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Adabas Online System

Session Monitoring

Version 7.4.4

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Adabas Online System

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1 Session Monitoring

This part of the documentation presents the Adabas session monitoring functions, which allow you to control and manage major Adabas resources. These functions are most useful when analyzing system performance or seeking the cause of performance problems.

```
09:11:45              *****  A D A B A S   BASIC  SERVICES  *****          2005-11-14
                             -  Session Monitoring   -                     PAC0002


  Code     Service                           Code     Service
  ----     -------------------------         ----     ----------------------------
   A       Display cluster members            R       Refresh nucleus statistics
   C       Maintain user profiles             S       Current resource statistics
   D       Display parameters                 T       Maintain TCP/IP URL
   I       Display installed products         U       Display resource utilization
   P       Modify parameters                  V       Replicator Management
   Q       Display queues                     Z       Display maintenance levels
   ?       Help
   .       Exit
  ----     ----------------------            ----     ----------------------------



           Code ........ _
           Database ID .. 54      (ADANAT-DB)



 Command ==>
 PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
 Help               Exit                                            Menu
```

You can use the Session Monitoring environment to monitor the Adabas nuclei in a multiprocessing environment.

When you enter the DBID of a cluster database on the Session Monitoring menu, subsequent screens include a field to specify the ID of the nucleus (NUCID) in the cluster you want to monitor:

- If you do not set the nucleus ID, AOS defaults to the local nucleus.

- If you set the nucleus ID to zero for a cluster database, the selected function is performed for *all* active nuclei in the cluster.

The Adabas Online System Session Monitoring documentation is organized in the following topics:

	Code	Function
	A	Display Cluster members
	C	Maintain User Profiles
	D / P	Display or Modify Parameters
	I	Display Installed Products
	Q	Queue Displays
	R	Refresh Nucleus Statistics
	S	Current Resouce Statistics
	T	Maintain TCP/IP URLs
	U	Resource Utilization
	V	Replicator Management
	Z	Display Maintenance Levels

2 Display Cluster Members

Selecting option "A" from the Session Monitoring menu to display cluster members produces the following screen:

```
10:22:45              *****  A D A B A S   BASIC  SERVICES  *****            2005-11-14
 DBID 105                    -  Display Cluster Members  -                    PACA002


 Total number of nuclei in the cluster: 4


 I Sel I Nuc ID I System ID I Jobname  I Status   I  Available Services     I
 ------------------------------------------------------------------------------
 I  _  I 1      I DAEMVS    I ADANUC01 I Active   I  All                    I
 I  _  I 2      I DAEMVS    I ADANUC02 I Inactive I  List,Cache             I
 I  _  I 3      I DDZMVS    I ADANUC03 I Active   I  All                    I
 I  _  I 4      I DDZMVS    I ADANUC04 I Active   I  All                    I
 I     I        I          I          I          I                         I
 I     I        I          I          I          I                         I
 I     I        I          I          I          I                         I
 I     I        I          I          I          I                         I
 I     I        I          I          I          I                         I
 I     I        I          I          I          I                         I
 I     I        I          I          I          I                         I
 I     I        I          I          I          I                         I
 I     I        I          I          I          I                         I


 PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
 Help               Exit      Refresh                              Menu
```

The screen displays a list of nuclei participating in the cluster and information about the current status of each nucleus.

▶ **To select a nucleus for additional processing**

■   Type "S" in the Sel column opposite that nucleus.

▶ To display additional information about a nucleus

- Type "D" in the Sel column opposite that nucleus.

  For an Adabas cluster nucleus that has a nonzero nucleus ID, its entry in the parallel participant table (PPT) is displayed in a screen similar to the following:

```
10:23:45              *****  A D A B A S   BASIC  SERVICES  *****         2005-11-14
DBID 105                       -  Display PPT Entry   -                     PACA002

Nuc ID. . .   3 Active Nucleus

Name           Status                         DataSet Name
------    -------------------------    ----------------------------------------
WORK1                                  SAG.ADABAS.DB105.WORKR1
PLOGR1    Ready to be copied/merged    SAG.ADABAS.DB105.PLOGR1
PLOGR2    Being written by nucleus     SAG.ADABAS.DB105.PLOGR2










PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
Help               Exit      Refresh                              Menu
```

3 **Maintain User Profiles**

Adabas allows you to retain user-related information from session to session in a user profile table that includes

- ET records;

- user priority;

- user-specific timeout (TNxx, TT, and TLSCMD);

- ISN buffering (NSISN, NSISNHQ);

- command ID (NQCID) values that differ from the established ADARUN values; and

- owner ID information for multiclient files.

Selecting `Maintain user profiles` (option "C") from the Session Monitoring menu displays the following menu:

```
10:24:31           *****  A D A B A S   BASIC  SERVICES  *****        2005-11-14
                      -  Maintain User Profiles   -              PACIC02


                 Code    Service
                  ----    ---------------------------
                   L      List/modify user profile(s)
                   M      Mass function
                   X      Delete ETID-ranges
                   ?      Help
                   .      Exit
                  ----    ---------------------------
         Code ........
         Start UID ....
         Database ID .. 105
```

```
  Command ==>
  PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
  Help               Exit                                           Menu
```

From the Maintain User Profiles menu, you can

- list and modify a user profile table (option "L");

- copy a user profile to one or more other users (option "M"); and

- remove one or more ETIDs from the Adabas checkpoint file thereby deleting both profile and ET data (option "X").

If necessary, you can supply a starting user ID. If the Start UID field is left empty, Basic Services displays entries starting from the beginning of the user profile table. You can use range notation for the starting value. For example, if you enter JA* in the Start UID field, the display begins with user IDs that start with the letters "JA".

If necessary, you can change the database by overtyping the value shown.

▶ To list and modify the user profile table

■   Enter "L" in the Code field and press ENTER .

The List/Modify User Profiles screen displays the user profile table:

```
10:25:13          *****  A D A B A S   BASIC  SERVICES  *****        2005-11-14
   DBID 105                  -  List/Modify User Profiles   -              PACICL2

 Mark entries with 'M' to  modify or 'X' to  delete :

 M  Userid    Prty TNAA  TNAE  TNAX  TT     TLSCMD NSISN NISNHQ NQCID Owner-Id
 -  --------  ---- ----- ----- ----- ----- ------ ----- ------ ----- ----------
 _   BAFKE     9    100   100   100   100
 _   CC        9    100   100   100   100
 _   CICS
 _   CPNJV
```

You can modify existing profiles and add new user ones. For each user, you can maintain

- a user priority to add "weight" to the normal, built-in priorities of Adabas commands issued by a specific user when they contend with other commands for Adabas database priority. The effect is to change the user's database access priority. An equivalent direct command is

```
CHANGE PRIORITY
```

- nonactivity timeout values for access-only users (TNAA), ET logic users (TNAE), and EXU users (TNAX).

- transaction time limits for ET Logic users (TT).

- a time limit for executing a database query (Sx) command (TLSCMD).

- the number of ISNs allowed per TBI element (NSISN).

- the number of records that can be placed in hold status at one time (NISNHQ).

- the number of active command IDs allowed (NOCID).

- an owner ID for multiclient support.

▶ **To copy the attributes of a user profile to one or more other user profiles**

■   Enter "M" in the Code field and press ENTER.

```
10:27:52          *****  A D A B A S   BASIC  SERVICES  *****        2005-11-14
  DBID 105                  -  Maintain User Profiles   -                 PACICM2J


  Set the user profiles of the userids entered below to the same as
    userid .. USER1___

    Userid    Userid    Userid    Userid    Userid    Userid    Userid
    --------  --------  --------  --------  --------  --------  --------
    XYZ1      XYZ2
```

On the resulting screen, you can type in the user ID of the profile to be copied, and the names of the users whose profiles are to be taken from that user ID.

In the example, users XYZ1 and XYZ2 inherit all values from user USER1 and effectively define a group.

▶ **To delete a range of user IDs**

1   Enter "X" in the Code field and press ENTER.

A window opens asking whether you want to delete all user IDs or select the user IDs to be deleted:

```
10:37:54          *****  A D A B A S   BASIC  SERVICES  *****        2005-11-14
                        -  Maintain User Profiles    -                 PACIC02




                  Code    Service
                  ----    --------------------------
                   L      List/modify user profile(s)
                   M      Mass function
                   X      Delete ETID-ranges
                   ?      Help
                   .      Exit      +------------------------------+
                  ----    --------- | 'Y' - Select ETIDs for       |
        Code ......... x            |        Deletion              |
        Start UID .... ba*          | 'N' - Delete ETIDs with NO   |
        Database ID .. 105   (RD-105)|        Selection             |
                                    |   Y   <==== Select Option    |
                                    | PF1=Help    PF3=Exit         |
     Command ==>                    +------------------------------+
    PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
    Help              Exit                                             Menu
```

🛑 **Caution:** Be careful about answering "N" (No) to the prompt. You could inadvertently delete IDs that you want to keep.

2 If you enter "N" (No) in the window's Select Option field, Basic Services deletes all user IDs in the specified range with "no" confirmation.

If you answer "Y" (Yes, the default), the Mass Delete of ET-IDs screen is displayed so that specific ETIDs may be marked for retention:

```
10:40:33          *****  A D A B A S   BASIC  SERVICES  *****        2005-11-14
   DBID 105              -   Mass Delete of ET-IDs    -               PACICD2


   Delete all ET-IDs starting with Userid =  BA*
    All entries marked 'K' (Keep) will  N O T  be deleted.


      Userid    Userid    Userid    Userid    Userid    Userid    Userid
      --------  --------  --------  --------  --------  --------  -------
      BABRAB    BABRAN    BACANT    BADBEE    BADFUE    BADKED    BADKHK
      BADNTU    BADTCS    BADWAT    BAFCKA    BAFJVS    BAGDTS    BAGJAR
      BAGJKI    BAGJVN    BAGKIT    BAGLAW    BAGNET    BAGPCT    BAGPCP
      BAGPCR    BAGPST    BAGSIR    BAGSWI    BAGTUF    BAGTON    BAGZAP
      BAHNAK    BAJLOB    BAJPJS    BAKLIM    BAKSAT    BAMCID    BAMLIP
```

```
        BAMLOT      BAMPCS      BAPEHN      BAPLAB      BARHEN      BARHER      BASHEP
        BASMOR      BASWAN      BASWIG
```

As indicated in the message on the screen, you need to mark with "k" those user IDs that you want to *keep*. Unmarked user IDs will be deleted when you press ENTER.

> **Note:** When a user ID is deleted, both the user profile and any ET data for the user are deleted.

You can leave the screen without deleting any user IDs by using the EXIT key PF3 .

4 Display or Modify Parameters

▶ **To view Adabas nucleus (ADARUN) parameters**

■   Choose option "D" from the Session Monitoring menu and press ENTER.

The equivalent direct command is

```
DISPLAY PARAMETERS
```

```
11:13:03          *****  A D A B A S   BASIC  SERVICES  *****        2005-11-14
  DBID 1955                    -  Display Parameters  -                PACP002

  Modify parameters below, as required:
  --------- Miscellaneous ----------    -------- User Specific Limits -------
  ReadOnly session (READONLY) .. NO     Hold Queue Limit  (NISNHQ) .. 2000
  UTI only session  (UTIONLY) .. NO     CIDs per User       (NQCID) .. 40
  OPEN required       (OPENRQ) .. NO     ISNs / TBI Element (NSISN) .. 1000
  Ignore DIB Entry   (IGNDIB) .. NO     ------------ Buffer Pool ------------
  Local nucleus        (LOCAL) .. NO     Bufferflush Dur.  (TFLUSH) .. 1
  Number of Threads       (NT) .. 5     Parallel LFIOP I/O (FMXIO) .. 1
  Non DE Search       (NONDES) .. YES   Async. by Vol-Ser (ASYTVS) .. YES
  Log AOS/DBS Update (AOSLOG) .. NO     ------------ Replication ------------
  Batch Support        (BATCH) .. NO    Replication (REPLICATION) ... YES
  Data Protection Area   (LP) .. 1000
  Ignore Work Part 4 (IGNTPC) .. NO
  WORK-Part-4 Area      (LDTP) .. 0
  WORK-Part-2 Area     (LWKP2) .. 104
  SVC                    (SVC) .. 249
                                                                 Page 1 of 3
  PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
  Help              Exit                                   +        Menu
```

▶ **To modify Adabas nucleus (ADARUN) parameters**

■   Choose option "P" from the Session Monitoring menu and press ENTER.

Modifiable values are highlighted (intensified) on the displays.

The equivalent direct command is

MODIFY PARAMETERS

Three screens are used for displaying and modifying parameters:

```
10:53:03          *****  A D A B A S   BASIC  SERVICES  *****        2005-11-14
   DBID 105                   - Modify Parameters  -                   PACP002

   Modify parameters below, as required:
   ------------- Pools --------------      ---------- Queues -----------------
   Sort Area          (LS) .. 19968     Command Queue          (NC) .. 100
   Int. User Buffer   (LU) .. 65535     Hold Queue             (NH) .. 9000
   Buffer Pool       (LBP) .. 127936    User Queue             (NU) .. 700
   Format Pool       (LFP) .. 12002     ---------- Time Windows -----------
   ISN List Table     (LI) .. 10000     Transaction Time       (TT) .. 300
   Seq. Cmd. Table    (LQ) .. 2500      Max Transaction Time (MXTT) .. 3600
   Work Pool         (LWP) .. 500000    Nonactivity ACC-User (TNAA) .. 300
   Attached Buffer   (NAB) .. 35        Nonactivity ET-User  (TNAE) .. 300
   Security Pool     (LCP) .. 10000     Nonactivity EXU-User (TNAX) .. 300
   UQ-DE Pool     (LDEUQP) .. 5000      Max Nonactivity Time(MXTNA) .. 3600
   Flush I/O Pool  (LFIOP) .. 125000    Time Limit Sx-Cmds (TLSCMD) .. 286
   Err. Recovery (MSGBUFF) .. 0         Max Time for Sx-Cmds(MXTSX) .. 3600
                                        Command Time           (CT) .. 9000
                                        SYNS60 Interval    (INTNAS) .. 3600

                                                                 Page 2 of 3
   PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
   Help               Exit                                  +        Menu
```

```
Modify parameters below, as required:
   ---- Command Logging ----       ---------- Protection Logging -----------
   Command Logging .. YES          PLOG required         (PLOGRQ) .. YES
   LOGCB ............ YES           DUAL PLOG Size       (DUALPLS) .. 240
   LOGFB ............ YES           DUAL PLOG Device     (DUALPLD) .. 3380
   LOGRB ............ YES           Number of PLOGs ................. 0
   LOGSB ............ NO            ----------- Other Services -------------
   LOGVB ............ NO            Triggers and Procedures (SPT) .. NO
   LOGIB ............ NO            Delta Save Facility     (DSF) .. NO
   LOGIO ............ NO            Cache Facility        (CACHE) .. YES
   LOGUX ............ NO            Transaction Manager     (ATM) .. NO
   LOGSIZE .......... 4820          TCP/IP Support        (TCPIP) .. NO
   DUAL CLOG Size ... 675           Ext. Error Recovery    (SMGT) .. YES
   DUAL CLOG Dev. ... 3380          2 Phase Commit Support  (DTP) .. NO
```

```
   CLOGMRG .......... NO          Review Support       (REVIEW) .. LOCAL
   Number of CLOGs .. 0

                                                        Page 3 of 3
 PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
 Help               Exit                          -                Menu
```

5 Display installed products

Display"installed products" (option "I") from the Session Monitoring menu displays the following menu:

```
15:01:35              ***** A D A B A S  BASIC  SERVICES *****          2005-11-18

DBid  1954                  - Display Installed Products -              PACIIO2




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

       Cache Facility ........... NO      Extended Error Recovery ....... NO

       Delta Save Facility ...... NO      Recovery Aid .................. YES

       Cluster Services ......... NO      Stored Procedures & Triggers .. NO

       Parallel Services ........ NO      Two Phase Commit .............. NO

       Fastpath ................. NO      TCPIP support ................. NO

       Vista .................... NO      Event Replicator .............. YES

       Transaction Manager ...... NO

       SAF Security Interface ... NO

       Review ................... NO

       Adabas Online System ..... YES

Command ==>
```

```
PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----

Help            Exit                                    Menu
```

This screen displays what is installed on the current selected Adabas

6   Queue Displays

Selecting "Queue displays" (option "Q") from the Session Monitoring menu displays the following menu:

```
11:27:20            *****  A D A B A S   BASIC   SERVICES  *****        2005-11-14
                            -  Queue Displays    -                       PACQ002

                        Code  Service
                        ----  ---------------------------
                         A    Display User Queue Elements
                         C    Display Command Queue
                         H    Display Hold Queue
                         ?    Help
                         .    Exit
                        ----  ---------------------------
        Code .............. _
        Max No. Elements ... 100
        Last Activity ...... 0          (elapsed time in seconds)
        Selection Criteria
          ET-ID (User-ID) .. _____    User Type ... ___
          Job Name ......... _____
          Terminal ID ...... _____
        Database ID ........ 105        (RD-105)
     Command ==>
     PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
     Help               Exit    Clear UID                                Menu
```

The Display Queues function shows, in table format, the contents of the user, command or hold queues. Each displayed table entry contains a related TID, job name, user ID, current status, and related information such as files currently in use and command type.

If you try to display a queue that is currently empty, an appropriate message appears on the Display Queues menu.

Individual entries in the selected queues can be displayed to provide more detailed information, or selected for a later Basic Services function (the individual user-level statistics sampling described in section *Current Resource Statistics* is an example).

This chapter covers the following topics:

Display User Queue Elements

If you select Display User Queue Elements (option "A") from the Queue Displays menu, you must also specify the maximum number of elements to display. Other selection criteria you may optionally specify include

- number of seconds since last activity

- logical user ID (ETID)

- type of user (ACC, AOS, ET, EXU, EXF, UTI)

- job name

- terminal ID; and

- database ID

If multiple selection criteria are specified, they are combined with a logical OR.

```
11:40:48         *****  A D A B A S   BASIC   SERVICES  *****         2005-11-14
  DBID 105                    -  Display User Queue  -              PACQA12
  SEL-CRIT: MAX-NUM = 100

                                                        Total Users .. 3
  Mark entries with 'D' (Display) or 'S' (Select):
    I           I          I            I User I        I Last    I          I
  M I   TID     I  ET-ID   I Job Name I Type I Status I Activity I File(s)   I
  ------------------------------------------------------------------------------
  _ I BANLW  1 I BANLW    I COMPLETE I AOS  I        I         I 19,100... I
    I BARAW  1 I BARAW    I COMPLETE I ET   I ET     I    2361 I 50,100    I
    I BASMA  1 I BASMA    I COMPLETE I ET   I ET     I     135 I 100       I
    I          I          I          I      I        I         I           I
    I          I          I          I      I        I         I           I
    I          I          I          I      I        I         I           I
    I          I          I          I      I        I         I           I
    I          I          I          I      I        I         I           I
    I          I          I          I      I        I         I           I
    I          I          I          I      I        I         I           I


  PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
  Help               Exit      Refresh            -        +       Menu
```

The equivalent display direct commands are

```
DISPLAY UQ (user queue)
```

If you choose to display (D) an individual user ID, a user queue element information screen similar to the following appears:

```
11:44:18          *****  A D A B A S   BASIC  SERVICES  *****          2005-11-14
  DBID 105                -  Display User Queue Element  -                 PACQA12

   I         I          I           I User I         I Last     I Trans-I
   I   TID   I User ID  I Job Name I Type I Status I Activity I lator I
   -----------------------------------------------------------------
   I BANLW  1 I BANLW    I DCOMPLET I AOS  I        I        0 I 0     I
   -----------------------------------------------------------------
   Global Uid= 5203405496720001 4040404040404040 00FB1900 E2C1C7D3E64040F1
   Hold Queue Limit ............ 1500
   Max. parallel CIDs per User . 100         Start Times
   Max. ISNs per TBI Element ... 51            Session ...... 2005-11-14 11:04:28
   Max. Time of Nonactivity .... 3775          Transaction .. 0000-00-00
   Max. Transaction Time ....... 0
   Time Limit for Sx Commands .. 315         File List
   No. of ISNs currently held .. 0              19,100,110
   No. of CIDs currently in use: 1
   No. of Calls ................ 105
   No. of I/Os ................. 74
   Priority from ET/CP File .... 0
 PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
  Help              Exit                                            Menu
```

Display Command Queue

If you choose Display Command Queue (option "C") from the Queue Displays menu, the current commands in the com"time-in"mand queue and their status are listed. PF2 allows you to switch the display between and "jobname".

The equivalent display direct command is

```
DISPLAY CQ
```

```
12:03:38          *****  A D A B A S   BASIC  SERVICES  *****          2005-11-14
  DBID 105                  -  Display Command Queue  -                 PACQC02

  Mark entries with 'S' to select :
   M I   TID    I  Jobname I   Cmd. Status     I PrtyI Fnr.  I Cmd I Cmd.Seq.Nr
   ----------------------------------------------------------------------------
      I BANLW  1 I COMPLETE I In Process       I  93 I       I UC I        2712
      I          I          I                  I     I       I    I
      I          I          I                  I     I       I    I
      I          I          I                  I     I       I    I
      I          I          I                  I     I       I    I
      I          I          I                  I     I       I    I
```

```
      I           I           I                   I     I      I      I
      I           I           I                   I     I      I      I
      I           I           I                   I     I      I      I
      I           I           I                   I     I      I      I




 PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
 Help     T-in/Jobn Exit      Refresh            -        +        Menu
```

Display Hold Queue

If you choose Display Hold Queue (option "H") from the Queue Displays menu, a list of the ISNs currently in hold status is displayed.

The equivalent display direct command is

```
DISPLAY HQ
```

7 Refresh Nucleus Statistics

Selecting Refresh Nucleus Statistics (option "R") from the Session Monitoring menu displays the following screen:

```
12:31:34            *****  A D A B A S   BASIC  SERVICES  *****        2005-11-14
   DBID 105                     -  Refresh  Statistics  -                 PACR002




                    Mark each nucleus statistic to be reset:
                             _    Command Usage
                             _    File Usage
                             _    Pool Usage
                             _    Thread Usage
                             _    Counters








   Command ==>
   PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
   Help               Exit                                              Menu
```

To select the statistics to be refreshed, place an "X" in the space provided.

More than one statistic may be refreshed at the same time. The statistics selected are reset to zero.

PF3 cancels the request and returns to the Session Monitoring screen. PF12 cancels the request and returns to the AOS Main Menu.

8 Current Resource Statistics

Selecting Current Resource Statistics (option "S") from the Session Monitoring menu invokes the Resource Statistics menu:

```
13:07:40          *****  A D A B A S   BASIC  SERVICES  *****        2005-11-14
                      -  Resource Statistics   -                    PACS002

                    Code  Service
                    ----  -----------------------------
                     G    Start General Statistics
                     R    Read General Statistics
                     S    Read User Statistics
                     U    Start User Statistics
                     ?    Help
                     .    Exit
                    ------  -----------------------------
           Code ......... _
           Duration ..... 60    seconds
           User ID ......
           Database ID .. 105       (RD-MPM105)



  Command ==>
  PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
  Help     Disp UQ   Exit      Clear UID                            Menu
```

Resource statistics provide information about file and command use either for a single user (user statistics) or for all currently active users (general statistics). The statistics must first be collected by starting a sampling period for which you have specified a time period in seconds (duration).

▶ **To obtain statistics for all currently active users**

■   Start general statistics (option "G") and, after the specified duration, read them (option "R").

    The equivalent direct commands are

    ```
    START STATISTICS
    READ STATISTICS
    ```

    If user statistics are started (option "U") or subsequently read (option "S"), a user ID must either be indicated on this screen or have been previously selected in the Display User Queue (PF2) or Display Command Queue options; see section *Direct Commands*. PF4 is used to deselect a previously selected user ID.

This chapter covers the following topics:

Statistics for Versions of Adabas Prior to 6.2

For versions of Adabas prior to 6.2, the following resource statistics information is displayed for specific users:

```
13:21:52        *****  A D A B A S   BASIC  SERVICES  *****        2005-11-14
  DBID 105                    -  User Statistics   -                PACSS02

  Statistic Start Time ... 2005-11-14 13:21:39
  User-ID ................ SAGNA
  ---------------------------------------------------------------------------
  Threadtime :        59.6 msec.  I/Os :  0          Cmds. :  142     ( 99.3  %)

  Command Usage :  A1/4   =          33  BT     =            CL     =
                   ET     =           1  E1/4   =          2  L1/4   =
                   L2/5   =              L3/6   =         68  L9     =
                   LF     =              N1/2   =          2  OP     =
                   UC     =              RC     =         30  RE     =
                   REST   =              S1/4   =          6  S2     =
                   S5     =              S8     =             S9     =

  File Usage :  F- 0 = 31      F- 50 = 1      F- 100 = 109    F- 110 = 1



 PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
 Help               Exit                                            Menu
```

and for all currently active users (general statistics):

```
13:41:52        *****  A D A B A S   BASIC  SERVICES  *****        2005-11-14
  DBID 105                    -  User Statistics   -                PACSS02




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


  Command Usage :  A1/4   =          33  BT     =            CL     =
                   ET     =           1  E1/4   =          2  L1/4   =
                   L2/5   =              L3/6   =         68  L9     =
                   LF     =              N1/2   =          2  OP     =
                   UC     =              RC     =         30  RE     =
                   REST   =              S1/4   =          6  S2     =
                   S5     =              S8     =             S9     =

  File Usage :  F- 0 = 31      F- 50 = 1      F- 100 = 109    F- 110 = 1
```

```
   PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
   Help                Exit                                          Menu
```

Adabas Version 6.2 and Above Statistics

For Adabas version 6.2 and above, two screens of statistics are displayed: the first shows command usage and the second shows file usage. You can use PF4 to toggle between the two screens.

Command Usage Display

The following command usage information is displayed for specific users:

```
13:43:40           *****  A D A B A S   BASIC  SERVICES  *****         2005-11-14
   DBID 105                - User Statistics:  Command Usage  -         PACSS12

   Statistic Start Time ..... 2005-11-14  13:10:55          UserID ... SAGNA
   L1/4 - Read/Get Record ...                A1/A4 - Record Update ....
   L2/5 - Read Physical .....                N1/N2 - Add Record .......
   L3/6 - Read Logical ......        232     E1/E2 - Delete Record ....
   L9   - Read Descriptor ...         73
   LF   - Read Field Def. ...          8     OP    - Open User Sess ...
   RE   - Read ET Data ......                CL    - Close User Sess ..
   S1/4 - Find Records ......          3     ET    - End Transaction ..
   S2   - Find Sorted .......                BT    - Backout Tran. ....
   S5   - Find Coupled ISN ..                RC    - Release Cmd ID ...       254
   S8   - Process ISN List ..                UC    - Utility Command ..
   S9   - Sort ISN List .....                **    - All other cmds ...


   Thread Time (msec) ....... 672.6        99.8%   User's commands ..        562
   No. of I/Os .............. 216                     Total Commands ...      563


  Command ==>
  PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
  Help     GStat     Exit      File                              Menu
```

and for all currently active users (general statistics):

```
13:53:40           *****  A D A B A S   BASIC  SERVICES  *****         2005-11-14
   DBID 105                - User Statistics:  Command Usage  -         PACSS12

   Statistic Start Time ..... 2005-11-14  13:10:55
   L1/4 - Read/Get Record ...                A1/A4 - Record Update ....
   L2/5 - Read Physical .....                N1/N2 - Add Record .......
   L3/6 - Read Logical ......        232     E1/E2 - Delete Record ....
   L9   - Read Descriptor ...         73
   LF   - Read Field Def. ...          8     OP    - Open User Sess ...
   RE   - Read ET Data ......                CL    - Close User Sess ..
```

```
   S1/4 - Find Records ......        3     ET    - End Transaction ..
   S2   - Find Sorted .......              BT    - Backout Tran. ....
   S5   - Find Coupled ISN ..              RC    - Release Cmd ID ...       254
   S8   - Process ISN List ..              UC    - Utility Command ..
   S9   - Sort ISN List .....              **    - All other cmds ...




 Command ==>
 PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
 Help     GStat     Exit      File                                 Menu
```

You can use PF2 to toggle between user statistics screens and general statistics screens whenever both have been started and are available for viewing.

File Usage Display

The following file usage information is displayed for specific users:

```
14:13:40          *****  A D A B A S   BASIC   SERVICES  *****        2005-11-14
  DBID 105                 -  User Statistic:  File Usage  -           PACSS12

  Statistic Start Time ..... 2005-11-14  14:10:55          UserID ... SAGNA
  Thread Time (msec) .......  672.6                        No. I/Os.. 216

  File    File Name          No. Cmds    File   File Name            No. Cmds
  -----   -----------------  ---------   -----  ------------------   ---------
     0   *Cmds with no Fnr*        90      4   EMPLOYEES                  37
     8   TEST-8                     4     12   TRIGGER-FILE               52
   100   NATURAL-FNAT             343    110   NATURAL-FDIC               36




     Perc of all cmds .. 99.8%              Commands processed:         562

 Command ==>
 PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
 Help     GStat     Exit      Cmds                                  Menu
```

and for all currently active users (general statistics):

```
14:21:40          *****  A D A B A S   BASIC   SERVICES  *****          2005-11-14
  DBID 105              -  User Statistic:  File Usage  -              PACSS12

  Statistic Start Time ..... 2005-11-14  14:16:25


  File    File Name              No. Cmds    File    File Name              No. Cmds
  -----   ------------------     ---------   -----   ------------------     ---------
     0   *Cmds with no Fnr*           90       4   EMPLOYEES                   37
     8   TEST-8                        4      12   TRIGGER-FILE                52
   100   NATURAL-FNAT                343     110   NATURAL-FDIC                36




                                            Commands processed:          562

  Command ==>
  PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
  Help     GStat     Exit      Cmds                                 Menu
```

You can use PF2 to toggle between user statistics screens and general statistics screens whenever
both have been started and are available for viewing.

9 Maintain TCP/IP URLs

> **Note:** This function is available only for Adabas version 7 or above databases.

Selecting "Maintain TCP/IP URL" (option "T") from the Session Monitoring menu invokes the Display/Maintain URL screen:

```
14:33:42          *****  A D A B A S   BASIC  SERVICES  *****        2005-11-14
 DBID 105                    -  Display/Maintain URL  -               PACTCO2

 Mark entries with 'O' to Open or 'C' to Close a URL:


                 M           URL             Status      Message
                 -   --------------------    -------     -------
                 _   HPS://TCPIPMVS:1962_    Closed
                 _   HPS://TCPIPMVS:1963_    Open
                 _   HPS://TCPIPMVS:1964_    Open
                 _   HPS://TCPIPMVS:1965_    Open
                 _   _____




 Command ===>
 PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
 Help               Exit      Refr      --       -        +        Menu
```

The screen displays a list of all defined URLs and their current status: open or closed.

You may change the status by entering "O" to open or "C" to close in the "M" column next to the URL entry.

You may define a new URL and open it using the blank line provided at the end of the URL list.

Once you have made your changes, press PF4 (Refr) to refresh the list.

10 Resource Utilization

Selecting Resource Utilization (option "U") from the Session Monitoring menu invokes the Resource Utilization menu:

```
14:42:51            ***** A D A B A S  BASIC  SERVICES *****           2005-11-14
                      -  Resource Utilization  -                       PACU002

Code   Service                             Code   Service
----   -----------------------------       ----   -----------------------------
 C     Command usage                        P     PLOG status
 F     File usage                           S     System status
 H     High water marks (pools/queues)      T     Thread usage
 L     Workpool (LWP) usage                 W     WORK status
 N     Nucleus File Status                  X     Cluster usage
 ?     Help
 .     Exit
----   -----------------------------       ----   -----------------------------




        Code ......... _
        File Number .. 0
        Database ID .. 1955   (WIS1955)                  NucID .. 1022

Command ==>
PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
Help               Exit                                           Menu
```

The resource utilization displays provide a comprehensive overview of Adabas operation.

Each of the resource utilization options contain a refresh capability (PF4) that allows you to refresh the displayed values, a convenience for long-term monitoring of Adabas system functions.

This chapter covers the following topics:

Command Usage

Overall Command Usage (option "C") displays the total and average execution time of each Adabas command type issued during the current session and processed by the Adabas nucleus, and the total of all Adabas commands issued.

The equivalent direct command is

```
DISPLAY CMDUSAGE
```

```
14:44:36          *****  A D A B A S   BASIC  SERVICES  *****          2005-11-14
  DBID 105                          -  Command Usage   -                     PACUC02


  Total Commands .. 19051
  CMD-Type I Nr. CMDs   I Aver. Dur. I     CMD-Type I Nr. CMDs   I Aver. Dur. I
  ----------------------------------------     ----------------------------------------
    A1/4   I          592 I        0.7 I       BT       I          5 I                  I
    CL     I            1 I       49.3 I       ET       I         75 I                  I
    E1/4   I          119 I        7.4 I       L1/4     I       1570 I         1.1 I
    L2/5   I              I            I       L3/6     I       9842 I         6.7 I
    L9     I          473 I        2.3 I       LF       I            I                  I
    N1/2   I          204 I       10.3 I       OP       I         10 I        74.2 I
    UC     I           70 I       11.3 I       RC       I       5732 I                  I
    RE     I              I            I       REST     I         38 I                  I
    S1/4   I          320 I       21.0 I       S2       I            I                  I
    S5     I              I            I       S8       I            I                  I
    S9     I              I            I
```

File Usage

Overall File Usage (option "F") displays all files of the database used during the session and the number of accesses to each file.

The equivalent direct command is

DISPLAY FILUSAGE

```
14:45:31          *****  A D A B A S   BASIC  SERVICES  *****          2005-11-14
  DBID 105                          -  File Usage   -                         PACUF12


   Fnr  I Tot. Cmds    Fnr  I Tot. Cmds    Fnr  I Tot. Cmds    Fnr  I Tot. Cmds
  ----------------   ----------------   ----------------   ----------------
       0 I      5898       9 I        345      17 I         24      50 I         62
     100 I      7939     101 I       4752     110 I         39
```

If a file number other than zero is specified on the Resource Utilization menu, the File Usage display shows file use information for the specified file:

```
14:53:02          *****  A D A B A S   BASIC  SERVICES  *****          2005-11-14
  DBID 105                          -  File Usage   -                         PACUF02


  Usage Numbers for File 100   :     ACC Users .. 1         EXU Users ..
                                     UPD Users ..           UTI Users ..
                    -- USERS --
        M    TID/User  Jobname      CPU-ID       VM-ID     Open Mode
        -    --------  --------   ------------   --------  -----------
             BADFAM 3  COMPLETE   999999999999             EXF UTI EXU
```

```
   Mark entry with a 'S' to select a User
   Total Users in this list for this file is 1                    Page 1 of 1
```

High Water Marks

High Water Marks (option "H") displays the maximum percent of use of selected pools and queues in the current session, and the date and time when the high point was reached.

Values are displayed for the user, command, and hold queues; the ISN list and sequential command tables; the format and work pools; and the attached buffers (NAB).

These values are a good starting point when looking for a problem with limited buffer, pool, or queue space, or if you are looking for unused storage resources.

The equivalent direct command is

```
DISPLAY HWM
```

```
15:55:18            *****  A D A B A S   BASIC  SERVICES  *****         2005-11-14
   DBID 105                       -  High Water Marks   -                    PACUH02

   Pool / Queue       I    Size    I    Used   I %Used I   Date        Time    I
   ------------------------------------------------------------------------------
Attached Buffer(NAB) I    204800 I     12032 I   5.8 I                          I
Command Queue   (NC) I     34560 I       384 I   1.1 I 2005-11-14 14:55:06 I
Format Pool     (LFP) I     80000 I      4364 I   5.4 I 2005-11-14 14:25:23 I
Hold Queue      (NH) I    350056 I      1736 I   0.4 I 2005-11-14 14:46:04 I
ISN-List Table (LI)  I     50000 I         0 I   0.0 I                          I
Seq. Cmd. Table(LQ)  I     32000 I       440 I   1.3 I 2005-11-14 08:00:01 I
User Queue      (NU) I     58644 I      2524 I   4.3 I 2005-11-14 14:44:26 I
Work Pool       (LWP) I    250000 I     92256 I  36.9 I 2005-11-14 14:29:33 I
```

Work Pool (LWP) Usage

Work Pool (LWP) Usage (option "L") displays the length of the used and unused parts of the work pool as well as the length of the longest single unused part. These numbers can be used to tune the work pool length for the next session.

The equivalent direct command is

```
DISPLAY LWPUSAGE
```

```
16:06:30          *****  A D A B A S   BASIC  SERVICES  *****          2005-11-14
  DBID 105                      -  Workpool Usage  -                       PACUL02


  Workpool (LWP)
    Used part ............         1440 Bytes
    Unused part ..........       248288 Bytes
    Biggest unused part ..       248288 Bytes
```

Nucleus File Status

Nucleus File Status (option "N") is the equivalent of the DNFV operator command.

```
16:09:17            ***** A D A B A S  BASIC  SERVICES *****            2005-11-14
DBID  1955                    - Nucleus File Status -                      PACUN02
NucID 1021


         Locking
    File   NucID  Access count   Update count   State
    -----  -----  -------------  -------------  ----------------------
    24                       0              0  Access
    25                       0              0  Access, Update













 Last page
PF1----- PF2----- PF3----- PF4----- PF7----- PF8----- PF9------- PF12-----
Help     Repos    Exit     Refresh   -        +                  Menu
```

In an Adabas cluster environment, the file may be locked for exclusive use by another cluster
nucleus. If this is the case and the file is in the nucleus file status table, the Locking NucID column
for the file shows the ID of the nucleus that has exclusive control.

The `Access count`/`Update count` fields display the number of access or update users, respectively,
that refer to the specified file in their user queue elements (UQEs). These users either have specified
the file in an OP command with "R"-option or are using the file in an as yet incomplete transaction.

A `State` field indicates when the file is used for access only or for access and update. The `State`
field indicates to what extent a nucleus can use a file on its own. If the requested use exceeds the

given state, the nucleus must first communicate with the other nuclei in the cluster in order to upgrade the state.

Protection Log (PLOG) Status

Protection Log (PLOG) Status (option "P") displays the status of dual protection logs, if used.

The equivalent direct command is

```
DISPLAY PLOGSTATUS
```

```
16:16:37        *****  A D A B A S   BASIC  SERVICES  *****        2005-11-14
  DBID 105                      -  PLOG Status  -                     PACUP02

        The nucleus is currently writing on .....   1
        Size of one PLOG area (in BLKs.) ........  40
        Last block written ..................... 25   ( 62 %)
        Number of switches since nucleus start .. 10
        Date/Time of last switch ...............  2005-11-14 10:31:12
```

System Status

System Status (option "S") displays I/O counts for the ASSO, DATA, WORK, and PLOG datasets; remote and local call distribution; and other current session status information.

> **Note:** For Adabas 7.4 and above, "Logical Reads" can now display up to 23 digits; "Logical Reads (binary)" has been discarded.

The equivalent direct command is

```
DISPLAY SYSTEMSTATUS
```

```
16:20:16           ***** A D A B A S  BASIC  SERVICES *****        2005-11-14
DBID 1955                     -  System Status  -                    PACUS02
NucID: 1022
                   Physical
            Reads         Writes            Call Distribution
         ------------------------    ---------------------------------------
ASSO          370             67    Remote Logical .............          0
DATA            3             18    Remote Physical ............          0
WORK            2            104    Local  Logical .............        860
PLOG                         67    Local  Physical ............          0
Logical Reads:
   ....
Buffer Efficiency ....         0.9   No. of HQEs active .........          0
```

```
                                        No. of UQEs in User Queue ..          2
Format Translations ..           51     No. of CQEs waiting in CQ ..          0
Format Overwrites ....            0
                                        Total intern. Autorestarts .          0
Throw Backs for ISN ..            0     No. of PLOG switches .......          0
Throw Backs for Space.            0     No. of Bufferflushes .......         18
                                                           page 1 of 2


PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
Help               Exit      Refresh                        +      Menu
```

If you are running Adabas version 7.4, press PF8 to display an additional screen that indicates if one or more of the following are in progress:

- Online database save running;

- ADAEND in progress;

- Online file save running;

- READONLY/UTIONLY transition;

- READONLY status;

- Update processing suspended;

- ET-sync in progress;

- UTIONLY status; and

- Exclusive-DB-control utility running.

Otherwise, "Adabas operation normal" is displayed.

```
16:37:41              ***** A D A B A S  BASIC  SERVICES *****          2005-11-14
DBID 1955                      -  System Status  -                      PACUSO2
NucID: 1021


                            Nucleus Status Flags
                      -----------------------------------
                      Adabas operation normal










                                                page 2 of 2
```

```
PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
Help               Exit      Refresh                         +      Menu
```

Thread Usage

Thread Usage (option "T") displays a table of all defined Adabas threads, the status of each, the command type currently in process in each active thread, and the number of commands processed by each thread in the current session.

The equivalent direct command is

```
DISPLAY THREADUSAGE
```

```
16:54:21             ***** A D A B A S  BASIC  SERVICES *****           2005-11-14
DBID 6                        -  Thread Usage  -                        PACUT02

Nr. I Thread Status      I Command Type    I Wait Event      I Nr. CMDs   I
-----------------------------------------------------------------------------
  1 I Waiting for event  I Update          I Queued Event    I 39327      I
  2 I Waiting for event  I Update          I I/O             I 19228      I
  3 I Waiting for event  I Update          I I/O             I 16170      I
  4 I Waiting for event  I Update          I Async Work I/O  I 14376      I
  5 I Waiting for event  I Update          I Queued Event    I 13205      I
  6 I Waiting for event  I Update          I Async Work I/O  I 10461      I
  7 I Waiting for event  I Update          I PLOG I/O        I 9872       I
  8 I Waiting for event  I Update          I Queued Event    I 9904       I
  9 I Waiting for event  I Update          I Queued Event    I 8233       I
 10 I Waiting for event  I Update          I Queued Event    I 8987       I
 11 I Waiting for event  I Update          I Queued Event    I 8136       I
 12 I Waiting for event  I Update          I Queued Event    I 7931       I
 13 I Waiting for event  I Update          I Queued Event    I 7523       I
 14 I Active             I Simple Cmd.     I                 I 7168       I
 15 I Not active         I                 I                 I 6643       I

PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
Help               Exit      Refresh                            Menu
```

WORK Status

WORK status (option "W") displays the WORK area sizes (in blocks) for the

- data protection area (Work part 1; ADARUN LP parameter);

- area used for intermediate ISN lists (Work part 2; ADARUN LWKP2 parameter);

- area used for resulting ISN lists (Work part 3);

The equivalent direct command is

```
DISPLAY WORKSTATUS
```

```
16:57:32            ***** A D A B A S  BASIC  SERVICES *****          2005-11-14
DBID 1955                      -  WORK Status  -                      PACUW02


              W O R K  Dataset
        +----------------------------------------------------------+
        I  Protection Area                              500 Blks I
        I----------------------------------------------------------I
        I  Intermediate ISN Area                         76 Blks I
        I----------------------------------------------------------I
        I  Resulting ISN Area                          1315 Blks I
        I----------------------------------------------------------I
        I  Distributed Transaction Processing Area      500 Blks I
        +----------------------------------------------------------+




PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
Help                Exit      DTP-area                             Menu
```

If you have DTP=RM in your ADARUN parameter settings, and press PF4 on the new screen, then the new screen DTP Work Area displays (shown below):

```
17:04:47            ***** A D A B A S  BASIC  SERVICES *****          2005-11-14
                           -  DTP Work Area -                         PACUK02


              Code    Service
              ----    -------------------------------------
               D      Display PET-status users
               H      Display heuristically terminated users
               R      Display DTP rabns
               U      Work Part 4 usage
               X      Force heuristic BT/ET
```

```
                    ?        Help
                    .        Exit
                   ----      --------------------------------------
 Code ............. _
 Selected User ....
 Database ID ...... 1955   (WIS1955)

Command ==>
PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
Help  Clear UID    Exit                                          Menu
```

The DTP Work Area menu performs the following functions:

Function	Action
Display PET-status users	Displays the current environment of PET-status users. You can select one or more to display additional information.
Display heuristatically terminated users	Displays a list of the heuristatically terminated users. You can select one or more to display additional information.
Display DTP Rabns	Displays a list of allocated RABNs. You can select a user, display additional information, issue BT or ET, and display total RABNs for a user.
Work Part 4 Usage	Displays the breakdown of information of the Work Part 4.
Force Heuristic BT/ET	Issues a BT or ET for a selected user. Select the user through the "Display DTP RABNs" menu item.
PF2	Clears the selected user.

If you select Display PET-status users, the screen Display PET-Status Users displays (shown below):

```
17:17:39          ***** A D A B A S BASIC SERVICES *****           2005-11-14
DBID 1955            - Display PET-Status Users -                   PACUKD2


Mark entries with 'D' (Display):

M I Global ID                                             I RMID hex I
------------------------------------------------------------ - -------- -
_ I 000F710020640000B96353B18528B38200000000B96353B185286F02 I 044E0059 I
_ I                                                          I          I
_ I                                                          I          I
_ I                                                          I          I
_ I                                                          I          I
_ I                                                          I          I
_ I                                                          I          I
_ I                                                          I          I
_ I                                                          I          I
_ I                                                          I          I
_ I                                                          I          I
```

```
PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
Help              Exit      Refresh            -        +        Menu
```

Cluster Usage

📄   **Note:** This option is only active in an Adabas nucleus cluster environment.

Cluster usage (option "X") displays nucleus cluster statistics that are equivalent of those displayed using the DXCACHE, DXLOCK, and DXFILE operator commands. See the *Adabas Cluster Services* documentation or the *Adabas Parallel Services* documentation for more information.

The equivalent direct command is

```
DISPLAY CLUSTERSTATUS
```

```
17:20:31             ***** A D A B A S  BASIC  SERVICES *****          2005-11-14
                        -  Cluster Usage -                             PACUX02

                     Code    Service
                     ----    ----------------
                      C      Cache statistics
                      F      File statistics
                      L      Lock statistics
                      ?      Help
                      .      Exit
                     ----    ----------------
           Code ......... _
           File Number .. 0
           Database ID .. 1955   (WIS1955)              NucID .. 1021




Command ==>
PF1----- PF2----- PF3------ PF4------ PF6----- PF9----- PF10----- PF12-----
Help             Exit                          Fuse     Flist     Menu
```

Cache Statistics

Choosing Cache Statistics (option "C") from the Cluster Usage menu displays the following menu:

```
17:24:23              ***** A D A B A S  BASIC  SERVICES *****          2005-11-14
                          - Cache Statistics -                          PACUX12

                 Code   Service
                 ----   ----------------------
                  K     Cast-out / Directory
                  P     Publishing requests
                  X     Individual cache blocks
                  .     Exit
                  ?     Help
                 ----   ----------------------


      Code .........
      Database ID .. 1955   (WIS1955)                NucID .. 1021






PF1----- PF2----- PF3----- PF4------ PF6----- PF7----- PF8-----  PF12-----
Help               Exit    Refresh                               Menu
```

Cast-out / Directory

Choosing Cast-out / Directory (option "K") from the Cache Statistics menu display the following:

```
17:31:23              ***** A D A B A S  BASIC  SERVICES *****          2005-11-14
DBID  1955                 - Cast-out / Directory -                     PACUX12
NucID 1021

        Cast-out Directory Reads            Directory Reads
        -------------------------           --------------------------
        Total .......      28               Total .......       5
           Sync .....       1                  Sync .....       1
           Async ....      27                  Async ....       4

        Unlock Cast-out Calls
        -------------------------
        Total .......      28
           Sync .....       1
           Async ....      27
```

```
PF1----- PF2----- PF3----- PF4----- PF7----- PF8----- PF9------- PF12-----
Help              Exit     Refresh                     Detail     Menu
```

Counters have a multiplier column with the following values:

Value	The total shown is in . . .
blank	bytes
K	kilobytes
M	megabytes
G	gigabytes
T	terabytes

If a number has a multiplier shown, it has been divided by the multiplier, showing the significant digits to 9 places with no decimal point.

Press PF9 to see the entire value. This value is the exact count up to 20 digits in length.

Publishing Requests

Choosing Publishing Requests (option "P") from the Cache Statistics menu display the following:

```
17:36:21            ***** A D A B A S  BASIC  SERVICES *****        2005-11-14
DBID  600                  - Publishing Requests -                  PACUX12
NucID 2
                       Publishing Request Category
                       --------------------------------
                       Update sync .......        0
                       BT or CL or ET ....        0
                       Redo threshold ....       12
                       Full bufferpool ...       10
                       All blocks ........        2
                       Specific RABN .....        8
                       File DS blocks ....        4
                       All DSST blocks ...        0
                       File NI blocks ....        8




PF1----- PF2----- PF3----- PF4----- PF7----- PF8----- PF9------- PF12-----
Help              Exit     Refresh                     Detail     Menu
```

All Cache Blocks

Choosing All Cache Blocks (option "X") from the Cache Statistics menu display the following:

```
17:43:05              ***** A D A B A S  BASIC  SERVICES *****            2005-11-14
DBID  1955                    - All Cache Blocks -                        PACUX12
NucID 1021
  Reads                                   Writes
  -------------------------------         -------------------------------
  Total ...........        167            Total ..............        38,176
     Sync ..........         24              Sync ...........        15,148
     Async .........        143              Async ..........        23,028

     In cache ......         49              Written .........        38,176
     Not in cache ..        118             Not written .....             0
     Struc. full ...          0             Struc. full .....             0

  Cast-out Reads                          Other
  -------------------------------         -------------------------------
  Total ...........        212            Validates ..........       187,677
     Sync ..........        212              Invalid .........            43
     Async .........          0           Deletes ............             0
                                             Timeouts ........             0
                                          Redo processes .....             0


PF1----- PF2----- PF3----- PF4----- PF7----- PF8----- PF9------- PF12-----
Help     Repos    Exit     Refresh  PrevBlk  NxtBlk   Detail     Menu
```

Use PF7 and PF8 to scroll through the cache blocks; use PF2 to reposition.

Statistics are displayed for the following:

- All cache blocks;
- Address converter (AC) cache blocks;
- Data Storage (DS) cache blocks;
- Data Storage space table (DSST) cache blocks;
- File control block (FCB) cache blocks;
- Normal index (NI) cache blocks;
- Upper index (UI) cache blocks.

Press PF9 from the above screen to display the following detail screen:

```
17:47:09            ***** A D A B A S  BASIC  SERVICES *****        2005-11-14
DBID  1955                    - All Cache Blocks -                  PACUX12
NucID 1021
Reads                                    Writes
------------------------------------- -------------------------------------
Total ......                      167 Total .......                   38,176
  Sync .....                       24   Sync ......                   15,148
  Async ....                      143   Async .....                   23,028

  In cache..                       49   Written ...                   38,176
  Not in ...                      118   Not writ ..                        0
  Stru.full.                        0   Stru.full .                        0

Cast-out Reads                           Other
------------------------------------- -------------------------------------
Total ......                      212 Validates ...                 187,677
  Sync .....                      212   Invalid ...                       43
  Async ....                        0 Deletes .....                        0
                                        Timeouts ..                        0
                                        Redo procs ..                      0


                                 Press Enter to continue
```

File Statistics

Choosing File Statistics (option "F") from the Cluster Usage menu for file 25 displays the following menu:

```
17:52:02            ***** A D A B A S  BASIC  SERVICES *****        2005-11-14
DBID  1955                    - File 25 Statistics -                PACUX22
NucID 1021
  Reads                                  Writes
  -------------------------------        -------------------------------
  Total ............           67        Total ..............       20,157
    Sync ..........            0           Sync ............        7,583
    Async ........            67           Async ..........       12,574

    In cache ......            0           Written .........       20,157
    Not in cache ..           67           Not written .....            0
    Struc. full ...            0           Struc. full .....            0

  Cast-out Reads                         Other
  -------------------------------        -------------------------------
  Total ............           78        Validates ..........       79,248
    Sync ..........           78           Invalid .........            0
    Async ........            0         Deletes ...........            0
                                          Timeouts ........            0
```

```
                                    Redo processes .....              0

PF1----- PF2----- PF3----- PF4----- PF7----- PF8----- PF9------- PF12-----
Help     Repos    Exit     Refresh                    Detail      Menu
```

Lock Statistics

Choosing Lock Statistics (option "L") from the Cluster Usage menu displays the following menu:

```
17:58:16              ***** A D A B A S  BASIC  SERVICES *****        2005-11-14
                          - Lock Statistics -                         PACUX32

Code    Service                        Code    Service
----    --------------------------     ----    -------------------------------
 A      Buffer flush lock               J      Global update command sync lock
 B      Cancel lock                     K      Hold ISN lock
 C      Checkpoint lock                 L      New-Data-RABN lock
 D      DSF lock                        M      Online save lock
 E      ETID lock                       N      Parameter lock
 F      File-lock-table lock            O      Recovery lock
 G      FST lock                        P      RLOG lock
 H      GCB lock                        Q      Security lock
 I      Global ET sync lock             R      Spats lock
 .      Exit                            S      Unique descriptor lock
 ?      Help
----    --------------------------     ----    -------------------------------
        Code ........ _
        Database ID .. 1955   (WIS1955)            NucID .. 1021


PF1----- PF2----- PF3------ PF4------ PF6----- PF7------ PF8----- PF12-----
Help              Exit      Refresh                               Menu
```

Each of the options on the Lock Statistics menu displays statistics for a particular lock. For each lock, the screen displays obtain and release information about the various types of that lock that are currently in use by a cluster nucleus:

- The system may obtain locks conditionally or unconditionally, synchronously or asynchronously. A conditional request for a lock may be granted or rejected.

- Releases may be issued synchronously or asynchronously.

Hold ISN Lock

Choosing Hold ISN Lock (option "J") from the Lock Statistics menu displays the following:

```
18:08:16              ***** A D A B A S  BASIC  SERVICES *****            2005-11-14
DBID  1955                        - Hold ISN Lock -                       PACUX32
NucID 1021

     Obtains                                  Releases
   ----------------------------             ----------------------------
   Conditional ....      16,017             Issued .......        16,017
      Granted .....      16,017                Sync ......        15,971
      Rejected ....           0                Async .....            46
   Unconditional ..           0

   Sync ...........         158
   Async ..........      15,859




PF1----- PF2----- PF3------ PF4------ PF6----- PF7------ PF8----- PF12-----
Help     Repos    Exit      Refresh            PrevLok   NxtLok   Menu
```

Use PF7 and PF8 to scroll through the locks; use PF2 to reposition.

11 Replicator Management

> **Note:** The screen is only visible if the Event Replicator for Adabas is installed and active. If the "V" in the menu screen is dull, the Event Replicator is not installed and cannot be selected. For more detailed information concerning Replicator Management, refer to the Event Replicator for Adabas documentation.

12 **Display Maintenance Levels**

> **Note:** This function is only available for Adabas version 7 or above databases.

Selecting Display Maintenance Levels (option "Z") from the Session Monitoring menu displays information about the Adabas nucleus modules:

```
18:13:09          *****  A D A B A S   BASIC  SERVICES  *****        2005-11-14
  DBID 105               -  Display Maintenance Levels  -            DPACZ02

  Select Module Name:  _____
  --------------------------------------------------------------------------
   ADARUN   RUNMVS   Date 2005-11-14, Version 7.1. 0, Zap Base A010000
            RUNIND   Date 2005-11-14, Version 7.1. 0, Zap Base AI10000
   ADATSP            Date 2005-11-14, SM Level 00, Zap Level 0000
                     Zaps 0034 0040 0043 0083 0084 0099
   ADATCP            Date 2005-11-14, SM Level 00, Zap Level 0000
                     Zaps 0136
   ADAMSG            Date 2005-11-14, SM Level 00, Zap Level 0000
   ADAIOR            Date 2005-11-14, SM Level 00, Zap Level 0000
   ADAIOS            Date 2005-11-14, SM Level 00, Zap Level 0000
                     Zaps 0001 0003 0004 0005 0007
   ADANC0            Date 2005-11-14, SM Level 00, Zap Level 0000
                     Zaps 0036


 Command ===>
 PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
 Help               Exit                 --        -        +       Menu
```

Maintenance levels for each module are displayed. Any ZAPs that are applied to the module are also listed.

The list of modules can be limited by entering a specific module name in the Select Module Name field at the top of the screen. A starting value may also be used. For example, specifying ADANC3

displays information for the ADANC3 module only. Specifying ADANC* lists all modules with names that begin with ADANC.

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