Cluster Nucleus Session End Statistics

In addition to the end-of-session statistics printed by every Adabas nucleus, the statistics for a cluster nucleus also include external cache and lock statistics.

If you are running the selectable unit Adabas Online System (AOS), all of the statistics shown in the following sample output are displayed.

If you are running only the demo version of AOS delivered with Adabas, the statistics displayed are limited as follows:

Section	Displays statistics only for...
External Cache Statistics	totals, DS, and NI
External Lock Statistics	buffer flush, hold ISN, new data RABN, and global update command sync locks

This chapter covers the following topics:

- General Nucleus Information

- Input/Output Statistics

- Command Statistics

- User Statistics

- Efficiency Statistics

- External Cache Statistics (Cluster Nucleus Only)

- External Lock Statistics (Cluster Nucleus Only)

- Dataset Activity Statistics

General Nucleus Information

```
The   A d a b a s   nucleus session

Started  2001-02-13 22:58  and  ended  2001-02-13
23:05

Duration      00000:06:59   hours
Wait-time     00000:02:26   hours
Cpu-time      00000:00:53   hours
```

Input/Output Statistics

I/O Counts (Including Initialization)

```
READS       WRITES
-----------------------------------
ASSO             4710        6913
DATA             1750        2853
WORK                3        7251
PLOG                0           0
CLOG                0           0
-----------------------------------
Total            6463       17017
```

Log Reads and Buffer Efficiency

```
Log. reads        173,393
Buffer eff.       26.8
```

Distribution of ASSO/DATA I/Os by Volser Number (Excluding Initialization)

```
Vol-ser      High RABN      Count
-----------------------------------
 WRKMO1 (ASSO      8082)     11599
 WRKMO1 (DATA      5990)      4603
-----------------------------------
TOTAL                       16202
```

Command Statistics

Count of Calls Executed and Threads Used

```
A d a b a s  executed      10,249 calls

                 in            8 threads
```

Distribution of Commands by Source

```
Source               Number
-----------------------------------
Remote   commands         0
Local    commands    10,102
Internal commands       144
Operator commands         3
```

Distribution of Commands by Thread

```
Thread               Number
-----------------------------------
    1                 2,657
    2                 1,803
    3                 1,401
    4                 1,300
    5                 1,193
    6                   977
```

```
    7                        917
    8                          1
----------------------------------
Total                     10,249
```

Distribution of Commands by File

```
File                     Number
----------------------------------
      0                    4,282
     30                    5,968
----------------------------------
Total                     10,250
```

Distribution of Commands by Type

```
Cmd-type                 Number
----------------------------------
  A1/4                     1,968
  CL                          44
  ET                       4,040
  N1/2                     2,000
  OP                          43
  UC                           7
  REST                     2,148
----------------------------------
Total                     10,250
```

User Statistics

```
There were        43  users     participating

Most calls (      303)    initiated by user   USADFMB2

Most I/O-s (      331)    initiated by user   USADFMB2

Most thr.-time (00:00:08) was  used  by user   USADFMB1
```

Efficiency Statistics

```
46 Formats had to be translated

         0 Formats had to be overwritten

         0 Autorestarts were done

         0 Throw-backs due to  ISN  problem

         0 Throw-backs due to space problem

       143 Bufferflushes   were done
```

Buffer Flush Information

```
Flush phases                              212
Blocks flushed                         28,503
Flush I/Os                              8,756
```

```
Flush requests:
 Return immediately                  52,658
 Return after logical flush               0
 Return after entire  flush              15
```

Actual High-water Marks for Major Pools (Except the Bufferpool)

```
AREA            ADARUN PARM    HIGH-WATER-MARK
     -------------------------------------------------
 AB  -POOL     NAB=   2000        51712 (  0 %)
 CQ  -POOL     NC =  96000         3840 (  4 %)
 DUQ -POOL     LDE=   5000            0 (  0 %)
 FI  -POOL     LFP=  20000         6560 ( 32 %)
 HQ  -POOL     NH =  16856          588 (  3 %)
 SC  -POOL     LCP=  10000            0 (  0 %)
 TBI -POOL     LI =  10000            0 (  0 %)
 TBS -POOL     LQ = 100000            0 (  0 %)
 UQ  -POOL     NU =    500         8844 (  6 %)
 UQF -POOL     NU =    500         1512 (  3 %)
 WORK-POOL     LWP= 800000       114296 ( 14 %)
 XID -POOL     XID=                     (  0 %)
```

External Cache Statistics (Cluster Nucleus Only)

```
Cast-out dir   :            188
 Synchronous   :            188
 Asynchronous  :              0

Unlock cast-out:            212
 Synchronous   :            132
 Asynchronous  :             80

Directory reads:              3
 Synchronous   :              0
 Asynchronous  :              3
```

Totals

```
Reads          :         15,006
 Synchronous   :         15,006
 Asynchronous  :              0

 In cache      :          6,245
 Not in cache  :          8,761
 Structure full:              0

Writes         :         66,726
 Synchronous   :         66,726
 Asynchronous  :              0

 Written       :         66,726
 Not written   :              0
 Structure full:              0

Validates      :        327,623
 Block invalid :              0

Cast-out reads :         28,503
 Synchronous   :         28,503
```

```
 Asynchronous  :              0

Deletes        :              0
 Timeouts      :              0
```

Address Converter (AC)

```
Reads          :              8
 Synchronous   :              8
 Asynchronous  :              0

 In cache      :              0
 Not in cache  :              8
 Structure full:              0

Writes         :          2,004
 Synchronous   :          2,004
 Asynchronous  :              0

 Written       :          2,004
 Not written   :              0
 Structure full:              0

Validates      :          5,983
 Block invalid :              0

Cast-out reads :             72
 Synchronous   :             72
 Asynchronous  :              0

Deletes        :              0
 Timeouts      :              0
```

Data Storage (DS)

```
Reads          :          2,775
 Synchronous   :          2,775
 Asynchronous  :              0

 In cache      :             26
 Not in cache  :          2,749
 Structure full:              0

Writes         :          4,972
 Synchronous   :          4,972
 Asynchronous  :              0

 Written       :          4,972
 Not written   :              0
 Structure full:              0

Validates      :          9,965
 Block invalid :              0

Cast-out reads :          2,921
 Synchronous   :          2,921
 Asynchronous  :              0

Deletes        :              0
 Timeouts      :              0
```

Data Storage Space Table (DSST)

```
Reads          :              2
 Synchronous   :              2
 Asynchronous  :              0

 In cache      :              0
 Not in cache  :              2
 Structure full:              0

Writes         :          2,004
 Synchronous   :          2,004
 Asynchronous  :              0

 Written       :          2,004
 Not written   :              0
 Structure full:              0

Validates      :          4,490
 Block invalid :              0

Cast-out reads :             69
 Synchronous   :             69
 Asynchronous  :              0

Deletes        :              0
 Timeouts      :              0
```

File Control Block (FCB)

```
Reads          :              5
 Synchronous   :              5
 Asynchronous  :              0

 In cache      :              0
 Not in cache  :              5
 Structure full:              0

Writes         :          4,970
 Synchronous   :          4,970
 Asynchronous  :              0

 Written       :          4,970
 Not written   :              0
 Structure full:              0

Validates      :         56,029
 Block invalid :              0

Cast-out reads :            119
 Synchronous   :            119
 Asynchronous  :              0

Deletes        :              0
 Timeouts      :              0
```

Normal Index (NI)

```
Reads           :          12,057
 Synchronous    :          12,057
 Asynchronous   :               0

 In cache       :           6,219
 Not in cache   :           5,838
 Structure full:               0

Writes          :          44,096
 Synchronous    :          44,096
 Asynchronous   :               0

 Written        :          44,096
 Not written    :               0
 Structure full:               0

Validates       :          25,685
 Block invalid  :               0


Cast-out reads  :          22,973
 Synchronous    :          22,973
 Asynchronous   :               0

Deletes         :               0
 Timeouts       :               0
```

Upper Index (UI)

```
Reads           :             159
 Synchronous    :             159
 Asynchronous   :               0

 In cache       :               0
 Not in cache   :             159
 Structure full:               0

Writes          :           8,680
 Synchronous    :           8,680
 Asynchronous   :               0

 Written        :           8,680
 Not written    :               0
 Structure full:               0

Validates       :         225,471
 Block invalid  :               0

Cast-out reads  :           2,349
 Synchronous    :           2,349
 Asynchronous   :               0

Deletes         :               0
 Timeouts       :               0
```

File Statistics for Files with More than 25% of the Total Cache Statistics

```
File    30:

Reads           :           14,998
Writes          :           64,710
Validates       :          323,105
```

External Lock Statistics (Cluster Nucleus Only)

General Control Block (GCB) Lock

```
Obtains - Conditional     :           0
            Granted       :           0
            Rejected      :           0
          Unconditional   :           0
          Synchronous     :           0
          Asynchronous    :           0

Releases - Issued         :           0
          Synchronous     :           0
          Asynchronous    :           0
```

Security Lock

```
Obtains - Conditional     :           0
            Granted       :           0
            Rejected      :           0
          Unconditional   :           0
          Synchronous     :           0
          Asynchronous    :           0

Releases - Issued         :           0
          Synchronous     :           0
          Asynchronous    :           0
```

File Space Table (FST) Lock

```
Obtains - Conditional     :           1
            Granted       :           1
            Rejected      :           0
          Unconditional   :           1
          Synchronous     :           2
          Asynchronous    :           0

Releases - Issued         :           2
          Synchronous     :           2
          Asynchronous    :           0
```

File Lock Table Lock

```
Obtains - Conditional     :           0
            Granted       :           0
            Rejected      :           0
          Unconditional   :           5
          Synchronous     :           5
          Asynchronous    :           0
```

```
Releases - Issued          :              5
        Synchronous        :              5
        Asynchronous       :              0
```

Online Save Lock

```
Obtains - Conditional      :              0
        Granted            :              0
        Rejected           :              0
        Unconditional      :              0
        Synchronous        :              0
        Asynchronous       :              0

Releases - Issued          :              0
        Synchronous        :              0
        Asynchronous       :              0
```

Buffer Flush Lock

```
Obtains - Conditional      :              0
        Granted            :              0
        Rejected           :              0
        Unconditional      :            152
        Synchronous        :            152
        Asynchronous       :              0

Releases - Issued          :            152
        Synchronous        :            152
        Asynchronous       :              0
```

Global ET Sync Lock

```
Obtains - Conditional      :              0
        Granted            :              0
        Rejected           :              0
        Unconditional      :              0
        Synchronous        :              0
        Asynchronous       :              0

Releases - Issued          :              0
        Synchronous        :              0
        Asynchronous       :              0
```

Recovery Lock

```
Obtains - Conditional      :              0
        Granted            :              0
        Rejected           :              0
        Unconditional      :              0
        Synchronous        :              0
        Asynchronous       :              0

Releases - Issued          :              0
        Synchronous        :              0
        Asynchronous       :              0
```

Hold ISN Locks

```
Obtains - Conditional        :           3972
          Granted            :           3972
          Rejected           :              0
          Unconditional      :              0
          Synchronous        :           3972
          Asynchronous       :              0

Releases - Issued            :           3972
           Synchronous       :           3972
           Asynchronous      :              0
```

Unique Descriptor Locks

```
Obtains - Conditional        :              0
          Granted            :              0
          Rejected           :              0
          Unconditional      :              0
          Synchronous        :              0
          Asynchronous       :              0

Releases - Issued            :              0
           Synchronous       :              0
           Asynchronous      :              0
```

ETID Locks

```
Obtains - Conditional        :              0
          Granted            :              0
          Rejected           :              0
          Unconditional      :              0
          Synchronous        :              0
          Asynchronous       :              0

Releases - Issued            :              0
           Synchronous       :              0
           Asynchronous      :              0
```

New Data RABN Locks

```
Obtains - Conditional        :              0
          Granted            :              0
          Rejected           :              0
          Unconditional      :           1000
          Synchronous        :           1000
          Asynchronous       :              0

Releases - Issued            :           1000
           Synchronous       :           1000
           Asynchronous      :              0
```

Checkpoint Lock

```
Obtains - Conditional        :              0
          Granted            :              0
          Rejected           :              0
          Unconditional      :              4
          Synchronous        :              4
          Asynchronous       :              0
```

```
Releases - Issued              :              4
          Synchronous          :              4
          Asynchronous         :              0
```

ET Data Lock

```
Obtains - Conditional          :              0
            Granted            :              0
            Rejected           :              0
          Unconditional        :              0
          Synchronous          :              0
          Asynchronous         :              0

Releases - Issued              :              0
          Synchronous          :              0
          Asynchronous         :              0
```

Global Update Command Sync Lock

```
Obtains - Conditional          :              0
            Granted            :              0
            Rejected           :              0
          Unconditional        :            143
          Synchronous          :            143
          Asynchronous         :              0

Releases - Issued              :            143
          Synchronous          :            143
          Asynchronous         :              0
```

Parameter Lock

```
Obtains - Conditional          :              0
            Granted            :              0
            Rejected           :              0
          Unconditional        :              0
          Synchronous          :              0
          Asynchronous         :              0

Releases - Issued              :              0
          Synchronous          :              0
          Asynchronous         :              0
```

Dataset Activity Statistics

```
...................................................
ADAI03 DDWORKR1        3 READS     7251 WRITES
ADAI03 DDDATAR1     1750 READS     2853 WRITES
ADAI03 DDASSOR1     4710 READS     6913 WRITES
```