

Transaction Enabler aestats File

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This paper aims to explain the contents of the aestats file, which is created by the Composer Transaction Enabler program aefad. This information is valid for both Composer 3 and Composer 4 releases, and is platform independent. The author wishes to recognize Gerry Boyd of the UNIX Development group in Dallas for his major contributions to this paper.

Location of aestats file

The aestats file will be created in the directory pointed to by the \$AEHOME environment variable, or if this is not set, in the directory from which the aefad program is started.

Parameters

-p: This specifies the length of time (in minutes) that the AEFAD server waits before it writes the transaction summary and load module statistics into the aestats file. Default value: 15

-s: This is a value specifying which options are to be logged to the aestats file. This number is the sum of the following values which activate particular loggings:

8 - AEFAD CPU utilization statistics

4 - AEFAD send/receive statistics

2 - APPL statistics

1 - USER statistics

Default value: 3 (USER and APPL statistics will be logged)

Examples:

aefad -s 5

(USER and AEFAD send/receive statistics will be logged)

aefad -s 11

(USER, APPL, and AEFAD CPU utilization statistics will be logged)

I recommend that a value of 15 be used in order to capture all statistics.

Contents of aestats file

In this example, the aefad was started with the -s parameter assigned the value 15, in order to get all statistics written out to the aestats file. All times written to aestats are elapsed.

PERIOD ENDED refers to the end of the period specified by the parameter -p, in this case this is the default value of 15 minutes. The values for **max** and **aver** in all the statistics are given in seconds.

Load Module Statistics

> PID=003311: 07/30/96 10:30:00 LM1 PERIOD ENDED

> PID=003311: trancode=TRAN1, trans= 22, max= 0.400, aver= 0.399, 23%

> PID=003311: trancode=TRAN2, trans= 72, max= 5.200, aver= 0.564, 76%

> PID=003311: total transactions=94, average response= 0.525

94 transactions were run by load module LM1 during the period, of which 22 were TRAN1 (23%) & 72 were TRAN2 (76%).

TRAN1: Maximum response time = .4 seconds
Average response time = .399 seconds

TRAN2: Maximum response time = 5.2 seconds
Average response time = .564 seconds

The average response time for all transactions during the period was 0.525 seconds.

The response time refers to 'aefad to Composer server & back to aefad' and does not include the network time from client to aefad and from aefad back to the client. It also does not include any time spent queued for the Composer server.

AEFAD Send / Receive Statistics

> PID=020683: 07/30/96 10:30:00 AEFAD PERIOD ENDED

> PID=020683: period= 1 #=2431, max= 0.000, aver= 0.000, 99%

> PID=020683: period= 50 #= 5, max= 0.010, aver= 0.010, 0%

> PID=020683: period= 100 #= 0, max= 0.000, aver= 0.000, 0%

> PID=020683: period= 500 #= 0, max= 0.000, aver= 0.000, 0%

> PID=020683: period=1000 #= 0, max= 0.000, aver= 0.000, 0%

> PID=020683: period=5000 #= 0, max= 0.000, aver= 0.000, 0%

> PID=020683: 07/30/96 10:30:00 RECV #= 2436 (2.7), aver = 0.000

>

> PID=020683: 07/30/96 10:30:00 AEFAD PERIOD ENDED

> PID=020683: period= 1 #=1589, max= 0.000, aver= 0.000, 98%

> PID=020683: period= 50 #= 24, max= 0.020, aver= 0.011, 1%

> PID=020683: period= 100 #= 0, max= 0.000, aver= 0.000, 0%

> PID=020683: period= 500 #= 0, max= 0.000, aver= 0.000, 0%

> PID=020683: period=1000 #= 0, max= 0.000, aver= 0.000, 0%

> PID=020683: period=5000 #= 0, max= 0.000, aver= 0.000, 0%

> PID=020683: 07/30/96 10:30:00 SEND #= 1613 (1.7), aver = 0.000

SEND and RECV statistics are generated by any messages sent from or received by the aefad. In these statistics, the period is the number of milliseconds to complete a send or receive operation once it is started. Thus, in the RECV statistics above, 2431 messages (99% of all messages received) took less than 1 millisecond to receive from the time the receive was initiated until it completed. 5 messages took between 1 and 50 milliseconds to receive with a maximum of 0.1 seconds and an average of .01 seconds. In the last summary line, 2436 messages were received at an average rate of 2.7 messages per second. The average time to "receive" each message is displayed as 0.000, because it was less than the measurement tolerance of 0.001 second.

The number of SEND/RECV messages and the number of transactions shown below will differ because of "overhead" messages in addition to messages containing transactions. Some of these non-transaction messages are User connected, User end, Application begin, Application end, Application get message, and so on.

AEFAD Application and User Statistics

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> PID=020683: 07/30/96 10:30:00 AEFAD PERIOD ENDED
> PID=020683: period= 1 trans=352, max= 0.820, aver= 0.446, 88%
> PID=020683: period= 2 trans= 21, max= 1.800, aver= 1.322, 5%
> PID=020683: period= 4 trans= 6, max= 3.800, aver= 2.401, 1%
> PID=020683: period= 6 trans= 7, max= 5.800, aver= 4.914, 1%
> PID=020683: period= 10 trans= 10, max= 9.800, aver= 7.162, 2%
> PID=020683: period=200 trans= 1, max=10.400, aver=10.400, 0%
> PID=020683: 07/30/96 10:30:00 USER trans = 397 (0.4), aver = 0.795
> PID=020683: 07/30/96 10:30:00 AEFAD PERIOD ENDED
> PID=020683: period= 1 trans=357, max= 0.820, aver= 0.441, 88%
> PID=020683: period= 2 trans= 21, max= 1.800, aver= 1.322, 5%
> PID=020683: period= 4 trans= 6, max= 3.800, aver= 2.401, 1%
> PID=020683: period= 6 trans= 7, max= 5.800, aver= 4.914, 1%
> PID=020683: period= 10 trans= 10, max= 9.800, aver= 7.162, 2%
> PID=020683: period=200 trans= 1, max=10.400, aver=10.400, 0%
> PID=020683: 07/30/96 10:30:00 APPL trans = 402 (0.4), aver = 0.786
```

APPL transactions is the number of transaction requests sent to an application server. USER transactions is the number of transaction requests received from a client. Dialog flows between application servers are counted in the APPL transaction count but won't show up in the USER transaction count. Connected client managers, comm bridges, and aefc's are included in the USER transaction count, but user funnel (aefuf) connections are not.

The APPL and USER statistics blocks have periods in units of seconds. In the above APPL statistics block, 357 transactions took less than 1 second to complete (aefad to load module back to aefad). In this period covering transactions that took less than 1 second, the maximum response time was .820 seconds and the average was .441 seconds. 88% of all APPL transactions had a response time of less than one second.

In period = 2 (transactions that had a response time of between 1 second and 2 seconds), 21 transactions (5% of total) had an average response time of 1.322 seconds and at least one transaction had a response time of 1.8 seconds.

In period = 200 (transactions that had a response time greater than 10 seconds but less than 200 seconds), only one transaction took more than 10 seconds (10.4).

In the summary line, a total of 402 transactions were sent to Composer servers at an average rate of .4 transactions per second. The average response time was .786 seconds.

> PID=020683: 07/30/96 10:30:00 USERS (Min,Ave,Max) C(19,20,22) A(3,4,7)

The USERS (Min,Ave,Max) line shows the number of Connected users and the number of Active users. During the measurement period, the number of connected users was in the range 19-22 with an average value of 20. The number of active users was in the range 3-7 with an average value of 4.

> PID=020683: 07/30/96 10:30:00 APPLs (Min,Ave,Max) L(32,32,32) A(1,1,4)

The APPLs (Min,Ave,Max) line shows the number of Loaded load modules and the number of Active load modules. During the measurement period, the number of loaded load modules was always 32. The number of active load modules was in the range 1-4 with an average value of 1.

CPU Statistics

**> PID=020683: 07/30/96 10:30:00 AEFAD PERIOD ENDED, 0% USR, 0%
SYS, 99% IDLE**

This line shows the CPU usage of aefad during the measurement period and, in this case, the aefad was idle 99% of the time.