

Tools for Monitoring and Tuning your CA IDMS™/DC System

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Abstract

- This high level overview focuses on tools that can be used to monitor and tune CA IDMS/DB and CA IDMS/DC systems to meet SLAs and other performance goals. This session will cover some of the benefits of CA IDMS™ Performance Monitor, CA Mainframe Application Tuner, and CA SYSVIEW® and the value they provide in your environment.

Agenda

- CA IDMS Performance Monitor
- CA SYSVIEW Performance Management
- CA Mainframe Application Tuner



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CA IDMS Performance Monitor

CA IDMS Performance Monitor Components

- Realtime Monitor
 - Live, current system-resource statistics at the time of the request
- Interval Monitor
 - System-wide performance statistics for a unit of time
- Application Monitor
 - Statistics about resource usage by programs, tasks, userids, and lterms



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CA IDMS Performance Monitor Realtime Monitor

- Provides live information directly from IDMS DC/UCF control blocks
- Useful for isolating problems with system-resource utilization
- Task code - PMRM



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CA IDMS Performance Monitor Realtime Monitor – Resources Monitored

- System Transactions
- Scratch area activity
- Teleprocessing and printer activity
- Current status of user and system tasks in dispatch chain
- Active user and system RUAL transactions
- LTEs which have associated resources



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CA IDMS Performance Monitor Realtime Monitor – Resources Monitored

- Buffer I/O activity
- Status of all defined storage and program pools
- Overviews of database, transaction, task, program and storage pools activity
- SQL detail and summary information



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CA IDMS Performance Monitor Remote Monitoring

- IDMSINFO
 - API
 - Runs in a separate address space
 - Uses cross memory services to provide remote monitoring facilities to CA IDMS Performance Monitor
 - Needs to be started separately from the CV
 - Must be active to use remote monitoring feature of CA IDMS Performance Monitor
 - Only available on z/OS platform



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Demo

CA IDMS Performance Monitor Interval Monitor

- Tracks information about the use of CA IDMS system resources over an interval of time
- Use PF5 to view data for the next recorded interval
- PF4 displays data for the previous
- Cannot do remote monitoring
- Task code - PMIM



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CA IDMS Performance Monitor Interval Monitor – Resources Monitored

- DB I/O and Buffer activity
- Area information
 - DDL Log
 - Scratch
 - Queue
 - Message
 - DB Areas
- Line I/O
- Storage pool and Program pool information



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CA IDMS Performance Monitor Interval Monitor – Resources Monitored

- Interval Statistics
- Transaction Statistics
- SQL Statistics



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Demo

CA IDMS Performance Monitor Application Monitor

- Tracks the use of CA IDMS application statistics
- Use PF1 to select entities to track
- Must have STATISTICS TRANSACTION ON at system generation time
 - DC275912: TASK STATISTICS NOT GENNED
- Task code – PMAM



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Demo

CA SYSVIEW

CA SYSVIEW

- Includes an option to monitor CA IDMS systems
- Has CA IDMS Specific displays
- Can display most information that CA IDMS Performance Monitor Realtime Monitor can display

CA SYSVIEW Commands for the CA IDMS Component

- IDBUFFIO - IDMS buffer I/O
- IDDBASES - IDMS database overview
- IDDBIOD - IDMS database I/O drivers
- IDJRNL - IDMS journal activity
- IDLINES - IDMS communication lines
- IDLTERMS - IDMS logical terminals
- IDLTRESU - IDMS logical terminal resource usage
- IDMS- Set target IDMS



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CA SYSVIEW Commands Added to the CA IDMS Component (cont.)

- IDMSTEST - IDMS test
- IDPGMPL- IDMS program pools
- IDRU - IDMS system run units
- IDSCRMGR - IDMS scratch manager
- IDSQL - IDMS SQL usage
- IDSTG - IDMS storage pool overview
- IDSTGPL - IDMS storage pools



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CA SYSVIEW Commands Added to the CA IDMS Component (cont.)

- IDTASKS - IDMS active tasks
- IDTRANS - IDMS transactions
- IDTRANOV - IDMS transaction overview
- IDTSKPGM - IDMS task/program pool overview



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CA Mainframe Application Tuner

CA Mainframe Application Tuner

- Supports the CA IDMS environment
- Specific displays for IDMS delays
- Monitors CA IDMS system via “sampling” address spaces



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CA Mainframe Application Tuner

Monitors

- Task status/waits
- TCB/SRB usage
- Dataset usage
- Delays (IDMS/DML)

Note: For more information – See MAT User Guide CH. 16



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CA Mainframe Application Tuner Display CA IDMS Delays

- Enables you to pinpoint bottlenecks due to CA IDMS requests
- Easily see percentages of CA IDMS samples taken during the monitored period
 - CA MAT reports whether or not each task is executing or waiting at the time the samples were taken
- Two methods of accessing panel
 - option 15 from the Interactive Analysis Menu
 - line command S to select a CA IDMS request from the DataView panel



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CA Mainframe Application Tuner

```

CA MAT ----- Interactive Analysis -----
OPTION ==> _

Enter option to analyze the monitored job:          Profile: SUP$TE99
                                                    Options: ALL
-----
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 - switch mode to ACTIVE      WAIT - switch mode to WAIT
NORMAL - switch mode to NORMAL      ALL - switch mode to ALL

Press END to exit analysis

```



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CA Mainframe Application Tuner IDMS Delays Screen – Module Mode

```

CA MAT ----- IDMS Delays ----- Row 1 to 13 of 24
COMMAND ==> SCROLL ==> CSR

Primary Commands: MOde TASK / MOdule , DML (delays) Profile: SYS0192
Options: ALL
Mode: Module

Line commands: D - Detail L - Listing

CV number: 192 IDMS Release: 18.5.00 Local Mode: NO

LC TaskCode Module Offset Status Wait Totl% Visual
-----
- SYSGEN RHDCSGDC 00000000 Task Executing 14.29
- OCF IDMSOCF 00000000 Task is Waiting DBIO READ ECB 14.29
- OCF IDMSOCF 00000000 Task Executing 14.29
- SYSGEN RHDCSGDC 00000000 Task is Waiting DBIO READ ECB 7.14
- OCF IDMSDDC 0000351A Task Executing 4.76
- SYSGEN RHDCSGDC 00000184 Task Executing 2.38
- OCF IDMSDDC 0000032A Task Executing 2.38
- OCF IDMSDDC 00000422 Task Executing 2.38
- OCF IDMSDDC 0000351A Task is Waiting DBIO WRITE ECB 2.38
- OCF IDMSOCF 00000000 Task is Waiting DBIO WRITE ECB 2.38
- OCF IDMSOCF 0000B32A Task Executing 2.38
- OCF IDMSOCF 0000B498 Task is Waiting DBIO READ ECB 2.38
- OCF IDMSOCF 0000B6F8 Task is Waiting DBIO WRITE ECB 2.38

F1=HELP F2=SPLIT F3=END F4=RETURN F5=REIND F6=RCHANGE F7=UP F8=DOWN F9=SWAP F10=LEFT F11=RIGHT F12=RETRIEVE
*TUNT531 -GSVX000
  
```



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CA Mainframe Application Tuner IDMS Delays - Commands

- MOde TASK
 - Summarizes the data by task code
- MOde MOdule
 - Summarizes the data by module and offset (default)
- DML
 - Displays delays caused by DML statements
- D
 - Line command to display detail information about the selected row



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CA Mainframe Application Tuner IDMS Delays - Display

- Profile
 - Name of the profile that you specified when you created the monitor definition (defaults to jobname)
- Options
 - Type of analysis in effect: NORMAL, ALL, ACTIVE, or WAIT. An asterisk (*) following the value indicates that tasks or transactions have been selected for analysis
- Mode
 - Data can be summarized by MODULE or TASK. MODULE mode is default; TASK mode can be entered by typing 'MODE TASK' on the COMMAND line.

```
--- Row 1 to 13 of 24
SCROLL ==> CSR
```

```
Profile: SYS0192
Options: ALL
Mode: Module
```



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CA Mainframe Application Tuner IDMS Delays – Module Mode

- TaskCode
 - User run IDMS task involved in the recorded transaction
- Module
 - Name of the program requesting CA IDMS DB/DC services, when known, or the name of the program invoked by specifying the task code
- Offset
 - Relative address within the module to which control will be returned upon completion of the CA IDMS DB/DC service request
- Status
 - Status of the CA IDMS DB/DC service request, whether it is waiting for resources, ready to execute, or executing

| LC | TaskCode | Module | Offset | Status | Wait | Tot1% | Visual |
|-----|----------|----------|----------|-----------------|---------------|-------|--------|
| --- | SYSGEN | RHDCSGDC | 00000000 | Task Executing | | 14.29 | -----> |
| --- | OCF | IDMSOCF | 00000000 | Task is Waiting | DBIO READ ECB | 14.29 | -----> |
| --- | OCF | IDMSOCF | 00000000 | Task Executing | | 14.29 | -----> |
| --- | SYSGEN | RHDCSGDC | 00000000 | Task is Waiting | DBIO READ ECB | 7.14 | -----> |



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CA Mainframe Application Tuner IDMS Delays – Module Mode (continued)

- Wait
 - Identifier of the ECB on which the task is waiting. The ECB can be internal as defined by CA IDMS macro #ECBDS or external as defined by CA IDMS macro #ELEDs
- Totl%
 - Percentage of CA IDMS samples taken during the monitored period where CA Mainframe Application Tuner detected CA IDMS TASKs either executing or waiting for resources
- Visual
 - Visual depiction of the Totl% value

| LC | TaskCode | Module | Offset | Status | Wait | Totl% | Visual |
|-----|----------|----------|----------|-----------------|---------------|-------|--------|
| --- | SYSGEN | RHDCSGDC | 00000000 | Task Executing | | 14.29 | =====> |
| --- | OCF | IDMSOCF | 00000000 | Task is Waiting | DBIO READ ECB | 14.29 | =====> |
| --- | OCF | IDMSOCF | 00000000 | Task Executing | | 14.29 | =====> |
| --- | SYSGEN | RHDCSGDC | 00000000 | Task is Waiting | DBIO READ ECB | 7.14 | =====> |

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CA Mainframe Application Tuner IDMS Delays – Task Mode

```

CA MAT ----- IDMS Delays ----- Row 1 to 2 of 2
COMMAND ==>                               SCROLL ==> CSR
Primary Commands: Mode TASK / MODULE , DML (delays)      Profile: SYS0192
Line commands: D - Detail L - Listing                    Options: ALL
CV number: 192     IDMS Release: 18.5.00     Local Mode: NO
Mode: TaskCode

LC TaskCode Totl% Visual
-----
OCF      52.38  =====>
SYSGEN   47.62  =====>
***** End of Table *****
  
```

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CA Mainframe Application Tuner Display DML Delays

- Enables you to pinpoint bottlenecks due to requests from DML statements
- See current or most recent DML statement in effect when CA MAT detected CA IDMS waiting for resources



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CA Mainframe Application Tuner IDMS Delays – DML

- SSC Prog
 - Program that binds the sub-schema to the run-unit
- DML Seq
 - Optional precompiler generated number identifying the physical sequence in which DML statements appear in a program.
- Front-End
 - Front-End used to access IDMS (CICS, etc.)
- DML Verb
 - Command in a DML statement requesting data manipulation
- DML Target
 - DML statement object of the requested operation (such as a record or set name)

```

CA MAT ----- DML Delays ----- Row 15 to 28 of 40
COMMAND ----> SCROLL ---->
Line commands: D - Detail Profile: SYS0192
Options: 325
CV number: 192 IMS Release: 10.5.00 Local Mode: NO
LC TaskCode Module Offset SSC Prog DML SEQ Front-End DML Verb DML Target Totals
-----
OCF IIMSOCP 00000000 IIMSDDEL 00607030 OBTAIN NEXT RECORD IN SET PROG-051 2.48
OCF IIMSOCP 00000000 IIMSDDEL 00607028 OBTAIN CURRENT 2.48
OCF IIMSOCP 00000000 IIMSDDEL 00607030 OBTAIN NEXT RECORD IN SET SR-036 2.48
  
```

CA Mainframe Application Tuner IDMS Delays – DML (Continued)

- DML Qualifier
 - DML statement qualifying the object (area or set name when object is a record)
- Last Record
 - Last record accessed
- Last Area
 - Last area accessed

| LC | TaskCode | Module | Offset | Visual | DML Qualifier | Last Record | Last Area |
|----|----------|----------|----------|--------|----------------|-------------|-----------------|
| — | ADS | ADSORUN1 | 00000000 | | | | |
| — | ADS | ADSBIGIF | 000006D0 | ====> | | | |
| — | EMPINQ | EMPINQ | 00000000 | ====> | | | |
| — | EMPINQ | EMPINQ | 00000756 | ====> | | | |
| — | EMPINQ | EMPINQ | 00001054 | ====> | | EMPLOYEE | EMP-DEMO-REGION |
| — | EMPINQ | EMPINQ | 000010EA | ====> | | EMPLOYEE | EMP-DEMO-REGION |
| — | EMPINQ | EMPINQ | 000010EA | ====> | | EMPLOYEE | EMP-DEMO-REGION |
| — | EMPINQ | EMPINQ | 00001204 | ====> | | EMPLOYEE | EMP-DEMO-REGION |
| — | EMPINQ | EMPINQ | 000012D0 | ====> | | EMPLOYEE | EMP-DEMO-REGION |
| — | EMPINQ | EMPINQ | 00001778 | ====> | EMP-EMPOSITION | EMPOSITION | EMP-DEMO-REGION |



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Summary

- CA IDMS Performance Monitor
 - Realtime Monitor
 - Interval Monitor
 - Application Monitor
- CA SYSVIEW Performance Management
- CA Mainframe Application Tuner



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Questions & Answers

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- Session Number: _____
- Session Title: _____
- Name (Optional): _____
- Rate the overall session:

| | | |
|--------------------------|--------------------------|--------------------------|
| Poor | Good | Excellent |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
- Rating:

| | Strongly Dislike | Dislike | Neutral | Like | Strongly Like |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| The speaker can present and demonstrate of the session content | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| The session met my expectations | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| The material is relevant to my current job | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Overall, recommend this session to colleagues | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| The session length was appropriate for the content | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
- Comments: _____
- Optional Comments: _____

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