

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  . .           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    Elig 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,
                  PSEudo, REGister, ADDHelp, AUTOanalyze
                                                    Profile: TUNCOB01
                                                    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
-----
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
.
. CA MAT          Hints: PERFORM          HELP
. Command ==>          Scroll ==> PAGE
. -----
. PERFORM SUBSCRIPT2-100          6000 TIMES.
. -----
.
. S_ 000101
. *****
. 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          L0 Logging OFF
T1 L1 Tracing OFF       L1 L1 Logging OFF
T2 L2 Tracing OFF       L2 L2 Logging OFF
T3 L3 Tracing OFF       L3 L3 Logging 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!



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

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), we are always interested in your thoughts and feedback.

Petr Klomfar (Petr.Klomfar@broadcom.com)

Product Owner of CA MAT