

I am pleased to announce some new and exciting features joining our already long list of capabilities for CA Mainframe Application Tuner v12.

What is new and available for you?

- Suggestions and hints for COBOL with AutoAnalyze
- Tracing and logging options within the product administration panel
- Improved diagnostic messages for CICS, DB2 and IDMS users
- IMS Java Batch Processing – a CA MAT Java agent improvement

Continue reading for more detailed descriptions.

## **Performance tuning hints and suggestions for COBOL with CA MAT AutoAnalyze.**

In order to help CA MAT users identify tuning opportunities more easily and swiftly, and to make good tuning decisions, CA MAT v12 now offers a new Performance Considerations panel showing hints and suggestions for registered COBOL statements. A new feature called AutoAnalyze enables you to progress automatically through critical analysis panels upon a simple press of the ENTER key, navigating the user towards the highest resource consumer within the measurement.

AutoAnalyze can be enabled using the primary command AUTO during interactive analysis or via point and shoot switch on primary analysis screen (see Fig.1).

```
. CA MAT ----- Interactive Analysis -----
. OPTION ==> AUTO
.
. Enter option to analyze the monitored job:           Profile: TUNCOB01
.                                                    Options: NORMAL
.
.  CA MAT Monitor Information          Subsystem Details
.  -----
.  0 Overview - Monitor session information    10 DB2 - View all SQL
.  1 TaskView - Activity by task              11 IMS - IMS Transactions
.  2 DelayView - Program delays               12 JVM - Java Virtual Machine
.  3 CodeView - Program activity              13 WAS - WebSphere Trans.
.  4 TimeView - Samples by time              14 CIC - CICS Summary Stats
.  5 DataView - Dataset information           15 IDMS - CA-IDMS Activity
.  6 TranView - Activity by transaction       16 DCM - CA-Datacom Activity
.  7 ModView - Module layout                 17 IDL - CA-Ideal Activity
.  8 PoolView - Buffer pools                  18 ADA - Adabas Activity
.  9 USSView - Unix System Services          19 NAT - Natural Activity
.
.  ACTIVE - Analyze ACTIVE      WAIT - Analyze WAIT      AUTO - AutoAnalyze OFF
.  NORMAL - Analyze NORMAL     ALL - Analyze ALL
```

Fig.1 – Primary analysis screen with AutoAnalyze functionality

AutoAnalyze functionality takes the user from measurement Overview through CodeView, Histogram, and Performance Considerations, to Hints for tuning the top resource consuming statement in the COBOL program. (See Fig. 2 – 6). At any point the user can exit the AutoAnalyze

function by issuing the primary command AUTO or using point and shoot AUTOanalyze command on each panel (indicated in turquoise color).

```

. CA MAT ----- Monitor OverView ----- Row 1 to 19 of 99
. COMMAND ==> _ SCROLL ==> CSR
.
. Monitor DSN: APM.QATT.V12QA.TUNCOB01.T1703117 Profile: TUNCOB01
. Options: NORMAL
. AutoAnalyze: ON
.
. -- Job Information -- ----- Job Statistics ----- --- Monitor Statistics ---
.
. Jobname . . TUNCOB01 TCB Time . . . 00:00:05.63 Start Date . . 2019/12/06
. Stepname . . TUNCOB01 SRB Time . . . 00:00:01.10 Start Time . . 17:03:11
. Procstep . . TUNCOB01 ECPU Time . . . 00:00:06.73 Duration . . . 00:00:07
. Program . . TUNCOB01 zAAP Time . . . **N/A** Observations:
. ASID . . . 492 Elig zAAP Time . . . **N/A** Final rate . . 10Msec
. (HEX) . . . 01EC zIIP Time . . . 00:00:00.00 Requested . . 6000
. User ID . . MANGE09 zIIP Time . . . 00:00:00.00 Used . . . . 614
. Job ID . . . JOB09961

```

Fig. 2 – Monitor OverView with AutoAnalyze indicator

```

CA MAT ----- CodeView ----- Row 1 to 6 of 6
COMMAND ==> _ SCROLL ==> CSR
.
Primary commands: MMode Pseudo / Module / Csect / 4GL, Profile: TUNCOB01
PSEudo, REGister, ADDHelp, AUTOanalyze Options: NORMAL
Mode: CSECT
AutoAnalyze: ON
.
Line commands: A - Associate C - Callerid D - Delays N - Long Name
I - Info L - Listing S - Distribution
H - Histogram NH - Normalized Histogram
.
Extended Callerid: CC - Current CA - Application CV - Via
.
LC Module Csect Description L C X Actv% Wait% Totl% Visual Over
Lap%
-----
TUNCOB01 TUNCOB01 Cobol test program distributed with CA MAT A Y Y 45.93 4.89 50.81 >>>>>> 0.00
IGZCPAC IGZCIN1 INSPECT library subroutine A Y Y 34.69 4.56 39.25 >>>>>> 0.00
.EUSER .EUSER In extended user space Y Y 2.28 0.33 2.61 >>>>>> 0.00

```

Fig. 3 – CodeView with AutoAnalyze indicator and primary command AUTOanalyze

```

CA MAT ----- Histogram ----- Row 1 to 6 of 6
COMMAND ==> _ SCROLL ==> CSR

Group ==> STMT (Group size in bytes or STMT) Profile: TUNCOB01
Normalized: NO
Primary commands: REGISTER, ADDHelp, AUTOanalyze Module name: TUNCOB01
AutoAnalyze: ON
Line commands: D - Delays L - Listing P - Performance

LC Csect Stmt Verb Actv% Wait% Totl% Visual
-----
TUNCOB01 101 PERFORM 0.33 0.00 0.33
141 ADD 40.39 4.89 45.28 =====>
143 IF 1.47 0.00 1.47
152 INSPECT 1.47 0.00 1.47
160 MOVE 0.16 0.00 0.16
161 INSPECT 2.12 0.00 2.12
***** End of Table *****

```

Fig. 4 – Histogram with AutoAnalyze indicator and primary command AUTOanalyze

```

CA MAT ----- Performance Considerations ----- Row 1 to 3 of 3
COMMAND ==> _ SCROLL ==> CSR
AutoAnalyze: ON

Primary commands: AUTOanalyze, ADDHelp
Line commands: L - Listing S - Suggestions

LC Statement# Verb Statement text
-----
000141 ADD ADD RECORD-00 (SUB) TO RECORDB-00 (SUB).
000069 05 RECORD-00 OCCURS 5 INDEXED BY INDEX-01 PICTURE
000069 S9(9).
***** End of Table *****

```

Fig. 5 – Performance Considerations panel with AutoAnalyze indicator and primary command AUTOanalyze

The Performance Considerations panel is new and shows not only the top resource consuming statement in the COBOL program, but also the definitions of fields within the statement.

CA MAT                      Hints: ADD Statement                      More: +  
Command ==>                      Scroll ==> PAGE

-----  
ADD RECORD-00 (SUB) TO RECORDB-00 (SUB).  
05 RECORD-00 OCCURS 5 INDEXED BY INDEX-01 PICTURE  
S9(9).  
-----

The ADD statement sums two or more numeric  
operands and stores the results.

#### Performance Considerations:

- o Many repetitions of ADD
- o Data Definition & Usage
- o Any reference modification to the operands (identifiers) should be optimized. That includes table elements and variably located ones (those that are preceded by other elements containing the OCCURS clause with

Fig. 6 – Hints for top consumer COBOL statement.

Hints and suggestions are offered only for COBOL programs at this point but the CA MAT team plans to improve and extend this functionality to other relevant topics and languages in future.

Users can update and override CA MAT suggestions by issuing the primary command ADDHelp (can be abbrev. to ADDH) on the command line, placing the cursor on the respective statement / topic to be updated and pressing the ENTER key. This allows site specific knowledge to be reflected in the CA MAT product. See Fig. 7 as an example.

```

. CA MAT ----- Performance Considerations ----- Row 1 to 1 of 1
. COMMAND ==>                                     SCROLL ==> CSR
.                                                    AutoAnalyze: ON
.
.   Primary commands:  AUTOanalyze, ADDHelp
.
.   Line comm
.
.   LC Statemen
.   -----
.   S_ 000101
.   *****
.
.   CA MAT          Hints: PERFORM          HELP
.   Command ==>          Scroll ==> PAGE
.   -----
.   PERFORM SUBSCRIPT2-100          6000 TIMES.
.   -----
.   This is a custom suggestions entry for Perform          *****
.

```

Fig. 7 – Example of customized HELP / SUGGESTION entry.

Should you seek more information please refer to CA MAT documentation here: [Install Java Support](#).

This enhancement is available via PTF **#SO11303**

### **Tracing and logging options within the product administration panel**

Tracing and Logging options have been available in CA Mainframe Application Tuner since its inception. However to improve on customer satisfaction and cut down on resolution time when the customer reports an issue with the product, the CA MAT development team enabled an option to trigger Tracing and Logging on new interactive panel (See Fig. 8) from within Administration panel (See Fig. 7). This option eliminates the need to issue z/OS modify commands to turn Tracing or Loggings on or off (although the z/OS modify command is issued in the background). Also, the storage allocations for the monitor data set are automatically adjusted to accommodate the increased number of records written to the monitor data set as a result of the tracing activity. The original monitor data set allocations are automatically restored when tracing is turned off.

#### **CAUTION:**

These options should only be used under the direction of Customer Support. Improper use of these options may result in a large volume of records being written to the monitor data set or server log.

```

CA MAT ----- Administration Option Menu -----
OPTION ==> _

1 Associations      - Define module/Csect functions      Userid: KLOPE01
2 Pseudo           - Define pseudo groups              Server ID: MAT12QA
3 Content Help     - Update content-sensitive help       Status: ACTIVE
4 Scheduling       - Create monitor schedules          Version: 12.0.1
5 Registration     - Shared source listing registration

S System Settings  - View system settings for clients
U User Settings    - View user settings for clients
I Environment      - Display CA MAT and environmental information

T Tracing/Logging - Turn CA MAT Tracing and Logging functions on or off

```

Fig. 7 – Tracing / Logging option from the Administration Option Menu (Accessible via option A from the CA MAT Primary Option Menu)

```

CA MAT ----- Tracing/Logging Option Menu -----
OPTION ==> _

Tracing Options      Status      Logging Options      Status      Userid: KLOPE01
Server ID: MAT12QA
Status: ACTIVE
Version: 12.0.1

T0 Tracing OFF
T1 L1 Tracing        OFF
T2 L2 Tracing        OFF
T3 L3 Tracing        OFF
T4 L4 Tracing        OFF
T5 TRT Tracing       OFF
T6 TCB Tracing       OFF
T7 CALLER Tracing    OFF
T8 IDMS Tracing      OFF
T9 DCM Tracing       OFF
T10 4GL Tracing      OFF
T11 IMS Tracing      OFF
T12 CICS Tracing     OFF
T13 DB2 Tracing      OFF
T14 USER Tracing     OFF

-----
|                               CAUTION                               |
| These options should only be used under                            |
| the direction of Customer Support.                                  |
|                                                                       |
| Improper use of these options may result                            |
| in a large volume of records being written                          |
| to the monitor data set or server log.                              |
|                                                                       |
|-----

```

Fig. 8 – New Tracing/Logging Option Menu

More about this feature in this documentation article: [Analysis for Java.](#)

This functionality is available via PTF [#SO10529](#).

## **IMS Java Batch Processing – a CA MAT Java agent improvement**

CA MAT development continues to improve on our JAVA agent capability enabling / supporting IMS launched batch processes to be measured and evaluated for possible tuning opportunity.

This enhancement is available through following PTF: [#SO11142](#)

To learn more about CA MAT Java analysis please refer to documentation topic here: [Analysis for Java.](#)

## Improved diagnostic messages for CICS, DB2 and IDMS users

When CA Mainframe Application Tuner starts a monitor that targets either a CICS, DB2 or IDMS region, a release-specific module needs to be loaded. If the module cannot be located, MAT issues message TN0494W.

In a similar manner as our Tracing / Logging Enhancement, this feature provides more debugging information and contributes to overall customer satisfaction by adding the module name and the return/reason codes issued by the load macro allowing faster problem determination and resolution. See Fig. 9

```
CA MAT                                TN0494W                                More: +
Command ==> _                        Scroll ==> PAGE
-----

TN0494W CICS|IDMS|DB2 routine rrrrrrrr not found
(RC=cccc, RS=ssss) for profile: pppppppp

REASON                                The CICS|IDMS|DB2 monitor routine
                                     indicated by 'rrrrrrrr' was not
                                     located for the monitor specified
                                     by 'pppppppp'. CICS may not be
                                     initialized to a point where the
                                     DFHCSA is completely built,
                                     causing the release to be
                                     unavailable. In addition, IDMS|DB2
```

Fig.9 – Enhanced content of TN0494W message.



Last but not least, I would like to thank you for being with us in the past year and I would like to wish you Happy Holidays and all the best in the upcoming year 2020!



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For more information about *CA Mainframe Application Tuner V12*, see the release notes in [CA MAT V12 documentation](#).

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Thank you for choosing CA Mainframe Application Tuner to improve your application performance. Should you be interested in live demo? Update on product direction or POC? Feel free to contact us directly. Together with Product Manager Ekaterina Tumanova ([Ekaterina.Tumanova@broadcom.com](mailto:Ekaterina.Tumanova@broadcom.com)), we are always interested in your thoughts and feedback.

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