_betasystems

Adabas Audit Data Retrieval

Installation and System Guide

Version 7 Release 2

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Contents

Introduction

Overview

About this manual   This manual contains the following information about Adabas Audit Data Retrieval:

- Product installation and customization

- Batch utilities

- Security considerations

- SMF records

- Operator console commands

Beta Systems Architecture (BSA)   All Beta products require Beta Systems Architecture (BSA) functions for execution.

The BSA functions perform basic tasks like, for example, managing the databases of a Beta Systems product. The BSA functions are identical for all Beta Systems products.

Before installing Adabas Audit Data Retrieval   Before you start the installation, determine whether other Beta products have been installed.

We recommend that you use the same SMP/E and BSA environment if other BSA V7-based products are already present.

Refer to the description in the *BSA Installation and System Guide* for more information on the installation of BSA. The installation description in *Adabas Audit Data Retrieval Installation and System Guide* assumes that the SMP/E environment and BSA libraries are already present.

Introducing Adabas Audit Data Retrieval

Overview

Adabas Auditing for z/OS (ALA) is an extension for Adabas/Natural, which provides the following functions:

- Filtering, saving, and archiving of Adabas logs in a unified format
- Retrieving logs based on customer-specific search criteria
- Displaying search results

Adabas Auditing for z/OS (ALA) is able to answer questions like:

- When was the data accessed?
- Who accessed the data?
- Which data was affected by the access?
- Which type of access took place (read, update, delete, insert)?

Components

Adabas Auditing for z/OS (ALA) comprises the following components:

- Adabas Event Hub (EAB)

  This component selects, filters, and prepares Adabas audit data for indexing by the Adabas Audit Data Retrieval (AAR) component. The extracted data is stored in so-called ALOG datasets.

  The Adabas Manager (AMN), which is the graphical user interface (GUI) for the administration of Adabas, provides functionality to support ALA/EAB administration.

- Adabas Audit Data Retrieval (AAR)

  This component imports the ALOG datasets into its database and creates appropriate indexes to enable fast retrieval.

  The indexed data can be archived on various storage systems, for example, on tape or on optical disks.

- Adabas Audit Data Viewer (AAV)

  This component is the web user interface that enables end users to search and display the data that has been indexed by the Adabas Audit Data Retrieval (AAR) component.

Adabas Audit Data Retrieval features

- Adabas Audit Data Retrieval indexes and archives lists and allows online retrieval and viewing for multiple users.
- Adabas Audit Data Retrieval builds indexes for your log datasets according to the structure information included in the logs. It is also possible to create your own index definitions if additional processing instructions are needed.
- Administrators can access definitions and indexed lists with the help of panels on 3270-type terminals. The end-user tool for accessing the indexed data is Adabas Audit Data Viewer (AAV).

Host components   Adabas Audit Data Retrieval runs as a subsystem on your z/OS host
                           computer. Adabas Audit Data Retrieval includes the following components
                           on the host:

- The started task (B97STC) provides access to the Adabas Audit Data
  Retrieval database and controls communication between the various
  components.

- The reader program (B97RDR00) reads Adabas log audit datasets
  (ALOG datasets) and processes the contained data according to the
  definitions in the Adabas Audit Data Retrieval database and the
  structure information included in the datasets.

- An ISPF application to access definitions and indexed lists via a 3270-
  type terminal

- Various maintenance batch utilities (archive, reload, cleanup)

Two-digit numeric   **97** is the identifying number of Adabas Audit Data Retrieval. You will see
identifier   the identifying number in:

- Program and job names like B97DLOAD

- LST parameters (B97_SSID)

- LST member name (B97LST*xx*)

- System identifier in the JCL ('S=97')

Structure of the documentation

Overview

Adabas Audit Data Retrieval is based on Beta Systems Architecture (BSA).

The following manuals are available for Adabas Audit Data Retrieval and BSA.

Adabas Audit Data Retrieval Administrator Guide

This manual describes how to use Adabas Audit Data Retrieval to perform administrative tasks. It includes the following:

- Step-by-step instructions for defining indexes
- Task-oriented information on using the batch utilities
- Reference information for panels and batch utilities

Adabas Audit Data Retrieval Installation and System Guide

This manual includes the following:

- Product installation and customization
- Batch utilities
- Security considerations
- Operator console commands

Adabas Audit Data Retrieval Messages and Codes

This manual includes the following:

- Adabas Audit Data Retrieval system messages (message range: 1000 through 7999)
- User abend codes

BSA Installation and System Guide

This manual includes the following:

- BSA installation and customization
- Global system information

BSA Messages and Codes

This manual includes the following:

- BSA component system messages (message range: 8000 through 9999)
- User abend codes

BSA Service Manager Manual

This manual includes the following:

- General description of the BSA Service Manager application

Conventions used in this manual

Sideheads
The manuals of Adabas Audit Data Retrieval contain different types of information:

- Task-based information, for example, procedures containing a sequence of numbered steps

- Reference information, for example, panel and field descriptions

The sideheads in the margin help you locate the required information quickly.

Keys
All keys are written in uppercase letters. Function keys (also called program function keys) are referred to as PF*n*, for example:

> Use PF11 to scroll to the right and PF10 to scroll to the left.

Panel navigation
All procedures and panel descriptions use the "Primary Selection Menu" as point of reference. For example:

> To display the system profile options:
>
> - From the "Primary Selection Menu", select option **P.2**.

You don't have to enter these options in separate steps and you don't have to return to the "Primary Selection Menu" all the time. Do the following to access the "Beta System Profile Options" panel in one step:

Enter ...	in the command line to call this panel from ...
P.2	the Adabas Audit Data Retrieval "Primary Selection Menu"
=P.2	any Adabas Audit Data Retrieval panel **Note**: The ISPF jump function is **not** available under VDF.

Panels

Panels are displayed in a monospaced font and framed in a box, as in the following example. As a rule, the entire panel is displayed.

The following applies to the displayed panels:

- The padding character for required fields is the dot (.) and the padding character for optional fields is the underline character (_).

- The panel ID is displayed in the top-left corner of the panel. (You can turn this display on or off using the primary command PANELID.)

```
 PEB0PRF  ---------------------------------------------------------------------
 Command ===> _____

 Beta System Profile Options

  System Name          ===> B97PROD.
  System Location      ===> BERLIN..........
  Subsystem ID          : B97P
  System Level          :                BSA Level     :
  System PTF Level      :                BSA PTF Level :


  User Date Mask       ===> MM/DD/YYYY   MM/DD/YY, DD.MM.YY, DD/MM/YY, YY.DDD
                                         MM/DD/YYYY, DD.MM.YYYY, DD/MM/YYYY
                                         YYYY.DDD, YYYY-MM-DD
  Beta Product Language ===> E           (E)nglish,(G)erman

  Extended Help Mode   ===> YES          (Y)es, (N)o



 Press the ENTER key to update your system profile options.
 Press the END key to return to the previous menu.
```

JCL

JCL is displayed in a small monospaced font and framed in a dashed box. Lowercase italic characters are used for generic cards and variables.

```
+------------------------------------------------------------------+
|jobcard                                                           |
|//B97DLOAD EXEC PGM=BST01RFF,REGION=0M,PARM=('S=97',              |
|//             'PGM=B97DLOAD',                                    |
|//             'B01LST=xx',                                       |
|//             'B97LST=xx',                                       |
|//             'SIGNON=YES')                                      |
|//STEPLIB  DD  DISP=SHR,                                          |
|//             DSN=BETA97.LOAD                                    |
|//         DD  DISP=SHR,                                          |
|//             DSN=BSA.LOAD                                       |
|//*                                                               |
|//B97DEF   DD  DISP=SHR,                                          |
|//             DSN=BETA97.DB.DEF                                  |
|//SFFPARM  DD  DISP=SHR,                                          |
|//             DSN=BETA.PARMLIB                                   |
|...                                                               |
+------------------------------------------------------------------+
```

The values in lowercase italic characters must be replaced with the appropriate values, for example *xx*, which stands for the last two digits of the members B01LST*xx* and B97LST*xx*.

Dataset names   The manual uses the high-level qualifier BETA for libraries that are typically shared by BSA and the Beta Systems products. For example, BETA.PARMLIB is used to refer to the Beta parameter library.

The manual uses the high-level qualifier BETA97 for Adabas Audit Data Retrieval libraries and databases. BSA is used for libraries of Beta Systems Architecture. For example, BETA97.LOAD is used for the Adabas Audit Data Retrieval load module library, and BSA.LOAD is used for the BSA load module library.

Libraries and databases at your data center will most likely have different names. Make sure that your JCL has the correct high-level qualifiers, which comply to the conventions used at your data center.

Listings and reports   Like JCL, listings and reports are also displayed in a small monospaced font and framed in a dashed box.

Console commands   Console commands are displayed in a large monospaced font. For example:

> To start the product started task, enter the following console command:
>
> S *stcname*
>
> where *stcname* must be replaced with the name of the product started task.

Primary commands   Primary commands are displayed in uppercase letters. To execute a primary command, type the primary command in the command line and press ENTER.

Many primary commands have a long form and one or several short forms. Instructions in this manual use the long form of the primary command and include short forms in parentheses. For example:

> In the Beta Browser, enter the primary command LASTPAGE (LP) to display the last hit page.

Generic names and variables   Generic names and variables are displayed in lowercase italic letters. For example:

> To display a specific page in the Beta Browser, enter the following primary commands (long or short form):
>
> PAGE *n* (P *n*)
>
> where *n* must be replaced with the desired page number.

Allowed values   Allowed values are separated using a vertical bar (|). Square brackets indicate that a parameter is optional.

For example, the primary command PAGEBREAK ON (PBR ON) turns the display of page breaks on, the primary command PAGEBREAK OFF (PBR OFF) turns the display of page breaks off, and the primary command PAGEBREAK (PBR) without any parameters toggles between the two. This is indicated in the syntax of the primary command as follows:

```
PBR [ON|OFF]
```

Line commands   Line commands are written in bold uppercase letters. Line commands consist of one, two, or three characters. The manual shows available line commands like this:

A   Description of line command **A**

AB   Description of line command **AB**

To execute a line command, type the line command in the **Sel** column of the table in front of the desired entry and press ENTER.

The available line commands are displayed in ISPF tables underneath the panel title. Depending on the table type, you can switch this display off by entering **Extended help = No** in your profile (option **P.2**).

You can also switch the display on and off with the primary commands `PROF HL OFF` and `PROF HL ON`.

Keyword and positional parameters   Keyword parameters and positional parameters are displayed in a monospaced font using the following syntax:

```
PARM='ssid[,TRACE=Y|N]'
```

ssid is a required positional parameter where *ssid* refers to the subsystem ID. The subsequent keyword parameter is optional, which is indicated by square brackets. A vertical bar separates alternative values. Keywords are displayed in uppercase letters.

Double-dot operator   The double-dot operator between integers indicates a range of integer values. For example, **2..5** expands to a list containing the values **2**, **3**, **4**, and **5**.

Installation

Pre-installation checklist and hardware/software requirements

Overview

Before beginning to install Adabas Audit Data Retrieval, please read the following pre-installation checklist. This checklist includes the following:

- Hardware requirements for Adabas Audit Data Retrieval

- Software requirements for Adabas Audit Data Retrieval

- Information that will be requested from you when running the installation REXX

The installation process will be shortened and made easier if this information is available before you begin. Please contact your system administrator if you need any site-specific information, for example, the names of system libraries (PROCLIB etc.) that can be used to receive Adabas Audit Data Retrieval data.

Hardware requirements

Adabas Audit Data Retrieval requires the following:

- IBM z/Series (z/Architecture).

OS requirements

Adabas Audit Data Retrieval requires the following:

- z/OS 2.3 or later with IBM SORT

   To install and run Adabas Audit Data Retrieval requires the following components, which must be compatible with your release of z/OS:

   - SMP/E

   - TSO/E

   - ISPF and ISPF/PDF

   - DFSORT (64 bit) or Syncsort (64 bit)

   - SMS (required for archiving to DASD)

   - RACF (or an equivalent security system, for example, ACF2)

   - VTAM (for multi-CPU operation only)

   - TCP/IP (for communication with Adabas Audit Viewer)

Software requirements Beta Systems products

Adabas Audit Data Retrieval V7R2 requires the following:

- BSA V7R2

- Beta 23 V7R2 (Beta Browser and other shared functions)

Refer to the *Release Notes and Update Instructions* for information on additional requirements, for example PTFs.

License requirements

A valid license is required. For details, see "License check handling" in *BSA Installation and System Guide*.

Information needed for installation REXX

The installation REXX will request the following information:

1. The following information on Adabas Audit Data Retrieval distribution and target libraries:

Library	SMS or Volume/Unit	High-level qualifier
Distribution library		
Target library		

Note: Specify the type of **DASD units** (9345, 3390, 3380 or 3350) and the **volume names** if you do not use SMS. You can use the same or different volumes for distribution and target libraries.

When referring to Adabas Audit Data Retrieval installation libraries and databases, the Adabas Audit Data Retrieval documentation uses generic *hlq* or BETA97 as high-level qualifier. Choose your own leading qualifiers in accordance with the naming conventions of your data center.

2. The following information on the Adabas Audit Data Retrieval databases (default size in brackets):

Database	SMS or Volume/Unit	Size in cylinders	High-level qualifier for cluster
hlq.SYNC		1	
hlq.INDEX1		(100)	
hlq.GLOBL1		(100)	
hlq.CACHE1		(100)	
hlq.SPOOL1		(20)	
hlq.RELOD1		(20)	
hlq.MAIN		(20)	
hlq.MAIN.KEY		(10)	
hlq.LIST		(20)	
hlq.LIST.KEY		(20)	
hlq.ARC		(60)	
hlq.ARC.KEY		(25)	
hlq.MSG		(20)	
hlq.MSG.KEY		(10)	
hlq.LOG		(20)	

Database	SMS or Volume/Unit	Size in cylinders	High-level qualifier for cluster
hlq.NOTES		(10)	
hlq.NOTES.KEY		(5)	
hlq.SFR		(10)	
hlq.SFR.KEY		(3)	
hlq.LGF		(20)	
hlq.LGF.KEY		(10)	

If databases cannot be placed on fail-safe storage (physical mirroring or Raid 5), you can use software mirroring. Make sure that original and mirror database are placed on different volumes.

3. VTAM network ID

4. A subsystem ID for the Adabas Audit Data Retrieval started task

5. The name of the PS dataset or PO dataset member that contains your license file

6. The name of the Adabas Audit Data Retrieval started task procedure

7. The dataset name of a system procedure library into which the two Adabas Audit Data Retrieval started task procedures will be placed

8. An unused port number where to listen for incoming requests from Adabas Audit Data View (AAV) and the name of the TCP/IP started task (TCP/IP stack) to be used

9. An unused SMF user record number between 128 and 255 (128..1151 if version 1) for the writing of SMF records (The SMF record number should be used exclusively for Adabas Audit Data Retrieval SMF records.)

Space requirements

A minimum of 1182 cylinders of space is required for the Adabas Audit Data Retrieval environment and its database if you want to create a new Adabas Audit Data Retrieval system. Refer to the respective Installation and System Guide to determine the space required for BSA or other products you are using. If you want to modify your space requirements, it can be done in the respective section, during the set up of the Adabas Audit Data Retrieval database.

The following are approximate space requirements for the standard installation of Adabas Audit Data Retrieval on **3390** DASD volumes:

- Adabas Audit Data Retrieval target datasets   70 cylinders

- Adabas Audit Data Retrieval distribution   70 cylinders
  datasets

- Adabas Audit Data Retrieval databases   515 cylinders
  (not mirrored)

For more information on space requirements, see "Step 4: Creating a new Adabas Audit Data Retrieval database" on page 36.

OMVS segment entry required for using TCP/IP

One of the following must be defined in RACF in order to enable the Adabas Audit Data Retrieval or Beta 02 started task to use the TCP/IP stack:

- The Adabas Audit Data Retrieval or Beta 02 started task has a RACF user profile; this user profile contains an OMVS segment.

- The Adabas Audit Data Retrieval or Beta 02 started task has a RACF user profile and uses the default OMVS segment entry (requires READ access to the BPX.DEFAULT.USER facility class).

Using default OMVS segments in USER and GROUP profiles

To set up RACF so that it automatically uses default OMVS segments for users and groups that do not have OMVS segments in their USER or GROUP profiles:

1. Create a FACILITY class profile called BPX.DEFAULT.USER having universal access READ and APPLDATA(*defaultuser/defaultgroup*).

2. Define a RACF user profile for *defaultuser* containing an OMVS segment

3. Define a RACF group profile for *defaultgroup* containing an OMVS segment

Note on APF authorization

The following BSA V7 modules must be loaded from an APF-authorized library:

```
BST01ARI BST00ATH BST01CMD BST01MST BST01RFF BST01SFF
BST01SSI BST00STH BST01SVC BST01XCF BST00XIN BST09XIN
B02UXSIN
```

Separate BETA.APFLOAD recommended

The installation REXX asks you for the name of the library that you want to use for the modules requiring APF authorization.

Although it is possible to use the same library for authorized and non-authorized modules, using a separate library for authorized modules is recommended. The BSA and product modules requiring APF authorization are automatically placed into this separate library during installation. The standard name of this library is BETA.APFLOAD. See *BSA Installation and System Guide* for more information on the advantages and disadvantages of using the same or different libraries.

APF-authorized product modules

Some Adabas Audit Data Retrieval modules must also be loaded from an APF-authorized library, for example, the security exit B97UXSEC.

Overview of installation steps

Overview   This section contains an overview of the installation steps.

You can find more detailed information on each step in the subsequent sections.

Installation steps   Step 1   First, you have to transfer the installation datasets to the z/OS host and unpack them (see the product release notes or "Step 1: Preparing the installation datasets" in *BSA Installation and System Guide* for more information). Afterwards you can run the installation REXX.

The installation REXX uses ISPF panels to prompt you to provide values specific to your installation requirements. The installation REXX tailors batch jobs, which are placed in the newly allocated CNTL dataset.

Step 2   In this step, you run the tailored installation batch jobs.

Submit each job manually and check that it runs correctly. If a job fails, consult the output listings and try to determine the source of the error. If you cannot determine and correct the error, contact   support.

Step 3   In this step, you define the Adabas Audit Data Retrieval subsystem to z/OS using the SETSSI console command. Afterwards, run job B97INIT to initialize the security environment.

You also modify the IEFSSN*xx* parmlib member so that subsystem definition and initialization happen automatically at IPL time.

Step 4   In this step, you define and format the Adabas Audit Data Retrieval databases.

Step 5   In this step, you add the target ISPF panel, message datasets, skeleton library, and load module library to your TSO logon procedure or you define them in a tailored CLIST.

Step 1: Installation REXX

Overview

In this step, you run the installation REXX, which is included in the Adabas Audit Data Retrieval installation datasets.

When to run the installation REXX

You must run the installation REXX:

- If you are a new user of Adabas Audit Data Retrieval

- If you install a new level of Adabas Audit Data Retrieval

- If you install a test system

Read the release notes first

Always refer to the accompanying *Release Notes and Update Instructions* if you are installing a new level or applying maintenance to Adabas Audit Data Retrieval.

The release notes inform you which of the tailored installation batch jobs you must run in order to install BSA or the product or to apply maintenance.

Functional overview

The installation REXX guides you through a sequence of panels where you provide the information required to tailor installation jobs for:

- Setting up an SMP/E environment

- Installing BSA

- Installing Adabas Audit Data Retrieval

The installation REXX also tailors procedures, batch utilities, and possibly conversion jobs. All tailored JCL is placed in a PO dataset. The default name of this dataset is BETA97.CNTL.

The values you enter in these panels are stored in a profile library and can be retrieved when re-running the installation REXX at a later time.

Running the installation REXX

Product installation REXXs are called by the BSA installation REXX. Once you have installed an SMP/E and BSA environment, all necessary information is stored and passed on to the product installation REXX.

To run the installation REXX for Adabas Audit Data Retrieval with BSA:

1. Call ISPF option **6** and enter the following TSO command:

   ```
   EXEC 'hlqprod.REXX(INSTALL)'
   ```

   where *hlqprod* is the high-level qualifier that you specified for Adabas Audit Data Retrieval when prompted to do so by the setup program.

   Alternatively, you can also display the member list of ***hlqprod*.REXX** under ISPF option **3.4** and enter the line command EX in front of the INSTALL member.

2. Follow the instructions displayed by the installation REXX.

General structure of the installation REXX

The first panels of the installation REXX request general information on the installation and information on the SMP/E environment. To find out about information requested during this part of the installation REXX, see the *BSA Installation and System Guide*.

When the REXX displays a list of products, select Adabas Audit Data Retrieval from this list and provide the information required for the installation of Adabas Audit Data Retrieval in the displayed panels. After you have provided this information, the installation REXX will tailor the Adabas Audit Data Retrieval installation jobs.

When the REXX displays the list of products a second time, make sure that the entry for Adabas Audit Data Retrieval displays the result "Procedure completed". To continue with the installation REXX, press ENTER without selecting a product.

When the REXX displays a list of BSA facilities, select a facility (if required) and provide the requested information in the displayed panels. To continue with the installation REXX, press ENTER without selecting a facility. To find out about information requested by this part of the installation REXX, see the *BSA Installation and System Guide*.

Finally, the installation REXX will tailor the BSA installation batch jobs.

Notes

- Do not quit (PF3) the installation procedure after Adabas Audit Data Retrieval tailoring has been completed. The Adabas Audit Data Retrieval procedure is embedded in the BSA procedure. Neither is complete until the combined procedure has been executed.

- If you are using only one CNTL for all products and BSA, the tailored BSA jobs will be overwritten by this installation process.

- Once a CNTL dataset is full, the installation procedure is suspended and a message appears. Use another terminal or ISPF split screen to compress the CNTL dataset. Then continue with the installation procedure.

- The procedure also sets up a profile library where all the information entered during the procedure is stored, so that it can be recalled when the procedure is executed again at a later time. The CNTL dataset and the profile library are created without an expiration date. Normally, a single common PROFILE library is sufficient.

Navigating the installation REXX

You can press the HELP PF key at any time for an explanation of what is being asked of you.

You can use ISPF split screen at any time to execute an ISPF/PDF function.

You can review or change the data that you have entered in previous panels:

- To return to the first panel of the installation REXX, enter **BEGIN** in the command line of the current panel.

- To return to the preceding panel of the installation REXX, enter **BACK** in the command line of the current panel.

To interrupt the installation REXX, press the END PF key or enter **END** in the command line. Interrupting the Adabas Audit Data Retrieval installation REXX returns you to the selection menu of the BSA installation REXX. Interrupting the BSA installation REXX quits the whole installation procedure.

Recommended: Use same zone for BSA V7-based products

If you have already installed a BSA V7-based product, we recommend installing Adabas Audit Data Retrieval in the same zones.

Note: If you are installing this release on a production system with a previous release of Adabas Audit Data Retrieval, you should be careful not to let SMP/E overwrite the production libraries of the previous release. To prevent this, you should use different SMP/E environments. You should also use a different SVC number to prevent SMP/E from deleting the previous Beta SVC from the LPALIB dataset.

The last part of the installation REXX creates a series of batch jobs. The batch jobs are placed as individual members in the tailored JCL dataset (the default name is BETA97.CNTL).

Step 2: Installation batch jobs

Overview

In step 1, the installation REXX asked you to supply certain information about your installation.

The installation REXX used this information to tailor a set of batch jobs for Adabas Audit Data Retrieval and Beta 23 (Beta Browser and other shared functions).

In step 2, you submit these installation batch jobs.

Summary instructions for step 2

The installation batch jobs for Beta 23 are I#B23J01 through I#B23J04.

The installation batch jobs for Adabas Audit Data Retrieval are I#B97J01 through I#B97J07 and B97UMPRE.

All jobs can be found in members of the same name in the JCL dataset that you specified in step 1 (default name: BETA97.CNTL).

Submit I#B23J01 first and make sure that it runs correctly. Then submit the next job, I#B23J02, etc.

Afterwards submit the installation jobs I#B97J01, I#B97J02, etc.

Do not submit any other members from the BETA97.CNTL, unless instructed to do so in this manual.

Before you begin

To find out which BSA installation batch jobs need to run, see the *Adabas Audit Data Retrieval Release Notes and Update Instructions* before you begin.

Overview sections

Refer to these sections for summary and detailed descriptions of all installation batch jobs:

- "Beta 23 installation batch jobs (I#B23J01-I#B23J04)" on page 25
- "Adabas Audit Data Retrieval installation batch jobs (I#B97J01-I#B97J07)" on page 27
- "B97UMPRE: Adabas Audit Data Retrieval SMP/E user modification" on page 30

Beta 23 installation batch jobs (I#B23J01-I#B23J04)

Overview

_beta browse (Beta 23) contains the Beta Browser and other shared functions, for example, modules for reading in lists and sending e-mail.

Beta 23 is shared by the Beta Systems DCI products. It is installed into the BSA environment.

Job summary

Job	Description	max. RC
I#B23J01	Makes DD definitions in the target and distribution zones for the datasets needed by SMP/E for installation	0
I#B23J02	Receives functions and accumulated PTFs (if present)	0
I#B23J03	Applies and accepts the Beta 23 function	0
I#B23J04	Applies all accumulated Beta 23 PTFs (The job ends with RC=12 if there are no PTFs.)	4 (12)

I#B23J01

This job makes DD definitions in the target and distribution zones for the datasets needed by SMP/E for installation. The Beta 23 function will be installed into the BSA environment. The following DDDEFs are made for Beta 23:

DD name	Purpose
B23APF	Target load library for APF-authorized modules
B23LOAD	Target load library
AB23LOAD	Distribution load library
B23PLIB	Target panel library
AB23PLIB	Distribution panel library
B23MLIB	Target message library
AB23MLIB	Distribution message library

Expect RC=0.

The DDDEFs of Beta 23 point to the respective BSA libraries.

I#B23J02

This job receives the functions (Beta 23 and Adabas Audit Data Retrieval) and all accumulated PTFs. Expect RC=0.

SYSMOD entries:

	Function	PTFs	APARs	Description
B23	RBF7200	PBF....	TBF....	_beta browse

See also "I#B97J03".

I#B23J03   This job applies and accepts the Beta 23 function.

I#B23J04   This job applies all Beta 23 accumulated PTFs. Expect RC=4 in step
                                       APPLBFS. RC=12 is okay if there are no PTFs to be applied.

                                       Standard SMP/E return codes for this job are:

                                       0   PTFs applied.

                                       4   PTFs applied. This return code is also okay.

                                       8   Error. Contact   support.

                                       12   No PTFs for FMID. Please check the accompanying release
                                                  notes to find out whether there are any PTFs. RC=12 is okay if
                                                  there are no PTFs.

Adabas Audit Data Retrieval installation batch jobs (I#B97J01-I#B97J07)

Job summary

Job	Description	max. RC
I#B97J01	Allocates the Adabas Audit Data Retrieval distribution and target libraries on disk	0
I#B97J02	Makes DD definitions in the target and distribution zones for the datasets needed by SMP/E for installation	0
I#B97J03	Receives functions and accumulated PTFs (if present)	0 or 4
I#B97J04	Applies and accepts the Adabas Audit Data Retrieval function	4
I#B97J05	Applies all accumulated Adabas Audit Data Retrieval PTFs The job ends with RC=12 if there are no PTFs.	4 (12)
I#B97J06	Copies the members B97LST*xx* and B97SSI*xx* to the BETA.PARMLIB	0
I#B97J07	Copies the started task procedure(s) into the specified system procedure library	0
B97UMPRE	Receives and applies the tailored non-displayable start panel PE97STRT as USERMOD	0

I#B97J01

This job allocates the Adabas Audit Data Retrieval distribution and target libraries. Space values refer to type 3390 DASD units. Expect RC=0.

DD name	Dataset name	Space	Purpose
IRMLOAD	*hlq*.LOAD	40 cyl	Target load module library
AIRMLOAD	*hlq*.ALOAD	40 cyl	Distribution load module library
IRMPLIB	*hlq*.ISPPLIB	20 cyl	Target ISPF panel library
AIRMPLIB	*hlq*.AISPPLIB	20 cyl	Distribution ISPF panel library
IRMMLIB	*hlq*.ISPMLIB	2 cyl	Target ISPF message library
AIRMMLIB	*hlq*.AISPMLIB	2 cyl	Distribution ISPF message library
IRMSLIB	*hlq*.ISPSLIB	1 cyl	Target skeleton library
AIRMSLIB	*hlq*.AISPSLIB	1 cyl	Distribution skeleton library
IRMSAMP	*hlq*.SAMPLIB	2 cyl	Target Sample library
AIRMSAMP	*hlq*.ASAMPLIB	2 cyl	Distribution Sample library

I#B97J02   This job makes DD definitions in the target and distribution zones for the
                                    datasets needed by SMP/E for installation. Expect RC=0.

I#B97J03   This job receives the Adabas Audit Data Retrieval function and all
                                    accumulated PTFs. Expect RC=0.

                                    SYSMOD entries:

	Function	PTFs	APARs	Description
IRM	SIR7200	PIR....	TIR....	Adabas Audit Data Retrieval

I#B97J04   This job applies and accepts the Adabas Audit Data Retrieval function.
                                    Expect RC=0.

I#B97J05   This job applies all Adabas Audit Data Retrieval accumulated PTFs.

                                    Standard SMP/E return codes for this job are:

                                    0   PTFs applied.

                                    4   PTFs applied. This return code is typically okay (see below).

                                    8   Error. First check whether there are any PTFs with the SMP/E
                                               parameter ++HOLD... SYSTEM REASON(...). You can find this
                                               information with additional instructions in the accompanying
                                               Release Notes and Update Instructions or Technical Note.
                                               Otherwise, please contact   support.

                                    12   No PTFs for FMID. Check the accompanying release notes to find
                                               out whether there are any PTFs. RC=12 is okay if there are no
                                               PTFs.

                                    RC=4 is okay if caused by the following warning messages:

```
GIM23903W   LINK-EDIT PROCESSING FOR SYSMOD ptfnnnn WAS SUCCESSFUL
            FOR MODULE modname IN LMOD modname IN THE IRMLOAD
            LIBRARY. THE RETURN CODE WAS 04. date time seq#.
GIM23904W   LINK-EDIT PROCESSING FOR LOAD MODULE BUILD PROCESSING
            WAS SUCCESSFUL FOR MODULE modname IN LMOD modname IN
            THE IRMLOAD LIBRARY. THE RETURN CODE WAS 04. date time
            seq#.
```

Note on copying load   We recommend using IEBCOPY with COPYMOD for copying load
libraries   libraries.

                                    Copying load libraries with ISPF may lead to problems under certain
                                    conditions.

I#B97J06   This job copies the parmlib members B97LST*xx* and B97SSI*xx* to the
                         BETA.PARMLIB. Expect RC=0.

                         The parmlib member B97LST*xx* contains parameters for the product
                         started task and batch utilities. The member is tailored according to your
                         specifications by the installation REXX. *xx* can be any two-digit numeric or
                         alphabetic character combination. For more information, see "How to use
                         LST parameters" on page 51.

                         The parmlib member B97SSI*xx* is used as input during subsystem
                         initialization. For more information, see the description of member
                         B97SSI*xx* in "Step 3: Defining subsystem and initializing subsystem
                         environment" on page 32.

I#B97J07   This job copies the started task procedure into the system procedure
                         library that you specified when running the installation REXX. If a
                         procedure of the same name already exists in the corresponding
                         procedure library, this job will replace the existing one. Expect RC=0.

                         I#B97J07 also copies the procedure for automatic reload to the designated
                         system procedure library.

                         The default name of the Adabas Audit Data Retrieval started task
                         procedure is BETA97.

                         You may have specified a different name when running the installation
                         REXX.

                         Note: The name of the product started task procedure must be different
                         from the name of the product subsystem ID. If the names are identical, you
                         will get a JCL error when trying to start the started task.

B97UMPRE: Adabas Audit Data Retrieval SMP/E user modification

B97UMPRE

This job receives and applies the non-displayable start panel PE97STRT as usermod.

The install procedure has tailored this panel in the BETA97.CNTL according to your specifications.

Expect RC=0.

Note: If you are using a pre-concatenated ISPPLIB to bypass SMP/E, there is no need to run B97UMPRE.

Non-displayable start panel PE97STRT

The non-displayable start panel PE97STRT defines profile variables for:

- Subsystem ID
- System location
- System name
- System language
- System date mask

This panel is used to automatically direct first-time users of Adabas Audit Data Retrieval (that is, users without a Adabas Audit Data Retrieval user profile) to the default subsystem.

Note: Changing installation defaults

If you want to change the installation defaults at a later time, do the following:

1. Edit member PE97STRT to reflect your changes.
2. Reject the usermod for panel PE97STRT.
3. Re-run job B97UMPRE to receive and apply the modified start panel containing the new default system variables.

PE97STRT variables   The following table shows the variables that can be set with the help of the
non-displayable start panel PE97STRT (corresponding online option: P.2):

Variable	Description
DFLTSSID	Default subsystem ID
DFLTLOC	Default location
DFLTSYS	Default system name
DFLTLANG	Default product language (E = English, G = German, F = French, etc. **Note:** Adabas Audit Data Retrieval supports only English and German)
DFLTDMSK	Default date mask (MM/DD/YYYY, DD.MM.YYYY, YYYY.DDD, or YYYY-MM-DD)
DFLTHELP	Default for Extended Help mode (Y | N)

Note: The system name (&DFLTSYS) and system location (&DFLTLOC)
must be unique, otherwise problems may occur when a system is
selected.

Example PE97STRT

```
+--------------------------------------------------------------------+
|)PROC                                                               |
|   &DFLTSSID = B97A                                                  |
|   &DFLTLOC  = BERLIN                                                |
|   &DFLTSYS  = PROD                                                  |
|   &DFLTLANG = E                                                     |
|   &DFLTDMSK = MM/DD/YYYY                                            |
|   &DFLTHELP = Y                                                     |
|)END                                                                |
+--------------------------------------------------------------------+
```

Step 3: Defining subsystem and initializing subsystem environment

Overview

In this step, you define the Adabas Audit Data Retrieval subsystem to z/OS, initialize the Adabas Audit Data Retrieval subsystem environment, and initialize the Adabas Audit Data Retrieval security environment.

Current Beta SVC required

Initialization of the Adabas Audit Data Retrieval subsystem environment and security environment is carried out via the program BST01ARI, which requires the current Beta SVC. For information on specifying and activating the Beta SVC, see the description of installation step 4 in the *BSA Installation and System Guide*.

Creating an entry in member IEFSSN*xx*

Create an entry for the Adabas Audit Data Retrieval subsystem in member IEFSSN*xx* of your SYS1.PARMLIB dataset or another dataset concatenated in the MSTJCL*xx* or LOAD*xx* member.

Using named parameters, the entry looks like this:

```
SUBSYS  SUBNAME(ssid)
        INITRTN(BST01ARI)
        INITPARM('BETA.PARMLIB(B97SSIxx)')
```

Using positional parameters, the entry looks like this:

```
ssid,BST01ARI,'BETA.PARMLIB(B97SSIxx)'
```

where *ssid* is the Adabas Audit Data Retrieval subsystem ID, BST01ARI the program to be executed, and BETA.PARMLIB(B97SSI*xx*) the parameter member for program BST01ARI.

Note: BST01ARI and the modules specified in member B97SSI*xx* must exist in an APF-authorized library concatenated in the linklist, link-edited with AC(1). The default name of this library is BETA.APFLOAD.

When IPLing the system, the entry in member IEFSSN*xx* defines the Adabas Audit Data Retrieval subsystem to z/OS and initializes the Adabas Audit Data Retrieval subsystem environment and security environment via BST01ARI.

Defining subsystem dynamically

Instead of IPLing the system at this point, you can also dynamically define the Adabas Audit Data Retrieval subsystem to z/OS and then initialize the Adabas Audit Data Retrieval subsystem environment and security environment.

To do this:

1. Enter this console command to dynamically define the Adabas Audit Data Retrieval subsystem to z/OS:

   ```
   SETSSI ADD,SUBNAME=ssid
   ```

   where *ssid* is the Adabas Audit Data Retrieval subsystem ID. (**Note**: Do not initialize the subsystem environment in this console command.)

2. Submit the tailored batch job B97INIT (which runs program BST01ARI) to initialize the Adabas Audit Data Retrieval subsystem environment and security environment.

   BST01ARI must run before you start the Adabas Audit Data Retrieval started task.

The following pages of this section provide additional information on the program BST01ARI.

JCL in B97INIT

You can find JCL for BST01ARI in the BETA97.CNTL in member B97INIT.

```
+------------------------------------------------------------------+
|jobcard                                                           |
|//INIT     EXEC PGM=BST01ARI,                                    |
|//  PARM='ssid,BETA.PARMLIB(B97SSIxx)'                            |
|//*                                                              |
|//*STEPLIB  DD  DSN=BETA.APFLOAD,                                |
|//*             DISP=SHR                                         |
|//*                                                              |
|//SYSUDUMP DD  SYSOUT=*                                          |
+------------------------------------------------------------------+
```

EXEC parameter for BST01ARI

```
PARM='ssid,parmlib(parmmember)'
```

where:

- *ssid* is the Adabas Audit Data Retrieval subsystem ID

- *parmlib* is the name of the Beta parameter library

- *parmmember* is the member containing the parameters for the BST01ARI program

| Note on member | Member B97SSI*xx* in the BETA.PARMLIB contains a set of parameters for |
| B97SSIxx | the BST01ARI program. The following parameters are coded: |

Parameter	Description
UXSEC=B97UXSEC	Name of the Adabas Audit Data Retrieval security user exit module
	The default name is B97UXSEC.
	An IEFBR14-like security user exit module is installed by default, which answers all security requests with RC=0.
	You can also specify UXSEC=IEFBR14 if the security exit is not required.
	A sample security exit is provided in source form. If you want to activate security, assemble and link B97UXSEC into the BETA.APFLOAD before you run BST01ARI.
UXSRT=BST00STH	Name of the security router, which calls the product security exit
	The specified name must be BST00STH.
UXSIN=B02UXSIN	Name of the logon exit (TCP/IP)
	The BSA logon exit authenticates users that connect to the system via TCP/IP, for example, users of Adabas Audit Viewer (AAV). The default name of the exit is B02UXSIN. We recommend that you do not change this name.
	Code this parameter in B97SSIxx if the BSA TCP/IP server runs within the Adabas Audit Data Retrieval STC or if you are using the BSA CI. The parameter must be coded in member B02SSIxx if the BSA TCP/IP server runs as a standalone STC (BETA02).
	For more information, see "BSA TCP/IP server logon exit (B02UXSIN)" in *BSA Installation and System Guide*.
SVC=*nnn*	Number of the Beta SVC

Note on APF	BST01ARI, BST00STH, and the security user exit must be in an APF-
authorization	authorized library. The default name of this library is BETA.APFLOAD. We
	recommended that you include the BETA.APFLOAD in the linklist
	concatenation so that BST01ARI can run automatically at IPL. For more
	information, see "Pre-installation checklist" in *BSA Installation and System*
	Guide.

| RACF authorization | To prevent unauthorized access to the program BST01ARI, a RACROUTE |
| for BST01ARI | is issued when a user submits this batch job. The RACF request is: |

```
REQUEST=AUTH,CLASS='FACILITY',ACCESS=READ
```

The entity name is 'BETA.INIT.*ssid*', where *ssid* is the subsystem ID coded in the EXEC parameter.

In most cases, BST01ARI will end with RC=4 (warning message because profile is not defined), which is okay.

Return codes of BST01ARI

0   The program terminated normally.

4   The program terminated with a warning. Possible reasons are:

- The profile 'BETA.INIT.*ssid*' is not defined

- A module which was specified could not be loaded, because it was not found or because it was not in an authorized library

- FREEMAIN failed

8   The program terminated abnormally due to parse error. Statements in member IEFSSN*xx* are not correctly coded.

12 The program terminated abnormally because GETMAIN failed.

16 The program terminated abnormally. Possible reasons are:

- ENQUEUE failed (for example, started task was active)

- DYNALLOC or OPEN error (for example, parameter dataset or member not found)

- ESTAE failed (recovery)

- The program BST01ARI is not authorized

20 The program abended.

Step 4: Creating a new Adabas Audit Data Retrieval database

Summary instructions for this step

In this step, do the following to create a new database (all jobs are described in more detail below):

1. Run the batch job B97DBDEF.

   This job allocates and formats the Adabas Audit Data Retrieval definition database and uploads the data dictionary.

2. Run the batch job B97DBFOR.

   This job updates the database definition file with values you provided when running the installation REXX, allocates and formats the Adabas Audit Data Retrieval VSAM databases, and loads customized data.

Required (at the latest before running B97DBFOR):

- The Beta SVC must be installed.
- The security environment must have been initialized (B97INIT).
- A valid license file must be available.

B97DBDEF

Job B97DBDEF has one step and does the following:

1. It allocates the VSAM cluster BETA97.DB.DEF, which serves as database definition file (B97DEF).

2. It loads the Adabas Audit Data Retrieval data dictionary as provided with the installation files into BETA97.DB.DEF.

   The loaded data provides the structure information (databases, tables, keys, and fields) on the entire Adabas Audit Data Retrieval database.

B97DBDEF must run to completion with RC=0.

B97DBFOR

Job B97DBFOR requires the Beta SVC and must run to completion with RC=0.

B97DBFOR has three steps:

1. Step FILLDEF updates the database definition file with customized data from member S#97UDEF, which is tailored at the end of the installation REXX.

2. Step FORMDB allocates and formats the other Adabas Audit Data Retrieval VSAM datasets according to the specifications (size, volumes, etc.) made during the installation REXX.

3. Step INSERT uploads data into the Adabas Audit Data Retrieval database (subsystem options record from tailored member S#97ISYS and more data from other tailored members).

S#97UDEF: Keywords and syntax

The BSA program BST05UPF updates the database definition file with customized data from member S#97UDEF.

S#97UDEF contains one definition statement for each Adabas Audit Data Retrieval database component. Continuation signs (-) are used if the definition statement spans several lines.

This is the syntax of the definition statement:

```
DEFINE UPDATE FILE logicalfilename                              -
            DSNAME datasetname                                  -
            VOLUME volser                                       -
            UNIT   unit                                         -
            BUFFER nn                                           -
            SPACE  no_of_cyl                                    -
            HWM    high_water_mark_in_percent
```

Use the following syntax for SMS-managed databases:

```
DEFINE UPDATE FILE logicalfilename                              -
            DSNAME datasetname                                  -
            STORAGECLASS storclas                               -
            MANAGEMENTCLASS mgmtclas                            -
            DATACLASS dataclas                                  -
            BUFFER nn                                           -
            SPACE  no_of_cyl                                    -
            HWM    high_water_mark_in_percent
```

For more information on BST05UPF and its parameters, see "BST05UPF: Updating file information in the database definition file" in *BSA Installation and System Guide*.

If B97DBFOR ends with RC=16

If there is a problem when defining the Adabas Audit Data Retrieval database, for example, not enough space, job B97DBFOR ends with RC=16. In this case, find out what caused the problem and proceed as follows:

1. Run job B97DBDEL to delete any parts of the Adabas Audit Data Retrieval database which have been defined during the previous run of B97DBDEF and B97DBFOR.

2. Rerun job B97DBDEF to allocate the VSAM cluster BETA97.DB.DEF and to load the database definition file.

3. If necessary, correct the entries in member S#97UDEF, for example, change the volume name, SMS class, or amount of space.

4. Rerun job B97DBFOR to upload the modified definitions of member S#97UDEF into BETA97.DB.DEF (B97DEF) and to format and initialize the other Adabas Audit Data Retrieval VSAM datasets.

Adabas Audit Data Retrieval database components

The following table shows which datasets are created for the Adabas Audit Data Retrieval database. It describes their purpose and shows default dataset names and size.

Dataset name	Short name	3390 space	Purpose
BETA97.DB.DEF	B97DEF	5 cyl	Database definition
BETA97.DB.MAIN BETA97.DB.MAIN.KEY	B97MAIN B97KEY	20 cyl 10 cyl	Main database containing definitions
BETA97.DB.LIST BETA97.DB.LIST.KEY	B97LIST B97LKEY	100 cyl 50 cyl	List index database
BETA97.DB.MSG BETA97.DB.MSG.KEY	B97MSG B97MKEY	20 cyl 10 cyl	Message log database
BETA97.DB.NOTES BETA97.DB.NOTES.KEY	B97NOTES B97NKEY	10 cyl 5 cyl	Notes database
BETA97.DB.ARC BETA97.DB.ARC.KEY	ARCDATA ARCKEY	60 cyl 25 cyl	Archive database
BETA97.DB.SPOOL*n*	SP*nnnnnn*	100 cyl	Lists
BETA97.DB.CACHE*n*	CACHE*n*	100 cyl	Reloaded 4-MB blocks of list data
BETA97.DB.INDEX*n*	INDEX*n*	100 cyl	Indexes
BETA97.DB.GLOBL*n*	GLOBLn	100 cyl	Global indexes
BETA97.DB.RELOD*n*	RELOD*n*	100 cyl	Reloaded lists
BETA97.DB.SFR BETA97.DB.SFR.KEY	B97SFR B97SFRK	10 cyl 3 cyl	Spool file recovery information
BETA97.DB.LGF BETA97.DB.LGF.KEY	LGFDATA LGFKEY	20 cyl 10 cyl	Information used with _beta smf
BETA97.DB.LOG	LOGFILE	20 cyl	Temporary processing information
BETA97.DB.SYNC	SYNCFILE	1 cyl	Synchronization file

Notes on databases
- There is no need to save the SYNC database.

- If no changes have been made during installation, the 3390 space values are used as defaults.

- A standard VSAM dataset can have a total maximum size of 4 GB and an extended VSAM dataset can have a total maximum size of 28 GB.

- Job B97DBFOR allocates one spool file of each type (SPOOL, CACHE, INDEX, etc.). Define additional spool file models for each type to enable Adabas Audit Data Retrieval to allocate and format additional spool files on the fly when available spool files are full. For additional information on spool files, see "Spool files" in *Adabas Audit Data Retrieval Administrator Guide*.

- For the best performance, we recommend the following for CIsize:
  - The CIsize of the LOG database component should be 24K on type 3390 DASD units.
  - The CIsize of all other database components should be 4K.

  If you use different values, you should ensure that spool files of one type (SPOOL, INDEX, CACHE, or GLOBAL) have the same CIsize.

Calculating required space for databases

The size of a database depends on the maximum number of records that are to be stored in this database. To calculate the required space for a database, you need to know the structure of the Adabas Audit Data Retrieval database, for example:

- The tables contained in a database

- The length of the records of a table

- The number of related records created for each entry in a table

Because the structure of the Adabas Audit Data Retrieval database is similar to the structure of the _beta doc|z database, refer to the *_beta doc|z Installation and System Guide* for information on calculating the required space for a database.

Maximum number of open spool files

The maximum number of spool files (cache, spool, and index) that can be opened by Adabas Audit Data Retrieval is 32000.

Important: The operating system may have a lower limit for the maximum number of open files. For more information, see the description of the task I/O table (TIOT) in the IBM publication *MVS Initialization and Tuning Reference*, chapter "ALLOCxx (allocation system defaults)".

Step 5: Providing access to Adabas Audit Data Retrieval

Summary instructions for this step

This step describes how to provide access to Adabas Audit Data Retrieval.

Providing access to libraries

Do one of the following to give TSO users access to the Adabas Audit Data Retrieval ISPF application (panels, tutorials, and messages):

- Concatenate the product and BSA libraries in the TSO logon procedure of the user.

  For more information, see "Concatenating libraries in the TSO logon procedure" on page 41.

- Copy the tailored CLIST (B97CLIST), which allocates the required product and BSA libraries, from the BETA97.CNTL to one of the procedure libraries defined under DD SYSPROC in your TSO logon procedures.

  For more information, see "Providing access via a CLIST" on page 42.

Including Adabas Audit Data Retrieval in a selection menu

Optionally, you can also include Adabas Audit Data Retrieval in a selection menu.

For more information, see "Including Adabas Audit Data Retrieval in a selection menu" on page 44.

Concatenating libraries in the TSO logon procedure

Overview

You can concatenate the product and BSA target libraries in the TSO logon procedure.

If you create a new TSO logon procedure for Adabas Audit Data Retrieval, remember to add this logon procedure to your TSO user profile.

Product and BSA libraries

Following is a list of the product and BSA target libraries that must be added to the TSO logon procedure (or included in the CLIST). The table uses standardized dataset names.

DD name	Dataset name	Description
ISPPLIB	BETA97.ISPPLIB BSA.ISPPLIB	Panel libraries
ISPMLIB	BETA97.ISPMLIB BSA.ISPMLIB	Message libraries
ISPSLIB	BETA97.ISPSLIB BSA.ISPSLIB	Skeleton libraries **Note**: The skeleton library (ISPSLIB) must be of the dataset name type PDS. Adabas Audit Data Retrieval does not support skeleton libraries of the type PDSE.
ISPTLIB	BSA.ISPTLIB	Profile table library
STEPLIB/ ISPLLIB	BETA97.LOAD BSA.LOAD	Load libraries

Including load module libraries in linklist

If you don't want to use a STEPLIB in the TSO logon procedure, then the BETA97.LOAD and BSA.LOAD must be included in the linklist.

Specify the names of the libraries in the LNKLST*xx* member of your SYS1.PARMLIB or another dataset concatenated in the MSTJCL*xx* dataset or in the LOAD*nn* member to automatically add these libraries to the linklist at IPL time. For more information, see the IBM publication *MVS Initialization and Tuning Guide*.

Providing access via a CLIST

Allocating libraries in CLIST

You can dynamically allocate the product and BSA libraries in a CLIST using the ISPF LIBDEF service.

For a list of libraries, see the sample CLIST or "Concatenating libraries in the TSO logon procedure" on page 41.

Sample CLIST

Member B97CLIST in the BETA97.CNTL is a sample CLIST.

```
PROC 0 DEBUG(OFF)
  IF &DEBUG = ON +
    THEN CONTROL MSG NOPROMPT LIST CONLIST SYMLIST NOFLUSH
    ELSE CONTROL NOMSG NOPROMPT NOLIST NOCON NOSYM NOFLUSH

/* ---------------------------------------------------------------- */
/* FILE NAME MUST BE B97LLIB                                        */
/* ---------------------------------------------------------------- */
  ALLOC F(IRMLOG)  SYSOUT(*)
  ALLOC F(B97LLIB) DA('BETA97.LOAD'                              +
                      'BSA.LOAD')                                +
                  SHR REUSE

  ALLOC F(B97TLIB) DA('BSA.ISPTLIB')                            +
                  SHR REUSE


  ISPEXEC LIBDEF ISPLLIB LIBRARY ID(B97LLIB) STACK
  ISPEXEC LIBDEF ISPMLIB DATASET                               +
                ID('BETA97.ISPMLIB'                            +
                   'BSA.ISPMLIB')                              +
                STACK
  ISPEXEC LIBDEF ISPPLIB DATASET                               +
                ID('BETA97.ISPPLIB'                            +
                   'BSA.ISPPLIB')                              +
                STACK
  ISPEXEC LIBDEF ISPSLIB DATASET                               +
                ID('BETA97.ISPSLIB'                            +
                   'BSA.ISPSLIB')                              +
                STACK
  ISPEXEC LIBDEF ISPTLIB LIBRARY ID(B97TLIB) STACK

/* --- WRITE CURRENT SSID, SYSTEM, AND LOCATION INTO BST PROFILE --- */
/* --- POOL ------------------------------------------------------ */
  ISPEXEC SELECT PGM(B97ONSET)                                  +
                PARM(ssid,system,location)                      +
                NEWAPPL(BST) PASSLIB

  CONTROL MSG
  ISPEXEC SELECT PGM(BST00PRM) PARM(B97,PE97PRIM;B97ONEXI)
  IF &DEBUG ^= ON THEN CONTROL NOMSG

  ISPEXEC LIBDEF ISPLLIB
  ISPEXEC LIBDEF ISPMLIB
  ISPEXEC LIBDEF ISPPLIB
  ISPEXEC LIBDEF ISPSLIB
  ISPEXEC LIBDEF ISPTLIB

  FREE F(B97LLIB)
  FREE F(B97TLIB)
  FREE F(IRMLOG )
EXIT
```

Note on ISPF load library   If the ISPF load library is not in the linklist, the library ISP.SISPLOAD must also be concatenated under B97LLIB.

Calling the CLIST   You can call the CLIST via a TSO command (**TSO *clistname***) or via a panel (see "Including Adabas Audit Data Retrieval in a selection menu" on page 44).

Important: When calling the CLIST via a panel, do **not** use the parameter NEWAPPL(BSS) or NEWAPPL(BST). Calling the CLIST with these parameters will lead to unpredictable results.

Including Adabas Audit Data Retrieval in a selection menu

Overview
You can include Adabas Audit Data Retrieval in the standard IBM selection menu or in one of your installation's selection menus.

Modify the ISR@PRIM panel if you want to include Adabas Audit Data Retrieval in the standard IBM selection menu. The default primary selection menu can be found in one of the libraries concatenated under DD ISPPLIB in the TSO logon procedure.

Instructions
The following describes how to include Adabas Audit Data Retrieval in an ISPF selection menu.

Instructions depend on how the product and BSA libraries are made available:

- Libraries concatenated in TSO logon procedure
- Libraries allocated via a CLIST

Libraries concatenated in TSO logon procedure
This example shows how to call Adabas Audit Data Retrieval if you have changed your TSO logon procedure accordingly:

```
)BODY
%     IRM+  Adabas Audit Data Retrieval
...
)PROC
       IRM,'PGM(BST00PRM) PARM(B97,PE97PRIM;B97ONEXI) NOCHECK'
```

The)BODY section contains the line that is displayed in the selection menu. It informs the ISPF user which option to select in order to call Adabas Audit Data Retrieval (here: IRM).

The corresponding)PROC section for option IRM calls the program BST00PRM. The following positional parameters are provided:

1. B97 is the ID of the Beta Systems product
2. PE97PRIM is the name of the Adabas Audit Data Retrieval entry panel (by default, the Primary Selection Menu)
3. B97ONEXI is the name of the initialization exit

With VCI processing

To make Adabas Audit Data Retrieval process the entries in the VCI table, you must also provide the termination exit B97ONEXX as fourth positional parameter.

```
)BODY
%     IRM+  Adabas Audit Data Retrieval
...
)PROC
       IRM,'PGM(BST00PRM) PARM(B97,PE97PRIM;B97ONEXS;B97ONEXX) NOCHECK'
```

Libraries allocated via CLIST

This example shows how to call Adabas Audit Data Retrieval using LIBDEF and the provided CLIST.

```
)BODY
%     IRM+  Adabas Audit Data Retrieval
...
)PROC
        IRM,'CMD(%B97CLIST) NOCHECK'
```

The)BODY section contains the line that is displayed in the selection menu. It informs the ISPF user which option to select in order to call Adabas Audit Data Retrieval (here: IRM).

The corresponding)PROC section for option IRM calls the CLIST.

Note on panel navigation (ZTRAIL handling)

To make it possible to select the Adabas Audit Data Retrieval online application directly from any valid ISPF selection menu at your installation using option *n.n* or *=n.n*, the selection menu that includes Adabas Audit Data Retrieval and all intermediate selection panels must support ZTRAIL handling.

To use standard ISPF ZTRAIL handling, add the following statement as the last statement in the)PROC section before the)END statement:

```
&ZTRAIL = .TRAIL
```

In order to use the variable .TRAIL correctly, a previous TRUNC command is required. See the IBM ISPF documentation for more detailed information.

Example selection menu

Following is a sample selection panel for two Adabas Audit Data Retrieval subsystems.

```
+---------------------------------------------------------------------+
|%Beta 97 ------------------------------------------------------------|
|%Option  ===>_ZCMD                                                   |
|%                                              +USERID   - &ZUSER    |
|%                                              +TIME     - &ZTIME    |
|%                                              +TERMINAL - &ZTERM    |
|%                                              +PF KEYS  - &ZKEYS    |
|%                                                                    |
|%                            System Type  Version  Execution  Started Task |
|%                            -----------  -------  ---------  ------------ |
|% 1+ Beta 97                 Production   (V7R2)   LIBDEF     (BETA97P)    |
|%                                                                    |
|% 2+ Beta 97                 Test         (V7R2)   LIBDEF     (B97TEST)    |
|%                                                                    |
|%                                                                    |
|%                                                                    |
|%                                                                    |
|%                                                                    |
|%                                                                    |
|%                                                                    |
|)INIT                                                                |
|   .CURSOR = ZCMD                                                    |
|)PROC                                                                |
|   &ZSEL = TRANS( TRUNC (&ZCMD,'.')                                  |
|                  1,'CMD(%BETA97P)  NOCHECK'                         |
|                  2,'CMD(%B97TEST)  NOCHECK'                         |
|                 ' ',' '                                            |
|                  X,'EXIT'                                           |
|                  *,'?' )                                            |
|   &ZTRAIL = .TRAIL                                                  |
|   VPUT (ZTRAIL) SHARED                                              |
|)END                                                                |
+---------------------------------------------------------------------+
```

User-specific entry panels

You may want to create different entry panels for different user requirements. These entry panels should be based on the Adabas Audit Data Retrieval Primary Selection Menu.

To modify the Adabas Audit Data Retrieval Primary Selection Menu, please refer to the IBM brochure *ISPF Dialog Manager Services*. Save the customized selection menu under a new name. The second character in the panel ID must be the language identifier, for example, G for German. Instead of PE97PRIM, specify the name of your panel in the PARM field of program BST00PRM in the ISPF selection menu or the CLIST.

Alternatively, you can use the VCI table to specify different panels for different users. How to use the VCI table is described in the *Adabas Audit Data Retrieval Administrator Guide*.

Installation verification procedure

Overview

Providing access to the Adabas Audit Data Retrieval application completes the installation of Adabas Audit Data Retrieval. This section contains an overview of what to do next to verify whether Adabas Audit Data Retrieval is running correctly.

Starting the STC (BETA97)

Check the LST parameters in the B97LST*xx* to make sure that this member has been tailored correctly. For more information on LST parameters, see "How to use LST parameters" on page 51.

Check the started task procedure (default name: BETA97) to make sure that is has been tailored correctly. For more information on the **BETA97** STC procedure, see "Adabas Audit Data Retrieval started task procedures" on page 67.

Then start the started task using the following console command:

S *stcname*

where *stcname* is the name of the started task procedure.

BETA97 started task JES message log (JESMSGLG)

```
+-----------------------------------------------------------------------------------+
|IRR813I NO PROFILE WAS FOUND IN THE STARTED CLASS FOR                              |
|        BETA97  WITH JOBNAME BETA97. RACF WILL USE ICHRIN03.                       |
|IEF695I START BETA97  WITH JOBNAME BETA97  IS ASSIGNED TO USER BETA97 ,   GROUP NOACCESS |
|$HASP373 BETA97  STARTED                                                           |
|IEF403I BETA97 - STARTED - TIME=10.16.29                                           |
|IGD104I BETA.PARMLIB                                   RETAINED,  DDNAME=SYS00001   |
|IGD104I BETA.PARMLIB                                   RETAINED,  DDNAME=SYS00002   |
|IRM9151I B97LSTxx LOADED, SVC(nnn/PBSnnnn/epaddr) SSID(ssid) SYSNAME(sysname) SYSPLEX(sysp|
|IRM9151I BSA INITIALIZATION nnnnnn LEVEL: nn / PBSnnnn / PBSnnnn                    |
|IRM9151I CPU INFORMATION - TYPE: tttt ID: nnnn LPAR: l TLCPU: tccc CLCPU: cccc SLCPU: sccc|
|IRM9005I LICENSE FILE filename WILL BE USED                                        |
|IRM9004I product HAS BEEN LICENSED FOR CUSTOMER: customername                      |
|... (more license information)                                                     |
|IRM9557I DATABASE INITIALIZATION WITH VERSION: PBSnnnn / PBSnnnn                   |
|IRM9506I DATABASE INITIALIZATION COMPLETE                                          |
|IRM9506I ACTIVE DATABASES ARE:                                                     |
|IRM9506I DATABASE NAME                                ID  HA-RBA  HU-RBA STATUS    |
|IRM9506I --------------------------------------------------------------------      |
|IRM9506I BETA97.DB.SYNC                              1000 0000000 0000000  OPN      |
|IRM9506I BETA97.DB.LOG                               1001 0000260 0000260  OPN      |
|IRM9506I BETA97.DB.MAIN                              1002 0003600 0003600  OPN      |
|IRM9506I BETA97.DB.MAIN.KEY                          1004 0001800 0001800  OPN      |
|IRM9506I BETA97.DB.LIST.KEY                          1006 0003600 0003600  OPN      |
|IRM9506I BETA97.DB.LIST                              1008 0003600 0003600  OPN      |
|IRM9506I BETA97.DB.SPOOL1                            1010 0003600 0003600  EMP      |
|IRM9506I BETA97.DB.RELOD1                            1011 0003600 0003600  EMP      |
|IRM9506I BETA97.DB.CACHE1                            1012 0018000 0018000  EMP      |
|IRM9506I BETA97.DB.INDEX1                            1013 0018000 0018000  EMP      |
|IRM9506I BETA97.DB.GLOBL1                            1014 0018000 0018000  EMP      |
|IRM9506I BETA97.DB.ARC                               1015 0007200 0007200  OPN      |
|IRM9506I BETA97.DB.ARC.KEY                           1017 0002700 0002700  OPN      |
|IRM9506I BETA97.DB.MSG                               1019 0003600 0003600  OPN      |
|IRM9506I BETA97.DB.MSG.KEY                           1020 0001800 0001800  OPN      |
|IRM9506I BETA97.DB.NOTES.KEY                         1021 0000900 0000900  OPN      |
|IRM9506I BETA97.DB.NOTES                             1022 0001800 0001800  OPN      |
|IRM9506I BETA97.DB.SFR                               1023 0003600 0003600  OPN      |
|IRM9506I BETA97.DB.SFR.KEY                           1025 0001800 0001800  OPN      |
|IRM9506I BETA97.DB.LGF                               1027 0003600 0003600  OPN      |
|IRM9506I BETA97.DB.LGF.KEY                           1028 0001800 0001800  OPN      |
|IRM9506I --------------------------------------------------------------------      |
|IRM9558I DATABASE FUNCTION WILL BE ACTIVATED AS MASTER / SHAREOPTION(NO)           |
|...                                                                                |
|IRM9265I SERVER(port/AAV): INIT TO TCPIP (V6R24) AND IPA ipaddress (n) SUCCESSFUL  |
|IRM9260I SERVER(port/AAV) IS WAITING FOR WORK FOR BWE97 (taskname / IPA#n: ipaddress) |
+-----------------------------------------------------------------------------------+
```

What to check

Check the following:

- Displayed levels are correct.

  Make sure that the BSA levels displayed in the JESMSGLG (message IRM9151I) are not lower than the ones named in the release notes.

- Database status is okay.

  Make sure that all databases are available and that none of the databases has status ERR (error).

- The BSA TCP/IP server is listening to specified TCP/IP port.

  Make sure that the message **IRM9265I SERVER(*port*/AAV): INIT TO *tcpipstc* (VxRx) AND IPA *ipaddress* (*n*) SUCCESSFUL** is present.

  Note: There may be an authorization problem if this message is not present (see "OMVS segment entry required for using TCP/IP" on page 18).

Calling Adabas Audit Data Retrieval

To call the Adabas Audit Data Retrieval ISPF application, enter the TSO command **TSO *clistname*** or select Adabas Audit Data Retrieval from the modified ISPF panel.

What to check

Under option **S.2**, make sure that the Adabas Audit Data Retrieval subsystem options record contains the values you specified when running the installation REXX (see "Adabas Audit Data Retrieval subsystem definition (Option S.2)" in *Adabas Audit Data Retrieval Administrator Guide*).

Defining model spool files

Initially, Adabas Audit Data Retrieval requires one spool file of each type (SPOOL, CACHE, INDEX, GLOBAL, RELOAD). Additional spool files for each type can be allocated manually or they can be allocated by the system on the fly when it runs out of storage space in the existing spool files.

To enable Adabas Audit Data Retrieval to allocate additional spool files on the fly, use option **D.1** to define model spool files for each type.

A model spool file does not require any storage space while its status is MODEL. We recommend that you define several models for each type.

For more information, see "Spool files" and following in *Adabas Audit Data Retrieval Administrator Guide*.

Further actions

Refer to "How does Adabas Audit Data Retrieval work" in *Adabas Audit Data Retrieval Administrator Guide* for an overview of how Adabas Audit Data Retrieval works and which further actions are required.

Customization

How to use LST parameters

Overview

The Adabas Audit Data Retrieval specific SFF/RFF installation default parameters (LST parameters) are defined in members in the Beta Systems parameter library. This library (called BETA.PARMLIB in this manual) is allocated under the DD name SFFPARM.

Member B97LST*xx* contains Adabas Audit Data Retrieval specific parameters, which are described below. For a description of the BETA.PARMLIB and the global SFF/RFF parameters, see "Customization" in *BSA Installation and System Guide*.

BETA.PARMLIB member B97LSTxx

Member B97LST*xx* in the SFF parameter library (BETA.PARMLIB) defines parameters that are used by the Adabas Audit Data Retrieval started task and batch utilities.

This member is created according to your specifications during installation and then copied to the BETA.PARMLIB.

xx can be any numeric or alphabetic character combination. The identifier of the active LST member is specified in the EXEC parameter of the JCL (B97LST=*xx*).

Specifying parameters in JCL

You can also specify LST parameters in the EXEC statement of the started task procedure or batch utility. An LST parameter in the EXEC statement overrides the value of the corresponding parameter in the LST member.

Changing parameters dynamically

A subset of the LST parameters can be set or changed dynamically via the BSA Service Manager.

The BSA Service Manager panel "Display Modifiable Parameter Keywords/Values" (Option **D.S.1.2**) shows a complete list of the parameters that you can change dynamically in your subsystem. For more information on using this option, see the *BSA Service Manager Manual*.

Note: When you set or change parameters using the BSA Service Manager, these changes are temporary and will no longer be valid after restarting the started task.

Parmlib member syntax

Overview
This section describes the syntax for specifying LST parameters in members of the BETA.PARMLIB.

General syntax rules
LST parameters are name/value pairs. Use an equal sign (=) to separate the name (keyword) and the value.

`keyword=value`

Any number of blanks can be added to the left and to the right of the equal sign.

`keyword    = value`

You can code the name/value pair at any position between column 1 and 71 on the line. Column 72 is reserved for continuation.

Code each LST parameter on a separate line. The keyword and the value must be coded on the same line. Blank lines are ignored.

Comments
Code an asterisk (*) at column 1 to make the entire line a comment.

Comments can also be coded after the value on the same line. Separate the comment from the value by at least one blank. If a keyword does not require a value, no comment can be coded on this line.

In the following example, only the LST parameter of the first line is processed.

```
 keyword    = value                  optional comment
*keyword    = value                  optional comment
```

Values with blanks or other special characters
A value must be enclosed in quotation marks or parentheses if it includes blanks. All of the following are valid:

```
keyword    = 'value with blanks'  optional comment
keyword    = "value with blanks"  optional comment
keyword    = (value with blanks)  optional comment
```

Enclosing the value protects it against being partly interpreted as comment.

Also use quotation marks or parentheses for values containing other special characters. For example, if the value includes single quotation marks, enclose it in double quotation marks. If the value includes double quotation marks, include it in single quotation marks.

Subparameters   Some values consist of several comma-separated subparameters. These
                         values are often enclosed in parentheses or quotation marks for better
                         readability, even if the value does not include blanks. Add a comma for
                         required positional subparameters. All of the following are valid:

```
keyword    = sub1,sub2,,sub4        optional comment
keyword    = 'sub1,sub2,,sub4'      optional comment
keyword    = "sub1,sub2,,sub4"      optional comment
keyword    = (sub1,sub2,,sub4)      optional comment
```

Continuation   Long values can be coded on multiple lines. Use the following syntax:

- Code any non-blank character at column 72 to indicate that the value
  is continued on the following line.

- Continue coding the value at column 16 of the following line.

Example:

```
*---+----1----+----2----+----3----+----4----+----5----+----6----+----7-
Bnn_COMMENT        = 'OUR BETA nn PRODUCTIVE SYSTEM IS NOW UP AND RUNNI*
              NG'
Bnn_TCPIP_ENCRYPT  = BFS,0102030405060708090A0B0C0D0E0F1011121314151617*
              18191A1B1C1D1E1F
```

LST parameters in B97LSTxx

Parameter name	Value	Description	Opt./Req.	Default
B97_ALWAYS_INSERT_NOTE	YES | NO	Determines whether it is possible to modify or delete browser notes If **YES**, it is not possible to change or delete an existing browser note. When a user changes a note, the original note is preserved and a new note with the changed text and attributes is inserted instead.	Optional	NO
B97_ARC_MAX_NUMBER_OF_OBJECTS	numeric	Limits the size of archive datasets by specifying the maximum number of 4-MB objects to be stored in a dataset. When reaching this limit, the archive job finishes archiving the current list and then opens a new archive dataset. **0** means no limit.	Optional	0
B97_AUTORLD_ENABLED	YES | NO	Activates or deactivates automatic reloading	Optional	NO
B97_AUTORLD_INTERVAL	0..1440	Interval in minutes after which the automatic reload function checks how many requests are waiting in the reload queue; 0 (default) disables the automatic reload function.	Optional	0
B97_AUTORLD_PROCEDURE	*name*	Name of the RFF procedure that starts the reload job (required if autoreload is enabled) The procedure (default name: B97RLDA) is tailored during installation and then copied to the specified procedure library. Automatic reloading is deactivated if no name is specified. **Required: APF authorization** The steplibs of the reload procedure must be APF-authorized to enable the initialization of the new address space. Instead of using a reload procedure, the STC can submit the reload jobs directly in its own address space. If you want this, code: `B97_AUTORLD_PROCEDURE = ##NONE##`	*see description*	*see description*
B97_AUTORLD_REQUEST_LIMIT_LOW	1..99	Automatic reload is triggered when the number of reload requests with status WAITING has exceeded this limit.	Optional	1

Parameter name	Value	Description	Opt./Req.	Default
B97_AUTORLD_SETTLE_ COUNT	0..99	Specify the maximum number of repeats of the interval before an automatic reload must be triggered at the latest, provided any reload requests with status WAITING are present; **0** (default) disables this feature.	Optional	0
B97_BAT_ERR_*error*	0..4095	Sets the program return code of batch utilities for the corresponding error case to the specified value	Optional	
B97_BAT_ERR_NODATA				4
B97_BAT_ERR_ERRLIMIT				8
B97_BAT_ERR_DDMISSING				20
B97_BAT_ERR_QSAMOPEN				20
B97_BAT_ERR_BQLOPEN				20
B97_BAT_ERR_BQLEXEC				20
B97_BAT_ERR_SYNTAX				20
B97_BAT_ERR_SECURITY				32
B97_BAT_RET_OKAY	0..4095	Sets the program return code of batch utilities for non-error to the specified value	Optional	0
B97_BAT_RET_MAXCC	0..4095	Sets the program return code of batch utilities to the specified value (works like SET MAXCC)	Optional	0
B97_BAT_SEARCH_ SARGTYPE	ISPF | BETA	Specifies which type of picture string is used by B97BSRCH by default	Optional	ISPF
B97_TRACE_BAT_RC	YES | NO	YES causes the logging of the current values of all modifiable program return codes in the IRMLOG	Optional	NO
B97_BROWSE_MODE_IF_ NO_INDEX	YES | NO	Determines the system's reaction when the line command **IX** is entered in front of a list for which no index was created **NO** An error message is displayed **YES** The list is opened in normal page browse mode (same as line command **S** or **B**)	Optional	NO

Parameter name	Value	Description	Opt./Req.	Default
B97_BUILD_ITEM_INDEX	YES | NO	Controls the creation of the internal index §§§BETAINTERN§§§, which is required for item-based browsing **YES** It is automatically created for all lists with item-based processing (list definition specifies **Item Processing Mode = Yes**) **NO** It is only created if the list definition explicitly specifies **Item Display Mode = Yes**	Optional	NO
B97_CENTERA_TASKS	numeric	Maximum number of parallel activities when archiving in a Centera Archive	Optional	5
B97_CONNECT_TO_CENTERA_*suffix*	string	Required for archiving on a Centera Archive Use this parameter to define one or more connection strings (max. of 256 bytes each) (see *Centera API Reference Guide*). *suffix* is variable and establishes the connection to the archive subpool definition for which this connection string is used.	*see description*	*none*
B97_CLEANUP_CACHE	1..9999	Determines the retention period of data in the cache spool; the batch utility B97DECCH deletes all data that has not been accessed for *n* days.	Optional	5
B97_CLEANUP_RELOAD_LIST B97_CLEANUP_RELOAD_INDEX	1..9999	Determines the retention period of reloaded lists and indexes in the online spool; the batch utility B97DEONL deletes all lists and indexes that have been on the online spool for the specified number of days.	Optional	5
B97_CLIENT_GROUPS		Obsolete (replaced by B97_ROUTER_INDEX_GROUPS)		
B97_COMMENT	string	Start-up message The start-up message is written to the console when the Adabas Audit Data Retrieval started task has completed the initialization process. The default message is: `IRM9190I BETA 97 IS NOW ACTIVE`	Optional	*see description*
B97_DEARC_SORT	YES | NO	If NO, the archive cleanup job does not sort the report which itemizes the lists deleted from the archive, which reduces the run time of the job.	Optional	NO

Parameter name	Value	Description	Opt./Req.	Default
B97_DISPLAY_LIMIT_ VALUE	0..999999	Specifies the selection limit for online tables. When a selection reaches this limit, the user is prompted to decide whether to stop or continue the selection. The following two keywords control how the user can continue the selection: B97_DISPLAY_LIMIT_BYPASS B97_DISPLAY_LIMIT_OVERWRITE 0 means no limit.	Optional	1000
B97_DISPLAY_LIMIT_ BYPASS	YES | NO	**NO** The user is prompted each time the limit is reached. **YES** The user is prompted only the first time the limit is reached.	Optional	NO
B97_DISPLAY_LIMIT_ OVERWRITE	YES | NO	**YES** The user can change the limit for the current selection when prompted whether to continue.	Optional	NO
B97_FOLDER_SELECTION_ GENERIC	YES | NO	Determines whether it is possible to select lists via generic folder names under option **1** (BROWSE) and option **I** (INDEX) If YES, it is allowed to specify a mask in the **Folder** field.	Optional	NO

Parameter name	Value	Description	Opt./Req.	Default
B97_FOLDER_SELECTION_ MULTISELIGR	YES | NO	Controls how the matching lists are found when a folder name is specified as selection criterion under option **1** (BROWSE) and option **I** (INDEX) **NO** 1st processing step: A selection is carried out irrespective of the specified folder, which returns all lists matching the remaining selection criteria. 2nd processing step: For each list found, a check is carried out whether this list is also contained in the specified folder. **YES** 1st processing step: This step returns all list names (form and extension) contained in the folder. 2nd processing step: For each list name (form and extension), a selection with the remaining selection criteria is carried out. The default processing method "retrieve lists first, then check against folder" is inefficient, if the selection returns a large number of lists, e.g. because the time range is very large. If you specify the processing method "process folder first, then select lists" (B97_FOLDER_SELECTION_MULTISELIGR =YES), you can use the parameter B97_FOLDER_ SELECTION_MAXNRSELIGR to limit the number of selections: When the number of lists contained in the folder exceeds this limit, the standard processing method ("retrieve lists first, then check against folder") is used.	Optional	NO
B97_FOLDER_SELECTION_ MAXNRSELIGR	numeric	Only if B97_FOLDER_SELECTION_ MULTISELIGR=YES: Maximum number of selections that are to be carried out (**0** means no limit)	Optional	0

Parameter name	Value	Description	Opt./Req.	Default
B97_INDEX_INTERFACE_ MODULE	*module*	This parameter is required for an Adabas Audit Data Retrieval installation: `B97_INDEX_INTERFACE_MODULE=B97ALOGX` The specified module is called during indexing and retrieval to convert the records of an ALOG dataset into a readable format.	Required	
B97_INDEX_LAYOUT	SINGLE | MULTI	Controls the handling of layout groups (Option **2.6**): If MULTI, it is possible to create definitions that group multiple layouts under one layout group. If SINGLE, the layout name and layout group name are always identical.	Optional	SINGLE
B97_LICX_DSNAME	name	Name of the dataset that contains the license keys (required if DD B97LICX is not available For more information, see "License check handling" in *BSA Installation and System Guide*.	*see description*	*none*
B97_LICX_CHECK_TIME	*hh*	The time as a full hour at which a cyclical check is made on licenses in the license file. For more information, see "License check handling" in *BSA Installation and System Guide*.	Optional	00
B97_LIMIT_FX_COMMAND	YES | NO	If YES, the FINDINDEX(FX) command honors the **Find line limit** specified in the user profile (Browser options). This is only meaningful if the search term is found within this limit.	Optional	NO
B97_LIST_SELECT_LIMIT=*n*	numeric	Determines the maximum number of lists that can be selected under option **1** (BROWSE) and option **I** (INDEX) (**0** means no limit) Whether it is possible to select more lists than this limit is determined by the LST parameter B97_LST_SELECT_CONFIRM.	Optional	0
B97_LIST_SELECT_ CONFIRM	YES | NO	If **YES,** the application displays a confirmation message when the limit is reached and the user can either continue or end the selection If **NO,** the application displays a message when the limit is reached, which informs the user that not all matching lists are displayed.	Optional	NO

Parameter name	Value	Description	Opt./Req.	Default
B97_LIST_SELECT_ ORDER_BY_KEY	NONE | *key*	A customer-specific key may be defined in your database in order to accelerate the selection of lists under option1 - BROWSE. The name of this key is then specified with the help of this parameter. If this parameter has the value NONE, no key is specified in the generated select statements. Instead the database decides automatically whether to use a key (and if so, which one). **Important**: Do not use or change this parameter without consulting support first.	Optional	IGRI00
B97_MAXIMUM_HITS_ ALLOWED	numeric	Maximum number of hits for a query. If a query returns more hits, an error message will be displayed. Users can browser the hits that have been returned so far. The started task currently requires 18 bytes of memory for each hit. Limiting the maximum number of hits per query ensures that memory can be made available for all users.	Optional	5000
B97_MAXIMUM_ OPERATIONS_ ALLOWED	Max. 99999	Maximum number of IO operations in the index file per query. If a query has reached the maximum number of IOs, an error message will be displayed. Users can browser the hits that have been returned so far. Adabas Audit Data Retrieval sets an automatic limit to the number of IOs allowed per query in order to automatically terminate long-running queries.	Optional	5000
B97_NUMBER_OF_ MSG1718W	numeric	The warning message IRM1718W is issued during scanning if the specified line and column offsets of an index definition point to a location outside the page of the list. Use this parameter if you want to limit the number of times that this message is issued for each index generation. **0** means no limit, i.e. message IRM1718W is output each time that this occurs.	Optional	0
B97_PROCESSING_OPTION	STD | AAR	STD refers to an installation with _beta doc|z. Set this parameter to AAR in case of a Adabas Audit Data Retrieval installation. This parameter is evaluated by the health checker function.	Optional	STD

Parameter name	Value	Description	Opt./Req.	Default
B97_RC_MAXIMUM	Max. 99999	Maximum number of entries in the resource control table, which is used by the spool access management (SAM) function; each entry in the RC table represents a unique document This parameter sets a limit to the number of documents that can be open at the same time. A realistic value at a large installation may be something between 5000 and 10000. At STC startup, the table is initialized with about 250 bytes for each possible entry. **Note**: Warning message IRM1513W is written when the RC table is getting full (85%). Instead of increasing the value of B97_RC_MAXIMUM, you can also decrease the value of B97_RC_TIMEOUT. Documents that have not been accessed during the specified amount of time are released automatically.	Optional	5000
B97_RC_TIMEOUT	Max. 999	Determines how long Adabas Audit Data Retrieval holds in memory the resources that are required when opening a document (in minutes). If B97_RC_ATTACH_SPOOLFILES=NO, you should set the parameter B97_RC_TIMEOUT=15. If there is no activity during the specified amount of time, the document will be closed. It will be reopened when the document is accessed again by the same or by a different user. (The user will not notice that a document is closed and reopened.)	Optional	45
B97_ROUTER_INDEX_ GROUPS	1..9	Number of TCBs for concurrent queries (determines how many queries can be processed concurrently)	Optional	1
B97_SEARCH_TITLE_AT_ POSITION	YES | NO	Controls whether the field **From Column** in the List/Report Selection panel specifies a starting position (NO) or a fixed position (YES) when searching the specified string in the title.	Optional	NO
B97_SMFREC	128..255 (If version 1: 128..1151)	SMF record number This type number is used for the enabled subtypes when writing SMF records.	Optional	197

Parameter name	Value	Description	Opt./Req.	Default
B97_SMFREC_SUBTYP_*nn*	WRITE | NOWRITE	Enables you to turn the writing of individual SMF record subtypes on or off. *nn* refers to the subtype. For a description of the individual subtypes, see "SMF records" on page 115.	Optional	NOWRITE
B97_SMFREC_VERSION	0 | 1	0 Write SMF records with standard IBM header 1 Write SMF records with extended IBM header (supported as of z/OS 2.3; see "IBM header" on page 121)	Optional	0
B97_SSID	*ssid*	*ssid* is the subsystem ID that identifies the Adabas Audit Data Retrieval started task via the subsystem interface. For a batch job, this value is the subsystem ID of the started task to which the batch job will sign on during program startup.	Required	*none*
B97_TC_MAXIMUM	Max. 99999	Maximum number of entries in the task control table, which is used by the spool access management (SAM) function; each entry in the TC table represents a unique task (AAV user, TSO user, etc.) This parameter sets a limit to the number of users that can be active in the system at the same time. A realistic value at a large installation may be something between 1000 and 5000 users. At STC startup, the table is initialized with about 100 bytes for each possible entry. **Note**: The minimum value for a Adabas Audit Data Retrieval installation is 500.	Optional	5000
B97_TC_TIMEOUT	Max. 999	User inactivity timeout in minutes (0 means no timeout) When a user holding resources in Adabas Audit Data Retrieval has been inactive for the specified amount of time, his Adabas Audit Data Retrieval resources are released automatically. When the user tries to access these resources, an error message will be displayed.	Optional	60

Parameter name	Value	Description	Opt./Req.	Default
B97_TCPIP_PORT B97_TCPIP_PORT_*app* B97_TCPIP_*xxxxxx* B97_TCPIP_*xxxxxx_app*	*see description*	LST parameters of the BSA TCP/IP server The BSA TCP/IP server enables cross-platform communication with product add-ons. Code these LST parameters in the B97LST*xx* member when the BSA TCP/IP server is to run within the product STC. The BSA TCP/IP server supports global ports and application ports. Application port definitions use the suffix _*app* in the keyword to identify the application, for example _AAV: B97_TCPIP_PORT_AAV=(*port,ipa,tcpname*) For more information on the BSA TCP/IP server, see "BSA TCP/IP server" in *BSA Installation and System Guide*. For a description of the LST parameters, see "LST parameters for the BSA TCP/IP server" in *BSA Installation and System Guide*.	Optional	*none*
B97_TRACE_IDX B97_TRACE_SEC B97_TRACE_NTE B97_TRACE_LST	YES | NO	Turns the corresponding trace function on or off: IDX Index creation SEC Security NTE Browser notes LST Dynamic modification of LST parameters using the BSA Service Manager Set these parameters to YES only if asked to do so by support.	Optional	NO
B97_TRACE_SEC_LOGON_ ERROR	YES | NO	YES causes the output of more detailed trace messages with forced dump in case of logon failure. Set to YES only if asked to do so by support.	Optional	NO

Parameter name	Value	Description	Opt./Req.	Default
B97_TRANSLATION_TABLE	1..6	Controls which translation table is used by the index program for lowercase to uppercase conversion in conjunction with search arguments. The following translation tables are present: 1 German (CECP273/CECP1141) 2 English (CECP037/CECP1140) 3 French (CECP297/CECP1147) 4 Italian (CECP280/CECP1144) 5 Converts a-z to A-Z (no special characters) 6 No conversion X'00' is converted to X'40' (space) by tables 1 through 5. The source code with the translation tables can be found in member B97TR720 in the BETA97.SAMPLIB.	Optional	1
BQL_MASTER_SSID	*ssid*	If there is only one Adabas Audit Data Retrieval subsystem or if each subsystem has its own database, the subsystem *ssid* defined using the keywords B97_SSID and BQL_MASTER_SSID is identical. If several subsystems access one database in an OCF complex and this database is: • **not shared** (BQL_SHARE_OPTION=NO), BQL_MASTER_SSID defines the subsystem *ssid* that controls the database (master subsystem) and B97_SSID defines the subsystem *ssid* (slave subsystem) that accesses the database via the master subsystem. • **shared** (BQL_SHARE_OPTION=ALL | SPOOL), then BQL_MASTER_SSID defines the master subsystem *ssid,* which enables database sharing by making the required entries in the SYNC file. For more information on BQL_SHARE_OPTION, see "Sharing databases with the BQL share option" in *BSA Installation and System Guide.*	Required	*none*
BQL_SPOOLCHECK_ MODEL	1..9	Minimum number of spool models Warning message IRM9546W is written if the number of spool models is lower.	Optional	1

Parameter name	Value	Description	Opt./Req.	Default
BQL_STATISTIC	YES | NO	Set this parameter to YES to log statistical data. This data is written to the Syslog when you stop the started task.	Optional	NO
BQL_TRACE	YES | NO	Turns the BQL trace function on or off Set this parameter to YES only if asked to do so by support.	Optional	NO
OBJ_CENTERA_TRACE	YES | NO	Turns the trace function on/off when archiving on Centera Set this parameter to YES only if asked to do so by support.	Optional	NO
OBJ_RELOAD_CATALOG_ *unit*	YES | NO	By default, Adabas Audit Data Retrieval uses the system catalog to locate archive datasets during reloading, which is okay in most cases. You can prevent using the system catalog for reloading from specific units by specifying the following keyword: *OBJ_RELOAD_CATALOG_unit*=NO where *unit* refers to the corresponding unit name as defined in the archive subpool.	Optional	YES
OBJ_RETRIEVAL_DEVICES	numeric	Determines the number of units that can be simultaneously used for retrieving information	Optional	3
OBJ_RETRIEVAL_ORDER	numeric	Lowest value for reload order When the reload order for an archive pool is **ASIS**, Adabas Audit Data Retrieval tries to reload from the subpool with this order; if there is no subpool with this order or if reloading fails, it tries to reload from the subpool with reload order *n*+1, then *n*+2, etc.	Optional	1
OBJ_RETRIEVAL_TIMEOUT	numeric	Amount of time (in seconds) that a tape or optical disk remains mounted after access (Adabas Audit Data Retrieval does not honor this timeout value when it needs the unit for other requests)	Optional	60
OBJ_TRACE_ALLOC	YES | NO	Turns the trace function on or off which traces alloc commands that are sent to the object server (for internal use only)	Optional	NO
OBJ_TRACE_COMMAND	YES | NO	Turns the trace function on or off which traces commands that are sent to the object server (for internal use only)	Optional	NO

Parameter name	Value	Description	Opt./Req.	Default
B08_RELOAD_SEPARATE_ SPOOL	YES | NO	Specify YES if you want Adabas Audit Data Retrieval to use separate spool datasets for reloaded lists and reports. The first spool reload dataset is allocated during installation or update. Define model definitions for additional spool reload datasets online (Option **D.1**) to enable Adabas Audit Data Retrieval to allocate and format additional spool reload datasets when needed. NO is the default. Reloaded lists and reports are stored in the standard spool datasets.	Optional	NO

Global SFF parameters   The following global SFF parameters are described in "LST parameters in BnnLSTxx" in *BSA Installation and System Guide*:

- DIAG (diagnostic reports)

- BSA_ANALYZE_SMPE (SMP/E packages)

- MSG_ROUTE_TO (message routing to _beta access monitor)

- MSG_SUPPRESS (message suppression)

- DUMP_SUPPRESS (dump suppression)

- IRCDE, WRCDE, ERCDE, DRCDE (routing codes for console messages)

Adabas Audit Data Retrieval started task procedures

Overview

This section describes the Adabas Audit Data Retrieval started task procedure, which is tailored by the installation REXX and then copied to the specified procedure library using installation job I#B97J07.

The default name of the Adabas Audit Data Retrieval started task procedure is BETA97.

Note on BETA.APFLOAD

The BETA.APFLOAD is not included in the tailored JCL because it is recommended that you include this APF-authorized library in the linklist concatenation (see "Pre-installation checklist" in *BSA Installation and System Guide*). You may have to add a newly installed BETA.APFLOAD to the steplib concatenation manually to ensure that the current library is used.

Sample procedure (Adabas Audit Data Retrieval started task)

```
+--------------------------------------------------------------------+
|//******************************************************************* |
|//*                    BETA DOCZ PLUS - SYMPHONY                    * |
|//*                           (V7R2M0)                              * |
|//* ------------------------------------------------------------- * |
|//*                    S T A R T E D   T A S K                     * |
|//******************************************************************* |
|//BETA97   PROC  R=0M,TRACE=NO,LST=xx                                |
|//*                                                                  |
|//BETA97   EXEC PGM=BST01SFF,                                        |
|//         PARM=('S=97,B01LST=xx,B97LST=&LST',                       |
|//         'BQL_TRACE=&TRACE'),                                      |
|//         TIME=1440,REGION=&R                                       |
|//*                                                                  |
|//STEPLIB  DD  DISP=SHR,                                             |
|//         DSN=BETA97.LOAD                                           |
|//         DD  DISP=SHR,                                             |
|//         DSN=BSA.LOAD                                              |
|//*                                                                  |
|//SFFPARM  DD  DISP=SHR,                                             |
|//         DSN=BETA.PARMLIB                                          |
|//*                                                                  |
|//B97DEF   DD  DISP=SHR,                                             |
|//         DSN=BETA97.DB.DEF                                         |
|//*                                                                  |
|//IRMWORK1 DD  SPACE=(TRK,(5,1)),UNIT=unit                           |
|//*                                                                  |
|//IRMPRINT DD  SYSOUT=*                                              |
|//BQLPRINT DD  SYSOUT=*                                              |
|//SYSPRINT DD  SYSOUT=*                                              |
|//*                                                                  |
|//SFFFDUMP DD  SYSOUT=*,FREE=CLOSE                                   |
|//SFFFDUMP DD  SYSOUT=*,FREE=CLOSE                                   |
|//SFFFDUMP DD  SYSOUT=*,FREE=CLOSE                                   |
|//SFFFDUMP DD  SYSOUT=*,FREE=CLOSE                                   |
|//*                                                                  |
|//SYSUDUMP DD  SYSOUT=*                                              |
|//SYSABEND DD  SYSOUT=*                                              |
+--------------------------------------------------------------------+
```

The minimum region size is 256 MB.

DD statements

DD statement	Description
STEPLIB	Adabas Audit Data Retrieval and BSA load libraries
B97DEF	Adabas Audit Data Retrieval database definition file
SFFPARM	Beta parameter library
IRMLOG	Adabas Audit Data Retrieval log file
SFFFDUMP	Datasets for product dumps
SYSUDUMP	Dataset for z/OS dump
SYSABEND	Dataset for z/OS dump

Starting and stopping the started task

To start the Adabas Audit Data Retrieval started task, enter the following command at the operator console:

`S stcname`

where *stcname* is the name of the started task procedure.

To stop the started task, enter the following command at the operator console:

`P stcname`

Note: The command `C stcname` cancels the Adabas Audit Data Retrieval started task. You should use the cancel command only if the started task does not react to the stop command.

Adabas Audit Data Retrieval reader program (B97RDR00)

Overview

The Adabas system writes audit data into so-called ALOG datasets based on subscriptions. The generated datasets are then read into Adabas Audit Data Retrieval via reader batch jobs.

The reader job prepares the generated ALOG dataset via the IBM sort utilty and then calls the program B97RDR00 to read in and index the data contained in the dataset.

Important: DFSORT required

B97RDR00 requires DFSORT (64 bit) or Syncsort (64 bit).

If you are using a different default sort utility at your site, define an alias for SORT64 that points to DFSORT.

JCL

You can find JCL for this batch utility in the BETA97.CNTL in member B97RDR00.

```
+------------------------------------------------------------------+
|jobcard                                                           |
|//B97RDR00 EXEC PGM=BST01RFF,REGION=0M,                           |
|//            PARM=('S=97,B97LST=xx',                             |
|//              'B01LST=xx',                                      |
|//              'PGM=B97RDR00',                                   |
|//              'SIGNON=YES')                                     |
|//*                                                              |
|//STEPLIB  DD  DISP=SHR,DSN=BETA97.LOAD                           |
|//         DD  DISP=SHR,DSN=BSA.LOAD                              |
|//SFFPARM  DD  DISP=SHR,DSN=BETA.PARMLIB                          |
|//B97DEF   DD  DISP=SHR,DSN=BETA97.DB.DEF                         |
|//*                                                              |
|//SYSPRINT DD  SYSOUT=*                                           |
|//SFFFDUMP DD  SYSOUT=*                                           |
|//SYSABEND DD  SYSOUT=*                                           |
|//IRMPRINT DD  SYSOUT=*                                           |
|//IRMLOG   DD  SYSOUT=*                                           |
|//***************************************************************|
|//* GLOBAL SORT OPTIONS                                        * |
|//***************************************************************|
|//SORTDIAG DD  SYSOUT=*                                           |
|//***************************************************************|
|//* E35 DD-NAME AND CONTROL                                    * |
|//***************************************************************|
|//IRM1MSG  DD  SYSOUT=*                                           |
|//IRM1IN   DD  DISP=SHR,DSN=adabas.audit.dataset                  |
|//IRM1CNTL DD  *                                                  |
|  sort control statements                                        |
|  otherwise dummy                                                |
|/*                                                               |
|//***************************************************************|
|//* E15 DD-NAME AND CONTROL                                    * |
|//***************************************************************|
|//IRM2MSG  DD  SYSOUT=*                                           |
|//IRM2CNTL DD  *                                                  |
|  sort control statements                                        |
|  otherwise dummy                                                |
|/*                                                               |
|//***************************************************************|
|//* B97RDR00 SYSIN                                             * |
|//***************************************************************|
|//SYSIN    DD  *                                                  |
|  general parameters                                             |
|  alog-specific parameters                                       |
|/*                                                               |
+------------------------------------------------------------------+
```

IRMIN parameters   The following parameters can be specified in DD IRMIN:

Parameter	Description
DDPREFIX	Defines the DD name prefix used by the reader job for the sort utility exits E15 and E35
	For example, for the sample JCL, which uses IRM1IN/ IRM2IN, IRM1CNTL/IRM2CNTL, etc., specify the following:
	``` DDPREFIX = (E15,IRM2) DDPREFIX = (E35,IRM1) ```
MESSAGEDDN	Defines the sort message DD names, for example:
	``` MESSAGEDDN = (E15,IRM2MSG) MESSAGEDDN = (E35,IRM1MSG) ```
	The default of DFSORT is DD SYSOUT.
MEMORYSIZE	Defines the number of buffers for the individual queues
	Allowed: 2..16 (Default: 4)
	MEMORYSIZE(E15) affects the following queue:
	• B97_SDS_QUEUE
	MEMORYSIZE(E35) affects the following queues:
	• B97_READY_QUEUE
	• B97_S2E35_QUEUE,
	• B97_S2E35_QUEUE
	The buffer size is fixed (32,768 bytes). The specified number is used for all queues.
DEFAULTFORM DEFAULTEXTENSION DEFAULTREPORT	Use these parameters to define default values for the components (form, extension, report) of the list name
	Default names are used in addition to the names retrieved from the ALOG record when trying to find a matching list definition for the data that is being read in. The first match encountered in this sequence is used:
	1. *form(alog)* / *extension(alog)* / *report(alog)*
	2. *form(alog)* / *extension(alog)*
	3. *defaultform* / *defaultextension* / *defaultreport*
	The reader job will end with an error if no matching list definition can be found.
	A matching list definition for *defaultform* / *defaultextension* / *defaultreport* must exist. DEFAULTFORM is required. The other two parameters are optional. Blank will be used as default name for extension and report if not specified.

Parameter	Description
SUBSCRIPT_EXT	Defines a max. 8-byte text to be added to the subscription name as prefix or suffix during import
	This parameter enables you to make use of the max. 16-byte extension name in Adabas Audit Data Retrieval, to which the max. 8-byte subscription name from the ALOG dataset is mapped.
	Use the following syntax:
	`SUBSCRIPT_EXT = string,position`
	where:
	string is the max. 8-byte text
	position is either PREFIX or SUFFIX

Example

```
+--------------------------------------------------------------------+
|//jobcard                                                           |
|//B97RDR00 EXEC PGM=BST01RFF,REGION=0M,                             |
|//             PARM=('S=97,B97LST=xx',                              |
|//             'B01LST=xx',                                         |
|//             'PGM=B97RDR00',                                      |
|//             'SIGNON=YES')                                        |
|//*                                                                 |
|//STEPLIB  DD  DISP=SHR,DSN=BETA97.LOAD                             |
|//         DD  DISP=SHR,DSN=BSA.LOAD                                |
|//*                                                                 |
|//SFFPARM  DD  DISP=SHR,DSN=BETA.PARMLIB                            |
|//B97DEF   DD  DISP=SHR,DSN=BETA97.DB.DEF                           |
|//*                                                                 |
|//SYSPRINT DD  SYSOUT=*                                             |
|//SFFFDUMP DD  SYSOUT=*                                             |
|//SYSABEND DD  SYSOUT=*                                             |
|//IRMPRINT DD  SYSOUT=*                                             |
|//IRMLOG   DD  SYSOUT=*                                             |
|//*                                                                 |
|//***************************************************************** |
|//* GLOBAL SORT OPTIONS                                          * |
|//***************************************************************** |
|//SORTDIAG DD  SYSOUT=*                                             |
|//***************************************************************** |
|//* E35 DD-NAME AND CONTROL                                      * |
|//***************************************************************** |
|//IRM1MSG  DD  SYSOUT=*                                             |
|//IRM1IN   DD  DISP=SHR,DSN=ADABAS.FS1.$TMP.CLOG003.C1.FF01FT50     |
|//IRM1CNTL DD  *                                                    |
|  DEBUG NOABEND,NOESTAE                                             |
|  OPTION MOSIZE=MAX,                                                |
|  DYNALLOC=10,                                                      |
|  SDB=LARGE,                                                        |
|  MSGPRT=ALL                                                        |
|/*                                                                  |
```

(*continued*)

(*continued*)

```
|//******************************************************************* |
|//* E15 DD-NAME AND CONTROL                                        * |
|//******************************************************************* |
|//IRM2MSG  DD  SYSOUT=*                                              |
|//IRM2CNTL DD  *                                                     |
|  DEBUG NOABEND,NOESTAE                                              |
|  OPTION MOSIZE=MAX,                                                 |
|  ARESALL=32M,                                                       |
|  ARESINV=4M,                                                        |
|  MAINSIZE=1M,                                                       |
|  DYNALLOC=10,                                                       |
|  MSGPRT=ALL,                                                        |
|  SDB=LARGE,                                                         |
|  AVGRLEN=50,                                                        |
|  FILSZ=E200000                                                      |
|/*                                                                   |
|//******************************************************************* |
|//* B97RDR00 SYSIN                                                 * |
|//******************************************************************* |
|//SYSIN    DD  *                                                     |
|                                                                     |
|******************************************************************* |
|*                  GENERAL PARAMETERS                             * |
|******************************************************************* |
|   MEMORYSIZE       = (E15,16)                                       |
|   MEMORYSIZE       = (E35,16)                                       |
|   DDPREFIX         = (E35,IRM1)                                     |
|   DDPREFIX         = (E15,IRM2)                                     |
|   MESSAGEDDN       = (E35,IRM1MSG)                                  |
|   MESSAGEDDN       = (E15,IRM2MSG)                                  |
|                                                                     |
|******************************************************************* |
|*                  BLOG SPECIFIC PARAMETER                        * |
|******************************************************************* |
|                                                                     |
|   DEFAULTFORM       = STDFORM                                       |
|   DEFAULTEXTENSION  = STDEXTENSION                                  |
|   DEFAULTREPORT     = STDREPORTNAME                                 |
|/*                                                                   |
+---------------------------------------------------------------------+
```

Multi-CPU environment

Requirements

Running Adabas Audit Data Retrieval in a multi-CPU environment requires Open Communications Facility (OCF). You can use Adabas Audit Data Retrieval or any other Beta Systems product as OCF node.

For information on defining the required OCF and VTAM definitions, see "Multi-CPU with the Open Communication Facility (OCF)" in *BSA Installation and System Guide*.

Setting up Adabas Audit Data Retrieval master and slave subsystem

When two Adabas Audit Data Retrieval subsystems share a single database, the Adabas Audit Data Retrieval subsystem that controls the database is the master subsystem, the other Adabas Audit Data Retrieval subsystem is the slave subsystem. You must use different subsystem IDs for each subsystem.

Proceed as follows to set up a second Adabas Audit Data Retrieval subsystem (slave):

1. Copy the BETA.PARMLIB member B97LST*xx* used by the master Adabas Audit Data Retrieval subsystem to a different member name. Change the following parameters for the slave subsystem:

   • B97_SSID

   Do not modify parameter BQL_MASTER_SSID. This parameter must be identical in both LST members. It defines the subsystem ID of the Adabas Audit Data Retrieval master subsystem.

   In both LST members, enter the required OCF (Open Communication Facility) statements for a VTAM connection between both CPUs. For more information, see *BSA Installation and System Guide.*

2. Copy the LST member B97LST*xx* used by the slave Adabas Audit Data Retrieval subsystem to the parameter library on the other system.

3. Enter the new subsystem ID in member IEFSSN*xx* of your SYS1.PARMLIB dataset or another dataset concatenated in the MSTJCL*nn* dataset or in the LOAD*nn* member. Initialize the new subsystem as described in installation step 3 in this manual.

4. Copy the started task procedure to the PROCLIB on the other system.

5. In the new started task procedure, change the EXEC parameter to point to the new B97LST*xx* parmlib member.

6. In the Adabas Audit Data Retrieval master subsystem, define a new System Option Record (SYS) for the new system under option **S.2**. Under this option, enter the subsystem ID and VTAM Net ID of the slave subsystem.

7. Start the new started task.

8. To access the new subsystem, the appropriate subsystem ID must be entered in the user profile (option **P.2**). You can now change all parameters of the new subsystem online.

Notes on security   You must perform the same subsystem definition steps, described above, on the local z/OS system, with the same subsystem ID and security exits, as are performed on the remote CPU. This is in order to provide the same level of security checking on the local z/OS system that would be required on the remote z/OS system to access the resources in the started task.

To do this, you must perform the same Adabas Audit Data Retrieval subsystem initialization (via program BST01ARI, during IPL or in batch) on the local CPU as was performed for the remote CPU where the Adabas Audit Data Retrieval subsystem actually resides.

For example, if your local OCF node subsystem ID is **B97X**, and the remote Adabas Audit Data Retrieval subsystem ID your local online users require access to is **B97P**, then the following IEFSSN*xx* definitions must be accessible to the local z/OS system:

```
+---------------------------------------------------------------------+
|B97X,BST01ARI,'BETA.PARMLIB(B97SSI00)'                               |
|B97P,BST01ARI,'BETA.PARMLIB(B97SSI01)'                               |
+---------------------------------------------------------------------+
```

You can also define and initialize the subsystems dynamically. For each subsystem, enter the command `SETSSI ADD,SUB=ssid` and then run B97INIT on the local CPU.

In addition, the SVC number specified in B97SSI00 (via the SVC= parameter) must also be initialized on the local z/OS system (as described in the *BSA Installation and System Guide*).

If the Beta SVC number in use on the remote system is different from the one in use on the local system, you must change B97SSI00 by copying it to a new member such as B97SSI08 (this should contain the Beta SVC number in use on the local system), and use the following IEFSSN*xx* entries instead:

```
+---------------------------------------------------------------------+
|B97X,BST01ARI,'BETA.PARMLIB(B97SSI00)'                               |
|B97P,BST01ARI,'BETA.PARMLIB(B97SSI08)'                               |
+---------------------------------------------------------------------+
```

Finally, the security exits and security environment used for online users running on the remote CPU must also be available on the local CPU. This is done because security checking (logon and access validation) is always performed on the local CPU, even if the access is to a remote Adabas Audit Data Retrieval subsystem.

Note on copying load libraries   We recommend using IEBCOPY with COPYMOD for copying load libraries.

Copying load libraries with ISPF may lead to problems under certain conditions.

Creating a Adabas Audit Data Retrieval test environment

Requirements

To set up a Adabas Audit Data Retrieval test environment, you need to create the following:

- New subsystem ID

- New started task procedure

- New parmlib member B97LST*xx*

- New JCL for batch jobs (LST member, subsystem ID)

- New Adabas Audit Data Retrieval database

Recommended procedure

We recommend that you re-run the Adabas Audit Data Retrieval installation REXX to ensure that all required modifications will be applied.

Alternative procedure

Alternatively, you could also make a copy of the tailored CNTL library and modify the members in this library manually.

For example, to create a new Adabas Audit Data Retrieval database:

1. In the copy of job B97DBDEF, modify the following and then run this job.

   - Definitions for dataset names and for the VSAM owner in the SYSIN DD section

   - Source dataset in the REPRO statement (database definition file (B97DEF) of the existing Adabas Audit Data Retrieval system)

```
+---------------------------------------------------------------+
| DEFINE       CLUSTER(                                         |
|                 NAME(BETA97.TESTDB.DEF)                       |
|              CYLINDERS(5)                                     |
|            SHAREOPTIONS(3 3)                                  |
|                    VOL(volser)                               |
|                  OWNER(stcname)                              |
|                 UNIQUE                                       |
|               NONINDEXED                                     |
|                     )                                        |
|                   DATA(                                      |
|                 NAME(BETA97.TESTDB.DEF.DATA)                 |
|  CONTROLINTERVALSIZE(4096)                                   |
|           RECORDSIZE(4088 4088)                              |
|                     )                                        |
| REPRO INDATASET(BETA97.DB.DEF)                              |
|  OUTDATASET(BETA97.TESTDB.DEF)                              |
+---------------------------------------------------------------+
```

2. In member S#97UDEF, modify the names and definitions of the Adabas Audit Data Retrieval databases.

3. In member S#97ISYS, modify the name/location and the subsystem ID of the Adabas Audit Data Retrieval subsystem.

4. In the copy of job B97DBFOR, modify the following and then run this job:

    - Identifier *xx* of the B97LST*xx* member

    - Name of the database definition file (steps FILLDEF, FORMDB, and INSERT)

    - Name of the library containing the modified members S#97ISYS and S#97UDEF.

    - Database names in the FORMAT statements (step FORMDB)

```
+-----------------------------------------------------------------+
|...                                                              |
|//FILLDEF  EXEC PGM=BST01RFF,REGION=0M,                          |
|//              PARM=('S=97,B01LST=xx,B97LST=xx',                |
|//              'PGM=BST05CMD,SIGNON=NO')                        |
|//B97DEF   DD  DISP=SHR,                                         |
|//              DSN=BETA97.TESTDB.DEF                            |
|//BQLIN    DD  DISP=SHR,                                         |
|//              DSN=BETA97.TEST.CNTL(S#97UDEF)                   |
|...                                                              |
|//INSERT   EXEC PGM=BST01RFF,REGION=0M,                          |
|//              PARM=('S=97,B01LST=xx,B97LST=xx',                |
|//              'PGM=BST05CMD,SIGNON=NO')                        |
|//B97DEF   DD  DISP=SHR,                                         |
|//              DSN=BETA97.TESTDB.DEF                            |
|//BQLIN    DD  DISP=SHR,                                         |
|//              DSN=BETA97.TEST.CNTL(S#97ISYS)                   |
|//         DD  DISP=SHR,                                         |
|//              DSN=BETA97.TEST.CNTL(S#97IRST)                   |
|...                                                              |
+-----------------------------------------------------------------+
```

Database utilities

JCL for database utilities

Overview

This chapter provides a description of selected database utilities. The JCL for these database utilities is generated by the installation REXX and placed into the BETA97.CNTL.

Alternative: Generate JCL online

Alternatively, you can also generate JCL for the maintenance of the Adabas Audit Data Retrieval database (ENLARGE, REDUCE, ALTER, etc.) online under the BSA Service Manager option **4**. This option uses skeletons from the BSA skeleton library (ISPSLIB) and generates the JCL according to your input in the displayed panels. You can display, send or save the generated JCL in a member.

For more information on generating JCL online, see "Generating JCL for database utilities" in *Adabas Audit Data Retrieval Administrator Guide*.

Renaming a database

Overview procedure   Renaming a Adabas Audit Data Retrieval database involves the following:

1. Updating the names in the database definition file (DD B97DEF)

2. Renaming the Adabas Audit Data Retrieval database

Additionally, when renaming the database definition file:

3. Modifying the dataset name of the database definition file in:

- DD statement B97DEF in the started task procedure(s)

- DD statement B97DEF in the JCL of batch utilities that access the database directly

- Subsystem options (Option **S.2**)

Job B97DBREN   The first two actions are performed by the two steps of job B97DBREN:

1. Step UPDATE uses BST05UPF to update the Adabas Audit Data Retrieval database definition file.

2. Step DBREN uses IDCAMS to rename the VSAM database.

Job B97DBREN is tailored at the time of installation and placed in the BETA97.CNTL.

Caution: No database   Do not access the Adabas Audit Data Retrieval database while renaming
access during renaming   the database is in progress. To prevent the database from being accessed:

1. Stop all Adabas Audit Data Retrieval jobs and the reader started tasks that are running.

2. Then stop the Adabas Audit Data Retrieval started task.

Required modifications   For DATA and KEY component, define the new name under DD BQLIN.
in JCL for step UPDATE   For example, to change the high level qualifier of B97MAIN, specify:

```
+--------------------------------------------------------------------+
|...                                                                 |
|//BQLIN    DD  *                                                    |
| DEFINE UPDATE FILE B97MAIN                                       - |
|        DSNAME newhlq.MAIN                                          |
| DEFINE UPDATE FILE B97KEY                                        - |
|        DSNAME newhlq.MAIN.KEY                                      |
|...                                                                 |
+--------------------------------------------------------------------+
```

For a list of logical filenames, see the table in "Adabas Audit Data Retrieval database components" on page 38.

Required modifications in JCL for step DBREN

For DATA and KEY component, define the old name and the new name under DD SYSIN. For example, to change the high level qualifier of the Adabas Audit Data Retrieval database B97MAIN from *oldhlq* to *newhlq*, specify:

```
+-------------------------------------------------------------------+
|...                                                                |
|//SYSIN   DD  *                                                    |
| ALTER oldhlq.MAIN                                              -  |
|       NEWNAME(newhlq.MAIN)                                         |
| ALTER oldhlq.MAIN.DATA                                         -  |
|       NEWNAME(newhlq.MAIN.DATA)                                    |
| ALTER oldhlq.MAIN.KEY                                          -  |
|       NEWNAME(newhlq.MAIN.KEY)                                     |
| ALTER oldhlq.MAIN.KEY.DATA                                     -  |
|       NEWNAME(newhlq.MAIN.KEY.DATA)                                |
|...                                                                |
+-------------------------------------------------------------------+
```

Sample JCL

Tailored JCL for job B97DBREN can be found in the BETA97.CNTL.

```
+-------------------------------------------------------------------+
|jobcard                                                            |
|//*-------------------------------------------------------------* |
|//*       UPDATE BETA97 DEFINITION FILE                         * |
|//*-------------------------------------------------------------* |
|//DBREN  EXEC PGM=IDCAMS                                           |
|//UPDATE   EXEC PGM=BST01RFF,REGION=0M,                            |
|//            PARM=('S=97,B01LST=xx,B97LST=xx',                    |
|//             'PGM=BST05UPF,SIGNON=NO')                           |
|//*                                                               |
|//STEPLIB DD  DISP=SHR,                                            |
|//             DSN=BSA.LOAD                                        |
|//        DD  DISP=SHR,                                            |
|//             DSN=BETA97.LOAD                                     |
|//*                                                               |
|//SFFPARM DD  DISP=SHR,                                            |
|//             DSN=BETA.PARMLIB                                    |
|//*                                                               |
|//B97DEF  DD  DISP=SHR,                                            |
|//             DSN=BETA97.DB.DEF                                   |
|//*                                                               |
|//BQLIN   DD  *                                                    |
| DEFINE UPDATE FILE B97MAIN                                     -  |
|       DSNAME BETA97.DB.MAIN.NEW                                    |
| DEFINE UPDATE FILE B97KEY                                      -  |
|       DSNAME BETA97.DB.MAIN.KEY.NEW                                |
|//*                                                               |
|//IRMPRINT DD  SYSOUT=*                                            |
|//BQLPRINT DD  SYSOUT=*                                            |
|//SYSPRINT DD  SYSOUT=*                                            |
|//*                                                               |
|//SFFFDUMP DD  SYSOUT=*                                            |
|//SYSUDUMP DD  SYSOUT=*                                            |
|//SYSABEND DD  SYSOUT=*                                            |
|//*                                                               |
+-------------------------------------------------------------------+
```

                                                                    (*continued*)

(*continued*)

```
|//*----------------------------------------------------------------* |
|//*      RENAME BETA97 MAIN DATABASE                              * |
|//*----------------------------------------------------------------* |
|//DBREN    EXEC PGM=IDCAMS,COND=(0,NE)                               |
|//*                                                                  |
|//SYSPRINT DD  SYSOUT=*                                              |
|//SYSIN    DD  *                                                     |
| ALTER BETA97.DB.MAIN                                             - |
|       NEWNAME(BETA97.DB.MAIN.NEW)                                  |
| ALTER BETA97.DB.MAIN.DATA                                        - |
|       NEWNAME(BETA97.DB.MAIN.NEW.DATA)                             |
| ALTER BETA97.DB.MAIN.KEY                                         - |
|       NEWNAME(BETA97.DB.MAIN.KEY.NEW)                              |
| ALTER BETA97.DB.MAIN.KEY.DATA                                    - |
|       NEWNAME(BETA97.DB.MAIN.KEY.NEW.DATA)                         |
|//*                                                                  |
+----------------------------------------------------------------------+
```

Enlarging a database

Overview procedure   Enlarging a Adabas Audit Data Retrieval database involves the following:

1. Saving the existing database under a new name
2. Creating a new, larger database under the original name
3. Restoring data from the renamed database to the new database
4. Formatting the remaining free space in the new database

Job B97DBENL   These actions are performed by job B97DBENL:

1. Step DBREN uses IDCAMS to rename the VSAM database.
2. Step DBDEF uses IDCAMS to define a new, larger database.
3. Step DBREPRO uses IDCAMS to restore data from the renamed database.
4. Step DBFORM uses BST05FOR to format the remaining free space in the Adabas Audit Data Retrieval database.

Job B97DBENL is tailored at the time of installation and placed in the BETA97.CNTL.

Caution: No database access during enlarging   Do not access the Adabas Audit Data Retrieval database while enlarging the database is in progress. To prevent the database from being accessed:

1. Stop all Adabas Audit Data Retrieval jobs and the reader started tasks that are running.
2. Then stop the Adabas Audit Data Retrieval started task.

Checking available space – High water mark   When writing information to the Adabas Audit Data Retrieval database, the system checks whether there is still enough space in the database. If the specified amount of available space is used up (default: 90%), a warning message is written to the console:

```
IRM9550W HIGH WATER MARK REACHED 90% BETA97.MAIN.DATA
```

To find out how to change the high water mark for a database, see

**Checking available space
– Online option Database**

To find out how much space is available in the database, you can use option **D.2.4**, which displays the "System Database Display" panel.

```
PE05DI01 --------------------------------------------------- Row   1 of  25
Command ===> _____ Scroll ===> CSR_

  System Database Display

  Data Set Name                           Stat FileID Buffer %Used Type HWM
  BETA97.DB.DEF                           OPN  00001  00000  013   NO   --
  BETA97.DB.SYNC                          OPN  01000  00000  001   SY   --
  BETA97.DB.LOG                           OPN  01001  00000  040   LO   --
  BETA97.DB.MAIN                          OPN  01002  00010  013   DA   90
  BETA97.DB.MAIN.KEY                      OPN  01004  00010  009   KE   90
  BETA97.DB.LIST.KEY                      OPN  01006  04000  087   KE   90
  BETA97.DB.LIST                          OPN  01008  05500  090   DA   90
  BETA97.DB.SPOOL1                        OPN  01010  00000  021   SP   --
  BETA97.DB.CACHE1                        OPN  01011  00000  002   CA   --
  BETA97.DB.INDEX1                        FUL  01012  00000  100   IX   --
  BETA97.DB.ARC                           OPN  01013  00050  001   DA   90
  BETA97.DB.ARC.KEY                       OPN  01015  00050  000   KE   90
  BETA97.DB.MSG                           OPN  01017  00100  012   DA   90
  BETA97.DB.MSG.KEY                       OPN  01018  00100  013   KE   90
  BETA97.DB.NOTES                         OPN  01017  00100  012   DA   90
  BETA97.DB.NOTES.KEY                     OPN  01018  00100  013   KE   90
  BETA97.DB.INDEX2                        OPN  01005  00000  001   IX   --
  BETA97.DB.SPOOL2                        OPN  01019  00000  069   SP   --
```

In the example above, the database BETA97.DB.LIST has reached the high water mark of 90 percent and needs to be enlarged.

**Required JCL
modifications**

The job B97DBENL is tailored for the database file B97MAIN (not mirrored).

When enlarging other databases, modify the names in each step as described below.

When working with a mirrored database, you must enlarge both the original and the mirror database.

**Required modifications
in JCL for step DBREN**

Check and if necessary modify the old name and the new name for DATA and KEY component under DD SYSIN.

**Required modifications
in JCL for step DBDEF**

Check and if necessary modify the name for DATA and KEY component under DD SYSIN. You must use the original name for the new, larger database.

Enter the new space requirement in cylinders for the data and key file. For more information on space requirements, see "Step 4: Creating a new Adabas Audit Data Retrieval database" on page 36.

**Required modifications
in JCL for step
DBREPRO**

Check and if necessary modify the name for the DATA and KEY component.

**Required modifications
in JCL for step DBFORM**

Check and if necessary modify the database name in DD BQLIN.

Note: Keyword EXTEND is used when formatting a database that already contains data.

Sample JCL   Job B97DBENL is tailored at the time of installation and placed in the
                                  BETA97.CNTL.

```
+------------------------------------------------------------------+
|jobcard                                                           |
|//DBREN  EXEC PGM=IDCAMS                                          |
|//*                                                               |
|//*                                                               |
|//SYSPRINT DD  SYSOUT=*                                           |
|//SYSIN    DD  *                                                  |
| ALTER BETA97.DB.MAIN                                             |
|       NEWNAME(BETA97.DB.MAIN.OLD)                                |
| ALTER BETA97.DB.MAIN.DATA                                        |
|       NEWNAME(BETA97.DB.MAIN.OLD.DATA)                           |
| ALTER BETA97.DB.MAIN.KEY                                         |
|       NEWNAME(BETA97.DB.MAIN.KEY.OLD)                            |
| ALTER BETA97.DB.MAIN.KEY.DATA                                    |
|       NEWNAME(BETA97.DB.MAIN.KEY.OLD.DATA)                       |
|//*                                                               |
|//DBDEF   EXEC PGM=IDCAMS,COND=(0,NE)                             |
|//*                                                               |
|//SYSPRINT DD  SYSOUT=*                                           |
|//SYSIN    DD  *                                                  |
| DEFINE     CLUSTER(                                       -  |
|                 NAME(BETA97.DB.MAIN)                      -  |
|             CYLINDERS(40)                                 -  |
|          SHAREOPTIONS(3 3)                                -  |
|                 OWNER(B97)                                -  |
|                 UNIQUE                                    -  |
|             NONINDEXED                                    -  |
|                  )                                        -  |
|                 DATA(                                     -  |
|                 NAME(BETA97.DB.MAIN.DATA)                 -  |
|  CONTROLINTERVALSIZE(4096)                                -  |
|          RECORDSIZE(4088 4088)                            -  |
|                  )                                           |
| DEFINE     CLUSTER(                                        - |
|                 NAME(BETA97.DB.MAIN.KEY)                   - |
|             CYLINDERS(20)                                  - |
|          SHAREOPTIONS(3 3)                                 - |
|                 OWNER(B97)                                 - |
|                 UNIQUE                                     - |
|             NONINDEXED                                     - |
|                  )                                         - |
|                 DATA(                                      - |
|                 NAME(BETA97.DB.MAIN.KEY.DATA)              - |
|  CONTROLINTERVALSIZE(4096)                                 - |
|          RECORDSIZE(4088 4088)                             - |
|                  )                                           |
```

                                                                                    (*continued*)

(*continued*)

```
|//*------------------------------------------------------------------*|
|//* REPRO CURRENT DATABASE CONTENTS TO THE LARGER DATABASE         *|
|//*------------------------------------------------------------------*|
|//DBREPRO  EXEC PGM=IDCAMS,COND=(0,NE)                               |
|//OLD1D    DD  DISP=OLD,                                             |
|//             DSN=BETA97.DB.MAIN.OLD                                |
|//NEW1D    DD  DISP=SHR,                                             |
|//             DSN=BETA97.DB.MAIN                                    |
|//OLD1K    DD  DISP=OLD,                                             |
|//             DSN=BETA97.DB.MAIN.KEY.OLD                            |
|//NEW1K    DD  DISP=SHR,                                             |
|//             DSN=BETA97.DB.MAIN.KEY                                |
|//SYSPRINT DD  SYSOUT=*                                             |
|//SYSIN    DD  *                                                     |
| REPRO  INFILE(OLD1D) OUTFILE(NEW1D)                                |
| REPRO  INFILE(OLD1K) OUTFILE(NEW1K)                                |
|//*                                                                  |
|//*------------------------------------------------------------------*|
|//* FORMAT THE EXTENSION OF THE DATABASE FILES                     *|
|//* RC: REFER TO THE PRODUCT'S INSTALLATION & SYSTEM GUIDE         *|
|//*     THIS STEP MUST BE COMPLETED WITH RC 00                     *|
|//*------------------------------------------------------------------*|
|//DBFORM   EXEC PGM=BST01RFF,REGION=0M,COND=(0,NE),                 |
|//             PARM=('S=97,B01LST=xx,B97LST=xx',                    |
|//             'PGM=BST05FOR,SIGNON=NO')                            |
|//*                                                                  |
|//STEPLIB  DD  DISP=SHR,                                             |
|//             DSN=BSA.LOAD                                          |
|//         DD  DISP=SHR,                                             |
|//             DSN=BETA97.LOAD                                       |
|//*                                                                  |
|//SFFPARM  DD  DISP=SHR,                                             |
|//             DSN=BETA.PARMLIB                                      |
|//*                                                                  |
|//B97DEF   DD  DISP=SHR,                                             |
|//             DSN=BETA97.DB.DEF                                     |
|//*                                                                  |
|//BQLIN    DD  *                                                     |
| FORMAT FILE DSNAME(BETA97.DB.MAIN) EXTEND                          |
| FORMAT FILE DSNAME(BETA97.DB.MAIN.KEY) EXTEND                      |
|//*                                                                  |
|//IRMPRINT DD  SYSOUT=*                                             |
|//BQLPRINT DD  SYSOUT=*                                             |
|//SYSPRINT DD  SYSOUT=*                                             |
|//*                                                                  |
|//SFFFDUMP DD  SYSOUT=*                                             |
|//SYSUDUMP DD  SYSOUT=*                                             |
|//SYSABEND DD  SYSOUT=*                                             |
+------------------------------------------------------------------+
```

Reducing the size of a database

Overview procedure

Reducing the size of a Adabas Audit Data Retrieval database involves the following:

1. Unloading the data from the existing database to a flatfile

2. Saving the existing database under a new name

3. Creating a new, smaller database under the original name

4. Formatting the new database

5. Restoring data from the flatfile to the new database

Job B97DBRED

These actions are performed by job B97DBRED:

1. Step UNLOAD uses BST05DBL to unload the data from the existing VSAM database to a flatfile.

2. Step DBREN uses IDCAMS to rename the VSAM database.

3. Step DBDEF uses IDCAMS to define a new, smaller VSAM database.

4. Step DBFORM uses BST05FOR to format the new VSAM database.

5. Step DBLOAD uses BST05DBL to restore data from the flatfile to the new VSAM database.

Job B97DBRED is tailored at the time of installation and placed in the BETA97.CNTL.

Caution: No database access when making the database smaller

Do not access the Adabas Audit Data Retrieval database while making the Adabas Audit Data Retrieval database smaller is in progress. To prevent the database from being accessed:

1. Stop all Adabas Audit Data Retrieval jobs and the reader started tasks that are running.

2. Then stop the Adabas Audit Data Retrieval started task.

Required JCL modifications	The job B97DBRED is tailored for the database file B97MAIN (not mirrored).
	When reducing the size of other databases, modify the names in each step as described below.
	When working with a mirrored database, you must reduce the size of both the original and the mirror database.
Required modifications in JCL for step UNLOAD	Check and if necessary modify the size and the name of the flatfile in DD BQLSAVE and the logical filename of the database to unload in DD BQLIN.
Required modifications in JCL for step DBREN	Check and if necessary modify the old name and the new name for DATA and KEY component in DD SYSIN.
Required modifications in JCL for step DBDEF	Check and if necessary modify the name for DATA and KEY component in DD SYSIN. You must use the original name for the new, smaller database.
	Enter the new space requirement in cylinders for the data and key file. For more information on space requirements, see the table in "Adabas Audit Data Retrieval database components" on page 38.
Required modifications in JCL for step DBFORM	Check and if necessary modify the database name in DD BQLIN.
Required modifications in JCL for step DBLOAD	Check and if necessary modify the name of the flatfile in DD BQLIN.

Sample JCL

Job B97DBRED is tailored at the time of installation and placed in the BETA97.CNTL.

```
+------------------------------------------------------------------+
|jobcard                                                           |
|//UNLOAD   EXEC PGM=BST01RFF,REGION=0M,                           |
|//             PARM=('S=97,B01LST=xx,B97LST=xx',                  |
|//             'PGM=BST05DBL,SIGNON=NO')                          |
|//*                                                               |
|//STEPLIB  DD  DISP=SHR,                                          |
|//             DSN=BSA.LOAD                                       |
|//         DD  DISP=SHR,                                          |
|//             DSN=BETA97.LOAD                                    |
|//*                                                               |
|//SFFPARM  DD  DISP=SHR,                                          |
|//             DSN=BETA.PARMLIB                                   |
|//*                                                               |
|//B97DEF   DD  DISP=SHR,                                          |
|//             DSN=BETA97.DB.DEF                                  |
|//*                                                               |
|//BQLSAVE  DD  DSN=BETA97.DB.UNLOADB,                             |
|//*            UNIT=SMS,                                          |
|//*            VOL=SER=SMS,                                       |
|//             DISP=(,CATLG,DELETE),                              |
|//             SPACE=(CYL,(20,20),RLSE),                          |
|//             DCB=(RECFM=VB,LRECL=27990,BLKSIZE=27994)           |
|//*                                                               |
|//BQLPRINT DD  SYSOUT=*                                           |
|//SYSPRINT DD  SYSOUT=*                                           |
|//*                                                               |
|//BQLIN    DD  *                                                  |
| UNLOAD FILE B97MAIN                                              |
|//*                                                               |
|//IRMPRINT DD  SYSOUT=*                                           |
|//BQLPRINT DD  SYSOUT=*                                           |
|//SYSPRINT DD  SYSOUT=*                                           |
|//*                                                               |
|//SFFFDUMP DD  SYSOUT=*                                           |
|//SYSUDUMP DD  SYSOUT=*                                           |
|//SYSABEND DD  SYSOUT=*                                           |
|//*                                                               |
+------------------------------------------------------------------+
                                                      (continued)
```

(*continued*)

```
|//*----------------------------------------------------------------*|
|//* RENAME THE OLD DATABASE - ENTER ANOTHER NEWNAME IF YOU WANT   *|
|//*----------------------------------------------------------------*|
|//DBREN    EXEC PGM=IDCAMS,COND=(0,NE)                             |
|//*                                                                |
|//SYSPRINT DD  SYSOUT=*                                            |
|//SYSIN    DD  *                                                   |
| ALTER BETA97.DB.MAIN                                              |
|       NEWNAME(BETA97.DB.MAIN.OLD)                                 |
| ALTER BETA97.DB.MAIN.DATA                                         |
|       NEWNAME(BETA97.DB.MAIN.OLD.DATA)                            |
| ALTER BETA97.DB.MAIN.KEY                                          |
|       NEWNAME(BETA97.DB.MAIN.KEY.OLD)                             |
| ALTER BETA97.DB.MAIN.KEY.DATA                                     |
|       NEWNAME(BETA97.DB.MAIN.KEY.OLD.DATA)                        |
|//*                                                                |
|//*----------------------------------------------------------------*|
|//* DEFINE BETA97 DATABASE WITH LOWER SPACE VALUE(S)             *|
|//*----------------------------------------------------------------*|
|//DBDEF    EXEC PGM=IDCAMS,COND=(0,NE)                             |
|//*                                                                |
|//SYSPRINT DD  SYSOUT=*                                            |
|//SYSIN    DD  *                                                   |
| DEFINE       CLUSTER(                                          - |
|                   NAME(BETA97.DB.MAIN)                         - |
|               CYLINDERS(???)                                   - |
|           SHAREOPTIONS(3 3)                                    - |
|                   OWNER(B97)                                   - |
|                   UNIQUE                                       - |
|               NONINDEXED                                       - |
|                     )                                          - |
|                   DATA(                                        - |
|                   NAME(BETA97.DB.MAIN.DATA)                    - |
|   CONTROLINTERVALSIZE(4096)                                    - |
|             RECORDSIZE(4088 4088)                              - |
|                     )                                            |
| DEFINE       CLUSTER(                                          - |
|                   NAME(BETA97.DB.MAIN.KEY)                     - |
|               CYLINDERS(???)                                   - |
|           SHAREOPTIONS(3 3)                                    - |
|                   OWNER(B97)                                   - |
|                   UNIQUE                                       - |
|               NONINDEXED                                       - |
|                     )                                          - |
|                   DATA(                                        - |
|                   NAME(BETA97.DB.MAIN.KEY.DATA)                - |
|   CONTROLINTERVALSIZE(4096)                                    - |
|             RECORDSIZE(4088 4088)                              - |
|                     )                                            |
|//*                                                                |
```

(*continued*)

(*continued*)

```
|//*----------------------------------------------------------------* |
|//* FORMAT DATABASE FILES                                         * |
|//*----------------------------------------------------------------* |
|//DBFORM   EXEC PGM=BST01RFF,REGION=0M,COND=(0,NE),                |
|//              PARM=('S=97,B01LST=xx,B97LST=xx',                  |
|//              'PGM=BST05FOR,SIGNON=NO')                          |
|//*                                                                 |
|//STEPLIB  DD  DISP=SHR,                                           |
|//              DSN=BSA.LOAD                                        |
|//         DD  DISP=SHR,                                           |
|//              DSN=BETA97.LOAD                                     |
|//*                                                                 |
|//SFFPARM  DD  DISP=SHR,                                           |
|//              DSN=BETA.PARMLIB                                    |
|//*                                                                 |
|//B97DEF   DD  DISP=SHR,                                           |
|//              DSN=BETA97.DB.DEF                                   |
|//*                                                                 |
|//BQLIN    DD  *                                                   |
| FORMAT FILE DSNAME(BETA97.DB.MAIN.KEY)                            |
| FORMAT FILE DSNAME(BETA97.DB.MAIN)                                |
|//*                                                                 |
|//IRMPRINT DD  SYSOUT=*                                            |
|//BQLPRINT DD  SYSOUT=*                                            |
|//SYSPRINT DD  SYSOUT=*                                            |
|//*                                                                 |
|//SFFFDUMP DD  SYSOUT=*                                            |
|//SYSUDUMP DD  SYSOUT=*                                            |
|//SYSABEND DD  SYSOUT=*                                            |
|//*                                                                 |
|//*----------------------------------------------------------------* |
|//* UPLOAD BETA 97 DATABASE FILES                                 * |
|//*----------------------------------------------------------------* |
|//DBLOAD   EXEC PGM=BST01RFF,REGION=0M,COND=(0,NE),                |
|//              PARM=('S=97,B01LST=xx,B97LST=xx',                  |
|//              'PGM=BST05DBL,SIGNON=NO')                          |
|//*                                                                 |
|//STEPLIB  DD  DISP=SHR,                                           |
|//              DSN=BSA.LOAD                                        |
|//         DD  DISP=SHR,                                           |
|//              DSN=BETA97.LOAD                                     |
|//*                                                                 |
|//SFFPARM  DD  DISP=SHR,                                           |
|//              DSN=BETA.PARMLIB                                    |
|//*                                                                 |
|//B97DEF   DD  DISP=SHR,                                           |
|//              DSN=BETA97.DB.DEF                                   |
|//*                                                                 |
|//BQLIN    DD  *                                                   |
|  LOAD TABLE * DSNAME(BETA97.DB.UNLOADB)                           |
|//*                                                                 |
|//IRMPRINT DD  SYSOUT=*                                            |
|//BQLPRINT DD  SYSOUT=*                                            |
|//SYSPRINT DD  SYSOUT=*                                            |
|//*                                                                 |
|//SFFFDUMP DD  SYSOUT=*                                            |
|//SYSUDUMP DD  SYSOUT=*                                            |
|//SYSABEND DD  SYSOUT=*                                            |
+----------------------------------------------------------------+
```

Changing the high water mark of a database

Overview

When writing information to the Adabas Audit Data Retrieval database, the system checks whether there is still enough space in the database. If the database is close to getting full, a warning message is written to the console:

```
IRM9550W HIGH WATER MARK REACHED 90% BETA97.DB.MAIN.DATA
```

By default, the high water mark is 90 percent. You can change this value for individual databases using the program BST05CMD or BST05UPF.

Caution: No database access during changing high water mark

Do not access the Adabas Audit Data Retrieval database while changing the high water mark is in progress. To prevent the database from being accessed:

1. Stop all Adabas Audit Data Retrieval jobs and the reader started tasks that are running.

2. Then stop the Adabas Audit Data Retrieval started task.

Sample JCL for program BST05CMD

This example changes the high water mark of the Adabas Audit Data Retrieval MAIN database to 85 percent (DATA) and 95 percent (KEY).

```
+----------------------------------------------------------------------+
|jobcard                                                               |
|//stepname EXEC PGM=BST01RFF,REGION=0M,                               |
|//              PARM=('S=97,B01LST=xx,B97LST=xx',                     |
|//              'PGM=BST05CMD,SIGNON=NO')                             |
|//STEPLIB  DD  DISP=SHR,                                              |
|//              DSN=BSA.LOAD                                          |
|//SFFPARM  DD  DISP=SHR,                                              |
|//              DSN=BETA.PARMLIB                                      |
|//B97DEF   DD  DISP=SHR,                                              |
|//              DSN=BETA97.DB.DEF                                     |
|//BQLPRINT DD  SYSOUT=*                                               |
|//BQLIN    DD  *                                                      |
| DEFINE UPDATE FILE B97MAIN HWM(85)                                   |
| DEFINE UPDATE FILE B97KEY HWM(95)                                    |
|/*                                                                    |
+----------------------------------------------------------------------+
```

Syntax (BST05CMD)

Specify the following under DD BQLIN:

```
DEFINE UPDATE FILE logicalfilename HWM(nn)
```

where *logicalfilename* is the logical filename of the Adabas Audit Data Retrieval database and *nn* the new high water mark in percent. For a list of logical filenames, see the table in "Adabas Audit Data Retrieval database components" on page 38.

Sample JCL for program BST05UPF

```
+-------------------------------------------------------------------+
|jobcard                                                            |
|//stepname EXEC PGM=BST01RFF,REGION=0M,                            |
|//            PARM=('S=97,B01LST=xx,B97LST=xx',                    |
|//            'PGM=BST05UPF,SIGNON=NO')                            |
|//STEPLIB  DD  DISP=SHR,                                           |
|//             DSN=BSA.LOAD                                        |
|//SFFPARM  DD  DISP=SHR,                                           |
|//             DSN=BETA.PARMLIB                                    |
|//B97DEF   DD  DISP=SHR,                                           |
|//             DSN=BETA97.DB.DEF                                   |
|//BQLPRINT DD  SYSOUT=*                                            |
|//BQLIN    DD  *                                                   |
| DEFINE UPDATE FILE OLDDSN(BETA97.DB.MAIN) HWM(85)                 |
| DEFINE UPDATE FILE OLDDSN(BETA97.DB.MAIN.KEY) HWM(95)             |
|/*                                                                 |
+-------------------------------------------------------------------+
```

Syntax (BST05UPF)

Specify the following under DD BQLIN:

`DEFINE UPDATE FILE OLDDSN(`*datasetname*`) HWM(`*nn*`)`

where *datasetname* is the dataset name of the Adabas Audit Data Retrieval database and *nn* the new high water mark in percent. Or you can use this syntax:

`DEFINE UPDATE FILE `*logicalfilename*` HWM(`*nn*`)`

where *logicalfilename* is the logical file name (short name) of the Adabas Audit Data Retrieval database and *nn* the new high water mark in percent. For a list of logical filenames, see the table in "Adabas Audit Data Retrieval database components" on page 38.

Cleaning the SYNC database

SYNC file controls database access

The Adabas Audit Data Retrieval SYNC file is used to control access to the Adabas Audit Data Retrieval database.

The batch utility B97CLSYN clears this information from this database.

When to run B97CLSYN

Run the batch utility B97CLSYN:

- If you are instructed to do so by   support

- If the following error message is displayed when trying to **restart** the Adabas Audit Data Retrieval started task:

  ```
  IRM9545E MASTER SUBSYSTEM IN USE
  ```

Before you run B97CLSYN

In most cases, the message IRM9545E MASTER SUBSYSTEM IN USE is simply due to an obsolete entry in the file BETA97.SYNC, which was left behind by a started task or a batch job that was not terminated properly.

Before running B97CLSYN, you **must be positive** that the message is not caused by an active Adabas Audit Data Retrieval started task or an active Adabas Audit Data Retrieval batch utility having control over the Adabas Audit Data Retrieval database. All Adabas Audit Data Retrieval started tasks using this database must be down when running B97CLSYN.

Note on sharing databases

The SYNC file contains an entry identifying the Adabas Audit Data Retrieval master subsystem. This entry is deleted when running B97CLSYN.

If you are sharing the Adabas Audit Data Retrieval database and if the active LST member contains BQL_SHARE_OPTION=ALL or BQL_SHARE_OPTION=SPOOL, make sure that the Adabas Audit Data Retrieval master subsystem is the first Adabas Audit Data Retrieval subsystem to be started after running B97CLSYN.

For information on BQL_SHARE_OPTION, see "Sharing databases with the BQL share option" in *BSA Installation and System Guide*.

Sample JCL   You can find sample JCL in member B97CLSYN in the BETA97.CNTL.

```
+---------------------------------------------------------------------+
|jobcard                                                              |
|//CLSYN    EXEC PGM=BST05SYC                                         |
|//STEPLIB  DD  DISP=SHR,                                             |
|//             DSN=BSA.LOAD                                          |
|//SYNCFILE DD  DISP=OLD,                                             |
|//             DSN=BETA97.SYNC                                       |
|//SYSUDUMP DD  SYSOUT=*                                              |
+---------------------------------------------------------------------+
```

Return codes   **0**   Program ended normally – SYNC file has been cleaned.

                        16   Program ended normally – SYNC file was empty.

                        20   Read error

                        24   Write error

                        32   DD card missing or open error

Backing up a database while the STC is active

Overview

As of level 0234-00, BSA supports concurrent copy. This means that you can create a backup of the BQL database while the started task is running.

To back up the BQL database while the started task is running requires the concurrent copy function of DFSMS/z/OS (available as of DFSMS/z/OS V1R1) or equivalent functions if you are using non-IBM products.

Further information

For more information, see "Using concurrent copy to back up a running BQL database" in *BSA Installation and System Guide*.

For detailed information on hardware requirements, see the IBM publication *Implementing Concurrent Copy* if you are using DFSMS/z/OS. If you are using a non-IBM product, see the documentation of this product.

RACF security

Protecting functions and resources of Adabas Audit Data Retrieval

Overview

The security exit is used by the Adabas Audit Data Retrieval started task to protect access to resources within Adabas Audit Data Retrieval.

Each time a function is called within Adabas Audit Data Retrieval, the security exit creates a RACF entity, which is then checked against the best-matching profile defined in RACF in the class $BETA. The security exit is not called directly by the started task, but via the security router (BST00STH). After the security exit has successfully generated the entity, the security router executes the RACROUTE.

Implementing security

The installed security exit module B97UXSEC is fully functional. During subsystem initialization, this module is installed in the ECSA.

The sample security exit is provided in source form and can be modified (see "B97UXSEC: Security exit" on page 98).

Entities, functions, and resources

Each entity generated by the security exit includes:

- The function that is executed in the Adabas Audit Data Retrieval online application or via a batch utility, for example, via B97BUTLT

- The Adabas Audit Data Retrieval resource names, for example, transfer group, transfer device, owner, etc.

This makes it possible to protect Adabas Audit Data Retrieval resources at different levels:

- Adabas Audit Data Retrieval function level

- Adabas Audit Data Retrieval resource level

- Adabas Audit Data Retrieval owner level

Using generic profile definitions makes it possible to allow or deny access to entire groups of Adabas Audit Data Retrieval functions or resources.

Different security for each subsystem

The Adabas Audit Data Retrieval security exit is started task dependent. This means that different security rules can be defined for each Adabas Audit Data Retrieval subsystem.

For example, you can deactivate all security checking in a test system by making its started task use IEFBR14 as its security module. At the same time, you can protect your Adabas Audit Data Retrieval production system against unauthorized access by making that started task use the security module B97UXSEC.

Note on SAF (System Authorization Facility)

Access to Adabas Audit Data Retrieval resources and functions is controlled via SAF (System Authorization Facility) calling conventions using RACF (Resource Access Control Facility). If your installation does not support resource access through the SAF interface, modify the sample exit program to meet your security requirements.

B97UXSEC: Security exit

Input to B97UXSEC   Standard MVS linkage is provided for the exit program call.

                                   R13   points to an 18 word save area

                                   R14   contains the return address

                                   R15   contains the entry point of B97UXSEC

Exec parameter   On entry to the exit program, register 1 contains the address of the B00#SSEC control block.

The B00#SSEC control block contains global security parameters that are common to all Beta products. It is described in the *BSA Installation and System Guide*. B00#SSEC points to the B97#SEC control block containing Adabas Audit Data Retrieval specific parameters.

Parameter list   Member B97#SEC in your BETA97.SAMPLIB contains a DSECT for control block B97#SEC. The parameter list is provided for user modification of the security exit.

Displacement	Description
+0	Function code
+4	Name address (folder or VCI user)
+8	Name length (folder or VCI user)
+12	Form address
+16	Form length
+20	Extension address
+24	Extension length
+28	Report address
+32	Report length
+36	Jobname address
+40	Jobname length
+44	Index name address
+48	Index name length
+52	Owner address
+56	Owner length
+60	Security level address
+64	Security level length

Displacement	Description
+68	Table name address
+72	Table name length
+76	Submit user address
+80	Submit user length
+84	Address of Index data
+88	Length of index data

Further information   Please refer to IBM's *RACF Macros and Interfaces* manual for detailed information.

Return codes   On return from the exit program, register 15 must contain one of the following return codes, which are the return codes of the sample exit:

0   Resource name built correctly

In this case, register 0 is set to 0 and the security router (BST00STH) will carry out the RACROUTE for the entity pointed to in register 1.

16   An error has occurred

In this case, no RACROUTE will be carried out. A WTO message (IRM0000E ERROR IN B97UXSEC DETECTED. CODE *code*) on the console helps you find the cause of this error:

FU   Invalid function (B97UXSEC not up-to-date)

01   Parameter Addr = 0

02   Parameter Length = 0

03   ACCE = 0 (VTAM)

04   Entity too short (<= 0) or too long (> 64) (Entities for NCI documents are automatically truncated if too long)

32   Invalid resource name

In this case, no RACROUTE will be carried out. Register 0 contains one of the following information codes, which indicates which resource name is invalid:

1   Name

2   Form

3   Extension

4   Report

5   Jobname

6   Indexname

7   Owner

8   Security level

9   Table

10   Submit user

11   Index data

Checking resource names

The sample exit B97UXSEC checks the Adabas Audit Data Retrieval resource names for the correct format. Database entries which do not fit RACF naming conventions are rejected.

Legal characters for resource names are the alphanumeric characters A-Z and 0-9, plus these special characters:

US	<	(	+			$	)	¬	-	/	_	>	#	@	'	=	"
UK	<	(	+			£	)	¬	-	/	_	>	#	@	'	=	"
German	<	(	+	!	$	)	^	-	/	_	>	#	§	'	=	"
Codepage 500	<	(	+	!	$	)	^	-	/	_	>	#	@	'	=	"
Hexadecimal	4C	4D	4E	4F	5B	5D	5F	60	61	6D	6E	7B	7C	7D	7E	7F

RACF resource naming conventions

Access to Adabas Audit Data Retrieval functions

Access to Adabas Audit Data Retrieval functions is controlled via SAF (System Authorization Facility) calling conventions using RACF (Resource Access Control Facility). Each time a function is called within Adabas Audit Data Retrieval, the product creates a RACF entity, which is checked against the best-matching profile defined in RACF.

The security check is performed in the subsystem to prevent manipulation.

Resource class $BETA

All Beta product security checking is done using the RACF user resource class $BETA.

Before the security exit can be activated, it is necessary to define the $BETA class to RACF. For more information, see "User resource class $BETA" in *BSA Installation and System Guide*.

Defining resources in class $BETA

The installation security administrator must define all resources to RACF in the resource class $BETA. Resources must be defined either as fully-qualified or generic profile names.

Profile names

By default, a profile name looks like this:

`B97.`*`ssid.action[.form.extension.report]`*

where:

- *ssid* is the Adabas Audit Data Retrieval subsystem ID

- *action* is a 3-character qualifier that refers to a Adabas Audit Data Retrieval function (see "Function codes and entity generation rules" on page 104)

- *form.extension.report* the Adabas Audit Data Retrieval name of the list

  (If you are not working with reports, replace the qualifier *report* with a hash sign or with an asterisk.)

Access levels

The security exit that is provided by Beta Systems distinguishes between two access levels for all resources defined in the class $BETA:

- NONE (no access)

- READ (access allowed)

Owner and security level

Owner and security level are passed to the security exit and may be used when defining security profiles. In this case, a profile name looks like this:

`B97.`*`ssid.action.owner.seclevel[.form.extension.report]`*

The Adabas Audit Data Retrieval sample security exit does not include the owner and security level. When modifying the security exit to include owner and security level, please make sure that the maximum length of resource names in the class $BETA is not exceeded. At present, the maximum length is 64 bytes.

Note on extension   Extensions may be blank.

By default, the security exit substitutes a blank extension using a hash sign (#). To protect lists whose extension is blank, define the following profile to RACF:

B97.*ssid.action.form*.#.#

Note on multi-CPU environment   If you are using Adabas Audit Data Retrieval in a multi-CPU environment and would like to allow user access to Adabas Audit Data Retrieval subsystems on remote CPUs, you must provide the same RACF resource profile definitions on the local CPU as are defined for the remote CPU. This is necessary because security checking (logon and access validation) are always performed on the local CPU, even if the access is to a remote Adabas Audit Data Retrieval subsystem.

Function codes and entity generation rules

Overview   The following table lists:

- All Adabas Audit Data Retrieval function codes

- The default function name for each function code

- The corresponding online option

- Additional qualifiers included in the resource by default, for example, form, extension, and report

  (If you are not working with reports, replace the qualifier *report* with a hash sign or with an asterisk.)

Function codes and resources

Online Option	Command	Description	Function Code	Function (default)	Adabas Audit Data Retrieval Resource Qualifier
1 and I		Selection via folder	16	GLN	*foldername*
1 and I	S, B, BA	Not used in AAR	01	BRW	*form.ext.report*
1 and I	P	Not used in AAR	02	PRT	*form.ext.report*
1 and I	IX, IA	Search index of list/report	03	IDX	*form.ext.report*
1 and I	A, UA	(Un)mark for archiving	04	ARC	*form.ext.report*
1 and I	D, UD	(Un)mark for deletion	05	DEL	*form.ext.report*
1 and I	R, UR	(Un)mark for reload	06	RLD	*form.ext.report*
		Immediate reload	07	RLI	*form.ext.report*
1 and I	V, NV, UV	(Un)mark as viewable	10	ADM	
1 and I	M	Browse macro definition	18	EBM	*form.ext.report*
1 and I	E	Edit generation record	19	EGR	*form.ext.report*
1 and I	AG	Archive dataset group	10	ADM	
1 and I	IR	Index generation record	10	ADM	
1 and I	IX	Not used in AAR	21	NCI	*seclvl.indexname.indexdata*
G		Folder groups for owner	20	GIR	*foldergroupname.owner*
G	IX	Global index search	20	GIR	*foldername.owner*
1, I and G	S, B, BA, IX, IA, P, G	Archive access	22	AAC	*form.ext.report*

Online Option	Command	Description	Function Code	Function (default)	Adabas Audit Data Retrieval Resource Qualifier
Browser		Browser notes	12	NTE	No additional qualifers by default (see "Browser notes" on page 105)
2.1		List definitions	08	DFR	*form*.*ext*.*report*
2.1		Index definitions	09	DFI	*form*.*ext*.*report*
2.2		Not used in AAR	10	ADM	
2.3		Index descriptions	10	ADM	
2.4		Folder definitions	14	DFF	*foldername*
2.5		Folder group definitions	14	DFF	*foldergroupname*
2.6		Layout definitions	10	ADM	
A.1		Archive (sub)pools	10	ADM	
A.3		Archive volumes	10	ADM	
S.1		Not used in AAR	11	SYS	
S.2		Adabas Audit Data Retrieval subsystem options	11	SYS	
S.3.*n*		JCL for batch jobs	10	ADM	
D.1		Databases	10	ADM	
C.1		User definitions	17	VCI	*username*
C.2		Macro/View definitions	18	EBM	*form*.*ext*.*report*
n/a		Execute batch utility	23	BUE	*programname*

Note

- Resources of the BSA Service Manager (Option **D.S**) are described in the *BSA Service Manager Manual*.

Browser notes   RACF check for function code 12 (NTE) is only carried out for public notes, but not for private notes.

Use **A(TYPE01)** instead of **A(TYPEXX)** in your security exit if you want the RACF check for public notes to include the additional qualifiers *form*.*extension*.*report*.

RACF command example

Overview   The following is a sample of RACF commands that can be used to protect Adabas Audit Data Retrieval resources.

If enhanced generic naming is switched on (EGN), the resource name should be 'B97.*.**'.

Example   1. To protect all Adabas Audit Data Retrieval functions, the RACF security administrator enters:

```
RDEFINE $BETA (B97.*) UACC(NONE)
```

and grants TSO user **SYS001** authority to access all Adabas Audit Data Retrieval functions and resources using the following command:

```
PERMIT B97.* CLASS($BETA) ID(SYS001) ACCESS(READ)
```

2. To protect access to administrative functions (definitions under option 2 and option A, line commands A, UA, R, UR, V, NV, and UV under option 1), the RACF security administrator enters:

```
RDEFINE $BETA (B97.*.ADM)  UACC(NONE)
RDEFINE $BETA (B97.*.DF*)  UACC(NONE)
RDEFINE $BETA (B97.*.ARC*) UACC(NONE)
RDEFINE $BETA (B97.*.RLD*) UACC(NONE)
```

and grants TSO users **ADM001** and **ADM002** authority to access the Adabas Audit Data Retrieval administrative functions.

ADM001 is responsible for list/report and index definitions:

```
PERMIT B97.*.DF* CLASS($BETA) ID(ADM001) ACCESS(READ)
```

ADM002 is responsible for archiving, reloading, and other administrative functions:

```
PERMIT B97.*.ARC* CLASS($BETA) ID(ADM002) ACCESS(READ)
PERMIT B97.*.RLD* CLASS($BETA) ID(ADM002) ACCESS(READ)
PERMIT B97.*.ADM CLASS($BETA) ID(ADM002) ACCESS(READ)
```

3. To protect access to lists, the RACF security administrator enters:

```
RDEFINE $BETA (B97.*.BRW*) UACC(NONE)
RDEFINE $BETA (B97.*.IDX*) UACC(NONE)
RDEFINE $BETA (B97.*.DEL*) UACC(NONE)
RDEFINE $BETA (B97.*.PRT*) UACC(NONE)
```

and grants TSO user USR001 authority to access all lists.

```
PERMIT B97.*.BRW* CLASS($BETA) ID(USR001) ACCESS(READ)
PERMIT B97.*.IDX* CLASS($BETA) ID(USR001) ACCESS(READ)
PERMIT B97.*.DEL* CLASS($BETA) ID(USR001) ACCESS(READ)
PERMIT B97.*.PRT* CLASS($BETA) ID(USR001) ACCESS(READ)
```

4. TSO user **USR002**, on the other hand, should have access to the list XYZ.TST, only. To ensure this, the RACF security administrator enters:

```
RDEFINE $BETA (B97.*.BRW.XYZ.TST.#) UACC(NONE)
RDEFINE $BETA (B97.*.DEL.XYZ.TST.#) UACC(NONE)
RDEFINE $BETA (B97.*.IDX.XYZ.TST.#) UACC(NONE)
RDEFINE $BETA (B97.*.PRT.XYZ.TST.#) UACC(NONE)
PERMIT B97.*.BRW.XYZ.TST.# CLASS($BETA) ID(USR001 USR002)
ACCESS(READ)
PERMIT B97.*.IDX.XYZ.TST.# CLASS($BETA) ID(USR001 USR002)
ACCESS(READ)
PERMIT B97.*.DEL.XYZ.TST.# CLASS($BETA) ID(USR001 USR002)
ACCESS(READ)
PERMIT B97.*.PRT.XYZ.TST.# CLASS($BETA) ID(USR001 USR002)
ACCESS(READ)
```

5. Finally, the security administrator performs an in-storage generic refresh to the generic in-storage profiles.

```
SETROPTS REFRESH GENERIC(*)
```

RACF considerations for type dataset

Overview   This section describes which authorization level the Adabas Audit Data
                            Retrieval applications and Adabas Audit Data Retrieval users need to
                            access the database and libraries.

Dataset groups   There are several logical dataset groups. Depending on the naming
                            conventions you used during the installation, you may be able to treat
                            some of the following groups together:

Name	Description
SMP/E	SMP/E libraries
DLIB	Adabas Audit Data Retrieval ISPF distribution libraries
TARGET	Adabas Audit Data Retrieval target library
VSAM	Adabas Audit Data Retrieval databases
ARCHIVE	Adabas Audit Data Retrieval offline archive datasets

User groups and dataset   Assume the following groups of users:
authority

Name	Description
SYSP	System programmer installing Adabas Audit Data Retrieval
USER	TSO users of Adabas Audit Data Retrieval
STC	Adabas Audit Data Retrieval started tasks
BATCH	all batch jobs

The following diagram shows the type of dataset authority each user group needs for each dataset group:

Dataset	Authority required for user group			
	SYSP	**USER**	**STC**	**BATCH**
SMP/E	ALTER	NONE	NONE	NONE
DLIB	ALTER	NONE	NONE	NONE
TARGET	ALTER	READ	READ	READ
VSAM	ALTER	NONE	ALTER	CONTROL
ARCHIVE	ALTER	NONE	NONE	ALTER (B97ARC) ALTER (B97DEARC) READ (B97RLD) NONE (others)

Console commands

Adabas Audit Data Retrieval console commands

Overview   Use console commands to:

- Start the Adabas Audit Data Retrieval started task

- Stop the Adabas Audit Data Retrieval started task

- Display information on current resource usage

- Control the router and display its current workload

Syntax   Console commands use the following syntax:

command stcname[*,parameter*]

where:

- *command* is a single letter command (**S**tart, sto**P**, modi**F**y)

- *stcname* is the name of the Adabas Audit Data Retrieval started task

- *parameter* is an optional modifier

**Starting and stopping the
started task**

Console command	Purpose
S *stcname*	Starts the Adabas Audit Data Retrieval started task
P *stcname*	Stops the Adabas Audit Data Retrieval started task

**Canceling the
started task**

Console command	Purpose
C *stcname*	Cancels the Adabas Audit Data Retrieval started task **Note**: Use this command only if the stop command is ineffective.

Commands for troubleshooting and debugging

The following commands are used for troubleshooting and debugging purposes. Use these commands only when instructed to do so by support.

Console command	Purpose
F *stcname*,TL	Displays all tasks currently active within the Adabas Audit Data Retrieval subsystem This command is used for debugging purposes only.
F *stcname*,ST	Displays SFF operational statistics
F *stcname*,DUMP	Outputs a formatted dump to the next available SFFFDUMP DD output dataset defined in the started task procedure This command is used for debugging purposes only.
F *stcname*,SDUMP	Outputs an SVC dump This command is used for debugging purposes only.

Modify commands for the router

The following commands are available to control the router:

F *stcname*,ROUTER,SET(*class*),TRACE(ON|OFF|YES|NO),CLIENT(ACTIVE|DORMANT)

F *stcname*,ROUTER,QUERY(*class*)

where:

stcname   is the name of the Adabas Audit Data Retrieval started task

class   is one of the following (masks are supported):

SERVICE

INDEX

ONLINE

NCI

QUERY

SPOOL

Examples

- F *stcname*,ROUTER,SET(ONLINE),CLIENT(DORMANT)

  The router no longer accepts requests from the ISPF application.
  (**Note**: The class SERVICE cannot be set to dormant.)

- F *stcname*,ROUTER,SET(*),CLIENT(DORMANT)

  All classes except SERVICE are set to dormant.

- F *stcname*,ROUTER,SET(INDEX),TRACE(ON)

  Trace is turned on for index search requests.

MODIFY commands for SMF statistics

Overview

The Adabas Audit Data Retrieval subsystem collects statistical information (CPU usage, activity counters, etc.). A set of MODIFY commands can be used to output the current values to the JESMSGLG.

The statistical information collected by the system is output in an SMF record subtype 59 when the system is stopped. With the help of a MODIFY command, you can also cause the writing of SMF record subtype 59 at regular intervals while the system is running.

The type of information collected by Adabas Audit Data Retrieval is related to the SMF subtypes that can be written by Adabas Audit Data Retrieval. However, there is no dependency on the actual writing of these SMF subtypes. This means: The statistical information on processes (input, output, etc) is available even if the corresponding SMF records (subtype 0, subtype 1, etc.) are not written.

Note: The writing of the Adabas Audit Data Retrieval SMF record subtype 59 cannot be suppressed.

Process table

F *stcname,*SMFSTAT TAB(PRC) causes the output of the Adabas Audit Data Retrieval process table. The STYPE column shows the SMF subtype number that corresponds to the process.

```
IRM8762I PROCESS_TYPE    (STYPE)              PROCESS_COUNT
IRM8762I --------------------------------------------
IRM8762I ACCESS_SPOOL    (25):                          n
IRM8762I ARCHIVING       (04):                          n
IRM8762I BATCH_UTILITY   (49):                          n
IRM8762I INPUT           (00):                          n
IRM8762I ONLINE_ACTIVITY (22):                          n
IRM8762I MODIFICATION_DEF (51):                         n
IRM8762I MODIFICATION_GEN (22):                         n
IRM8762I MODIFICATION_ARC (06):                         n
IRM8762I SELECTION_BROWSE (21):                         n
IRM8762I STATISTICS      (59):                          n
IRM8762I WEB_LOGON       (50):                          n
IRM8762I WEB_LOGOFF      (55):                          n
IRM8762I ***TOTAL***     (##):                          n
IRM8762I --------------------------------------------
```

CPU action statistics

F *stcname,*SMFSTAT TAB(CPU) causes the output of CPU action statistics. CPU_*xxxxx* refers to general processor service time and ZIIP_*xxxxx* refers to normalized ZIIP service time. MAJOR refers to the CPU usage of the SFF job (STC), and MINOR refers to the CPU usage of RFF jobs. TOTAL refers to the values since program start. DELTA refers to the values since the last F *stcname,*SMFSTAT TAB(CPU) command.

```
IRM8767I ACTION        CPU_TOTAL     CPU_DELTA     SRB_TOTAL     SRB_DELTA     ZIIP_TOTAL     ZIIP_DELTA
IRM8767I -------------------+-------------+-------------+-------------+-------------+-------------+
IRM8767I MAJOR             2.53          2.53           .16           .16           .00           .00
IRM8767I MINOR              .00           .00           .00           .00           .00           .00
IRM8767I -------------------+-------------+-------------+-------------+-------------+-------------+
```

SMF record statistics   F *stcname*,SMFSTAT TAB(SUB) causes the output of current SMF record statistics. The command also causes the writing of a subtype 59 SMF record with these counters. The table contains the current values for each subtype (*nn*) and their totals (##):

PROCESSES(TTL)   Total number of processes

RECORDS(STC)   Records of the STC

RECORDS(BAT)   Records of batch utilites

RECORDS(NWR)   Suppressed records (NWR=NoWrite)

```
IRM8766I TYPE SUBTYPE    PROCESSES(TTL)        RECORDS(STC)          RECORDS(BAT)          RECORDS(NWR)
IRM8766I ------------------------------------------------------------------------------------------------
IRM8766I 224   00               175                   0                   175                     0
IRM8766I 224   02             1,886                 943                   943                     0
IRM8766I 224   04                12                   0                    12                     0
IRM8766I 224   06                 0                   0                     0                     0
IRM8766I 224   21               754                 754                     0                     0
IRM8766I 224   22                 4                   4                     0                     0
IRM8766I 224   25             1,082               1,082                     0                     0
IRM8766I 224   43                 0                   0                     0                     0
IRM8766I 224   49                17                   0                    17                     0
IRM8766I 224   50                 0                   0                     0                     0
IRM8766I 224   51               341                 341                     0                     0
IRM8766I 224   59                 2                   2 *******-N/A-******** *******-N/A-********
IRM8766I 224   ##             4,273               3,126                 1,147                     0
IRM8766I ------------------------------------------------------------------------------------------------
```

SMF record statistics for subtype   F *stcname*,SMFSTAT TAB(SUB) SEL(*n*) causes the output of current SMF record statistics for subtype *n* SMF records. The table contains the current values for the specified subtype:

```
IRM8766I TYPE SUBTYPE    PROCESSES(TTL)        RECORDS(STC)          RECORDS(BAT)          RECORDS(NWR)
IRM8766I ------------------------------------------------------------------------------------------------
IRM8766I 224   00               175                   0                   175                     0
IRM8766I ------------------------------------------------------------------------------------------------
```

More process tables   One more process table has been defined for Adabas Audit Data Retrieval (for input processing).

F *stcname*,SMFSTAT TAB(1) or F *stcname*,SMFSTAT TAB(READER) causes the output of the input processing table:

```
IRM8771I PROCESS_NAME              PROCESS_COUNT
IRM8771I --------------------------------------
IRM8771I JES2                                  1
.....
IRM8771I --------------------------------------
```

Add SEL(*process*) as an additional parameter if you want to output the values of a particular process.

SMF records

Subtypes

Overview   Adabas Audit Data Retrieval can write SMF records at different stages of
                                list processing, when definitions are changed, etc. The information
                                contained in these records can be used for accounting and other
                                monitoring purposes.

_beta smf   SMF records can be evaluated with the help of _beta smf. For more
                                information, see *_beta smf Manual*.

LST parameters   The writing of SMF records is controlled via LST parameters:

- B97_SMFREC specifies the SMF record number.

- B97_SMFREC_SUBTYP_*nn* = WRITE | NOWRITE controls whether
  subtype *nn* is written or not.

- B97_SMFREC_VERSION specifies the SMF record version.

Note on _beta view and Web Enabler: If you are using the BSA TCP/IP
server as a standalone started task and want to write SMF records for
logon/logoff requests, the LST parameters B97_SMFREC_SUBTYP_50 =
WRITE and B97_SMFREC_SUBTYP_55 = WRITE must be coded in the
LST member of the Beta 02 STC.

Subtypes   Adabas Audit Data Retrieval writes the following SMF record subtypes:

Subtype	Description
0	Records list/report input
	Adabas Audit Data Retrieval writes a subtype 0 SMF record each time it reads in and/or indexes a list/report or reloads a list/report from the archive.
	If the list/report is indexed, the record is written when the list/report has been completely indexed. If the subsystem is stopped before indexing is complete, there will be no subtype 0 SMF record for this list/report.
2	Records all activities of a user with a list/report
	Subtype 2 SMF records include all activities with lists, including index-based search (line command **IX** and primary command **IA**) and browse (line command **S** and primary command **BA**). One subtype 2 SMF record is written for each list/report that the user works with.
4	Records the archiving of lists/reports
	Adabas Audit Data Retrieval creates a subtype 4 SMF record each time it archives a list/report. The record is written after the list/report has been archived.
6	Records changes to the archive retention period

Subtype	Description
21	Records the selection of lists/reports Adabas Audit Data Retrieval creates a subtype 21 record each time a selection of lists/reports is carried out online or in batch mode.
22	Records modifications of generation records (IGRs) via _beta view or the ISPF online application (TSO/VDF): line commands E, A, UA, D, UD, V, NV, R and UR in the "List/Report Selection Table".
25	Records Adabas Audit Data Retrieval spool access (online browsing or printing via TSO or VDF, open, download or print via _beta view)
49	Records the running of a Adabas Audit Data Retrieval batch job
50	Records logon requests from _beta view or Web Enabler
51	Records the modification of definitions Adabas Audit Data Retrieval creates a subtype 51 record each time a definition is updated, inserted or deleted.
55	Records logoff requests from _beta view or Web Enabler
59	Records statistical information on the Adabas Audit Data Retrieval subsystem (for example input, output, CPU usage)

Record descriptions

Overview   Machine-readable descriptions of the SMF records written by Adabas
                                Audit Data Retrieval are available in the BETA97.SAMPLIB.

Samplib members   As of z/OS 2.3, SMF records can be written with the standard IBM header
                                (24 bytes) or with the extended IBM header (56 bytes). The offsets of the
                                following fields depend on the type of IBM header.

                                The BETA97.SAMPLIB includes two sets of members for the BETA
                                header and the subtypes:

- **Recommended set of members with relative offsets**

    Member §97S###R contains the field descriptions for the BETA
    header with offsets relative to the beginning of the BETA header.

    Members §97S*nnn*R contain the field descriptions of the subtype-
    specific fields with relative offsets, where *nnn* is the subtype number.

    This set can be used with the standard IBM header (§97S###I) and it
    can be used with the extended IBM header (§97S###I plus
    §97S###J).

- **Alternative set of members with absolute offsets**

    Member §97S###A contains the field descriptions of the BETA header
    with absolute offsets.

    Members §97S*nnn*A contain the field descriptions of the subtype-
    specific fields with absolute offsets, where *nnn* is the subtype number.

    This set can only be used with the standard IBM header (§97S###I).

Member list

Member	Contents
§97S###C	Control parameters for _beta smf
§97S*nnn*C	Subtype-specific control parameters for _beta smf, where *nnn* is the subtype number
§97S###I	Field descriptions of the standard IBM header
§97S###J	Field descriptions of the extended IBM header (extension only; use in combination with §97S###I)
§97S###R	Field descriptions of the BETA header (offsets relative to the beginning of the BETA header)
§97S*nnn*R	Field descriptions of the subtype-specific fields, where *nnn* is the subtype number (offsets relative to the beginning of the BETA header)
§97S###A	Field descriptions of the BETA header (absolute offsets)
§97S*nnn*A	Field descriptions of the subtype-specific fields, where *nnn* is the subtype number (absolute offsets)

Field descriptions   All field descriptions in this manual are in the format that is used by _beta smf:

Column	Description
1-12	Full field name **S***nnnxxxx*
	By default, a full field name consists of the following elements:
	1. The uppercase character **S**
	2. A three-digit number *nnn* (record subtype) or generic **###**
	3. Field name *xxxx* (max. 8 digits)
	Other character at position 1:
	A..L are available for conditional field descriptions, for example, for overlayed sections. For more information on conditional processing, see the description of the +CONDITION parameter in *_beta smf Manual*.
13	A minus sign (**-**) or an asterisk (*****)
14-32	Comment/description (max 19 digits)
33	A colon (**:**)
35-39	Field position (5 digits, with leading zeros)
	Field positions can be relative to the beginning of the BETA header or they can be absolute values.
41-45	Field length (5 digits, with leading zeros, max. 00256)
46	Additional output instructions for this data type
47	Field format
48-49	Additional format or output instructions depending on data type of field
50-53	Extended field information
54-56	Additional extended field information

For a complete description of this format, see "Field descriptions" in *_beta smf Manual*.

Field formats   The value at column position 47 of the field description defines the data type of the field, for example, B (binary), C (character), X (hexadecimal), D (date), or T (time).

Values at column position 48-49 can provide additional formatting instructions; possible values depend on the data type of the field.

For more information, see "Field formats" in *_beta smf Manual*.

Header

Overview
Each SMF record written by Adabas Audit Data Retrieval starts with a header. The header consists of an IBM header section and a Beta header section.

As of Adabas Audit Data Retrieval V7R1 and z/OS 2.3 you can choose whether to use the standard IBM header (24 bytes) or the extended IBM header (56 bytes). This is controlled via the LST parameter B97_SMFREC_VERSION.

in the field descriptions of the header sections is the mask for the subtype number.

IBM header
The following tables describe the standard IBM header (24 byte) and the extended IBM header (56 byte).

Standard IBM header

These field descriptions are also available in:
BETA97.SAMPLIB(§97S###I)

Offset	Name	Length	Format	Description
0	S###LEN	2	B	Record length
2	S###SEG	2	X	Not used
4	S###FLG	1	F	System indicator (See description of standard SMF record header in the MVS System Management Facilities manual)
5	S###RTY	1	B	Adabas Audit Data Retrieval SMF record type (Record types 128..255 are available for use outside of IBM)
6	S###TME	4	T	Time when the record was written
10	S###DTE	4	D	Date when the record was written
14	S###SID	4	C	System identification
18	S###SSI	4	C	Subsystem ID
22	S###STY	2	B	Subtype

Extended IBM header

These field descriptions are also available in:
BETA97.SAMPLIB(§97S###I) plus
BETA97.SAMPLIB(§97S###J)

Offset	Name	Length	Format	Description
0	S###LEN	2	B	Record length
2	S###SEG	2	X	Not used
4	S###FLG	1	F	System indicator (See description of standard SMF record header in the MVS System Management Facilities manual)
5	S###RTY	1	B	Record type, must be 126.
6	S###TME	4	T	Time when the record was written
10	S###DTE	4	D	Date when the record was written
14	S###SID	4	C	System identification
18	S###SSI	4	C	Subsystem ID
22	S###STY	2	B	Subtype
24	S###LEN_IBM1	2	B	Length of the remainder of this section, must be 32.
26	S###VER_IBM1	1	B	Extended header version, must be 1.
27	S###FLG_IBM1	1	F	Flag byte
28	S###TME_IBM1	16	S	Time token
44	S###TZO_IBM1	8	ST	Time zone token (format: HH:MM:SS)
52	S###RTY_IBM1	2	B	SMF record type (Record types 128..1151 are available for use outside of IBM)
54	S###RES_IBM1	2	X	Reserved for future use

BETA header   The following table describes the BETA header.

These field descriptions (relative offsets) are also available in:
BETA97.SAMPLIB(§97S###R)

Offset	Name	Length	Format	Description
0	S###PIDB	2	C	Beta product ID '97'
2	S###PALVL	3	C	Adabas Audit Data Retrieval release level (currently '720')
5	S###PJOBN	8	C	STC/JOBNAME
13	S###PJOBI	8	C	STC/JOB JES-ID
21	S###PTME	4	T	Start time of the job or STC
25	S###PDTE	4	D	Start date of the job or STC
29	S###PFLAG	1	F	Processing flag **Bit** **Meaning when set** 0 Internally used 1 Job correlator available (S###PFJCORR) 2 Extended IBM header V1 3..6 Reserved for future use 7 S###PJOBN is a batch job; S###PJOBN is a started task when not set
30	S###BETA	4	C	Beta Systems identifier ('_BS_')
34	S###BETASIGN	2	X	Beta Systems signature (X'DFFD')
36	L###OJOBCORR	2	B	Offset of job correlator section
38	L###LJOBCORR	2	B	Length of job correlator section
40	L###CJOBCORR	2	B	Count of job correlator sections (always 1)
42	S###SYSPLEX	8	C	Sysplex name (from the SYSPLEX parameter in the COUPLE*xx* parmlib member)
50	S###SYSNAME	8	C	System name (from the SYSNAME parameter in the IEASYS*xx* parmlib member)
58	S###SYSCLONE	2	C	Sysclone name
60	S###SMFID	4	C	SMF ID
64	S###CPUID	8	C	CPU ID
72	S###RES##	4	X	Reserved for future use

Extended header data

This section contains the product job correlator information.

Offset: L###OJOBCORR
Length: L###LJOBCORR

Offset	Name	Length	Format	Description
0	L###PSCORR	32	C	System value
32	L###PUCORR	32	C	User-defined value

Subtype 0

Overview   An SMF record of subtype 0 is written when a list/report is indexed and/or
                                read in by Adabas Audit Data Retrieval or reloaded from the archive.

                                If an index is created for the list/report, the SMF record is written after the
                                list/report has been completely indexed. If the subsystem comes down in
                                the middle of the indexing process for any reason, there will be no record
                                for this list/report.

Samplib member   These field descriptions (relative offsets) are also available in:
                                BETA97.SAMPLIB(§97S000R)

SMF record subtype 0

Offset	Name	Length	Format	Description
76	S000LINES	4	B	Total number of lines in the list/report
80	S000PAGES	4	B	Total number of pages in the list/report
84	S000STYP	1	B	Adabas Audit Data Retrieval SMF record subtype
85	S000UNUSED1	4	X	Reserved for future use
89	S000FORM	8	C	Form name
97	S000EXT	16	C	Extension name
113	S000REPORT	16	C	Report name

Source information

Offset	Name	Length	Format	Description
129	S000JOBNM	8	C	Name of the job that created the list.
137	S000JESID	8	C	JES ID of the job that created the list
145	S000CPU	4	C	CPU ID
149	S000JSTP	8	C	Step name of the job that created the list
157	S000PSTP	8	C	Procstep name of the job that created the list
165	S000SDDN	8	C	DD name of the list
173	S000USER	8	C	User ID
181	S000SBLKS	4	B	Number of spool blocks
185	S000IBLKS	4	B	Number of index blocks

Offset	Name	Length	Format	Description
189	S000OBT	1	C	Obtained from: A JES2 B JES3 C CICS D IMPORT E EDF F FSS G AIMPRT H DSC R RELOAD S SUBSYS T BETA 39
190	S000OWNER	8	C	Owner (Adabas Audit Data Retrieval)
198	S000ETOKEN	8	X	Adabas Audit Data Retrieval list token
206	S00093LTOK	8	X	_beta doc|z list token
214	S00093RTOK	8	X	_beta doc|z report token
222	S00093SSID	4	C	_beta doc|z subsystem ID
226	S00093SYST	8	C	_beta doc|z system name
234	S00093LOCA	16	C	_beta doc|z system location
250	S00093CPU	4	C	_beta doc|z SMF/CPU ID
254	S000SRC	3	C	Source: RDR Reader RLD Reload
257	S000MPABS	2	B	Maximum number of PABs
259	S000FSPAG	4	B	First page split over more than one PAB
263	S000PBMOD	2	B	AFP page break mode (as of V6R1-01): 0 NOPs betw. EPG and BPG to preceding page 1 NOPs betw. EPG and BPG to following page
265	S000RES1	7	X	Reserved for future use

Accounting of resource input

Offset	Name	Length	Format	Description
272	S000ARES1	256	X	Reserved for future use
528	S000ARES2	58	X	Reserved for future use

Job Correlator section

Offset	Name	Length	Format	Description
586	L000SRCJCSTA	1	C	Reserved for future use
587	L000SRCJCSYS	32	C	Reserved for future use
619	L000SRCJCUSR	32	C	Reserved for future use

Transaction section

Offset	Name	Length	Format	Description
651	S000TRES1	3	X	Reserved for future use
654	S000TSTIME	4	Z	Start time
658	S000TSDATE	4	D	Start date
662	S000TETIME	4	Z	End time
666	S000TEDATE	4	D	End date
670	S000TELPTM	8	M	Elapsed time
678	S000TCPUTM	8	M	CPU usage
686	S000TIO	4	B	Number of I/Os
690	S000TRES2	68	X	Reserved for future use

Obtained from section if JES (S000OBT=A|B|F|R|T)

Offset	Name	Length	Format	Description
758	J000UNUSED2	4	X	Reserved for future use
762	J000JTIME	4	T	Time the reader recognized the JOB card of the job that created the list
766	J000JDATE	4	D	Date on which the reader recognized the JOB card of the job that created the list
770	J000JCLS	1	C	JES SYSOUT Class
771	J000JFRM	8	C	JES FORM Number

Offset	Name	Length	Format	Description
779	J000JWTR	8	C	JES WRITER Name
787	J000JDST	8	C	JES destination
795	J000JRES	19	X	Reserved for future use

Obtained from section if Import (S000OBT=I)

Offset	Name	Length	Format	Description
758	I000UNUSED2	4	X	Reserved for future use
762	I000DSN	44	C	DSN from which the list is imported
806	I000MEMB	8	C	Member name if PDS(E)

Obtained from section if SUBSYS (S000OBT=B)

Offset	Name	Length	Format	Description
758	B000UNUSED2	4	X	Reserved for future use
762	B000BRES	52	X	Reserved for future use

Obtained from section if CICS (S000OBT=C)

Offset	Name	Length	Format	Description
758	C000UNUSED2	4	X	Reserved for future use
762	C000CRES	52	X	Reserved for future use

Extended list information

Offset	Name	Length	Format	Description
814	S000UNUSED2	4	X	Reserved for future use
818	S000DTOKEN	8	X	DTOKEN
826	S000B97DATE	4	D	B97DATE
830	S000B97TIME	4	Z	B97TIME
834	S000ARETPD	4	B	Archive retention period
838	S000ORETPD	2	B	Online retention period
840	S000IRETPD	2	B	Index retention period
842	S000OEQA	4	C	Online ExpDate = Archive ExpDate
846	S000LOCAL	4	C	Local spool

Offset	Name	Length	Format	Description
850	S000TITLE	80	C	List/report title
930	S000APOOL	8	C	Poolname (if S000SRC = RLD)
938	S000AMED	1	C	Archive medium: D Disk T Tape C Centera O Optical disk
939	S000RES2	7	X	Reserved for future use
946	S000UNUSED3	4	X	Reserved for future use

Subtype 2

Overview   SMF subtype 2 records the search and browse activities that of a user with a list or report (ISPF, _beta view, etc.). This includes index-based search (line command **IX** and primary command **IA**) and browse (line command **S** and primary command **BA**). One subtype 2 record is written for each list/report when the user browses the list/report or carries out an index-based search. If the user carries out more than one index-based search, one subtype 2 record is written for each search. No separate record is written for subsequent browse after an index-based search.

Samplib member   These field descriptions (relative offsets) are also available in:
BETA97.SAMPLIB(§97S002R)

SMF record subtype 2

Offset	Name	Length	Format	Description
76	S002RES0	8	X	Reserved for future use
84	S002STYP	1	B	Adabas Audit Data Retrieval SMF record subtype
85	S002XXX0	1	X	Reserved for future use
86	S002UNUSED1	4	X	Reserved for future use
90	S002FORM	8	C	Form name
98	S002EXT	16	C	Extension name
114	S002REPORT	16	C	Report name
130	S002LTIME	4	Z	Time the list was read in by Adabas Audit Data Retrieval
134	S002LDATE	4	D	Date the list was read in by Adabas Audit Data Retrieval
138	S002ETOKEN	8	X	Adabas Audit Data Retrieval list token
146	S00293LTOK	8	X	Beta 93 list token
154	S00293RTOK	8	X	Beta 93 report token
162	S002OWNER	8	C	List owner (Adabas Audit Data Retrieval)
170	S002CPU	4	C	CPU / SMF ID
174	S002USER	8	C	User ID
182	S002RES1	18	X	Reserved for future use

Action start / end information

Offset	Name	Length	Format	Description
200	S002TS	8	X	Start timestamp
200	S002TSTIME	4	Z	Start time
204	S002TSDATE	4	D	Start date
208	S002TE	8	X	End timestamp
208	S002TETIME	4	Z	End time
212	S002TEDATE	4	D	End date
216	S002RES2	16	X	Reserved for future use

View information (Read from online / cache)

Offset	Name	Length	Format	Description
232	S002VELPTM	8	M	Elapsed time
240	S002VCPUTM	8	M	CPU time
248	S002VGETIO	4	B	Number of blocks read
252	S002VPUTIO	4	B	Number of blocks written
256	S002RES3	16	X	Reserved for future use

Retrieval information (Read from archive)

Offset	Name	Length	Format	Description
272	S002RELPTM	8	M	Elapsed time
280	S002RCPUTM	8	M	CPU time
288	S002RGETIO	4	B	Number of blocks read
292	S002RPUTIO	4	B	Number of blocks written
296	S002APOOL	8	C	Archive pool name

Offset	Name	Length	Format	Description
304	S002AMED	1	C	Archive medium
				D Disk
				T Tape
				C Centera
				O Optical disk
				blank No archive media access, i.e. data is read from spool (type spool or cache)
				X'00' Like *blank*
305	S002XXX4	5	X	Reserved for future use
310	S002RES4	16	X	Reserved for future use
326	S002UNUSED2	4	X	Reserved for future use

Subtype 4

Overview   An SMF record of subtype 4 is written when a list or report is archived.

Samplib member   These field descriptions (relative offsets) are also available in:
                                 BETA97.SAMPLIB(§97S004R)

SMF record subtype 4

Offset	Name	Length	Format	Description
76	S004RES0	8	X	Reserved for future use
84	S004STYP	1	B	Adabas Audit Data Retrieval SMF subtype record
85	S004XXX0	1	X	Reserved for future use
86	S004UNUSED1	4	X	Reserved for future use
90	S004FORM	8	C	Form name
98	S004EXT	16	C	Extension name
114	S004REPORT	16	C	Report name
130	S004LTIME	4	Z	Time the list was read-in by Adabas Audit Data Retrieval
134	S004LDATE	4	D	Date the list was read-in by Adabas Audit Data Retrieval
138	S004ETOKEN	8	X	Adabas Audit Data Retrieval list token
146	S00493LTOK	8	X	Beta 93 list token
154	S00493RTOK	8	X	Beta 93 report token
162	S004OWNER	8	C	List owner
170	S004CPU	4	C	CPU / SMF ID
174	S004RES1	26	X	Reserved for future use

Action start / end information

Offset	Name	Length	Format	Description
200	S004TS	8	X	Start timestamp
200	S004TSTIME	4	Z	Start time
204	S004TSDATE	4	D	Start date
208	S004TE	8	X	End timestamp

Offset	Name	Length	Format	Description
208	S004TETIME	4	Z	End time
212	S004TEDATE	4	D	End date
216	S004RES2	16	X	Reserved for future use

Read information

Offset	Name	Length	Format	Description
232	S004RELPTM	8	M	Elapsed time
240	S004RCPUTM	8	M	CPU time
248	S004RGETIO	4	B	Number of blocks read
252	S004RPUTIO	4	B	Number of blocks written
256	S004RES3	16	X	Reserved for future use

Archiving information

Offset	Name	Length	Format	Description
272	S004AELPTM	8	M	Elapsed time
280	S004ACPUTM	8	M	CPU time
288	S004AGETIO	4	B	Number of blocks read
292	S004APUTIO	4	B	Number of blocks written
296	S004APOOL	8	C	Archive pool name
304	S004AMED	5	C	Archive medium
309	S004EFFDT	1	C	
310	S004ARETPD	4	B	Archive retention period
314	S004AEXPDT	4	D	Archive expiration date
318	S004ASUBP	4	B	Number of archive subpools
322	S004ABLKS	4	B	Number of archive blocks
326	S004ABYTES	4	B	Number of bytes (in KBytes)
330	S004APAGES	4	B	Number of pages
334	S004ALINES	4	B	Number of lines
338	S004RES4	16	X	Reserved for future use
354	S004UNUSED2	4	X	Reserved for future use

Subtype 6

Overview   An SMF record subtype 6 is written when the archive retention period for a
                            list or report is changed.

Samplib member   These field descriptions (relative offsets) are also available in:
                            BETA97.SAMPLIB(§97S006R)

SMF record subtype 6

Offset	Name	Length	Format	Description
76	S006RES0	8	X	Reserved for future use
84	S006STYP	1	B	Adabas Audit Data Retrieval SMF subtype record
85	S006XXX0	1	X	Reserved for future use
86	S006UNUSED1	4	X	Reserved for future use
90	S006FORM	8	C	Form name
98	S006EXT	16	C	Extension name
114	S006REPORT	16	C	Report name
130	S006LTIME	4	Z	Time the list was read-in by Adabas Audit Data Retrieval
134	S006LDATE	4	D	Date the list was read-in by Adabas Audit Data Retrieval
138	S006ETOKEN	8	X	Adabas Audit Data Retrieval list token
146	S00693LTOK	8	X	Beta 93 list token
154	S00693RTOK	8	X	Beta 93 report token
162	S006OWNER	8	C	List owner
170	S006CPU	4	C	CPU / SMF ID
174	S006RES1	26	X	Reserved for future use

Archive information

Offset	Name	Length	Format	Description
200	S006ODATA	2	B	Offset of dataset section
202	S006LDATA	2	B	Length of dataset section
204	S006CDATA	2	B	Count of dataset sections

Offset	Name	Length	Format	Description
206	S006ACTION	1	C	Action performed for archive expiration date: E Extend R Reduce
207	S006AEXPDTO	4	D	Archive expiration date in IGR (old)
211	S006AEXPDTN	4	D	Archive expiration date in IGR (new)
215	S006APOOL	8	C	Archive pool name
223	S006AOWNER	8	C	Owner of the archive pool

Dataset information   This section is displayed for each affected archive dataset.

A maximum of 10 datasets can be displayed.

Offset	Name	Length	Format	Description
0	S006AORD	1	X	Archive order
1	S006ASEQ	1	X	Archive sequence number
2	S006AEXO	4	D	Archive expiration date (old)
6	S006AEXN	4	D	Archive expiration date (new)
10	S006ADSN	44	C	Archive DSN name
54	S006AVOL	5	C	Archive volume
60	S006AMED	5	C	Archive medium: C Centera D Disk O Optical disk T Tape
65	S006PRES1	5	X	Reserved for future use

Subtype 21

Overview An SMF record of subtype 21 is written when a selection of lists/reports is carried out online (ISPF, _beta view, etc.) or in batch mode.

Samplib member These field descriptions (relative offsets) are also available in: BETA97.SAMPLIB(§97S021R)

SMF record subtype 21

Offset	Name	Length	Format	Description
76	S021RES0	8	X	Reserved for future use
84	S021STYP	1	B	Adabas Audit Data Retrieval SMF record subtype

Selection information

Offset	Name	Length	Format	Description
85	S021UNUSED	4	X	Reserved for future use
89	S021RES1	16	X	Reserved for future use
105	S021RES2	16	C	Reserved for future use
121	S021SFORM	8	C	Form name
129	S021SEXT	16	C	Extension name
145	S021SREP	16	C	Report name
161	S021SJOB	8	C	Jobname
169	S021SFOLDER	32	C	Folder name
201	S021SSTIT	80	C	Search string in list title
281	S021SSCOL	2	B	Search string start column
283	S021SSTIME	4	Z	Start selection time
287	S021SSDATE	4	D	Start selection date
291	S021SETIME	4	Z	End selection time
295	S021SEDATE	4	D	End selection date
299	S021SFLGS	1	F	Processing flags: X'80' Lists only X'40' Reports only
300	S021CFLGS	1	X	Reserved for future use

Offset	Name	Length	Format	Description
301	S021SFLG1	1	F	Selected flag online: X'80' Online X'40' Not online
302	S021SFLG2	1	F	Selected flag reloaded: X'80' Marked for reload
303	S021SFLG3	1	F	Selected flag archived: X'80' Marked for archive X'40' Is archived X'20' Not archived
304	S021SFLG4	1	F	Selected flag deleted: X'20' marked for deletion
305	S021SFLG5	1	X	Reserved for future use
306	S021SFLG6	1	F	Selected flag viewable: X'80' Viewable X'40' Not viewable X'20' All
307	S021VFLGS	4	X	Reserved for future use
311	S021PGM	8	C	Name of caller program

Transaction information

Offset	Name	Length	Format	Description
319	S021UNUSED2	4	X	Reserved for future use
323	S021TRES1	4	X	Reserved for future use
327	S021TSTIME	4	Z	Start time
331	S021TSDATE	4	D	Start date
335	S021TETIME	4	Z	End time
339	S021TEDATE	4	D	End date
343	S021TELPTM	8	M	Elapsed time
351	S021TCPUTM	8	M	CPU usage
359	S021TIO	4	B	Number of I/Os
363	S021TRES2	32	X	Reserved for future use

Requester information

Offset	Name	Length	Format	Description
395	S021UNUSED3	4	X	Reserved for future use
399	S021QRES1	4	X	Reserved for future use
403	S021QUSER	8	C	Requesting user ID
411	S021QRES2	32	X	Reserved for future use

Accounting information

Offset	Name	Length	Format	Description
443	S021QRESA1	164	X	Reserved for future use
607	S021QRESA2	210	X	Reserved for future use

Reserved section

Offset	Name	Length	Format	Description
817	S021UNUSED4	4	X	Reserved for future use
821	S021RES3	16	X	Reserved for future use
837	S021UNUSED5	4	X	Reserved for future use

Subtype 22

Overview   Subtype 22 records modifications of generation records (IGRs) via Web
                                Enabler, the ISPF online application (TSO/VDF), or batch utilities.

                                For example, a subtype 22 record is written following edit, change visibility,
                                mark/unmark for reloading/deletion/archiving, or request archive expiration
                                date extension/reduction.

Samplib member   These field descriptions (relative offsets) are also available in:
                                BETA97.SAMPLIB(§97S022R)

Source information

Offset	Name	Length	Format	Description
76	S022UNUSED1	13	X	Reserved for future use
89	S022USER	8	C	TSO user ID
97	S022PGM	8	C	Name of caller program (as of V6R1-01)
105	S022FORM	8	C	Form name
113	S022EXT	16	C	Extension name
129	S022REPORT	16	C	Report name
145	S022TITLE	80	C	List/report title
225	S022JOBNM	8	C	Jobname of the job that created the list
233	S022JESID	8	C	JES ID of the job that created the list
241	S022LTIME	4	T	Time the list came into Beta 93
245	S022LDATE	4	D	Date list came into Beta 93
249	S022JTIME	4	T	Time the reader recognized the job card of the job that created the list
253	S022JDATE	4	D	Date on which the reader recognized the job card of the job that created the list
257	S022PAGES	4	B	Number of pages of list/report
261	S022LUNUSED	8	X	Reserved for future use
269	S022OR2	2	B	Offset relocate section (extended), excluding 4 byte of record length field
271	S022CR2	2	B	Count relocate section (extended)
273	S022ETOKEN	8	X	ETOKEN

Offset	Name	Length	Format	Description
281	S022LANG	1	C	Language identifier **E** English **G** German
282	S022RES21	32	X	Reserved for future use

Job Correlator section

Offset	Name	Length	Format	Description
314	L022SRCJCSTA	1	C	Reserved for future use
315	L022SRCJCSYS	32	C	Reserved for future use
347	L022SRCJCUSR	32	C	Reserved for future use

Relocate section (extended)

Each subtype 22 record contains one or more relocate sections. Field S022CR2 indicates the number of relocate sections. Field S022OR2 indicates the start of the first relocate section in the SMF record.

Each relocate section contains the following three fields (relative offsets):

Offset	Name	Length	Format	Description
0	Y022nnnuuTYP	2	B	Relocate data type (see table below)
2	Y022nnnuuLEN	2	B	Length of data
4	Y022nnnuuVAL	variable	variable	Value in one of the following formats: **B** (binary) Retention periods **D** (date) Archive expiration date and B97 list date **C** (character) All others

Relocate data type   Each SMF record contains one relocate section that describes the action. With most actions, there are following relocate section pairs for the old and new value of modified fields.

Y022nnnuuTYP	Y022nnnuuLEN	Y022nnnuuVAL	Description
1	2		Mark/Unmark for archiving or archive expdt extension/reduction request:
		A|UA	Line command used
		AR	Archive expiration date extended
		RA	Archive expiration date reduced

Y022nnnuuTYP	Y022nnnuuLEN	Y022nnnuuVAL	Description
		AM	Archive expiration date marked for reduce
		AU	Archive expiration date unmarked for reduce
2	2	D|UD	Mark/Unmark for deletion: Line command used
3	2	R|UR	Mark/Unmark for reloading: Line command used
4	2	V|NV	Mark/Unmark viewable: Line command used
5	1	E	Edit IGR: Line command used (always E)
11	2	onlretpd (old)	Online retention period: *n*
12	2	onlretpd (new)	
13	2	indexretpd (old)	Index online retention period: *n*
14	2	indexretpd (new)	
15	2	arcretpd (old)	Archive retention period: *n*
16	2	arcretpd (new)	
17	5	arcmedium (old)	Archive medium: TAPE|DISK|CTERA
18	5	arcmedium (old)	
19	4	newarcexpdt (old)	New archive expiration date: *date*
20	4	newarcexpdt (new)	
21	4	itemdispmode (old)	Item display mode: YES|NO
22	4	itemdispmode (new)	
23	4	expdtonl=arc (old)	ONLEXPDT=ARCEXPDT: YES|NO
24	4	expdtonl=arc (new)	
25	4	b97date (old)	List date: *date*
26	4	b97date (new)	
27	80	ltitle (old)	Title of list/report: *ltitle*
28	80	ltitle (new)	
29	8	owner (old)	Owner: *name*
30	8	owner (new)	
31	16	layout (old)	Layout: *name*
32	16	layout (new)	

Y022nnnuuTYP	Y022nnnuuLEN	Y022nnnuuVAL	Description
37	4	arcexpdt (old)	New archive expiration date request value: *date*
38	4	arcexpdt (new)	
39	4	status (old)	Archive expdt modified status flag: YES|NO
40	4	status (new)	
41	4	status (old)	Archive expdt extend status flag: YES|NO
42	4	status (new)	
43	4	status (old)	Archive expdt reduce req status flag: YES|NO
44	4	status (new)	
45	4	status (old)	Archive expdt reduced status flag: YES|NO
46	4	status (new)	
51	7	archive status (old)	Mark/Unmark for archiving: PENDING|*blank*
52	7	archive status (new)	
53	7	delete status (old)	Mark/Unmark for deletion: PENDING|*blank*
54	7	delete status (new)	
55	7	reload status (old)	Mark/Unmark for reloading: PENDING|*blank*
56	7	reload status (new)	
57	4	viewable stat. (old)	Mark/Unmark viewable: YES|NO
58	4	viewable stat. (new)	

Subtype 25

Overview   SMF records of subtype 25 are written to record Adabas Audit Data
                                          Retrieval spool access caused by online browsing or printing via TSO,
                                          VDF or Web Enabler.

Samplib member   These field descriptions (relative offsets) are also available in:
                                          BETA97.SAMPLIB(§97S025R)

SMF record subtype 25

Offset	Name	Length	Format	Description
76	S025RES0	8	X	Reserved for future use
84	S025STYP	1	B	Adabas Audit Data Retrieval SMF record subtype

Source Information section

Offset	Name	Length	Format	Description
85	S025UNUSED1	4	X	Reserved for future use
89	S025USER	8	C	User ID
97	S025RQUST	8	C	Type of request (function): BROWSE ISPF BWE PRINT SYSTEM BATCH
105	S025FORM	8	C	Form name
113	S025EXT	16	C	Extension name
129	S025REPORT	16	C	Report name
145	S025TITLE	80	C	List/report title
225	S025JOBNM	8	C	Jobname of the job that created the list
233	S025JESID	8	C	JES ID of the job that created the list
241	S025LTIME	4	T	Time the list came into Beta 93
245	S025LDATE	4	D	Date list came into Beta 93
249	S025JTIME	4	T	Time the reader recognized the job card of the job that created the list
253	S025JDATE	4	D	Date on which the reader recognized the job card of the job that created the list

Offset	Name	Length	Format	Description
257	S025PAGES	4	B	Number of pages of list/report
261	S025LUNUSED	8	X	Reserved for future use
269	S025DTOKEN	8	X	DTOKEN (display token): list/report identification key based on displayed read-in time/date
277	S025ETOKEN	8	X	ETOKEN (list/report token): unique list/report identification key based on actual read-in time/date
285	S025RUNUSED	8	X	Reserved for future use
293	S025OWNER	8	C	Owner
301	S025UFLAG	1	F	Extended flag byte X'01' Flag is active X'E2' Means that the flag is inactive.
302	S025RES2	32	X	Reserved for future use

Transaction information

Offset	Name	Length	Format	Description
334	S025TS	8	X	Start timestamp transaction
334	S025TSTIME	4	T	Start time transaction
338	S025TSDATE	4	D	Start date transaction
342	S025TE	8	X	End timestamp transaction
342	S025TETIME	4	T	End time transaction
346	S025TEDATE	4	D	End date transaction
350	S025TRES	32	X	Reserved for future use
382	S025VELPTM	8	M	Elapsed time (microseconds)
390	S025VCPUTM	8	M	CPU time (microseconds)
398	S025VGETIO	4	B	I/O counter read
402	S025VPUTIO	4	B	I/O counter write
406	S025VRES1	32	X	Reserved for future use
438	S025VRES2	41	X	Reserved for future use

Subtype 49

Overview   Subtype 49 records the running of a Adabas Audit Data Retrieval batch
                                job.

Samplib member   These field descriptions (relative offsets) are also available in:
                                BETA97.SAMPLIB(§97S049R)

Offsets   Indicated offsets are relative to the beginning of the Beta header.

                                For absolute offsets:

                                • Add 24 bytes if SMF records have the standard IBM header.

                                • Add 56 bytes if SMF records have the extended IBM header.

SMF subtype 49

Offset	Name	Length	Format	Description
76	S049RES0	8	X	Reserved for future use
84	S049TIMEFLG	1	F	Time flag **Bit**　　**Meaning when set** 0　　　Major CPU/SRB/ZIIP time available 1..7　　Internally used
85	S049UNUSED1	4	X	Reserved for future use

Job information

Offset	Name	Length	Format	Description
89	S049JOBNAM	8	C	Job name
97	S049JOBPRC	8	C	Proc name
105	S049JOBSTP	8	C	Step name
113	S049JOBJID	8	C	JES ID
121	S049JOBSUB	8	C	Submitter
129	S049JOBENV	3	C	Environment
132	S049RES1	8	X	Reserved for future use
140	S049JOBPRG	20	C	Job programmer
160	S049JOBACN	1	B	Number of account fields (job)
161	S049JOBACF	144	A	Account fields (job)
305	S049RES2	153	X	Reserved for future use

Program information

Offset	Name	Length	Format	Description
458	S049PGM	8	C	Program name
466	S049VER	8	C	Program version
474	S049PTF	8	C	PTF level
482	S049CDATE	11	C	Compile date
493	S049CTIME	8	C	Compile time
501	S049RES3	5	X	Reserved for future use
506	S049RC	4	B	Return code
510	S049IC	4	B	Info code
514	S049STIME	4	Z	Start time
518	S049SDATE	4	D	Start date
522	S049ETIME	4	Z	End time
526	S049EDATE	4	D	End date
530	S049RES4	16	X	Reserved for future use

Additional information

Offset	Name	Length	Format	Description
546	S049INFO	20	C	Informational text Can be used by batch programs for additional information, for example, BTOKEN in case of B93BUNDLE
566	S049RES5	16	X	Reserved for future use

Transaction information

Offset	Name	Length	Format	Description
582	S049RES6	8	X	Reserved for future use
590	S049MCPUTME	4	N	Major CPU time (100th seconds)
594	S049MSRBTME	4	N	Major SRB time (100th seconds)
598	S049MZIIPTME	4	N	Major normalized ZIIP time (100th seconds)
602	S049RES6X	20	X	Reserved for future use

Database (FCB) information

Offset	Name	Length	Format	Description
622	S049SELPTM	8	M	Sum elapsed time (microseconds)
630	S049SCPUTM	8	M	Sum CPU time (microseconds)
638	S049SGETIO	4	B	I/Os read
642	S049SPUTIO	4	B	I/Os write
646	S049RES7	16	X	Reserved for future use
662	S049UNUSED2	4	X	Reserved for future use

Subtype 50

Overview   SMF records of subtype 50 are written to record the logon requests
                                originating from _beta view or Web Enabler.

                                Adabas Audit Data Retrieval writes this subtype each time a user is logged
                                into Adabas Audit Data Retrieval via _beta view or Web Enabler.

                                Note: If you are using the BSA TCP/IP server as a standalone started task
                                and want to write SMF records for logon/logoff requests, the LST
                                parameters B97_SMFREC_SUBTYP_50 = WRITE and B97_SMFREC_
                                SUBTYP_55 = WRITE must be coded in the LST member of the
                                Beta 02 STC.

Samplib member   These field descriptions (relative offsets) are also available in:
                                BETA97.SAMPLIB(§97S050R)

Source information

Offset	Name	Length	Format	Description
76	S050UNUSED1	8	X	Reserved for future use
84	S050INDICAT	1	F	IP address indicator **Bit** **Meaning when set** 0 A050IPCLN and A050IPSEV filled 1 B050IFLGS through B050IPSERVI filled
85	S050RES1	5	X	Reserved for future use
90	S050WUSER	8	C	User ID
98	S050RES2	8	X	Reserved for future use

IP information if bit 0 of S050INDICAT is set

Offset	Name	Length	Format	Description
106	A050IPCLN	15	C	IP address client
121	A050IPSEV	15	C	IP address host

IP information if bit 1 of S050INDICAT is set

Offset	Name	Length	Format	Description
136	B050IFLGS	1	F	IPv4/IPv6 address type indicator
				Bit **Meaning when set**
				0 HOST IPv4
				1 SERVER IPv4
				2 CLIENT IPv4
				3 Not used at present
				4 HOST IPv6
				5 SERVER IPv6
				6 CLIENT IPv6
				7 Not used at present
137	B050HOSTPORT	2	B	Host port
139	B050SERVPORT	2	B	Sending port of the server
141	B050IPHOST	45	C	Host IP address
186	B050IPCLIENT	45	C	IP address of the web browser client (If not available, same as B050IPSERVE)
231	B050IPSERVE	45	C	IP address of the web application server (external format)
276	B050IPSERVI	16	X	IP address of the web application server (internal format)
292	B050IPRES	16	X	Reserved for future use

Subtype 51

Overview   SMF records of subtype 51 are written to record modifications of the
                                definitions in the Adabas Audit Data Retrieval definition. An SMF record of
                                this type is written each time when a record in the corresponding database
                                tables is inserted, updated or deleted.

                                Adabas Audit Data Retrieval does **not** write SMF records of subtype 51 for
                                the following database tables: AOR, GBL, IAR, IGL, IGR, IGS, MSG, OGR,
                                RLD, SFR, and UGF

Samplib member   These field descriptions (relative offsets) are also available in:
                                BETA97.SAMPLIB(§97S051R)

SMF record subtype 51

Offset	Name	Length	Format	Description
76	S051RES0	9	X	Reserved for future use
85	S051FLAG1	1	F	Flag field X'01' Modification level 1
86	S051RES1	3	X	Reserved for future use
89	S051REQ	1	C	Type of modification: I Insert U Update D Delete
90	S051TABLE	8	C	Table name
98	S051USER	8	C	User ID
106	S051RDATE	4	D	Date of request
110	S051RTIME	4	Z	Time of request
114	S051FNUM	2	B	Number of fields in the database record
116	S051RLEN	4	B	Length of SMF record
120	S051DLEN	4	B	Length of data area (S051FNUM * S051ELEN + S051VLEN)
124	S051VLEN	2	B	Length of value area
126	S051TLEN	2	B	Length of one table value area If insert/delete: S051TLEN = S051VLEN If update: S051TLEN = S051VLEN / 2

Offset	Name	Length	Format	Description
128	S051ELEN	2	B	Length of field element (S051FNAME + S051FTYPE + S051FFLAG + S051FLEN + S051FPOS + S051FRES)
130	S051EPOS	2	B	Pointer to field element area
132	S051STCK	8	X	Timestamp (STCK)
140	S051LCMD	2	C	Line command
142	S051RPOS	2	B	Pointer to value area
144	S051RES2	6	X	Reserved for future use

Field element area

The field element area contains one field element for each field of the database record. Each field element contains information on the database field and the offset(s) of the value element(s) in the value area. S051FNUM indicates the number of field elements.

Offsets are relative to the start of the field element. The start of each field element (*s*) can be calculated using this formula:

s = S051EPOS + S051ELEN * (n - 1)

where S051EPOS is the start of the field element area, S051ELEN the length of the field element, and *n* the number of the field (1..S051FNUM).

Offset	Name	Length	Format	Description
s+0	S051FNAME	8	C	Field name
s+8	S051FTYP	1	C	Field type on database (see also "Field formats for subtype 51" in *_beta smf Manual*)
s+9	S051FLAG	1	X	Control flag
s+10	S051FLEN	4	B	Field length
s+14	S051FPOS	4	B	Offset in value area (insert, delete, update_old)
s+18	S051FPOSN	4	B	Offset in value area (update_new)
s+22	S051FRES	8	X	Reserved for future use

Value area   The value area follows the field element area.

> **If insert:**
>
> The value area contains one value field for each field of the database record. The corresponding field element contains the information on length (S051FLEN), format (S051FTYP), and offset (S051FPOS) relative to the start of the value area (S051RPOS).

Offset	Name	Length	Format	Description
off	Q051*field1*	*len*	*fmt*	Value of *field1*
off	Q051*field2*	*len*	*fmt*	Value of *field2*
...	...	...	...	...
off	Q051*fieldn*	*len*	*fmt*	Value of *fieldn*

> **If delete:**
>
> The value area contains one value field for each field of the database record. The corresponding field element contains the information on length (S051FLEN), format (S051FTYP), and offset (S051FPOS) relative to the start of the value area (S051RPOS).

Offset	Name	Length	Format	Description
off	P051*field1*	*len*	*fmt*	Value of *field1*
off	P051*field2*	*len*	*fmt*	Value of *field2*
...	...	...	...	...
off	P051*fieldn*	*len*	*fmt*	Value of *fieldn*

If update:

The value area contains two value fields for each field of the database record. The corresponding field element contains the information on length (S051FLEN), format (S051FTYP), offset_old (S051FPOS), and offset_new (S051FPOSN). Offsets are relative to the start of the value area (S051RPOS). All fields of the database record are included in the SMF record, irrespective of whether they were changed or not.

Offset	Name	Length	Format	Description
off	O051*field1*	*len*	*fmt*	Old value of *field1*
off	O051*field2*	*len*	*fmt*	Old value of *field2*
...	...	...	...	...
off	O051*fieldn*	*len*	*fmt*	Old value of *fieldn*
off	N051*field1*	*len*	*fmt*	New value of *field1*
off	N051*field2*	*len*	*fmt*	New value of *field2*
...	...	...	...	...
off	N051*fieldn*	*len*	*fmt*	New value of *fieldn*

Example

The following example uses a hypothetical three-field table to illustrate the structure of this type of SMF record: FIELD1 (8 char), FIELD2 (16 char), and FIELD3 (16 char).

The indicated offset value of the fields S051FNUM through S051RPOS is relative from the start of the BETA header. The offsets of the other fields are relative to the start of the field element area *epos* (S051EPOS) and the value area *rpos* (S051RPOS).

The following fields are written when a definition is inserted:

Offset	Name	Length	Format	Description
...	...	...	...	...
114	S051FNUM	2	B	Number of field elements (In example: 3)
116	S051RLEN	4	B	Length of SMF record
120	S051DLEN	4	B	Length of data area (S051FNUM * S051ELEN + S051VLEN) In example: 3 * 30 + 40
124	S051VLEN	2	B	Length of value area In example: 8 + 16 + 16
126	S051TLEN	2	B	Length of one table value area If insert: S051TLEN = S051VLEN
128	S051ELEN	2	B	Length of one field element (Currently 30) (S051FNAME + S051FTYPE + S051FFLAG + S051FLEN + S051FPOS + S051FRES)
130	S051EPOS	2	B	Offset of field element area in SMF record (i.e. position of first S051FNAME field)
...	...	...	...	...
142	S051RPOS	2	B	Offset of value area in SMF record (i.e. position of first Q051*xxxxx* field)
...	...	...	...	...
epos	S051FNAME.. S051FRES	30	various	Information on FIELD1 (S051FPOS shows offset of Q051FIELD1 in value area)
epos+30	S051FNAME.. S051FRES	30	various	Information on FIELD2 (S051FPOS shows offset of Q051FIELD2 in value area)
epos+60	S051FNAME.. S051FRES	30	various	Information on FIELD3 (S051FPOS shows offset of Q051FIELD3 in value area)
rpos+0	Q051FIELD1	8	C	Value of FIELD1
rpos+8	Q051FIELD2	16	C	Value of FIELD2
rpos+24	Q051FIELD3	16	C	Value of FIELD3

The following fields are written when a definition is deleted:

Offset	Name	Length	Format	Description
...	...	...	...	...
114	S051FNUM	2	B	Number of field elements (In example: 3)
116	S051RLEN	4	B	Length of SMF record
120	S051DLEN	4	B	Length of data area (S051FNUM * S051ELEN + S051VLEN) In example: 3 * 30 + 40
124	S051VLEN	2	B	
126	S051TLEN	2	B	Length of one table value area If insert: S051TLEN = S051VLEN
128	S051ELEN	2	B	Length of field element (Currently 30) (S051FNAME + S051FTYPE + S051FFLAG + S051FLEN + S051FPOS + S051FRES)
130	S051EPOS	2	B	Offset of field element area in SMF record (i.e. position of first S051FNAME field)
...	...	...	...	...
142	S051RPOS	2	B	Offset of value area in SMF record (i.e. position of first P051*xxxxx* field)
...	...	...	...	...
epos	S051FNAME.. S051FRES	30	various	Information on FIELD1 (S051FPOS shows offset of P051FIELD1 in value area)
epos+30	S051FNAME.. S051FRES	30	various	Information on FIELD2 (S051FPOS shows offset of P051FIELD2 in value area)
epos+60	S051FNAME.. S051FRES	30	various	Information on FIELD3 (S051FPOS shows offset of P051FIELD3 in value area)
rpos	P051FIELD1	8	C	Value of FIELD1
rpos+8	P051FIELD2	16	C	Value of FIELD2
rpos+24	P051FIELD3	16	C	Value of FIELD3

The following fields are written when a definition is updated:

Offset	Name	Length	Format	Description
...	...	...	...	...
114	S051FNUM	2	B	Number of field elements (In example: 3)

Offset	Name	Length	Format	Description
116	S051RLEN	4	B	Length of SMF record
120	S051DLEN	4	B	Length of data area (S051FNUM * S051ELEN + S051VLEN) In example: 3 * 30 + 40 * 2
124	S051VLEN	2	B	Length of value area In example: (8 + 16 + 16) * 2
126	S051TLEN	2	B	Length of one table value area In example: (8 + 16 + 16)
128	S051ELEN	2	B	Length of field element (Currently 30) (S051FNAME + S051FTYPE + S051FFLAG + S051FLEN + S051FPOS + S051FRES)
130	S051EPOS	2	B	Offset of field element area in SMF record (i.e. position of first S051FNAME field)
...	...	...	...	...
142	S051RPOS	2	B	Offset of value area in SMF record (i.e. position of first O051*xxxxx* field)
...	...	...	...	...
epos	S051FNAME.. S051FRES	30	various	Information on FIELD1 (S051FPOS and S051FPOSN show offset of O051FIELD1 and N051FIELD1 in value area)
epos+30	S051FNAME.. S051FRES	30	various	Information on FIELD2 (S051FPOS and S051FPOSN show offset of O051FIELD2 and N051FIELD2 in value area)
epos+60	S051FNAME.. S051FRES	30	various	Information on FIELD3 (S051FPOS and S051FPOSN show offset of O051FIELD3 and N051FIELD3 in value area)
rpos	O051FIELD1	8	C	Value of FIELD1 before the modification
rpos+8	O051FIELD2	16	C	Value of FIELD2 before the modification
rpos+24	O051FIELD3	16	C	Value of FIELD3 before the modification
rpos+*tlen*	N051FIELD1	8	C	Value of FIELD1 after the modification
rpos+8+*tlen*	N051FIELD2	16	C	Value of FIELD2 after the modification
rpos+24+*tlen*	N051FIELD3	16	C	Value of FIELD3 after the modification

Subtype 55

Overview   SMF records of subtype 55 are written to record the logoff requests
                                originating from _beta view or Web Enabler.

                                Adabas Audit Data Retrieval writes this subtype each time a user is logged
                                off from Adabas Audit Data Retrieval via _beta view or Web Enabler.

                                Note: If you are using the BSA TCP/IP server as a standalone started task
                                and want to write SMF records for logon/logoff requests, the LST
                                parameters B97_SMFREC_SUBTYP_50 = WRITE and B97_SMFREC_
                                SUBTYP_55 = WRITE must be coded in the LST member of the
                                Beta 02 STC.

Samplib member   These field descriptions (relative offsets) are also available in:
                                BETA97.SAMPLIB(§97S055R)

Source information

Offset	Name	Length	Format	Description
76	S055UNUSED1	8	X	Reserved for future use
84	S055INDICAT	1	F	IP address indicator **Bit Meaning when set** 0 A055IPCLN and A055IPSEV filled 1 B055IFLGS through B055IPSERVI filled
85	S055RES1	5	X	Reserved for future use
90	S055WUSER	8	C	User ID
98	S055RES2	8	X	Reserved for future use

IP information if bit 0 of S055INDICAT is set

Offset	Name	Length	Format	Description
106	A055IPCLN	15	C	IP address client
121	A055IPSEV	15	C	IP address server

IP information if bit 1 of S055INDICAT is set

Offset	Name	Length	Format	Description
136	B055IFLGS	1	F	IPv4/IPv6 address type indicator **Bit** **Meaning when set** 0 HOST IPv4 1 SERVER IPv4 2 CLIENT IPv4 3 Not used at present 4 HOST IPv6 5 SERVER IPv6 6 CLIENT IPv6 7 Not used at present
137	B055HOSTPORT	2	B	Host port
139	B055SERVPORT	2	B	Sending port of the server
141	B055IPHOST	45	C	Host IP address
186	B055IPCLIENT	45	C	IP address of the web browser client (If not available, same as B055IPSERVE)
231	B055IPSERVE	45	C	IP address of the web application server (external format)
276	B055IPSERVI	16	X	IP address of the web application server (internal format)
292	B055IPRES	16	X	Reserved for future use

Subtype 59

Overview   Subtype 59 provides you with statistics information (input, transfer, CPU usage) on the Adabas Audit Data Retrieval subsystem.

Subtype 59 is written when starting or stopping an STC/job in an SFF environment (typically STC start/stop). You can use MODIFY commands to write this SMF record at regular intervals while the system is running (see "MODIFY commands for SMF statistics" on page 113).

Note: Subtype 59 is always written for Adabas Audit Data Retrieval and cannot be deactivated.

Subtype 59 tables   Subtype 59 provides for three tables. Adabas Audit Data Retrieval uses these tables to collect the statistics information on the following:

TAB1 Reader processes
    Table name: READER

TAB2 Reserved for future use

TAB3 Reserved for future use

Samplib member   These field descriptions (relative offsets) are also available in:
BETA97.SAMPLIB(§97S059R)

Identification section

Offset	Name	Length	Format	Description
76	S059MAXSUBT	1	B	Maximum number of supported subtypes
77	S059CURSUBT	1	B	Current number of analyzed subtypes
78	S059ODATAST	2	B	Offset of statistics section
80	S059LDATAST	2	B	Length of statistics section
82	S059CDATAST	2	B	Count of statistics sections
84	S059OINFO_J	2	B	Offset of CPU action statistics section for the SFF job
86	S059LINFO_J	2	B	Length of CPU action statistics section for the SFF job
88	S059CINFO_J	2	B	Count of CPU action statistics sections for the SFF job
90	S059OINFO_N	2	B	Offset of CPU action statistics section for RFF jobs
92	S059LINFO_N	2	B	Length of CPU action statistics section for RFF jobs

Offset	Name	Length	Format	Description
94	S059CINFO_N	2	B	Count of CPU action statistics sections for RFF jobs
96	S059STBYTE	1	C	Indicates when the record was written: I Interval record E STC end record S STC start record
97	S059RQUST	1	C	Requester type: L Local R Remote
98	S059VERSION	1	C	Indicates the version of the subtype 59: 1 First version 2 Second version (with subtype flags S059STY_1 and S059STY_2)
99	S059RES1	1	X	Reserved for future use
100	S059INTERCNT	4	B	Counter for interval records
104	S059INTERDTE	4	D	Date when an interval record was last written
108	S059INTERTME	4	T	Time when an interval record was last written
112	S059OTAB1	2	B	Offset of table 1 section
114	S059LTAB1	2	B	Length of table 1 section
116	S059CTAB1	2	B	Count of table 1 sections
118	S059NTAB1	8	C	Name of table 1
126	S059OTAB2	2	B	Offset of table 2 section
128	S059LTAB2	2	B	Length of table 2 section
130	S059CTAB2	2	B	Count of table 2 sections
132	S059NTAB2	8	C	Name of table 2
140	S059OTAB3	2	B	Offset of table 3 section
142	S059LTAB3	2	B	Length of table 3 section
144	S059CTAB3	2	B	Count of table 3 sections
146	S059NTAB3	8	C	Name of table 3
154	S059RES4	46	X	Reserved for future use

Offset	Name	Length	Format	Description
200	S059STY_F1	4	F	If version 2 (S059VERSION): Flag 0..31 indicates activity for subtype 0..31
200	S059STY_F100	1	F0	Indicates activity for subtype 0
200	S059STY_F102	1	F2	Indicates activity for subtype 2
200	S059STY_F104	1	F4	Indicates activity for subtype 4
200	S059STY_F106	1	F6	Indicates activity for subtype 6
202	S059STY_F121	1	F5	Indicates activity for subtype 21
202	S059STY_F122	1	F6	Indicates activity for subtype 22
203	S059STY_F125	1	F1	Indicates activity for subtype 25
204	S059STY_F2	4	F	If version 2 (S059VERSION): Flag 0..27 indicates activity for subtype 32..59
206	S059STY_F249	1	F1	Indicates activity for subtype 49
206	S059STY_F250	1	F2	Indicates activity for subtype 50
206	S059STY_F251	1	F3	Indicates activity for subtype 51
206	S059STY_F255	1	F7	Indicates activity for subtype 55
207	S059STY_F259	1	F3	Indicates activity for subtype 59
208	S059DTAB3	8	B	Delta all of table 3
216	S059DTAB2	8	B	Delta all of table 2
224	S059DTAB1	8	B	Delta all of table 1
232	S059ALLCNTW	8	B	Number of all records that were written
240	S059ALLCNTN	8	B	Number of records where writing was suppressed
248	S059ALLCNTS	8	B	Number of records of the STC
256	S059ALLCNTB	8	B	Number of records of batch utilities

CPU action statistics for the SFF job

Offset: S059OINFO_J
Length: S059LINFO_J
Number: S059CINFO_J

Delta values refer to the last writing of a subtype 59 record.

Offset	Name	Length	Format	Description
0	S059MJRCPU	4	T	CPU usage of SFF job

Offset	Name	Length	Format	Description
4	S059MJRCPU#	4	T	CPU usage of SFF job (delta)
8	S059MJRSRB	4	T	SRB usage of SFF job
12	S059MJRSRB#	4	T	SRB usage of SFF job (delta)
16	S059MJRZIIP	4	T	Normalized ZIIP usage of SFF job
20	S059MJRZIIP#	4	T	Normalized ZIIP usage of SFF job (delta)

CPU action statistics for RFF jobs

Offset: S059OINFO_N
Length: S059LINFO_N
Number: S059CINFO_N

Delta values refer to the last writing of a subtype 59 record.

Offset	Name	Length	Format	Description
0	S059MNRCPU	4	T	CPU usage of RFF jobs
4	S059MNRCPU#	4	T	CPU usage of RFF jobs (delta)
8	S059MNSRB	4	T	SRB usage of RFF jobs
12	S059MNSRB#	4	T	SRB usage of RFF jobs (delta)
16	S059MNRZIIP	4	T	Normalized ZIIP usage of RFF jobs
20	S059MNRZIIP#	4	T	Normalized ZIIP usage of RFF jobs (delta)

Subtype-specific section   **Offset**:   S0590DATAST
                                 Length: S059LDATAST
                                 Number: S059CDATAST

The subtype-specific section is displayed for each subtype (*nn* = number of subtype). You can calculate the correct offset by using the formula that is specified in the **Offset** column.

Offset	Name	Length	Format	Description
nn×30+0	S059#CNT*nn*S	8	B	Number of records of the STC
nn×30+8	S059#CNT*nn*B	8	B	Number of records of batch utilities
nn×30+16	S059#CNT*nn*N	8	B	Number of records that were not written
nn×30+24	S059#NUM*nn*	1	B	Subtype number
nn×30+25	S059#XRES*nn*	2	X	Reserved for future use
nn×30+27	S059#YSTA*nn*S	1	C	Internal information
nn×30+28	S059#YSTA*nn*B	1	C	Internal information
nn×30+29	S059#YSTA*nn*N	1	C	Internal information

Table 1 section (READER)

This section displays the reader processes. A maximum of 13 different processes can be displayed. The first process is displayed with counter number 001 (*nnn* = counter number), the counter numbers of the next displayed processes are incremented by one.

You can calculate the correct offset by using the formula that is specified in the **Offset** column.

Offset	Name	Length	Format	Description
(n-1)×22+0	S059RDRN_*nnn*	6	C	Name of the reader process
(n-1)×22+6	S059RDRC_*nnn*	8	B	Reader counter
(n-1)×22+14	S059RDRD_*nnn*	8	B	Delta counter

Table 2 section

Offset	Name	Length	Format	Description
(n-1)×22+0	S059RS2N_*nnn*	6	C	Reserved for future use
(n-1)×22+6	S059RS2C_*nnn*	8	B	Reserved for future use
(n-1)×22+14	S059RS2D_*nnn*	8	B	Reserved for future use

Table 3 section

Offset	Name	Length	Format	Description
(n-1)×22+0	S059RS3N_*nnn*	1	C	Reserved for future use
(n-1)×22+6	S059RS3C_*nnn*	8	B	Reserved for future use
(n-1)×22+14	S059RS3D_*nnn*	8	B	Reserved for future use

Third-party software

Overview
This section provides a list of the third-party software that is included in Adabas Audit Data Retrieval together with the license terms under which this third-party software is distributed.

License texts
The license texts are available in the software download in the directory **Third Party Licenses**.

Copyright
Third-party software is the copyright of its respective copyright owner as indicated in the corresponding text in **Third Party Licenses**.

Disclaimer
Beta Systems DCI Software AG assumes no liability with regard to the use of third-party software and makes no representations or warranties as to the usability, functionality, accuracy or freedom from error of third-party software.

Software list

Clarified Artistic License

- NcFTPPut

  Version 3.1.9

  https://www.ncftp.com/ncftp/doc/LICENSE.txt

MIT License

- PuTTY

  Version 0.60

  https://github.com/github/putty/blob/0.60/LICENCE

zlib License

- zlib

  Version 1.2.3

  http://www.zlib.net/zlib_license.html