the number of times a transaction was executed during the measurement session. It appears for measurements of CICS online regions, IMS Message Processing regions (MPRs), IMS Batch Message Processing regions (BMPs), or CA-IDMS online regions.
TOTAL CPU %	The total percentage of all CPU seconds used within the address space by this transaction.
AVERAGE SERV TIME	The average service time, in seconds, for a transaction. It appears for measurements of CICS online regions, IMS Message Processing regions (MPRs), IMS Batch Message Processing regions (BMPs), or CA-IDMS online regions. Service time represents the time the transaction is being processed or awaiting processing within the region.
AVERAGE CPU SECONDS PER TRANSACTION	The average number of CPU seconds used to execute one transaction during the measurement session.
AVERAGE SERV UNITS PER TRANSACTION	The average number of service units, per transaction, that STROBE observed during the measurement session.
SYSTEM ID	The MVS system name on which the measurement session was performed.
CPU MODEL	The model number of the central processing unit (CPU) that executed the target program or subsystem. Sometimes, to understand certain aspects of performance you need to identify the manufacturer's CPU timing information for the specific CPU identified in the measurement session.
BASELINE TRANSACTION	The measurement session history record with which other measurement session history records are compared.
COMPARE TO BASELINE	The list of measurement session history records being compared with the baseline selection. The values shown in these rows are the measurement differentials (comparison <i>minus</i> baseline), as compared to the baseline measurement.

Figure A-12. Measurement Comparison Report - Transaction View - Right Page

```

STROBE*
TRANSACTION VIEW          11/09/2002      MEASUREMENT COMPARISON REPORT -
                                  PAGE 1A

FILTERED BY: TRANSACTION NAME=TRANA*

TRANSACTION: TRANA005          ANNUAL FREQUENCY: 16,499,999

-----MEASUREMENT-----
  DATE      TIME          COMMENT          HISTORIAN
MM/DD/YYYY
BASELINE MEASUREMENT -----
10/18/2002  1:20:56PM      PRODUCTION CYCLE- 280          WPARXS

COMPARE TO BASELINE -----
10/19/2002  11:25:53PM      PRODUCTION CYCLE- 292          WPARXS
10/20/2002  11:05:10PM      PRODUCTION CYCLE- 293          WPAKLC
10/21/2002  11:45:03PM      PRODUCTION CYCLE- 294          WPAABD
10/22/2002  11:27:00PM      PRODUCTION CYCLE- 295          WPAABD
10/23/2002  10:55:04PM      PRODUCTION CYCLE- 296          WPAJAS
  
```

The right-hand page of the report (Figure A-12) displays some fields from the Measurement Comparison Report - Transaction View, as well as some additional information about the measurement session history record. This page only appears if you have requested to print the comments for the report.

The following table describes these additional fields.

Field	Description
COMMENT	The user-supplied annotation for the measurement session history record.
HISTORIAN	The creator of the measurement session history record. The value in this field represents one of the following: <ul style="list-style-type: none"> <li>the TSO user ID of the person who created the measurement session history record</li> <li>the job step name, if the measurement session history record was created in batch.</li> </ul>
BASELINE TRANSACTION	The measurement session history record with which other measurement session history records are compared.
COMPARE TO BASELINE	The list of measurement session history records being compared with the baseline selection. The values shown in these rows are the measurement differentials (comparison <i>minus</i> baseline), as compared to the baseline measurement.

## Cost Comparison Report - Transaction View

Figure A-13. Cost Comparison Report - Transaction View

STROBE*		COST COMPARISON REPORT - TRANSACTION VIEW				11/09/2002		PAGE 1	
FILTERED BY: TRANSACTION NAME=TRANA*									
TRANSACTION: TRANA005					ANNUAL FREQUENCY: 16,499,999				
----MEASUREMENT----		JOBNAME	STEPNAME	PROGRAM	COST CAT	----PER TRANSACTION----		-----COST-----	
DATE	TIME					AVERAGE	AVERAGE	PER	PER
MM/DD/YYYY						CPU SECS	SERV UNITS	TRAN	YEAR
-----									
BASELINE	TRANSACTION								
10/19/2002	11:25:53PM	WPATRNC	STEP001	DFHSIP	NP	0.0102	0.0045	0.0084	140,250
-----									
COMPARE TO BASELINE									
10/20/2002	11:05:10PM	WPATRNDL	DELSTEP	DFHSIPXX	PR	-0.0004	-0.0005	-0.0003	-5,500
10/21/2002	11:45:03PM	WPATRND	EDTSTEP	DFHSIPXX	NP	0.0031	0.0004	0.0026	42,625
10/22/2002	11:27:00PM	WPAXCTTR	COUNTER	DFHSIP	PR	-0.0067	-0.0013	-0.0055	-92,125
10/23/2002	10:55:04PM	WPASYSYG	SMFRPT	DFHSIP	PR	-0.0065	-0.0011	-0.0053	-89,375

The Cost Comparison Report - Transaction View (Figure A-13) displays the changes in operating costs between the selected baseline measurement session and one or more comparison measurement sessions.

The following table describes the fields in the report.

Field	Description
FILTERED BY	The list of filters used to retrieve the summary view of the measurement session history.
TRANSACTION	A transaction, pseudo-transaction, or function name supplied by a data collector program. If the name contains unprintable characters, STROBE shows it in hexadecimal notation.
ANNUAL FREQUENCY	The approximate number of times per year the transaction is executed. This value is used to calculate the annualized cost fields on the cost comparison reports.
MEASUREMENT DATE	The calendar date of the STROBE measurement. The format of the date depends on the date format specified by the STROBE system programmer in the STROBE parameter data set.
MEASUREMENT TIME	The time of day of the STROBE measurement. The format of the time depends on the time format specified by the STROBE system programmer in the STROBE parameter data set.
JOBNAME	The name of the job under which the target program or subsystem was executed.
STEPNAME	The name of the job step, or of the procedure step and job step, in which the program or subsystem was executed.
PROGRAM	The name of the target program or subsystem.
COST CAT	This value indicates whether the program was assigned a prime (PR) or non-prime (NP) rate. The default values for both the prime and non-prime rates are assigned according to the time of day. The time intervals for prime and non-prime are set by the STROBE system programmer during installation. If the default value is not specified, STROBE displays a value of "***".

AVERAGE CPU SECS PER TRANSACTION	The average number of CPU seconds, per transaction, that STROBE observed during the measurement session, not including the measurement task itself.
AVERAGE SERV UNITS PER TRANSACTION	The average number of service units, per transaction, that STROBE observed during the measurement session.
COST PER TRAN	The estimated cost to execute the transaction. This amount is based on the dollar value per CPU hour and per I/O, or per 1000 service units for the particular system and CPU model on which the measurement session was executed.
COST PER YEAR	The estimated cost to execute the transaction over the course of one year. This amount is based on the specified dollar value per CPU hour and per I/O, or per 1000 service units for the particular system and CPU model on which the measurement session was executed. To calculate this value, you must have entered an amount in the "ANNUAL FREQUENCY" field on any of the Detail or Comparison panels.
BASELINE TRANSACTION	The measurement session history record with which other measurement session history records are compared.
COMPARE TO BASELINE	The list of measurement session history records being compared with the baseline selection. The values shown in these rows are the measurement differentials (comparison <i>minus</i> baseline), as compared to the baseline measurement.

Figure A-14. Cost Comparison Report - Transaction View - Right Page

```

STROBE*                                COST COMPARISON REPORT - TRANSACTION VIEW          11/09/2002          PAGE 1A

FILTERED BY: TRANSACTION NAME=TRANA*

TRANSACTION: TRANA005                    ANNUAL FREQUENCY: 16,499,999

----MEASUREMENT-----
  DATE           TIME           COMMENT           HISTORIAN
MM/DD/YYYY
BASELINE TRANSACTION -----
10/19/2002 11:25:53PM  PRODUCTION CYCLE- 280          WPAJAS

COMPARE TO BASELINE -----
10/19/2002 11:25:53PM  PRODUCTION CYCLE- 292          WPARXS
10/20/2002 11:05:10PM  PRODUCTION CYCLE- 293          WPARXS
10/21/2002 11:45:03PM  PRODUCTION CYCLE- 294          WPAATOS
10/22/2002 11:27:00PM  PRODUCTION CYCLE- 295          WPAADB
10/23/2002 10:55:04PM  PRODUCTION CYCLE- 296          WPAADB
    
```

The right-hand page of the report (Figure A-14) displays some fields from the Cost Comparison Report - Transaction View, as well as some additional information about the measurement session history record. This page only appears if you have requested to print the comments for the report. The following table describes these additional fields.

Field	Description
COMMENT	The user-supplied annotation for the measurement session history record.

HISTORIAN	The creator of the measurement session history record. The value in this field represents one of the following: <ul style="list-style-type: none"> <li>• the TSO user ID of the person who created the measurement session history record</li> <li>• the job step name, if the measurement session history record was created in batch</li> </ul>
BASELINE TRANSACTION	The measurement session history record with which other measurement session history records are compared.
COMPARE TO BASELINE	The list of measurement session history records being compared with the baseline selection. The values shown in these rows are the measurement differentials (comparison <i>minus</i> baseline), as compared to the baseline measurement.

## DBRM Reports

This section describes the following reports:

- Summary Level History Report - DBRM View
- Detail Level History Report - DBRM View
- Measurement Comparison Report - DBRM View
- Cost Comparison Report - DBRM View

### Summary Level History Report - DBRM View

Figure A-15. Summary Level History Report - DBRM View

```

STROBE*          SUMMARY LEVEL HISTORY REPORT -
DBRM VIEW        11/09/2002          PAGE 1

FILTERED BY: DBRM NAME=DBRMA*, PROGRAM=SQL*

-----MEASUREMENT----- LAST MEASUREMENT -----PER STATEMENT-----
-----DATE TIME STMT EXEC TOTAL CPU % AVERAGE AVERAGE-----
DBRM NAME HISTORY RECS MM/DD/YYYY 8:35:24PM COUNT CPU % CPU SECONDS SERVICE UNITS
DBRMA001 703 10/25/2002 8:35:24PM 5 0.39 0.0117 2.8875
DBRMA002 778 10/25/2002 7:20:24PM 105,567 47.01 0.0012 0.3007
DBRMA003 5 10/25/2002 6:40:10AM 25 8.86 0.1709 41.8817
DBRMA004 38 10/25/2002 10:42:43PM 598 27.46 0.0056 1.3875
DBRMA005 127 10/25/2002 5:30:15AM 493 13.99 0.0157 3.8506
    
```

The Summary History Report - DBRM View (Figure A-15) displays a list of the measurement sessions that match the filters specified on the STROBE - HISTORY - DBRM CHANGE SORT/FILTERS panel. Each line in this report represents one or more iterations of a specific measurement session. The number of individual measurement sessions associated with each row is shown in the HISTORY RECS column.

The following table describes the fields in the report.

Field	Description
FILTERED BY	The list of filters used to retrieve this view of the measurement session history.

**DBRM NAME** The name of the database request module or package under which the observed SQL statements were executed.

**HISTORY RECORDS** The number of individual measurement session history records associated with this row.

The following fields represent values from the last measurement session.

**MEASUREMENT DATE** The calendar date of the last STROBE measurement included in the set of records. The format of the date depends on the date format specified by the STROBE system programmer in the STROBE parameter data set.

**MEASUREMENT TIME** The time of day of the last STROBE measurement that matches the specified filter. The format of the time depends on the time format specified by the STROBE system programmer in the STROBE parameter data set.

**STMT EXEC COUNT** The number of times SQL statements were executed in this DBRM during the measurement session.

**TOTAL CPU %** The total percentage of all CPU time used within the address space by this DBRM.

**AVERAGE CPU SECONDS PER STATEMENT** The average number of CPU seconds per statement used to execute one SQL statement during the measurement session.

**AVERAGE SERVICE UNITS PER STATEMENT** The average number of service units per statement for the measurement session.

## Detail Level History Report - DBRM View

Figure A-16. Detail Level History Report - DBRM View

STROBE*		DETAIL LEVEL HISTORY REPORT - DBRM VIEW						11/09/2002		PAGE 1	
FILTERED BY: DBRM NAME: DBRMA*, PROGRAM=SQL*											
DBRM: DBRMA005				ANNUAL FREQUENCY:		575,588					
----MEASUREMENT----		JOBNAME	STEPNAME	PROGRAM	STMT EXEC COUNT	TOTAL CPU %	AVERAGE STMT EXEC TIME	----PER STATEMENT----		SYSTEM ID	CPU MODEL
DATE	TIME							AVERAGE CPU SECONDS	AVERAGE SERV UNITS		
MM/DD/YYYY											
10/19/2002	11:25:53PM	WPASQLDN	STEP0001	SQLDYNAM	2,740	12.45	0.0279	1.0790	389.1942	SYSA	7490-P/R390
10/20/2002	11:05:10PM	WPATSOL		SQLDYNQ1	644	3.60	0.1255	0.2695	78.4341	SYSA	7490-P/R390
10/21/2002	11:45:03PM	SQLDYNAM		SQLDYNRT	172	0.65	0.3297	0.1649	41.1125	SYSA	7490-P/R390
10/22/2002	11:27:00PM	WPAZZTTR	SQLENTER	SQLDYNDD	7,439	31.40	0.0085	1.3304	220.9438	SYSA	7490-P/R390
10/25/2002	5:30:15AM	WPASYSFG	SQLCLEAN	SQLDYNCL	74	0.10	0.6432	0.0950	37.8391	SYSA	7490-P/R390

The Detail Level History Report - DBRM View (Figure A-16) displays the list of measurement sessions that comprise the selected row on the summary report. Each line in this report represents a specific measurement session.

The following table describes the fields in the report.

<b>Field</b>	<b>Description</b>
FILTERED BY	The list of filters used to retrieve the summary view of the measurement session history.
DBRM	The name of the database request module under which the observed SQL statements were executed.
ANNUAL FREQUENCY	The approximate number of times per year the DBRM is executed. This value is used to calculate the annualized cost fields on the cost comparison reports.
MEASUREMENT DATE	The calendar date of the STROBE measurement. The format of the date depends on the date format specified by the STROBE system programmer in the STROBE parameter data set.
MEASUREMENT TIME	The time of day of the STROBE measurement. The format of the time depends on the time format specified by the STROBE system programmer in the STROBE parameter data set.
JOBNAME	The name of the job under which the target program or subsystem was executed.
STEPNAME	The name of the job step, or of the procedure step and job step, in which the program or subsystem was executed.
PROGRAM	The name of the program or subsystem that was the target of the measurement session.
STMT EXEC COUNT	The number of times SQL statements were executed in this DBRM during the measurement session.
TOTAL CPU %	The total percentage of all CPU time used within the address space by this DBRM.
AVERAGE STMT EXEC TIME	The average amount of elapsed CPU execution time, per SQL statement, that STROBE observed during the measurement session.
AVERAGE CPU SECONDS PER STATEMENT	The average number of CPU seconds used to execute one SQL statement during the measurement session.
AVERAGE SERV UNITS PER STATEMENT	The average number of service units, per SQL statement, that STROBE observed during the measurement session.
SYSTEM ID	The MVS system name on which the measurement session was performed.
CPU MODEL	The model number of the central processing unit (CPU) that executed the target program or subsystem. Sometimes, to understand certain aspects of performance you need to identify the manufacturer's CPU timing information for the specific CPU identified in the measurement session.

Figure A-17. Detail Level History Report - DBRM View - Right Page

```

STROBE*
DBRM VIEW          11/09/2002          DETAIL LEVEL HISTORY REPORT -
                                  PAGE  1A

FILTERED BY: DBRM NAME: DBRMA*, PROGRAM=SQL*

DBRM: DBRMA005          ANNUAL FREQUENCY:    575,588

-----MEASUREMENT-----
  DATE      TIME      DBRM CREATE DATE          COMMENT
MM/DD/YYYY
10/19/2002 11:25:53PM 01/01/2002 12:01:99P  PRODUCTION CYCLE- 292
10/20/2002 11:05:10PM 01/01/2002 12:01:99P  PRODUCTION CYCLE- 293
10/21/2002 11:45:03PM 01/01/2002 12:01:99P  PRODUCTION CYCLE- 294
10/22/2002 11:27:00PM 01/01/2002 12:01:99P  PRODUCTION CYCLE- 295
10/25/2002  5:30:15AM 01/01/2002 12:01:99P  PRODUCTION CYCLE- 296
                                  HISTORIAN
                                  WPAABD
                                  WPAFXC
                                  WPAFXC
                                  WPARXS
                                  WPATOS
    
```

The right-hand page of the report (Figure A-17) displays some fields from the Detail Level History Report - DBRM View, as well as some additional information about the measurement session history record. This page only appears if you have requested to print the comments for the report. The following table describes these additional fields.

Field	Description
DBRM CREATE DATE	The date and time that the database request module was created.
COMMENT	The user-supplied annotation for the measurement session history record.
HISTORIAN	The creator of the measurement session history record. The value in this field represents one of the following: <ul style="list-style-type: none"> <li>the TSO user ID of the person who created the measurement session history record</li> <li>the job step name, if the measurement session history record was created in batch</li> </ul>

## Measurement Comparison Report - DBRM View

Figure A-18. Measurement Comparison Report - DBRM View

```

STROBE*
MEASUREMENT COMPARISON REPORT - DBRM VIEW          11/09/2002          PAGE  1

FILTERED BY: DBRM NAME=DBRMA*, PROGRAM=SQL*

DBRM: DBRMA005          ANNUAL FREQUENCY:    575,588

-----MEASUREMENT-----
  DATE      TIME      JOBNAME  STEPNAME          PROGRAM  STMT EXEC  TOTAL AVERAGE  -----PER STATEMENT-----  SYSTEM  CPU
  MM/DD/YYYY  DATE      TIME          PROGRAM  COUNT    CPU % STMT EXEC  AVERAGE  AVERAGE  ID      MODEL
  MM/DD/YYYY  BASELINE DBRM
10/19/2002 11:25:53PM  WPASQLDN STEP0001  SQLDYNAM  2,740  12.45  0.0279  1.0790  389.1942  SYSA  7490-P/R390

COMPARE TO BASELINE -----
10/20/2002 11:05:10PM  WPATSQL  SQLDYN01  -2,096  -8.85  0.0976  -0.8095  -310.7601  SYSA  7490-P/R390
10/21/2002 11:45:03PM  SQLDYNAM  SQLDYNRT  -2,568  -11.80  0.3018  0.1649  -348.0817  SYSA  7490-P/R390
10/22/2002 11:27:00PM  WPAZZTTR  SQUENTER  4,699  18.95  -0.0194  -1.2514  -168.2504  SYSA  7490-P/R390
10/25/2002  5:30:15AM  WPASYSFG  SCLCLEAN  -2,666  -12.35  0.6153  -0.1290  -351.3551  SYSA  7490-P/R390
    
```

The Measurement Comparison Report - DBRM View (Figure A-18) shows the differences between the selected baseline measurement session and one or more comparison measurement sessions.

The following table describes the fields in the report.

<b>Field</b>	<b>Description</b>
FILTERED BY	The list of filters used to retrieve the summary view of the measurement session history.
DBRM	The name of the database request module under which the observed SQL statements were executed.
ANNUAL FREQUENCY	The approximate number of times per year the DBRM is executed. This value is used to calculate the annualized cost fields on the cost comparison reports.
MEASUREMENT DATE	The calendar date of the STROBE measurement. The format of the date depends on the date format specified by the STROBE system programmer in the STROBE parameter data set.
MEASUREMENT TIME	The time of day of the STROBE measurement. The format of the time depends on the time format specified by the STROBE system programmer in the STROBE parameter data set.
JOBNAME	The name of the job under which the target program or subsystem was executed.
STEPNAME	The name of the job step, or of the procedure step and job step, in which the program or subsystem was executed.
PROGRAM	The name of the program or subsystem that was the target of the measurement session.
STMT EXEC COUNT	The number of times SQL statements were executed in this DBRM during the measurement session.
TOTAL CPU %	The total percentage of all CPU time used within the address space by this DBRM.
AVERAGE STMT EXEC TIME	The average number of times an SQL statement was executed during the measurement session.
AVERAGE CPU SECONDS PER STATEMENT	The average number of CPU seconds used to execute one SQL statement during the measurement session.
AVERAGE SERV UNITS PER STATEMENT	The average number of service units used to execute one SQL statement during the measurement session.
SYSTEM ID	The MVS system name on which the measurement session was performed.
CPU MODEL	The model number of the central processing unit (CPU) that executed the target program or subsystem. Sometimes, to understand certain aspects of performance you need to identify the manufacturer's CPU timing information for the specific CPU identified in the measurement session.
BASELINE DBRM	The measurement session history record with which other measurement session history records are compared.

COMPARE TO  
BASELINE

The list of measurement session history records being compared with the baseline selection. The values shown in these rows are the measurement differentials (comparison *minus* baseline), as compared to the baseline measurement.

Figure A-19. Measurement Comparison Report - DBRM View - Right Page

STROBE*		MEASUREMENT COMPARISON REPORT - DBRM VIEW		11/09/2002	PAGE 1A
FILTERED BY: DBRM NAME: DBRMA*, PROGRAM=SQL*					
DBRM: DBRMA005		ANNUAL FREQUENCY:		575,588	
-----MEASUREMENT-----					
DATE	TIME	DBRM CREATE DATE	COMMENT	HISTORIAN	
MM/DD/YYYY					
-----BASELINE DBRM-----					
10/19/2002	11:25:53PM	01/01/2002 12:01:99P	PRODUCTION CYCLE-	290 WPATOS	
-----COMPARE TO BASELINE-----					
10/19/2002	11:25:53PM	01/08/2002 12:01:99P	PRODUCTION CYCLE-	292 WPATOS	
10/20/2002	11:05:10PM	01/15/2002 12:01:99P	PRODUCTION CYCLE-	293 WPATOS	
10/21/2002	11:45:03PM	01/22/2002 12:01:99P	PRODUCTION CYCLE-	294 WPATOS	
10/22/2002	11:27:00PM	01/29/2002 12:01:99P	PRODUCTION CYCLE-	295 WPATOS	
10/25/2002	5:30:15AM	02/05/2002 12:01:99P	PRODUCTION CYCLE-	296 WPATOS	

The right-hand page of this report (Figure A-19) displays some of the fields from the Measurement Comparison Report - DBRM View, as well as additional information about the measurement session history record. This page only appears if you have requested to print the comments for the report. The following table describes these fields.

Field	Description
DBRM CREATE DATE	The date and time that the database request module was created.
COMMENT	The user-supplied annotation for the measurement session history record.
HISTORIAN	The creator of the measurement session history record. The value in this field represents one of the following: <ul style="list-style-type: none"> <li>the TSO user ID of the person who created the measurement session history record</li> <li>the job step name, if the measurement session history record was created in batch.</li> </ul>
BASELINE DBRM	The measurement session history record with which other measurement session history records are compared.
COMPARE TO BASELINE	The list of measurement session history records being compared with the baseline selection. The values shown in these rows are the measurement differentials (comparison <i>minus</i> baseline), as compared to the baseline measurement.

## Cost Comparison Report - DBRM View

Figure A-20. Cost Comparison Report - DBRM View

STROBE*		COST COMPARISON REPORT - DBRM VIEW				11/09/2002		PAGE 1	
FILTERED BY: DBRM NAME: DBRMA*, PROGRAM=SQL*									
DBRM: DBRMA005		ANNUAL FREQUENCY: 575,588							
-----MEASUREMENT-----		JOBNAME	STEPNAME	PROGRAM	COST CAT	-----PER STATEMENT-----		-----COST-----	
DATE	TIME					AVERAGE CPU SECONDS	AVERAGE SERV UNITS	PER STMT	PER YEAR
MM/DD/YYYY									
BASELINE DBRM									
10/19/2002	11:25:53PM	WPATRNC	STEP001	DFHSIP	NP	0.0102	0.0045	0.0084	140,250
COMPARE TO BASELINE									
10/20/2002	11:05:10PM	WPATRN	DELSTEP	DFHSIPXX	PR	-0.0004	-0.0005	-0.0003	-5,500
10/21/2002	11:45:03PM	WPATRN	EDTSTEP	DFHSIPXX	NP	0.0031	0.0004	0.0026	42,625
10/22/2002	11:27:00PM	WPAXCTR	COUNTER	DFHSIP	PR	-0.0067	-0.0013	-0.0055	-92,125
10/25/2002	5:30:15AM	WPASYS	SMFRPT	DFHSIP	PR	-0.0065	-0.0011	-0.0053	-89,375

The Cost Comparison Report - DBRM View (Figure A-20) displays the changes in operating costs between the selected baseline measurement session and one or more comparison measurement sessions.

The following table describes the fields in the report.

Field	Description
FILTERED BY	The list of filters used to retrieve the summary view of the measurement session history.
DBRM	The name of the database request module under which the observed SQL statements were executed.
ANNUAL FREQUENCY	The approximate number of times per year the DBRM is executed. This value is used to calculate the annualized cost fields on the cost comparison reports.
MEASUREMENT DATE	The calendar date of the STROBE measurement. The format of the date depends on the date format specified by the STROBE system programmer in the STROBE parameter data set.
MEASUREMENT TIME	The time of day of the STROBE measurement. The format of the time depends on the time format specified by the STROBE system programmer in the STROBE parameter data set.
JOBNAME	The name of the job under which the target program or subsystem was executed.
STEPNAME	The name of the job step, or of the procedure step and job step, in which the program or subsystem was executed.
PROGRAM	The name of the program or subsystem that was the target of the measurement session.
COST CAT	This value indicates whether the program was assigned a prime (PR) or non-prime (NP) rate. The default values for both the prime and non-prime rates are assigned according to the time of day. The time intervals for prime and non-prime are set by the STROBE system programmer during installation. If the default value is not specified, STROBE displays a value of "***".

AVERAGE CPU SECONDS PER STATEMENT	The average number of CPU seconds used to execute one SQL statement during the measurement session.
AVERAGE SERV UNITS PER STATEMENT	The average number of service units used to execute one SQL statement during the measurement session.
COST PER STMT	The estimated cost to execute one SQL statement. This amount is based on the dollar value per CPU hour or per 1000 service units for the particular system and CPU model on which the measurement session was executed.
COST PER YEAR	The estimated cost to execute the SQL statement over the course of one year. This amount is based on the specified dollar value per CPU hour or per 1000 service units for the particular system and CPU model on which the measurement session was executed. To calculate this value, you must have entered an amount in the "ANNUAL FREQUENCY" field on any of the Detail or Comparison panels.
BASELINE DBRM	The costs associated with the measurement session history record with which other measurement session history records are compared.
COMPARISON TO BASELINE	The list of measurement session history records being compared with the baseline selection. The values shown in these rows are the measurement differentials (comparison <i>minus</i> baseline), as compared to the baseline measurement.

Figure A-21. Cost Comparison Report - DBRM View - Right Page

```

STROBE*                                COST COMPARISON REPORT - DBRM VIEW                11/09/2002                PAGE 1
FILTERED BY: DBRM NAME: DBRMA*, PROGRAM=SQL*
DBRM: DBRMA005                          ANNUAL FREQUENCY: 575,588
-----MEASUREMENT-----
DATE      TIME      DBRM CREATE DATE      COMMENT      HISTORIAN
MM/DD/YYYY
BASELINE DBRM
10/19/2002 11:25:53PM  10/01/2002 1201:99P      PRODUCTION CYCLE - 280      WPATOS
COMPARISON TO BASELINE
10/19/2002 11:25:53PM  10/01/2002 1201:99P      PRODUCTION CYCLE - 292      WPATOS
10/19/2002 11:55:10PM  10/01/2002 1201:99P      PRODUCTION CYCLE - 293      WPATOS
10/19/2002 11:45:03PM  10/01/2002 1201:99P      PRODUCTION CYCLE - 294      WPATOS
10/19/2002 11:27:00PM  10/01/2002 1201:99P      PRODUCTION CYCLE - 295      WPATOS
    
```

The right-hand page of this report (Figure A-20) displays some fields from the Cost Comparison Report - DBRM View, as well as additional information about the measurement session history record. This page only appears if you have requested to print the comments for the report. The following table describes these additional fields.

Field	Description
DBRM CREATE DATE	The date and time that the database request module was created.

COMMENT	The user-supplied annotation for the measurement session history record.
HISTORIAN	The creator of the measurement session history record. The value in this field represents one of the following: <ul style="list-style-type: none"><li>• the TSO user ID of the person who created the measurement session history record</li><li>• the job step name, if the measurement session history record was created in batch</li></ul>
BASELINE DBRM	The measurement session history record with which other measurement session history records are compared.
COMPARISON TO BASELINE	The list of measurement session history records being compared with the baseline selection. The values shown in these rows are the measurement differentials (comparison <i>minus</i> baseline), as compared to the baseline measurement.

## Appendix B.

# Data Structure of Exported Reports

STROBE defines a data structure for the measurement session history reports that are exported using the STROBE - HISTORY - PRINT/EXPORT panel. The reports are exported as comma separated value (CSV) files, and can be imported into a spreadsheet application.

This appendix describes the data structure of the exported measurement session history file for the summary, detail, measurement comparison, and cost comparison views.

---

## Summary Report Data Structure

The data structure for any summary report consists of one type of record. The following table presents the order of fields in the summary record by type of view.

Job/Step/Program View	Transaction View	DBRM View
• JOBNAME	• TRAN NAME	• DBRM NAME
• STEPNAME	• HISTORY RECS	• HISTORY RECS
• PROGRAM	• LAST MEASUREMENT DATE	• LAST MEASUREMENT DATE
• HISTORY RECS	• LAST MEASUREMENT TIME	• LAST MEASUREMENT TIME
• LAST MEASUREMENT DATE	• LAST TRAN COUNT	• LAST STMT EXEC COUNT
• LAST MEASUREMENT TIME	• LAST TOTAL CPU PCT	• LAST TOTAL CPU PCT
• LAST SERVICE UNITS	• LAST AVG CPU SEC PER TRAN	• LAST AVG CPU SEC PER STMT
• LAST SESSION MINS	• LAST AVG SERV UNITS PER TRAN	• LAST AVG SERV UNITS PER STMT
• SESSION SECS		
• CPU MIN		
• CPU SECS		
• EXCPS		

## Detail Report Data Structure

The data structure for any detail report consists of two types of records: one header record, and one or more detail records.

The order of fields in the header record is as follows:

<b>Job/Step/Program View</b>	<b>Transaction View</b>	<b>DBRM View</b>
• JOBNAME	• TRAN NAME	• DBRM NAME
• STEPNAME	• FREQUENCY	• FREQUENCY
• PROGRAM		
• FREQUENCY		

The order of the fields in the detail record is as follows:

<b>Job/Step/Program View</b>	<b>Transaction View</b>	<b>DBRM View</b>
• MEASUREMENT DATE	• MEASUREMENT DATE	• MEASUREMENT DATE
• MEASUREMENT TIME	• MEASUREMENT TIME	• MEASUREMENT TIME
• COST CATEGORY	• JOBNAME	• JOBNAME
• SESSION MINS	• STEPNAME	• STEPNAME
• SESSION SECS	• PROGRAM	• PROGRAM
• CPU MIN	• TRAN COUNT	• STMT EXEC COUNT
• CPU SECS	• TOTAL CPU PCT	• TOTAL CPU PCT
• WAIT MIN	• AVG SERV TIME	• STMT EXEC AVG TIME
• WAIT SECS	• AVG CPU SEC PER TRAN	• AVG CPU SEC PER STMT
• STRETCH MIN	• AVG SERV UNITS PER TRAN	• AVG SERV UNITS PER STMT
• STRETCH SECS	• COST CATEGORY	• DBRM CREATE DATE
• EXCP COUNT	• SYSTEM ID	• COST CATEGORY
• SERVICE UNITS	• CPU MODEL	• SYSTEM ID
• SYSTEM ID	• COMMENT	• CPU MODEL
• CPU MODEL	• HISTORIAN	• COMMENT
• COMMENT		• HISTORIAN
• HISTORIAN		

## Measurement Comparison Data Structure

The data structure for any comparison report consists of three types of records: a header record, one baseline record, and one or more comparison records.

The order of fields in the header record is as follows:

<b>Job/Step/Program View</b>	<b>Transaction View</b>	<b>DBRM View</b>
• JOBNAME	• TRAN NAME	• DBRM NAME
• STEPNAME	• FREQUENCY	• FREQUENCY
• PROGRAM		
• FREQUENCY		

The header record is followed by at least one baseline record, and one or more comparison records. These records have the following fields:

<b>Job/Step/Program View</b>	<b>Transaction View</b>	<b>DBRM View</b>
• MEASUREMENT DATE	• MEASUREMENT DATE	• MEASUREMENT DATE
• MEASUREMENT TIME	• MEASUREMENT TIME	• MEASUREMENT TIME
• COST CATEGORY	• JOBNAME	• JOBNAME
• SESSION MINS	• STEPNAME	• STEPNAME
• SESSION SECS	• PROGRAM	• PROGRAM
• CPU MIN	• TRAN COUNT	• STMT EXEC COUNT
• CPU SECS	• TOTAL CPU PCT	• TOTAL CPU PCT
• WAIT MIN	• AVG SERV TIME	• STMT EXEC AVG TIME
• WAIT SECS	• AVG CPU SEC PER TRAN	• AVG CPU SEC PER STMT
• STRETCH MIN	• AVG SERV UNITS PER TRAN	• AVG SERV UNITS PER STMT
• STRETCH SECS	• SYSTEM ID	• DBRM CREATE DATE
• EXCP COUNT	• CPU MODEL	• SYSTEM ID
• SERVICE UNITS	• COMMENT	• CPU MODEL
• SYSTEM ID	• HISTORIAN	• COMMENT
• CPU MODEL		• HISTORIAN
• COMMENT		
• HISTORIAN		

## Cost Comparison Data Structure

The data structure for any comparison report consists of three types of records: a header record, one baseline record, and one or more comparison records.

The order of fields in the header record is as follows:

<b>Job/Step/Program View</b>	<b>Transaction View</b>	<b>DBRM View</b>
• JOBNAME	• TRAN NAME	• DBRM NAME
• STEPNAME	• FREQUENCY	• FREQUENCY
• PROGRAM		
• FREQUENCY		

The header record is followed by at least one baseline record, and one or more comparison records. These records have the following fields:

<b>Job/Step/Program View</b>	<b>Transaction View</b>	<b>DBRM View</b>
• MEASUREMENT DATE	• MEASUREMENT DATE	• MEASUREMENT DATE
• MEASUREMENT TIME	• MEASUREMENT TIME	• MEASUREMENT TIME
• COST CATEGORY	• JOBNAME	• JOBNAME
• CPU MIN	• STEPNAME	• STEPNAME
• CPU SECS	• PROGRAM	• PROGRAM
• EXCP COUNT	• COST CATEGORY	• COST CATEGORY
• SERVICE UNITS	• AVG CPU SEC PER TRAN	• AVG CPU SEC PER STMT
• COST PER RUN	• AVG SERV UNITS PER TRAN	• AVG SERV UNITS PER STMT
• COST PER YEAR	• COST PER TRAN	• COST PER STMT
• COMMENT	• COST PER YEAR	• COST PER YEAR
• HISTORIAN	• COMMENT	• DBRM CREATE DATE
	• HISTORIAN	• COMMENT
		• HISTORIAN

## Appendix C.

# Ways to Improve SQL Analysis Feature Performance

---

## 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 3-4 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 3-6 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, 2-34, 4-27

ACTIVE JOB SELECTION LIST panel  
changing display format of, 2-33  
fields on, 2-5

active measurement requests  
changing, 4-14  
for batch-submissions, 2-35

ADA3GL data collector, 2-27

ADA3GL parameter, described, 8-15

ADABAS parameter, described, 8-15

ADD command  
described, 8-2  
example of in multisystem environment, 8-17  
examples of, 8-17  
syntax for, 8-4

ADD QUEUED REQUEST - MULTIPLE STEPS panel  
described, 2-10

ADD QUEUED REQUEST panel  
described, 2-8

ADDGRP command  
described, 8-3, 8-23

adding measurement requests  
for active jobs (of batch-submission), 2-35  
for jobs not yet executing (queued), 2-8  
for queued (of batch-submissions), 2-36

address spaces  
concurrently measuring of, 1-13  
measuring, 8-26

ADS/O  
versions supported by indexers, 9-17

Advanced Session Management Feature  
described, 1-1  
planning for, 1-8  
request groups, working with, 2-12

ALLCSECT parameter, described, 9-9

ALOCUNIT parameter, described, 9-13

analyzing performance trends, 1-3

APMpower  
specifying temporary work file parameters, 9-13

APMpower Profile Data File (PDF)  
creating, 3-11  
creating automatically, 3-13

ASID parameter, described, 8-8

Assembler  
procedures, two-character source identifier, 9-18  
versions supported by STROBE, 9-17

ATTR parameter, described, 9-8

attribution  
parameters for, 8-16  
reports  
tailoring, 9-8

ATTRLINE parameter, described, 9-8

ATTRLNK parameter, described, 8-16

ATTRSVC parameter, described, 8-16

auto Performance Profile  
browsing, 3-26  
changing characteristics of, 4-14, 4-16, 4-19  
creating with active or queued measurement requests, 3-13  
overview of, 1-3  
planning for, 1-6

automatic Performance Profile  
generating with measurement requests, 2-10  
including map data sets, 3-21, 3-23

AutoStrobe  
adding a request, 6-10  
managing archived data, 7-7  
managing requests, 7-1  
planning for, 6-1  
scheduling requests, 6-13

## B

BASELINE parameter, described, 8-10

batch jobs, planning for, 1-4

BATCH-SUBMISSION CHANGE ACTIVE REQUEST panel  
described, 4-29  
fields on, 4-30

BATCH-SUBMISSION LIST/DELETE REQUEST panel  
described, 4-31  
fields on, 4-31

batch-submission measurement requests  
adding  
active, 2-35  
queued, 2-36  
managing, 4-29

BATCH-SUBMISSION OF REQUEST GROUPS panel  
described, 4-32

browsing an automatic Performance Profile, 3-26

## C

C language, versions supported by indexers, 9-17

C parameter, described, 8-16

CF parameter, described, 9-9

CHANGE AN AUTO PERFORMANCE PROFILE panel  
described, 3-26

CHANGE command  
described, 8-2  
example of in multisystem environment, 8-17  
examples of, 8-17  
syntax for, 8-4

CHANGE DEFERRED QUEUED panel  
described, 4-18

CHANGE QUEUED REQUEST panel  
described, 4-17

CHANGE REQUEST panel  
for active request, described, 4-13  
for closed data set/suspended request  
described, 4-16  
for open data set/suspended request, described, 4-15

- CHANGE STOPPED REQUEST panel
    - described, 4-16
  - changing
    - automatic Performance Profile characteristics, 4-14, 4-16, 4-19
    - measurement requests
      - active, 4-14
      - suspended, 4-15
  - changing machine costs, 5-11
  - CHGGRP command
    - described, 8-3, 8-23, 8-27
    - examples of, 8-27
  - CICS parameter, described, 8-13
  - CMT parameter, described, 9-13
  - COBOL language
    - versions/releases supported by indexers, 9-17
  - COBOL parameter, described, 8-16
  - collecting measurement session history, 3-2, 9-13
  - COLLHIST parameter, described, 9-13
  - command language
    - invoking, 8-1
    - notation conventions for, 8-2
  - commands
    - ADD, 8-2, 8-17
    - ADDGRP, 8-3, 8-23
    - CHANGE, 8-2, 8-17
    - CHGGRP, 8-3, 8-23, 8-27
    - common components of, 8-1
    - COPYGRP, 8-3, 8-29
    - DELETE, 8-2, 8-20
    - DELGRP, 8-3, 8-29
    - DISPPROC, 8-20
    - END, 8-2, 8-29
    - LIST, 8-2, 8-18
    - LISTGRP, 8-3, 8-27–8-28
    - SEND, 8-2, 8-21–8-22
    - SUBMIT, 8-3, 8-24
    - submitting additional, 8-30
  - comments for measurement session history records
    - adding, 5-14
    - updating, 5-14
  - comparing jobs or steps with different names, 5-10
  - comparing measurement sessions, 5-21, 5-26
  - compiler SYSPRINT data sets
    - DCB parameters for, 9-21
  - COMPLETE parameter, described, 8-18
  - Composer, versions supported by indexers, 9-17
  - COMPRES parameter, described, 9-6
  - CONCURRENT parameter, described, 8-26
  - CONCURRENT REQUEST panel for a related request
    - described, 2-17
  - CONCURRENT REQUEST panel for a trigger request
    - described, 2-16, 2-23
  - concurrent set
    - described, 1-14
  - CONFIRM PURGE OF DATA SET panel
    - described, 4-19
  - controlling measurement sessions, 8-21
  - COOLGen, versions supported by indexers, 9-17
  - COPY A REQUEST GROUP panel
    - described, 2-14
  - COPY AN 'ADD QUEUED' ELEMENT panel
    - described, 2-20
  - COPYGRP command
    - described, 8-3, 8-29
    - example of, 8-29
  - copying group elements, 8-29
  - cost category
    - defined, 5-11
    - overriding, 5-15
    - types of, 5-11
  - cost records
    - creating, 5-13
    - deleting, 5-13
    - types of, 5-12
    - updating, 5-13
  - COUNT parameter, described, 8-26
  - Coupling Facility Activity report
    - suppressing, 9-9
  - CPS TIME PERCENT field, in Measurement Session
    - Data report, 4-11
  - CPUTEXT parameter, described, 9-10
  - CREATE AN 'ADD ACTIVE' ELEMENT panel
    - described, 2-15
  - CREATE AN AUTO PERFORMANCE PROFILE panel
    - described, 3-13
  - creating
    - a request group element, 8-23
    - data sets, map, 3-20
  - CSP
    - parameter described, 8-16
    - versions supported by indexers, 9-17
- ## D
- DASD Usage by Cylinder report
    - tailoring, 9-7
  - data collector
    - specifying
      - for additional applications, 2-25
      - options for, 8-13
  - DATA COLLECTORS panel
    - described, 2-25
  - Data Set Characteristics Supplement report
    - suppressing, 9-9
  - data sets
    - creating compiler SYSPRINT, 9-20
    - specifying Indexer, 9-16
  - DATACLAS parameter, described, 8-12
  - DATE parameter, described, 9-5
  - DATESEP parameter, described, 9-5
  - DB2 parameter, described, 8-14
  - DBRM Cost Comparison Report, A-26
  - DBRM Detail History Report, A-21
  - DBRM Measurement Comparison Report, A-23
  - DBRM Summary History Report, A-20
  - DBRM view of measurement session history, 5-18
  - DBRMBASE parameter, described, 9-13
  - DCB parameters, for compiler SYSPRINT data sets, 9-21
  - DCC parameter, described, 8-15
  - DCCLIB parameter, described, 8-15
  - DDIO files, using for indexing, 3-21
  - defaults, setting user, 4-24
  - DELETE command
    - described, 8-2
    - examples of, 8-20
  - DELETE parameter, described, 8-18
  - deleting
    - a request group, 8-29
    - request group elements, with GROUP parameter, 8-21
  - deleting measurement session history records, 5-15
  - DELGRP command

- described, 8-3, 8-29
- example of, 8-29
- DETAIL FOR A PERFORMANCE PROFILE panel
  - described, 3-13–3-14
- DETAIL parameter, described, 9-6
- detail view of measurement session history, 5-4
- DISPLAY MESSAGE TEXT panel
  - described, 4-21
- displaying measurement session history, 5-2
- DISPOSITION parameter, described, 8-12
- DISPPROC command, described, 8-20
- DL/I CPU and Wait reports, suppressing, 9-11
- DML parameter, described, 8-15
- DSNAME parameter, described, 8-11

## E

- elements of request groups, described, 1-12
- END command
  - described, 8-2
  - ending command language operations with, 8-29
  - examples of, 8-29
- examining performance trends, 5-6, 5-21
- EXCLUDE parameter, described, 8-9
- EXCPS field, in Measurement Session Data report, 6-7
- exporting measurement session history, 5-18

## F

- FORTRAN
  - versions supported by indexers, 9-17

## G

- GOMIN parameter, described, 8-9
- group elements
  - copying, 8-29
  - listing, 8-28
- GROUP parameter, described, 8-21
- group requests, creating weekly schedule for, 2-24

## I

- identifying
  - target system, 8-8
- IDMS parameter, described, 8-15
- IEF parameter, described, 8-15, 9-10
- IMS parameter, described, 8-14
- INCLUDE MAPS OF INDEXED SOURCE MODULES AND/OR DDIO FILES panel
  - described, 3-21
- INCREMENT parameter, described, 8-26
- indexers
  - procedures of, 9-18
  - specifying data sets, 9-16
- indexing
  - procedures for, 9-18
  - source modules for, 3-19, 9-16
  - with STROX procedure, 9-22
  - with STROXE procedure, 9-23

- with STROZZ procedure, 9-20
- Indexing, using DDIO files, 3-21
- iSTROBE data file
  - creating, 3-4
- iSTROBE Data File, creating for iSTROBE, 3-4
- iSTROBE data files, downloading, 3-7

## J

- JAVA parameter, described, 8-16
- JAVARPT parameter, described, 9-12
- job name
  - identifying using wildcard character, 1-15
  - overriding name of, 5-10
  - specifying for target job, 2-10
- job statement, setting defaults for, 4-25
- job step
  - described, 1-2
  - measuring
    - of target, 2-9
  - overriding name of, 5-10
  - selecting
    - more than one, 1-2
    - overview of, 1-2
    - specifying, 2-9
- Job Step Cost Comparison Report, A-9
- job step detail history report, A-3
- job step measurement comparison report, A-5
- job step summary history report, A-2
- job stream
  - selection options for, 3-24
  - specifying options (for batch submission), 4-33

## K

- keywords
  - abbreviating, 8-3

## L

- LIMIT ACTIVE JOB LIST panel
  - described, 2-34
  - fields on, 2-35
- LIMIT parameter, described, 8-9
- LINEMAX parameter, described, 9-5
- LIST command
  - described, 8-2
  - examples of, 8-18
  - parameters of, 8-18
- LIST GROUP ELEMENTS panel
  - described, 2-22
- LISTGRP command
  - described, 8-3, 8-27–8-28
  - format for, 8-28
- listing group elements, 8-28
- LOG UTILITIES panel
  - described, 4-21
  - fields on, 4-21

## M

- machine costs, described, 5-11
  - managing measurement session history, 5-9
  - map data sets
    - creating, 3-20
      - overview of, 1-3
      - planning for, 1-8
    - including in Performance Profile, 3-21
    - using existing, 3-21
  - MAPPROGRAM parameter, described, 8-10
  - MAXLEN parameter, described, 9-11
  - measurement requests
    - adding
      - queued (for jobs not yet executing), 2-8
      - syntax for, 8-4
    - additional options when submitting, 2-23
    - changing
      - completed (for batch-submission), 4-31
      - deferred, 4-18
      - queued (for batch-submission), 4-30, 4-32
      - syntax for, 8-4
    - creating
      - automatic Performance Profiles, 3-13
      - groups of, 2-13
      - weekly schedule for, 2-24
    - deleting, 4-19
      - (for batch submission), 4-31
      - with DELETE command, 8-20
    - described, 1-2
    - listing (for batch-submission), 4-31
    - overview of, 2-2
    - planning for, 1-4
      - saving to request group, 1-5
      - scheduling, 1-5, 1-11
    - quitting, 4-19
    - retaining, 2-31
    - saving
      - in a request group, 2-32
      - to a group, 2-32
    - scheduling, 8-24
      - for active, 2-23–2-24
      - weekly, 2-25
    - specifying
      - parameters to retry, 8-26
      - retention time for, 8-12
    - standard status information for all, 4-4
    - submitting
      - from batch job or from TSO terminal, 8-3
      - overview of, 1-2
    - viewing, with LIST command, 8-18
  - Measurement Session Data report
    - fields
      - CPS TIME PERCENT, 4-11
      - TOTAL SAMPLES TAKEN, 4-11
      - WAIT TIME PERCENT, 4-11
  - measurement session history
    - analyzing performance trends, 1-3
    - calculating operating costs, 5-8, 5-22, 5-28
    - collecting, 3-2, 9-13
    - comparing changes in costs, 5-8, 5-22, 5-28
    - comparing measurement sessions, 5-21, 5-26
    - DBRM view, 5-18
    - deciding what to collect, 5-1
    - deleting records, 5-15
    - described, 1-9
      - detail view, 5-4
      - displaying, 5-2
      - exporting information, 5-18
      - job step view, 5-4
      - managing, 5-9
      - modifying filters and sort values, 5-9
      - modifying records, 5-14
      - printing, 5-17
      - printing reports of, 5-8
      - summary view, 5-4
      - transaction view, 5-23
  - measurement sessions
    - controlling, 8-21
      - active requests (for batch-submissions), 4-29
    - controlling scope of, 8-9
    - described, 1-2
    - setting length of, 2-6
    - specifying
      - number of, 2-30
      - parameters of, 2-29
  - Measurement Statistics section, fields of, 6-7
  - measurement thresholds
    - setting, 4-7
  - measuring
    - multiple address spaces concurrently, 8-26
    - multiple steps in a job, 2-10
    - planning for
      - multiple steps of a job, 1-10
    - planning for concurrently related address spaces, 1-13
  - MEISA parameter, described, 9-9
  - messages
    - printing, 4-22
    - selecting from a particular log, 4-23
    - viewing
      - information about, 4-21
      - text of, 8-30
  - MGMTCLAS parameter, described, 8-12
  - MODIFY AN 'ADD QUEUED' ELEMENT panel, described, 2-21
  - modifying filters and sort values for measurement session history, 5-9
  - modifying measurement session history records, 5-14
  - module mapping
    - entering modules for, 2-28
  - MODULE MAPPING panel
    - described, 2-28
  - Most Extensively Inactive Storage Areas report, producing, 9-9
  - MQCALL parameter, described, 9-12
  - MQSeries calls, compressing, 9-12
  - MQSERIES parameter, described, 8-16
  - MQTRAN parameter, described, 9-12
- ## N
- NATURAL parameter, described, 8-15
  - NATURAL, versions supported by indexers, 9-17
  - NOATTR parameter, described, 9-8
  - NOATTRLNK parameter, described, 8-16
  - NOATTRSVC parameter, described, 8-16
  - NOC parameter, described, 8-16
  - NOCOBOL parameter, described, 8-16
  - NOCSP parameter, described, 8-16
  - NODASD parameter, described, 9-7
  - NODLI parameter, described, 9-11

NODSC parameter, described, 9-9  
 NOJAVA parameter, described, 8-16  
 NOJAVRPT parameter, described, 9-12  
 NOLIMIT parameter, described, 8-9  
 NOMAP parameter, described, 9-7  
 NOMQSERIES parameter, described, 8-16  
 non-prime cost category  
   defined, 5-11  
 NONOTIFY parameter, described, 8-11  
 NOPLI parameter, described, 8-16  
 NOPROC parameter, described, 9-7  
 NORLIRPT parameter, described, 9-11  
 NOSQL parameter, described, 9-10  
 NOSTART parameter, described, 8-10  
 NOTASK parameter, described, 9-9  
 NOTIFY parameter, described, 8-11  
 NOTRAN parameter, described, 9-8  
 NOTXPRPT parameter, described, 9-11  
 NOVSAM parameter, described, 8-16  
 NUMBER parameter, described, 8-8

## O

OFFSET parameter, described, 9-10  
 online applications, planning for, 1-4  
 OPTIONS menu  
   described, 2-1  
 OPTIONS parameter, described, 8-11  
 OTHER PARAMETERS panel  
   described, 2-30  
 overriding job and step names, 5-10  
 OWNERID parameter, described, 8-18

## P

Packaging Utility, use of, 4-27  
 panels  
   INCLUDE MAP DATA SETS, 3-22  
   INCLUDE MAP DATA SETS AND/OR DDIO FILES,  
   3-23  
 parameters  
   described  
     ADA3GL, 8-15  
     ADABAS, 8-15  
     ALLCSECT, 9-9  
     ALOCUNIT, 9-13  
     ASID, 8-8  
     ATTR, 9-8  
     ATTRLINE, 9-8  
     ATTRLNK, 8-16  
     ATTRSVC, 8-16  
     BASELINE, 8-10  
     C, 8-16  
     CF, 9-9  
     CICS, 8-13  
     CMT, 9-13  
     COBOL, 8-16  
     COLLHIST, 9-13  
     COMPLETE, 8-18  
     COMPRES, 9-6  
     CONCURRENT, 8-26  
     COUNT, 8-26  
     CPUTEXT, 9-10  
     CSP, 8-16

DATACLAS, 8-12  
 DATE, 9-5  
 DATESEP, 9-5  
 DB2, 8-14  
 DBRMBASE, 9-13  
 DCC, 8-15  
 DCCLIB, 8-15  
 DELETE, 8-18  
 DETAIL, 9-6  
 DISPOSITION, 8-12  
 DML, 8-15  
 DSNAME, 8-11  
 EXCLUDE, 8-9  
 GOMIN, 8-9  
 GROUP, 8-21  
 IDMS, 8-15  
 IEF, 8-15, 9-10  
 IMS, 8-14  
 INCREMENT, 8-26  
 JAVA, 8-16  
 JAVARPT, 9-12  
 LIMIT, 8-9  
 LINEMAX, 9-5  
 MAPPROGRAM, 8-10  
 MAXLEN, 9-11  
 MEISA, 9-9  
 MGMTCLAS, 8-12  
 MQCALL, 9-12  
 MQSERIES, 8-16  
 MQTRAN, 9-12  
 NATURAL, 8-15  
 NOATTR, 9-8  
 NOATTRLNK, 8-16  
 NOATTRSVC, 8-16  
 NOC, 8-16  
 NOCOBOL, 8-16  
 NOCSP, 8-16  
 NODASD, 9-7  
 NODLI, 9-11  
 NODSCS, 9-9  
 NOJAVA, 8-16  
 NOJAVRPT, 9-12  
 NOLIMIT, 8-9  
 NOMAP, 9-7  
 NOMQSERIES, 8-16  
 NONOTIFY, 8-11  
 NOPLI, 8-16  
 NOPROC, 9-7  
 NORLIRPT, 9-11  
 NOSQL, 9-10  
 NOSTART, 8-10  
 NOTASK, 9-9  
 NOTIFY, 8-11  
 NOTRAN, 9-8  
 NOTXPRPT, 9-11  
 NOVSAM, 8-16  
 NUMBER, 8-8  
 OFFSET, 9-10  
 OPTIONS, 8-11  
 OWNERID, 8-18  
 PGM, 8-6  
 PLI, 8-16  
 QUEUE, 8-18  
 REPJOB, 9-14  
 REPNAME, 9-4  
 REPSTP, 9-14  
 RESLTN, 9-5  
 RLIBASE, 9-12

- SAMDSN, 8-11
  - SAMPLES, 8-9
  - SORTSIZ, 9-5
  - SQL, 9-10
  - START, 8-10
  - STARTDATE, 8-24
  - STARTTIME, 8-25
  - STATUS, 8-21
  - STEP, 8-6
  - STOP, 8-21
  - STORCLAS, 8-12
  - STRBDD, 8-11
  - STRBLIB, 8-11
  - SVCS, 8-10
  - SWITCH, 8-22
  - SYSTEM, 8-8
  - TIME, 9-6
  - TIMEPCT, 9-10
  - TIMESEP, 9-6
  - TLIBASE, 9-12
  - TOPTXT, 9-10
  - TRANBASE, 9-13
  - TRIGGER, 8-27
  - TXPONLY, 9-11
  - TXPRPT, 9-11
  - TYPE, 8-18
  - VOLUME, 8-12
  - VSAM, 8-16
  - WAITLOC, 9-9
  - WAITTEXT, 9-11
  - WRKPRIM, 9-13
  - WRKSEC, 9-13
  - WRKUNIT, 9-13
  - WRKVOL, 9-13
  - for controlling measurement session scope, 8-9
  - for data collecting, described, 8-13
  - for identifying
    - target job, 8-5
    - target program, 8-6
  - for measuring, described, 8-22
  - for specifying
    - data collector options, 8-13
    - request retention options, 8-12
    - routing information, 8-11
    - sample data set characteristics, 8-11
  - for specifying attribution options, 8-16
  - specifying sampling control for new session, 8-22
  - UNIT, described, 8-12
  - using for STROBE Advanced Session Management Feature, 8-23
  - Performance Profile
    - automatically generated
      - creating, 3-13
      - overview of, 1-3
      - planning for, 1-6
    - browsing, 3-25
    - controlling
      - level of detail in, 1-6
    - creating automatically from a request, 3-13
    - customizing parameters of, 3-11
    - examining, overview of, 1-3
    - formatting reports in, 1-7
    - generating, overview of, 1-3
    - indexing, 3-19
    - invoking STROE to create, 9-14
    - planning for
      - analyzing data in, 1-7
      - generating reports in, 1-6
    - printing of, 3-19
    - producing
      - from STATUS panel, 3-11
    - saving, 3-19
    - setting
      - advanced options for, 3-14
      - LINE/SPACE of, 3-15
      - OTHER PARAMETERS for, 3-15
      - RESOLUTION of, 3-15
      - SORT SIZE for, 3-15
    - specifying
      - page size of, 9-5
      - title for, 3-14
    - subtitling reports of, 9-4
    - summarizing data of, 1-6
    - suppressing reports, 1-7
  - performance trends
    - examining, 5-6, 5-21
  - performance trends, analyzing, 1-3
  - PGM parameter, described, 8-6
  - PL/I
    - versions supported by indexers, 9-18
  - planning for
    - batch jobs, 1-4
    - creating an automatic Performance Profile, 1-6
    - creating map data sets, 1-8
    - measurement requests, 1-4
    - measuring
      - address spaces, 1-13
      - multiple steps of a job, 1-10
    - Performance Profile, 1-6
    - saving request in a group, 1-5
    - scheduling measurement requests, 1-5
    - using STROBE, 1-3
  - PLI parameter, described, 8-16
  - prime cost category, defined, 5-11
  - printing
    - messages of STROBE, 4-22
    - Performance Profile, 3-19
  - printing measurement session history, 5-8, 5-17
  - procedures
    - for specifying reporting options, 9-1
    - indexer, 9-18
    - STROE, 9-14
    - STROX, 9-20
    - STROXE, 9-22
    - STROzz, 9-18
  - Profile Data File (PDF), creating automatically for AP-Mpower, 3-13
  - Profile Data File (PDF), creating for APMpower, 3-11
  - Program Section Usage Summary report
    - expanding, 9-9
  - program structure, B-1
  - Program Usage by Procedure report
    - tailoring, 9-7
- ## Q
- QUEUE parameter, described, 8-18
  - queued measurement requests, changing (for batch-submission), 4-32
  - queued requests
    - adding, 2-8
    - adding (for batch submissions), 2-36
    - adding (for batch-submissions), 2-36
    - changing (for batch-submission), 4-30, 4-32

quitting measurement requests, 4-19

## R

related requests, described, 1-14

REPJOB parameter, described, 9-14

REPNAME parameter, described, 9-4

reporter

limiting constraints of, 9-1

procedures of, 9-1

reports

compressing/expanding information on, 3-13–3-14

controlling

Composer activity, 9-10

COOLGen Activity, 9-10

IEF activity, 9-10

layout of, 3-18

level of detail in, 3-14

SQL activity, 9-10

system modules, 9-6

cost comparison

DBRM view, A-26

job step view, A-9

transaction view, A-18

detail level

DBRM view, A-21

transaction view, A-13

detail view

job step view, A-3

measurement comparison

DBRM view, A-23

job step view, A-5

transaction view, A-15

printing multiple copies of, 3-19

specifying

date and time formats, 9-5

modules treated as pseudo-sections, 9-6

page size, 9-5

resolution, 9-5

sort core size, 9-5

subtitle, 9-4

suppression of mapping for modules, 9-7

width of, 3-18

submitting, planning for, 1-12

summary history report, job step view, A-2

summary level

DBRM view, A-20

transaction view, A-12

tailoring/altering, 3-15

working with

attribution, 9-8

Coupling Facility Activity, 9-9

DASD Usage by Cylinder, 9-7

Data Set Characteristics Supplement, 9-9

DL/I CPU and Wait, 9-11

Most Extensively Inactive Storage Areas, 9-9

Program Section Usage Summary, 9-9

Program Usage by Procedure, 9-7

Time and Resource Demand Distribution, 9-9

Transaction Usage by Control Section, 9-8

Wait Time by Module, 9-9

REPSTP parameter, described, 9-14

request group

creating a new, 2-13, 2-19

deleting, 2-23, 8-29

described, 1-5, 1-12

saving measurement in a, 1-5

specifying parameters to retry, 8-26

submitting, 8-24

viewing contents of, 2-22

working with, 2-12

request group elements

changing, 8-27

copying, 2-20

creating, 8-23

deleting, 2-21

listing, 2-33

modifying, 2-21

REQUEST GROUP ELEMENTS panel

described, 2-13, 2-19

with concurrent sets, 2-18

REQUEST GROUP PROCESSING panel

changing format of, 4-26

described, 2-13

for submitting a request group, 2-18

request groups

adding an element to, 2-20

modifying, 2-19

REQUEST RETENTION panel

for active requests

described, 4-15

for batch-submission, described, 4-30

for completed requests

described, 4-17

for completed requests for batch-submission, described, 4-31

for queued requests

described, 2-31

REQUEST SCHEDULER panel

described, 2-23–2-24

RESLTN parameter, described, 9-5

RETAIN parameter, components of, 8-12

RLIBASE parameter, described, 9-12

## S

SAMDSN parameter, described, 8-11

sample data set

described, 1-3

example for naming, 2-7

overriding, 2-7

reusing, 2-7

selecting, 3-12–3-13

specifying characteristics of, 8-11

SAMPLE DATA SET LIST for a Default Performance Profile panel

described, 3-11

SAMPLE DATA SET LIST panel

described, 3-3

header line described, 3-3

SAMPLES parameter, described, 8-9

SAVE REQUEST IN A GROUP panel

described, 2-32

saving

measurement request in a group, 2-32

Performance Profile, 3-19

scheduling

a measurement request, 8-24

measurement requests, 2-23–2-24

SELECT OPTIONS FOR JOB STREAM panel

described, 3-24

fields on, 3-24

- selecting
    - a job, overview of, 1-2
    - job steps, planning for, 1-4
  - SEND command
    - described, 8-2
    - examples of, 8-22
    - operands of, 8-21
    - syntax of, 8-21
  - SESSION MANAGEMENT PARAMETERS panel
    - described, 2-29
  - setting defaults
    - for job statement, 4-25
    - from OPTIONS menu, 4-24
  - setting measurement thresholds, 4-7
  - setting measuring duration of online applications, 1-5
  - SORTSIZ parameter, described, 9-5
  - source code, incorporating changes, overview of, 1-3
  - source modules
    - indexing, 3-19, 9-16
  - SPECIFY STROBE LOG DATA SET(S) panel
    - described, 4-23
  - SQL Analysis Feature report settings, 3-8
  - SQL Analysis Feature, ensuring the accuracy of reports, 3-8
  - SQL parameter, described, 9-10
  - START operand for the SEND command, described, 8-22
  - START parameter, described, 8-10
  - STARTDATE parameter, described, 8-24
  - STARTTIME parameter, described, 8-25
  - STATUS panel
    - information displayed on, 4-4
    - status types found on, 4-1
  - STATUS parameter, described, 8-21
  - STEP parameter, described, 8-6
  - STOP parameter, described, 8-21
  - STORCLAS parameter, described, 8-12
  - STRBDD parameter, described, 8-11
  - STRBLIB parameter, described, 8-11
  - STROBE
    - command language
      - complete syntax for ADD and CHANGE command, 8-4
  - STROBE Advanced Session Management Feature, 8-22
    - commands and parameters of, 8-22
  - STROE procedure, using, 9-14
  - STROX procedure
    - examples of, 9-22
    - specifying indexer program names for, 9-21
    - using, 9-20
  - STROXE procedure
    - examples of, 9-23
    - using, 9-22
  - STROzz procedure
    - examples of, 9-20
    - invoking, 9-20
    - using, 9-18
  - SUBMIT command
    - described, 8-3, 8-24
    - example of, 8-24
  - submitting measurement requests
    - from a batch job, 8-3
    - from a TSO terminal, 8-4
    - overview of, 1-2
    - planning for, 1-4
  - summary view of measurement session history, 5-4
  - SUSPEND operand for the SEND command, described, 8-22
  - SVCS parameter, described, 8-10
  - SWITCH parameter, described, 8-22
  - syntax
    - for ADD command, 8-4
    - for CHANGE command, 8-4
    - for CHGGRP command, 8-27
    - for COPYGRP command, 8-29
    - for DELETE command, 8-20
    - for DELGRP command, 8-29
    - for END command, 8-29
    - for LIST command, 8-18
    - for LISTGRP command, 8-28
    - for SEND command, 8-21
    - for SUBMIT command, 8-24
  - SYSOUT PARAMETERS panel
    - described, 4-25
    - setting fields on, 4-26
  - SYSPRINT
    - creating compiler data sets, 9-20
  - system administrator, changing and submitting request groups, 2-12, 2-19
  - SYSTEM parameter, described, 8-8
  - SYSTEM SELECTION LIST panel
    - described, 2-3, 4-6
- ## T
- TAILOR REPORTS panel
    - described, 3-15
    - fields on, 3-15
  - target job
    - identifying, 8-5
    - specifying, 2-3, 4-6
    - specifying job name of, 2-10
  - target job step
    - described, 1-2
  - target programs
    - identifying, 8-6
  - target system, identifying, 8-8
  - task control block (TCB)
  - TCB. See task control block
  - thresholds, setting for measurement requests, 4-7
  - Time and Resource Demand Distribution reports, condensing, 9-9
  - TIME parameter, described, 9-6
  - TIMEPCT parameter, described, 9-10
  - TIMESEP parameter, described, 9-6
  - TLIBASE parameter, described, 9-12
  - TOPTTEXT parameter, described, 9-10
  - TRANBASE parameter, described, 9-13
  - Transaction Cost Comparison Report, A-18
  - Transaction Detail History report, A-13
  - Transaction Measurement Comparison Report, A-15
  - Transaction Summary History Report, A-12
  - Transaction Usage by Control Section report
    - tailoring, 9-8
  - transaction view of measurement session history, 5-23
  - TRIGGER parameter, described, 8-27
  - trigger request
    - described, 1-14
  - TUCS
    - for tailoring reports, 9-8
  - TXPONLY parameter, described, 9-11
  - TXPRPT parameter, described, 9-11
  - TYPE parameter, described, 8-18
  - types of cost records, 5-12

## U

UNIT parameter, described, 8-12  
updating cost records, 5-13  
USER DEFAULT OPTIONS panel  
    described, 4-24

## V

VIEW REQUEST panel  
    described, 4-7  
    information displayed on, 4-8–4-13  
viewing  
    current release changes, 4-24  
    measurement  
        parameters of requests, 4-7  
        requests, 8-18  
    measurement information, 4-1  
    messages of STROBE text, 8-30  
VisualAge PL/I, supported by indexers, 9-18  
VOLUME parameter, described, 8-12  
VSAM parameter, described, 8-16

## W

Wait Time by Module report  
    expanding, 9-9  
WAIT TIME PERCENT field, in Measurement Session  
    Data report, 4-11  
WAITLOC parameter, described, 9-9  
WAITTEXT parameter, described, 9-11  
weekly scheduling of measurement requests, 2-25  
wildcard, for identifying job name, 1-15  
WRKPRIM parameter, described, 9-13  
WRKSEC parameter, described, 9-13  
WRKUNIT parameter, described, 9-13  
WRKVOL parameter, described, 9-13

