

CA IDMS™ Buffer Tuning

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Abstract

- This session gives you an overview of database and journal buffers and how they work, as well as how to tune your buffers for performance. You will learn how to size your database and journal buffer pools for performance and how to tune buffers to improve zIIP usage.



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Agenda

- 1 DEFINING A DATABASE BUFFER
- 2 CHANGING A DATABASE BUFFER
- 3 DEFINING A JOURNAL BUFFER
- 4 THE DIFFERENCE BETWEEN DATABASE AND JOURNAL BUFFERS
- 5 HOW BUFFERS WORK
- 6 RECOVERY
- 7 ZIIP PROCESSING



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Defining a Database Buffer

OCF 18.5 IDMS NO ERRORS DICT=SYSTEM 1/14 TECHDC80

```

CREATE
BUFFER R170DMCL.DEFAULT_BUFFER
*+   CREATED 2007-12-21-13.51.17.687062
*+   LAST UPDATED 2011-04-29-13.56.58.949543
    PAGE SIZE 4276 CHARACTERS
    LOCAL MODE BUFFER PAGES 50
        OPSYS STORAGE
    CENTRAL VERSION MODE BUFFER
        INITIAL PAGES 400
        MAXIMUM PAGES 800
        OPSYS STORAGE
    ;
  
```



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DCMT Display Buffer DEFAULT_BUFFER

```

D B DEFAULT_BUFFER
--- Data Buffer -- Size      In-use      Max      Getstg Prffetch-Min  Prefetch
DEFAULT_BUFFER    4276      400        800      OPSYS      500 Not-Allowd
Synonym Table      User-Defined  System-Calculated  Total-Space Used
                               800                2048                8k
Allocation      Initial  Addit'l  Num-Alloc  Size-Init  Size-Add'l  Tot-Space
                               400        400        1      1.8meg      0      1.8meg
Storage                               Stg-Pools  Getmain'd  Above-16mb  Below-16mb  Total
                               13k      1.8meg    1.8meg      0      1.8meg

```



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DCMT Display Buffer DEFAULT_BUFFER LOC

```

D B DEFAULT_BUFFER LOC
--- Data Buffer -- Size      In-use      Max      Getstg Prffetch-Min  Prefetch
DEFAULT_BUFFER    4276      400        800      OPSYS      500 Not-Allowd
Synonym Table      User-Defined  System-Calculated  Total-Space Used
                               800                2048                8k
Allocation      Initial  Addit'l  Num-Alloc  Size-Init  Size-Add'l  Tot-Space
                               400        400        1      1.8meg      0      1.8meg
Storage                               Stg-Pools  Getmain'd  Above-16mb  Below-16mb  Total
                               13k      1.8meg    1.8meg      0      1.8meg
DEFAULT_BUFFER    is located at ... 3A70C9C0
The BCR           is located at ... 3DEBB988
The BPC           is located at ... 3B49D000  it's length is ... 000020D0
The Bit List      is located at ... 3DEBB08   it's length is ... 00000D58
The SPC           is located at ... 3DEBC888  it's length is ... 00002500
The BPCX          is located at ... 3B4B7000  it's length is ... 00019100
The BMAH          is located at ... 3B89C000  it's length is ... 001A2620

```



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DCMT Vary Buffer DEFAULT_BUFFER MAX 100000

```

V B DEFAULT_BUFFER MAX 100000
--- Data Buffer -- Size      In-use      Max      Getstg Prf fetch-Min  Prefetch
DEFAULT_BUFFER    4276      400      800      OPSYS      500 Not-Allowd
**** changed to..      100000
Synonym Table      User-Defined      System-Calculated      Total-Space Used
                        800                        2048                        8k
Allocation      Initial      Addit'l      Num-Alloc      Size-Init      Size-Add'l      Tot-Space
                        400      400      1      1.8meg      0      1.8meg
Storage                        Stg-Pools      Getmain'd      Above-16mb      Below-16mb      Total
                        13k      1.8meg      1.8meg      0      1.8meg

```



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DCMT Vary Buffer DEFAULT_BUFFER INI 20000

```

V B DEFAULT_BUFFER INI 20000
--- Data Buffer -- Size      In-use      Max      Getstg Prf fetch-Min  Prefetch
DEFAULT_BUFFER    4276      400      800      OPSYS      500 Not-Allowd
**** changed to..      100000
Synonym Table      User-Defined      System-Calculated      Total-Space Used
                        800                        2048                        8k
Allocation      Initial      Addit'l      Num-Alloc      Size-Init      Size-Add'l      Tot-Space
                        400      400      1      1.8meg      0      1.8meg
**** changed to.. 20000
Storage                        Stg-Pools      Getmain'd      Above-16mb      Below-16mb      Total
                        13k      1.8meg      1.8meg      0      1.8meg

```



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DCMT Vary Buffer DEFAULT_BUFFER ADD 10000

```

V B DEFAULT_BUFFER ADD 10000
--- Data Buffer -- Size      In-use      Max      Getstg Prf fetch-Min  Prefetch
DEFAULT_BUFFER    4276      400      800      OPSYS      500 Not-Allowd
**** changed to..      100000
Synonym Table      User-Defined      System-Calculated      Total-Space Used
                        800                        2048                        8k
Allocation      Initial      Addit'l      Num-Alloc      Size-Init      Size-Add'l      Tot-Space
                        400      400      1      1.8meg      0      1.8meg
**** changed to.. 20000      10000
Storage                        Stg-Pools      Getmain'd Above-16mb      Below-16mb      Total
                        13k      1.8meg      1.8meg      0      1.8meg

```



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DCMT Vary Buffer DEFAULT_BUFFER CLOSE

```

V B DEFAULT_BUFFER CLOSE
--- Data Buffer -- Size      In-use      Max      Getstg Prf fetch-Min  Prefetch
DEFAULT_BUFFER    4276      Not Open      100000      OPSYS
Synonym Table      User-Defined      System-Calculated      Total-Space Used
                        800                        0
Allocation      Initial      Addit'l      Num-Alloc      Size-Init      Size-Add'l      Tot-Space
                        20000      10000

```



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DCMT Vary Buffer DEFAULT_BUFFER OPEN

```

V B DEFAULT_BUFFER OPEN
--- Data Buffer --- Size      In-use      Max      Getstg  Prfetch-Min  Prefetch
DEFAULT_BUFFER    4276      20000     100000    OPSYS      500 Not-Allowd
Synonym Table      User-Defined  System-Calculated  Total-Space Used
                               800          262144          1.0meg
Allocation      Initial  Addit'l  Num-Alloc  Size-Init  Size-Add'l  Tot-Space
                20000    10000      1      90.8meg      0      90.8meg
Storage          Stg-Pools  Getmain'd  Above-16mb  Below-16mb  Total
                9k      92.3meg    92.3meg      0      92.3meg

```



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DCMT Display Buffer DEFAULT_BUFFER LOC

```

D B DEFAULT_BUFFER LOC
--- Data Buffer --- Size      In-use      Max      Getstg  Prfetch-Min  Prefetch
DEFAULT_BUFFER    4276      20000     100000    OPSYS      500 Not-Allowd
Synonym Table      User-Defined  System-Calculated  Total-Space Used
                               800          262144          1.0meg
Allocation      Initial  Addit'l  Num-Alloc  Size-Init  Size-Add'l  Tot-Space
                20000    10000      1      90.8meg      0      90.8meg
Storage          Stg-Pools  Getmain'd  Above-16mb  Below-16mb  Total
                9k      92.3meg    92.3meg      0      92.3meg
DEFAULT_BUFFER    is located at ... 3A70C9C0
The BCR           is located at ... 3DE5B988
The BPC           is located at ... 3B49D000  it's length is ... 001000D0
The Bit List      is located at ... 3B59E000  it's length is ... 00067DB8
The SPC           is located at ... 3DEB2D08  it's length is ... 00002500
The BPCX          is located at ... 3B896000  it's length is ... 004E2100
The BMAH          is located at ... 3F546000  it's length is ... 051B5FE0

```



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DCMT Vary Buffer DEFAULT_BUFFER 40000

```
DCMT V_B DEFAULT_BUFFER 40000
--- Data Buffer --- Size      In-use      Max      Getstg Prf fetch-Min  Prefetch
DEFAULT_BUFFER      4276      40000      100000    OPSYS      500 Not-Allowd
Synonym Table        User-Defined  System-Calculated  Total-Space Used
                        800                262144                1.0meg
Allocation      Initial  Addit'l  Num-Alloc  Size-Init  Size-Add'l  Tot-Space
                20000    10000      3    90.8meg    85.7meg    176.5meg
Storage                Stg-Pools  Getmain'd  Above-16mb  Below-16mb  Total
                        9k    183.1meg    183.1meg                0    183.1meg
```



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DCMT Display Buffer DEFAULT_BUFFER LOC

```
D B DEFAULT_BUFFER LOC
--- Data Buffer --- Size      In-use      Max      Getstg Prf fetch-Min  Prefetch
DEFAULT_BUFFER      4276      40000      100000    OPSYS      500 Not-Allowd
Synonym Table        User-Defined  System-Calculated  Total-Space Used
                        800                262144                1.0meg
Allocation      Initial  Addit'l  Num-Alloc  Size-Init  Size-Add'l  Tot-Space
                20000    10000      3    90.8meg    85.7meg    176.5meg
Storage                Stg-Pools  Getmain'd  Above-16mb  Below-16mb  Total
                        9k    183.1meg    183.1meg                0    183.1meg
DEFAULT_BUFFER      is located at ... 3A70C9C0
The BCR              is located at ... 3DE5B988
The BPC              is located at ... 3B49D000    it's length is ... 001000D0
The Bit List         is located at ... 3B59E000    it's length is ... 00067DB8
The SPC              is located at ... 3DEB2D08    it's length is ... 00002500
The BPCX             is located at ... 3B896000    it's length is ... 004E2100
The BMAH             is located at ... 3F546000    it's length is ... 051B5FE0
The BPCX             is located at ... 3BD79000    it's length is ... 00271100
The BMAH             is located at ... 446FC000    it's length is ... 028DB020
The BPCX             is located at ... 3BFEB000    it's length is ... 00271100
The BMAH             is located at ... 46FD8000    it's length is ... 028DB020
```



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DCMT Vary Buffer DEFAULT_BUFFER 45000

```

V B DEFAULT_BUFFER 45000
--- Data Buffer -- Size      In-use      Max      Getstg  Prfetch-Min  Prefetch
DEFAULT_BUFFER    4276      45000     100000    OPSYS      500 Not-Allowd
Synonym Table      User-Defined  System-Calculated  Total-Space Used
                   800                      262144          1.0meg
Allocation         Initial    Addit'l  Num-Alloc  Size-Init  Size-Add'l  Tot-Space
                   20000     10000      4    90.8meg   107.1meg   197.9meg
Storage            Stg-Pools  Getmain'd Above-16mb Below-16mb  Total
                   9k    207.1meg  207.1meg          0    207.1meg

```



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DCMT Display Buffer DEFAULT_BUFFER LOC

```

D B DEFAULT_BUFFER LOC
--- Data Buffer -- Size      In-use      Max      Getstg  Prfetch-Min  Prefetch
DEFAULT_BUFFER    4276      45000     100000    OPSYS      500 Not-Allowd
Synonym Table      User-Defined  System-Calculated  Total-Space Used
                   800                      262144          1.0meg
Allocation         Initial    Addit'l  Num-Alloc  Size-Init  Size-Add'l  Tot-Space
                   20000     10000      4    90.8meg   107.1meg   197.9meg
Storage            Stg-Pools  Getmain'd Above-16mb Below-16mb  Total
                   9k    207.1meg  207.1meg          0    207.1meg
DEFAULT_BUFFER    is located at ... 3A70C9C0
The BCR           is located at ... 3DE5B988
The BPC           is located at ... 3B49D000    it's length is ... 001000D0
The Bit List      is located at ... 3B59E000    it's length is ... 00067DB8
The SPC           is located at ... 3DEB2D08    it's length is ... 00002500
The BPCX          is located at ... 3B896000    it's length is ... 004E2100
The BMAH          is located at ... 3F546000    it's length is ... 051B5FE0
The BPCX          is located at ... 3BD79000    it's length is ... 00271100
The BMAH          is located at ... 446FC000    it's length is ... 028DB020
The BPCX          is located at ... 3BFEB000    it's length is ... 00271100
The BMAH          is located at ... 46FD8000    it's length is ... 028DB020
The BPCX          is located at ... 3C25D000    it's length is ... 00271100
The BMAH          is located at ... 498B4000    it's length is ... 0146D840

```



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DCMT Vary Buffer DEFAULT_BUFFER 41000

```

V B DEFAULT_BUFFER 41000
--- Data Buffer --- Size      In-use      Max      Getstg  Prfetch-Min  Prefetch
DEFAULT_BUFFER      4276      41000      100000    OPSYS          500 Not-Allowd
Synonym Table        User-Defined  System-Calculated  Total-Space Used
                        800                262144                1.0meg
Allocation      Initial  Addit'l  Num-Alloc  Size-Init  Size-Add'l  Tot-Space
                20000    10000      4      90.8meg    107.1meg    197.9meg
Storage                        Stg-Pools  Getmain'd  Above-16mb  Below-16mb  Total
                        9k      207.1meg  207.1meg          0      207.1meg

```



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DCMT Display Buffer DEFAULT_BUFFER LOC

```

D B DEFAULT_BUFFER LOC
--- Data Buffer --- Size      In-use      Max      Getstg  Prfetch-Min  Prefetch
DEFAULT_BUFFER      4276      41000      100000    OPSYS          500 Not-Allowd
Synonym Table        User-Defined  System-Calculated  Total-Space Used
                        800                262144                1.0meg
Allocation      Initial  Addit'l  Num-Alloc  Size-Init  Size-Add'l  Tot-Space
                20000    10000      4      90.8meg    107.1meg    197.9meg
Storage                        Stg-Pools  Getmain'd  Above-16mb  Below-16mb  Total
                        9k      207.1meg  207.1meg          0      207.1meg
DEFAULT_BUFFER      is located at ... 3A70C9C0
The BCR              is located at ... 3DE5B988
The BPC              is located at ... 3B49D000      it's length is ... 001000D0
The Bit List         is located at ... 3B59E000      it's length is ... 00067DB8
The SPC              is located at ... 3DEB2D08      it's length is ... 00002500
The BPCX             is located at ... 3B896000      it's length is ... 004E2100
The BMAH             is located at ... 3F546000      it's length is ... 051B5FE0
The BPCX             is located at ... 3BD79000      it's length is ... 00271100
The BMAH             is located at ... 446FC000      it's length is ... 028DB020
The BPCX             is located at ... 3BFEB000      it's length is ... 00271100
The BMAH             is located at ... 46FD8000      it's length is ... 028DB020
The BPCX             is located at ... 3C25D000      it's length is ... 00271100
The BMAH             is located at ... 498B4000      it's length is ... 0146D840

```



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DCMT Vary Buffer DEFAULT_BUFFER 46000

```

D B DEFAULT_BUFFER LOC
--- Data Buffer --- Size      In-use      Max      Getstg  Prf fetch-Min  Prefetch
DEFAULT_BUFFER      4276      46000      100000   OPSYS      500 Not-Allowd
Synonym Table       User-Defined  System-Calculated  Total-Space Used
                        800                        262144                        1.0meg
Allocation          Initial    Addit'l    Num-Alloc  Size-Init  Size-Add'l  Tot-Space
                        20000      10000      5          90.8meg   111.4meg   202.2meg
Storage              Stg-Pools  Getmain'd  Above-16mb Below-16mb  Total
                        9k         211.3meg   211.3meg   0          211.3meg
DEFAULT_BUFFER      is located at ... 3A70C9C0
The BCR              is located at ... 3DE5B988
The BPC              is located at ... 3B49D000      it's length is ... 001000D0
The Bit List         is located at ... 3B59E000      it's length is ... 00067DB8
The SPC              is located at ... 3DEB2D08      it's length is ... 00002500
The BPCX             is located at ... 3B896000      it's length is ... 004E2100
The BMAH             is located at ... 3F546000      it's length is ... 051B5FE0
The BPCX             is located at ... 3BD79000      it's length is ... 00271100
The BMAH             is located at ... 446FC000      it's length is ... 028DB020
The BPCX             is located at ... 3BFEB000      it's length is ... 00271100
The BMAH             is located at ... 46FD8000      it's length is ... 028DB020
The BPCX             is located at ... 3C25D000      it's length is ... 00271100
The BMAH             is located at ... 498B4000      it's length is ... 0146D840
The BMAH             is located at ... 4AD22000      it's length is ... 00415EC0

```



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Defining a Journal Buffer

OCF 18.5 IDMS NO ERRORS DICT=SYSTEM 1/8 TECHDC80

```

- CREATE
  JOURNAL BUFFER R170DMCL.JNL_BUFFER
*+  CREATED 2007-12-21-13.51.17.690080
    PAGE SIZE 2004 CHARACTERS
    BUFFER PAGES 100
    ;

```



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DCMT Display BUFFER JNL_BUFFER

```

D B JNL_BUFFER
- Journal Buffer - Size # In-Use      Waits      DB      Ckpt
JNL_BUFFER      2004      100      0      0      1
                  # of Recoveries      I/O's      in Buffer
                  0      0      0
                Waits on Prior IO      Forced IO: Deadlock      Split
                  0      0      0

```



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DCMT Display BUFFER

```

D B
--- Data Buffer --- Size      In-use      Max      Getstg      Prfetch-Min      Prefetch
SESA BUFFER      4276      500      500      OPSYS      500      Not-Allowd
LSR_BUFFER_4096  4096      Vsam LSR      0      OPSYS
NSR_CPF          1024      Vsam NSR      0      OPSYS
DEFAULT_BUFFER   4276      46000      100000      OPSYS      500      Not-Allowd
LOG_BUFFER       4276      5      5      OPSYS      500      Not-Allowd
LSR_BUFFER       28672      Vsam LSR      0      OPSYS
NSR_BUFFER       28672      Vsam NSR      0      OPSYS

- Journal Buffer - Size # In-Use      Waits      DB      Ckpt
JNL_BUFFER      2004      100      0      0      1
                  # of Recoveries      I/O's      in Buffer
                  0      0      0
                Waits on Prior IO      Forced IO: Deadlock      Split
                  0      0      0

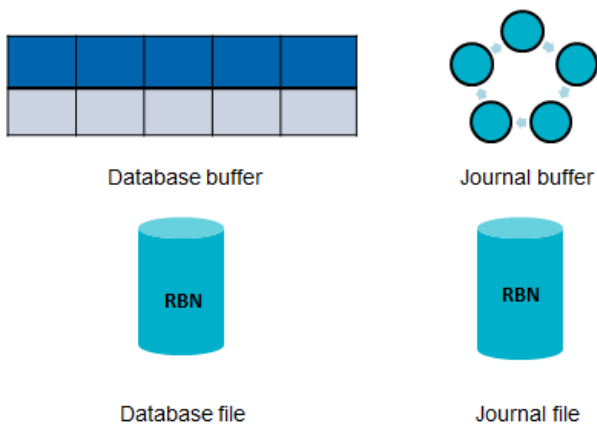
```



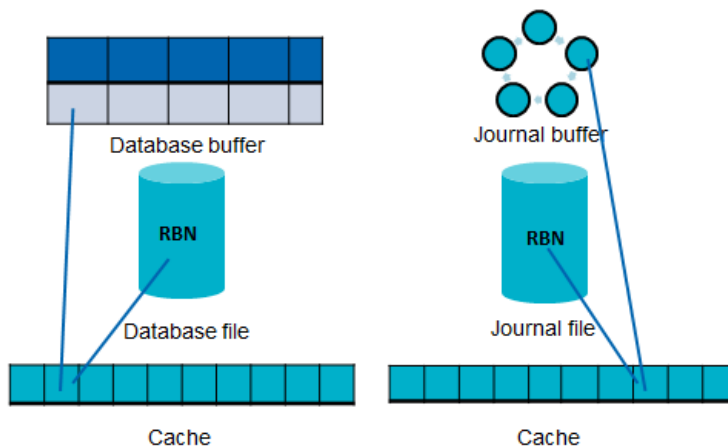
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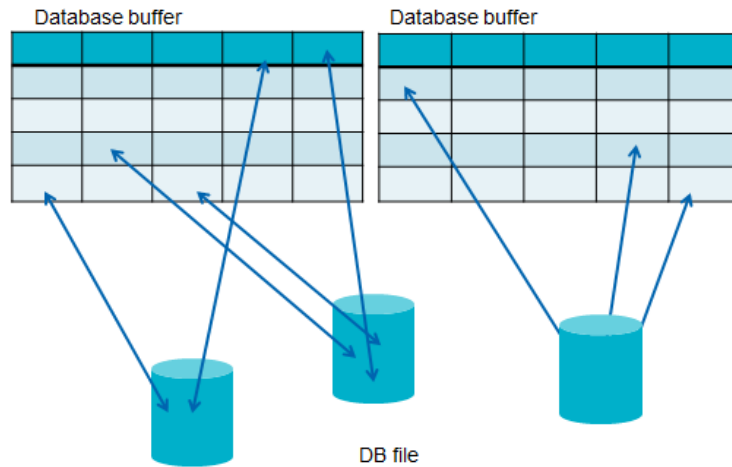
Database and Journal files and buffers



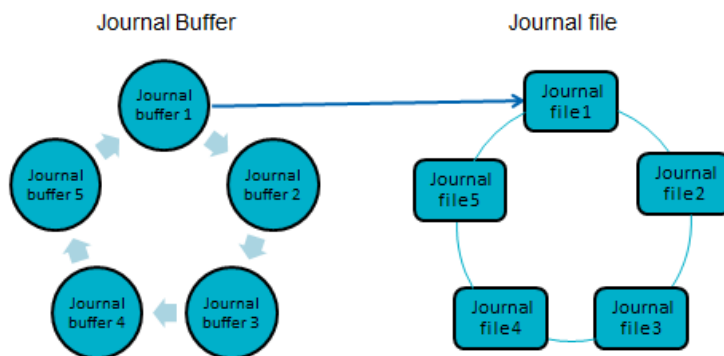
Database and Journal files and buffers



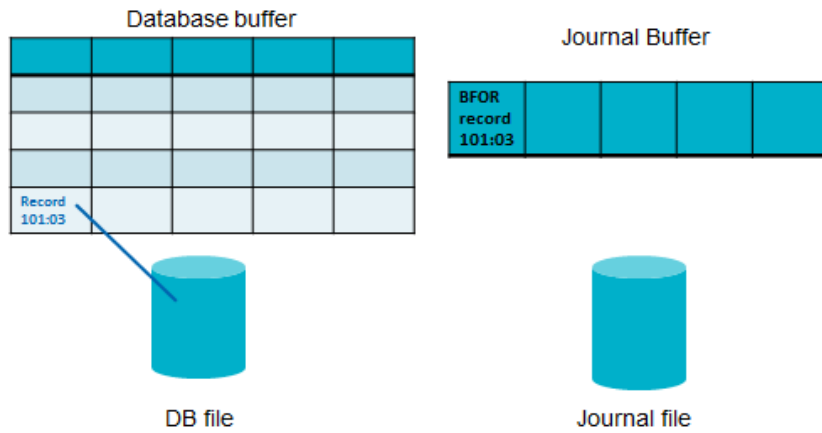
Database files and buffers



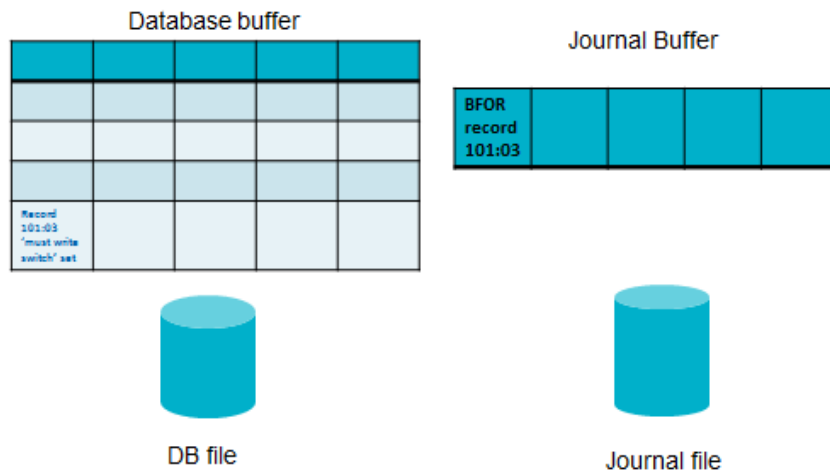
Journal file and buffers



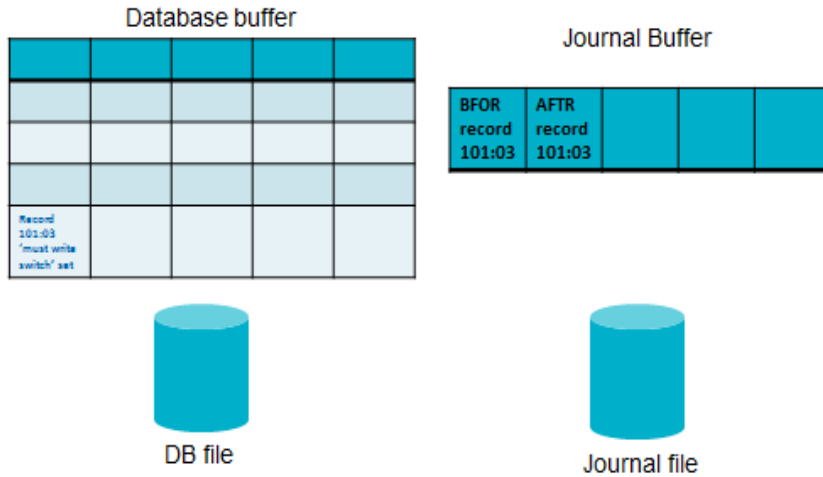
Database Read into buffer



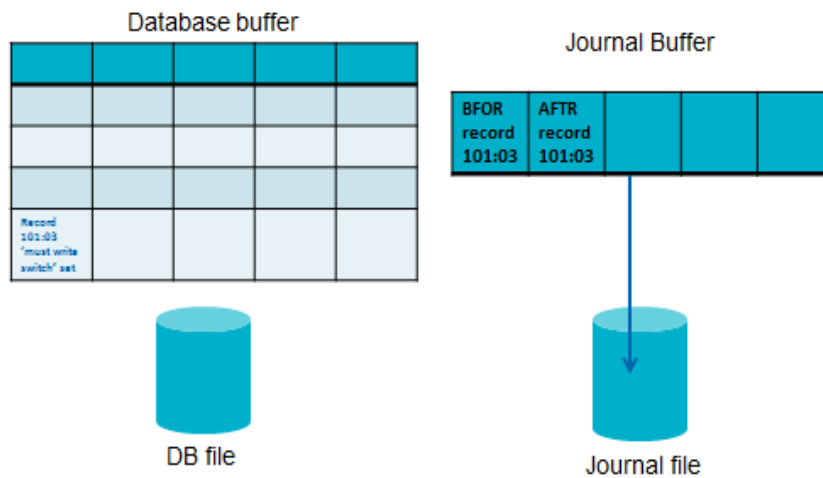
Database Update in buffer



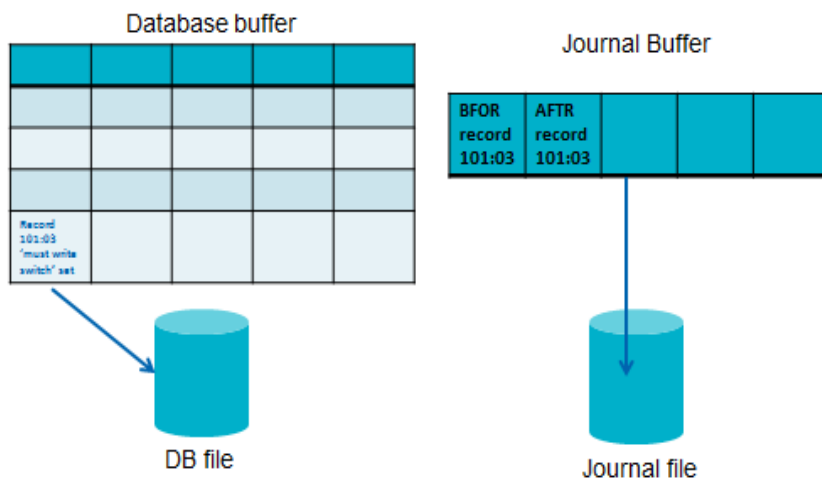
After image is built in Journal buffer



Write to Journal

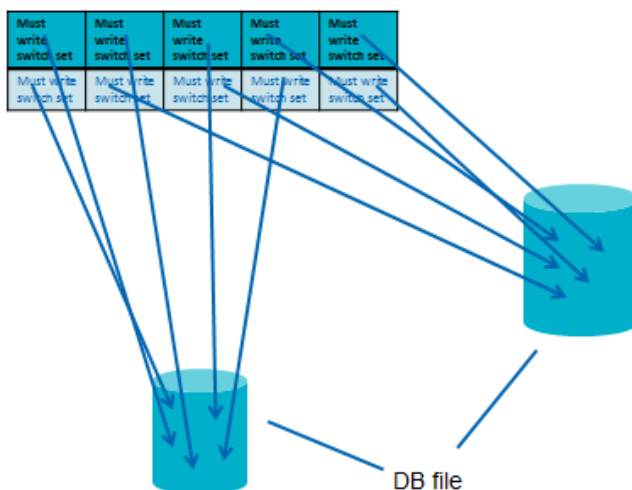


Write to Database

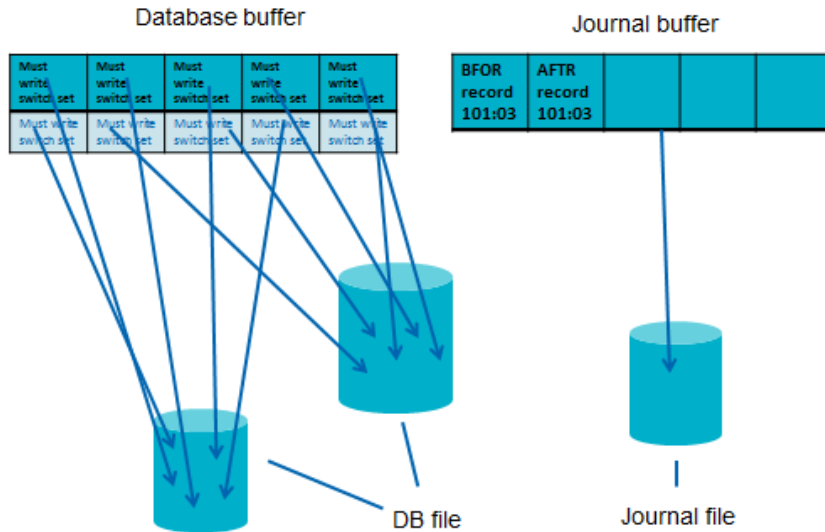


Database update, all buffers have 'must write switch' set

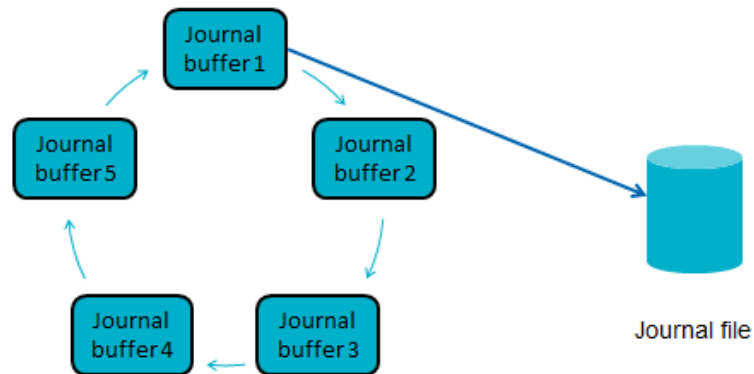
Database buffer



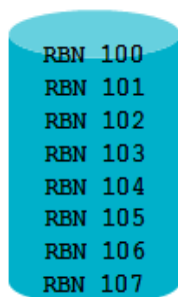
Database update, write journal first



Journal buffer and I/O



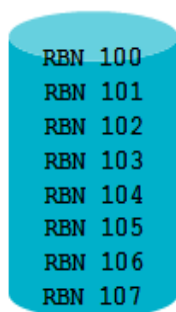
Journal I/O



Journal file

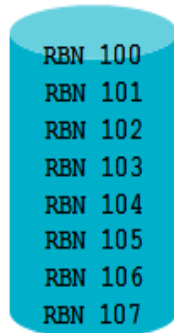
Transaction 5000, start I/O – RBN 100
Transaction 5010, start I/O – RBN 101
Transaction 5020, start I/O – RBN 102
Transaction 5030, start I/O – RBN 103
Transaction 5040, start I/O – RBN 104
Transaction 5050, start I/O – RBN 105
Transaction 5060, start I/O – RBN 106
Transaction 5070, start I/O – RBN 107

Journal I/O



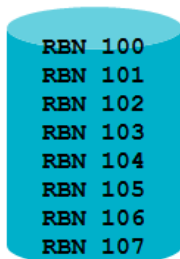
Transaction 5000, waiting on I/O – RBN 100
Transaction 5010, waiting on I/O – RBN 101
Transaction 5020, I/O finished – RBN 102
Transaction 5030, I/O finished – RBN 103
Transaction 5040, waiting on I/O – RBN 104
Transaction 5050, I/O finished – RBN 105
Transaction 5060, waiting on I/O – RBN 106
Transaction 5070, waiting on I/O – RBN 107

Journal I/O



Transaction 5000, waiting on I/O – RBN 100 – JBEE - 1
Transaction 5010, waiting on I/O – RBN 101
Transaction 5020, I/O finished, wait on JBEE - 1
Transaction 5030, I/O finished, wait on JBEE - 1
Transaction 5040, waiting on I/O – RBN 104 – JBEE - 2
Transaction 5050, I/O finished, wait on JBEE - 2
Transaction 5060, waiting on I/O – RBN 106
Transaction 5070, waiting on I/O – RBN 107

DCMT Display Buffer

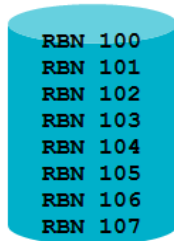


Transaction 5000, waiting on I/O – RBN 100 – JBEE - 1
Transaction 5010, waiting on I/O – RBN 101
Transaction 5020, I/O finished, wait on JBEE - 1
Transaction 5030, I/O finished, wait on JBEE - 1
Transaction 5040, waiting on I/O – RBN 104 – JBEE - 2
Transaction 5050, I/O finished, wait on JBEE - 2
Transaction 5060, waiting on I/O – RBN 106
Transaction 5070, waiting on I/O – RBN 107

This shows up on a DCMT Display Buffer, or DCMT Display Buffer journal-buffer as:

Waits on prior I/O
3

Journal I/O error on RBN 100



Transaction 5000, waiting on I/O – RBN 100 – JBEE - 1
Transaction 5010, waiting on I/O – RBN 101
Transaction 5020, I/O finished, wait on JBEE - 1
Transaction 5030, I/O finished, wait on JBEE - 1
Transaction 5040, waiting on I/O – RBN 104 – JBEE - 2
Transaction 5050, I/O finished, wait on JBEE - 2
Transaction 5060, waiting on I/O – RBN 106
Transaction 5070, waiting on I/O – RBN 107

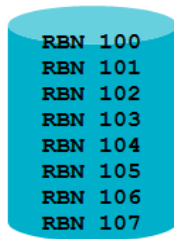
- Stop Journaling
- Set High RBN to 99
- Swap to the next journal
- CA IDMS takes journal buffers for RBN 100 – 107 and writes to the new journal
- Restart journaling



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Journal I/O error on RBN 100



Transaction 5000, waiting on I/O – RBN 100 – JBEE - 1
Transaction 5010, waiting on I/O – RBN 101
Transaction 5020, I/O finished, wait on JBEE - 1
Transaction 5030, I/O finished, wait on JBEE - 1
Transaction 5040, waiting on I/O – RBN 104 – JBEE - 2
Transaction 5050, I/O finished, wait on JBEE - 2
Transaction 5060, waiting on I/O – RBN 106
Transaction 5070, waiting on I/O – RBN 107

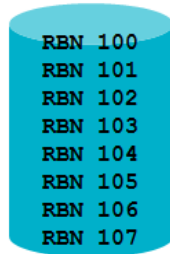
- When recovery, either automatic recovery or warmstart, or the Archive Journal reads the old journal, it will stop at RBN 99
- They will not read RBN 100
- Even though RBN 102, 103 and 105 were successfully written to the old journal, the high RBN of 99 will stop CA IDMS from accessing RBNs 102, 103 and 105



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DCMT Display Buffer



Transaction 5000, waiting on I/O – RBN 100 – JBEE - 1
Transaction 5010, waiting on I/O – RBN 101
Transaction 5020, I/O finished, wait on JBEE - 1
Transaction 5030, I/O finished, wait on JBEE - 1
Transaction 5040, waiting on I/O – RBN 104 – JBEE - 2
Transaction 5050, I/O finished, wait on JBEE - 2
Transaction 5060, waiting on I/O – RBN 106
Transaction 5070, waiting on I/O – RBN 107

This shows up on a DCMT Display Buffer, or DCMT Display Buffer journal-buffer as

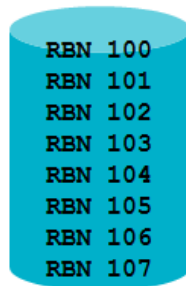
Waits
0



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DCMT Display Buffer



Transaction 5000, waiting on I/O – RBN 100
Transaction 5010, waiting on I/O – RBN 101
Transaction 5020, waiting on I/O – RBN 102
Transaction 5030, waiting on I/O – RBN 103
Transaction 5040, waiting on I/O – RBN 104
Transaction 5050, waiting on I/O – RBN 105
Transaction 5060, waiting on I/O – RBN 106
Transaction 5070, waiting on I/O – RBN 107

If you have 8 journal buffers, and all are waiting for I/O, the 9th transaction will wait for a journal buffer.

This shows up on a DCMT Display Buffer, or DCMT Display Buffer journal-buffer as

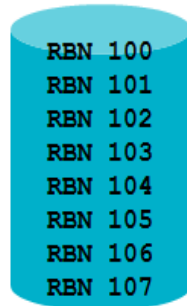
Waits
1



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Journal buffer and I/O



Transaction 5000, waiting on I/O – RBN 100
Transaction 5010, waiting on I/O – RBN 101
Transaction 5020, waiting on I/O – RBN 102
Transaction 5030, waiting on I/O – RBN 103
Transaction 5040, waiting on I/O – RBN 104
Transaction 5050, waiting on I/O – RBN 105
Transaction 5060, waiting on I/O – RBN 106
Transaction 5070, waiting on I/O – RBN 107

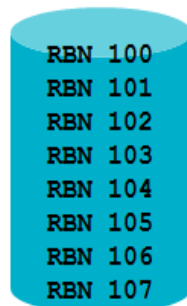
- If the Wait count is anything but '0', then add buffers to the journal buffer
- An additional 1 or 2 make a tremendous difference



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Journal I/O



Transaction 5000, waiting on I/O – RBN 100
Transaction 5010, waiting on I/O – RBN 101
Transaction 5020, waiting on I/O – RBN 102
Transaction 5030, waiting on I/O – RBN 103
Transaction 5040, waiting on I/O – RBN 104
Transaction 5050, waiting on I/O – RBN 105
Transaction 5060, waiting on I/O – RBN 106
Transaction 5070, waiting on I/O – RBN 107

- If Waits on Prior I/O is high, then the bottleneck is most likely the journal itself
- The I/O is taking too long - adding buffers to the Journal Buffer will NOT help the situation
- Talk to the system's group, and see if the I/O speed to the journal can be

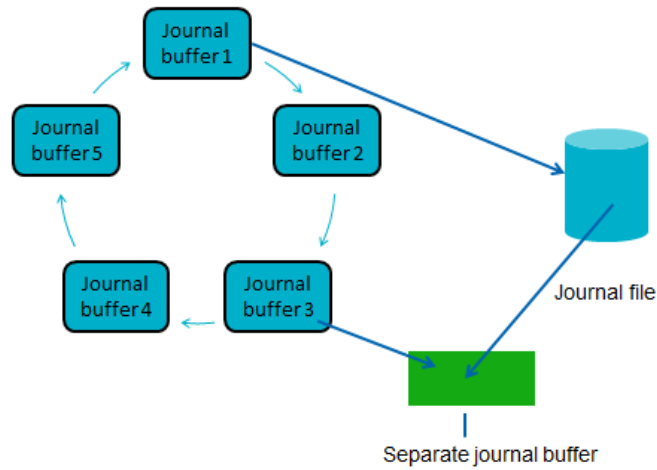


proved

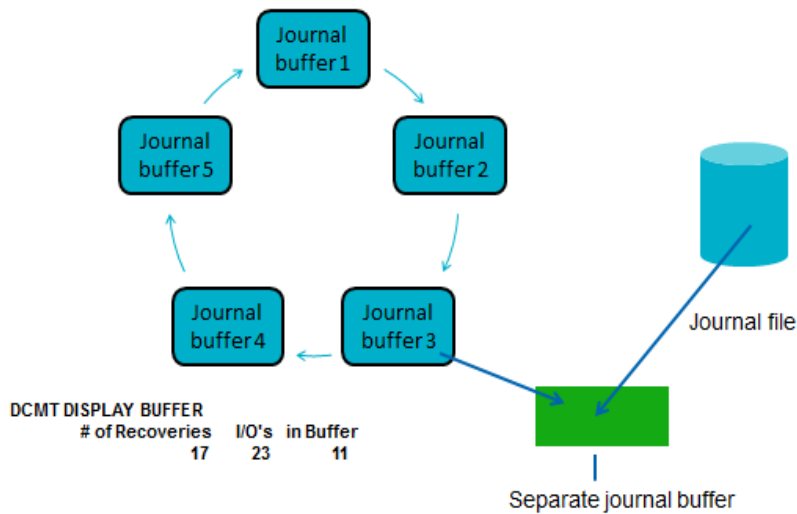
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Journal buffer pool - recovery

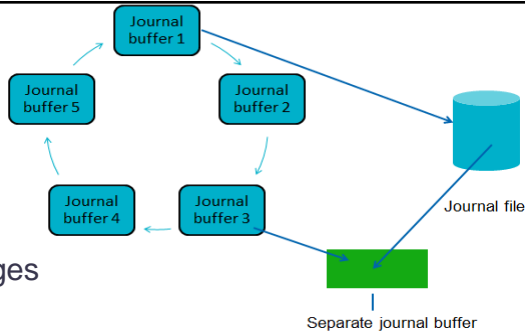


DCMT Display Buffer



Journal Buffer Pool Recovery

- Recovery will look in the journal buffers first, to see if the journal images are still in the buffers
- If there are more journal images that are not in the buffers, CA IDMS will read the journal backwards
- Most DASD is Cached at the device level
 - Cache works like a buffer pool however, it is built to work in a forward direction, not backwards like recovery
 - Warmstart will read the journal backwards
 - Make sure applications issue commits, so warmstart does not have to read many blocks backwards



zIIP processing

- All I/O is done in TCB mode
- All user mode CPU runs in TCB mode
- When not issuing I/O or SVCs, CA IDMS runs in SRB mode, or zIIP mode
- By reducing I/O, you will increase zIIP utilization
- Increase Database Buffers where possible

Summary

- Increase Database buffers to reduce I/O
- Increase Journal buffers to help recovery
- Reducing I/O will help zIIP processing



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General Comments:
