DSF* - Delta Save Facility Messages

This section lists and describes all messages that can occur when operating the Adabas Delta Save Facility.

For messages displayed on the operator console, each line begins with the message number followed by the database ID. For messages returned in the job protocol, the message number occurs only once and the database ID is not displayed.

The following message groups are described:

- Nucleus-Related Console Messages (DSF001 - DSF029, DSF02A-D)

- Utility-Related Job Protocol Messages for ADARES and ADASAV (DSF030 - DSF099)

Nucleus-Related Console Messages (DSF001 - DSF029, DSF02A-D)

This section lists and describes all messages displayed by the Delta Save Facility during an Adabas nucleus session. These messages all appear on the operator console.

Overview of Messages

```
DSF001 | DSF002 | DSF003 | DSF004 | DSF005 | DSF006 | DSF007 | DSF008 |
DSF011 | DSF012 | DSF013 | DSF014 | DSF015 | DSF016 | DSF017 | DSF018 |
DSF019 | DSF020 | DSF021 | DSF022 | DSF023 | DSF024 | DSF025 | DSF026 |
DSF027 | DSF028 | DSF029 | DSF02A | DSF02C | DSF02D
```

DSF001	**Running with Delta Save Facility**
Explanation	The nucleus has been started with ADARUN parameter DSF=YES. Delta Save functions can be performed in this nucleus session.

DSF002	**The DSF logging area is not installed**
Explanation	This is a Delta Save Facility status message. Delta save operations require a Delta Save logging (DLOG) area, which must be created.
Action	To run with Delta Save, use the Adabas Online System Install DSF function to define the logging area.

DSF003	**DSF logging is disabled**
Explanation	This is a Delta Save Facility status message. Delta save operations are not possible.

DSF004   **DSF logging is enabled**

Explanation   This is a Delta Save Facility status message. Delta save operations are possible in this status.

DSF005   *count* **DLOG area blocks out of** *total* **used (*nn*%)**
                   Pending DLOG area overflow; perform Delta Save operation

Explanation   This message indicates how much of the Delta Save logging (DLOG) area is being used. The second line of the message is only printed if the DLOG area usage is 90 percent or more; that is, nearly full. If the area overflows, Delta Save operations will no longer be possible.

Action   If DLOG area overflow is pending, perform a Delta Save operation before the area overflows.

DSF006   **DSF logging area not initialized**
                   Reinstall the DLOG area

Explanation   Initialization of the Delta Save logging (DLOG) area was interrupted. The DLOG area must be installed again.

Action   Remove the DLOG area and install it again.

DSF007   **DSF logging area not initialized**
                   DSF logging not enabled at end of save

Explanation   Initialization of the Delta Save logging (DLOG) area was interrupted. An online full save operation was completed but Delta Save logging was not enabled at the end of the save. Delta save operations are still not possible.

Action   Remove the DLOG area and install it again. Perform another full save operation.

DSF008   **I/Os initiated by Delta Save Facility:**
                   read-count **reads,** *write-count* **writes**

Explanation   This message, which is printed during shutdown of the Adabas nucleus, indicates the number of I/O operations initiated by Delta Save during the current nucleus session.

DSF011   **Online full save operation completed**

Explanation   Unless this message is displayed, an online full save operation with the Delta Save
                    Facility is not successful, even though ADASAV may have already closed the output
                    save data set.

Action   The Delta Save logging area is reset. If Delta Save logging was disabled, it will be
                    enabled.

DSF012   **Online Delta Save operation completed**

Explanation   Unless this message is displayed, an online Delta Save operation is not successful, even
                    though ADASAV may have already closed the output save data set.

Action   The Delta Save logging area is reset.

DSF013   **Delta Save ID = *fsnum* / *dsnum* / *date-time***

Explanation   This message follows messages DSF005, DSF011, or DSF012. It displays the Delta
                    Save identification of the most recent completed full or Delta Save operation. *fsnum* is
                    the full save number, and *dsnum* is the number of the Delta Save operation.

DSF014   **DSF login has been enabled**

Explanation   This message follows messages DSF011 and DSF013 if Delta Save logging was
                    previously disabled. It was enabled at the end of the operation. Delta save operations
                    are now possible.

DSF015   **Disable DSF requested by AOS command**

Explanation   A Disable DSF command was issued by Adabas Online System.

Action   Delta Save logging will be disabled.

DSF016   **DSF logging has been disabled**

Explanation   The reason for this follows from a preceding message. Delta save operations are no
                    longer possible.

Action   Perform a full save operation before retrying a Delta Save operation.

DSF017   **Initializing the DSF logging area**

Explanation   An Install DSF or Change DLOG Area command has been issued through Adabas
Online System.

Action   The Delta Save logging area is now being initialized. Message DSF018 indicates that
initialization is complete.

DSF018   **The DSF logging area has been {installed | changed}**

Explanation   An Install DSF or Change DLOG Area command was completed.

DSF019   **The DSF logging area has been removed**

Explanation   A Remove DSF command was performed, or the nucleus was started with DSF=NO
and has removed the Delta Save logging area.

DSF020   **DSF logging area overflow**

Explanation   The volume of changes made to the database exceeded the capacity of the Delta Save
logging (DLOG) area. The DLOG area is full. No more Delta Save operations are
possible.

Delta Save logging will be disabled.

Action   Perform a full save operation before retrying a Delta Save operation. Increase the
DLOG area or the frequency of Delta Save operations in order to avoid future DLOG
area overflow.

DSF021   **I/O error {reading | writing } DLOG RABN** *rabn*

Explanation   An I/O error occurred within the Delta Save logging (DLOG) area on the specified
Associator RABN.

If Delta Save logging is enabled, it will be disabled.

Action   Determine the cause of the I/O error and eliminate it. Remove the DLOG area and
install it again.

DSF022   **Fatal I/O error {reading | writing} DLOG header RABN** *rabn*

Explanation   An I/O error occurred on the first block (the specified RABN) of the Delta Save logging
(DLOG) area.

⚠ **Warning:**
Warning: Do not try to execute a Delta Save operation
if this error occurs. Even though the Delta Save may
end successfully, the output may be invalid.

The Delta Save Facility terminates the nucleus abnormally.

Action   Determine the cause of the I/O error and eliminate it. Remove the DLOG area and
install it again.

DSF023   **DLOG area header RABN** *rabn* **bad (# *rr*)**
Reinstall DLOG area or
DLOG area detail RABN *rabn* **bad (# *rr* at +*xxxx***
Reinstall DLOG area

Explanation   An inconsistency was detected in the specified block (*rabn*) of the Delta Save logging
(DLOG) area. *rabn* is the Associator block number, *rr* is an internal reason code, *xxxx*
the offset within the block where the error appeared.

If Delta Save logging is enabled, it will be disabled.

Action   Determine the cause of the problem; consult your Software AG technical support
representative if necessary. Remove the DLOG area and install it again.

DSF024   **Inconsistent Delta Save ID in DLOG RABN** *rabn*

Explanation   An inconsistency was detected in the specified block (*rabn*) of the Delta Save logging
(DLOG) area. *rabn* is the Associator block number.

If Delta Save logging is enabled, it will be disabled.

Action   Determine the cause of the problem; consult your Software AG technical support
representative if necessary. Remove the DLOG area and install it again.

DSF025   **DSF logging not disabled because READONLY=YES**

Explanation   An attempt to disable Delta Save logging failed because the nucleus was started with
                    READONLY=YES.

                    Another attempt will be made to disable Delta Save logging in the next nucleus session.

Action   Shut down the nucleus and restart it with READONLY=NO so that Delta Save logging
                    can be disabled.

DSF026   **Unlogged RABN(s) detected:** *type start-rabn end-rabn*

Explanation   An internal cross-check detected that database blocks were written that had not been
                    logged by Delta Save. The type (Asso/Data) and range of RABNs written are displayed.

                    Delta Save logging will be disabled.

Action   This is a serious problem. Contact your Software AG technical support representative.
                    Perform a full save operation before retrying a Delta Save operation.

DSF027   **Insufficient memory (trying to allocate** *count* **bytes)**

Explanation   The Delta Save Facility was not able to obtain sufficient memory for its operation. The
                    number of bytes of memory specified by *count* were requested.

                    The start of the nucleus session is ended.

Action   Increase the region/partition of the nucleus job/task or decrease the memory
                    requirements derived from the nucleus parameters.

DSF028   **DSF version mismatch; reinstall DLOG area**

Explanation   The version of the Delta Save Facility software and the version of the Delta Save
                    logging (DLOG) area are different and incompatible.

                    If Delta Save logging is enabled, it will be disabled.

Action   Remove the DLOG area and install it again.

DSF028   **Converting from DSF *xx* to DSF *yy***

Explanation   The format of the Delta Save logging (DLOG) area is converting from version *xx* to version *yy*. This occurs during conversion of an older Adabas version to a newer one.

                    Depending on the versions of the Delta Save Facility (that is, *xx* and *yy*), Delta Save logging may be disabled if it is enabled.

Action   If Delta Save logging is disabled, perform a full save operation before retrying a new Delta Save operation.

DSF029   **DSF internal error at ADADSFN + *offset* (*reason-code*)**
                    R0-R3 *xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx*
                    R4-R7 *xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx*
                    R8-R11 *xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx*
                    R12-R15 *xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx*

Explanation   An internal error occurred at the specified *offset* in module ADADSFN. *reason-code* is an internal reason code. The register settings at the time of the error are shown.

                    If Delta Save logging is enabled, it will be disabled.

Action   Consult with your Software AG technical support representative to determine the cause of the problem. Perform a full save operation before retrying a Delta Save operation.

DSF02A   **Percentage error in DSF user exit; *nn*% is used**

Explanation   The DSF user exit returned an invalid threshold value (percentage of DLOG area usage at or above which Adabas is to call the exit).

                    Adabas calls the DSF user exit when the usage of the DLOG area is nn% or more.

DSF02C   **Current DLOG block not found in cache, read from disk**

Explanation   The DLOG block currently referenced is not in the coupling facility cache structure and must be read anew from the disk data sets.

DSF02C   **Current DLOG block written to cache**

Explanation   The DLOG block currently referenced is already held in the coupling facility cache structure.

DSF02D	**Write of current DLOG block to cache failed**

Explanation An attempt to write the DLOG block currently referenced from a disk data set to the coupling facility cache structure failed. Probably, the cache structure is full.

Action Enlarge the size of the cache.

Utility-Related Job Protocol Messages for ADARES and ADASAV (DSF030 - DSF099)

The messages in this section are displayed by the Delta Save Facility during ADARES or ADASAV utility execution. They can occur in Adabas utility operations, either as direct utility messages or as the result of utility-related nucleus operation.

Most messages appear in the utility job protocol (DD/DRUCK or SYSLST); others appear in the ADARUN protocol (DD/PRINT, SYS009 or SYSOUT). A few messages appear in the utility job protocol as well as on the operator console; this is indicated in the explanation of these messages.

Note:
Messages begin with the relevant database ID when they are written to the operator console.

Overview of Messages

```
DSF030 | DSF031 | DSF032 | DSF033 | DSF034 | DSF036 | DSF037 | DSF038 |
DSF039 | DSF040 | DSF041 | DSF042 | DSF043 | DSF044 | DSF045 | DSF046 |
DSF047 | DSF048 | DSF049 | DSF050 | DSF051 | DSF052 | DSF053 | DSF054 |
DSF055 | DSF057 | DSF058 | DSF059 | DSF060 | DSF061 | DSF062 | DSF063 |
DSF065 | DSF066 | DSF067 | DSF068 | DSF070 | DSF071 | DSF072 | DSF074 |
DSF075 | DSF076 | DSF079 | DSF080 | DSF081 | DSF082 | DSF083 | DSF084 |
DSF085 | DSF086 | DSF087 | DSF088 | DSF089 | DSF090 | DSF091 | DSF092 |
DSF093 | DSF094 | DSF095 | DSF096 | DSF097 | DSF098 | DSF099
```

DSF030	**DSIM dataset omitted from PLCOPY processing**

Explanation The ADARUN parameter DSF=YES was specified for a PLCOPY execution but no Delta Save images (DSIM) data set was supplied in the job control.

No system action occurs; no online save information is extracted from the protection log.

Action If Delta Save online save and merge operations are to be performed, specify a DSIM data set for the PLCOPY executions.

DSF031   **SYN1 checkpoint encountered on protection log PLOGNUM=*plog-number***
                   BLOCKNUM=*rabn*

Explanation   A SYN1 checkpoint (online save start) was found on the protection log. The protection
                   log number is *plog-number*, the SYN1 block number is *rabn*.

                   The Delta Save Facility starts extracting online save information from the protection
                   log and writing it to the Delta Save images (DSIM) data set.

DSF032   **SYN2 checkpoint encountered on protection log PLOGNUM=*plog-number***
                   BLOCKNUM=*rabn*

Explanation   A SYN2 checkpoint (online save end) was found on the protection log. The protection
                   log number is *plog-number*, the SYN2 block number is *rabn*.

                   The Delta Save Facility stops extracting online save information from the protection
                   log. The Delta Save images (DSIM) data set is marked ready for merge.

DSF033   **SYN1 checkpoint ignored on protection log. PLOG and block numbers different**
                   from parameters checkpoint found has PLOGNUM=*plog-number*,
                   SYN1=*block-number*

Explanation   A SYN1 checkpoint (online save start) was found on the protection log. The protection
                   log number is *plog-number*, the SYN1 block number is *block-number*. These values are
                   different from the PLOGNUM and SYN1 parameters specified for the COPY function.

                   The Delta Save Facility does not start extracting online save information from the
                   protection log. The SYN1 checkpoint is ignored.

DSF033   **SYN1 checkpoint ignored on protection log DSIM dataset already completed**

Explanation   A SYN1 checkpoint (online save start) was found on the protection log but the Delta
                   Save images (DSIM) data set is by now ready for merge.

                   The SYN1 checkpoint is ignored.

DSF033   **SYN1 checkpoint ignored on protection log DSIM dataset status incorrect:**
                   status-code

Explanation   A SYN1 checkpoint (online save start) was found on the protection log but the Delta
                   Save images (DSIM) data set is not in a correct status. The current DSIM status
                   status-code is shown.

                   The SYN1 checkpoint is ignored.

Action   Rebuild the DSIM data set using the ADARES COPY function.

DSF033   **SYN1 checkpoint ignored on protection log online save operation started afterwards**

Explanation   A SYN1 checkpoint (online save start) was found on the protection log but was written before the start of the online save operation associated with the DSIM data set. Therefore, the checkpoint does not indicate the start of the online save operation for which information is to be extracted from the protection log.

The SYN1 checkpoint is ignored.

Action   None. If there is only one SYN1 checkpoint on the protection log to be copied and the message cannot be otherwise explained, check whether the Adabas nucleus and the ADASAV utility that is executing the online save operation were running on different machines or on different divisions of the same machine. If so, ensure that the local times of these two machines or divisions are accurately synchronized.

DSF034   **SYN2 checkpoint ignored on protection log DSIM dataset status incorrect:** *status-code*

Explanation   A SYN2 checkpoint (online save start) was found on the protection log but the previous SYN1 checkpoint was ignored because of the incorrect status of the Delta Save images (DSIM) data set. The current DSIM status *status-code* is shown. See the corresponding DSF033 message.

The SYN2 checkpoint is ignored.

Action   Rebuild the DSIM data set using the ADARES COPY function.

DSF036   **DSIM dataset opened with status:** *status*

Explanation   (printed on the ADARUN protocol) The Delta Save images (DSIM) data set has been opened. Its current status is shown.

DSF037   **DSIM dataset status changed to:** *status*

Explanation   (printed on the ADARUN protocol) The Delta Save images (DSIM) data set status has been changed to the new one shown.

DSF038   **DSIM dataset closed with status:** *status*

Explanation   (printed on the ADARUN protocol) The Delta Save images (DSIM) data set has been closed. Its current status is shown.

DSF039   **DSIM dataset completed DSIM dataset statistics: *nn*% full *asso-count* ASSO block images written *data-count* DATA block images written *ac-count* new AC blocks recorded**

Explanation   The Delta Save images (DSIM) data set has been completed and marked ready for merge. Statistics displayed include

- its percentage of use;

- the number of Asso and Data block images contained in the DSIM data set (block counts do not differentiate several images of the same block); and

- the number of address converter blocks allocated during the associated online save operation and recorded in the DSIM data set.

DSF040   **[*dbid*] Waiting for DSIM dataset**

Explanation   This message, which is printed on the operator console with a *dbid* and on the ADARUN protocol without a *dbid*, indicates that the Delta Save images (DSIM) data set is not yet ready for merge. The DSIMWAIT parameter has been specified to wait for the completion of the DSIM data set.

The Delta Save Facility waits until the DSIM data set is ready for merge, or until the maximum wait time (DSIMWAIT) has been exceeded.

DSF041   **DSF logging area *nn*% full at begin of save**

Explanation   This message indicates how much of the Delta Save logging (DLOG) area is already being used at the beginning of a Delta Save operation.

DSF042   **[*dbid*] {offline | online} {full | delta} save operation completed DSID=*fsnum dsnum date-time***

Explanation   The specified type of save operation was completed successfully. The ID of the Delta Save operation (DSID) is displayed: *fsnum* and *dsnum* are the numbers of the full and Delta Save operation, respectively.

For an offline save operation, this message is also written to the operator console with a *dbid*. For an online save, the Adabas nucleus writes equivalent information in the DSF011-DSF013 messages.

For an offline save operation, the Delta Save logging (DLOG) area is reset. For a full save operation, if Delta Save logging was disabled, it will be enabled

- by ADASAV for an offline save operation; or

- by the nucleus for an online save operation.

DSF043   **[*dbid*] DSF logging enabled by offline full save**

Explanation   This message occurs following message DSF042. Delta Save operations are now possible. Unless this message is displayed, an offline full save operation with the Delta Save Facility is not successful, even though ADASAV may have already closed the output save data set.

This message is also written to the operator console with a *dbid*.

DSF044   **Delta Save statistics: *asso-count* ASSO blocks to be saved *data-count* DATA blocks to be saved**

Explanation   (printed at the beginning of a Delta Save operation) The number of Associator and Data Storage blocks to be saved.

DSF045   **Input {offline | online} {full | data} save tape opened DSID=*fsnum lowdsnum-hidsnum date-time***

Explanation   In a MERGE or RESTORE DELTA operation, an input save data set with the stated Delta Save identification was opened. *fsnum* is the full save number; *lowdsnum* the low Delta Save number, and *hidsnum* the high Delta Save number of the save data set.

DSF045   **Input {offline | online} Delta Save tape opened (concatenated) DSID=*fsnum lowdsnum-hidsnum date-time***

Explanation   In a MERGE or RESTORE DELTA operation, an input Delta Save data set with the stated Delta Save identification was opened. The Delta Save data set was concatenated to another Delta Save data set. *fsnum* is the full save number; *lowdsnum* the low Delta Save number, and *hidsnum* the high Delta Save number of the save data set.

DSF045   **Input online Delta Save tape opened (unloaded DSIM) DSID=*fsnum / dsnum / date-time***

Explanation   In a MERGE or RESTORE DELTA operation, an input online Delta Save data set with the stated Delta Save identification was opened. The Delta Save data set is an unloaded DSIM data set. *fsnum* is the full save number; *dsnum* the Delta Save number of the save data set. If the originating DSIM data set was (re)built from the PLOG using the ADARES COPY function, the DSID is unknown and shown as zeros.

DSF046   **Restored delta without full save input DSID of database =** *fsnum hidsnum*
                  date-time

Explanation   In a delta restore operation without full save input the database has the stated Delta
                  Save identification. The associated full and Delta Save data sets were restored
                  previously. The value *fsnum* denotes the full save number, *hidsnum* is the highest Delta
                  Save number of the save data sets already restored.

DSF047   **[*dbid*] Output offline {full | delta} save tape completed DSID=** *fsnum*
                  lowdsnum-hidsnum date-time

Explanation   In a MERGE operation, the indicated output save data set has been completed. Its Delta
                  Save identification is shown. *fsnum* denotes the full save number. *lowdsnum* is the low
                  Delta Save number and *hidsnum* is the high Delta Save number.

                  This message is also written to the operator console with a *dbid*.

DSF047   **[*dbid*] Output online Delta Save tape completed (unloaded DSIM) DSID=** *fsnum*
                  dsnum date-time

Explanation   In a MERGE operation, an unloaded DSIM Delta Save data set with the Delta Save
                  identification shown has been written. *fsnum* denotes the full save number; *dsnum* is the
                  Delta Save number. If the originating DSIM data set was (re)built from the PLOG using
                  the ADARES COPY function, the DSID is unknown and shown as zeros.

                  This message is also written to the operator console with a *dbid*.

DSF048   **[*dbid*] Restore of {(merged) full | (concatenated) delta } save tape [(s)] completed**
                  restored Delta Save ID= *fsnum lowdsnum-hidsnum / date-time*

Explanation   A phase of a delta restore operation has been completed. One or more save tapes have
                  been restored. Their combined Delta Save identification is shown. A subsequent delta
                  restore operation without full save input may begin with the Delta Save data set that has
                  the next higher Delta Save identification. *fsnum* is the full save number. The value
                  lowdsnum is the low Delta Save number, and *hidsnum* is the high Delta Save number.

                  This message is also written to the operator console with a *dbid*.

DSF049   **DSIM dataset statistics:** *asso-count* **ASSO blocks present** *data-count* **DATA blocks**
                  present

Explanation   This message is printed when the Delta Save images (DSIM) data set is examined and
                  matches one of the online save input data sets. It is also printed when the DSIM data set
                  is to be unloaded. The DSIM data set contains *asso-count* different Associator blocks
                  and *data-count* different Data blocks to take part in the operation.

DSF050   **DSF logging are not installed**

Explanation Without a Delta Save logging (DLOG) area installed and Delta Save logging enabled, it is not possible to perform Delta Save operations.

The Delta Save operation is abnormally terminated.

Action   Use Adabas Online System to install a DLOG area and perform a full save operation to enable Delta Save logging.

DSF051   **DSF logging not enabled**

Explanation   Delta Save logging must be enabled before Delta Save operations are possible.

The attempted Delta Save operation is abnormally terminated.

Action   Perform a full save operation to enable Delta Save logging.

DSF052   **DSIM dataset omitted from online save operation**

Explanation When running with Delta Save (ADARUN parameter DSF=YES is specified), a Delta Save images (DSIM) data set must be provided for an online full or Delta Save operation.

The online save operation is abnormally terminated.

Action   Supply a DSIM data set for the online save operation or perform the save operation offline.

DSF053   **DSIM dataset not ready for save**

Explanation The Delta Save images (DSIM) data set must be "not in use" to be eligible for a Delta Save Facility online save operation. The current status of the DSIM data set is different, as shown.

The online save operation is abnormally terminated.

Action   Determine whether the DSIM data set is required for merging a previously created online save tape. If not, reset the DSIM data set (using ADAFRM function DSIMRESET) and rerun the save operation.

DSF054   **Online save failed at ET synchronization**

Explanation   Execution of ET-synchronization at the end of the online save operation was not
                  successful. The Delta Save logging (DLOG) area was not reset. Delta Save logging
                  remains disabled if it was disabled before, or enabled if it was enabled before. A
                  subsequent ADASAV error message indicates the nucleus response code for the failed
                  ET-synchronization.

                  Although it has already been closed, the created save data set must not be used for later
                  merge or restore operations.

                  The online save operation is abnormally terminated.

Action   Eliminate the cause of the error and rerun the online save operation.

DSF055   **Online save successful in spite of nucleus response**

Explanation   Execution of ET-synchronization at the end of the online save operation was successful.
                  The Delta Save logging (DLOG) area was reset. Afterwards, an error occurred and
                  caused a nucleus response code to be returned to ADASAV. A subsequent ADASAV
                  error message indicates the response code returned by the nucleus. If Delta Save
                  logging was disabled before, it has been enabled.

                  ADASAV prints an error message but continues operation. When terminating normally,
                  it will set condition code 4.

Action   The created save tape is valid and may not be dropped if Delta Save operations are to
                  follow later on. Otherwise the succeeding Delta Save data sets cannot be merged and/or
                  restored.

DSF057   **Unloading DSIM dataset**

Explanation   Only the DSIM data set has been specified for processing. No full or Delta Save input
                  data set has been supplied.

Action   ADASAV unloads the DSIM data set to the sequential output save data set and frees the
                  DSIM data set for the next online save operation.

DSF058   **[*dbid*] Full save tape restored-DSF logging enabled restored Delta Save ID =** *fsnum* **/ *lowdsnum* - *hidsnum* / *date-time***

Explanation   A full save tape created by the Delta Save Facility was restored. The Delta Save identification of the restored database is shown. *fsnum* is the full save number; *lowdsnum* is the low delta save number; and *hidsnum* is the high Delta Save number of the save data sets restored.

This message is also written to the operator console with a *dbid*.

Delta Save logging was enabled in the restored database.

Action   The next save operation can be a Delta Save. Its result can be merged with the full save that was input to the restore operation.

DSF059   **Removing DSF logging area (DSF=NO specified)**

Explanation   A full save created by the Delta Save Facility is to be restored but the ADARUN parameter DSF=NO has been specified.

The Delta Save logging (DLOG) area will be removed. The restore operation continues normally.

Action   None required. If the restored database is to be run with the Delta Save Facility, install the DLOG area again.

DSF060   **Insufficient inputs for merge or restore delta**

Explanation   The input data set requirements for

- functions MERGE and RESTORE DELTA: at least one full or Delta Save data set must be supplied.

- unloading the DSIM data set (function MERGE): only the DSIM data set must be supplied. No full or Delta Save input is allowed.

The MERGE or RESTORE DELTA operation is abnormally terminated.

Action   Supply suitable input data sets. If the function is RESTORE DELTA, rerun the job with RESTORE instead of RESTORE DELTA.

DSF061   **Input save tape coming from wrong database**

Explanation   In a merge or delta restore operation, the database ID of an input save data set is different from that specified in the ADARUN DBID parameter. Both database IDs are shown.

The merge or delta restore operation is abnormally terminated.

Action   Supply the proper save tape or correct the ADARUN DBID parameter.

DSF062   **Invalid specification of input data sets in JCL/JCS**

Explanation   In a merge or delta restore operation, the input save data sets are not specified correctly:

- a Delta Save data set is supplied instead of a full save data set;

- a full save data set is supplied instead of a Delta Save data set;

- a gap exists in the DD-names/link-names for the Delta Save data sets;

- a save data set was not created by a save operation with the Delta Save Facility;

- a save data set was not created at the current Adabas level;

- the input data set does not contain a save data set header record;

- the input data set was not created by ADASAV.

The merge or delta restore operation is abnormally terminated. The DD-name/link-name of the offending input data set is displayed.

Action   Supply the proper input save tapes and rerun the job.

DSF063   **DSIM dataset missing or in wrong status**

Explanation   The original or unloaded Delta Save images (DSIM) data set is required for processing an online save data set in a MERGE or RESTORE DELTA operation, but it either

- has not been specified;

- has an incorrect status; or

- has been specified in the wrong logical sequence.

The MERGE or RESTORE DELTA operation is abnormally terminated.

Action   Provide the correct DSIM data set; rebuild it if necessary. Rerun the job.

DSF065   **Input full and Delta Save tapes not fitting together**

Explanation   The specified input full and Delta Save data sets do not cover a continuous sequence of save operations. Their Delta Save identifications (DSIDs) do not match, because one or more of the following is true:

- the full save numbers are not the same;

- the sequence of delta save numbers is not ascending without gaps (overlapping delta save numbers are allowed);

- in the sequence of full and Delta Save inputs, unloaded DSIM data sets are not specified directly after the associated online save.

- the dates and times are not ascending.

For a RESTORE DELTA operation without full save input, the DSID of the database takes part in this matching of DSIDs. The DSIDs matched have been displayed in previous messages.

The MERGE or RESTORE DELTA operation is abnormally terminated.

Action   Provide the correct input save data sets in the correct sequence. Rerun the job.

DSF066   **DSIM dataset does not match online save tape**

Explanation   A provided original or unloaded Delta Save images (DSIM) data set is not the one associated with the specified input online save data set. It does not contain the block images written during the online save operation that created the save data set.

The DSIM data set's full save number, Delta Save number, and database ID are shown. Further, the protection log number and protection log block number of the save operation's SYN1 checkpoint are displayed for both the DSIM data set and the online save data set. For associated online save and DSIM data sets, these SYN1-related numbers must be identical.

The MERGE or RESTORE operation is abnormally terminated.

Action   Provide the right DSIM data set and/or input save data sets. Rerun the job.

DSF067   **Mismatching merge/restore pattern**

Explanation   The delta merge/restore pattern specified in the PATTERN parameter does not match the input full and Delta Save data sets supplied.

The delta merge or delta restore operation is abnormally terminated.

Action   Check and correct the PATTERN parameter and the job control statements. Rerun the job.

DSF068   **Invalid save data set concatenation**

Explanation   Another data set was concatenated to one of the input data sets (the
DD-name/link-name of the input data set is shown). Input save data set concatenation is
allowed only if

- the function is RESTORE DELTA (not MERGE); and

- save data sets are concatenated to the last input save in logical sequence.

The MERGE or RESTORE DELTA operation is abnormally terminated.

Action   Correct the specification of input data sets and rerun the job.

DSF070   **DSIM dataset smaller than specified**

Explanation   An I/O error occurred when Delta Save Facility tried to read the last block of the Delta
Save images (DSIM) data set. It is probably smaller than specified.

Building the DSIM data set is discontinued. The PLCOPY or COPY function will
continue processing. When terminating normally, the function will set condition code 4.
If no output data set was specified for the COPY function, a subsequent ADARES error
abnormally terminates the function.

Action   Correct the DSIMSIZE parameter or supply a correct DSIM data set. If the function
was PLCOPY, rebuild the DSIM data set using the COPY function. Otherwise, rerun
the COPY function.

DSF071   **Protection log and DSIM dataset do not match**

Explanation   The protection log and the Delta Save images (DSIM) data set belong to different
databases. The two database IDs are shown.

No online save information will be extracted from the protection log during this
ADARES execution. Building the DSIM data set is discontinued. The PLCOPY or
COPY function will continue processing. When terminating normally, the function will
set condition code 4. If no output data set was specified for the COPY function, a
subsequent ADARES error abnormally terminates the function.

Action   Provide the correct protection log or rebuild the DSIM data set. If the function was
PLCOPY, rebuild the DSIM data set using the COPY function. Otherwise rerun the
COPY function.

DSF072   **Cannot locate SYN1 checkpoint on protection log**

Explanation The specified SYN1 checkpoint on the protection log was not found. The specified
SYN1 position and the current position on the protection log are shown.

No online save information will be extracted from the protection log during this
ADARES execution. Building the DSIM data set is discontinued. The COPY function
will continue processing. When terminating normally, the function will set condition
code 4. If no output data set was specified, a subsequent ADARES error abnormally
terminates the function.

Action   Supply matching protection log and parameter inputs, then rerun the job.

DSF074   **Discontinuity in protection log processing**

Explanation The first block of the protection log to be processed is not continuous with the last
block processed before. Extracting block images for building the Delta Save images
(DSIM) data set must proceed in sequence. The current position on the protection log
and the last position of the previous PLCOPY execution are shown.

No online save information will be extracted from the protection log during this
ADARES execution. Building the DSIM data set is discontinued. The PLCOPY
function will continue processing. When terminating normally, the function will set
condition code 4.

Action   Rebuild the DSIM data set using the COPY function.

DSF075   **DSIM dataset overflow**

Explanation The Delta Save images (DSIM) data set is not large enough to hold all block images
written during the accompanying online save operation. This DSIM data set cannot be
used for merging.

The DSIM data set is set to an error status. The PLCOPY function will continue
processing. When terminating normally, the function will set condition code 4.

Action   Enlarge the DSIM data set and rebuild it using the COPY function before performing
the merge operation.

DSF076   **DSIM dataset overflow**

Explanation   The Delta Save images (DSIM) data set is not large enough to hold all block images
written during the accompanying online save operation. This DSIM data set cannot be
used for merging.

The DSIM data set is set to an error status. The COPY function will continue
processing. When terminating normally, the function will set condition code 4. If no
sequential output data set was specified, a subsequent ADARES error abnormally
terminates the function.

Action   Augment the DSIM data set and run the COPY function again before performing the
merge operation.

DSF079   **Illegal multiple use of DSIM dataset detected**

Explanation   The Delta Save images (DSIM) data set was modified by another utility while

● the ADARES PLCOPY or COPY function was writing online save information
extracted from the protection log to it; or

● the ADASAV MERGE function was reading online save information from it.

The DSIM data set is inconsistent.

In ADASAV, the MERGE function is abnormally terminated. In ADARES, the DSIM
data set is set to an error status. The PLCOPY or COPY function will continue
processing. When terminating normally, the function will set condition code 4. If no
output data set was specified for the COPY function, a subsequent ADARES error
abnormally terminates the function.

Action   Avoid parallel usage of the DSIM data set in the future. If the function was PLCOPY,
rebuild the DSIM data set using the COPY function. If the function was COPY, rerun
the COPY function. If the function was MERGE, rebuild the DSIM data set using the
COPY function and rerun the MERGE function.

DSF080   **Error occurred during execution of read DLOG *ior-error-text* ASSO RABN:**
***dec-rabn* (*hex-rabn*)**

Explanation   An I/O error occurred when the Delta Save Facility was trying to read a block from the
Delta Save logging (DLOG) area. An ADAIOR error text is given. The affected
Associator RABN is shown in decimal *dec-rabn* and hexadecimal *hex-rabn* formats.

The save function is abnormally terminated.

Action   Determine the cause of the I/O error and eliminate it. Remove the DLOG area and
install it again. Perform a full save operation.

DSF081   **Error occurred during execution of write DLOG** *ior-error-text* **ASSO RABN:**
                    dec-rabn (*hex-rabn*)

Explanation   An I/O error occurred when the Delta Save Facility was trying to write a block to the
                    Delta Save logging (DLOG) area. An ADAIOR error text is given. The affected
                    Associator RABN is shown in decimal *dec-rabn* and hexadecimal *hex-rabn* formats.

                    The save function is abnormally terminated.

Action   Determine the cause of the I/O error and eliminate it. Remove the DLOG area and
                    install it again. Perform a full save operation.

DSF082   **Error occurred during execution of open DSIM** *ior-error-text*

Explanation   An error occurred when the Delta Save Facility was trying to open the Delta Save
                    images (DSIM) data set. An ADAIOR error text is given. The job control is probably
                    incorrect, or the DSIMDEV parameter is missing or wrong.

                    In ADASAV, the function is abnormally terminated. In ADARES, no online save
                    information will be extracted from the protection log during this ADARES execution.
                    Building the DSIM data set is discontinued. The PLCOPY or COPY function will
                    continue processing. When terminating normally, the function will set condition code 4.
                    If no output data set was specified for the COPY function, a subsequent ADARES error
                    abnormally terminates the function.

Action   Check and correct the job control and/or the DSIMDEV parameter. If the function was
                    ADARES PLCOPY, rebuild the DSIM data set using the ADARES COPY function.
                    Otherwise rerun the job.

DSF083   **Error occurred during execution of read DSIM** *ior-error-text* **RABN:** *dec-rabn*
                    (*hex-rabn*)

Explanation   An I/O error occurred when the Delta Save Facility was trying to read a block from the
                    Delta Save images (DSIM) data set. An ADAIOR error text is given. The affected
                    DSIM RABN is shown in decimal *dec-rabn* and hexadecimal *hex-rabn* formats.

                    In ADASAV, the function is abnormally terminated. In ADARES, no more online save
                    information will be extracted from the protection log during this ADARES execution.
                    Building the DSIM data set is discontinued. The PLCOPY or COPY function will
                    continue processing. When terminating normally, the function will set condition code 4.
                    If no output data set was specified for the COPY function, a subsequent ADARES error
                    abnormally terminates the function.

Action   Determine the cause of the I/O error and eliminate it. Rebuild the DSIM data set.

DSF084   **Error occurred during execution of write DSIM** *ior-error-text* **RABN:** *dec-rabn* (*hex-rabn*)

Explanation   An I/O error occurred when the Delta Save Facility was trying to write a block to the Delta Save images (DSIM) data set. An ADAIOR error text is given. The affected DSIM RABN is shown in decimal *dec-rabn* and hexadecimal *hex-rabn* formats.

In ADASAV, the function is abnormally terminated. In ADARES, no more online save information will be extracted from the protection log during this ADARES execution. Building the DSIM data set is discontinued. The PLCOPY or COPY function will continue processing. When terminating normally, the function will set condition code 4. If no output data set was specified for the COPY function, a subsequent ADARES error abnormally terminates the function.

Action   Determine the cause of the I/O error and eliminate it. Rebuild the DSIM data set.

DSF085   **Error occurred during execution of close DSIM** *ior-error-text*

Explanation   An error occurred when the Delta Save Facility was trying to close the Delta Save images (DSIM) data set. An ADAIOR error text is given.

In ADASAV, the function is abnormally terminated. In ADARES, the PLCOPY or COPY function will continue processing. When terminating normally, the function will set condition code 4. If no output data set was specified for the COPY function, a subsequent ADARES error abnormally terminates the function.

Action   Determine the cause of the error and eliminate it.

DSF086   **Error occurred while executing open input save** *dd-name ior-error-text*

Explanation   An error occurred when the Delta Save Facility was trying to open an input save data set. The DD/link name of the data set and an ADAIOR error text are given. A job control statement is probably incorrect.

The function is abnormally terminated.

Action   Determine the cause of the error and eliminate it. Rerun the job.

DSF087   **Error occurred while executing read input save** *dd-name ior-error-text*

Explanation   An error occurred when the Delta Save Facility was trying to read from an input save data set. The DD-name/link name of the data set and an ADAIOR error text are given.

The function is abnormally terminated.

Action   Determine the cause of the error and eliminate it. If the save data set turns out to be readable, rerun the job.

DSF088   **Error occurred while executing close input save *dd-name ior-error-text***

Explanation   An error occurred when the Delta Save Facility was trying to close an input save data set. The DD/link name of the data set and an ADAIOR error text are displayed.

                    The function terminates abnormally.

Action   Determine the cause of the error and eliminate it.

DSF089   **GETMAIN error - not enough virtual memory**

Explanation   Sufficient virtual memory could not be obtained for Delta Save Facility processing. The number of bytes requested and obtained are shown in decimal and hex format.

                    In ADASAV, the function is abnormally terminated. In ADARES, building the DSIM data set is discontinued. The PLCOPY or COPY function will continue processing. When terminating normally, the function will set condition code 4. If no output data set was specified for the COPY function, a subsequent ADARES error abnormally terminates the function.

Action   Increase the partition/region of the job. If the function was ADARES PLCOPY, rebuild the DSIM data set using the ADARES COPY function. Otherwise rerun the job.

DSF090   **Incorrect database version**

Explanation   The Delta Save Facility requires a database at Adabas version 5.3.3 or above. The requested function cannot be executed. The internal version indicator found in the GCBs is shown in hexadecimal format.

                    The function is abnormally terminated.

Action   To use the Delta Save Facility, convert the database to Adabas version 5.3.3 or above.

DSF091   **Incorrect version of DLOG area**

Explanation   The Delta Save logging (DLOG) area was installed by another, incompatible version of the Delta Save Facility. The internal version indicator and the version of the Delta Save Facility software are displayed in hexadecimal format.

                    The function is abnormally terminated.

Action   Use a compatible version of the Delta Save Facility software, or remove the DLOG area and install it again.

DSF092   **Incorrect version of DSIM dataset**

Explanation   The Delta Save images (DSIM) data set was created by another, incompatible version
                    of the Delta Save Facility. The internal version indicator and the version of the Delta
                    Save Facility software are displayed in hexadecimal format.

                    In ADASAV, the function is abnormally terminated. In ADARES, building the DSIM
                    data set is discontinued. The PLCOPY or COPY function will continue processing.
                    When terminating normally, the function will set condition code 4. If no output data set
                    was specified for the COPY function, a subsequent ADARES error abnormally
                    terminates the function.

Action   Use a compatible version of the Delta Save Facility software, or rebuild the DSIM data
                    set using the ADARES COPY function.

DSF093   **Error during input save tape processing**

Explanation   An error was detected while processing a record from an input save data set. Probably
                    the save data set is invalid. The DD/link name of the save data set, an internal reason
                    code, and the serial block number in decimal and hexadecimal are shown. The
                    requested function cannot be completed.

                    The function is abnormally terminated.

Action   Check for invalid concatenation of save data sets and correct it, if found. Consult your
                    Software AG technical support representative, if necessary.

DSF094   **Error during input save tape processing**

Explanation   Either some important control information is not consistent for all records of an input
                    save data set, or the serial block numbers within an input save data set are not in
                    ascending order, increasing by one. Probably the save data set is invalid. The DD/link
                    name of the save data set is shown.

                    The function cannot be completed, and is abnormally terminated.

Action   Check for invalid concatenation of save data sets and correct it, if found. Consult your
                    Software AG technical support representative, if necessary.

DSF095   **Internal error during protection log processing**

Explanation   An error was detected in a protection log block processed by the Delta Save Facility. The protection log number, the block number and offset within the block, and an internal reason code are displayed in decimal format, the block number and offset also in hex format. A DSIM data set cannot be built.

Building the DSIM data set is discontinued. The PLCOPY or COPY function will continue processing. When terminating normally, the function will set condition code 4. If no output data set was specified for the COPY function, a subsequent ADARES error abnormally terminates the function.

Action   Check for and correct any mistake in the specification of protection log data sets. Consult your Software AG technical support representative, if necessary.

DSF096   **Damaged DLOG area block detected**

Explanation   An inconsistent block was encountered in the Delta Save logging (DLOG) area. The bad RABN is shown in decimal and hex format, plus an internal reason code. The Delta Save operation cannot be completed.

The Delta Save operation is abnormally terminated.

Action   Consult your Software AG technical support representative to determine the cause of the error. Disable Delta Save logging, remove the DLOG area, and install it again. Perform a full save operation.

DSF097   **Damaged DSIM block detected**

Explanation   An inconsistent block was encountered in the Delta Save images (DSIM) data set. The bad RABN is shown in decimal and hex format, plus an internal reason code. The requested Delta Save Facility function cannot be completed.

In ADASAV, the function is abnormally terminated. In ADARES, building the DSIM data set is discontinued. The PLCOPY or COPY function will continue processing. When terminating normally, the function will set condition code 4. If no output data set was specified for the COPY function, a subsequent ADARES error abnormally terminates the function.

Action   Consult your Software AG technical support representative to determine the cause of the error. Rebuild the DSIM data set using the ADARES COPY function.

DSF098   **Damaged DLOG extension block detected**

Explanation   An inconsistent block was encountered in a file-specific extension of the Delta Save
                    logging (DLOG) area. The file number, the RABN of the inconsistent block, and an
                    internal reason code are shown. A Delta Save operation is not possible.

                    The Delta Save operation is abnormally terminated.

Action   Consult your Software AG technical support representative to determine the cause of
                    the error. Save and restore or reorder the file in question. Then rerun the Delta Save
                    operation.

DSF099   **DSF internal error at *module* + *offset* trace: *trace-info***
                    R0-R3 *xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx*
                    R4-R7 *xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx*
                    R8-R11 *xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx*
                    R12-R15 *xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx*

Explanation   An internal error occurred in the indicated module at the specified offset. Some internal
                    trace information as well as the register settings at the time of the error are shown. The
                    requested Delta Save Facility function cannot be completed.

                    In ADASAV, the function is abnormally terminated. In ADARES, building the DSIM
                    data set is discontinued. The PLCOPY or COPY function will continue processing.
                    When terminating normally, the function will set condition code 4. If no output data set
                    was specified for the COPY function, a subsequent ADARES error abnormally
                    terminates the function.

Action   Consult your Software AG technical support representative to determine the cause of
                    the error.