Monitoring Adabas Sessions

The Adabas session monitoring functions 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. Session monitoring functions can be accessed from the **Session Monitoring** menu:

```
 16:01:21            ***** A D A B A S  BASIC  SERVICES *****           2009-08-11
                          -  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
   L      Display event log buffer        V      Replicator Management
   P      Modify parameters               Z      Display maintenance levels
   Q      Display queues
   ?      Help                            .      Exit
  ----    -------------------------      ----    ----------------------------


          Code ........ _
          Database ID .. 1955    (WIS1955)



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

Note:
In cluster environments, the PF2 key allows you to scroll sequentially through nucleus IDs in the cluster using the NextNucid command. In addition, the current nucleus ID is shown in a NucID field on this screen. When the highest nucleus in a cluster is reached, PF2 causes AOS to cycle back to the beginning and changes the nucleus ID to the lowest nucleus ID in the cluster. Once the nucleus ID is changed, it remains in use for all Adabas Online System screens until it is changed again.

Using the session monitoring environment you can 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.

Using the AOS session monitoring environment, you can perform the following functions, accessible by menu option:

Option	Function
A	*Displaying Cluster Members*
C	*Maintaining User Profiles*
D / P	*Displaying or Modifying Parameters*
I	*Displaying Installed Products*
L	*Displaying the Event Log Buffer*
Q	*Displaying Queues*
R	*Refreshing Nucleus Statistics*
S	*Obtaining Current Resource Statistics*
T	*Maintaining TCP/IP URLs*
U	*Monitoring Resource Utilization*
V	*Replicator Management*
Z	*Displaying Maintenance Levels*

Displaying Cluster Members

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

```
 14:02:01              ***** A D A B A S  BASIC  SERVICES *****           2009-08-12
 DBID 1955                    - Display Cluster Members -                 PACA002


Total number of active(WORK not empty) nuclei in the cluster ... 5


I Sel I NucID | Image ID I Jobname  I Status   I  Available Plex 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 1021  | ZHST     | USAXXXRP | Active    | All                      I
I     I       |          |          |           |                         I
I     I       |          |          |           |                         I
I     I       |          |          |           |                         I
I     I       |          |          |           |                         I
I     I       |          |          |           |                         I
I     I       |          |          |           |                         I
I     I       |          |          |           |                         I

 Command ==>
 PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
 Help     PPT       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:**

● Enter "S" in the Sel column opposite that nucleus.

▶ **To display additional information about a nucleus:**

● Enter "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:

```
 14:08:42              ***** A D A B A S  BASIC  SERVICES *****          2009-08-12
 DBID 1955                    - Display PPT Entry -                      MACA012

 NucID ... 1021    Active Nucleus, PLOG(s) not copied, CLOG(s) not copied


  Name     Dataset Status              DataSet Name
  ------   --------------------------  -------------------------------------------
  WORK1                                RD.USAXXX.DB1955.WORKR1
  PLOGR1                               RD.USAXXX.DB1955.PLOGR1
  PLOGR2                               RD.USAXXX.DB1955.PLOGR2
  CLOGR1                               RD.USAXXX.DB1955.CLOGR1
  CLOGR2                               RD.USAXXX.DB1955.CLOGR2






 Press 'ENTER', PF3 or PF12 to continue
 PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
 Help               Exit                                           Menu
```

▶ **To display the PPT for this DBID:**

● Press PF2. The Display PPT Table screen appears.

```
14:10:29           ***** A D A B A S  BASIC  SERVICES *****            2009-08-12
DBID 1955                     - Display PPT Table -                     MACA022

NucID .. 1021     Active Nucleus, PLOG(s) not copied, CLOG(s) not copied
Image .. ZHST     All Sysplex Services Active


          Label Name      Dataset Name
          ----------      ---------------------------------------
           WORK1          RD.USAWIS.DB1955.WORKR1
           PLOGR1         RD.USAWIS.DB1955.PLOGR1
           PLOGR2         RD.USAWIS.DB1955.PLOGR2
           CLOGR1         RD.USAWIS.DB1955.CLOGR1
           CLOGR2         RD.USAWIS.DB1955.CLOGR2








PF1----- PF3------ PF4------ PF6------ PF7----- PF8----- PF9----- PF12-----
Help     Exit      Refresh   PrevPPT                     NextPPT  Menu
```

Maintaining 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**) on the **Session Monitoring** menu displays the following **Maintain User Profiles** menu:

```
 16:50:03              ***** A D A B A S  BASIC  SERVICES *****           2009-08-11
                         -  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 .. 1955   (WIS1955)




 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 specifying the database ID in the Database ID field..

▶ **To list and modify the user profile table**

1. Enter **L** in the Code field.

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

```
 16:54:18              ***** A D A B A S  BASIC  SERVICES *****           2009-08-11
 DBID 1955                 -  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**

1. Enter **M** in the Code field.

```
16:55:44              ***** A D A B A S   BASIC   SERVICES *****           2009-08-11
DBID 1955                      -  Maintain User Profiles  -                 PACICM2


   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.

2. Specify a complete or partial user ID or an asterisk (all user IDs) in the Start UID field.

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

```
17:00:42            ***** A D A B A S  BASIC  SERVICES *****           2009-08-11
                      -  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
```

> ⚠ **Warning:**
> **Be careful about answering N (No) to the prompt. You could
> inadvertently delete IDs that you want to keep.**

3. If you enter **N** (No) in the window's Select Option field, Basic Services deletes all user IDs in the
    specified range without any 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  *****         2009-08-11
   DBID 1955                 -   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 .

Displaying or Modifying Parameters

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

1. Select option **D** on the **Session Monitoring** menu and press Enter.

    The equivalent direct command is

    ```
    DISPLAY PARAMETERS
    ```

    A series of Display Parameters screens appear. You can scroll through the screens using the PF7
    (scroll backward) and PF8 (scroll forward) keys. The information on these screens and the number of
    screens that appear varies depending on the type database you have selected. *ADARUN Parameter
    Reference*

    The following screens might display for a regular Adabas database:

    ```
    20:33:33            ***** A D A B A S  BASIC  SERVICES *****          2009-12-18
    DBID 1955                    -  Display Parameters  -                  PACPD12


    ------------- Pools -------------   ------------ Queues -----------------
    Sort Area         (LS).. 19968      Command Queue         (NC) .. 20
    Int. User Buffer  (LU).. 400000     Hold Queue            (NH) .. 800
    Buffer Pool       (LBP).. 106240    User Queue            (NU) .. 200
    Format Pool       (LFP).. 150000    ----------- Time Windows ------------
    ISN List Table    (LI).. 360000     Transaction Time      (TT) .. 4858
    Seq. Cmd. Table   (LQ).. 20000      Max Transaction Time (MXTT) .. 3600
    Work Pool         (LWP).. 1500000   Nonactivity ACC-User (TNAA) .. 4858
    Attached Buffer   (NAB).. 100       Nonactivity ET-User  (TNAE) .. 4858
    Security Pool     (LCP).. 10000     Nonactivity EXU-User (TNAX) .. 4858
    UQ-DE Pool     (LDEUQP).. 50000     Max Nonactivity Time(MXTNA) .. 3600
    Err. Recovery (MSGBUF).. 36         Time Limit Sx-Cmds (TLSCMD) .. 300
                                        Max Time for Sx-Cmds(MXTSX) .. 3600
                                        Command Time          (CT) .. 3858
                                        SYNS60 Interval    (INTNAS) .. 3600


                                                                Page 1 of 5
    PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
    Help               Exit                                  +        Menu
    ```

```
20:33:33           ***** A D A B A S  BASIC  SERVICES *****        2009-12-18
DBID 1955                    -  Display Parameters  -                PACPD12


 --------- Miscellaneous -----------    -------- User Specific Limits ---------
 Read only session(READONLY) .. NO    Hold Queue Limit  (NISNHQ) .. 200
 UTI only session  (UTIONLY) .. NO    CIDs per User       (NQCID) .. 40
 OPEN required      (OPENRQ) .. NO    ISN per TBI Element(NSISN) .. 100
 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
 Batch Support      (BATCH) .. NO
 Data Protection Area   (LP) .. 1000
 Ignore Work Part 4 (IGNDTP) .. NO
 WORK-Part-4 Area    (LDTP) .. 0
 WORK-Part-2 Area   (LWKP2) .. 106
 SVC               (SVC) .. 249


                                                            Page 2 of 5
PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
Help            Exit                              -        +      Menu
```

```
20:33:33           ***** A D A B A S  BASIC  SERVICES *****        2009-12-18
DBID 1955                    -  Display Parameters  -                PACPD12


 ---- Command Logging ----      ----------- Command Logging? -------------
 Command Logging .. YES      Log VOLSER info     (LOGVOLIO) .. NO
 LOGCB ............ NO       Max buffer size/cmd (CLOGMAX) .. 16384
 LOGFB ............ YES      Max buffer size/buf(CLOGBMAX) .. 4096
 LOGRB ............ YES      Log ABDX            (LOGABDX) .. 7073
 LOGSB ............ NO       Log multifetch buffer (LOGMB) .. NO
 LOGVB ............ NO       Log users buffer      (LOGUB) .. NO
 LOGIB ............ NO       Command log layout(CLOGLAYOUT).. 5
 LOGIO ............ NO
 LOGUX ............ NO
 LOGSIZE .......... 5064     ---------- Protection Logging -----------
 DUAL CLOG Size ... 675      PLOG required        (PLOGRQ) .. YES
 DUAL CLOG Dev. ... 3390     DUAL PLOG Size      (DUALPLS) .. 240
 NCLOG ............ 0        DUAL PLOG Device    (DUALPLD) .. 3390
                            NPLOG ........................ 0


                                                            Page 3 of 5
PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
Help            Exit                              -        +      Menu
```

```
 20:33:33              ***** A D A B A S  BASIC  SERVICES *****            2009-12-18
 DBID 1955                   -  Display Parameters  -                      PACPD12


 ------------ Large Pools ------------        --------- Other Services ---------
 Flush I/O Pool (LFIOP) .. 80000              Triggers / Procedures (SPT) .. NO
                                              Delta Save Facility  (DSF) .. YES
                                              Cache Facility     (CACHE) .. NO
                                              Transaction Manager  (ATM) .. NO
                                              TCP/IP Support     (TCPIP) .. NO
 ------ Additional Miscellaneous -----        Ext. Error Recovery (SMGT) .. YES
 LARGEPAGE ............... NO                 2 Phase Commit Support(DTP) .. NO
 V64BIT .................. NO
 Number plog buffers ...... 1                 Review:
 Number work1 buffers ..... 1                  Support  (REVIEW) .. NO
 Event log buffer size .... 1024
 SRLOG ................... Upd                 Filter ............. YES
 LOGWARN ................. 0                   Max bufsize cmd .... 16384
                                              Max bufsize buf .... 5120


                                                              Page 4 of 5
 PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
 Help             Exit                           -         +       Menu
```

```
 20:33:33              ***** A D A B A S  BASIC  SERVICES *****            2009-12-18
 DBID 1955                   -  Display Parameters  -                      PACPD12


 ---- Replication Parameters -----
 Replication .......... YES
 RPWARNPercent ........ 0
 RPWARNINCrement ...... 10
 RPWARNINTerval ....... 60
 RPWARNMessagelimit ... 5
 RPCONNECTCount ....... 0
 RPCONNECTInterval .... 0
 RPLSORT .............. YES




                                                              Page 5 of 5
 PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
 Help             Exit                           -                 Menu
```

Note:

In cluster environments, the PF2 key allows you to scroll sequentially through nucleus IDs in the
cluster using the NextNucid command. In addition, the current nucleus ID is shown in a NucID
field on this screen. When the highest nucleus in a cluster is reached, PF2 causes AOS to cycle back
to the beginning and changes the nucleus ID to the lowest nucleus ID in the cluster. Once the nucleus
ID is changed, it remains in use for all Adabas Online System screens until it is changed again.

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

1. Choose option **P** on the **Session Monitoring** menu and press Enter. Modifiable values are highlighted (intensified) on the displays. The equivalent direct command is:

```
MODIFY PARAMETERS
```

A series of Modify Parameters screens appear. You can scroll through the screens using the PF7 (scroll backward) and PF8 (scroll forward) keys. The information on these screens and the number of screens that appear varies depending on the type database you have selected. For a description of each ADARUN parameter, read *ADARUN Parameter Reference*.

The following screens might display for a regular Adabas database that is part of a cluster:

```
20:42:00              ***** A D A B A S  BASIC  SERVICES *****            2009-12-18
DBID 1955                     -  Modify Parameters  -                     PACP012

Modify parameters below, as required:
 -------------- Pools -------------   ------------ Queues -----------------
 Sort Area         (LS).. 19968      Command Queue         (NC) .. 20
 Int. User Buffer  (LU).. 400000     Hold Queue            (NH) .. 800
 Buffer Pool      (LBP).. 106240     User Queue            (NU) .. 200
 Format Pool      (LFP).. 150000     ----------- Time Windows -------------
 ISN List Table    (LI).. 360000     Transaction Time      (TT) .. 4858
 Seq. Cmd. Table   (LQ).. 20000      Max Transaction Time (MXTT) .. 3600
 Work Pool        (LWP).. 1500000    Nonactivity ACC-User (TNAA) .. 4858
 Attached Buffer  (NAB).. 100        Nonactivity ET-User  (TNAE) .. 4858
 Security Pool    (LCP).. 10000      Nonactivity EXU-User (TNAX) .. 4858
 UQ-DE Pool    (LDEUQP).. 50000      Max Nonactivity Time(MXTNA) .. 3600
 Err. Recovery (MSGBUF).. 36         Time Limit Sx-Cmds (TLSCMD) .. 300
                                     Max Time for Sx-Cmds(MXTSX) .. 3600
                                     Command Time          (CT) .. 3858
                                     SYNS60 Interval    (INTNAS) .. 3600


                                                              Page 1 of 5
PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
Help               Exit                                    +        Menu
```

```
20:42:00          ***** A D A B A S  BASIC  SERVICES *****          2009-12-18
DBID 1955                     - Modify Parameters  -               PACP012


Modify parameters below, as required:
 --------- Miscellaneous ----------    -------- User Specific Limits ---------
 ReadOnly session (READONLY) .. NO     Hold Queue Limit  (NISNHQ) .. 200
 UTI only session  (UTIONLY) .. NO     CIDs per User       (NQCID) .. 40
 OPEN required      (OPENRQ) .. NO     ISNs / TBI Element (NSISN) .. 100
 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
 Batch Support      (BATCH) .. NO
 Data Protection Area   (LP) .. 1000
 Ignore Work Part 4 (IGNDTP) .. NO
 WORK-Part-4 Area     (LDTP) .. 0
 WORK-Part-2 Area    (LWKP2) .. 106
 SVC               (SVC) .. 249


                                                           Page 2 of 5
PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
Help            Exit                               -        +       Menu
```

```
20:42:00          ***** A D A B A S  BASIC  SERVICES *****          2009-12-18
DBID 1955                     - Modify Parameters  -               PACP012


Modify parameters below, as required:
 ---- Command Logging ----         ----------- Command Logging? -------------
 Command Logging .. YES            Log VOLSER info     (LOGVOLIO) .. NO
 LOGCB ............ NO             Max buffer size/cmd (CLOGMAX) .. 16384
 LOGFB ............ YES            Max buffer size/buf(CLOGBMAX) .. 4096
 LOGRB ............ YES            Log ABDX            (LOGABDX) .. 7073
 LOGSB ............ NO             Log multifetch buffer (LOGMB) .. NO
 LOGVB ............ NO             Log users buffer      (LOGUB) .. NO
 LOGIB ............ NO             Command log layout(CLOGLAYOUT).. 5
 LOGIO ............ NO
 LOGUX ............ NO
 LOGSIZE .......... 5064           ---------- Protection Logging -----------
 DUAL CLOG Size ... 675            PLOG required         (PLOGRQ) .. YES
 DUAL CLOG Dev. ... 3390           DUAL PLOG Size      (DUALPLS) .. 240
 NCLOG ............ 0              DUAL PLOG Device    (DUALPLD) .. 3390
                                   NPLOG ........................... 0


                                                           Page 3 of 5
PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
Help            Exit                               -        +       Menu
```

```
20:42:00          ***** A D A B A S  BASIC  SERVICES *****          2009-12-18
DBID 1955                   -  Modify Parameters  -                 PACP012


------------ Large Pools ------------      --------- Other Services ---------
Flush I/O Pool (LFIOP) .. 80000            Triggers / Procedures (SPT) .. NO
                                           Delta Save Facility  (DSF) .. YES
                                           Cache Facility     (CACHE) .. NO
                                           Transaction Manager  (ATM) .. NO
                                           TCP/IP Support     (TCPIP) .. NO
------ Additional Miscellaneous -----      Ext. Error Recovery (SMGT) .. YES
LARGEPAGE ............... NO               2 Phase Commit Support(DTP) .. NO
V64BIT .................. NO
Number plog buffers ...... 1               Review:
Number work1 buffers ..... 1                Support  (REVIEW) .. NO
Event log buffer size .... 1024
SRLOG ................... Upd               Filter ............. YES
LOGWARN ................. 0                 Max bufsize cmd .... 16384
                                           Max bufsize buf .... 5120


                                                         Page 4 of 5
PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
Help            Exit                             -        +       Menu
```

```
20:42:00          ***** A D A B A S  BASIC  SERVICES *****          2009-12-18
DBID 1955                   -  Modify Parameters  -                 PACP012
NucID: 1021

----- Cluster/Parallel Services -------    ---- Cluster/Parallel Services ----
Environment ......... Sysplex              MXMSG .................. 300
Arm element name .....                     MXMSGWarn .............. 0
Cache structure name . ADA_CACHE4          MXCANCEL ............... 300
Lock structure name .. ADA_LOCK4           MXCANCELWarn ........... 75
Sysplex group name ... WISPLEX             MXWtor ................. 0
Cache type .......... DSP                  MXStatus ............... 15
DIrratio ............. 4
ELemratio ........... 1
Redo Pool (LRDP) ..... 80000
CLOGMRg .............. NO
CLUCACHEUnchanged .... No
CLULOCKSize .......... 0
CLUCACHESize ......... 0


                                                         Page 5 of 6
PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
Help            Exit                             -        +       Menu
```

13

```
 20:42:00              ***** A D A B A S  BASIC  SERVICES *****           2009-12-18
 DBID 1955                    -  Modify Parameters  -                     PACP012


 ---- Replication Parameters -----
 Replication .......... YES
 RPWARNPercent ........ 0
 RPWARNINCrement ...... 10
 RPWARNINTerval ....... 60
 RPWARNMessagelimit ... 5
 RPCONNECTCount ....... 0
 RPCONNECTInterval .... 0
 RPLSORT .............. YES




                                                                   Page 5 of 5
 PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
 Help              Exit                          -                 Menu
```

Note:
In cluster environments, the PF2 key allows you to scroll sequentially through nucleus IDs in the
cluster using the `NextNucid` command. In addition, the current nucleus ID is shown in a NucID
field on this screen. When the highest nucleus in a cluster is reached, PF2 causes AOS to cycle back
to the beginning and changes the nucleus ID to the lowest nucleus ID in the cluster. Once the nucleus
ID is changed, it remains in use for all Adabas Online System screens until it is changed again.

Displaying Installed Products

Choose option **I** on the **Session Monitoring** menu and press ENTER to display a list of installed products.

```
10:32:36              ***** A D A B A S  BASIC  SERVICES *****           2009-08-12
DBid  1955                 - Display Installed Products -                 PACII02


     ------------------------- -----       ------------------------------ ----
     Cache Facility ........... NO       Extended Error Recovery ....... YES
     Delta Save Facility ...... YES      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

Displaying the Event Log Buffer

Selecting **Display Event Log Buffer** (option **L**) from the **Session Monitoring** menu invokes the Display Event Log Buffer screen.

The Adabas event log is a wraparound log in memory that is used to log each response code 145 (RSP145) event. The INFOBUFFERSIZE ADARUN parameter identifies the size of the Adabas event log. Each entry in the event log is currently 128 bytes, although this may change in later Adabas releases. When the Adabas event log fills up, the oldest entries in the log are overwritten.

This is the equivalent of running the ADADBS DEVENTLOG utility function.

```
22:13:04            ***** A D A B A S  BASIC  SERVICES *****            2009-08-14
DBID 11131               -  Display Event Buffer Log  -                 PACL002


Sel  Nucid File  Resp  ISN         Date        Time      Aff Jobn  Causer Jobn
---  ----- ----- ----- ----------  ----------  --------  --------  --------
 _         1    145   9999        2009-08-14 20:12:18  SCAATATU  SCAATATU
 _
 _
 _
 _
 _
 _
 _
 _
 _
 _
 _

                                                    Enter 'S' to display

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

When you enter an "S" next to an event listed on the Display Event Buffer Log screen, the Selected Event
Buffer Log screen appears, allowing you to review detailed log data in the event log for the selected event.

```
22:13:04            ***** A D A B A S  BASIC  SERVICES *****            2009-08-14
DBID 11131               -  Selected Event Buffer Log  -               PACL002


 File  Resp  ISN         Date        Time      Nucid
 ----- ----- ----------  ----------  --------  ------
 1    145   9999        2009-08-14 20:12:18
 --------------------------------------------------------
 Affected
  Jobname   ET id     SAF id
  --------  --------  --------
  SCAATATU    ???
  Userid (hex)
  0004A10E20980000404040404040404000FC0100E4F0F0F200000000
 --------------------------------------------------------
 Causer
  Jobname   ET id     SAF id
  --------  --------  --------
  SCAATATU    ???
  Userid (hex)
  0004A10E20980000404040404040404000FC0100E4F0F0F100000000

                                                    Press ENTER to continue
```

Displaying Queues

Choose option **Q** on the **Session Monitoring** menu and press ENTER to display the **Queue Displays**
menu.

```
 10:33:15              ***** A D A B A S  BASIC  SERVICES *****            2009-08-12
                           -  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 ........ 1955      (WIS1955)                           0

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

Note:
In cluster environments, the PF2 key allows you to scroll sequentially through nucleus IDs in the cluster using the NextNucid command. In addition, the current nucleus ID is shown in a NucID field on this screen. When the highest nucleus in a cluster is reached, PF2 causes AOS to cycle back to the beginning and changes the nucleus ID to the lowest nucleus ID in the cluster. Once the nucleus ID is changed, it remains in use for all Adabas Online System screens until it is changed again.

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 section covers the following topics:

- Displaying User Queue Elements

- Displaying the Command Queue

- Displaying the Hold Queue

Displaying User Queue Elements

If you select **Display User Queue Elements** (option **A**) on 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 logical ORs.

The equivalent display direct command is:

```
DISPLAY UQ user queue
```

```
10:37:07            ***** A D A B A S  BASIC  SERVICES *****        2009-08-12
DBID 1955                   -  Display User Queue  -                   PACQA32
SEL-CRIT: MAX-NUM = 100
                                                         Total Users .. 1
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    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
```

Note:
In cluster environments, the PF2 key allows you to scroll sequentially through nucleus IDs in the cluster using the `NextNucid` command. In addition, the current nucleus ID is shown in a NucID field on this screen. When the highest nucleus in a cluster is reached, PF2 causes AOS to cycle back to the beginning and changes the nucleus ID to the lowest nucleus ID in the cluster. Once the nucleus ID is changed, it remains in use for all Adabas Online System screens until it is changed again.

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  *****        2009-08-12
   DBID 1955               -  Display User Queue Element  -           PACQA32

   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 ...... 2006-07-14 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
```

Displaying the Command Queue

If you choose **Display Command Queue** (option **C**) on the **Queue Displays** menu, the current commands in the command queue and their status are listed. PF2 allows you to switch the display between "time-in" and "job name".

The equivalent display direct command is:

```
DISPLAY CQ
```

```
10:53:54          ***** A D A B A S  BASIC  SERVICES *****        2009-08-12
DBID 1955                 -  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
    I         I          I                 I    I        I    I

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

Displaying the Hold Queue

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

The equivalent display direct command is:

```
DISPLAY HQ
```

Refreshing Nucleus Statistics

Selecting **Refresh Nucleus Statistics** (option **R**) on the **Session Monitoring** menu displays the **Refresh Statistics** screen:

```
10:57:24              ***** A D A B A S  BASIC  SERVICES *****          2009-08-12
DBID 1955                    -  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 next to the statistic type.

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** menu. PF12 cancels the request and returns to the AOS **Main Menu**.

Obtaining Current Resource Statistics

Selecting **Current Resource Statistics** (option **S**) on the **Session Monitoring** menu invokes the **Resource Statistics** menu:

```
 11:04:13            ***** A D A B A S  BASIC  SERVICES *****          2009-08-12
                        -  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 .. 1955     (WIS1955)



 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**

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

   The equivalent direct commands are:

   ```
   START STATISTICS
   READ STATISTICS
   ```

   For more information, read *Basic Services Direct Commands*.

   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. PF4 is used to deselect a previously selected user ID.

This section covers the following topics:

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

- File Usage Display

Command Usage Display

The following command usage information is displayed for specific users:

```
18:42:07            ***** A D A B A S  BASIC  SERVICES *****         2009-08-19
DBID 1955            -  General Statistic:  Command Usage  -          PACSR22

Statistic Start Time ...... 2009-08-19  14:34:19

 L1/4 - Read/Get Record ...              A1/A4 - Update Record ....
 L2/5 - Read Physical .....              N1/N2 - Add Record .......
 L3/6 - Read Logical ......        5     E1/E4 - Delete Record ....
 L9   - Read Descriptor ...
 LF   - Read Field Def. ...              OP    - Open User Sess ...
 RE   - Read ET Data ......              CL    - Close User Sess ..
                                         ET    - End Transaction ..
 S1/4 - Find Records ......        5     BT    - Backout Tran. ....
 S2   - Find Sorted .......
 S5   - Find Coupled ISN ..              RC    - Release Cmd ID ...        8
 S8   - Process ISN List ..              UC    - Utility Command ..        6
 S9   - Sort ISN List .....


                                            Press PF8 for more

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

```
18:42:07            ***** A D A B A S  BASIC  SERVICES *****         2009-08-19
DBID 1955            -  General Statistic:  Command Usage  -          PACSR22

Statistic Start Time ...... 2009-08-19  14:34:19

 REST - Follow up cmds ....              U0   - U0 commands .......
                                         U1   - U1 commands .......
 YA   - YA commands .......              U2   - U2 commands .......
 YB   - YB commands .......              U3   - U3 commands .......
 YC   - YC commands .......
 YP   - YP commands .......
 YCAL - YCAL commands .....

 V1   - V1 commands .......
 V2   - V2 commands .......
 V3   - V3 commands .......
 V4   - V4 commands .......
                                         Total Commands .......        24


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

File Usage Display

The following file usage information is displayed for specific users:

```
18:42:07            ***** A D A B A S  BASIC  SERVICES *****            2009-08-19
DBID 1955            - General Statistic: File Usage  -            PACSR22

Statistic Start Time ...... 2009-08-19  14:34:19

 File   File Name            No. Cmds    File   File Name            No. Cmds
 -----  ------------------   ---------   -----  ------------------   ---------
    0  *Cmds with no Fnr*        14      11  NAT-SYSTEM                  10




                                                     Total Commands:       24

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

Maintaining TCP/IP URLs

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  *****            2009-08-12
 DBID 1955                     -  Display/Maintain URL  -            PACTC02

 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.

▶ **To change the status of a URL:**

- Enter "O" to open or "C" to close a URL in the corresponding M column next to the URL entry.

▶ **To define a new URL and open it:**

- Use the blank line provided at the end of the URL list.

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

Monitoring Resource Utilization

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.

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

```
 14:06:59            ***** A D A B A S  BASIC  SERVICES *****          2009-08-13
                         -  Resource Utilization  -               PACU002

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



        Code ........ _
        File Number .. 0
        Database ID .. 1955   (WIS1955)             NucID .. 1021

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

Note:
In cluster environments, the PF2 key allows you to scroll sequentially through nucleus IDs in the cluster using the `NextNucid` command. In addition, the current nucleus ID is shown in a NucID field on this screen. When the highest nucleus in a cluster is reached, PF2 causes AOS to cycle back to the beginning and changes the nucleus ID to the lowest nucleus ID in the cluster. Once the nucleus ID is changed, it remains in use for all Adabas Online System screens until it is changed again.

This section covers the following topics:

- Monitoring Command Usage

- Monitoring File Usage

- Reviewing High Water Marks

- Monitoring Work Pool (LWP) Usage

- Reviewing Nucleus File Status

- Reviewing Protection Log (PLOG) Status

- Reviewing System Status

- Monitoring Thread Usage

- Reviewing Work Status

- Monitoring Cluster Usage

Monitoring Command Usage

Selecting **Command Usage** (option **C**) on the **Resource Utilization** menu displays the Command Usage screen, which shows the total and average execution time of each Adabas command type issued during the current session and processed by the Adabas nucleus. It also shows the total of all Adabas commands issued.

The equivalent direct command is:

```
 DISPLAY CMDUSAGE
```

A two-screen display appears:

```
 14:15:32          ***** A D A B A S  BASIC  SERVICES *****           2009-08-13
 DBID 1955                      - Command Usage  -                     PACUC12
 NucID: 1021

 Total Commands .. 3813

 CMD-Type I  Nr. CMDs  I Aver. Dur. I   CMD-Type I  Nr. CMDs  I Aver. Dur. I
 --------------------------------------   --------------------------------------
  A1/4   I           I           I     BT     I        2 I   152.921 I
  CL     I        17 I     0.176 I     ET     I        2 I     0.581 I
  E1/4   I       147 I     0.320 I     L1/4   I          I           I
  L2/5   I         1 I           I     L3/6   I     1072 I     3.139 I
  L9     I        31 I     4.392 I     LF     I          I           I
  N1/2   I       138 I     2.605 I     OP     I       32 I     4.237 I
  UC     I       360 I     1.003 I     RC     I      317 I     0.030 I
  RE     I           I           I     REST   I     1371 I           I
  S1/4   I       292 I     8.313 I     S2     I          I           I
  S5     I           I           I     S8     I          I           I
  S9     I           I           I     YA     I          I           I
 (Aver. Dur. - units of milliseconds)                        Page 1 of 2


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

```
 14:15:32              ***** A D A B A S  BASIC  SERVICES *****              2009-08-13
 DBID 1955                      -  Command Usage  -                          PACUC12
 NucID: 1021

 Total Commands .. 3813

 CMD-Type I  Nr. CMDs  I Aver. Dur. I   CMD-Type I  Nr. CMDs  I Aver. Dur. I
 ----------------------------------   ----------------------------------
  YB      I             I           I    YF      I             I           I
  YP      I             I           I    YCAL    I             I           I
  V1      I          1 I     9.988 I     V2      I             I           I
  V3      I         15 I           I     V4      I          15 I     0.009 I
  U0      I             I           I    U1      I             I           I
  U2      I             I           I    U3      I             I           I




 (Aver. Dur. - units of milliseconds)                            Page 2 of 2

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

Adabas includes some V* and Y* commands, which you may see mentioned in Adabas shutdown statistics or in Adabas Online System (AOS) screens. These commands are used internally by Adabas and Adabas add-on products and should not be used in direct calls in your applications. Should you use them, errors will result.

Monitoring File Usage

Selecting **File Usage** (option **F**) on the **Resource Utilization** menu displays the File Usage screen, which shows all files of the database used during the session and the number of accesses to each file.

The equivalent direct command is:

```
DISPLAY FILUSAGE
```

```
14:17:32              ***** A D A B A S  BASIC  SERVICES *****              2009-08-13
DBID 1955                          -  File Usage  -                          PACUF12
Nucid: 1021
  Fnr  I Tot. Cmds     Fnr  I Tot. Cmds     Fnr  I Tot. Cmds     Fnr  I Tot. Cmds
 ------------------ ------------------ ------------------ ------------------
    0 I       2141    11 I       1683    19 I          3


















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

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:

```
14:17:32              ***** A D A B A S  BASIC  SERVICES *****              2009-08-13
DBID 1955                          -  File Usage  -                          PACUF12

   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
```

Reviewing High Water Marks

Selecting **High Water Marks** (option **H**) on the **Resource Utilization** menu displays the maximum percent used of selected pools and queues in the current session, as well as 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
```

A multiple-screen report appears.

```
 14:55:08            ***** A D A B A S  BASIC  SERVICES *****            2009-08-13
 DBID 1955                     -  High Water Marks  -                    PACUH12
 NucID: 1021

  Pool / Queue        I    Size    I    Used    I %Used I   Date        Time     I
 ------------------------------------------------------------------------------------
 Attached Buffer(NAB) I     409600 I     48640 I  11.8 I                           I
 Command Queue  (NC)  I       3840 I       192 I   5.0 I 2009-08-13 10:55:07 I
 Format Pool    (LFP) I     150000 I      6336 I   4.2 I 2009-08-12 16:32:41 I
 Hold Queue     (NH)  I      11256 I      2828 I  25.1 I 2009-08-12 16:32:41 I
 ISN-List Table (LI)  I     360000 I       464 I   0.1 I 2009-08-12 16:32:41 I
 Seq. Cmd. Table(LQ)  I      20000 I       600 I   3.0 I 2009-08-12 16:32:41 I
 User Queue     (NU)  I      61200 I      1800 I   2.9 I 2009-08-13 09:25:00 I
 Unique DE Pool (DUQ) I      50000 I         0 I   0.0 I                           I
 Security Pool  (LCP) I      10000 I         0 I   0.0 I                           I
 UQ File List   (UQF) I      19584 I       288 I   1.4 I 2009-08-13 09:25:00 I
 ATM Trans. IDs (XID) I          0 I         0 I   0.0 I                           I
 Work Pool      (LWP) I    1500000 I     55332 I   3.6 I 2009-08-12 09:58:58 I
 Redo Pool      (LRDP)I      80000 I     48952 I  61.1 I 2009-08-12 16:31:40 I
                                                                  Page 1 of 2


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

```
 14:55:08            ***** A D A B A S  BASIC  SERVICES *****            2009-08-13
 DBID 1955                     -  High Water Marks  -                    PACUH12
 NucID: 1021

  Pool / Queue        I    Size    I    Used    I %Used I   Date        Time     I
 ------------------------------------------------------------------------------------
 Replication    (RPL)I     100000 I       784 I   0.7 I 2009-08-12 09:58:59 I
 Work Part 1     (LP)I       1000 I        99 I   9.9 I 2009-08-12 16:31:40 I
 Work Part 2  (LWKP2)I        106 I         0 I   0.0 I                           I
 Work Part 3     I           6984 I         0 I   0.0 I                           I
 PLOG Prot buf(NPROT1)I         1 I         1 I 100.0 I 2009-08-12 13:58:59 I
 Work Prt1 Prot bf(NW)I         1 I         1 I 100.0 I 2009-08-12 13:58:59 I




                                                                  Page 2 of 2


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

Monitoring Work Pool (LWP) Usage

Selecting **Work Pool (LWP) Usage** (option **L**) on the **Resource Utilization** menu 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
```

```
14:59:10             ***** A D A B A S  BASIC  SERVICES *****          2009-08-13
DBID 1955                       -  Workpool Usage  -                    PACUL02
NUCID: 1021

Workpool (LWP)
   Used part ............     9192 Bytes
   Unused part ..........  1487496 Bytes
   Biggest unused part ..  1487496 Bytes












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

Reviewing Nucleus File Status

Selecting **Nucleus File Status** (option **N**)on the **Resource Utilization** menu is the equivalent of entering the DNFV operator command. The following display appears:

```
16:09:17             ***** A D A B A S  BASIC  SERVICES *****          2006-07-14
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 and Update count columns 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 the "R" option or are using the file in an as yet incomplete transaction.

The State column indicates when the file is used for access only or for access and update. It 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.

Reviewing Protection Log (PLOG) Status

Selecting **Protection Log (PLOG) Status** (option **P**) on the **Resource Utilization** menu displays the status of dual protection logs, if used.

The equivalent direct command is:

```
DISPLAY PLOGSTATUS
```

```
15:06:40              ***** A D A B A S  BASIC  SERVICES *****            2009-08-13
DBID 1955                       -  PLOG Status  -                        PACUP02
NucID: 1021


       The nucleus is currently writing on ............ PLOGR2

       Size of one PLOG area (in BLKs.) ...............     240
       Last block written ............................      26  ( 11 %)

       Number of switches since nucleus start .........      1
       Date/Time of last switch ...................... 2009-08-12 16:32:41

       Number of switches due to coordinated switch....      0
       Number of writes forced by the merge process....      0

       Number of switch requests before threshold met..      0
       Threshold setting ............................. 75%


       Number of PLOGs ...............................   2



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

Reviewing System Status

Selecting **System Status** (option **S**) on the **Resource Utilization** menu displays I/O counts for the ASSO, DATA, WORK, and PLOG data sets; remote and local call distribution; and other current session status information.

The equivalent direct command is:

```
 DISPLAY SYSTEMSTATUS
```

```
15:07:19              ***** A D A B A S  BASIC  SERVICES *****        2009-08-13
DBID 1955                      -  System Status  -                    PACUS02
NucID: 1021
                 Physical
           Reads          Writes            Call Distribution
         ------------------------   --------------------------------------
 ASSO         1198            221  Remote  Logical .............         0
 DATA         1625            153  Remote  Physical ............         0
 WORK           99            398  Local   Logical .............      2527
 PLOG                         377  Local   Physical ............         0

 Logical Reads:                    No. of HQEs active ........         0
    ...                    14,143  No. of UQEs in User Queue ..         2
 Buffer Efficiency ....        5.0  No. of CQEs waiting in CQ ..         0
 Format Translations ..         44  Total intern. Autorestarts .        17
 Format Overwrites ....          0  No. of PLOG switches .......         1
                                    No. of Bufferflushes .......        55
 Throw Backs for ISN ..          0  No. of CLOGs ...............         2
 Throw Backs for Space.          0  No. of PLOGs ...............         2
                                                         page 1 of 2


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

If you are running Adabas version 8.1, 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.

```
15:07:19              ***** A D A B A S  BASIC  SERVICES *****          2009-08-13
DBID 1955                      -  System Status  -                      PACUS02
NucID: 1021


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






                                                          page 2 of 2



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

Monitoring Thread Usage

Selecting **Thread Usage** (option **T**) on the **Resource Utilization** menu 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
```

```
15:54:29             ***** A D A B A S  BASIC  SERVICES *****            2009-08-13
DBID 1955                       -  Thread Usage  -                       PACUT02
NucID: 1021
Nr. I Thread Status    I Command Type    I Wait Event        I Nr. CMDs    I
-------------------------------------------------------------------------------
  1 I Active           I Simple Cmd.     I                   I 3994        I
  2 I Not active       I                 I                   I 27          I
  3 I Not active       I                 I                   I 9           I
  4 I Not active       I                 I                   I 0           I
  5 I Not active       I                 I                   I 0           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
```

Reviewing Work Status

Selecting **WORK Status** (option **W**) on the **Resource Utilization** menu 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
```

```
 15:57:18           ***** A D A B A S  BASIC  SERVICES *****          2009-08-13
 DBID 1955                      -  WORK Status  -                     PACUW02
 NucID: 1021


                 W O R K  Dataset
           +----------------------------------------------------------+
           I  Protection Area                            1000 Blks I
           I----------------------------------------------------------I
           I  Intermediate ISN Area                       106 Blks I
           I----------------------------------------------------------I
           I  Resulting ISN Area                         6984 Blks I
           I----------------------------------------------------------I
           I  Distributed Transaction Processing Area       0 Blks I
           +----------------------------------------------------------+






 PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
 Help                Exit                                           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 *****          2009-08-13
                           -  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:

Option	Function	Action
D	Display PET-status users	Displays the current environment of PET-status users. You can select one or more to display additional information.
H	Display heuristically terminated users	Displays a list of the heuristically terminated users. You can select one or more to display additional information.
R	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.
U	Work Part 4 Usage	Displays the breakdown of information of the Work Part 4.
X	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 *****           2009-08-13
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


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

Monitoring Cluster Usage

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

Selecting **Cluster usage** (option **X**) on the **Resource Utilization** menu displays nucleus cluster statistics that are equivalent to those displayed using the DXCACHE, DXLOCK, and DXFILE operator commands. These statistics are made available through selections on the **Cluster Usage** menu. For more information, read the *Adabas Cluster Services* or *Adabas Parallel Services* documentation.

The equivalent direct command is:

```
DISPLAY CLUSTERSTATUS
```

```
16:02:32              ***** A D A B A S  BASIC  SERVICES *****              2009-08-13
                               -  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
```

This section covers the following topics:

- Cache Statistics
- File Statistics
- Lock Statistics

Cache Statistics

Choosing Cache Statistics (option **C**) on the **Cluster Usage** menu displays the **Cache Statistics** menu:

```
16:04:21              ***** A D A B A S  BASIC  SERVICES *****            2009-08-13
                            - 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
```

On all subscreens of cache statistics, displayed counters may include a unit code, with the following possible values:

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

If a value has a unit code shown, it has been divided by the unit measurement to convert it to bytes, showing the significant digits to nine places with no decimal point.

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

- Cast-out / Directory
- Publishing Requests
- All Cache Blocks

Cast-out / Directory

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

```
16:04:21              ***** A D A B A S  BASIC  SERVICES *****           2009-08-13
DBID  1955                   - Cast-out / Directory -                    PACUX12
NucID 1021

        Cast-out Directory Reads              Directory Reads
        --------------------------            --------------------------
        Total .......        112              Total .......        37
           Sync .....          0                 Sync .....         1
           Async ....        112                 Async ....        36

        Unlock Cast-out Calls
        --------------------------
        Total .......         82
           Sync .....          0
           Async ....         82




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

Publishing Requests

Choosing **Publishing Requests** (option **P**) on the **Cache Statistics** menu displays the following:

```
16:30:28              ***** A D A B A S  BASIC  SERVICES *****           2009-08-13
DBID  1955                   - Publishing Requests -                     PACUX12
NucID 1021
                      Publishing Request Category
                      -------------------------------
                      Update sync .......        50
                      BT or CL or ET ....         7
                      Redo threshold ....        74
                      Full bufferpool ...        13
                      All blocks ........        43
                      Specific RABN .....         0
                      File DS blocks ....         0
                      All DSST blocks ...        55
                      File NI blocks ....         0






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

All Cache Blocks

Choosing **All Cache Blocks** (option **X**) on the **Cache Statistics** menu displays the following:

```
16:32:59            ***** A D A B A S  BASIC  SERVICES *****         2009-08-13
DBID  1955                   - All Cache Blocks -                    PACUX12
NucID 1021
  Reads                                 Writes
  -------------------------------       -------------------------------------
  Total ............    3,118           Total ..............      1,559
     Sync ..........    1,752              Sync ............      1,559
     Async .........    1,366              Async ..........          0

     In cache ......      345              Written .........      1,559
     Not in cache ..    2,773              Not written .....          0
     Struc. full ...        0              Struc. full .....          0

  Cast-out Reads                        Other
  -------------------------------       -------------------------------------
  Total ............      677           Validates ..........     24,388
     Sync ..........      677              Invalid .........          0
     Async .........        0           Deletes ............          2
                                           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.

File Statistics

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

```
16:35:19           ***** A D A B A S  BASIC  SERVICES *****          2009-08-13
DBID   1955                 - File 0 Statistics -                    PACUX22
NucID 1021
  Reads                                   Writes
  ------------------------------          ------------------------------------
  Total ............     45               Total ..............     70
     Sync ..........     37                  Sync ............     70
     Async .........      8                  Async ..........      0

     In cache ......     29                  Written .........     70
     Not in cache ..     16                  Not written .....      0
     Struc. full ...      0                  Struc. full .....      0

  Cast-out Reads                          Other
  ------------------------------          ------------------------------------
  Total ...........     69               Validates ..........    1,102
     Sync ..........     69                  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**) on the **Cluster Usage** menu displays the **Lock Statistics** menu:

```
16:37:07            ***** A D A B A S  BASIC  SERVICES *****          2009-08-13
                        - 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.

For example, choosing **Hold ISN Lock** (option **J**) on the **Lock Statistics** menu displays the Hold ISN Lock screen:

```
16:37:07            ***** A D A B A S  BASIC  SERVICES *****         2009-08-13
DBID  1955                    - Hold ISN Lock -                      PACUX32
NucID 1021

    Obtains                                 Releases
    ---------------------------             ---------------------------
    Conditional ....        313             Issued .......        313
       Granted .....        313                Sync ......        287
       Rejected ....          0                Async .....         26
    Unconditional ..          0

    Sync ...........        189
    Async ..........        124




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

Use PF7 and PF8 to scroll through the lock displays; use PF2 to reposition to a different lock display.

Replicator Management

The Replicator management screens are only visible if the Event Replicator for Adabas is installed and active. If the **V** option on the **Session Monitoring** menu is not highlighted, the Event Replicator is *not* installed and this option cannot be selected. For more detailed information concerning Replicator Management screens, refer to the Event Replicator for Adabas documentation.

Displaying Maintenance Levels

Note:
This function is only available for Adabas version 8 or above databases.

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

```
18:34:02             ***** A D A B A S   BASIC   SERVICES *****              2009-08-13
DBID 1955                 -  Display Maintenance Levels  -                   PACZ002
NucID .. 1021

 Select Module Name:  _____
 -----------------------------------------------------------------------------
   ADARUN    RUNMVS   Date 2009-07-30, Version 8.2, SM 1, Base AO828008
             RUNIND   Date 2009-07-30, Version 8.2, SM 1, Base AI828000
   ADANCX             Date 2009-07-23, Version 8.2, SM 1, Base AN828000
   ADAXCF             Date 2007-06-15, Version 8.1, SM 1, Base AP818000
   ADAXEC             Date 2008-02-20, Version 8.1, SM 1, Base AP818000
   ADAXEL             Date 2009-05-25, Version 8.2, SM 1, Base AP828000
   ADACLU             Date 2009-07-23, Version 8.2, SM 1, Base AN828000
   ADAMXI             Date 2009-07-20, Version 8.2, SM 1, Base AN828000
   ADAMIM             Date 2009-01-26, Version 8.2, SM 1, Base AN828000
   ADARVU             Date 2009-07-12, Version 8.2, SM 1, Base AN820000
   ADACLX             Date 2009-07-09, Version 8.2, SM 1, Base AN820000
   ADARMT             Date 2009-06-03, Version 8.1, SM 1, Base AN810000


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. An asterisk (*) can also be used as a wildcard value in this field. For example, specifying "ADARUN" displays information for the ADARUN module only. Specifying "ADAR*" lists all modules with names that begin with "ADAR", which would include ADARUN as well as ADARVU and other modules.