Report Descriptions

This chapter describes the possible reports produced by the ADAWRK utility.

All reports are affected by the settings of the filter parameters CMID, ETID, FILES, and USERID. When these parameters are specified in an ADAWRK run, ADAWRK will only process records and produce reports from Work part 1 autorestart area records that meet the criteria specified by the filter parameters.

- Environment Report

- Summary Report

- File Report

- Transaction Report

- Checkpoint Record Reporting

Environment Report

Here is a sample of the Environment report. This page is always printed -- regardless of the ADAWRK parameters specified. This report identifies the ADAWRK parameters used to produce the report as well as the Work data sets used for the report.

```
A D A W R K   V8.1  SM8   DBID = 15002  Started          2007-05-24  18:57:14



 Parameters:
 -----------


 ADAWRK NOPPT
 ADAWRK FORCE=YES
 ADAWRK FILES=1-4,5,10
 ADAWRK TRANSACTIONS=FULL
 ADAWRK REPORTFILE=YES




 Work datasets provided in JCL.
 Database ID on Work is 15,002.

 The following Work datasets were used:
    -    ADABAS.ADAWRK.TC1.WORK              NUCID:     0
```

Summary Report

The Summary report is triggered by the ADAWRK SUMMARY parameter. When SUMMARY=YES (the default) is specified, a Summary report is produced that provides an overview of the data in the autorestart area of Work part 1. This report consists of a number of sections, as follows:

- An overview of what was processed and any environmental information that can be gleaned from the provided input

- An overview of the files that will be modified as part of an autorestart and some details about what parts of the file may be affected

- The total number of system checkpoint records in the autorestart area of Work part 1 (checkpoints with a name starting with the letters "SYN")

- The total number of user checkpoint records in the autorestart area of Work part 1

- The total number of ET transactions that may need to be redone (including a subtotal of those that were backed out)

- For ET transactions that may need to be redone, the number of insert, update, and delete operations that were performed on the file

- For ET transactions that may need to be redone, the total number of data modifications to the file (total of inserts, updates, and deletes), the total number of data record updates, the total number of update commands with associated descriptor value table (inverted list) records, and the total number of descriptor value table (inverted list) updates

- The total number of incomplete transactions for the file

- For incomplete transactions, the number of insert, update, and delete operations that were performed on the file

- For incomplete transactions, the total number of data modifications to the file (total of inserts, updates, and deletes), the total number of data record updates, the total number of update commands with associated descriptor value table (inverted list) records, and the total number of descriptor value table (inverted list) updates

The following is a sample of a Summary report produced by ADAWRK:

```
***************************************************************************
*                   A D A W R K   Summary Report                         *
***************************************************************************


Work Dataset: ADABAS.ADAWRK.TC1.WORK                    NUCID:     0

I Item                     I Work RABN  I     Blocks I Date/Time           I
I-------------------------I------------I------------I--------------------I
I LP value                 I            I      1,000 I                    I
I Last written block       I          6 I            I 2007-05-08 12:30:54 I
I Autobackout endpoint     I          4 I          2 I 2007-05-08 12:30:53 I
I Backward repair endpoint I          5 I          1 I                    I
I-------------------------I------------I------------I--------------------I

Summary of potential inconsistencies:
-----------------------------------
"Index Structure"....: Index structures may be inconsistent.
"Index Values".......: Index values may be incorrect.
"Address Converter"..: Address converter may be incorrect.
"Data Contents"......: Data contents may be incorrect according to application.

 I File I   Index   I  Index    I Address I   Data    I
```

```
I Number I Structure I  Values   I Converter I Contents  I
I--------I----------I----------I----------I----------I
I      1 I          I          I          I          I
I      2 I          I          I          I          I
I      3 I          I          I          I          I
I      4 I          I          I          I          I
I      5 I          I          I          I          I
I--------I----------I----------I----------I----------I
I     10 I          I          I          I          I
I--------I----------I----------I----------I----------I
```

```
The following checkpoints were encountered in the area of interest:

Total number of system checkpoints:       0


Completed transactions that will be re-done during autorestart processing:
        Total transactions...........................:       0
            Backed out.......................:       0
        Total modification commands..................:       0
            Inserts (N1)....................:       0
            Updates (A1)....................:       0
            Deletes (E1)....................:       0
        Total data records modified..................:       0
        Total modifications with descriptor updates..:       0
        Total descriptor updates.....................:       0

Incomplete transactions that must be backed out during autorestart processing:
         Total transactions..........................:       0
        Total modification commands..................:       0
            Inserts (N1)....................:       0
            Updates (A1)....................:       0
            Deletes (E1)....................:       0
        Total data records modified..................:       0
        Total modifications with descriptor updates..:       0
        Total descriptor updates.....................:       0
```

File Report

The File report is triggered by the ADAWRK REPORTFILE parameter. When REPORTFILE=YES is specified, a File report is produced that breaks down the data in the autorestart area of Work part 1 by file. For each file, the following information can be provided in a File report:

- Information similar to that provided in the Summary report

- The total number of ET transactions that may need to be redone (including a subtotal of those that were backed out)

- For ET transactions that may need to be redone, the number of insert, update, and delete operations that were performed on the file

- For ET transactions that may need to be redone, the total number of data modifications to the file (total of inserts, updates, and deletes), the total number of data record updates, the total number of update commands with associated descriptor value table (inverted list) records, and the total number of descriptor value table (inverted list) updates

- The total number of incomplete transactions for the file

- For incomplete transactions, the number of insert, update, and delete operations that were performed on the file

- For incomplete transactions, the total number of data modifications to the file (total of inserts, updates, and deletes), the total number of data record updates, the total number of update commands with associated descriptor value table (inverted list) records, and the total number of descriptor value table (inverted list) updates

The following is a sample of a File report:

```
****************************************************************************
*                        A D A W R K  File Report                          *
****************************************************************************


   I------------------------------------------------------------------------I
   I                           File      1                                  I
   I------------------------------------------------------------------------I

 Oldest activity in Work RABN            54 at 2007-06-28 00:54:38  by NUCID 0
 Latest activity in Work RABN            54 at 2007-06-28 00:54:38  by NUCID 0




 I  File  I   Index    I  Index    I  Address  I   Data    I
 I Number I Structure  I  Values   I Converter I Contents  I
 I--------I-----------I-----------I-----------I-----------I
 I     1 I           I           I     *     I     *     I
 I--------I-----------I-----------I-----------I-----------I


 Completed transactions that will be re-done during autorestart processing:
         Total transactions..........................:       1
                 Backed out........................:       0
         Total modification commands.................:       1
                 Inserts (N1).....................:       1
                 Updates (A1).....................:       0
                 Deletes (E1).....................:       0
         Total data records modified.................:       1
         Total modifications with descriptor updates..:       0
         Total descriptor updates....................:       0

 Incomplete transactions that must be backed out during autorestart processing:
         Total transactions..........................:       0
         Total modification commands.................:       0
                 Inserts (N1).....................:       0
                 Updates (A1).....................:       0
                 Deletes (E1).....................:       0
         Total data records modified.................:       0
         Total modifications with descriptor updates..:       0
         Total descriptor updates....................:       0


   I------------------------------------------------------------------------I
   I                           File      2                                  I
   I------------------------------------------------------------------------I

 Latest activity in Work RABN             0 at                  by NUCID 0
 Oldest activity in Work RABN             0 at                  by NUCID 0
```

4

```
I  File   I   Index    I   Index    I  Address  I   Data    I
I Number I Structure I   Values    I Converter I Contents  I
I--------I----------I-----------I-----------I----------I
I     2 I          I           I           I          I
I--------I----------I-----------I-----------I----------I


Completed transactions that will be re-done during autorestart processing:
        Total transactions..........................:       0
                Backed out.......................:        0
        Total modification commands..................:       0
                Inserts (N1)......................:       0
                Updates (A1)......................:       0
                Deletes (E1)......................:       0
        Total data records modified..................:       1
        Total modifications with descriptor updates..:       0
        Total descriptor updates.....................:       0

Incomplete transactions that must be backed out during autorestart processing:
        Total transactions..........................:       0
        Total modification commands..................:       0
                Inserts (N1)......................:       0
                Updates (A1)......................:       0
                Deletes (E1)......................:       0
        Total data records modified..................:       0
        Total modifications with descriptor updates..:       0
        Total descriptor updates.....................:       0
```

Transaction Report

The Transaction report is triggered by the ADAWRK TRANSACTIONS parameter. When TRANSACTIONS=YES, TRANSACTIONS=DETAIL, or TRANSACTIONS=FULL are specified, a Transaction report is produced that breaks down the data in the autorestart area of Work part 1 by transaction. For each transaction, the following information can be provided in a Transaction report:

- The communication ID for the transaction

- Whether the transaction was still open, committed, or backed out

- The number of inserts, updates, and deletes performed by the transaction

- The total number of modifications performed by the transaction (total of inserts, updates, and deletes)

- The total number of update commands with associated descriptor value table (inverted list) records

- Whether the ET data is associated with the transaction and any ETID is associated with the transaction

- If TRANSACTIONS=DETAIL is specified, each file updated by the transaction and the ISN on each file that was updated by the transaction

- If TRANSACTIONS=FULL is specified, the Data Storage image(s) associated with each update for the transaction and the descriptor value table (inverted list) data associated with each update for the transaction

The following is a portion of a Transaction report:

```
*****************************************************************************
*                         A D A W R K   Transaction Report                 *
*****************************************************************************


 I---------------------------------------------------------------------------I
 I                          New Communication ID                             I
 I---------------------------------------------------------------------------I
 Communication ID:  ' .~..o           8  U001U001'
                    x'0004A10E2096000040404040404040000F8EE80E4F0F0F1E4F0F0F1'


 This transaction was committed (ET).
 ETID: None
 ET data was provided.
 First protection data in Work RABN        4 written at 2007-05-08 12:30:53.
 Last  protection data in Work RABN        0 written at                    .

        Total modification commands..................:     1
              Inserts (N1)....................:      1
              Updates (A1)....................:      0
              Deletes (E1)....................:      0
        Total data records modified..................:     1
        Total modifications with descriptor updates..:     0
        Total descriptor updates.....................:     0

 File    1  ISN            11 (internal) Inserted

 After Image Data Storage in Work RABN         4 written at 12:30:53
 0000 00210000 000B09C1 F8C1F800 00000103  ' .  ..A8A8   ..'
 0010 C1F205C1 F4C1F40A C1F9C1F9 C1000000  'A2.A4A4.A9A9A   '
 0020 0A                                   '.'

 Related descriptor value updates in Work RABN        4 written at 12:30:53

 This record contains 2 descriptor updates.

 Field name A8 image: AI data:
 0000 C1F8C1F8 00000001                    'A8A8   .'

 Field name A9 image: AI data:
 0000 C1F9C1F9 C1000000 0A                 'A9A9A   .'

 File    1  ISN            12 (internal) Inserted

 After Image Data Storage in Work RABN         4 written at 12:30:53
 0000 00210000 000C09C1 F8C1F800 00000203  ' .  ..A8A8   ..'
 0010 C1F205C1 F4C1F40A C1F9C1F9 C1000000  'A2.A4A4.A9A9A   '
 0020 09                                   '.'

 Related descriptor value updates in Work RABN        4 written at 12:30:53

 This record contains 2 descriptor updates.

 Field name A8 image: AI data:
 0000 C1F8C1F8 00000002                    'A8A8   .'

 Field name A9 image: AI data:
 0000 C1F9C1F9 C1000000 09                 'A9A9A   .'
```

```
File     1 ISN             13 (internal) Inserted

After Image Data Storage in Work RABN        4 written at 12:30:53
0000 00210000 000D09C1 F8C1F800 00000303  ' .   ..A8A8   ..'
0010 C1F205C1 F4C1F40A C1F9C1F9 C1000000  'A2.A4A4.A9A9A   '
0020 08                                    '.'

Related descriptor value updates in Work RABN       4 written at 12:30:53

This record contains 2 descriptor updates.

Field name A8 image: AI data:
0000 C1F8C1F8 00000003                     'A8A8   .'

Field name A9 image: AI data:
0000 C1F9C1F9 C1000000 08                  'A9A9A   .'

File     1 ISN             14 (internal) Inserted

After Image Data Storage in Work RABN        4 written at 12:30:53
0000 00210000 000E09C1 F8C1F800 00000403  ' .   ..A8A8   ..'
0010 C1F205C1 F4C1F40A C1F9C1F9 C1000000  'A2.A4A4.A9A9A   '
0020 07                                    '.'

Related descriptor value updates in Work RABN       4 written at 12:30:53

This record contains 2 descriptor updates.

Field name A8 image: AI data:
0000 C1F8C1F8 00000004                     'A8A8   .'

Field name A9 image: AI data:
0000 C1F9C1F9 C1000000 07                  'A9A9A   .'

File     1 ISN             15 (internal) Inserted

After Image Data Storage in Work RABN        4 written at 12:30:53
0000 00210000 000F09C1 F8C1F800 00000503  ' .   ..A8A8   ..'
0010 C1F205C1 F4C1F40A C1F9C1F9 C1000000  'A2.A4A4.A9A9A   '
0020 06                                    '.'

Related descriptor value updates in Work RABN       4 written at 12:30:53

This record contains 2 descriptor updates.

Field name A8 image: AI data:
0000 C1F8C1F8 00000005                     'A8A8   .'

Field name A9 image: AI data:
0000 C1F9C1F9 C1000000 06                  'A9A9A   .'

File     1 ISN             16 (internal) Inserted

After Image Data Storage in Work RABN        4 written at 12:30:53
0000 00210000 001009C1 F8C1F800 00000603  ' .   ..A8A8   ..'
0010 C1F205C1 F4C1F40A C1F9C1F9 C1000000  'A2.A4A4.A9A9A   '
0020 05                                    '.'

Related descriptor value updates in Work RABN       4 written at 12:30:53

This record contains 2 descriptor updates.
```

```
Field name A8 image: AI data:
0000 C1F8C1F8 00000006                        'A8A8   .'

Field name A9 image: AI data:
0000 C1F9C1F9 C1000000 05                     'A9A9A   .'

File    1  ISN            17 (internal) Inserted

After Image Data Storage in Work RABN        4 written at 12:30:53
0000 00210000 001109C1 F8C1F800 00000703 ' .   ..A8A8   ..'
0010 C1F205C1 F4C1F40A C1F9C1F9 C1000000 'A2.A4A4.A9A9A   '
0020 04                                  '.'

Related descriptor value updates in Work RABN     4 written at 12:30:53

This record contains 2 descriptor updates.

Field name A8 image: AI data:
0000 C1F8C1F8 00000007                        'A8A8   .'

Field name A9 image: AI data:
0000 C1F9C1F9 C1000000 04                     'A9A9A   .'

File    1  ISN            18 (internal) Inserted

After Image Data Storage in Work RABN        4 written at 12:30:53
0000 00210000 001209C1 F8C1F800 00000803 ' .   ..A8A8   ..'
0010 C1F205C1 F4C1F40A C1F9C1F9 C1000000 'A2.A4A4.A9A9A   '
0020 03                                  '.'

Related descriptor value updates in Work RABN        4 written at 12:30:53

This record contains 2 descriptor updates.

Field name A8 image: AI data:
0000 C1F8C1F8 00000008                        'A8A8   .'

Field name A9 image: AI data:
0000 C1F9C1F9 C1000000 03                     'A9A9A   .'

File    1  ISN            19 (internal) Inserted

After Image Data Storage in Work RABN        4 written at 12:30:53
0000 00210000 001309C1 F8C1F800 00000903 ' .   ..A8A8   ..'
0010 C1F205C1 F4C1F40A C1F9C1F9 C1000000 'A2.A4A4.A9A9A   '
0020 02                                  '.'

Related descriptor value updates in Work RABN        4 written at 12:30:53

This record contains 2 descriptor updates.

Field name A8 image: AI data:
0000 C1F8C1F8 00000009                        'A8A8   .'

Field name A9 image: AI data:
0000 C1F9C1F9 C1000000 02                     'A9A9A   .'

File    1  ISN            20 (internal) Inserted

After Image Data Storage in Work RABN        4 written at 12:30:53
0000 00210000 001409C1 F8C1F800 00000A03 ' .   ..A8A8   ..'
0010 C1F205C1 F4C1F40A C1F9C1F9 C1000000 'A2.A4A4.A9A9A   '
```

```
0020 01                                         '.'

Related descriptor value updates in Work RABN        4 written at 12:30:53

This record contains 2 descriptor updates.

Field name A8 image: AI data:
0000 C1F8C1F8 0000000A                          'A8A8   .'

Field name A9 image: AI data:
0000 C1F9C1F9 C1000000 01                       'A9A9A   .'

File     1 ISN             10 (internal) Updated

Related descriptor value updates in Work RABN        4 written at 12:30:53
0000 00210000 000A09C1 F8C1F800 00000A03  ' .   ..A8A8   ..'
0010 C1F205C1 F4C1F40A C1F9C1F9 C1000000  'A2.A4A4.A9A9A   '
0020 01                                         '.'

After Image Data Storage in Work RABN         4 written at 12:30:53
0000 00210000 000A09E4 F8E4F800 00000103  ' .   ..U8U8   ..'
0010 E4F205E4 F4E4F40A E4F9E4F9 C1000000  'U2.U4U4.U9U9A   '
0020 06                                         '.'

Related descriptor value updates in Work RABN        4 written at 12:30:53

This record contains 2 descriptor updates.

Field name A8 image: BI data:
0000 C1F8C1F8 0000000A                          'A8A8   .'

Field name A9 image: BI data:
0000 C1F9C1F9 C1000000 01                       'A9A9A   .'

File     1 ISN             11 (internal) Updated

Related descriptor value updates in Work RABN        4 written at 12:30:53
0000 00210000 000B09C1 F8C1F800 00000103  ' .   ..A8A8   ..'
0010 C1F205C1 F4C1F40A C1F9C1F9 C1000000  'A2.A4A4.A9A9A   '
0020 0A                                         '.'

After Image Data Storage in Work RABN         4 written at 12:30:53
0000 00210000 000B09E4 F8E4F800 00000203  ' .   ..U8U8   ..'
0010 E4F205E4 F4E4F40A E4F9E4F9 C1000000  'U2.U4U4.U9U9A   '
0020 05                                         '.'

Related descriptor value updates in Work RABN        4 written at 12:30:53

This record contains 2 descriptor updates.

Field name A8 image: BI data:
0000 C1F8C1F8 00000001                          'A8A8   .'

Field name A9 image: BI data:
0000 C1F9C1F9 C1000000 0A                       'A9A9A   .'

File     1 ISN             12 (internal) Updated

Related descriptor value updates in Work RABN        4 written at 12:30:53
0000 00210000 000C09C1 F8C1F800 00000203  ' .   ..A8A8   ..'
0010 C1F205C1 F4C1F40A C1F9C1F9 C1000000  'A2.A4A4.A9A9A   '
0020 09                                         '.'
```

```
After Image Data Storage in Work RABN          4 written at 12:30:53
0000 00210000 000C09E4 F8E4F800 00000303  ' .   ..U8U8   ..'
0010 E4F205E4 F4E4F40A E4F9E4F9 C1000000  'U2.U4U4.U9U9A   '
0020 04                                   '.'

Related descriptor value updates in Work RABN       4 written at 12:30:53

This record contains 2 descriptor updates.

Field name A8 image: BI data:
0000 C1F8C1F8 00000002                    'A8A8   .'

Field name A9 image: BI data:
0000 C1F9C1F9 C1000000 09                 'A9A9A   .'

File    1  ISN             13 (internal) Updated

Related descriptor value updates in Work RABN       4 written at 12:30:53
0000 00210000 000D09C1 F8C1F800 00000303  ' .   ..A8A8   ..'
0010 C1F205C1 F4C1F40A C1F9C1F9 C1000000  'A2.A4A4.A9A9A   '
0020 08                                   '.'

After Image Data Storage in Work RABN          4 written at 12:30:53
0000 00210000 000D09E4 F8E4F800 00000403  ' .   ..U8U8   ..'
0010 E4F205E4 F4E4F40A E4F9E4F9 C1000000  'U2.U4U4.U9U9A   '
0020 03                                   '.'

Related descriptor value updates in Work RABN       4 written at 12:30:53

This record contains 2 descriptor updates.

Field name A8 image: BI data:
0000 C1F8C1F8 00000003                    'A8A8   .'

Field name A9 image: BI data:
0000 C1F9C1F9 C1000000 08                 'A9A9A   .'

File    1  ISN             14 (internal) Updated

Related descriptor value updates in Work RABN       4 written at 12:30:53
0000 00210000 000E09C1 F8C1F800 00000403  ' .   ..A8A8   ..'
0010 C1F205C1 F4C1F40A C1F9C1F9 C1000000  'A2.A4A4.A9A9A   '
0020 07                                   '.'

After Image Data Storage in Work RABN          4 written at 12:30:53
0000 00210000 000E09E4 F8E4F800 00000503  ' .   ..U8U8   ..'
0010 E4F205E4 F4E4F40A E4F9E4F9 C1000000  'U2.U4U4.U9U9A   '
0020 02                                   '.'

Related descriptor value updates in Work RABN       4 written at 12:30:53

This record contains 2 descriptor updates.

Field name A8 image: BI data:
0000 C1F8C1F8 00000004                    'A8A8   .'

Field name A9 image: BI data:
0000 C1F9C1F9 C1000000 07                 'A9A9A   .'

File    1  ISN             15 (internal) Updated
```

```
Related descriptor value updates in Work RABN        5 written at 12:30:54
0000 00210000 000F09C1 F8C1F800 00000503  '.   ..A8A8   ..'
0010 C1F205C1 F4C1F40A C1F9C1F9 C1000000  'A2.A4A4.A9A9A   '
0020 06                                   '.'

After Image Data Storage in Work RABN         5 written at 12:30:54
0000 00210000 000F09E4 F8E4F800 00000603  '.   ..U8U8   ..'
0010 E4F205E4 F4E4F40A E4F9E4F9 C1000000  'U2.U4U4.U9U9A   '
0020 01                                   '.'

Related descriptor value updates in Work RABN        5 written at 12:30:54

This record contains 2 descriptor updates.

Field name A8 image: BI data:
0000 C1F8C1F8 00000005                    'A8A8   .'

Field name A9 image: BI data:
0000 C1F9C1F9 C1000000 06                 'A9A9A   .'

File    1  ISN            16 (internal) Deleted

Related descriptor value updates in Work RABN        5 written at 12:30:54
0000 00210000 001009C1 F8C1F800 00000603  '.   ..A8A8   ..'
0010 C1F205C1 F4C1F40A C1F9C1F9 C1000000  'A2.A4A4.A9A9A   '
0020 05                                   '.'

Related descriptor value updates in Work RABN        5 written at 12:30:54

This record contains 2 descriptor updates.

Field name A8 image: BI data:
0000 C1F8C1F8 00000006                    'A8A8   .'

Field name A9 image: BI data:
0000 C1F9C1F9 C1000000 05                 'A9A9A   .'

File    1  ISN            17 (internal) Deleted

Related descriptor value updates in Work RABN        5 written at 12:30:54
0000 00210000 001109C1 F8C1F800 00000703  '.   ..A8A8   ..'
0010 C1F205C1 F4C1F40A C1F9C1F9 C1000000  'A2.A4A4.A9A9A   '
0020 04                                   '.'

Related descriptor value updates in Work RABN        5 written at 12:30:54

This record contains 2 descriptor updates.

Field name A8 image: BI data:
0000 C1F8C1F8 00000007                    'A8A8   .'

Field name A9 image: BI data:
0000 C1F9C1F9 C1000000 04                 'A9A9A   .'

File    1  ISN            18 (internal) Deleted

Related descriptor value updates in Work RABN        5 written at 12:30:54
0000 00210000 001209C1 F8C1F800 00000803  '.   ..A8A8   ..'
0010 C1F205C1 F4C1F40A C1F9C1F9 C1000000  'A2.A4A4.A9A9A   '
0020 03                                   '.'

Related descriptor value updates in Work RABN        5 written at 12:30:54
```

```
 This record contains 2 descriptor updates.

 Field name A8 image: BI data:
0000 C1F8C1F8 00000008                       'A8A8    .'

 Field name A9 image: BI data:
0000 C1F9C1F9 C1000000 03                     'A9A9A   .'

 Transaction was committed (ET)


 I------------------------------------------------------------------------------I
 I                         New Communication ID                                 I
 I------------------------------------------------------------------------------I
Communication ID:  ' .~..o           8  U001U001'
                   x'0004A10E2096000040404040404040000F8EE80E4F0F0F1E4F0F0F1'


 This transaction was committed (ET).
 ETID: None
 ET data was provided.
First protection data in Work RABN        4 written at 2007-05-08 12:30:53.
Last  protection data in Work RABN        0 written at                      .

          Total modification commands..................:      0
                Inserts (N1).....................:       0
                Updates (A1).....................:       0
                Deletes (E1).....................:       0
          Total data records modified..................:      0
          Total modifications with descriptor updates..:      0
          Total descriptor updates.....................:      0

File    1  ISN           11 (internal) Inserted

After Image Data Storage in Work RABN         4 written at 12:30:53
0000 00210000 000B09C1 F8C1F800 00000103 ' .   ..A8A8   ..'
0010 C1F205C1 F4C1F40A C1F9C1F9 C1000000 'A2.A4A4.A9A9A   '
0020 0A                                   '.'

Related descriptor value updates in Work RABN       4 written at 12:30:53

 This record contains 2 descriptor updates.

 Field name A8 image: AI data:
0000 C1F8C1F8 00000001                       'A8A8    .'

 Field name A9 image: AI data:
0000 C1F9C1F9 C1000000 0A                     'A9A9A   .'

File    1  ISN           12 (internal) Inserted

 After Image Data Storage in Work RABN         4 written at 12:30:53
0000 00210000 000C09C1 F8C1F800 00000203 ' .   ..A8A8   ..'
0010 C1F205C1 F4C1F40A C1F9C1F9 C1000000 'A2.A4A4.A9A9A   '
.
. (etc)
.
.I------------------------------------------------------------------------------I
I                         New Communication ID                                 I
I------------------------------------------------------------------------------I
Communication ID:  ' .~..o           .T.A001    '
```

                    x'0005A10E20960000040404040404040000FAE380C1F0F0F100000000'

This transaction was committed (ET).
ETID: None
ET data was not provided.
First protection data in Work RABN   2 written at 2007-07-13 19:19:23
Last protection data in Work RABN   5 written at 2007-07-13 19:19:23

        Total modification commands.................:   1
               Inserts (N1)....................:   1
               Updates (A1)....................:   0
               Deletes (E1)....................:   0
        Total data records modified.................:   4
        Total modifications with descriptor updates..:   0
        Total descriptor updates....................:   0

--- File   34 ISN   1 (internal) Inserted
 .. This segment ISN =   1 (primary)
  . Next segment ISN =   1 (secondary)

#1: After Image Data Storage in Work RABN   2 written <19:19:23
0000 13090000 00000000 00010081 00000001 '..   . a .'
0010 00000001 6480FCD6 C3C3E4D9 C5D5C3C5 ' ... OCCURENCE'
0020 F0F0F100 00000A40 40404040 40404040 '001   .   '
.
.
.
12F0 40404040 4040C5D5 C4D6C3C3 E4D9C5D5 '   ENDOCCUREN'
1300 C3C5F0F3 F1000000 0A   'CE031   .'

--- File   34 ISN   1 (internal) Inserted
 .. This segment ISN =   1 (secondary)
  . Next segment ISN =   2 (secondary)

#2: After Image Data Storage in Work RABN   3 written <19:19:23
0000 138F0000 00000000 00010041 00000002 '..   . . .'
0010 00000001 80FC4040 40404040 40C5D5C4 ' ...   END'
0020 D6C3C3E4 D9C5D5C3 C5F0F3F2 0000000A 'OCCURENCE032 .'
.
.
.
1370 40404040 40404040 404040C5 D5C411D6 '   END.O'
1380 C3C3E4D9 C5D5C3C5 F0F6F200 00000A   'OCCURENCE062 .'

--- File   34 ISN   1 (internal) Inserted
 .. This segment ISN =   2 (secondary)
  . Next segment ISN =   3 (secondary)

#3: After Image Data Storage in Work RABN   4 written <19:19:23
0000 12F70000 00000000 00020041 00000003 '.7   . . .'
0010 00000001 75404040 40404040 40404040 ' ..   '
0020 40404040 40404040 40404040 40404040 '   '
.
.
.
12E0 40404040 40404040 40404040 40404040 '   '
12F0 40404040 C5D5C4   '   END'

--- File   34 ISN   1 (internal) Inserted
 .. This segment ISN =   3 (secondary)
  . Last segment

```
#4: After Image Data Storage in Work RABN           5 written <19:19:23
0000 05100000 00000000 00030041 00000000  '..        . .      '
0010 00000001 80FCD6C3 C3E4D9C5 D5C3C5F0  '   ...OCCURENCE0'
0020 F9F30000 000A4040 40404040 40404040  '93   .           '
.
.
.
04F0 40404040 40404040 40404040 40404040  '                '
0500 40404040 40404040 40404040 40C5D5C4  '             END'

Transaction was committed (ET).
.
.
.
(etc.)
```

The following sample of a Transaction Report shows how the report appears for an EXU user (U002 in the report).

```
******************************************************************************
*                     A D A W R K  Transaction Report               *
******************************************************************************


 I----------------------------------------------------------------------------I
 I                        New Communication ID                          I
 I----------------------------------------------------------------------------I

 Communication ID:  '????hhhhA.Qb2.??    U001    '
                 x'7777777788888888C11FD882F238574600000000E4F0F0F100000000'

 This transaction was committed (ET).
 ETID: None
 ET data was not provided.
 First protection data in Work RABN         2 written at 2007-08-30 12:32:13
 Last  protection data in Work RABN         2 written at 2007-08-30 12:32:13

         Total modification commands.................:      1
             Inserts (N1)....................:       1
             Updates (A1)....................:       0
             Deletes (E1)....................:       0
         Total data records modified.................:      1
         Total modifications with descriptor updates..:     0
         Total descriptor updates....................:      0

 --- File   19  ISN        1,067 (internal) Inserted

 #1: After Image Data Storage in Work RABN         2 written <12:32:13
 0000 00280000 042BC802 C905C11F A2DE05C2  ' .  ..H.I.A.s?.B'
 0010 E4C6C6C3 09404040 40404000 00024009  'UFFC.        . .'
 0020 E4E2C1D1 C8E3E7C7                     'USAJHTXG'

 Transaction was committed (ET).


 I----------------------------------------------------------------------------I
 I                        New Communication ID                          I
 I----------------------------------------------------------------------------I

 Communication ID:  ' .~..o          9??U001    '
                 x'0005A10E20960000404040404040404000F9B880E4F0F0F100000000'
```

```
This transaction was committed (ET).
ETID: 'U001    '
ET data was not provided.
First protection data in Work RABN        2 written at 2007-08-30 12:32:13
Last  protection data in Work RABN        2 written at 2007-08-30 12:32:13

        Total modification commands..................:     10
              Inserts (N1).....................:     10
              Updates (A1).....................:      0
              Deletes (E1).....................:      0
        Total data records modified..................:     10
        Total modifications with descriptor updates..:     10
        Total descriptor updates.....................:     10

--- File    4  ISN            11 (internal) Inserted

#2: After Image Data Storage in Work RABN         2 written <12:32:13
0000 000F0000 000B09E4 D3F0F100 000000    ' .   ..UL01     '

#3: Descriptor value updates in Work RABN         2 written <12:32:13
  Value for descriptor A8 inserted:
0000 E4D3F0F1 00000000                 'UL01    '

--- File    4  ISN            12 (internal) Inserted

#4: After Image Data Storage in Work RABN         2 written <12:32:13
0000 000F0000 000C09E4 D3F0F100 000001    ' .   ..UL01   .'

#5: Descriptor value updates in Work RABN         2 written <12:32:13
  Value for descriptor A8 inserted:
0000 E4D3F0F1 00000001                 'UL01   .'

--- File    4  ISN            13 (internal) Inserted

#6: After Image Data Storage in Work RABN         2 written <12:32:13
0000 000F0000 000D09E4 D3F0F100 000002    ' .   ..UL01   .'

#7: Descriptor value updates in Work RABN         2 written <12:32:13
  Value for descriptor A8 inserted:
0000 E4D3F0F1 00000002                 'UL01   .'

--- File    4  ISN            14 (internal) Inserted

#8: After Image Data Storage in Work RABN         2 written <12:32:13
0000 000F0000 000E09E4 D3F0F100 000003    ' .   ..UL01   .'

#9: Descriptor value updates in Work RABN         2 written <12:32:13
  Value for descriptor A8 inserted:
0000 E4D3F0F1 00000003                 'UL01   .'

--- File    4  ISN            15 (internal) Inserted

#10: After Image Data Storage in Work RABN         2 written <12:32:13
0000 000F0000 000F09E4 D3F0F100 000004    ' .   ..UL01   .'

#11: Descriptor value updates in Work RABN         2 written <12:32:13
  Value for descriptor A8 inserted:
0000 E4D3F0F1 00000004                 'UL01   .'

--- File    4  ISN            16 (internal) Inserted

#12: After Image Data Storage in Work RABN          2 written <12:32:13
```

```
0000 000F0000 001009E4 D3F0F100 000005    ' .   ..UL01   .'
```

#13: Descriptor value updates in Work RABN   2 written <12:32:13
  Value for descriptor A8 inserted:
```
0000 E4D3F0F1 00000005                    'UL01   .'
```

--- File   4 ISN   17 (internal) Inserted

#14: After Image Data Storage in Work RABN   2 written <12:32:13
```
0000 000F0000 001109E4 D3F0F100 000006    ' .   ..UL01   .'
```

#15: Descriptor value updates in Work RABN   2 written <12:32:13
  Value for descriptor A8 inserted:
```
0000 E4D3F0F1 00000006                    'UL01   .'
```

--- File   4 ISN   18 (internal) Inserted

#16: After Image Data Storage in Work RABN   2 written <12:32:13
```
0000 000F0000 001209E4 D3F0F100 000007    ' .   ..UL01   .'
```

#17: Descriptor value updates in Work RABN   2 written <12:32:13
  Value for descriptor A8 inserted:
```
0000 E4D3F0F1 00000007                    'UL01   .'
```

--- File   4 ISN   19 (internal) Inserted

#18: After Image Data Storage in Work RABN   2 written <12:32:13
```
0000 000F0000 001309E4 D3F0F100 000008    ' .   ..UL01   .'
```

#19: Descriptor value updates in Work RABN   2 written <12:32:13
  Value for descriptor A8 inserted:
```
0000 E4D3F0F1 00000008                    'UL01   .'
```

--- File   4 ISN   20 (internal) Inserted

#20: After Image Data Storage in Work RABN   2 written <12:32:13
```
0000 000F0000 001409E4 D3F0F100 000009    ' .   ..UL01   .'
```

#21: Descriptor value updates in Work RABN   2 written <12:32:13
  Value for descriptor A8 inserted:
```
0000 E4D3F0F1 00000009                    'UL01   .'
```

Transaction was committed (ET).


```
I------------------------------------------------------------------------------I
I                          New Communication ID                                I
I------------------------------------------------------------------------------I
```

Communication ID: ' .~..o   9??U002   '
              x'0005A10E209600004040404040404000F9B880E4F0F0F200000000'

These updates were performed by an EXU user.
First protection data in Work RABN   1 written at 2007-08-30 12:32:08
Last protection data in Work RABN   1 written at 2007-08-30 12:32:08

        Total modification commands..................:   10
            Inserts (N1)....................:   10
            Updates (A1)....................:   0
            Deletes (E1)....................:   0
        Total data records modified.................:   10
        Total modifications with descriptor updates..:   10

```
        Total descriptor updates.....................:      10

 --- File     5  ISN              1 (internal) Inserted

 #22: After Image Data Storage in Work RABN          1 written <12:32:08
 0000 000F0000 000109E4 F0F0F200 000000    ’ .   ..U002    ’

 #23: Descriptor value updates in Work RABN          1 written <12:32:08
   Value for descriptor A8 inserted:
 0000 E4F0F0F2 00000000                    ’U002    ’

 --- File     5  ISN              2 (internal) Inserted

 #24: After Image Data Storage in Work RABN          1 written <12:32:08
 0000 000F0000 000209E4 F0F0F200 000001    ’ .   ..U002   .’

 #25: Descriptor value updates in Work RABN          1 written <12:32:08
   Value for descriptor A8 inserted:
 0000 E4F0F0F2 00000001                    ’U002   .’

 --- File     5  ISN              3 (internal) Inserted

 #26: After Image Data Storage in Work RABN          1 written <12:32:08
 0000 000F0000 000309E4 F0F0F200 000002    ’ .   ..U002   .’

 #27: Descriptor value updates in Work RABN          1 written <12:32:08
   Value for descriptor A8 inserted:
 0000 E4F0F0F2 00000002                    ’U002   .’

 --- File     5  ISN              4 (internal) Inserted

 #28: After Image Data Storage in Work RABN          1 written <12:32:08
 0000 000F0000 000409E4 F0F0F200 000003    ’ .   ..U002   .’

 #29: Descriptor value updates in Work RABN          1 written <12:32:08
   Value for descriptor A8 inserted:
 0000 E4F0F0F2 00000003                    ’U002   .’

 --- File     5  ISN              5 (internal) Inserted

 #30: After Image Data Storage in Work RABN          1 written <12:32:08
 0000 000F0000 000509E4 F0F0F200 000004    ’ .   ..U002   .’

 #31: Descriptor value updates in Work RABN          1 written <12:32:08
   Value for descriptor A8 inserted:
 0000 E4F0F0F2 00000004                    ’U002   .’

 --- File     5  ISN              6 (internal) Inserted

 #32: After Image Data Storage in Work RABN          1 written <12:32:08
 0000 000F0000 000609E4 F0F0F200 000005    ’ .   ..U002   .’

 #33: Descriptor value updates in Work RABN          1 written <12:32:08
   Value for descriptor A8 inserted:
 0000 E4F0F0F2 00000005                    ’U002   .’

 --- File     5  ISN              7 (internal) Inserted

 #34: After Image Data Storage in Work RABN          1 written <12:32:08
 0000 000F0000 000709E4 F0F0F200 000006    ’ .   ..U002   .’

 #35: Descriptor value updates in Work RABN          1 written <12:32:08
```

```
   Value for descriptor A8 inserted:
 0000 E4F0F0F2 00000006                       'U002   .'

 --- File    5  ISN              8 (internal) Inserted

 #36: After Image Data Storage in Work RABN        1 written <12:32:08
 0000 000F0000 000809E4 F0F0F200 000007   ' .   ..U002   .'

 #37: Descriptor value updates in Work RABN        1 written <12:32:08
   Value for descriptor A8 inserted:
 0000 E4F0F0F2 00000007                       'U002   .'

 --- File    5  ISN              9 (internal) Inserted

 #38: After Image Data Storage in Work RABN        1 written <12:32:08
 0000 000F0000 000909E4 F0F0F200 000008   ' .   ..U002   .'

 #39: Descriptor value updates in Work RABN        1 written <12:32:08
   Value for descriptor A8 inserted:
 0000 E4F0F0F2 00000008                       'U002   .'

 --- File    5  ISN             10 (internal) Inserted

 #40: After Image Data Storage in Work RABN        1 written <12:32:08
 0000 000F0000 000A09E4 F0F0F200 000009   ' .   ..U002   .'

 #41: Descriptor value updates in Work RABN        1 written <12:32:08
   Value for descriptor A8 inserted:
 0000 E4F0F0F2 00000009                       'U002   .'

1
 Summary of communication IDs with recovery data:
 ------------------------------------------------

 Communication ID:  '????hhhhA.Qb2.??    U001    '
                x'7777777788888888C11FD882F2385746000000000E4F0F0F100000000'

 Communication ID:  ' .~..o          9??U002    '
                x'0005A10E2096000040404040404040000F9B880E4F0F0F200000000'

 Communication ID:  ' .~..o          9??U001    '
                x'0005A10E2096000040404040404040000F9B880E4F0F0F100000000'
1
 **************************************************************************
 *                    A D A W R K  Summary Report                        *
 **************************************************************************


 Work Dataset: RD.DB035.WORKR1
```

Item		Work RABN		Blocks		Date/Time	
LP value	I		I	800	I		I
Last written block	I	2	I		I	2007-08-30 12:32:13	I
Autobackout endpoint	I	1	I	2	I	2007-08-30 12:32:08	I
Backward repair endpoint	I	1	I	2	I	2007-08-30 12:32:08	I

```
 Summary of potential inconsistencies:
 -------------------------------------
 "Index Structure"....: Index structures may be inconsistent.
```

```
"Index Values".......: Index values may be incorrect.
"Address Converter"..: Address converter may be incorrect.
"Data Contents"......: Data contents may be incorrect according to application.

I  File  I   Index    I   Index    I  Address  I   Data   I
I Number I Structure I  Values    I Converter I Contents I
I--------I-----------I-----------I-----------I-----------I
I     4 I           I           I           I    *     I
I     5 I     *     I     *     I     *     I    *     I
I    19 I           I           I           I    *     I
I--------I-----------I-----------I-----------I-----------I


The following checkpoints were encountered in the area of interest:

Total number of system checkpoints:      5


Completed transactions that will be re-done during autorestart processing:
        Total transactions...........................:        3
               Backed out.......................:        0
        Total modification commands..................:       21
               Inserts (N1).....................:       21
               Updates (A1).....................:        0
               Deletes (E1).....................:        0
        Total data records modified..................:       21
        Total modifications with descriptor updates..:       20
        Total descriptor updates.....................:       20

Incomplete transactions that must be backed out during autorestart processing:
        Total transactions...........................:        0
        Total modification commands..................:        0
               Inserts (N1).....................:        0
               Updates (A1).....................:        0
               Deletes (E1).....................:        0
        Total data records modified..................:        0
        Total modifications with descriptor updates..:        0
        Total descriptor updates.....................:        0
1
 ******************************************************************************
 *                       A D A W R K   File Report                          *
 ******************************************************************************


 I-----------------------------------------------------------------------------I
 I                            File    4                                       I
 I-----------------------------------------------------------------------------I

Oldest activity in Work RABN         2 at 2007-08-30 12:32:13
Latest activity in Work RABN         2 at 2007-08-30 12:32:13


I  File  I   Index    I   Index    I  Address  I   Data   I
I Number I Structure I  Values    I Converter I Contents I
I--------I-----------I-----------I-----------I-----------I
I     4 I           I           I           I    *     I
I--------I-----------I-----------I-----------I-----------I


Completed transactions that will be re-done during autorestart processing:
        Total transactions...........................:        1
               Backed out.......................:        0
```

```
       Total modification commands...................:       10
              Inserts (N1).....................:       10
              Updates (A1).....................:        0
              Deletes (E1).....................:        0
       Total data records modified..................:       10
       Total modifications with descriptor updates..:       10
       Total descriptor updates.....................:       10

Incomplete transactions that must be backed out during autorestart processing:
       Total transactions...........................:        0
       Total modification commands...................:        0
              Inserts (N1).....................:        0
              Updates (A1).....................:        0
              Deletes (E1).....................:        0
       Total data records modified..................:        0
       Total modifications with descriptor updates..:        0
       Total descriptor updates.....................:        0


  I-------------------------------------------------------------------------------I
  I                              File     5                                        I
  I-------------------------------------------------------------------------------I


Oldest activity in Work RABN          1 at 2007-08-30 12:32:08
Latest activity in Work RABN          1 at 2007-08-30 12:32:08


I  File  I   Index   I   Index    I  Address  I   Data     I
I Number I Structure I  Values    I Converter I Contents   I
I--------I-----------I-----------I-----------I-----------I
I     5 I     *     I     *      I     *     I     *      I
I--------I-----------I-----------I-----------I-----------I


Completed transactions that will be re-done during autorestart processing:
       Total transactions...........................:        1
              Backed out.......................:        0
       Total modification commands...................:       10
              Inserts (N1).....................:       10
              Updates (A1).....................:        0
              Deletes (E1).....................:        0
       Total data records modified..................:       10
       Total modifications with descriptor updates..:       10
       Total descriptor updates.....................:       10

Incomplete transactions that must be backed out during autorestart processing:
       Total transactions...........................:        0
       Total modification commands...................:        0
              Inserts (N1).....................:        0
              Updates (A1).....................:        0
              Deletes (E1).....................:        0
       Total data records modified..................:        0
       Total modifications with descriptor updates..:        0
       Total descriptor updates.....................:        0


  I-------------------------------------------------------------------------------I
  I                              File    19                                        I
  I-------------------------------------------------------------------------------I


Oldest activity in Work RABN          2 at 2007-08-30 12:32:13
Latest activity in Work RABN          2 at 2007-08-30 12:32:13
```

```
I  File  I  Index    I  Index    I Address  I  Data    I
I Number I Structure I  Values   I Converter I Contents I
I--------I-----------I-----------I-----------I-----------I
I    19 I           I           I           I    *     I
I--------I-----------I-----------I-----------I-----------I


Completed transactions that will be re-done during autorestart processing:
        Total transactions...........................:      1
                Backed out.......................:       0
        Total modification commands..................:      1
                Inserts (N1).....................:       1
                Updates (A1).....................:       0
                Deletes (E1).....................:       0
        Total data records modified..................:      1
        Total modifications with descriptor updates..:      0
        Total descriptor updates.....................:      0

Incomplete transactions that must be backed out during autorestart processing:
        Total transactions...........................:      0
        Total modification commands..................:      0
                Inserts (N1).....................:       0
                Updates (A1).....................:       0
                Deletes (E1).....................:       0
        Total data records modified..................:      0
        Total modifications with descriptor updates..:      0
        Total descriptor updates.....................:      0


 A D A W R K   Terminated normally                      2007-08-30  12:33:39
```

Checkpoint Record Reporting

Checkpoint records and associated data found within the autorestart area of Work part 1 can be printed by the ADAWRK utility and are triggered by the CHECKPOINT parameter. If CHECKPOINT=YES is specified, checkpoint records such as the following are printed in the output. If a Transaction report is also requested, these checkpoint records are interspersed within the Transaction report.

```
A D A W R K   V8.1  SM8   DBID = 15003  Started            2007-01-10  18:34:01

Work RABN          1 written at hh:mm:ss  System Checkpoint
 written by jobname='cccccccc'
 Checkpoint Name=nnnn Type=tt xxxxxxxx

Work RABN          1 written at hh:mm:ss  System Checkpoint
 written by jobname='cccccccc'
 Checkpoint Name=nnnn Type=tt xxxxxxxx

Work RABN          1 written at hh:mm:ss  System Checkpoint
 written by jobname='cccccccc'
 Checkpoint Name=nnnn Type=tt xxxxxxxx
```