IBM ®

CICS Tools
Hands-On Workshop

Reporting CICS Performance with CICS Performance Analyzer V2.1

Assigned Userid: CICSTxx

CICS Performance Analyzer V2.1 – Workshop

Session Objectives

This workshop serves as a hands-on introduction to CICS Performance Analyzer (PA). The intent is to introduce some of the basic features of CICS PA, and to show how CICS PA can help with CICS performance.

The lab is comprised of a several hands-on exercises designed to familiarize you with the product so that you can:
- Navigate the ISPF interface
- Set up initial system definitions
- Build reports sets
- Generate reports
- Use report forms to build customized reports
- Analyze specific reports to measure the performance impact of a transaction running non-threadsafe verses threadsafe.

There are optional exercises that cover additional features of CICS PA. Due to the limited class time, you may not have time to cover these topics during the CICS Tools Work Shop. However; if you complete the other exercises early you can work on the optional exercises independently. Additionally, the option exercises have been included in the recorded demonstration so you can review them add your own convenience.

It is expected that the user of this document as a nominal amount of experience with TSO/ISPF.

For detailed information regarding CICS Performance Analyzer, please reference the CICS Performance Analyzer User's Guide. This document can be found on the WEB at:
http://www.elink.ibmlink.ibm.com/publications/servlet/pbi.wss?CTY=US&FNC=SRX&PBL=S C34-6799

Specifically, review **Chapter 7. Guided Tour: Report Sets reporting.** The exercises in this course are modeled from what is covered in the guided tour.

CICS PA Workshop

Exercise #1 – Basic Navigation and initial system definition

During this step you will sign onto a 3270 ISPF session and select CICS PA. Then you will configure the product for your own use, including SMF dataset selection.

☐ Once you have logged onto TSO and are at the ISPF Primary Option Menu; type
P.D;PA and press enter to go to the CICS Performance Analyzer ISPF interface.

You should then see the following CICS PA panel:


```
   File   Options   Help

V2R1M0              CICS Performance Analyzer - Primary Option Menu

   0   CICS PA Profile      Customize your CICS PA dialog profile
   1   Personal Systems     Specify personal CICS Systems, SMF Files and Groups
   2   Report Sets          Request and submit reports and extracts
   3   Report Forms         Define Report Forms
   4   Object Lists         Define Object Lists
   5   Historical Database  Collect and process historical data
   6   Shared Systems       Specify shared CICS Systems, SMF Files and Groups
   7   Statistics           Report CICS Statistics
   8   Profiling            Request Transaction Profiling
   X   Exit                 Terminate CICS PA
```

```
Option ===>
 F1=Help      F3=Exit     F10=Actions  F12=Cancel
```

☐ Select Option 0, CICS PA Profile, and press ENTER.
   • This takes us to the CICS PA Profile Options Menu which consists of four options.
☐ Select Option 1, CICS PA Settings, and press ENTER.
☐ Verify that settings, including the CICS PA Load Library match the values on the following screen print.

CICS PA Workshop

```
   File  Options  Help
 _____

                         CICS PA Settings

 Specify settings.

 CICS PA Load Library . . . . . 'CICSPA.V2R1.SCPALINK'_____

 Personal Profile Library . . . 'CICSTxx.CICSPA.TABL'_____

 Delete Confirmation  . . . . . YES___   (Yes or No)
 Cancel Confirmation  . . . . . NO____   (Yes or No)
 Automatic Save on Exit . . . . YES___   (Yes, No, or Prompt)
 Reports in Upper Case  . . . . NO____   (Yes or No)
 Preferred Date Format  . . . . 1  1. ISO (YYYY/MM/DD)
                                   2. US (MM/DD/YYYY)
                                   3. European (DD/MM/YYYY)
 DASD Work File Unit Name . . . _____   (Blank for System Default)

 Job Statement Information:
 ===> //CICSTxxA   JOB 'CICSTxx',MSGCLASS=H,CLASS=A,REGION=0M_____
 ===> _____
 ===> _____
 ===> _____




 Command ===> _____
  F1=Help     F3=Exit     F7=Backward  F8=Forward  F10=Actions  F12=Cancel
```

☐ Change the job statement information with your workshop userid as in the following :
  //CICSTxxA   JOB 'CICSTxx',MSGCLASS=H,CLASS=A,REGION=0M

☐ Then press PF3 twice to update your profile and to return to the CICS PA Primary Option Menu.
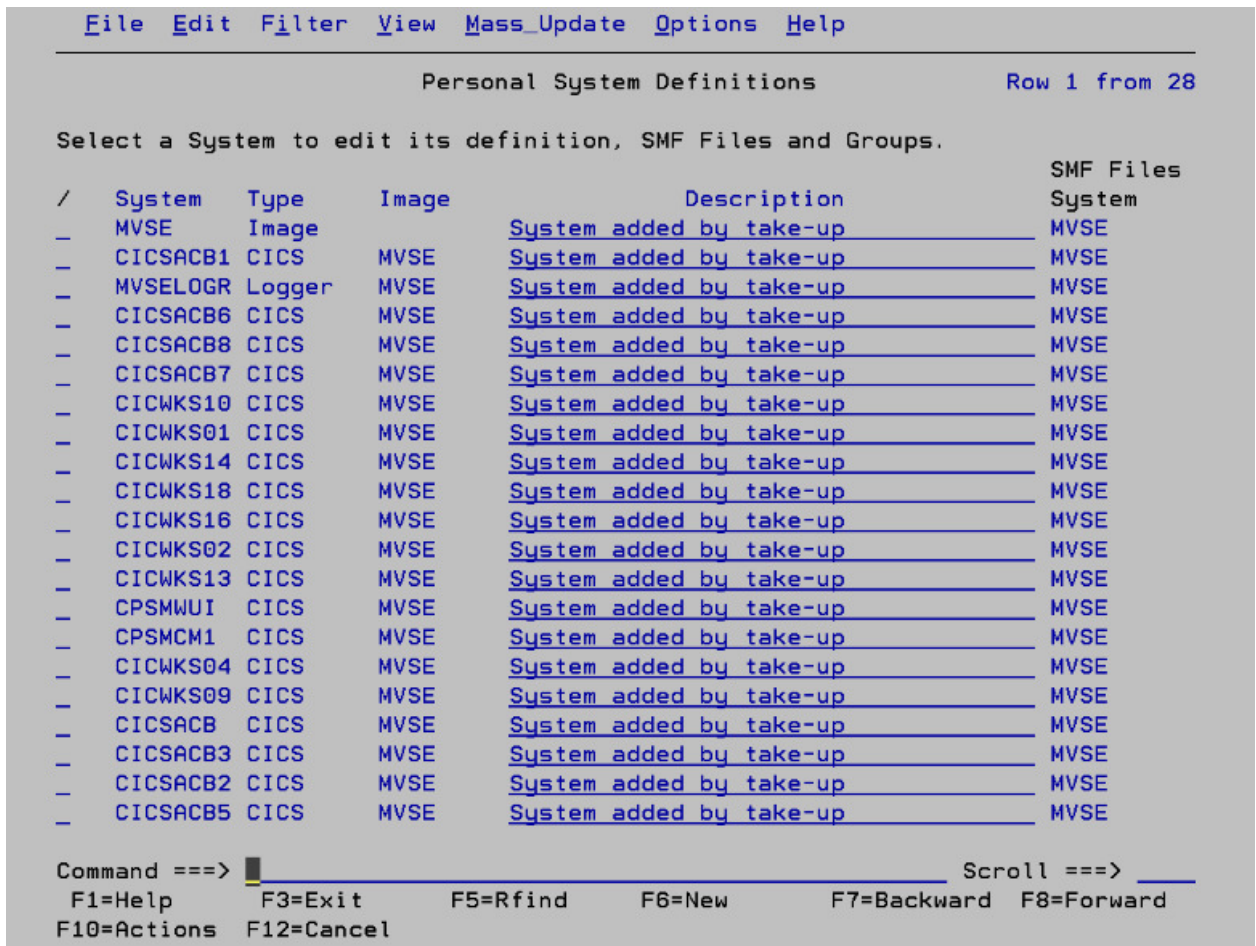
Now that you defined your default settings, you will associate an SMF file to CICS PA using option 1 (Personal Systems) on the CICS PA Primary Option Menu. In the interest of making the most use of your time, the steps inside the box have already been done for your ID.

DO NOT PERFORM THESE STEPS.
THEY ARE LISTED HERE AS BACKGROUND INFORMATION ONLY

■ Select Option 4 and press ENTER to have our systems initially defined for us by extracting them from the SMF datasets.

■ Tab down to the 'Data Set Name' field and enter the following data set name :
   'CICSTSS.CICSPA.DEMO.SMFDATA'

■ Tab down to 'Execution Mode" and select option 1

■ Press ENTER to submit the take-up job.
   • If you selected option 2 (Edit Batch JCL) in the Execution Mode field and then press ENTER, you are presented with the JCL to run the job. To submit this JCL for execution, simply type SUBMIT on the command line and press ENTER, enter a random character to complete the job name (your userid is 1 character short, so you can use this character to uniquely identify your submitted jobs).

■ Press PF3 twice to return to the CICS PA Primary Option Menu

■ Select Option 1, Personal Systems again.

■ You should now receive a panel informing you that the Take-up from SMF file has completed.
   • *If you do not receive this panel, then split the screen (using PF2) and search for your output using SDSF (option 13.14).*

■ Press ENTER to add the systems to your system definitions
   • You are then returned to the Personal System Definitions Menu and you should see the message:
      'Take-up was successful'

☐ Select Option 1 (Define Systems, SMF Files and Groups)
   • You are presented with a list of the systems that were extracted from the SMF dataset.

```
   File  Edit  Filter  View  Mass_Update  Options  Help
   ─────────────────────────────────────────────────────────────────────
                      Personal System Definitions           Row 1 from 28

   Select a System to edit its definition, SMF Files and Groups.

                                                              SMF Files
   /    System    Type      Image            Description       System
   _    MVSE      Image              System added by take-up    MVSE
   _    CICSACB1  CICS      MVSE     System added by take-up    MVSE
   _    MVSELOGR  Logger    MVSE     System added by take-up    MVSE
   _    CICSACB6  CICS      MVSE     System added by take-up    MVSE
   _    CICSACB8  CICS      MVSE     System added by take-up    MVSE
   _    CICSACB7  CICS      MVSE     System added by take-up    MVSE
   _    CICWKS10  CICS      MVSE     System added by take-up    MVSE
   _    CICWKS01  CICS      MVSE     System added by take-up    MVSE
   _    CICWKS14  CICS      MVSE     System added by take-up    MVSE
   _    CICWKS18  CICS      MVSE     System added by take-up    MVSE
   _    CICWKS16  CICS      MVSE     System added by take-up    MVSE
   _    CICWKS02  CICS      MVSE     System added by take-up    MVSE
   _    CICWKS13  CICS      MVSE     System added by take-up    MVSE
   _    CPSMWUI   CICS      MVSE     System added by take-up    MVSE
   _    CPSMCM1   CICS      MVSE     System added by take-up    MVSE
   _    CICWKS04  CICS      MVSE     System added by take-up    MVSE
   _    CICWKS09  CICS      MVSE     System added by take-up    MVSE
   _    CICSACB   CICS      MVSE     System added by take-up    MVSE
   _    CICSACB3  CICS      MVSE     System added by take-up    MVSE
   _    CICSACB2  CICS      MVSE     System added by take-up    MVSE
   _    CICSACB5  CICS      MVSE     System added by take-up    MVSE

   Command ===> █
                                                         Scroll ===> ____
    F1=Help     F3=Exit     F5=Rfind     F6=New     F7=Backward  F8=Forward
   F10=Actions  F12=Cancel
```

You now have your SMF file registered in the system with associated SMF record types.
Since your SMF file contains multiple CICS systems, you are now going to create a group
definition that will allow you to create a Cross System Report further along in the Workshop.

☐ Press PF3 to return to the Personal System Definition Menu.

☐ Select Option 3 (Maintain Group definitions)
   • You are presented with the Personal Groups screen.

☐ On the command line enter **New WORKGRP** and press ENTER**.**
   • You are presented with a screen Systems in this Group.

☐ Type a description such as **CICSTxx Work Group** in the description field.

☐ Place the cursor on the blank line under **SYSTEM**, and press PF4.

- A plus sign (+) to the right of any field heading indicates a prompt able field. Putting the cursor in field and pressing PF4 will bring up a list of available values for that field.
- In this case, pressing PF4 in the **SYSTEM** field presents the Systems screen listing all the different resource types that have been added from a Take-up.

☐ Place an S on the line next to systems CICSACB6 and CICSACB7.

☐ Press PF3 to add these systems to the group, and to return to the Group Menu.
  - You should see the systems you just selected listed.

☐ Press PF3 to return to the Personal Groups Panel
  - You should see **Group Updated** in the upper right hand corner of the panel.

☐ Press PF3 2 more times to return to the CICS PA Primary Option Menu
  - You should see the message **System Definitions Saved** in the message area at the top right of the panel.

You are now ready to start running reports on the SMF file.

CICS PA Workshop

Exercise #2

In this exercise you will create a Report Set and run a sample CICS PA report.
A Report Set defines a selection of reports and extracts with their associated options. You can define any number of Report Sets and select any number of reports and extracts in a Report Set. The reports in a Report Set are produced as a group from one pass of the input data sets. A Report Set can be run on a one-off basis, or run repeatedly against different input each time.

☐ Select Option 2 on the CICS PA Primary Option Menu.
  • You will receive a 'Confirm Create' panel for the Report Sets dataset.

☐ Press ENTER to create a new dataset using the defaults.

☐ Enter **New WORKSHOP** on the Command line to create a new report set. Where WORKSHOP is your chosen report set name.
  • Ignore any upgrade messages you receive after pressing ENTER, or by selecting the "Do not display" field.

You should now be at the CICS PA 'Report Set – *WORKSHOP*' panel, with the Reports categories expanded and all options inactive.

```
   File  Systems  Confirm  Options  Help
 _____

 EDIT                    Report Set - WORKSHOP                Row 1 of 38

 Description . . . CICS PA Report Set

 Enter "/" to select action.

 █__            ** Reports **                    Active
    -  ___      Options                            No
       ___         Global                          No
    -  ___      Selection Criteria                 No
       ___         Performance                      No
       ___         Exception                        No
    -  ___      Performance Reports                 No
       ___         List                             No
       ___         List Extended                    No
       ___         Summary                          No
       ___         Totals                           No
       ___         Wait Analysis                    No
       ___         Transaction Profiling            No
       ___         Cross-System Work                No
       ___         Transaction Group                No
       ___         BTS                              No
       ___         Workload Activity                No
    -  ___      Exception Reports                   No
       ___         List                             No
       ___         Summary                          No
    -  ___      Transaction Resource Usage Reports  No
       ___         File Usage Summary               No
 Command ===> _____ Scroll ===> PAGE
   F1=Help      F3=Exit      F7=Backward  F8=Forward  F10=Actions  F12=Cancel
```

Take a moment to familiarize yourself with it. (*Hint: Take a look at the line action commands available at each category level by tabbing down and entering a "/", see how to expand and collapse the report categories.*)

☐ Place the cursor in the selection field to the left of **Summary** which is beneath the Performance Reports category.

☐ Select the Summary Option in the Performance Reports section by typing an 'S' (Select) beside the Summary option, and press ENTER. This takes you to the Performance Summary Report panel.

☐ Place the cursor in the APPLID field and press the prompt key, PF4.

☐ You are presented with a list of all the systems that CICS PA currently knows about. Tab down to system CICSACB6, and select it by typing in an 'S' in the first column and press enter.

☐ You are brought back to the Performance Summary Report panel
  • PA adds the details of the APPLID, and the IMAGE that it is on into the Performance Summary Report panel.
  • If the APPLID is a member of a GROUP, then that would be added in here as well.
  • The report output option gives the ddname of the output in the job, so once its run we can easily locate it in the job output and go directly to it.
  • You can also enter a report title to help identify your report listing.

☐ Press PF3 twice to take you back to the 'Report Set – *WORKSHOP'* panel.
  • Note that the Summary report now shows YES under the Active column.

☐ Type RUN in the line action field on the Summary option line and press ENTER.
  • This displays the Run Report Set *WORKSHOP* panel.

☐ Activate the 'Edit JCL before submit' option by placing the cursor in the **Edit JCL before submit** action field and entering a */*, and pressing ENTER.
  • You are now presented with the JCL and command language for the job that you are about to submit.

☐ Scroll up and down (PF7 & PF8) to review the selection of the reports and associated parameters that you have requested.

☐ Type SUBMIT (or SUB) on the command line, and press ENTER to submit the job.

☐ Place the cursor on the top line of the screen and press PF2 to split the screen.

☐ Enter **13.14** on the commands line and press ENTER. This will take you to the SDSF primary option menu.

☐ One the Command line, type **PREFIX CICSTxx***, where CICSTXX is the id assigned to you for this class. and press ENTER.
   • This will limit the scope of the displayed jobs to the ones starting with your TSO id.

☐ Type **H** on the command input line and press ENTER to go to the Held output queue

☐ Type **?** next to your jobname and press ENTER.

☐ Place the cursor in the NP column in the row next to ddname SUMM0001 (our Performance Summary report output), type **S,** and press ENTER.
   • This displays the default layout for the Performance Summary report.

☐ Use PF11 to scroll to the right to display the fields beyond 80 bytes. Use PF10 to scroll back to the left.

☐ Use PF8 to scroll down the report, and PF7 to scroll back up.

☐ Press **PF9** to swap back to the PA Panel.

☐ Press **PF3** 3 times to return to the Primary Option Menu for PA

Here is an example of the default summary report that comes with CICS PA

In the next exercise you will use report forms to create customized reports layouts.

CICS PA Workshop

Exercise #3 – Customize reports using report forms.

The objective of this exercise is to show how easy it is to build customized reports with CICS PA. In this exercise you will modify one of the sample report forms. Report forms are used to tailor report format and content.

☐ Return to the CICS PA Primary Option Menu. You may have to hit PF3 several times depending on where you were when you last left the PA panels.

☐ Select Option 3, Report Forms.
   • You will receive a 'Confirm Create' panel for the Report Forms dataset.

☐ Press ENTER to create a new dataset using the defaults.

☐ Type **New WORKFORM** on the command line, and press ENTER to create a new report form called WORKFORM.
   • At this time, do not be concerned with the details such as APPLID and MVS Image, but you do need to select the Form Type.

☐ Tab down to the **Form Type or Model** field and select Option 3, Summary, and press ENTER. This presents you with the 'EDIT SUMMARY Report Form - WORKFORM' panel.

```
   File  Edit  Confirm  Upgrade  Profiling  Options  Help
   ─────────────────────────────────────────────────────────────────
                    EDIT SUMMARY Report Form - WORKFORM    Row 1 of 302 More: >

   Description . . . Summary Report Form            Version (VRM): 650


   Selection Criteria:
    _   Performance                                  Page width . . 132


        Field     Sort
   /    Name +    K O Type     Fn    Description
   __   TRAN      K A _____ ___    Transaction identifier
   __   TASKCNT   _ _____ ___      Total Task count
   __   RESPONSE  _ _____ AVE      Transaction response time
   __   RESPONSE  _ _____ MAX      Transaction response time
   __   DISPATCH  _ TIME    AVE      Dispatch time
   __   CPU       _ TIME    AVE      CPU time
   __   SUSPEND   _ TIME    AVE      Suspend time
   __   SUSPEND   _ TIME    MAX      Suspend time
   __   DISPWAIT  _ TIME    AVE      Redispatch wait time
   __   FCWAIT    _ TIME    AVE      File I/O wait time
   __   FCAMCT    _ _____ AVE      File access-method requests
   __   IRWAIT    _ TIME    AVE      MRO link wait time
   __   SC24UHWM  _ _____ AVE      UDSA HWM below 16MB
   __   SC31UHWM  _ _____ AVE      EUDSA HWM above 16MB
   __   EOR       _ _____ ___      --------------- End of Report ---------------
   __   EOX       _ _____ ___      --------------- End of Extract --------------

   Command ===> █_____  Scroll ===> PAGE
    F1=Help      F3=Exit     F4=Prompt    F5=Rfind     F7=Backward  F8=Forward
   F10=Left     F11=Right   F12=Cancel
```

☐ You should familiarize yourself with these Report Form layout panels. Its behavior is similar to using the ISPF PDF editor, so you can scroll up and down by using the PF7 & PF8 keys, and you can copy, move, delete, and insert fields as well. Place the cursor in the action field that is just to the left of any Field Name. Press **PF1**, the Help Key to see what line action options are available. Press **PF12** to exit the help panel and return to the EDIT SUMMARY Report Form panel.

☐ You also need to know about the Field Types that are available. You should see the field named **CPU**, with a field type of **TIME**. Place the cursor on the TIME field that is just to the right of CPU, and press PF1 for HELP. PA presents a help panel showing all the different field types that are available. When you're ready, press PF12 to return to the EDIT SUMMARY Report Form panel.

☐ CICS PA provides field level help that provides expanded descriptions how each field is defined. Type **H** in the selection field to the left of **DISPWAIT** and press ENTER. PA will present a panel that describes how DISPWAIT is calculated. With the use of field level help, you do not have to be an expert of all the fields on the SMF file.

☐ When editing Report Forms you need to be aware of two '*special*' fields in the form, namely EOR (End of Report) and EOX (End of Extract). These fields tell CICS PA that

you have all the fields you need for the report or extract. You should see these fields after the SC31UHWM field. You may need to use PF8 to scroll down to see these fields.

☐ As you are only using defaults in our first report, you are not changing these positions, but if you scroll past them, you will see the remaining fields that are available to us from the CICS Monitoring Facility (CMF) performance class record as well as other '*special*' fields provided by CICS PA. You will come back to this panel later.

☐ Press PF3 to save the Report Form. The message **Member WORKFORM saved** is displayed in the upper right hand corner of the Report Form panel.

☐ Press PF3 again to return to the CICS PA Primary Option Menu.

Now that you have defined a Report Form, you need to add it to the Performance Summary report in our Report Set prior to submitting it again.

☐ Select option 2 from the CICS PA Primary Option Menu to return to the Report Sets panel.

☐ Select the WORKSHOP Report Set that you defined earlier so that you can edit it again, ('S' in the line action field and press ENTER.)

☐ Select the Summary Report. Type an S in the action field that is to the left of SUMMARY, under the Performance Report category, and press ENTER.

☐ Place the cursor in the Form field,

☐ Press the prompt key (PF4) to display the available report forms. Select the report form that you just created (WORKFORM) by typing an S next to the form name and pressing ENTER. Likewise you could have just typed the report form name in the field.

☐ Now press PF3 to return to the 'Report Set – WORKSHOP' panel.

☐ Type RUN on the command line and press ENTER

☐ When you're ready press ENTER, then type SUBMIT (or SUB) on the command line, press ENTER again and the report will be submitted for execution.
 • Remember to take a note of the jobname and number that is used, as you'll need this to find the output.
 • In order to view this, you'll have to return (PF9) to the swap the screen session (or PF2 if you ended the split screen session earlier).

☐ From the ISPF Primary Option Menu, select SDSF (option 13.14).

- For detailed instructions on how to use SDSF, see instruction from the end of exercise #2
- If your job has already completed, then go to the held output (type H from the command line).

☐ Find your job with the appropriate job number and type a question mark next to it in the NP column and press enter. This will show all the job datasets. There will be one there called SUMM0001 – the output for the Performance Summary report from our Report Set. Select this by typing S next to it, and our report is displayed.

☐ At the top of each column, you'll see the description of each field matching the fields you used in the Report Form. Take some time to review the report, notice the summary total at the end of the report.

☐ Press PF9 to swap back to the PA panels

☐ Press PF3 3 times to return to the PA Primary Menu.

Below is an example of a Summary Report using a report form.

```
   Display  Filter  View  Print  Options  Help
 -----------------------------------------------------------------------------------------------------------------------
 SDSF OUTPUT DISPLAY CICST05A JOB06949  DSID   104 LINE 0        COLUMNS 02- 133
 COMMAND INPUT ===> █                                            SCROLL ===> CSR
 ******************************** TOP OF DATA ***************************************************************************

    V2R1M0                                          CICS Performance Analyzer
                                                      Performance Summary

 SUMM0001 Printed at  9:18:02  7/23/2008    Data from 07:04:14  3/28/2008 to 11:57:16  3/28/2008                Page   1
 PA Exercise Number 1

                Avg      Max      Avg      Avg      Avg      Max      Avg      Avg      Avg      Avg     Avg      Avg
 Tran    #Tasks Response Response Dispatch User CPU  Suspend  Suspend DispWait  FC Wait  FCAMRq  IR Wait SC24UHWM SC31UHWM
                Time     Time     Time     Time     Time     Time     Time     Time     Count    Time    Count    Count
 CATA        4  .0221    .0399    .0112    .0018    .0109    .0281    .0000    .0000       0     .0000      0        0
 CATD        2  .0143    .0235    .0070    .0011    .0074    .0102    .0000    .0000       0     .0000      0        0
 CATR        1  .0083    .0083    .0082    .0012    .0000    .0000    .0000    .0000       0     .0000      0        0
 CEBR        3  16.3732  25.8248  .0209    .0079    16.3523  25.7744  .0002    .0000       0     .0000      0        0
 CEDA        6  65.1436  197.2770 .5769    .1330    64.5668  196.9659 .0018    .6568     12308   .0000      0        0
 CEJR        1  .0599    .0599    .0146    .0007    .0454    .0454    .0451    .0000       0     .0000      0        0
 CEMT        8  7.2240   13.1992  .0124    .0024    7.2115   13.1974  .0010    .0000       0     .0000      0        0
 CESF        2  .0068    .0128    .0067    .0011    .0001    .0001    .0000    .0000       0     .0000      0        0
 CESN        6  .0147    .0378    .0146    .0014    .0002    .0003    .0001    .0000       0     .0000      0        0
 CFTL        1  .2962    .2962    .0620    .0032    .2342    .2342    .0003    .0319       4     .0000      0        0
 CGRP        1  .1869    .1869    .0133    .0011    .1736    .1736    .1605    .0000       0     .0000      0        0
   F1=HELP   F2=SPLIT   F3=END   F4=bad key   F5=IFIND   F6=BOOK   F7=UP   F8=DOWN   F9=SWAP  F10=LEFT  F11=RIGHT  F12=RETRIEVE
```

Exercise #4 – Modify Report form

During this exercise you will change the Report Form used by the report in our Report Set so that you get a different selection of fields and rerun the Report Set job. In addition, you will use filtering to control the data content of the report.

☐ From the CICS PA Primary Option Menu, select Report Forms, option 3.

☐ Select report form, WORKFORM, which was created in the previous exercise by typing an **S** next to it and pressing ENTER

For this exercise assume your transactions only run in a single system so you can delete the IRWAIT field.

☐ Find the IRWAIT field, you may have to scroll down using PF8 to find it.

☐ Enter a 'D' (delete) against IRWAIT, and press ENTER
  * (*Hint: type in '/' to see the available line actions*).
  * There is no confirmation panel for this. So make sure you have the right fields!
  * Alternatively, you could have moved these fields below the EOR field, and they would have been dropped from the list. If you wanted to reinstate the field, insert a blank line in the field list, tab to the field name and then use the prompt key (PF4) to list all selectable fields for the report; you can then select the field to add it back into the list.

Now you need to replace the deleted fields with some new ones. Let's see how much Program Storage our transactions have used during execution. The fields you require are further down the list, so you could use PF8 to scroll down until you find them. However, if you issue a Find command for PROGRAM, you will find them quicker.

☐ Type "F PROGRAM" on the command line, and press ENTER. Keep pressing PF5 (Repeat Find) until you find the fields with a description that starts Program Storage HWM.

☐ You're going to use two fields, PC24BHWM and PC31AHWM. First, enter an 'M' against the PC24BHWM field. Return to the top of the field list and place an 'A' (After) against the FCAMCT field. (*Hint: if you haven't already used it, 'M' on the command line with PF7 will take you to the top of the field list*).

☐ Your first field should appear after FCAMCT. Now you need to add the second field.

☐ Enter 'I' (Insert) next to PC24BHWM to create a blank line.

☐ Place the cursor in the field name column

☐ Use the prompt key (PF4) to select the field, and then enter "F PC31AHWM" on the command line. Place and S next to PC31AHWM and press ENTER to select it.
- As you can see, there is more than one way to select the field.
- *(Notice that you received the message "EOR Reset" in the message area at the top right of the panel! What does this message signify? Hint: What was the page width?).*

☐ PF3 to save the updated report form.

☐ PF3 again to return to the PA Primary Menu.

☐ Select option 2 from the CICS PA Primary Option Menu to return to the Report Sets panel.

☐ Select the WORKSHOP Report Set that you defined earlier so that you can edit it again, ('S' in the line action field and press ENTER.)

☐ Select the Summary Report. Type an S to in the line action field to the left of SUMMARY, which is under the Performance Report category, and press ENTER.

Note that the Selection Criteria column is set to NO. Wouldn't it be nice to only report on the data that we are truly interested in? In the next few steps we will use selection criteria to filter the contents of the report to exclude CICS system transactions. That is transaction ids that start with C.

☐ Select the summary report to expand the options.
('S' in the line action field and press ENTER)

☐ Type in an 'S' (Select) next to the **Performance** option which is under **Selection Criteria**, and press ENTER. This takes you to the Performance Select Statement panel.

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```
   File   Edit   Object Lists   Options   Help
  _____
                       WORKSHOP - Performance Select Statement Row 1 of 9 More: >

            Active  ——————————— Report Interval ———————————
     Inc    Start   ——————— From ———————   ——————— To ———————
     Exc    Stop    YYYY/MM/DD  HH:MM:SS.TH  YYYY/MM/DD  HH:MM:SS.TH
  _   __    _____  _____    _____   _____    _____

  _____

     Inc   Field              —— Value or Range ——    Object
  /  Exc   Name +    Type     Value/From   To          List +
  _   __   _____   _____    _____    _____       _____
  _   __   _____   _____    _____    _____       _____
  _   __   _____   _____    _____    _____       _____
  _   __   _____   _____    _____    _____       _____
  _   __   _____   _____    _____    _____       _____
  _   __   _____   _____    _____    _____       _____
  _   __   _____   _____    _____    _____       _____
  _   __   _____   _____    _____    _____       _____
  _   __   _____   _____    _____    _____       _____
  ******************************* Bottom of data ********************************




  Command ===> █_____  Scroll ===> PAGE
   F1=Help      F3=Exit      F4=Prompt    F7=Backward  F8=Forward  F10=Actions
  F11=Right     F12=Cancel
```

The Performance Select Statement panel is divided into two sections. The top section allows
you to specify a date and time range for the data that will be Included or Excluded in our
report. The bottom section of the panel allows you to use specific fields and values for the
performance data. In this particular exercise you are going to use the bottom section of the
panel to exclude the CICS supplied transactions (i.e. those whose transaction ID begins with
C) from this report.

☐ Place the cursor on the first line of the bottom section of the Performance Select
    Statement panel.
    • Under the Inc/Exc column heading, enter 'Exc' (Exclude).
    • In the Field Name field you can either enter 'TRAN' (*which is the name of the
      Transaction ID field in the performance data*) or you could use the prompt key (PF4)
      to display a panel with a list of all the performance data fields that are available and
      select the appropriate field from the list.
    • Next you need to enter a field value for the data that you wish to exclude (*in our case
      the CICS supplied transactions*). So, tab across to the Value/From field and enter
      'C*' (*as all the CICS supplied transactions start with C*).
    • You have now finished entering the selection criteria and are ready to submit our
      report request for execution. To do this you need to return to the Report Sets panel.

☐ Press PF3 4 times until you return to the 'Report Set – WORKSHOP' panel.

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☐ Type RUN on the command line and press ENTER

☐ When you're ready press ENTER, then type SUBMIT (or SUB) on the command line, press ENTER again and the report will be submitted for execution.
- Remember to take a note of the job name and number that is used, as you'll need this to find the output.
- In order to view this, you'll have to return (PF9) to the split the screen session (or PF2 if you ended the split screen session earlier).

☐ Return to SDSF to review the job output, and look at your summary report.
- For detailed instructions on how to use SDSF, see instruction from the end of exercise #2.

☐ Do you see the new fields in the report? How about the transactions that have been excluded? If you don't see the differences from the report created in exercise #3, check with your instructor.

☐ Press PF2 to swap back to the PA panels

☐ Press PF3 3 times to return to the PA Primary Menu

The following is an example of a customized summary report using selection criteria to exclude CICS transactions from the report.

```
   Display  Filter  View  Print  Options  Help
 -------------------------------------------------------------------------------------------------------
 SDSF OUTPUT DISPLAY CICST05A JOB06960 DSID   104 LINE 0          COLUMNS 02- 133
 COMMAND INPUT ===>                                               SCROLL ===> CSR
 ******************************** TOP OF DATA ***************************************************************

 V2R1M0                                           CICS Performance Analyzer
                                                    Performance Summary

 SUMM0001 Printed at  9:29:45  7/23/2008    Data from 07:09:37  3/28/2008 to 10:12:24  3/28/2008              Page    1
 PA Exercise Number 1

                 Avg     Max     Avg     Avg     Avg     Max     Avg     Avg     Avg     Avg     Avg     Avg
 Tran      #Tasks Response Response Dispatch User CPU Suspend Suspend DispWait FC Wait FCAMRq PC24bHWM PC31aHWM SC24UHWM
                 Time    Time    Time    Time    Time    Time    Time    Time    Count   Count   Count   Count
 TXDA        20  4.1841  11.5340  .2434   .2266  3.9407  11.2928  .2355  .0000      0       0   13496      9
 TXDB        20  4.5541  11.7887  .2424   .2264  4.3117  11.5457  .2139  .0000      0       0   13496      0
 TXDC        20  4.5544  11.5899  .2424   .2263  4.3120  11.3473  .2335  .0000      0       0   13496      0
 TXDD        20  4.4146  11.5757  .2392   .2263  4.1754  11.3323  .2136  .0000      0       0   13496      0
 TXDE        20  4.4230  11.5659  .2391   .2263  4.1838  11.3237  .2296  .0000      0       0   13496      0
 TXD0         2   .4618    .9163  .4618   .0024   .0000    .0000  .0000  .0000      0       0    7176     96
 Total      102  4.3483  11.7887  .2456   .2220  4.1027  11.5457  .2208  .0000      0       0   13372      3
 ******************************** BOTTOM OF DATA ************************************************************



   F1=HELP   F2=SPLIT   F3=END   F4=bad key   F5=IFIND   F6=BOOK   F7=UP   F8=DOWN   F9=SWAP  F10=LEFT  F11=RIGHT  F12=RETRIEVE
```

Exercise #5 – Using CICS PA supplied report forms

Now your are familiar with the process of creating reports from scratch, but CICS PA has over 150 pre-defined (or sample) Report Forms that you can use to obtain the data for our reports. In this step you will use some of these pre-defined report forms.

First, you will start by loading some of the sample Report Forms into our Report Forms dataset.

☐ Select Option 3 from the CICS PA Primary Option Menu.

Once you are at the Report Forms panel, you have two options available.

☐ Type SAMPLES on the command line and press ENTER, or place the cursor on the Samples pull-down in the action bar at the top of the panel.
  • Either method prorogates the display with a list of the sample Report Forms.

☐ From the list of Sample Reports, type **F TCB3LST** on the command line and press ENTER to find the TCB3LST report form. Select TCB3LST by typing an S next to in and pressing PF3.
  • You can select additional forms if you wish but for this workshop we will be working only with the TCB3LST sample report form.

☐ Select the TCB3LST report form by typing an 'S' next to the form name and pressing ENTER.

☐ Take a minute to review what fields will be displayed by this report form. This report form will identify TCB swaps and delays, which is useful for threadsafe analysis.

You need to customize this report to include CPU and RESPONSE Time. The report is already close to 132 bytes wide, so first you will have to remove a couple of fields. The transactions used for this workshop do not use Java, so we can delete MAXJTDLY. Nor do they make use of OTE, so we can delete MAXOTDLY.

☐ Place a D in the action line field next to MAXJTDLY and MAXOTDLY and press enter to delete these to fields.

☐ Now add CPU after STOP. Type **I** in the line action field next to STOP and press ENTER. Note the PF4 prompt method could have been used instead.

☐ Place the cursor in the Field Name column of the new line, type CPU, and press ENTER.

☐ Now add Response Time after CPU. Type **I** in the line action field field next to CPU and press ENTER.

☐ Place the cursor in the Field Name column of the new line, type RESPONSE, and press ENTER. Note the PF4 prompt method could have been used instead.

☐ Press PF3 to return to the Report Forms panel.
  • Note the report type for form TCB3LST; it is a LIST report form where as WORKFORM is a summary report form. TCB3LST will list individual tasks.

☐ Press PF3 to return to the Primary Option Menu

☐ Select option 2 from the CICS PA Primary Option Menu

☐ Select your WORKSHOP Report Set.

You need to select a report for our TCB3LST report form (*remember, that it was List report form type*).

☐ Type an **S** in the line action field next to the List option under Performance Reports and press ENTER to select a LIST report.

☐ Type CICSACB6 in the APPLID field (*or use the prompt key method*)

☐ In the Form input field, enter TCB3LST (*or use the prompt key*).

☐ Type an S in the line action field next under Selection Criteria and press ENTER

☐ Fill in the values as shown in the following screen print to only select T* transactions that ran between 7:00 and 8:00.

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```
   File   Edit   Object Lists   Options   Help
   ───────────────────────────────────────────────────────────────────
                    WORKSHOP - Performance Select Statement Row 1 of 9 More: >

             Active ───────────── Report Interval ─────────────
      Inc    Start  ────────── From ─────────  ────────── To ──────────
      Exc    Stop   YYYY/MM/DD  HH:MM:SS.TH  YYYY/MM/DD  HH:MM:SS.TH
   _   INC   START   2008/03/28  07:00:00.00  2008/03/28  08:00:00.00


   ───────────────────────────────────────────────────────────────────

      Inc  Field                ── Value or Range ──     Object
   /  Exc  Name +    Type       Value/From   To          List +
   _   INC  TRAN     _____      T*_____   _____     _____
   _   ___  _____   _____      _____    _____     _____
   _   ___  _____   _____      _____    _____     _____
   _   ___  _____   _____      _____    _____     _____
   _   ___  _____   _____      _____    _____     _____
   _   ___  _____   _____      _____    _____     _____
   _   ___  _____   _____      _____    _____     _____
   _   ___  _____   _____      _____    _____     _____
   _   ___  _____   _____      _____    _____     _____
   *****************************  Bottom of data  *******************************
```

☐ Press PF3 4 times to return to the Report Set panel.

☐ RUN the report and SUBMIT the job just as you did in previous exercises.
- At this point, if you no longer wish to view the JCL each time a job is run, deselect that option.

☐ Return to SDSF to review the job output
For detailed instructions on how to use SDSF, see instructions from the end of exercise #2.

☐ Select the LIST0001 DDname from your job.

☐ Take some time to review the report, especially the values in DSCHMDLY(Dispatch Delay) and KY8 DISPatch COUNT.
***Hint**, it has to do with non threadsafe.*
Transaction TXDA, B, C, D, and E access DB2. The tasks that ran between 7:00 and 8:00 were non-threadsafe. As a result each task had numerous TCB switches.

☐ Press PF2 to swap back to the PA panels

☐ Press PF3 until you return to the PA Primary Menu

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Here is an example of the customized TCB3LST report

```
   Display  Filter  View  Print  Options  Help
 ----------------------------------------------------------------------------------------------------------
 SDSF OUTPUT DISPLAY CICST05A JOB06972  DSID    103 LINE 0        COLUMNS 02- 133
 COMMAND INPUT ===> █                                             SCROLL ===> CSR
 ****************************** TOP OF DATA ****************************************************************

  V2R1M0                                         CICS Performance Analyzer
                                                   Performance List
                                       _____
  LIST0001 Printed at  9:42:32  7/23/2008    Data from 07:09:38  3/28/2008                   APPLID CICSACB6       Page       1
  CICS TCB Usage and Delays (V3) - Detail

  Tran Userid      TaskNo Stop          User CPU Response TCBAtach DSTCBHWM DSCHMDLY DSTCBMWT MAXSTDLY MAXXTDLY KY8 Disp KY9 Disp
                          Time           Time     Time                     Count    Count    Count    Count    Count    Count
  TXD0 DNET409         78 07:09:38.039   .0024   .9163        0        0        4        0        0        0        0        0
  TXDA DNET409         79 07:09:39.053   .2298  1.0153        1        1      108        0        0        0       52        0
  TXDB DNET409        110 07:09:39.505   .2277  1.4667        1        1      104        0        0        0       52        0
  TXDC DNET409        111 07:09:39.515   .2275  1.4765        1        1      104        0        0        0       52        0
  TXDD DNET409        112 07:09:39.958   .2268  1.9190        1        1      104        0        0        0       53        0
  TXDE DNET409        113 07:09:39.968   .2266  1.9290        1        1      104        0        0        0       53        0
  TXDA DNET409        114 07:09:40.414   .2266  2.3748        1        1      104        0        0        0       53        0
  TXDB DNET409        115 07:09:40.433   .2265  2.3939        1        1      104        0        0        0       53        0
  TXDC DNET409        116 07:09:40.867   .2266  2.8285        1        1      104        0        0        0       53        0
  TXDD DNET409        117 07:09:40.882   .2263  2.8428        1        1      104        0        0        0       53        0
  TXDE DNET409        118 07:09:41.328   .2265  3.2889        1        1      104        0        0        0       53        0
  TXDA DNET409        119 07:09:41.342   .2265  3.3033        1        1      104        0        0        0       53        0
   F1=HELP    F2=SPLIT    F3=END    F4=bad key    F5=IFIND    F6=BOOK    F7=UP    F8=DOWN    F9=SWAP   F10=LEFT   F11=RIGHT   F12=RETRIEVE
```

The following advanced exercises are optional

CICS Performance Analyzer V2.1 – Workshop – Additional Exercises

If you have come this far, you are now an acknowledged expert on the CICS Performance Analyzer for z/OS!

The objectives of these 5 additional exercises for the workshop are to further build on what you have learned in the previous workshop sessions. These additional exercises are as follows:

- Create and run a Cross-System work report
- Create and run a Transaction profiling report
- Create and run a DB2 report
- Creating a performance data extract as a CSV data set
- The basics of CICS PA's Historical Database (HDB) support.

Exercise 6 – **Create and run a Cross-System work report**

Earlier in *Exercise 1*, you performed a Data Take-Up from an SMF dataset and grouped multiple CICSACB6 and CICSACB7 in group WORKGRP. Since you have multiple systems in a group, you may run the Cross-System report against that group. Otherwise you would have to include additional systems as defined in the following reference.

- Do another data Take-Up with a SMF file from another system. Return to the CICS PA Primary Option Menu by pressing PF3 twice, and then select Option 1 Personal Systems again. You should now receive a panel informing you that the Take-up from SMF file has completed. *(If you do not receive this panel, then split the screen (using PF2) and search for your output using SDSF (S;DA if not shown as an option)).*
- Press ENTER to add the systems to your system definitions; you will then be returned to the Personal System Definitions Menu and you will also see the message 'Take-up was successful' in the message area at the top right of the panel.
- If you now select Option 2 from the Personal System Definitions Menu, Maintain SMF Files, you'll see that the use count for the SMF data set from your second Take-up is zero. The reason for this is that the systems that existed on this file have already been defined by the first Take-up, so you'll have to manually associate them with the SMF file. You should now have a pretty good idea of how to do this, but if not here's a hint. (*Hint: Add the SMF data set name to the MVS Image definition for 'MV2E'*).

☐ As you have 2 CICS systems defined in you WORKGRP, try creating a Cross-System Work report.

☐ Return to the Report Set menu (option 2 from the CICS PA Primary Option Menu)

☐ Select your Report Set, WORKSHOP

☐ Select the Cross-System Work report from the Performance Reports.

☐ In the System Selection use the group name WORKGRP.

☐ PF3 twice to return to the WORKSHOP report set.

☐ Now RUN the Report Set and review the output just as you did in previous exercises.

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Below is an example of the Cross System Report.

```
   Display  Filter  View  Print  Options  Help
--------------------------------------------------------------------------------------------------------------------------
SDSF OUTPUT DISPLAY CICST05A JOB06984  DSID    104 LINE 62      COLUMNS 02- 133
COMMAND INPUT ===> █                                   SCROLL ===> CSR

V2R1M0                                              CICS Performance Analyzer
                                                     Cross-System Work
                                          _____
CROS0001 Printed at  9:55:55  7/23/2008 Data from 07:04:14  3/28/2008 to 12:00:08  3/28/2008                    Page     2


                                     Request          Fcty  Conn                    UOW              R                 Response A
Tran Userid    SC TranType Term  LUName   Type    Program  T/Name Name NETName      Seq APPLID     Task T  Stop Time     Time   B

TXDC DNET409   S  U                       AP:      EHDRIVER             DALVM1XX.CICSACB6   1 CICSACB6   121 T  7:09:41.801   3.7618
CSMI DNET409   TO UMD      -AAL CICSACB6 AP:F--S EWHWORKR T/-AAL AOR6 DALVM1XX.CICSACB6   1 CICSACB7    96 T  7:09:41.798    .4652

TXDB DNET409   S  U                       AP:      EHDRIVER             DALVM1XX.CICSACB6   1 CICSACB6   120 T  7:09:41.782   3.7432
CSMI DNET409   TO UMD      -AAK CICSACB6 AP:F--S EWHWORKR T/-AAK AOR6 DALVM1XX.CICSACB6   1 CICSACB7    95 T  7:09:41.775    .4607

TXDA DNET409   S  U                       AP:      EHDRIVER             DALVM1XX.CICSACB6   1 CICSACB6   119 T  7:09:41.342   3.3033
CSMI DNET409   TO UMD      -AAJ CICSACB6 AP:F--S EWHWORKR T/-AAJ AOR6 DALVM1XX.CICSACB6   1 CICSACB7    94 T  7:09:41.341    .4691

TXDE DNET409   S  U                       AP:      EHDRIVER             DALVM1XX.CICSACB6   1 CICSACB6   118 T  7:09:41.328   3.2889
CSMI DNET409   TO UMD      -AAL CICSACB6 AP:F--S EWHWORKR T/-AAL AOR6 DALVM1XX.CICSACB6   1 CICSACB7    93 T  7:09:41.320    .4671

 F1=HELP    F2=SPLIT    F3=END    F4=bad key    F5=IFIND    F6=BOOK    F7=UP    F8=DOWN    F9=SWAP  F10=LEFT  F11=RIGHT  F12=RETRIEVE
```

Exercise 7 – **Create and run a transaction profiling report**

CICS PA provides several methods for creating a transaction profiling report. One way is to build it using the profiling option under the performance reports of a report set. Using this method requires the use of a Historical Database(HDB). The second method is to use Option #8 from the Primary Menu. Option #8 gives you the ability to profile SMF data against SMF baseline, or SMF data against HDB baseline, or HDB data against HDB baseline.

For this exercise we are going to use option #8 to profile SMF data against SMF baseline data.

☐ Add sample report form CPUSUM to your report form list. Refer to the instructions from Exercise #5 on how to do this. We will use the CPU summary report to show the impact of non-thread safe verses thread safe activity of transactions that start with TXD*.

☐ From the CICS PA main menu, select option #8 (Request Transaction Profiling)

☐ Select option 1 from the Transaction Profiling Menu to create a profile report using SMF baseline data.

☐ Use the values from the screen image below to identify the system and time periods for the profile report.

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```
   File   Systems   Options   Help
  _____
                     Run Transaction Profiling

  Specify Profiling data sources and options, then SUBmit to run.
                                                     More:       +
  Report System Selection:            ──── Report Interval ────
   APPLID . . CICSACB6   +               YYYY/MM/DD   HH:MM:SS.TH
   Image  . . MVSE       +         From  2008/03/28   10:00:00.00
   Group  . . WORKGRP    +         To    2008/03/28   11:00:00.00

  Baseline System Selection:          ──── Baseline Interval ────
   APPLID . . CICSACB6   +               YYYY/MM/DD   HH:MM:SS.TH
   Image  . . MVSE       +         From  2008/03/28   07:00:00.00
   Group  . . WORKGRP    +         To    2008/03/28   08:00:00.00

  Report Format:
   Report Form . . . CPUSUM    +     Baseline Form . . CPUSUM    +
   Title   . . _____
             _____

  Summary Options:                  Reporting Options:
   Time Interval . . 00:01:00 (hh:mm:ss)  Lines . . . . /  Report  /  Baseline
   Totals Level  . . 8  (blank or 0-8)              /  Delta   /  Change
                                      Threshold . . ____ % Above
  Selection Criteria:                              ____ % Below Baseline
   _   Performance                   Exclude . . . _  Within threshold
                                                   /  Blank lines

  Command ===> _____
   F1=Help     F3=Exit      F4=Prompt    F6=Resize   F10=Actions  F12=Cancel
```

☐ Places an S in the action field next to Performance under Selection Criteria and press ENTER.

☐ Use selection criteria values in the following screen shot to only select transactions that start with T.

☐ Press PF3 twice to return to the Run Transaction Profiling panel

☐ Type SUB on the command line to submit the report.

☐ Split screen (PF9) to review the job output, and you should see in the PROF0001 output a report profiling the transactions between the various time frames.

☐ Note the performance differences between the "TXD*"transactions that were not threadsafe compared to the threadsafe transaction. The report shows delta differences in values as well as percent change differences.

Below is an example of the transaction profiling report.

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Exercise 8 – Create and run a DB2 report using CICS PA supplied report forms

☐ Return to the Report Sets menu (option 2 from the CICS PA Primary Option Menu)

☐ Select your WORKSHOP Report Set.

☐ PF8 down to the Subsystem Reports section and select the DB2 option.

☐ Type 'S' on the line command to select the report.

You will be presented with the following screen.

```
 File  Systems  Options  Help
 ─────────────────────────────────────────────────────────────────
                          WORKSHOP - DB2 Report

 CICS System Selection:                  Report Output:
  APPLID . . _____  +                  DDname . . . . . . . . . DB2R0001
  Image  . . _____  +                  Print Lines per Page . . ___  (1-255)
  Group  . . WORKGRP   +

 DB2 System Selection:                   Report Options:
  SSID . . . ____  +                      / Process DB2 Accounting records
  Image  . . _____  +                  _ List records with no DB2 activity
  Group  . . _____  +                  / Long Summary with DB2 maximums

 Reports            ─────── DB2 Accounting data to include in report ───────
 Required:          Class1  Class2  Class3  Buffer  Locking  DML 1  DML 2
  /  List              /       /      _        /       /       _      _
  /  Long Summary      /       /      _        /       /       _      _
  /  Short Summary

 Report Format:
  Title  . . _____

            _____


 Selection Criteria:
  _  Performance



 Command ===> _____
  F1=Help      F3=Exit     F4=Prompt    F7=Backward  F8=Forward  F10=Actions
  F12=Cancel
```
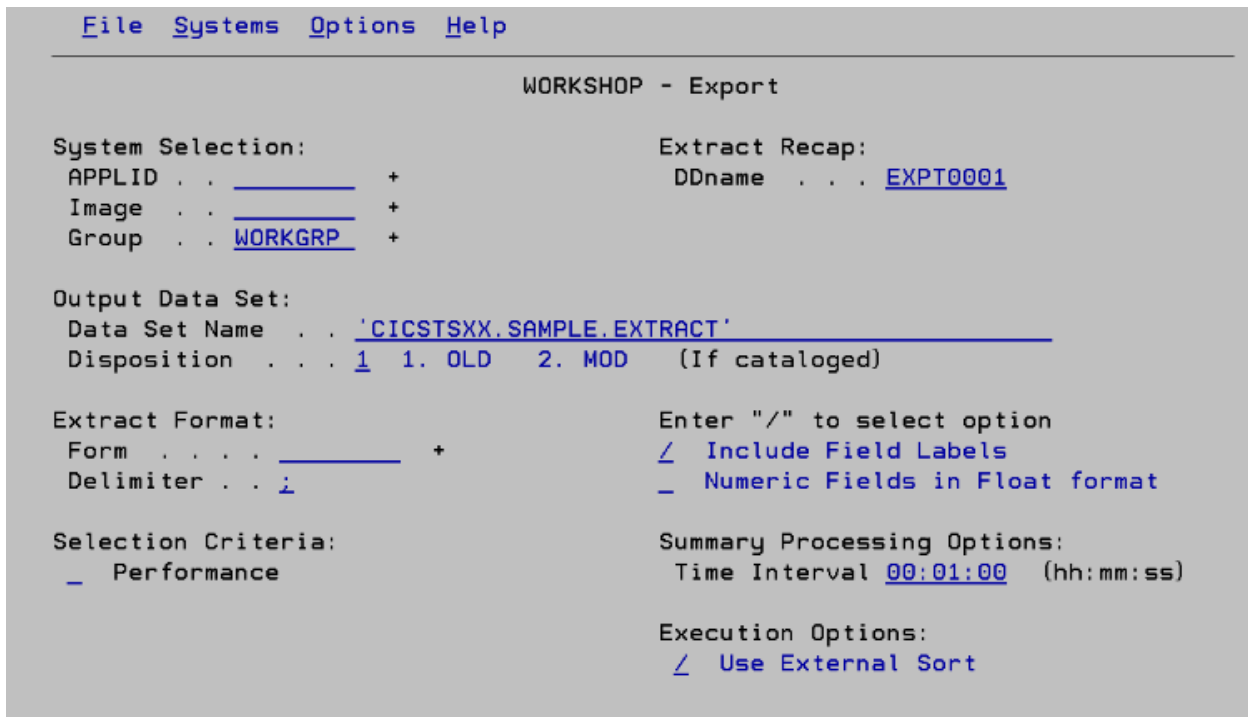
☐ Type in WORKGRP in the Group field or select it with PF4.

☐ Place a '/' next to each of the Reports Required for List, Long and Short Summary reports.
    List produces a large report so you may want to hold off on selecting it.

☐ PF3 2 times to return to the Report Set menu

☐ Type RUN on the command line and press Enter.

☐ Place a '/' in front of Edit JCL and press Enter as in the past to generate the JCL.

☐ SUBMIT the job as you did in earlier exercises to create the report.
    At this point, if you no longer wish to view the JCL each time a job is run, deselect that
    option.

☐ Return to SDSF to review the job output, and you should see in DB2R0001 output.

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Exercise #9 - **Create a performance data extract as a CSV data set**

By now, you should have an appreciation of how to build and submit your own reports and use the sample Report Forms to customize the report layouts. But there is another function you can do while running CICS PA reports; building a column delimited (csv) dataset that can be downloaded and then imported into a spreadsheet for further analysis or presentation.

☐ Return to the Report Set Menu and select your WORKSHOP report set.

☐ Scroll down (PF8) until you reach the Extracts category. Alternatively, rather than scrolling you could collapse each category (*Hint: type 'S' in the line action of each category*) until you can see the Extracts category on the screen.

☐ Select the Export option.

☐ Specify WORKGRP for the Group field.

☐ Enter the name of the dataset you want to use (CICSTxx.SAMPLE.EXTRACT)

☐ Specify a disposition of OLD by selecting 1.

☐ Specify the value you want to use as a field delimiter. In the example we use a semi-colon.

```
   File   Systems   Options   Help
   _____

                            WORKSHOP - Export

   System Selection:                    Extract Recap:
    APPLID . . _____   +               DDname  . . . EXPT0001
    Image  . . _____   +
    Group  . . WORKGRP    +

   Output Data Set:
    Data Set Name  . . 'CICSTSXX.SAMPLE.EXTRACT'_____
    Disposition  . . . 1  1. OLD   2. MOD   (If cataloged)

   Extract Format:                       Enter "/" to select option
    Form  . . . . _____  +            /  Include Field Labels
    Delimiter . . ;                      _  Numeric Fields in Float format

   Selection Criteria:                   Summary Processing Options:
    _  Performance                        Time Interval 00:01:00  (hh:mm:ss)

                                         Execution Options:
                                          /  Use External Sort
```

☐ Return to the Report Set Menu (PF3)

☐ Type RUN in the line action field and press ENTER.
   This will display the Run Report Set panel. If you deselected the Edit JCL before submit
   option, reselect it and press ENTER. You should again see your job, but note that the
   ddname of CPAOEX01 has been added for your dataset. Now SUBMIT the job for
   execution.

☐ Split the screen again to check the job ran successfully, but also go into the dataset utility
   (option 3.4 from the ISPF Primary Option Menu) and enter your CICSTxx userid as a
   dsname hlq. You should see your "CICSTxx.SAMPLE.EXTRACT" data set.

☐ Browse this data set, and check that the data has been captured in the file.

   You could now use ftp to download the data set and import the data into a spreadsheet for
   further analysis and/or presentation.

***Exercise 10 – B*as of CICS PA's Historical Database (HDB)**

So far, your have concentrated on running reports and extracts directly from the unloaded SMF data that's available to us. However, you may want to keep CICS performance related data over a much longer period of time for historical purposes or for trending and capacity planning. You can do this with CICS PA by using the Historical Database (HDB) facility.

☐ From the CICS PA Primary Option Menu, select Option 5, Historical Database.
This will display the Historical Database Menu. First you need to define a new HDB Register, as entering any option now will fail until you provide the register dataset name.

☐ Tab down to the HDB Register field, enter a dataset name of "CICSTxx.HDB.REGISTER".

☐ Select Option 2 from the command line, "Define a new HDB".
- As you won't be creating many HDBs in this exercise, a space allocation of 1 cylinder for primary and secondary quantities will be more than sufficient.

☐ Press ENTER, and you should see the output from a successful IDCAMS job, along with the message "HDB Register defined" in the top right of the panel.

☐ Press PF3 to return to the new HDB Definition Menu panel

☐ Press PF12 (Cancel) to terminate the new HDB definition at this time (you will come back to this in a moment).

☐ Select Option 1, Templates.

☐ Type "New WORKHDB" on the command line and hit Enter.
This will then display the New HDB Template panel.

☐ You could specify an APPLID and MVS image here, but just leave them blank for now.

☐ Choose option 2 in the Template Type field, and press ENTER.

☐ You are now presented with the EDIT Summary Template panel which looks very similar to the panel that was used to create Reports Forms, where a list of fields was presented to you for editing. These are the default fields that have been selected, so you will use them for now. Note that the first few fields are nominated as key fields, in ascending sequence. Press PF8 to scroll down, and you will see an EOD – End of HDB '*special*' field. This has a similar function as the EOR/EOX '*special*' fields in Report Forms that were discussed earlier in Exercise *2*.

You are now going to add a field to our HDB Template called RMITIME, which is located further down the list of fields. You could use PF8 to scroll down until you find it or alternatively, you could issue a Find command and hopefully find it a lot quicker. So, type "F RMITIME" on the command line, and press ENTER. Enter an 'M' against the RMITIME field. Return to the top of the field list and place a 'B' (Before) against the EOD '*special*' field.

Our field should now appear after SC31UHWM. If you want to remove the MVS SMF ID field, you could either move it to below the EOD '*special*' field, or delete it. Now press PF3 to save the template.

```
   File  Confirm  Edit  Upgrade  Options  Help
 _____

                    EDIT Summary Template - TESTTEMP     Row 1 of 234 More: >
 Command ===> _____ Scroll ===> CSR

 Description  . . . Summary HDB Template            Version (VRM): 620


 Selection Criteria:
  _   Performance                      Time Interval  . . 00:01:00  (hh:mm:ss)


      Field
 /    Name +    K  Description
 __   START     A  Task start time
 __   APPLID    A  CICS Generic APPLID
 __   TRAN      A  Transaction identifier
 __   TASKCNT      Total Task count
 __   RESPONSE     Transaction response time
 __   DISPATCH     Dispatch time
 __   CPU          CPU time
 __   SUSPEND      Suspend time
 __   DISPWAIT     Redispatch wait time
 __   FCWAIT       File I/O wait time
 __   FCAMCT       File access-method requests
 __   IRWAIT       MRO link wait time
 __   SC24UHWM     UDSA HWM below 16MB
 __   SC31UHWM     EUDSA HWM above 16MB
 __   RMITIME      Resource Manager Interface (RMI) elapsed time
 __   EOD          --------------- End of HDB -----------------
 __   TERM      A  Terminal ID
 __   APPLTRAN  A  Application naming Program
 __   APPLPROG  A  Application naming Program
 __   STOP      A  Task stop time
```

☐ Press PF3 twice to return to the Historical Database Menu

☐ Select Option 2 to define a new HDB.

☐ Select Option 1 in the HDB Definition Menu for a Performance HDB and press Enter.

☐ Enter a Name of "HDBSUMM" and description (*optional*) for the HDB,

☐ Specify "CICSACB6" for the APPLID.

☐ Specify the Template name (WORKHDB), remember that you can use the prompt key (PF4) to show the list of templates.

☐ Specify your userid (CICSTxx) as the DSN prefix, and use a space allocation of 1 cylinder for primary and secondary quantities (you may have to use PF8 to see these fields).

☐ Press PF3 to return to the HDB Menu, where you should see the message "HDB defined" in the message area at the top right of the panel.

☐ Select Option 3, Load. Select the HDB you have just defined.
    This displays the Load Summary HDB panel.

☐ Select the Edit JCL before submit field.

☐ Press ENTER twice to bring up the load HDB JCL.
    From the JCL, you can see the name of the SMFIN dataset that was used to load data into the HDB.

☐ Submit the job then go into SDSF to check the output.
    The job should have completed successfully, and the number of records loaded should be displayed. If you go into the Data Set List utility (option 3.4 from the ISPF Primary Option Menu), then you can search for the new HDB container dataset. It should have a prefix of your TSO userid (CICSTxx) and HDB name

☐ Press PF3 until you return to the HDB Menu.

☐ Select Option 4, Report to run a report using our HDB data.

☐ Select the HDB you just created

☐ Use the PF4 prompt field to select a transaction summary report. Use the CPUSUM report form (*Hint: you may need to add this report form from the samples*).

☐ Press Enter twice to submit the report then use SDSF to view the output.
    You should see the report complete successfully. Are all the transactions listed in there that you loaded into the HDB?

☐ Press PF3 until you return to the HDB Menu

☐ Select Option 7 for HDB Maintenance.

You are going to view information on the data sets (containers) that contain data for our HDB.

☐ Select the HDB that you have created and press Enter to go to the Maintain HDB panel.

☐ Tab down to the Specify View field, select Option 2, Data Sets, and press ENTER.
Take a look at the line actions available by entering a '/' against any HDB container data set. You are just going to view the data details of the container data set.

☐ Select option 1 and press ENTER.
You will be presented with a panel showing various details on the data set including when the data set was created, the date and time range of the data and the number of records in the data set.

☐ Press PF3 until you return to the HDB Menu.

☐ Again Select Option 7, Maintenance, from the HDB Main Menu.

☐ Now delete the HDB by placing a 'D' in the column next to it.

☐ Press ENTER and you will see the confirmation panel for the delete.

☐ Press ENTER again to confirm.
Now you have removed the HDB definition, but the physical dataset will remain until you run housekeeping (Option 8 from the HDB Menu). You can confirm this by viewing the dataset using the Data Set List utility (option 3.4 from the ISPF Primary Option Menu).

END OF WORKSHOP

References

CICS Performance Analyzer for z/OS User's Guide, SC34-6799-02
CICS Performance Analyzer for z/OS Report Reference, SC34-6800-02

CICS Performance Analyzer, SG24-6063