Report Description

The ADAREP database status report contains general database information followed by information about the status, allocation, and definition of each file in the database. Although the report is designed for printing from the SYSLST (BS2000), DDDRUCK (z/OS or z/VM), or SYS009 (VSE) data set, the following figures show examples of the report output displayed at a terminal. The examples display sections in the order they appear in the report; a description of each part is provided with them.

Note:
Individual Adabas add-on products may supplement the information displayed on the ADAREP report. For example, if the database supports replication (via the Event Replicator for Adabas), additional statistics appear in various areas of this report. For complete information on the impact of the add-on products to this report, refer to the documentation for the Adabas add-on product.

This chapter covers the following topics:

- General Database Information

- File Information

- Checkpoint Information

General Database Information

The first section contains general information about the database and its physical layout:

```
********************
* *
* Data Base Report * yyyy-mm-dd hh:mm:ss
* *
********************
Data Base Name = EXAMPLE-DB
Data Base Number = 238
Date Loaded = yyyy-mm-dd
Time Loaded = hh:mm:ss
Checkpoint File = 5
Security File = 4
Maximum number of files = 255
Number of files loaded = 130
Current Log Tape Number = 184
RABNSIZE = 3
Recovery Aid = No
Universal Encoding Sup. = No
Replication = Yes
```

Additionally, if universal encoding support (UES) is enabled (UES=YES), the following information is displayed:

```
Universal Encoding Sup. = Yes
 ALPHA FILE ENCODING      =       37
 WIDE FILE ENCODING       =     4095
 ALPHA ASCII ENCODING     =      437
 WIDE USER ENCODING       =     4095
 Replication              = No
```

If UES=NO, this information is suppressed.

Field	Explanation
ALPHA ASCII ENCODING	Current user encoding set for alphanumeric (A) format fields in the database. Must be ASCII-compatible.
ALPHA FILE ENCODING	Current file encoding set for alphanumeric (A) format fields in the database. Must be EBCDIC-compatible.
CURRENT LOG TAPE NUMBER	Number of the most recent data protection log for the database.
DATABASE NAME	Name assigned to the database. See the ADADEF utility, DBNAME parameter.
DATABASE NUMBER	Number (ID) assigned to the database. See the ADADEF utility, DBIDENT parameter.
DATE LOADED	Date the database was initially defined.
MAXIMUM NUMBER OF FILES	Maximum number of files permitted for the database. See the ADADEF utility, MAXFILES parameter.
NUMBER OF FILES LOADED	Number of files currently in the database.
RABNSIZE	Length of the blocks in the database. RABNSIZE=3 indicates 24-bit blocks; RABNSIZE=4 indicates 31-bit blocks.
RECOVERY AID	Whether the Adabas Recovery Aid (ADARAI) is active for the database.
Replication	Whether or not replication (using Event Replicator for Adabas) is active for the database.
Replicator File	Identifies the file number of the Replicator system file if one is loaded on an Event Replicator Server.
Reptor SLOG File	Identifies the file number of the SLOG system file if one is loaded on an Event Replicator Server.
SYSTEM FILES	File numbers of Adabas system files.
TIME LOADED	Time of day when the database was initially defined.
TRIGGER FILE	If the database contains a trigger file, this entry displays the file number. If no trigger file exists in the database, this line does not print.
UNIVERSAL ENCODING SUPPORT	Whether universal encoding support (UES) is active for the database.

Field	Explanation
WIDE FILE ENCODING	Current file encoding set for wide-character (W) format fields in the database.
WIDE USER ENCODING	Current user encoding set for wide-character (W) format fields in the database.

Space Allocated to Database Components

The "physical layout" table lists the space allocations for the major components of the database (Associator, Data Storage, and Work).

The "unused storage" table lists the unused space in the Associator and Data Storage areas. This space is not assigned to any file in the database.

```
 P H Y S I C A L   L A Y O U T

      DD- I DEV   I NMBR OF I NMBR OF EXTENTS IN BLK. I BLOCK I NMBR OF I
    NAMES I TYPE  I CYLS    I BLOCKS   FROM TO         I LNGTH I M-BYTE  I
  ---------I-------I---------I-----------------------I-------I---------I
          I       I         I                         I       I         I
    ASSOR1 I 3380  I 100     I 28481    1        28481 I 2004  I 54      I
          I       I         I                         I       I         I
    DATAR1 I 3380  I 200     I 26991    1        26991 I 4820  I 124     I
          I       I         I                         I       I         I
    WORKR1 I 3380  I  40     I 5391     1        5391  I 4820  I 24      I
          I       I         I                         I       I         I
  --------------------------------------------------------------------

  U N U S E D S T O R A G E

      DD- I DEV   I NMBR OF I NMBR OF EXTENTS IN BLK. I BLOCK  I NMBR OF I
    NAMES I TYPE  I CYLS    I BLOCKS   FROM TO         I LNGTH  I M-BYTE  I
  ---------I-------I---------I-----------------------I--------I---------I
          I       I         I                         I        I         I
    ASSOR1 I 3380  I  98     I 28134    328      28461 I 2004   I 54      I
          I       I         I                         I        I         I
    DATAR1 I 3380  I 198     I 26811    131      26941 I 4820   I 124     I
```

The columns in these tables provide the following information:

Column	Explanation
DDNAMES	The job/task control name (without the DD prefix) that defines the Associator, Data Storage, or Work component of the database.
DEV TYPE	The physical device containing the Associator, Data Storage, or Work component.
NMBR OF CYLS	The DASD cylinders allocated to the Associator, Data Storage, and Work components. If less than one full cylinder has been allocated, "0" is shown in this column.
NMBR OF BLOCKS	The total number of blocks assigned to the Associator, Data Storage, or Work component. Please note that for Data Storage, Associator, and Work, the first track is not used. ADAREP only shows the number of blocks that are used by Adabas, and not the blocks that are allocated and formatted for use.
EXTENTS IN BLK	The extents, listed by block range.
BLOCK LNGTH	The block size. The block size depends on the component and the device type.
NUMBER OF M-BYTES	The component storage size, in megabytes.

Contents of the Database: General File Status

The next section contains information on the status of each file in the database. Here is an example:

```
*************************************************
* Contents of Database   99 (EXAMPLE-DB)      *      yyyy-mm-dd  hh:mm:ss
*************************************************

  File    Name          Loaded      TOP-ISN    MAX-ISN         EXTENTS
                                                           N    U    A    D

     1 EMPLOYEES      2001-12-28      1107       1695      1    1    1    1
     2 MISCELLANEOUS  2001-12-28      1779       2543      1    1    1    1
     3 VEHICLES       2001-12-28       773       1695      1    1    1    1
```

Here is another example showing a database that uses a LOB file:

```
*************************************************
* Contents of Database   99 (EXAMPLE-DB)      *      yyyy-mm-dd  hh:mm:ss
*************************************************

File    Name            Loaded      TOP-ISN    MAX-ISN         EXTENTS
                                                           N    U    A    D

   1 SQLNC           2006-02-17        0        1377      1    1    1   301 *
   2 BASEFILE        2006-09-01       45        1377      1    1    1    1
   3 LOBFILE         2006-09-01        3        1377      1    1    1    1
   6 abcdefghijklmnop 2006-07-17       0        4133      1    1    1   300

Warning: * indicates less than 10 file extents remain for use
```

When LAYOUT=1 is specified for the ADAREP utility run, this section includes padding factor information merged with all the information in the File Space Allocation section of the report.

The columns in this table provide the following information:

Column	Explanation
FILE	Adabas file number.
NAME	File name (see the ADALOD utility, NAME parameter). If the file cannot build at least ten further extents, it is marked with an asterisk (*) to the right of the name.
LOADED	Date the file was loaded.
TOP-ISN	Highest ISN currently used in the file.
MAX-ISN	Highest ISN that can be assigned to a record in the file (see the ADALOD utility, MAXISN parameter).
EXTENTS	Number of logical extents currently assigned to the normal index (N), upper index (U), address converter (A), and Data Storage (D). The maximum number of logical file extents that you can now define is derived from the block size of the first Associator data set (DDASSOR1). The extent information is stored in a variable section of the FCB. New extents can be added now until the used FCB size reaches the block size of the Associator data set. If the extent limit has been reached, reorder the file (using ADAORD REORFILE or the ADAULD, ADADBS DELETE, ADALOD LOAD utility sequence) before the last extent fills, or Adabas will lock the file.
PADD	The block padding factor defined for the Associator (A%) and Data Storage (D%) (read about the ASSOPFAC and DATAPFAC parameters of the ADALOD LOAD utility for more information). **Note:** This column appears only when LAYOUT=1 is specified.

File Options

The next section lists the file options that are active for each file in the database. Here is an example:

```
***************
* File Options *
***************


                       ADAM File
                       .  Coupled File
                       .  .  ISNREUSE
                       .  .  .  DSREUSE
                       .  .  .  .  Ciphered File
                       .  .  .  .  .  Expanded File
                       .  .  .  .  .  .  USERISN
                       .  .  .  .  .  .  .  NOACEXTENSION
                       .  .  .  .  .  .  .  .  MIXDSDEV
                       .  .  .  .  .  .  .  .  .  PGMREFRESH
                       .  .  .  .  .  .  .  .  .  .  Multi-Client File
                       .  .  .  .  .  .  .  .  .  .  .  Index Compressed
                       .  .  .  .  .  .  .  .  .  .  .  .  2-Byte MU/PE Index
                       .  .  .  .  .  .  .  .  .  .  .  .  .  Spanned Record
                       .  .  .  .  .  .  .  .  .  .  .  .  .  .  Replicated
                       .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  Priv Use
  File  Name           .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .
--------------------------------------------------------------------------------
     1  EMPLOYEES      .  .  I  D  .  .  .  .  .  .  .  .  .  .  .  .
     2  64BIT-1        .  .  .  D  .  .  .  .  .  .  .  .  .  .  .  .
     3  MISC           .  .  I  D  .  .  .  .  .  .  .  .  .  .  .  .
    19  CHECKPOINT-FILE .  .  .  D  .  .  .  .  .  .  .  .  .  .  .  .
```

Here is another example showing a database that uses a LOB file:

```
****************
* File Options *
****************


                        ADAM File
                        . Coupled File
                        . . ISNREUSE
                        . . . DSREUSE
                        . . . . Ciphered File
                        . . . . . Expanded File
                        . . . . . . USERISN
                        . . . . . . . NOACEXTENSION
                        . . . . . . . . MIXDSDEV
                        . . . . . . . . . PGMREFRESH
                        . . . . . . . . . . Multi-Client File
                        . . . . . . . . . . . Index Compressed
                        . . . . . . . . . . . . 2-Byte MU/PE Index
                        . . . . . . . . . . . . . Spanned Record
                        . . . . . . . . . . . . . . Replicated
                        . . . . . . . . . . . . . . . Contains LOB Fields
                        . . . . . . . . . . . . . . . . Privileged Use
                        . . . . . . . . . . . . . . . . . LOB File
  File  Name            . . . . . . . . . . . . . . . . .
 ------------------------------------------------------------------------------
    2   BASEFILE        . . I D . . . . . . . . C . . . L . .
    3   LOBFILE         . . I D . . . . . . . . C . . . . . L
   11   UES-EMPLOYEES   . . . D . . . . . . . . . . . . . . .
   13   UES-TEST        . . . D . . . . . . . . . . . . . . .
   14   DBCS3035        . . . D . . . . . . . . . . . . . . .
   15   COLLATION1      . . I D . . . . . P . . . . . . . . .
   18   SECURITY        . . . D . . . . . . . . . . . . . . .
   19   CHECKPOINT      . . . D . . . . . . . . . . . . . . .
   23   EMPL23-EXT      . . . D . . U . . P . . . . . . . . .
   24   SAGABS_MYFILEXX . . I D . . . . M . . C . . . . . .
   50   EMPL50-EXT      . . . D . . U . . . . . . . . . . . .
   88   BASEF-LBLA      . . . D . . . . . . . . . . L . .
   89   LOBF-LBLA       . . . D . . . . . . . C . . . . . L
  101   file101         . . I D . . . . M . . C . . . . . .
  266   UES-EMPLOYEES   . . . D . . . . . . . . . . . . . . .
  267   UES-EMPLOYEES   . . . D . . . . . . . . . . . . . . .
```

Options that are active for a file are indicated by the following codes in the row containing the file name:

Code	Explanation
A	ADAM file. The file was loaded with the ADAM option.
C	Coupling, ciphering, or index compression. The file is coupled to one or more files, and/or the file data is ciphered, and/or the file index is compressed.
D	Space reuse. Space which has been released within a block as a result of a record deletion may be used for a new record.
I	ISN reuse. ISNs of deleted records may be reassigned to new records.
L	If this appears in the "Contains LOB Fields" column, the file contains LB fields (it is a base file). If this appears in the "LOB File" column, the file is a LOB file, not a base file. **Note:** These two columns are mutually exclusive; an "L" will only appear in one of them, if it appears at all.
M	MIXDSDEV active (multiple Data Storage device types) and/or a multiclient file.
N	File is defined with the NOACEXTENSION option.
P	PGMREFRESH is active. "P" is also used in the Priv Use column to indicate that the file is locked by the nucleus for privileged use. The privileged use information is also available in the *File Information* section of the ADAREP report.
R	Replication (Event Replicator for Adabas processing) is active for the file.
S	Spanned record support is activated for the file.
T	Two-byte MU/PE indexes (when MU/PE occurrences exceed 191) are active for the file.
U	File was loaded with the USERISN option.
X	File is a component of an expanded file.

File Space Allocations

The next section shows the space allocated for each file in the database. Here is an example:

```
        *************************
        * FILE SPACE ALLOCATIONS *
        *************************


        FILE      NAME      ALLOC.: NI    UI    AC    DATA/CYL
                           UNUSED:


        1      EMPLOYEES        100     30    03      80/0
        1                        24     17            31/0
        2      VEHICLES         10      20    03      30/0
        2                        03     02            12/0
       10      CHECKPOINT       10      01    01      20/0
       10                       05       0            11/0
```

Here is another example showing a database that uses a LOB file:

```
**************************
* File Space Allocations *
**************************

  File    Name          Alloc.:   NI         UI         AC        Data/Cyl
                         Unused:

     2 BASEFILE                   10          5          1          10/0
     2                           10          5                      9/0
     3 LOBFILE                    10          5          1         100/1
     3                            9          3                     99/1
    11 UES-EMPLOYEES             47         20          1         75/1
    11                            0          4                     53/0
    13 UES-TEST                   30         20          1         10/0
    13                           25         14                     9/0
    14 DBCS3035                   60         22          1         30/0
    14                           22          9                     8/0
    15 COLLATION1                  6          3          1          1/0
    15                            4          0                     0/0
    18 SECURITY                    1          1          1          1/0
    18                            1          0                     1/0
    19 CHECKPOINT                 30          3          4         90/1
    19                           30          2                     53/0
    23 EMPL23-EXT                 60         24          2         30/0
    23                           52         19                     27/0
    24 SAGABS_MYFILEXX            24          4          1          5/0
    24                           24          0                      5/0
    50 EMPL50-EXT                 80         49          2         100/1
    50                           25         28                     75/1
    88 BASEF-LBLA                 10          5          1          10/0
    88                           10          4                     10/0
    89 LOBF-LBLA                  10          5          8         411/5
    89                           10          4                     411/5
   101 file101                     7         14          2         72/0
   101                            6         12                     71/0
   266 UES-EMPLOYEES              30         20          1         75/1
   266                           30         18                     75/1
   267 UES-EMPLOYEES              63         20          1         75/1
   267                           16          4                     53/0
```

When LAYOUT=1 is specified, this section is merged into the Contents of Database section of the report.

Each file listed has two rows in the file space allocations table. The first row shows the number of blocks and cylinders *allocated*. The second row shows the number of blocks and cylinders currently *unused*.

The first two columns give the number and logical name of the file. The remaining columns provide the following information:

Column	The number of . . .
NI	blocks for the normal index.
UI	blocks for the upper index.
AC	blocks for the address converter.
DATA/CYL	blocks and cylinders for Data Storage.

LOB File

If a database includes a LOB file, an additional section describing the LOB file is included in the report. Here is an example:

```
*************
*           *
* LOB Files *                                          yyyy-mm-dd   hh:mm:ss
*           *
*************




File with  I Associated I
LOB fields I LOB file   I
-----------------------
        2 I          3 I
----------I-----------I
       88 I         89 I
----------I-----------I
```

The columns provide the following information:

Column	Lists:
File with LOB fields	The file numbers of files containing LB fields.
Associated LOB file	The number of the LOB file in which the actual LB field values are stored.

Physical Layout of the Database

The next section lists all space allocations for the database in RABN sequence. RABNs allocated to the Associator are listed first, followed by RABNs allocated to Data Storage.

```
**********************************
*                                *
* Physical Layout of the Database *                    yyyy-mm-dd   hh:mm:ss
*                                *
**********************************


     From          To     Number  Dev   Table File VOLSER
     Blk          Blk     of Blks Type   Type       Number

     131    -     162        32 3390     PPT     0 ADA001
     163    -     163         1 3390     DSST    0 ADA001
     164    -     164         1 3390     AC     19 ADA001
     165    -     174        10 3390     UI     19 ADA001
     175    -     224        50 3390     NI     19 ADA001
     225    -     242        18 3390     AC      2 ADA001
     243    -     243         1 3390     AC2     2 ADA001
     244    -     254        11 3390   UNUSED    0 ADA001
     255    -     259         5 3390     AC      1 ADA001
```

Note:

Normally, a gap in the physical layout table is accompanied by an error message pointing to the gap. However, this is not the case for the physical layout of a file save. Since the file save contains only the FCBs of the saved files, there will be gaps in the physical layout table and these are reported as 'unknown' ranges.

The columns in this table provide the following information:

Column	Explanation
FROM BLK	The RABN of the first block in the logical extent.
TO BLK	The RABN of the last block in the logical extent.
NUMBER OF BLKS	The number of blocks contained within the extent.
DEV TYPE	The physical device type.
TABLE TYPE	The element for which the allocation was made: AC address converter NI normal index UI upper index DS Data Storage DSF Delta Save logging area DSST Data Storage Space Table UNUSED available space
FILE	The file for which the allocation was made. Zero indicates that the extent is not related to a particular file.
VOLSER NUMBER	The serial number of the volume on which the extent is contained. This is shown for Data Storage only if the Data Storage data sets are present in the JCL.

File Information

General Characteristics

Detailed information on each file in the database is provided after the database information. This information can be limited to certain files or omitted altogether. The first part of this section displays information about the file's characteristics. Here is an example of a file containing spanned records:

```
*******************************
*                             *
* File    2 (64BIT-1      ) *                              yyyy-mm-dd  hh:mm:ss
*                             *
*******************************


TOP-ISN             =            25    Highest Index Level =  3
MAX-ISN Expected    =        15,263    Padding Factor ASSO = 10%
Records Loaded      =            25    Padding Factor DATA =  0%
MIN-ISN             =             1    Length of Client NR =  0
TOP AC2 ISN         =           100
MAX AC2 ISN Exp.    =           848
MIN AC2 ISN         =             1
Number of Updates   =             0    ISNSIZE             =  3

MAX COMP REC LEN    =           N/A    Date Loaded         = 2006-03-25
BLK/ADD DS  EXT     =             0    Time Loaded         = 16:41:21
BLK/ADD UI  EXT     =             0
BLK/ADD NI  EXT     =             0
```

Here is an example of the general characteristics of the *base file* of a base file-LOB file pair:

```
 *******************************
 *                             *
 * File    2 (BASEFILE     ) *                              yyyy-mm-dd  hh:mm:ss
 *                             *
 *******************************


 TOP-ISN             =            45    Highest Index Level =  0
 MAX-ISN Expected    =         1,377    Padding Factor ASSO = 10%
 Records Loaded      =            44    Padding Factor DATA = 10%
 MIN-ISN             =             1    Length of Client NR =  0
 Number of Updates   =        55,937    ISNSIZE             =  3

 MAX COMP REC LEN    =        10,792    Date Loaded         = 2006-09-01
 BLK/ADD DS  EXT     =             0    Time Loaded         = 14:16:57
 BLK/ADD UI  EXT     =             0    Date of last update = 2007-01-23
 BLK/ADD NI  EXT     =             0    Time of last update = 07:00:52

 FILE ALPHA CODE     =            37
 FILE WIDE CODE      =         4,095
 USER WIDE CODE      =         4,095
```

Here is an example of the general characteristics of the *LOB file* of a base file-LOB file pair:

```
*******************************
*                             *
* File    3 (LOBFILE        ) *                        yyyy-mm-dd  hh:mm:ss
*                             *
*******************************



  TOP-ISN              =               3     Highest Index Level =  3
  MAX-ISN Expected     =           1,377     Padding Factor ASSO = 10%
  Records Loaded       =               0     Padding Factor DATA = 10%
  MIN-ISN              =               1     Length of Client NR =  0
  Number of Updates    =               0     ISNSIZE             =  3

  MAX COMP REC LEN     =          10,792     Date Loaded         = 2006-09-01
  BLK/ADD DS  EXT      =               0     Time Loaded         = 14:16:58
  BLK/ADD UI  EXT      =               0
  BLK/ADD NI  EXT      =               0

  FILE ALPHA CODE      =     DB DEFAULT
  FILE WIDE CODE       =     DB DEFAULT
  USER WIDE CODE       =     DB DEFAULT
```

The following information can be provided on this report (although all of these fields may not appear on the samples above):

Field	Explanation
BLK/ADD DS EXT	Maximum number of blocks which may be allocated for each Data Storage secondary extent. See the ADALOD utility, MAXDS parameter.
BLK/ADD NI EXT	Maximum number of blocks which may be allocated for each secondary normal index extent. See the ADALOD utility, MAXNI parameter.
BLK/ADD UI EXT	Maximum number of blocks which may be allocated for each secondary upper index extent. See the ADALOD utility, MAXUI parameter.
Collect before images of updates	Indicates whether or not before images of data storage are collected for replication (if replication is activated) during the update of a record on a file. This information is shown whether or not a file is replicated with a primary key defined.
DATE LOADED	Date the file was loaded.
DATE OF LAST UPDATE	Date the file was last changed.
FILE ALPHA CODE	Current file encoding set for alphanumeric fields in the file. This information is not displayed if UES=NO.
FILE WIDE CODE	Current file encoding set for wide-character fields in the file. This information is not displayed if UES=NO.
HIGHEST INDEX LEVEL	Highest index level currently active for the file.
ISNSIZE	Whether the file contains 3-byte or 4-byte ISNs.

Field	Explanation
LENGTH OF CLIENT NR	Length of the owner ID for a multiclient file.
MAX AC2 ISN EXP	The highest secondary ISN expected in the file. This statistic is given only if spanned records are activated for the file.
MAX COMP REC LEN	Maximum compressed record length permitted for the file. See the ADALOD utility, MAXRECL parameter. If spanned record support is enabled for the file, the value for this field is shown as "N/A".
MAX-ISN EXPECTED	Highest ISN planned for the file. See the ADALOD utility, MAXISN parameter.
MIN AC2 ISN	The lowest secondary ISN in the file. This statistic is given only if spanned records are activated for the file.
MIN-ISN	Lowest ISN that can be assigned to a record in the file. See the ADALOD utility, MINISN parameter.
Number of Updates	Number of updates that have been applied to the file after it was loaded.
PADDING FACTOR ASSO	Associator padding factor. For more information, read about the ADALOD LOAD ASSOPFAC parameter or the ADAORD REORASSO and REORFASSO functions.
PADDING FACTOR DATA	Data Storage padding factor. For more information, read about the ADALOD LOAD DATAPFAC parameter or the ADAORD REORDATA and REORFDATA functions. **Note:** If spanned records are used, the padding factor is ignored, in an attempt to fully use the block. So it is frequently listed as zero in this report. The padding factor is only used in the last, short, segment of a spanned record.
Primary key of replicated records	Identifies the primary key for replication, if replication is activated. This information is shown only if a file is replicated with a primary key defined.
Records Loaded	Number of records currently contained in the file.
Replicator target ID	Identifies the database ID of the Event Replicator Server used for replication, if replication is activated. This information is shown whether or not a file is replicated with a primary key defined.
TIME LOADED	Time the file was loaded.
TIME OF LAST UPDATE	Time the file was last changed.
TOP AC2 ISN	The highest secondary ISN in use in the file. This statistic is given only if spanned records are activated for the file.
TOP-ISN	Highest ISN currently used in the file.
USER WIDE CODE	Current user encoding set for wide-character fields in the file. This information is not displayed if UES=NO.

Options

File option settings for the file are displayed next. Here is an example showing that spanned records are used:

```
ADAM File         No
Ciphered File     No
ISN Reusage       No
Space Reusage     Yes
Coupled Files     None
Expanded File     No
USERISN           No
NOACEXTENSION     No
MIXDSDEV          No
PGMREFRESH        No
Multi Client File No
Privileged usage  No
Online INVERT     None
Index Compressed  No
Spanned Rec Supp  Yes
Two Byte MU/PE    No


ADABAS version needed for this file: V71 or later
```

Here is an example of the *base file* of a base file-LOB file pair, showing that the file contains LB fields:

```
 ADAM File         No
 Ciphered File     No
 ISN Reusage       Yes
 Space Reusage     Yes
 Coupled Files     None
 Expanded File     No
 USERISN           No
 NOACEXTENSION     No
 MIXDSDEV          No
 PGMREFRESH        No
 Multi Client File No
 Privileged usage  No
 Online INVERT     None
 Index Compressed  Yes
 Spanned Rec Supp  No
 Two Byte MU/PE    No
 LOB file          No
 Contain LOB fields Yes
```

Here is an example of the *LOB file* of a base file-LOB file pair, showing that the file is itself a LOB file:

```
ADAM File          No
Ciphered File      No
ISN Reusage        Yes
Space Reusage      Yes
Coupled Files      None
Expanded File      No
USERISN            No
NOACEXTENSION      No
MIXDSDEV           No
PGMREFRESH         No
Multi Client File  No
Privileged usage   No
Online INVERT      None
Index Compressed   Yes
Spanned Rec Supp   No
Two Byte MU/PE     No
LOB file           Yes
Contain LOB fields No
```

Field	Indicates . . .
ADAM File	whether the file was loaded with the ADAM option.
Ciphered File	whether the file was loaded with the cipher option.
ISN Reusage	whether the file ISNs can be reused.
Space Reusage	whether the file Data Storage space can be reused.
Coupled Files	the file(s) to which this file is physically coupled.
Expanded File	whether the file is part of an expanded file; if so, the number of the expanded file is displayed.
USERISN	whether the file was loaded with the USERISN option.
NOACEXTENSION	whether the file permits increasing the MAXISN setting.
MIXDSDEV	whether the file Data Storage extents can be on different device types.
PGMREFRESH	whether the file can be refreshed using the E1 command.
Multiclient File	whether the file can contain records belonging to multiple owners/owner IDs.
Privileged usage	whether the file was locked by the nucleus for privileged usage; if so, only Adabas utilities are allowed to access the file.
Online INVERT	the descriptor(s) being inverted online.
Index Compressed	whether the file index is compressed.
Spanned Rec Supp	whether spanned record support is activated for the file.
Two Byte MU/PE	whether two-byte MU/PE indexes (when MU/PE occurrences exceed 191) are active for the file.
LOB file	whether the file is a LOB file.
Contain LOB fields	whether the file contains one or more LB fields (it is a base file).

Delta Save Change Flags

If the Delta Save Facility is installed on the database and delta save logging is enabled, ADAREP shows the delta save change flags for each file:

```
   DELTA SAVE CHANGE FLAGS:
     SAVE ENTIRE INDEX     = [YES | NO]
     SAVE ENTIRE ADDR CONV = [YES | NO]
     SAVE ENTIRE DATA STOR = [YES | NO]
     TOTAL CHANGES BY UTILITIES = nnn BLOCKS
```

Each flag indicates whether all of the index, address converter, or Data Storage, respectively, of the file have been changed by a utility and will be saved entirely in the next delta save operation.

The "TOTAL CHANGE BY UTILITIES" include the blocks within extents that will be saved entirely as well as the blocks changed by ADALOD UPDATE executions.

Space Allocation

The next section lists the space allocations for the file. Here is an example showing space allocations when spanned records are used:

```
List I Dev  Block I   Space Alloc.   I    From       To  I   Unused Space    I
Type I Type Lngth I  Blocks     Cyl  I    RABN      RABN I  Blocks      Cyl  I
     I           I               I            I           I
-----I-----------I-----------------I--------------------I------------------I
     I           I               I            I           I
 AC  I 3390 2544 I      18       0I     225       242I                     I
 AC2 I 3390 2544 I       1       0I     243       243I                     I
 NI  I 3390 2544 I     500       1I     524      1023I      499         1I
 UI  I 3390 2544 I     100       0I    1024      1123I       98         0I
DSST I 3390 2544 I       1       0I     163       163I                     I
     I           I               I            I           I
 DS  I 3390 5064 I    1500      10I     473      1972I     1397         9I
     I           I               I            I           I
 ------------------------------------------------------------------------
```

Here is an example of the space allocation of a *base file* in a base file-LOB file pair:

```
 List I Dev   Block I   Space Alloc.   I    From       To  I   Unused Space    I
 Type I Type  Lngth I  Blocks     Cyl  I    RABN      RABN I  Blocks      Cyl  I
      I            I               I            I           I
 -----I------------I-----------------I--------------------I------------------I
      I            I               I            I           I
  AC  I 8391  4136 I       1       0I    1717      1717I                     I
  NI  I 8391  4136 I      10       0I    1988      1997I       10         0I
  UI  I 8391  4136 I       5       0I    1718      1722I        5         0I
  FDT I 8391  4136 I       4       0I     335       338I                     I
 DSST I 8391  4136 I       1       0I    1563      1563I                     I
      I            I               I            I           I
  DS  I 8391 10796 I      10       0I     176       185I        9         0I
      I            I               I            I           I
 ------------------------------------------------------------------------
```

Here is an example of the space allocation of a *LOB file* in a base file-LOB file pair:

```
 List I Dev  Block I  Space Alloc.   I    From        To  I  Unused Space    I
 Type I Type Lngth I  Blocks    Cyl  I    RABN       RABN I  Blocks     Cyl  I
      I            I               I                      I                  I
 -----I-----------I---------------I----------------------I------------------I
      I            I               I                      I                  I
  AC  I 8391  4136 I     1      0I     1998       1998I                    I
  NI  I 8391  4136 I    10      0I     1732       1741I        9        0I
  UI  I 8391  4136 I     5      0I     1999       2003I        3        0I
  FDT I 8391  4136 I     4      0I      339        342I                    I
 DSST I 8391  4136 I     1      0I     1563       1563I                    I
      I            I               I                      I                  I
  DS  I 8391 10796 I   100      1I      403        502I       99        1I
      I            I               I                      I                  I
 --------------------------------------------------------------------------
```

The space allocations table provides the following information:

Column	Explanation
LIST TYPE	The database component: AC address converter AC2 secondary address converter extents (for spanned records) NI normal index UI upper index DS Data Storage DSF File-specific delta save logging area DSST Data Storage Space Table UNUSED Available space
DEV TYPE	Physical device containing the component.
BLOCK LNGTH	Block length depends on the component and device type.
SPACE ALLOC.	Total number of blocks and cylinders allocated to the component; "0" indicates less than one full cylinder.
FROM RABN	RABN of the first block in the logical extent.
TO RABN	RABN of the last block in the logical extent.
UNUSED SPACE	Number of allocated blocks and cylinders but currently unused; "0" indicates less than one full cylinder.

Field Definition Table

The Field Definition Table (FDT) is displayed next. This information can be omitted. Here is a general example of the FDT section of the report:

```
    FIELD DESCRIPTION TABLE


        I      I         I        I            I
    LEVEL I NAME I LENGTH I FORMAT I   OPTIONS  I         PARENT OF
        I      I         I        I            I
    ------I------I--------I--------I------------I---------------------------I
        I      I         I        I            I                            I
      1  I AA  I    8   I   A   I  DE,UQ     I                            I
      1  I AB  I        I       I            I                            I
      2  I AC  I   20   I   A   I  NU        I                            I
      2  I AE  I   20   I   A   I  DE        I      SUPERDE,PHONDE I
      2  I AD  I   20   I   A   I  NU        I                            I
      1  I AF  I    1   I   A   I  FI        I                            I
      1  I AG  I    1   I   A   I  FI        I                            I
      1  I AH  I    6   I   U   I  DE        I                            I
      1  I A2  I        I       I            I                            I
      1  I AO  I    6   I   A   I  DE        I      SUBDE,SUPERDE  I
      1  I AQ  I        I       I  PE        I                            I
      2  I AR  I    3   I   A   I  NU        I      SUPERDE         I
      2  I AS  I    5   I   P   I  NU        I      SUPERDE         I
      1  I A3  I        I       I            I                            I
      2  I AU  I    2   I   U   I            I      SUPERDE         I
      2  I AV  I    2   I   U   I  NU        I      SUPERDE         I
```

Here is an example of part of the FDT associated with the *base file* of a base file-LOB file pair, showing the LB fields in the base file.

```
Field Description Table

      I       I       I        I                       I                       I
 Level I Name I Length I Format I  Options              I  Parent of            I
      I       I       I        I                       I                       I
------I------I--------I--------I----------------------I----------------------I
      I       I       I        I                       I                       I
  1  I  AA  I   6   I    A   I NU                     I                       I
  1  I  AP  I   2   I    P   I NU                     I                       I
  1  I  A1  I   0   I    A   I NU                     I                       I
  1  I  A2  I   0   I    A   I NU,NV                  I                       I
  1  I  A3  I   0   I    A   I MU,NU                  I                       I
  1  I  A4  I   0   I    A   I MU,NU,NV               I                       I
  1  I  A5  I   0   I    A   I NC                     I                       I
  1  I  A6  I   0   I    A   I NC,NV                  I                       I
  1  I  B1  I   0   I    A   I LA,NU                  I                       I
  1  I  B2  I   0   I    A   I LA,NB,NU               I                       I
  1  I  B3  I   0   I    A   I LA,NU,NV               I                       I
  1  I  B4  I   0   I    A   I LA,NB,NU,NV            I                       I
  1  I  B5  I   0   I    A   I LA,MU,NU               I                       I
  1  I  B6  I   0   I    A   I LA,NB,MU,NU            I                       I
  1  I  B7  I   0   I    A   I LA,MU,NU,NV            I                       I
  1  I  B8  I   0   I    A   I LA,NB,MU,NU,NV         I                       I
  1  I  C1  I   0   I    A   I LB,NU                  I                       I
  1  I  C2  I   0   I    A   I LB,NB,NU               I                       I
  1  I  C3  I   0   I    A   I LB,NU,NV               I                       I
  1  I  C4  I   0   I    A   I LB,NB,NU,NV            I                       I
  1  I  C5  I   0   I    A   I LB,MU,NU               I                       I
  1  I  C6  I   0   I    A   I LB,NB,MU,NU            I                       I
  1  I  C7  I   0   I    A   I LB,MU,NU,NV            I                       I
  1  I  C8  I   0   I    A   I LB,NB,MU,NU,NV         I                       I
  1  I  D1  I   0   I    W   I NU                     I                       I
  1  I  D2  I   0   I    W   I NU,NV                  I                       I
  1  I  D3  I   0   I    W   I MU,NU                  I                       I
  1  I  D4  I   0   I    W   I MU,NU,NV               I                       I
  1  I  D5  I   0   I    W   I NC                     I                       I
  1  I  D6  I   0   I    W   I NC,NV                  I                       I
  1  I
```

FDT sections are not printed for *LOB files*.

Field	Explanation
LEVEL	Field level.
NAME	Field name.
LENGTH	Field length, in bytes.

Field	Explanation
FORMAT	Field's data type: A alphanumeric B binary F fixed point P packed decimal G floating point U unpacked decimal W wide-character
OPTIONS	DE Descriptor FI Fixed storage LA Long alphanumeric LB Large object field MU Multiple-value field NB No blank compression NC Null/not counted NN Null not allowed NU Null value suppression NV Not converted (alpha and wide-character fields) PE A periodic group. The fields composing the periodic group are those which follow and have a higher level number. UQ Unique descriptor XI Index (occurrence) number excluded from UQ in PE
PARENT OF	Shows whether this field is a parent field for a collation descriptor, sub/superfield, sub/superdescriptor, hyperdescriptor, or phonetic descriptor.

Special Descriptors

The next section displays information about any special descriptors (collation descriptors, subdescriptors, subfields, superdescriptors, superfields, phonetic descriptors, and hyperdescriptors) in the file:

```
    SPECIAL DESCRIPTOR TABLE
         I       I        I         I                          I                  I
    TYPE I NAME I LENGTH I FORMAT I                    OPTIONS I    STRUCTURE I
         I       I        I         I                          I                  I
  -------I------I--------I--------I----------------------I----------------I
         I       I        I         I                          I                  I
  SUPER I  H1 I      4 I       B I                     DE,NU I   AU ( 1 - 2) I
         I       I        I         I                          I   AV ( 1 - 2) I
    SUB I  S1 I      4 I       A I                        DE I   AO ( 1 - 4) I
  SUPER I  S2 I     26 I       A I                        DE I   AO ( 1 - 6) I
         I       I        I         I                          I   AE ( 1 - 20) I
  SUPER I  S3 I     12 I       A I                  DE,NU,PE I   AR ( 1 - 3) I
         I       I        I         I                          I   AS ( 1 - 9) I
         I       I        I         I                          I                  I
   PHON I  PH I        I         I                          I PH = PHON(AE) I
         I       I        I         I                          I                  I
    COL I  Y1 I     20 I       W I                        DE I    CDX 8,PA I
    COL I  Y2 I     12 I       A I                  DE,NU,PE I    CDX 1,AR I
         I       I        I         I                          I                  I
         I       I        I         I                          I                  I
  ----------------------------------------------------------------------
```

Along with the name, length, and format of each special descriptor, this table provides the following information:

Column	Explanation	
TYPE	SUB	Subfield/subdescriptor
	SUPER	Superfield/superdescriptor
	PHON	Phonetic descriptor
	HYPER	Hyperdescriptor
	COL	Collation descriptor
OPTIONS	DE	Descriptor field
	FI	Fixed point
	LA	Long alphanumeric
	MU	Multiple-value field
	NC	Null not counted (SQL null representation)
	NN	Null not allowed
	NU	Null value suppression
	NV	Not converted (alpha and wide-character fields)
	PE	Periodic group
	UQ	Unique descriptor
	XI	Index (occurrence) number excluded from UQ in PE
STRUCTURE	The component fields and field bytes of the sub-, super-, or hyperdescriptor. Phonetic descriptors show the equivalent alphanumeric elementary fields. Collation descriptors show the associated collation descriptor user exit and the name of the parent field.	

Checkpoint Information

Checkpoint information is also provided if the CPLIST or CPEXLIST parameters are specified:

```
    ********************
    * CHECK-POINT-LIST *                                yyyy-mm-dd hh:mm:ss
    ********************


    CP          CP          DATE        TIME        PLOG        BLOCK   JOBNAME
    NAME        TYPE                                NR          NR
                USER TYPE                           VOLSER NR....

    SYNP        30          1995-06-03  14:07:38     47          1      DUAL GA0TB1
                LOAD                                VOLSER = WRK001
    SYNC        01   ET     1995-06-03  14:08:16     48          2      DUAL GANUC70A
                SESSION OPEN IGNDIB=N FORCE=N
    SYNP        1C   UTI    1995-06-03  14:08:36     48          3      DUAL GA0TB1
                RESTRUCT
```

The columns in this table provide the following information:

Column	Explanation
CP-NAME	The checkpoint identifier. In the case of a user non-synchronized checkpoint, this is the checkpoint identifier supplied by the user program. Checkpoint names starting with "SYN"" are reserved for the Adabas nucleus and utilities: • SYNC -- A synchronized checkpoint made during nucleus initialization, including the status of the ADARUN IGNDIB and FORCE parameters. • SYNF -- A checkpoint taken by a user program or utility that requires exclusive (EXF) control of one or more files. • SYNP -- A checkpoint from a utility that requires privileged control. Such a utility can perform updating without using the Adabas nucleus. • SYNS -- A checkpoint from Adabas Online System (SYSAOS) or ADADBS with three exceptions from the nucleus. The function identified by this checkpoint is implemented without user intervention during regeneration. Exceptions include a second SYNS 5B recorded at the end of a nucleus session, SYNS 60 recorded at an interval specified by the ADARUN INTNAS parameter,and SYNS 61 recorded when more space is allocated for a file. • SYNV -- Indicates that a volume ID changed during sequential write to a data set is being closed. • SYNX -- A checkpoint from a utility requiring exclusive control (EXU) of one or more files. • SYN1 -- A checkpoint made at the beginning of online ADASAV execution (SAVE database function). • SYN2 -- A checkpoint made at the end of online ADASAV execution (SAVE database function). • SYN4 -- A checkpoint made at the beginning of online ADASAV execution (SAVE files operation). • SYN5 -- A checkpoint made at the end of online ADASAV execution (SAVE files operation).
CP TYPE	The checkpoint number. See the following table of checkpoints for the possible checkpoint numbers.

Column	Explanation
USER TYPE	The Adabas user type that set the checkpoint. The user types are: ET ET user EXF exclusive-file-control user or utility (privileged user) EXU exclusive-file-update user or utility UTI utility-update-control utility (privileged user) UTS Online ADASAV SAVE file (privileged user)
DATE TIME	The date and time the checkpoint was taken.
PLOG NR.	The number of the data protection log in use when the checkpoint was written to the checkpoint file.
BLOCK NR.	The block number of the data protection log in which the checkpoint was written.
VOLSER-NUMBER	The volume serial number of the sequential protection (DD/SIBA) log. The volume serial number is "DUAL" if dual logging is used and "MULTI" if multiple logging is used.
JOBNAME	The name of the job that created the checkpoint.

The following table describes the checkpoints written by the Adabas nucleus or utilities:

Type	Name	Originator	Description
01	SYNC	ADANUC	Written by nucleus at start of nucleus session.
01	SYNF	User/Util.	User/utility session OPEN with files used in EXF (exclusive use) mode.
01	SYNX	EXU user	EXU user open.
02	SYNV	ADANUC	VOLSER entry. Written at volume switch on DD/SIBA and at the end of the session if sequential logging is used.
03	SYNF	User/Util.	Close checkpoint for an EXF user.
03	SYNX	EXU	Close checkpoint for an EXU user.
05	SYNP	ADASAV	SAVE file(s)-start of operation
06	SYNP	ADASAV	SAVE database-start of operation
07	SYNP	ADASAV	RESTORE file(s)-end of operation
08	SYNP	ADASAV	RESTPLOG-end of operation
09	SYNV	ADASAV	SAVE file(s), VOLSER entry. Written at volume change on DD/SAVE and at SAVE-operation end.
0A	SYNV	ADASAV	SAVE database, VOLSER entry. Written at volume switch on DD/SAVE and at SAVE-operation end.

Type	Name	Originator	Description
0B	SYNP	ADASAV	SAVE DELTA-end of operation
0C	SYNP	ADASAV	RESTORE DELTA-end of operation
0D	SYNP	ADASAV	MERGE-end of operation
0E	SYNV	ADASAV	SAVE DELTA, VOLSER entry
0F	SYNV	ADASAV	MERGE, VOLSER entry
10	SYNP	ADAINV	COUPLE files
11	SYNP	ADAINV	INVERT field(s)
15	SYNP	ADAORD	REORDER Associator database
16	SYNP	ADAORD	REORDER Data Storage database
17	SYNP	ADAORD	REORDER database
18	SYNP	ADAORD	REORDER Associator file
19	SYNP	ADAORD	REORDER Data Storage file
1A	SYNP	ADAORD	REORDER file
1B	SYNP	ADAORD	STORE
1C	SYNP	ADAORD	RESTRUCTURE
1D	SYNP	ADADEF	DEFINE NEWWORK
1E	SYNP	ADADEF	MODIFY default character encodings
22	SYNX	ADARES	REGENERATE file
23	SYNX	ADARES	BACKOUT file
24	SYNX	ADARES	REGENERATE all; CPEXLIST lists excluded files
25	SYNX	ADARES	BACKOUT all; CPEXLIST lists excluded files
26	SYNP	ADARES	REPAIR Data Storage
27	SYNV	ADARES	COPY sequential protection log
28	SYNP	ADARES	PLCOPY function successfully completed
28	SYNV	ADARES	PLCOPY dual or multiple protection log
29	SYNV	ADARES	CLCOPY dual or multiple command log
2A	SYNP	ADARES	PLCOPY MERGE function successfully completed
2A	SYNV	ADARES	PLCOPY MERGE dual or multiple protection log
2B	SYNP	ADARES	CLOG MERGE function successfully completed
2B	SYNV	ADARES	CLOG MERGE dual or multiple command log
30	SYNP	ADALOD	LOAD file
31	SYNP	ADALOD	Mass update
35	SYNX	ADAULD	Unload file

Type	Name	Originator	Description
3F	SYNP	ADAZAP	Successful VERIFY - REPLACE
40	SYNS	SYSAOS	Add extent
41	SYNS	SYSAOS	CHANGE default field length
42	SYNS	SYSAOS	DECREASE database size
44	SYNS	SYSAOS	Delete file
45	SYNS	SYSAOS	INCREASE database size
47	SYNS	SYSAOS	RECOVER space
48	SYNS	SYSAOS	Refresh file
49	SYNS	SYSAOS	Remove component file from expanded-file chain
4A	SYNS	SYSAOS	Release descriptor
4B	SYNS	SYSAOS	RENAME file
4C	SYNS	SYSAOS	RENUMBER file
4D	SYNS	SYSAOS	RESET DIB
4E	SYNS	SYSAOS	Reuse ISN
4F	SYNS	SYSAOS	Reuse Data Storage
50	SYNS	SYSAOS	UNCOUPLE files
51	SYNS	SYSAOS	ALLOCATE file extent
52	SYNS	SYSAOS	DEALLOCATE file extent
53	SYNS	SYSAOS	Delete checkpoint
54	SYNS	SYSAOS	Set user priority
55	SYNS	SYSAOS	Modify FCB
57	SYNS	SYSAOS	DEFINE file
58	SYNS	SYSAOS	Write FDT
59	SYNS	SYSAOS	DEFINE new field
5B	SYNS	ADADBS	Write refreshed statistics (some or all per user request)
5B	SYNS	ADANUC	Write (all) statistics at end of nucleus session
5B	SYNS	ADARES	Write refreshed statistics (command, file, and thread usage; DRES and DSTAT)
5C	SYNS	SYSAOS	CHANGE default field format
5D	SYNS	SYSAOS	Change file encoding
5E	SYNS	ADADBS	ADADBS REPTOR function (refer to your Event Replicator for Adabas documentation)
60	SYNS	ADANUC	Nucleus statistic checkpoint
61	SYNS	ADANUC	Allocate file space

Type	Name	Originator	Description
64	SYNS	ADASCR	Protect files
65	SYNS	ADASCR	Protect fields
66	SYNS	SYSAOS	Link component file into expanded-file chain
68	SYNS	SYSAOS	Set USERISN on/off
69	SYNS	SYSAOS	Set MIXDSDEV on/off
6A	SYNS	SYSAOS	Install Delta Save DLOG area
6B	SYNS	SYSAOS	Change Delta Save DLOG area
6C	SYNS	SYSAOS	Remove Delta Save DLOG area
6E	SYNS	ADADBS	ADADBS REPLICATION function (refer to your Event Replicator for Adabas documentation)
6F	SYNS	SYSAOS	Online process initiated
70	SYNS	SYSAOS	Online invert process
71	SYNS	SYSAOS	Online reorder process
73	SYNC	ADANUC	Nucleus (nuclei) successfully quiesced.
74	SYNC	ADANUC	Nucleus (nuclei) have resumed normal processing.
75	SYNS	ADANUC	Delete heuri-user-entry after Response 72 was detected during nucleus startup.
76	SYNS	ADANUC	Delete heuri-user-entry after Response 72 was detected during nucleus session.
77	SYNS	ADADBS	Enable spanned record support.
78	SYNS	ADADBS	Enable or disable extended MU or PE fields