

# 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)
- Data Set Activity Statistics

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## 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 0000:06:59 hours  
Wait-time 0000:02:26 hours  
Cpu-time 0000:00:53 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

## Data Set Activity Statistics

```

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

```