Special Online Functions

When the Adabas Delta Save Facility is installed on your system, either the demo or full version of Adabas Online System (AOS) provides access to the optional Delta Save control screens.

```
 14:40:40          *****  A D A B A S  BASIC SERVICES *****          YYYY-MM-DD

                           -  Main Menu  -                           PMAIN02


              Code  Basic Services             Code  Other Services

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

              A     Session monitoring         1     Adabas Cache Facility

              C     Checkpoint maintenance     2     Delta Save Facility

              F     File maintenance           3     Trigger Maintenance

              *     Database maintenance       4     AOS Security

              O     Session opercoms           5     Transaction Manager

              R     Database report            6     Adabas Statistics

              *     Space calculation          7     Vista

              ?     Help                       8     Fastpath

              .     Exit                       9     SAF Security

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



  Code ....... _

  Database ... 105     (RD-105)



 Command ==>

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

 Help               Exit
```

Note:
The exact sequence of screens and display characteristics (intensified values, etc.) displayed when using AOS depends on the configuration, the features installed on the system, and the current operating status of the system, and therefore may differ from the features and characteristics described in this document.

The remainder of this section describes how to use the Delta Save control screens to install, change, disable, and remove Delta Save logging from the system.

- Logging On to the Adabas Delta Save Facility

- Installing Delta Save Logging

- Enabling Delta Save Logging

- Displaying Current Allocation Information

- Displaying Files Modified by Utilities

- Estimating the Size of a Delta Save Operation

- Disabling Delta Save Logging

- Changing the DLOG Area

- Removing Delta Save Logging

Logging On to the Adabas Delta Save Facility

Select the "Delta Save Facility" option on the Adabas Online System (AOS) Main Menu.

When the Delta Save Facility is active, the Delta Save Facility main menu is displayed.

```
   13:16:45              *****  A D A B A S   BASIC  SERVICES *****          YYYY-MM-DD

  Enabled                    -  Delta Save Facility   -            PDSF002

                        Code    Function

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

                         A      Allocation/Status of DSF

                         C      Change DSF logging area

                         D      Disable DSF logging

                         E      Enable DSF logging

                         F      Files modified by utilities

                         I      Install DSF logging area

                         R      Remove/Deinstall DSF

                         S      Size Estimate for Delta

                         ?      Help

                         .      Exit

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



        Code ......... _

        Database ID .. 105     (ADA-MPM105)



        Command ==>

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

  Help            Exit                                            Menu
```

This menu indicates the status of the Delta Save Facility in the upper left corner:

Not installed	The ADARUN DSF=YES parameter is set but the Delta Save Facility is not yet installed.
Enabled	The Delta Save Facility is currently active and functioning normally.
Disabled	Delta Save logging has been deactivated.
Initializing	The Delta Save Facility has been installed but the initialization process has not yet completed. If this status continues, deinstall and then reinstall the product.

Installing Delta Save Logging

If the Delta Save Facility is not yet installed, option I displays the following window:

```
  14:55:16          *****  A D A B A S   BASIC  SERVICES *****        YYYY-MM-DD

   Not installed              -  Delta Save Facility   -             PDSF002


          +-------------------------------------------------------------+

          |                                                             |

          |  15:16:44             Install DSF               YYYY-MM-DD |

          |                                                             |

          |     DSF Status .... Not installed                           |

          |                                                             |

          |    Specify the values for the following parameters:-        |

          |                                                             |

          |        DLOG Area Size ......          (in Blocks)           |

          |        DLOG Area Location ..          (1st RABN) optional   |

          |        Device Type ......... 3390               optional    |

          |                                                             |

          |                                                             |

          |   PF1----- PF2------ PF3------ PF4------ PF6----- PF12       |

          |   Help             Exit                          Menu       |

          +-------------------------------------------------------------+



   Command ==>

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

  Help             Exit                                            Menu

```

The DLOG area must be defined before Delta Save can begin operation.

Use the Install DSF screen to define the Delta Save logging (DLOG) area and thereby install Delta Save logging. Enter the DLOG size in blocks, and, optionally, the starting RABN in the Associator and/or the device type to be used for allocation:

- *DLOG Area Size* (required) is the number of Associator blocks to be allocated. The area must be large enough to hold all blocks changed between two consecutive Delta Save operations. About 5 bytes of DLOG area storage are needed for every database write operation. To calculate the size of the DLOG area, see Calculating the DLOG Area Size

- *DLOG Area Location* (optional) is the first RABN to be allocated.

- *Device Type* (optional) is the device type to be used for DLOG area allocation.

When the DLOG area is defined, you are returned to the Delta Save Facility main menu and the message

```
DSF function Install DSF successfully executed
```

-is displayed. The status of the Delta Save Facility in the upper left corner of the screen is "disabled". The "disabled" state continues until the next successful full save operation is performed with the ADASAV SAVE utility function.

Enabling Delta Save Logging

If the Delta Save Facility is disabled, option E displays the following window:

```
  13:20:36            *****  A D A B A S   BASIC  SERVICES *****       YYYY-MM-DD

  Disabled                  -  Delta Save Facility  -             PDSF002


                 +---------------------------------------------+

                 |                                             |

                 | DSF is currently disabled and needs to be   |

                 | enabled before it can start logging.        |

                 | To enable DSF, a FULL database backup must  |

                 | be run using ADASAV SAVE. Once the FULL     |

                 | database save completes, DSF will become    |

                 | enabled automatically.                      |

                 |                                             |

                 |                                             |

                 +---------------------------------------------+

                        .       Exit

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


         Code ......... e

         Database ID .. 105      (ADA-MPM105)


  Command ==>

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

 Help            Exit                                         Menu
```

Once a successful full save operation is performed with the ADASAV SAVE utility function, Delta Save logging is automatically enabled.

Displaying Current Allocation Information

You can use option A to display additional status and allocation information:

```
 13:16:45            *****  A D A B A S   BASIC  SERVICES *****        YYYY-MM-DD

  Enabled                    -  Delta Save Facility   -              PDSF002



          +----------------------------------------------------------------+
          |                                                                |
          |                      Allocation Display                        |
          |                                                                |
          |  DSF Status .......... Enabled                                 |
          |                                                                |
          |  Last full save no ... 20          on 1997-01-30 at 11:19:04   |
          |  Last delta save no ..  5          on 1997-03-03 at 05:06:56   |
          |                                                                |
          |  DLOG area size ...... 500       blocks                        |
          |  DLOG area usage ..... 5%                                      |
          |  DLOG area location .. 6292      (start RABN)                  |
          |  Device type ......... 3390                                    |
          |                                                                |
          |                Press 'Enter' to continue/exit                  |
          +----------------------------------------------------------------+


  Command ==>

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

 Help            Exit                                            Menu
```

In addition to information about the last full save and the last delta save, this display provides information about the current DLOG area size and location, the device type, and the percentage of the DLOG area size currently being used.

Displaying Files Modified by Utilities

Option F, files modified by utilities, indicates the name and number of the files changed on the first line and other information for the file on a second line.

The second line indicates the areas logged (IX for index; DS for Data Storage; AC for address converter) as well as block use and modification statistics for each file:

- total blocks changed in all logged areas;

- total DS/AC blocks used, changed, and the percentage of the used that were changed;

- total index blocks used, changed, and the percentage of the used that were changed.

Another line provides separate totals for the number of DS/AC blocks and index blocks changed for all files listed.

```
 12:55:42          *****  A D A B A S   BASIC  SERVICES *****       YYYY-MM-DD

 DBID 105                     - Display DSF Files -               PDSFF02


 File No     Logged    Tot Blks    AC/DS    AC/DS Blk D %    Index    Indx Blks I %

  /Name      Areas     Changed    Blks Used  Changed  Log Blks Used Changed  Log

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

 13 - ADABAS-LISTING

        IX              1081       281         0    0      1081     1081 100

 80 - PRIME-TIME

        IX                 3         2         0    0         3        3 100




         Accumulated Totals:  DS/AC ..         0     Index ..      1084








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

 Help    Repos    Exit                    --       -        +      Menu

```

PF2 invokes a window that allows you to reposition the list to a specified file number.

Estimating the Size of a Delta Save Operation

Option S, size estimate for delta, displays the estimated number of changed blocks. This number provides an estimate of the number of database blocks that would be saved in a Delta Save operation at the current time.

Allow a few seconds for the system to perform the calculation. The estimate is not precise: the actual size may be larger or smaller.

```
 17:05:45           *****  A D A B A S   BASIC  SERVICES *****        YYYY-MM-DD

  Enabled                      -  Delta Save Facility  -              PDSF002

      +----------------------------------------------------------------+
      |                                                                |
      |                - Estimated Number of Changed Blocks -          |
      |                                                                |
      |                                                                |
      |   Fixed number of RABNs to be saved ....        530 blocks     |
      |   Index RABNs changed by utilities .....       1084 blocks     |
      |   DS/AC RABNs changed by utilities .....          0 blocks     |
      |                                                                |
      |   Number of RABNs logged in DLOG Area .. ca.   2000 blocks     |
      |                                                                |
      |                                                                |
      |   Approximately     3600 blocks will be saved with the next    |
      |   SAVE DELTA function.                                         |
      |                                                                |
      |                                                                |
      |                 Press 'Enter' to continue/exit                 |
      +----------------------------------------------------------------+


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

The fixed area includes the blocks for the first 30 RABNs, all FDTs and all FCBs.

Separate totals are provided for the number of index blocks as opposed to the number Data Storage and address converter blocks changed by utilities.

The calculated number of blocks for the DLOG area is a rounded number.

The total of all blocks to be saved is approximate to the nearest 100.

Disabling Delta Save Logging

Disabling Delta Save logging stops the logging and prevents any further ADASAV SAVE DELTA utility operations.

Option D displays a warning about disabling the Delta Save Facility and asks for confirmation.

```
 13:18:20          *****  A D A B A S   BASIC  SERVICES *****       YYYY-MM-DD

  Enabled                  - Delta Save Facility  -               PDSF002



                  +---------------------------------------------+

                  |                                             |

                  |                  - Warning -                |

                  |                                             |

                  | When DSF logging is disabled, you may no    |

                  | longer perform Delta Save operations. To    |

                  | enable DSF logging again, you will need to  |

                  | do a full database save using ADASAV SAVE.  |

                  |                                             |

                  | To confirm that you want to disable DSF     |

                  | logging, enter 'CONFIRM' ... _____         |

                  |                                             |

                  +---------------------------------------------+



        Code ........ d

        Database ID .. 105    (ADA-MPM105)

 DSFF04: Size Estimate found nothing for this request

 Command ==>

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

Help            Exit                                        Menu
```

Note:
It is not possible to start or restart Delta Save logging with an online function. Delta Save logging is started ("enabled") only after successful completion of a full save operation.

If you confirm, you are returned to the Delta Save Facility main menu and the following message is displayed:

```
  DSF function Disable DSF logging successfully executed.
```

Once Delta Save logging is disabled, you can either change the DLOG area (see the section Changing the DLOG Area) or logically remove Delta Save logging from the system (see the section Removing Delta Save Logging).

Changing the DLOG Area

You can close the current DLOG area and allocate a new and possibly larger DLOG area elsewhere in the Associator. However, the DLOG area specification can only be changed when Delta Save logging is "disabled".

Option C displays a the following window allowing you to change the values for the DLOG area size and location, and the device type.

```
 13:19:01           *****  A D A B A S   BASIC  SERVICES *****        YYYY-MM-DD

  Disabled                  -  Delta Save Facility  -             PDSF002


         +---------------------------------------------------------+
         |                                                         |
         |  13:19:27            Change DLOG area          1997-02-20 |
         |                                                         |
         |     DSF Status .... Disabled                            |
         |                                                         |
         |     Change the values for the following parameters:-    |
         |                                                         |
         |         DLOG Area Size ...... 500       (in Blocks)     |
         |         DLOG Area Location .. 6292      (1st RABN) optional |
         |         Device Type ......... 3380                 optional |
         |                                                         |
         |                                                         |
         |   PF1----- PF2------ PF3------ PF4------ PF6----- PF12   |
         |   Help              Exit                        Menu    |
         +---------------------------------------------------------+


  DSF function Disable DSF logging successfully executed

  Command ==>

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

 Help           Exit                                         Menu
```

In the "Change DLOG Area" window, enter the new DLOG size in blocks and optionally, the starting RABN in the Associator and/or the device type to be used for allocation.

Removing Delta Save Logging

Once Delta Save logging is "disabled", you can logically remove the Delta Save Facility from the system. This means that the DLOG is deallocated and the Delta Save logging status is reset to "not installed".

Option R displays the following window warning you about removing the Delta Save Facility and asking for confirmation.

```
 13:20:36            *****  A D A B A S   BASIC  SERVICES *****        YYYY-MM-DD

  Disabled                   -  Delta Save Facility  -               PDSF002



                 +--------------------------------------------+

                 |                                            |

                 |                - Warning -                 |

                 |                                            |

                 | When DSF logging is removed, Delta Save    |

                 | operations will no longer be possible. To  |

                 | use DSF again, a completely new install    |

                 | (including a full database save with       |

                 | ADASAV SAVE) must be done.                 |

                 |                                            |

                 | To confirm the removal of DSF, enter       |

                 | 'CONFIRM' ... _____                      |

                 |                                            |

                 +--------------------------------------------+

          Code ......... r

          Database ID .. 105    (ADA-MPM105)

  Function interrupted with PF-key

  Command ==>

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

 Help            Exit                                        Menu

```

If you confirm, your are returned to the Delta Save Facility main menu and the following message is displayed:

```
 DSF004: Delta Save Facility terminated at user's request.
```