

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.



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Agenda

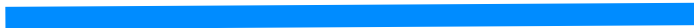
- CA IDMS Performance Monitor
- CA SYSVIEW Performance Management
- CA Mainframe Application Tuner



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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

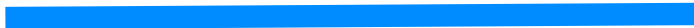
- IDMSINFO
 - API
 - Runs in a separate address space
 - Uses cross memory services to provide remote monitoring facilities to CA IDMS Performance Monitor
 - Needs to be started separately from the CV
 - Must be active to use remote monitoring feature of CA IDMS Performance Monitor
 - Only available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

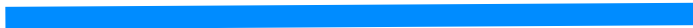
- Tracks the use of CA IDMS application statistics
- Use PF1 to select entities to track
- Must have STATISTICS TRANSACTION ON at system generation time
 - DC275912: TASK STATISTICS NOT GENNED
- Task code – PMAM



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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.)

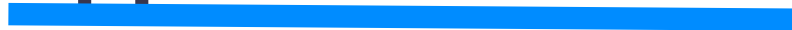
- IDTASKS - IDMS active tasks
- IDTRANS - IDMS transactions
- IDTRANOV - IDMS transaction overview
- IDTSKPGM - IDMS task/program pool overview



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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 CIG - CIG 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
Line commands: D - Detail L - Listing										Options: ALL
CV number: 192 IDMS Release: 18.5.00 Local Mode: NO										Mode: Module
LC	TaskCode	Module	Offset	Status	Wait	Totl% Visual				
SYSGEN	RHDCSGDC	00000000	Task Executing			14.29				
OCF	IMMSOCF	00000000	Task is Waiting	DBIO READ ECB		14.29				
OCF	IMMSOCF	00000000	Task Executing			14.29				
SYSGEN	RHDCSGDC	00000000	Task is Waiting	DBIO READ ECB		7.14				
OCF	IMMSDDC	0000351A	Task Executing			4.76				
SYSGEN	RHDCSGDC	00000184	Task Executing			2.38				
OCF	IMMSDDC	0000032A	Task Executing			2.38				
OCF	IMMSDDC	00000422	Task Executing			2.38				
OCF	IMMSDDC	0000351A	Task is Waiting	DBIO WRITE ECB		2.38				
OCF	IMMSOCF	00000000	Task is Waiting	DBIO WRITE ECB		2.38				
OCF	IMMSOCF	0000B32A	Task Executing			2.38				
OCF	IMMSOCF	0000B408	Task is Waiting	DBIO READ ECB		2.38				
OCF	IMMSOCF	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	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 – 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 , TML (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)

DML Delays							
Line commands: D - Detail							
CV number: 192 IDMS Release: 10.5.00 Local Mode: NO							
LC	TaskCode	Module	Offset	SSC Prog	DML SEQ	Front-End DML Verb	DML Target
OCF	IDMSOCF	00000000	IDMSIDDL	00607030		OBTAIN NEXT RECORD IN SET	PROG-051
OCF	IDMSOCF	00000000	IDMSIDDL	00607028		OBTAIN CURRENT	SR-036
OCF	IDMSOCF	00000000	IDMSIDDL	00607030		OBTAIN NEXT RECORD IN SET	
							Totals
							2.38
							2.38
							2.38

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				EMP-DEMO-REGION
EMPINQ	EMPINQ	000010EA			EMPLOYEE	EMP-DEMO-REGION
EMPINQ	EMPINQ	00001204				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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- The number for this session is **D08**
- After completing your session evaluation form, place it in the envelope at the front of the room



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