9 software AG

Adabas SAF Security

Adabas SAF Security Online Services

Version 8.1.2

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Adabas SAF Security

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

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1

Adabas SAF Security Online Services

This section describes the use of the AAF Online Services.

AAF Online Services is provided to help set up and monitor the operation of ADASAF. The administrator can view information about the current parameter settings and resource utilization of ADASAF in a given Adabas nucleus. The information can also be accessed using ADASAF operator commands.

The information provided is useful for tuning ADASAF. It includes statistics at both the nucleus and user level. A list of maintenance ZAPs that have been applied, as well as diagnostic information, also can be displayed.

Using AAF Online Services Online Services general use and navigation.

Database Statistics Provides statistics at the database level.

SAF User ID Statistics Provides SAF user statistics.

Zap Display Display zap information.

Internal Storage Display Display internal storage areas.

Trace Display Display database trace information.

Server Restart Adabas SAF server.

System Parameters Display Adabas SAF system parameters.

About SAF Security Display overview information about Adabas SAF Security.

2 Using Adabas SAF Security Online Services

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Online Services Main Menu

AAF Online Services is available from a Natural application installed in library SYSAAF.

Note: Because of the sensitive nature of ADASAF, you are advised to ensure that the Natural application SYSAAF is well protected using Natural Security.

to invoke Adabas SAF Security Online Services

select Adabas SAF Security (option 9) from the AOS main menu,

Or:

log on to SYSAAF and enter the command MENU.

The Main Menu screen will then appear:

```
12:34:15 ***** A D A B A S
                                     SAF SECURITY SERVICES 8.1.2 *****
                                                                                 2006-05-27
                                         Main Menu -
                                                                                 A1MAINM1
                          Code Service
                                 System Statistics
                                 SAF User ID Statistics
                           3 Zap Display
                                Storage Display
                           5
                                System Tracing
                           6
                                 Server Restart
                                 System Parameters
                                 About SAF Security
                                 Exit
                Code....... You can easily switch around the Database ID.: 153____ tools for Fastpath, Vista etc by NucID.....: ____ use of the PF Keys shown, or use the codes COR, AFP, AVI, AAF, ATM User ID....: ____ as commands - anytime.
 System Coordinator Node..: _____
           SAF User ID....: _____
 Command ==>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
       Help Exit COR
                                                       AVI ATM
                                                                               Vers
```

To select an option, enter a code and a Database ID. To communicate with ADASAF in a particular nucleus running as part of an Adabas Cluster or Parallel Services environment, enter the NucID as well as the Database ID. Alternatively, if you do not know the available NucIDs, enter the

Database ID and the node number of the Adabas System Coordinator daemon for that cluster to obtain a list of active NucIDs for the database, from which you may select one.

For SAF User ID Statistics (option code 2), also enter a SAF User ID if you wish to view statistics for an individual user ID without first displaying the list of active user IDs.

From the main menu, you may switch to the online systems of Adabas System Coordinator (PF6), Adabas Fastpath (PF7), Adabas Vista (PF8), or Adabas Transaction Manager (PF10), by pressing the appropriate PF key. You may also switch from any screen with a Command ==> line by entering the appropriate three-character code as a command.

PF12 can be used to display a list of installed versions of SYSAAF. To select the required version, mark it with any non-blank character. The default is to use the latest installed version. The ADASAF demo INPL is supplied with Adabas and is converted to full licensed mode by installing the INPL dataset supplied with ADASAF. If any of the versions on the screen are followed by (D), it indicates 2that only the demo INPL was installed for that version. The online services version selected will work with the same or later versions of ADASAF in a protected nucleus.

The following options are available:

Option	Description
System Statistics	Provides statistics at the database level.
SAF User ID Statistics	Provides statistics for SAF user IDs.
Zap Display	Display zap information.
Storage Display	Display internal storage information.
System Tracing	Display trace information.
Server Restart	Restart server.
System Parameters	Display system parameters.
About SAF Security	Display product overview information.

Navigation

Navigation

Entering Commands

Navigation

From the main menu, you enter an option code, an ADASAF-protected Database ID, and an optional user ID. To move from one option to another, you can return to the main menu using PF12, or enter the number of the desired target option in the command line.

Entering Commands

The command line in the SYSAAF screens is useful for jumping quickly from one function to another. For example, entering the value 2 on the command line will invoke the User Statistics option. If you enter an invalid number, you are returned to the main menu.

You can also use the command line to change the ID of the database that you are monitoring without returning to the main menu. Enter the dbid=nnnnn (this can be abbreviated to db=). For example, dbid=12345 or db=12345. Alternatively, you can change the Database ID by simply overtyping it on any screen.

Any other command is passed to Natural.

Using PF Keys

Throughout SYSAAF, PF1 (Help) provides information about the current function, PF3 is Exit and PF12 returns to the main menu.

In list functions, PF7 (Up) and PF8 (Down) scroll up and down the list, PF6 (Top) returns to the top of the list, and PF9 (Bttm) goes to the end of the list. PF9 is available only in the system trace display.

Help Information

To invoke help information

■ Press PF1.

The help screen that appears applies to the current screen and may comprise several pages. From each help screen, you can access lower level options or return to previous, higher levels.

3 Database Level Statistics

This option provides statistics at the database level.

```
***** A D A B A S SAF SECURITY SERVICES 8.1.2 *****
12:18:55
                                                                2006-05-17
                     - Database Level Statistics -
                                                                 A11000M1
                     Database: 153___
                Buffer Size(k): 512
                                           Address: 1B792000
                System initialized on: 2006-05-17 at: 10:53:01
 SAF Statistics:
                 Check (+ve) Check (-ve) Check Saved Overwrites Length
 Authorization
 ADABAS (Normal)
                       106
                                      1
                                           10201691
                                                              0
                                                                     17
                                      0
                                                               0
                                                                      17
 ADABAS (Xlevel)
                        104
                                                  21
 Active SAF Users: 8
                              Overwrites.: 0
                                                       Max.: 8
 Free SAF Users..: 443
                              Allocations: 21
 Cached File Area Statistics:
 Address....: 1B691148 High Water.: 1B692258 Max.Used.: 22
 First Free..: 1B692328
                         Last Used..: 1B692258
                                                   Curr.Used: 22
 Files/entry.: 10
                          Overwrites.: 0
                                                    Saved....: 10201672
Command ==>
Enter-PF1---PF3---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
     Help
                Exit
                                                                    Menu
```

The following information is provided:

Field	Description
Database	The database number.
Buffer	The amount of storage (in kilobytes) to be used for caching user information related to the security system.
	For more information, see the parameter GWSIZE.
Address	Address in memory of the SAF Server cache.
System initialized	Date and time system was last initialized.
SAF Statistics:	Effectiveness of the SAF Server cache. Shows information for normal and cross-level checks:
Authorization	Indicates type of authorization (normal or cross-level).
Check (+ve)	The number of successful authorizations against the external security system.
Check (-ve)	The number of failed authorizations against the external security system (access denied).
Check Saved	The number of times the SAF Server satisfied an authorization request from its cache, without calling the external security system.
Overwrites	The number of times the SAF Server had to overwrite a previously cached authorization request. If this number is high, consider increasing DBNCU and/or NWNCU.
Lngth	The length of the resource profile names.
Active SAF Users	The current number of active SAF users.
Overwrites	The number of active entries that had to be overwritten.
Max.	The maximum number of active SAF users.
Free SAF Users	The number of free user areas.
Allocations	The number of times a user area was allocated.
Cached File Area Statistics	Effectiveness of ADASAF's Cached File Area (CFA)
Address	Address in memory of the CFA.
High Water	The highest used address in the CFA.
Max Used	Maximum used CFA entries.
First Free	Address of first free CFA entry.
Last Used	Address of highest used CFA entry.
Curr Used	Current number of used CFA entries.
Files/entry	Number of files cached in each CFA entry.
Overwrites	The number of times ADASAF had to overwrite a previously cached file. If this number is high, consider increasing MAXFILES.
Saved	The total number of times ADASAF satisfied an authorization request without calling the SAF Server or the external security system.

4 SAF User Statistics

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This option provides information on active users.

List of Active SAF Users

Selecting code 2 from the main menu causes a list of active SAF user IDs to be displayed (unless a SAF User ID parameter was also specified, in which case the SAF User ID Statistics screen will be displayed).

```
12:26:50
           **** A D A B A S
                               SAF SECURITY SERVICES 8.1.2 *****
                                                                     2006-05-17
                   - SAF User ID List for Database: 153
                                                                      A12000M1
                 C
                        SAF User ID
                                         Date
                                                         Time
                        UKDEV3
                                      2006-05-17
                                                       11:32:53
                                      2006-05-17
                                                       10:53:01
                        DAEFCODE
                        UKSJU
                                      2006-05-17
                                                       11:31:23
                        UKSJU1
                                      2006-05-17
                                                      11:30:57
                                      2006-05-17
                                                       11:32:51
                        UKDEV2
                        UKDEV1
                                      2006-05-17
                                                      11:32:50
                        UKDEV4
                                      2006-05-17
                                                      11:32:58
                                      2006-05-17
                                                       11:33:02
                        UKDEV5
Mark with S(tatistics), C(ached Files), R(eset), L(ogoff)
Top of List
Command ==>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help
                  Exit Refr
```

In the Command (C) column, enter S to view a user ID's statistics, C to view a user ID's cached file details, R to reset that user ID's statistics, or L to log the user ID off from the security system, which will discard the user ID's cached security information.

SAF User ID Statistics

The SAF user ID statistics screen shows the number of times that the security system was called for the selected user ID and gives information on the number of successful and unsuccessful verifications made against the external security system. It also shows the number of verifications satisfied from the resource profile cache, the number of times an entry for this user ID was overwritten, and the current number of cached checks for this user ID.

```
12:29:36
         **** A D A B A S SAF SECURITY SERVICES 8.1.2 *****
                                                            2006-05-17
            - SAF User ID Statistics for Database: 153
                                                            A12100M1
     SAF User ID: DAEFCODE
     Initialized from: Adabas Cross-Level on: 2006-05-17 at: 10:53:01
 Authorization
                Check (+ve) Check (-ve) Check Saved Overwrites Active
 ADABAS (Normal) 0
                            0 0
                                                         0
                                                                  0
                        2
                                   0
 ADABAS (Xlevel)
Command ==>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
               Exit
                          Lgoff
```

Pressing PF5 will log this user ID off from the security system and discard associated security information from ADASAF.

SAF User ID Cached Files

This screen shows, for a given SAF user ID, the internal communication ID for the Adabas client session, the Cross Level ID under which the client session is operating, the effectiveness of ADASAF's cache for this client session, as well as the cached files and access levels currently held for it.

A SAF user ID may have more than one cache entry, for example when accessing a database from different jobs. PF10 can be used to scroll through all the cache entries for that SAF user ID.

```
**** A D A B A S
                             SAF SECURITY SERVICES 8.1.2 *****
12:33:42
                                                                 2006-05-17
               SAF User ID Cached Files for Database: 153
                                                                  A12200M1
  Communication ID: 000FA10E20860000404040404040404000F61380C5D6D9C3F0F14040
  SAF User ID....: UKDEV1
  Cross Level ID..: UKDEV1
  Saved Checks....: 599994
  Number of Files.: 6
  Last File Access: 300
  Overwrites..... 0
File Details
         File L
                              File L
 File L
                     File L
                                        File L
                                                 File L
                                                           File L
                                                                    File L
    7 R 11 R 12 R
                              18 R
                                       78 R
                                                 300 R
Command ==>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
                                                                     Menu
                 Exit
```

5 Zap Display

This option can be used to display a list of applied zaps. This information may be requested by your Software AG technical support representative for problem diagnosis.

6

Internal Storage Display

This option is used to display certain ADASAF internal storage areas. You can scroll the display or position to a given location by entering it in the Address field.

```
2006-04-06
09:22:42
                  A D A B A S SAF SECURITY SERVICES 8.1.2 *****
                  - Display Storage for Database: 153 -
                                                                A14000M1
            <-----> Offset
 Address
                                                           Characters
 000000000 * 034A5000 I D5C1F2E2 C9C1F3F1 AD1FF257 ADEB7211 I NA2SIA310?2♦0♦◆?
 00000010 * 034A5010 I 00003000 034A5000 034A5000 034A8000 I
                                                            ? ?$& ?$& ?$�
 00000020 * 034A5020 I 000A2B00 034A5E28 034A7C64 00000000 I
                                                            ?? ?$:??$@a
 00000030 * 034A5030 I 00000000 00000000 00000000 I
 00000040 * 034A5040 I 00000000 00000000 00000000 I
 00000050 * 034A5050 I 00000000 00000000 00000000 I
 00000060 * 034A5060 I 00000000 00000000 00000000 I
 00000070 * 034A5070 I 410000F2 00000000 01240008 0000000C I
 00000080 * 034A5080 I 00040002 00020002 00020001 00000000 I
 00000090 * 034A5090 I 00080020 000D0018 00080020 00000000 I
                                                           ? ? ? ? ? ?
 000000A0 * 034A50A0 I 0034004C 0024003C 001C0028 00000000 I ? < ? ? ? ?
 000000B0 * 034A50B0 I 00E00114 01600184 01C001DC 02040204 I \???-?d?{?❖????
 000000C0 * 034A50C0 I 00000002 00000000 00000000 00000002 I
 000000D0 * 034A50D0 I 00000000 00000000 00000000 I
 000000E0 * 034A50E0 I 00000002 00000000 00000000 00000005 I
 000000F0 * 034A50F0 I 00000000 00000000 00000000 I
    Address :
Command ==>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
     Help
                Fxit
                                            Fwd
                                                                  Menu
```

7 Trace Display

This option can be used to display the last 256 trace points taken. You may be asked to provide this information by your Software AG technical support representative.

```
09:24:24 ****
                A D A B A S SAF SECURITY SERVICES 8.1.2 ***** 2006-04-06
                   Display Trace For Database: 153
                                                                 A15000M1
    Pos ID Description of Trace Point
   177 3F LOGGING ROUTINE COMPLETED
   178 90 STORAGE REQUEST - ENTERED
   179 9F STORAGE REQUEST COMPLETE
   180 30 LOGGING ROUTINE ENTERED
   181 3F LOGGING ROUTINE COMPLETED
   182 90 STORAGE REQUEST - ENTERED
   183 9F STORAGE REQUEST COMPLETE
   184 30 LOGGING ROUTINE ENTERED
   185 3F LOGGING ROUTINE COMPLETED
   186 90 STORAGE REQUEST - ENTERED
   187 9F STORAGE REQUEST COMPLETE
   188 30 LOGGING ROUTINE ENTERED
   189 3F LOGGING ROUTINE COMPLETED
   190 AO USER LIST - REQUEST ENTERED
   191 A1 USER LIST - BEGIN AT START
   192 A3 USER LIST - PAGE OF USERS RETURNED OR END OF LIST
 Command ==>
  Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help
                  Exit
                         Refr
                                                       Bot
                                                                        Menu
```

8 Server Restart

This option can be used to restart ADASAF in the specified nucleus. It results in the discarding of any cached security information, rereading security parameters, and restarting security operation. This option is useful if you need to change any security parameters without stopping and restarting the database.

9 System Parameters

This option can be used to display the system parameters in effect for this nucleus.

```
**** A D A B A S
09:51:18
                             SAF SECURITY SERVICES 8.1.2 *****
                                                                  2006-06-06
                SAF System Configuration Parameters -
                                                                   A18000M1
Assembled: 06-06-06 Version: 08.01.02
 Database: 153
    Authorization
                      Class/Type
                                  Universal Max Kept
                                                         SMF Log
                      ADASEC
                                      N
                                                0
    ADABAS (Normal)
                                                            0
                                       Ν
                                                0
                                                            0
    ADABAS (Xlevel)
                      XLVADA
    Buffer(k): 8192
                      Message Level..: 3
                                           Caching..: Y Warn Mode: F
    Ciphers..: N
                      Cached files...: 10
                                           Xlevel...: 2 ET Data..: Y
    Passwords: N
ABS..... 2
                      Max.Cipher/Pwds: 100 Logoff...: A Remote...: POPUP
                      DBID/Fnr format: 1
                                            Notoken..: N ADASCR...: N
    PC prot..: N
                      Hold cmd access: R
                                           LF prot..: Y Filetab..: D153FTAB
Command ==>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
     Help
                 Exit
                                                                      Menu
```

The following information is provided:

Field	Description
Assembled / Version	The date and time when the parameter module was assembled.
Database	The database number.
Authorization	Indicates type of authorization (normal or cross-level).
Class/Type	The security class being used.
	For more information, see the parameters DBCLASS and NWCLASS.
Universal	Whether or not universal access is allowed.
Max Kept	The number of files for which security information is to be cached for each user.
	For more information, see the parameters DBNCU and NWNCU.
SMF Log	Not used.
Buffer	The amount of storage (in kilobytes) to be used for caching user information related to the security system.
	For more information, see the parameter GWSIZE.
Message Level	The tracing level for database security checks.
	For more information, see the parameter GWMSGL.
Caching	Indicates whether or not caching of security information is in effect.
Warn Mode	Warn mode (warning or fail).
Ciphers	Indicates whether or not ADASAF should extract Adabas cipher codes from RACF
	and apply them to the relevant Adabas commands.
	For more information, see the parameter CIPHER.
Cached Files	The number of files for which security information is to be cached for each user.
	For more information, see the parameter MAXFILES.
Xlevel	The type of database cross-level security checking to be performed
	For more information, see the parameter XLEVEL.
ET Data	Indicates whether or not ADASAF should protect commands that access or create ET data.
	For more information, see the parameter ETDATA.
Passwords	Indicates whether or not ADASAF should extract Adabas passwords from RACF and apply them to the relevant Adabas commands.
	For more information, see the parameter PASSWORD.
Max Cipher/Pwds	The maximum number of passwords and cipher codes to be extracted from RACF for the current Adabas nucleus.
	For more information, see the parameter MAXPCC.
Logoff	Indicates when ADASAF should log off users from the SAF security system.
	For more information, see the parameter LOGOFF.

Field	Description
Remote	The mechanism ADASAF should use to protect calls from remote users.
	For more information, see the parameter REMOTE.
ABS	The level of Adabas Basic Services protection.
	For more information, see the parameter ABS.
DBID/Fnr format	The format of the Database ID and file number in resource profiles.
	For more information, see the parameter DBFLEN.
Notoken	Indicates whether or not calls from unsecured mainframe clients are to be allowed.
	For more information, see the parameter NOTOKEN.
ADASCR	Indicates whether or not the SAF Userid or Group is used as the ADASCR password.
	For more information, see the parameter ADASCR.
PC prot	Indicates whether or not PC commands are protected.
	For more information, see the parameter PCPROT.
Hold cmd access	Indicates whether access commands which place records on hold require read or
	update security access to the relevant resource.
	For more information, see the parameter HOLDCMD.
LF prot	Indicates whether or not LF commands are protected.
	For more information, see the parameter LFPROT.
Filetab	The name of the grouped resource name load module used by this nucleus, or '(none)' if grouped resource names are not in effect.
	For more information, see the parameter FILETAB.

10

About ADASAF Security Services

This option can be used to display an overview of Adabas SAF Security Services.

```
**** A D A B A S SAF SECURITY SERVICES 8.1.2 *****
12:16:43
                                                                   2006-05-17
                      - About Adabas SAF Security -
                                                                    A19000M1
  Welcome to Adabas SAF Security
  This Adabas option allows you to integrate Adabas with a central security
  repository such as RACF, CA-ACF2 or CA-TopSecret.
  ADASAF provides all the safeguards you would expect for:
                                       * Database files
  * Database nuclei
  * Database access/update commands
                                      * Adabas utilities
  * Console operator commands
  In addition ADASAF provides:
  * Optional consideration of the originating job as well as user, known as
    Cross-level Checking, allowing differentiation between a SAF user running
    production and that same SAF user running in development
  * Protection of transaction data for ET, RE, OP and CL commands
  * Storing of Adabas passwords and cipher codes in the security repository
  * Adabas Fastpath compatibility and utility sensitivity
                    Press Enter or any PF Key to continue
```