

V.5.6 Trace Facility

If a problem should develop with SECURITRE, TSI's support personnel will want to help the customer solve it as rapidly as possible. A Trace Facility has been implemented within SECURITRE to produce diagnostic trace messages that will enable TSI support personnel to more easily determine the source of the customer's problem.

The Trace Facility can significantly increase the overhead associated with ADABAS. Therefore, it is recommended that the Trace Facility should only be activated while testing SECURITRE or when a problem arises.

```

07/01/10          S E C U R I T R E          TSI01
11:38:00          SECURITRE TRACE FACILITY    STRLIB

          DBID : 202  TEST-DB

TRACE : ___      (YES  to activate trace points marked with 'X'
                 NO   to de-activate trace)

_ User-Exit-11 Entry (1)          _ File information obtained (2)
_ USERID obtained (3)           _ User-Exit-11 Exit (4)
_ User table Reorg start (5)     _ User table Reorg end (6)
_ User Table lookup (7)         X Entity name built (8)
X SSF interface                  _
_

-----
TRACE USERID: _____      TRACE COMMANDS: ___ _ _ _ _
DD-NAME:      _____      SYSOUT-CLASS : __

Direct Command: _____      TRAC
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10---PF11---PF12
HELP  ---- MENU  ----  ----  ----  ----  ----  ----  ----  ----  ----

```

To activate specific trace point(s), enter "X" next to the desired trace point(s) and enter YES in the TRACE field. To turn off all trace points, enter NO in the TRACE field.

To limit trace information to a specific User-ID, enter the User-ID in the TRACE USERID field. You may specify a group of User.IDs (all same prefix) by terminating the search argument ends with an asterisk.

To limit trace information to a specific set of ADABAS commands, enter the commands in the TRACE COMMANDS field.

Since tracing is also limited to files that have the TRACE parameter set to ON, it may be necessary to use the PARM function to update the TRACE parameter. When using the PARM function, tracing can be turned off for only one file at a time.

When turning the TRACE off for a file, it is more efficient to turn it off by using the PARM function or by reloading the parameters using the RPRM function than to simply enter NO in the TRACE field in the TRAC facility.

To direct the trace output data to a specific DD-name, enter the requested value in the DD-NAME field. If this DD-name is not allocated in the start-up JCL of ADABAS it will be dynamically allocated and assigned to SYSOUT. SYSOUT-CLASS has only effect if DD-name is not defined in the start-up JCL. A dynamically allocated trace output file will be closed if tracing is turned off..

Any changes to DD-NAME and/or SYSOUT CLASS will only become effective at the next OPEN to the trace output file. You have to turn trace off (NO) and on (YES) again.

V.5.7 Display SECURITRE/NATURAL Parameters

To display the current SECURITRE for NATURAL parameter settings, the Security Administrator should either enter "NPRM" or press "H" on the Main Menu. Then, the following screen is displayed:

```

07/01/10          S E C U R I T R E          TSI01
11:38:00          DISPLAY SECURITRE FOR NATURAL PARAMETERS          STRLIB

                                Code  Function
                                -----
                                D    Display STNDDM Parameters
                                F    Display STNFILE Parameters
                                L    Display STNLIB Parameters
                                P    Display STNPARM Parameters
                                .    Return to main menu
                                -----

                                Code:  _

Direct Command: _____          NPRM
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10---PF11---PF12
HELP  ----  MENU  ----  ----  ----  ----  ----  ----  ----  ----  ----  ----

```

By entering the appropriate code, any of the four types of SECURITRE for NATURAL parameters (STNPARM, STNLIB, STNDDM, or STNFILE) may be displayed. Entering a "." or pressing PF3 returns to the Main Menu.

When item "D" is selected to display the STNDDM parameters, the following screen is displayed:

```

07/01/10          S E C U R I T R E          TSI01
11:38:00          DISPLAY SECURITRE FOR NATURAL PARAMETERS - STNDDM          STRLIB

                                DDM          ALIAS          PUB/PRIV

                                *DEFAULT          DEFAULT          PRIV
                                PAYROLL          PAY          PUB
                                N20-ADMINISTRATION          N20          PUB
                                SYSTEM-FUSER          SYSTEM          PRIV
                                SYSTEM-FDIC          SYSTEM          PRIV
                                SYSTEM-FNAT          SYSTEM          PRIV
                                TELEPHONE          PHONE          PUB
                                PARTS-INVENTORY          PARTS          PRIV
                                EQUIPMENT          EQUIPMENT          PRIV
                                *** END OF DATA ***

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10---PF11---PF12
HELP  ----  MENU  ----  ----  ----  -  +  ----  ----  ----  EXIT

```

The STNDDM parameters are displayed in the order in which they are listed in the parameter dataset. Up to 13 STNDDM statements will be displayed on each screen. PF8 may be used to scroll forward in the list if more than one page of data is available. PF7 may be used to scroll backward.

The STNFILE parameters may be displayed by entering "F" on the NPRM menu.

```

07/01/10                S E C U R I T R E                TSI01
11:38:00                DISPLAY SECURITRE FOR NATURAL PARAMETERS - STNFILE  STRLIB

                                DBID      FNR      ALIAS
                                2         230     PROD
                                2         231     QA
                                2         242     TEST
                                *** END OF DATA ***

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10---PF11---PF12
      HELP  --- MENU  --- -      +      --- --- --- EXIT
    
```

The STNFILE parameters are displayed in the order in which they are listed in the parameter dataset. Up to 13 STNFILE statements will be displayed on each screen. PF8 may be used to scroll forward in the list if more than one page of data is available. PF7 may be used to scroll backward.

The STNLIB parameters may be displayed by entering "L" on the NPRM menu.

```

07/01/10                S E C U R I T R E                TSI01
11:38:00                DISPLAY SECURITRE FOR NATURAL PARAMETERS - STNLIB  STRLIB

                                ITEM      LIBRARY    FUSER
                                1         *DEFAULT
                                2         SYSLIB
                                3         SYSTEM
                                4         SYSDIC
                                5         STRLIB
                                6         PAY1
                                7         PAY2
                                8         PAY3
                                9         PAY4
                                10        ABC1
                                11        ABC2
                                12        ABC3
                                13        ABC4

Enter item number to display STNLIB parameters: 6_

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10---PF11---PF12
      HELP  --- MENU  --- -      +      --- --- --- EXIT
    
```

The STNLIB parameters are displayed in the order in which they are listed in the parameter dataset. Up to 13 STNFILE statements will be displayed on each screen. PF8 may be used to scroll forward in the list if more than one page of data is available. PF7 may be used to scroll backward.

To display all the parameters for a particular STNLIB statement, enter the number of the statement at the prompt on the bottom of the screen, and press ENTER. The following screen will be displayed:

```

07/01/10          S E C U R I T R E          TSI01
11:38:00          DISPLAY SECURITRE FOR NATURAL PARAMETERS - STNLIB          STRLIB

          LIBRARY : SYSLIB          FUSER :

ERRORTA :          STARTUP :
LGNPRMS :          STEPLIB :
LT       : 0          STEP1  : PAY2
MT       : 0          STEP2  : PAY3
MADIO   : 0          STEP3  : PAY4
MAXCL   : 0          STEP4  :
MODE    : REPORT     STEP5  :
PGMMODE : DORM       STEP6  :
PGMTYPE : ALL        STEP7  :
PGWRT   : YES        STEP8  :
PGWRTCK : DORM       TYPE   : PRIV
RDNLY   : NO         USRMODE : YES
RUNMODE : DORM       XREF   : OFF

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10---PF11---PF12
      HELP ---- MENU ---- ---- ---- ---- ---- ---- ---- ---- ---- EXIT

```

To return to the STNLIB statement list, press PF3. To return to the Main Menu from the STNLIB statement list, press PF3.

When item "P" is selected to display the STNPARM parameters, the following screen is displayed:

```

07/01/10          S E C U R I T R E          TSI01
11:38:00          DISPLAY SECURITRE FOR NATURAL PARAMETERS - STNPARM          STRLIB

CLASS :          NULIT : UTIL
DDMODE : WARN          NUMODE : DORM
DDMLIT : DDM          NUORDR : LIT UTIL
DDMORDR : LIT LIB DDM PGLITPD : SCRATCH
DELIM  : .          PGLITOR : EXEC
LGNLIT : LOGON       PGLITOW : CAT
LGNMODE : FAIL       PGLITSR : RD
LGNORDR : LIT LIB    PGLITSW : SAVE
LGNPRIV : UID        PGMORDR : LIT LIB PGM
NATUEX1 :          PGWLIT  : PGMWRT
NSIFDIC : PROD       PGWORDR : LIT LIB FUSR
NSIFNAT : PROD       RUNLIT  : RUN
NSIFUSR : PROD       RUNORDR : LIT LIB
NSIMODE : WARN       STEPLIB : SYSTEM
NSIORDR : FILE LIT LIB
PREFIX/QUALIFIER : STR.NAT

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10---PF11---PF12
      HELP ---- MENU ---- ---- ---- ---- ---- ---- ---- ---- ---- EXIT

```

V.5.8 Display Current Table Sizes

The Security Administrator may want to display the table sizes allocated by the STRDEF parameters for a database. The table size can be displayed for the User, DSN, User-to-DSN relationship, and Field Level Security tables.

In order to display the table sizes in effect for database 202, the Security Administrator would enter "202" in the DBID field on the following screen:

```

07/01/10          S E C U R I T R E          TSI01
11:38:00          DISPLAY CURRENT TABLE SIZES      STRLIB

                DBID : 202      TEST-DB

                Hit ENTER to display table sizes

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10---PF11---PF12
      HELP  ---- MENU  ----  ----  ----  ----  ----  ----  ----  ----  ----
    
```

Once ENTER is pressed, the table sizes allocated for database 202 are displayed as shown on the following screen:

```

07/01/10          S E C U R I T R E          TSI01
11:38:00          DISPLAY CURRENT TABLE SIZES      STRLIB

                DBID : 202      TEST-DB

                Current number of users:           1
                Total number of users:           10

                Current number of DSNs:           0
                Total number of DSNs:            20

                Current number of user/DSN relationship segments: 1
                Total number of user/DSN relationship segments: 40

                Current number of user/FLS segments: 0
                Total number of user/FLS segments:           20

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10---PF11---PF12
      HELP  ---- MENU  ----  ----  ----  ----  ----  ----  ----  ----  ----
    
```

The display includes the current and maximum table sizes. For instance, in the example above, the User Table has space for 10 users, but there is currently only 1 user in the table.

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SECTION VI

INTERNAL APPLICATION SECURITY FEATURES (STRNAT AND STRASM)

VI.1 STRNAT Calling Parameters

A description of the function of STRNAT and an example of STRNAT usage are presented in **Section VII - Internal Application Security Features (STRNAT and STRASM)** in the *Administrator Guide*.

The calling parameters for the STRNAT interface are illustrated in the following NATURAL DEFINE DATA code:

```
DEFINE DATA
  LOCAL
  01 ENTITY (A44) /* DSN TO BE CHECKED
  01 ACCESS-TYPE (A1) /* R=READ, U=UPDATE
  01 SSF-CLASS (A8) /* VALID SSF CLASS
  01 ACCESS-ALLOWED (L) /* ACCESS ALLOWED
  01 COMMUNICATION-OK (L) /* DATABASE ACTIVE
  01 OTHER (A50) /* OTHER PARAMETERS
  01 REDEFINE OTHER
    02 MESSAGE (A25)
    02 LOG-VIOL (A1)
```

The calling sequence for STRNAT is:

```
CALLNAT 'STRNAT' USING
  ENTITY
  ACCESS-TYPE
  SSF-CLASS
  ACCESS-ALLOWED
  COMMUNICATION-OK
  OTHER
```

VI.2 STRASM Calling Parameters

A description of the function of STRASM and an example of STRASM usage are presented in **Section VII - Internal Application Security Features (STRNAT and STRASM)** in the **Administrator Guide**.

The calling parameters for the STRASM interface are illustrated in the following COBOL code:

```
01  ENTITY                PIC X(44).
01  ACCESS-TYPE           PIC X.
01  SSF-CLASS             PIC X(8).
01  ACCESS-ALLOWED       PIC X.
01  COMMUNICATION-OK     PIC X.
01  OTHER.
    02  MESSAGE           PIC X(25).
    02  LOG-VIOL          PIC X.

ENTITY                DSN TO BE CHECKED
ACCESS-TYPE           R=READ, U=UPDATE
SSF-CLASS             VALID SSF CLASS
ACCESS-ALLOWED       ACCESS ALLOWED ('Y' or 'N')
COMMUNICATION-OK     DATABASE ACTIVE ('Y' or 'N')
OTHER                 ERROR MESSAGE, LOG VIOLATION
                     INDICATOR ('Y' OR 'N')
```

The calling sequence for STRASM is:

```
CALL 'STRASM' USING ENTITY, ACCESS-TYPE, SSF-CLASS,
ACCESS-ALLOWED, COMMUNICATION-OK, OTHER.
```


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