

# **Adabas Online System**

## **Session Monitoring**

Version 8.1.4

June 2014

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Specifications contained herein are subject to change and these changes will be reported in subsequent release notes or new editions.

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---

## 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 *****          2006-07-14
                   - 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:

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



▶ 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 *****          2006-07-14
DBID 105          - Display PPT Entry -          PACA002

Nuc ID. . .      3 Active Nucleus

Name              Status                               DataSet Name
-----
WORK1
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
```



## 2 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 multicient 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 *****          2006-07-14
                    - 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 *****      2006-07-14
DBID 105      - List/Modify User Profiles -      PACICL2

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

M  Userid   Prty TNA  TNAE  TNAX  TT   TLSCMD NSISN NISNHQ NOCID 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 (TNA), 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 *****      2006-07-14
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 *****          2006-07-14
                  - Maintain User Profiles -                          PACIC02

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

+-----+
| 'Y' - Select ETIDs for Deletion |
| 'N' - Delete ETIDs with NO 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 *****          2006-07-14
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 .



# 3 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

19:00:44          ***** A D A B A S BASIC SERVICES *****          2009-01-30
DBID 1955          - Display Parameters -                               PACPD02

----- Pools -----
Sort Area          (LS).. 19968
Int. User Buffer    (LU).. 400000
Buffer Pool        (LBP).. 105984
Format Pool        (LFP).. 150000
ISN List Table     (LI).. 360000
Seq. Cmd. Table    (LQ).. 20000
Work Pool          (LWP).. 1500000
Attached Buffer     (NAB).. 100
Security Pool      (LCP).. 10000
UQ-DE Pool         (LDEUQP).. 50000
Flush I/O Pool     (LFIOP).. 0
Err. Recovery      (MSGBUF).. 36

----- Queues -----
Command Queue      (NC) .. 200
Hold Queue         (NH) .. 40000
User Queue         (NU) .. 200

----- Time Windows -----
Transaction Time   (TT) .. 4858
Max Transaction Time (MXTT) .. 3600
Nonactivity ACC-User (TNAA) .. 4858
Nonactivity ET-User (TNAE) .. 4858
Nonactivity EXU-User (TNAX) .. 4858
Max Nonactivity Time(MXTNA) .. 3600
Time Limit Sx-Cmds (TLSCMD) .. 300
Max Time for Sx-Cmds(MXTSX) .. 3600
Command Time       (CT) .. 3858
SYNS60 Interval   (INTNAS) .. 3600

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:

```
19:00:44          ***** A D A B A S BASIC SERVICES *****          2009-01-30
DBID 1955          - Display Parameters -                               PACPD02

----- Miscellaneous -----
Read only session(READONLY) .. NO
UTI only session (UTIONLY) .. NO
OPEN required    (OPENRQ) .. NO
Ignore DIB Entry (IGNDIB) .. NO
Local nucleus    (LOCAL) .. NO
Number of Threads (NT) .. 5
Non DE Search    (NONDES) .. 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) .. 124
SVC              (SVC) .. 249

----- User Specific Limits -----
Hold Queue Limit (NISNHQ) .. 10000
CIDs per User    (NQCID) .. 40
ISN per TBI Element(NSISN) .. 1000
----- Buffer Pool -----
Bufferflush Dur. (TFLUSH) .. 1
Parallel LFIOP I/O (FMXIO) .. 1
Async. by Vol-Ser (ASYTVS) .. YES
----- Replication -----
Replication (REPLICATION) ... YES

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



```

19:00:44          ***** A D A B A S  BASIC  SERVICES *****          2009-01-30
DBID 1955          -  Display Parameters  -          PACPD02

---- Command Logging ----          ----- Protection Logging -----
Command Logging .. YES          PLOG required          (PLOGRQ) .. YES
LOGCB ..... NO          DUAL PLOG Size          (DUALPLS) .. 240
LOGFB ..... YES          DUAL PLOG Device          (DUALPLD) .. 3390
LOGRB ..... YES          NPLOG ..... 0
LOGSB ..... NO          ----- Other Services -----
LOGVB ..... NO          Triggers and Procedures (SPT) .. NO
LOGIB ..... NO          Delta Save Facility          (DSF) .. YES
LOGIO ..... NO          Cache Facility          (CACHE) .. NO
LOGUX ..... NO          Transaction Manager          (ATM) .. NO
LOGSIZE ..... 5064          TCP/IP Support          (TCPIP) .. NO
DUAL CLOG Size ... 675          Ext. Error Recovery          (SMGT) .. YES
DUAL CLOG Dev. ... 3390          2 Phase Commit Support (DTP) .. NO
CLOGMRG ..... NO          Review Support          (REVIEW) .. NO
NCLOG ..... 0

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

```



## 4 Display Installed Products

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

```
19:03:28          ***** A D A B A S  BASIC  SERVICES *****          2009-01-30
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

---

# 5 Queue Displays

---

- Display User Queue Elements ..... 17
- Display Command Queue ..... 18
- Display Hold Queue ..... 19

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  *****          2006-07-14
                               - 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  *****          2006-07-14
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      I 2361 I 50,100 I
  I BASMA 1 I BASMA      I COMPLETE I ET  I ET  I      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      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:

## Queue Displays

```
11:44:18          ***** A D A B A S  BASIC SERVICES *****          2006-07-14
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 ..... 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
```

## 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 "job name".

The equivalent display direct command is

```
DISPLAY CQ
```



```

12:03:38          ***** A D A B A S  BASIC SERVICES *****          2006-07-14
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         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
```



## 6 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  *****          2006-07-14
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.



# 7 Current Resource Statistics

---

- Statistics for Versions of Adabas Prior to 6.2 ..... 25
- Adabas Version 6.2 and Above Statistics ..... 26

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  *****          2006-07-14
                   - 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  *****          2006-07-14
DBID 105          - User Statistics -          PACSS02

Statistic Start Time ... 2006-07-14 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 *****      2006-07-14
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  *****      2006-07-14
DBID 105          -  User Statistics:  Command Usage  -              PACSS12

Statistic Start Time ..... 2006-07-14  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  *****      2006-07-14
DBID 105          -  User Statistics:  Command Usage  -              PACSS12

Statistic Start Time ..... 2006-07-14  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 *****      2006-07-14
DBID 105      - User Statistic: File Usage -      PACSS12

Statistic Start Time ..... 2006-07-14 14:10:55      UserID ... SAGNA
Thread Time (msec) ..... 672.6      No. I/Os.. 216

File   File Name                No. Cnds   File   File Name                No. Cnds
-----
   0   *Cmnds 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 cmnds .. 99.8%      Commands processed:      562

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

and for all currently active users (general statistics):

```

14:21:40      ***** A D A B A S  BASIC SERVICES *****      2006-07-14
DBID 105      - User Statistic: File Usage -      PACSS12

Statistic Start Time ..... 2006-07-14 14:16:25

File   File Name                No. Cnds   File   File Name                No. Cnds
-----
   0   *Cmnds 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      Cnds      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.



# 8

## 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 *****          2006-07-14
DBID 105          - 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.

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.

# 9 Resource Utilization

---

|                                      |    |
|--------------------------------------|----|
| ▪ Command Usage .....                | 34 |
| ▪ File Usage .....                   | 35 |
| ▪ High Water Marks .....             | 36 |
| ▪ Work Pool (LWP) Usage .....        | 37 |
| ▪ Nucleus File Status .....          | 37 |
| ▪ Protection Log (PLOG) Status ..... | 38 |
| ▪ System Status .....                | 38 |
| ▪ Thread Usage .....                 | 40 |
| ▪ WORK Status .....                  | 41 |
| ▪ Cluster Usage .....                | 43 |

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 *****          2006-07-14
                  - 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 *****          2006-07-14
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      I      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 FILEUSAGE
```

```

14:45:31          ***** A D A B A S  BASIC SERVICES *****          2006-07-14
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:



## 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 *****          2006-07-14
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 *****          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/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 *****      2006-07-14
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 ..... 2006-07-14 10:31:12
```

## System Status

---

System Status (option "S") displays I/O counts for the ASSO, DATA, WORK, and PLOG data sets; 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 *****          2006-07-14
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 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.

## Resource Utilization

---

```
16:37:41          ***** A D A B A S  BASIC  SERVICES *****          2006-07-14
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
```

## 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 *****          2006-07-14
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
```

## Resource Utilization

```
16:57:32          ***** A D A B A S  BASIC  SERVICES *****          2006-07-14
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 *****          2006-07-14
-  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:





DISPLAY CLUSTERSTATUS

```
17:20:31          ***** A D A B A S  BASIC  SERVICES *****          2006-07-14
                                     - 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 *****          2006-07-14
                                     - 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 *****          2006-07-14
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 *****          2006-07-14
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 *****          2006-07-14
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:

## Resource Utilization

```
17:47:09          ***** A D A B A S  BASIC  SERVICES *****          2006-07-14
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 *****          2006-07-14
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 *****          2006-07-14
                                         - 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 *****          2006-07-14
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.



# 10 Replicator Management


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**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.



# 11 Display Maintenance Levels

 **Note:** This function is only available for Adabas version 8 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 *****      2006-07-14
DBID 105          - Display Maintenance Levels -          DPACZ02

Select Module Name: _____
-----
ADARUN  RUNMVS  Date 2006-07-14, Version 8.1. 0, Zap Base A010000
          RUNIND  Date 2006-07-14, Version 8.1. 0, Zap Base AI10000
ADATSP          Date 2006-07-14, SM Level 00, Zap Level 0000
          Zaps 0034 0040 0043 0083 0084 0099
ADATCP          Date 2006-07-14, SM Level 00, Zap Level 0000
          Zaps 0136
ADAMSG          Date 2006-07-14, SM Level 00, Zap Level 0000
ADAIOR          Date 2006-07-14, SM Level 00, Zap Level 0000
ADAIOS          Date 2006-07-14, SM Level 00, Zap Level 0000
          Zaps 0001 0003 0004 0005 0007
ADANCO          Date 2006-07-14, 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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