

OMEGAMON CICS & CICS PA Next Release & Features

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Agenda

1. IBM Z OMEGAMON for CICS v5.6.0
2. IBM CICS Performance Analyzer v5.4.0
3. Wrap up / Q&A

Overview – Monitoring CICS

Z OMEGAMON for CICS

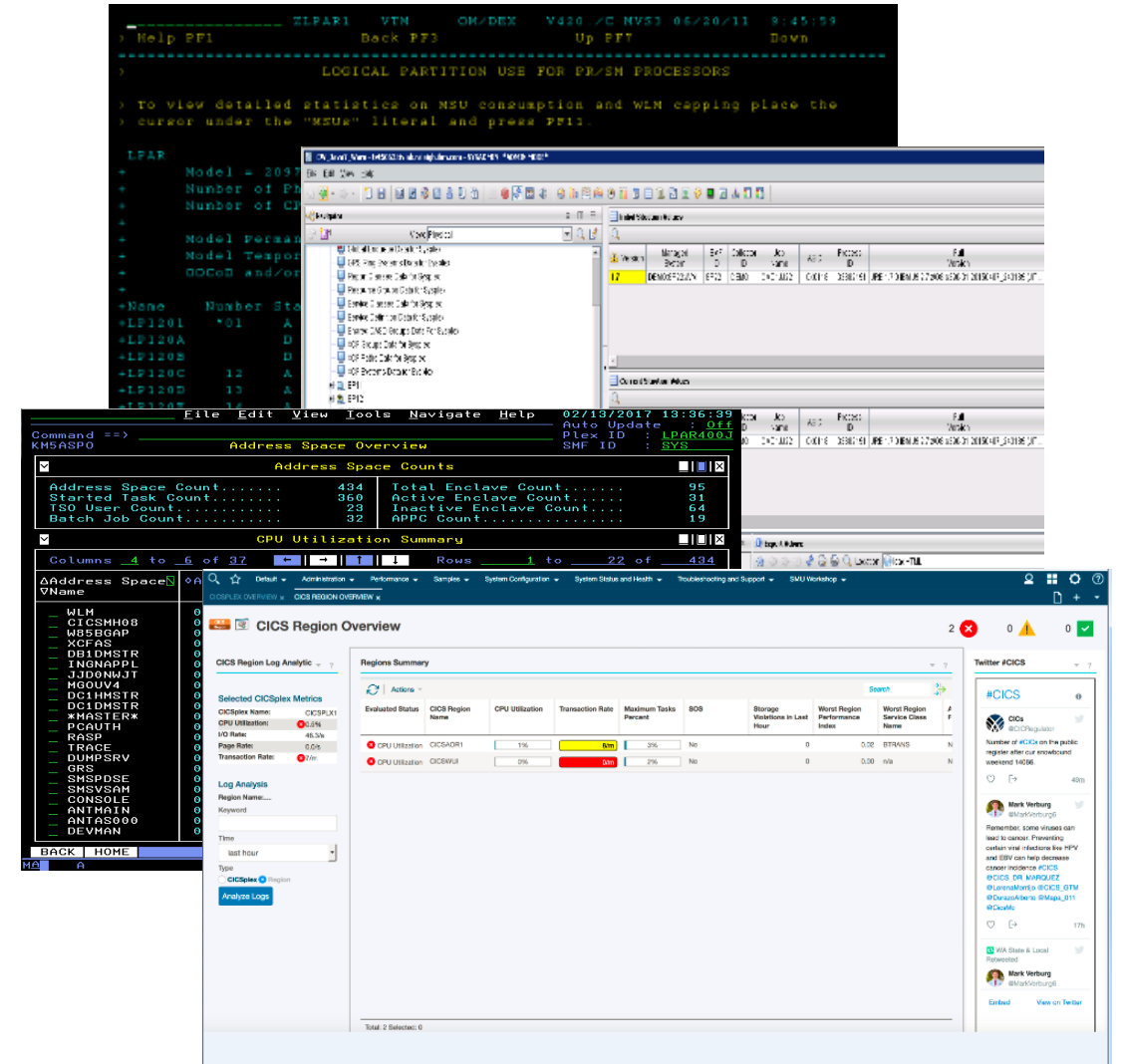
Real-time and historical monitoring for CICS and CICS TG enabling proactive alerting to problems, deep-dive analysis of problems and ability to take corrective actions to prevent outages and maintain systems performance

CICS Performance Analyzer

Analyzes CICS SMF records to help clients evaluate the performance and trends of CICS systems and applications to improve productivity and future growth planning

IBM Z OMEGAMON for CICS Overview

- OMEGAMON for CICS has been around since early 1980s:
 - We still call it the "Classic" UI, but it has evolved continuously since then.
- Some of the updates added over the years:
 - CICSplex wide data viewing and summarization
 - Historical Data Collection and Reporting
 - Application Trace Facility
 - Bottleneck Analysis
 - Task History collection
 - New CICS metrics and statistics
 - CICS TG support
 - Updated User Interfaces
 - Integration with other OMEGAMONs and other tooling
- Commitment has been to deliver Day One support for latest levels of CICS (including supporting open beta clients)
- **Latest level (V5.6) released in June 2022**



Who Uses OMEGAMON for CICS?

The Primary End User for OMEGAMON remains the same: CICS subject matter experts responsible for maintaining production CICS systems, proactively monitoring performance and fixing problems before they become outages

But the challenges for this user has also evolved. For example:

- New languages
- Changing skills base
- Mobile initiated workloads
- Complex composite application spanning various subsystems

We now see data collected and analyzed by OMEGAMON being used by various personas. For example:

- Operators
- Line of Business Owners
- Capacity Planners
- Application Developers (!)

Key Features of OMEGAMON for CICS

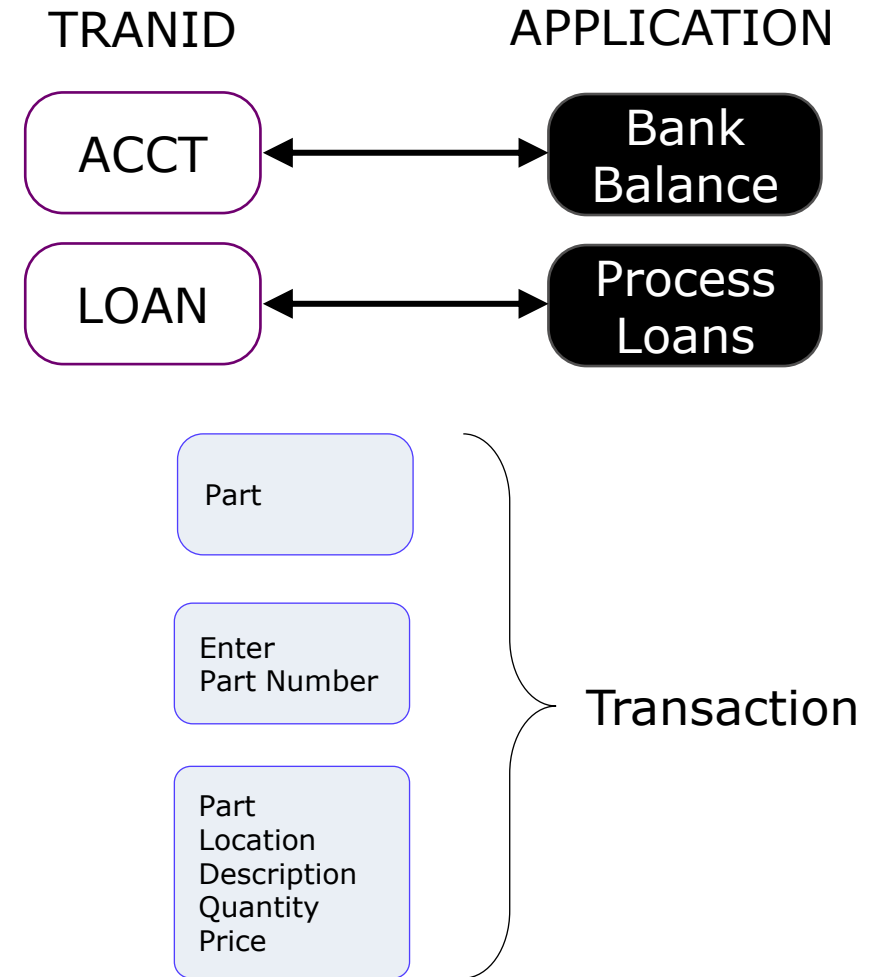
The primary use cases of OMEGAMON for CICS mean the following features and functions have been developed and are the key functions used on a daily basis to monitor and manage CICS deployments:

- Real-time and historical data collection of CICS resources
- Proactive alerting
- Ability to take action directly within OMEGAMON or reflex actions automatically
- CICS Task History collection
- Application Trace Facility
- Resource Limiting
- Service Level Analysis
- Bottleneck Analysis

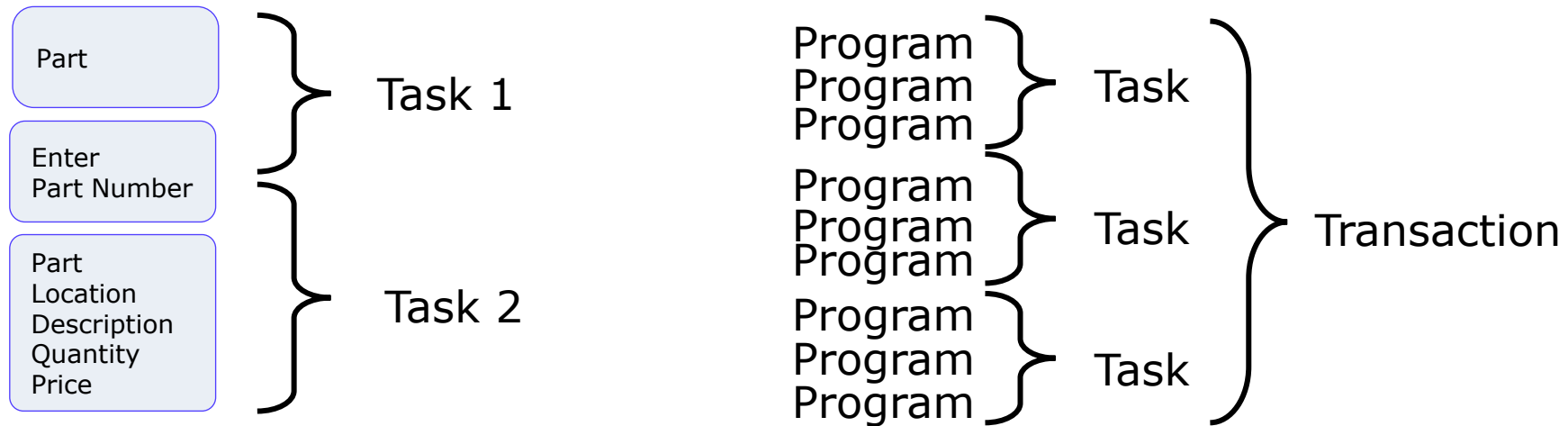
To satisfy other personas, data is available through SOAP and REST interfaces for any third-party product to collect data and data is available to reporting tools – like CICS Performance Analyzer – through SMF 112 records

CICS – A Business Transaction

- A **transaction** is a sequence of related operations that performs a function
- It might perform a single action
 - Example: Retrieve an account balance
- It can also perform a set of operations:
 - Read credit limits
 - Check if amount of purchase is greater than limit
 - Subtract funds or deny purchases
- A transaction has a 4-character id



CICS Tasks and Programs



- A **task** is an instance of a transaction entered by a user.
- When a user types in data and presses the Enter or a function key, CICS begins a task and loads the necessary programs.
- Tasks run concurrently. Therefore, a user can run the same transaction simultaneously.
- CICS uses multitasking to provide fast response times.
- Programs can be loaded once and then shared by transactions.
- CICS runs each task individually, briefly giving CPU to each one.
- If a user updates a file or database, the change is immediately available.

New Features - Background

- OMEGAMON CICS has multiple RFEs requesting functionality around program details associated with running tasks.
- The requests indicate a desire to know which programs have been used by a task and provide certain metrics for those programs.
- This is the premier feature in the new release OMEGAMON v5.6.0
- Other miscellaneous features have been added.

Task Program Details

- OMEGAMON CICS provides details on each CICS defined program that has been used by a task.
- This is available via the OMEGAMON CICS Active Task and Task History displays.

File Edit View Tools Navigate Help 02/04/2022 13:27:24

Command ==> KCPTASHP Display : HISTORY
CICSplex : SB3
Region : CICD5501

Task History Detail

Details Statistics Storage Timings Programs Related

Transaction Program Details

Columns 2 to 9 of 9 Rows 1 to 6 of 6

ΔProgram ▽Name	ΔInvoked ▽Count	ΔCPU ▽Time	ΔElapsed ▽Time	ΔDispatch ▽Time	ΔCPU Time ▽on QR TCB	ΔNumber of ▽EXEC calls	ΔNumber ▽of Abends	ΔNumber of ▽Mode Switches
- DPLLSTRT	1	.000033s	.000066s	.000063s	.000033s	3	0	0
- DPLLINKA	3	.000221s	.000381s	.000372s	.000221s	12	0	0
- DPLLINKB	1	.000054s	2.19312s	.000054s	.000054s	6	0	0
- DPLLINKC	2	.000274s	4.19449s	.000299s	.000274s	18	0	0
- DPLLINKD	1	.000086s	2.09694s	.000089s	.000086s	7	0	0
- DPLXCTLA	1	.000175s	2.09709s	.000221s	.000175s	7	0	0

Task Program Details

- The metrics collected cover the time when the program was the current program for the task. If program1 links to program2, data will not accumulate for program1 until program2 returns control to it.
- The invoked count is the number of times the program was entered, not the number of times in control.
- The default view will be the order the programs were first used. It is not possible to infer that the third program was invoked by the second. It could have been either of the programs before it.

Task Program Details

- Locating tasks which used a specific program.
- Task History filters allow you to specify as program name. In which case only tasks which have used the program will be returned. The wildcard * character is supported.

```
02/04/2022 15:38:17
Display : HISTORY
Plex ID  : SB3
Sys ID   : CICD5501

Command ==>
KCPTAHFN

Task History Filters

[ ] Records to scan      10000
[ ] Response time GE
[ ] Storage HWM . GE
[ ] DL/I . . . . GE
[ ] ADABAS . . . . GE
[ ] IDMS . . . . GE
[ ] MQ . . . . GE

CPU time . . . . GE
File . . . . GE
DB2 . . . . GE
DATACOM . . . . GE
SUPRA . . . . GE
USREVNT1 . . . GE

Between : : on and : : on

Inclusion Criteria
Tran ID . . EQ
Terminal ID EQ
User ID . . EQ
Abend code EQ
Program . . EQ DFHEMTD

Exclusion Criteria
Tran ID . . EQ
Terminal ID EQ
User ID . . EQ

Only Transaction and Terminal filters are case sensitive

Clear All Filters  OK
```

Program Aggregation

File Edit View Tools Navigate Help 02/04/2022 14:01:47

Command ==> KCPPRGS Auto Update : Off
CICSplex : SB3
Region : CICD5501

Program Summary

Installed Used

Programs which have been used on CICD5501

Columns 2 to 10 of 15 Rows 13 to 18 of 18

ΔProgram ▽Name	ΔInvoked ▽Count	ΔTransaction ▽Count	ΔCPU ▽Time	ΔAverage ▽CPU Time	ΔElapsed ▽Time	ΔAverage ▽Elapsed Time	ΔDispatch ▽Time	ΔAverage ▽Dispatch Time	ΔCPU Time ▽on QR TCB
- DPLLINKB	2	2	.000112s	.000056s	4.30868s	2.15434s	.000112s	.000056s	.000112s
- DPLLINKC	4	2	.000540s	.000135s	8.38270s	2.09567s	.000749s	.000187s	.000540s
- DPLLINKD	2	2	.000175s	.000088s	4.18710s	2.09355s	.000177s	.000089s	.000175s
- DPLLSTRT	2	2	.000339s	.000170s	.005112s	.002556s	.005102s	.002551s	.000074s
- DPLXCTLA	2	2	.000329s	.000165s	4.18599s	2.09299s	.000525s	.000263s	.000329s
- MICKSTRS	12003	12003	.251720s	.000021s	20m 34s	.102881s	.703362s	.000059s	.251720s

Installed Used

Programs which have been used on CICD5501

Columns 9 to 15 of 15 Rows 13 to 18 of 18

ΔProgram ▽Name	ΔAverage ▽Dispatch Time	ΔCPU Time ▽on QR TCB	ΔAverage CPU Time ▽on QR TCB	ΔNumber of ▽EXEC Calls	ΔAverage ▽EXEC Calls	ΔNumber ▽of Abends	ΔNumber of ▽Mode Switches
- DPLLINKB	.000056s	.000112s	.000056s	12	6	0	0
- DPLLINKC	.000187s	.000540s	.000135s	36	9	0	0
- DPLLINKD	.000089s	.000175s	.000088s	14	7	0	0
- DPLLSTRT	.002551s	.000074s	.000037s	6	3	0	2
- DPLXCTLA	.000263s	.000329s	.000165s	14	7	0	0
- MICKSTRS	.000059s	.251720s	.000021s	84264	7	52	0

Program Aggregation

- Program Aggregation will accumulate the data for all the programs which have been used in the CICS region. This provides a useful view to see which programs are consuming more resources or abending.
- The program data is accumulated for a CICS region.
- The data is accumulated at the end of task/CMF record write.
- The data is reset when CICS statistics for Program Manager are reset.

Program Aggregation

The program aggregation data displayed with program details.

```
File Edit View Tools Navigate Help 02/04/2022 14:06:13
Auto Update : Off
CICSplex : SB3
Region : CICD5501
Command ==>
KCPPRGD Program Details

Program statistics for MICKSTRS in CICD5501
Program Status..... Enabled
Current Use Count..... 1
Total Use Count..... 12205
Statistics Use Count..... 12205
Statistics Refreshes..... 0
Load Status..... Loaded
Load Point..... 39B0F000
Loaded From..... Library
Length..... 4104
Current Copies..... 1
Total Load Count..... 1
Deletes by Compression..... 0
Statistics Last Reset..... 00:00:00
Program Location..... EDSA
Entry Point..... B9B0F000
Library Name..... CMDEVTST

RPL Dataset Name
TDCICST.CMDEVTST.LOAD

Program Usage Data for CICD5501
Invoked Count..... 12204
CPU Time..... .253797s
Elapsed Time..... 20m 34s
Dispatch Time..... .705536s
CPU Time on QR TCB..... .253797s
Number of Mode Switches..... 0
Number of EXEC Calls..... 85471
Transaction Count..... 12204
Average CPU Time..... .000021s
Average Elapsed Time..... .101187s
Average Dispatch Time..... .000058s
Average CPU Time on QR TCB..... .000021s
Number of Abends..... 53
Average EXEC Calls..... 7

Program Definition for MICKSTRS in CICD5501
Defined Language..... Not Defi
Data Location..... Any
Execution Key..... User
Definition Type..... Grplist
Amode..... 31
API status..... CICS API
Remote Program ID..... n/a
Remote Transaction ID..... n/a
Deduced Language..... Assemble
Concurrency..... Quasiree
Program Attribute..... Reusable
CEDF Allowed..... Yes
Rmode..... Any
EXECUTIONSET..... FullAPI
Remote System ID..... n/a

Resource Signature Data for MICKSTRS in CICD5501
BACK HOME Hub C5D3:CMS on platform SB3(z/OS) MORE
```



Program Aggregation

Create situations based upon CPU usage or number of abends.

```
File Edit View Tools Navigate Help 02/04/2022 14:13:39
Auto Update : off
Plex ID : SB3
Sys ID :
Command ==>
KOBSEDTF Situation Editor (CICS Program Abends)

Formula Distribution Advice Action EIF Until

Agent: CICSPlex (0200000000000000000000000000000000000000)
ID : CICS_Program_Abends
Enter 'S' below to view or change complete values
- Name : CICS Program Abends
- Description :
- Severity : Warning
- Display Item : CICSPAC.PROGNAME
- Consecutive :
Sampling
- Interval : 0 (days) 00 : 01 : 00 (HH : MM : SS)
- Run at startup : Y (Y or N)
Formula: Enter 'S' below for details, or I=Edit, B=Browse
*IF *VALUE CICSPlex_Program_Accumulation_detail.Number_of_Abends *GT

OK Cancel Apply Help
```

The situation can issue messages to alert of problems.

```
14.35.21 50253069 KCP4032I: WTO Program MICKSTRS is abending frequently.
```


Program Aggregation

The history shows the usage for each interval.

File Edit View Tools Navigate Help 02/04/2022 14:37:42

Command ==> KCPPRGH Display : HISTORY
CICSplex : SB3
Region : CICD5501

Historical Summary Selected item MICKSTRS

Columns 3 to 12 of 16 Rows 1 to 48 of 53

Recording Time	Program Name	Invoked Count	Transaction Count	CPU Time	Average CPU Time	Elapsed Time	Average Elapsed Time	Dispatch Time	Average Dispatch Time	CPU Time on QR TCB	Average CPU Time on QR TCB
14:37:00	MICKSTRS	600	600	.005611s	.000009s	.007783s	.000013s	.007235s	.000012s	.005611s	.000009s
14:36:00	MICKSTRS	600	600	.005741s	.000010s	.007521s	.000013s	.007465s	.000012s	.005741s	.000010s
14:35:00	MICKSTRS	500	500	.004774s	.000010s	.005260s	.000011s	.004976s	.000010s	.004774s	.000010s
14:34:00	MICKSTRS	600	600	.005897s	.000010s	.007450s	.000012s	.006067s	.000010s	.005897s	.000010s
14:33:00	MICKSTRS	600	600	.005750s	.000010s	.006546s	.000011s	.006235s	.000010s	.005750s	.000010s
14:32:00	MICKSTRS	600	600	.005991s	.000010s	.007354s	.000012s	.006327s	.000011s	.005991s	.000010s
14:31:00	MICKSTRS	600	600	.005557s	.000009s	.006223s	.000010s	.005927s	.000010s	.005557s	.000009s
14:30:00	MICKSTRS	600	600	.006533s	.000011s	1.22300s	.002038s	.043408s	.000072s	.006533s	.000011s
14:29:00	MICKSTRS	600	600	.005996s	.000010s	.007245s	.000012s	.006199s	.000010s	.005996s	.000010s
14:28:00	MICKSTRS	600	600	.005839s	.000010s	.006709s	.000011s	.006127s	.000010s	.005839s	.000010s
14:27:00	MICKSTRS	500	500	.005270s	.000011s	.006785s	.000014s	.005549s	.000011s	.005270s	.000011s
14:26:00	MICKSTRS	600	600	.005712s	.000010s	.006403s	.000011s	.006049s	.000010s	.005712s	.000010s
14:25:00	MICKSTRS	600	600	.005672s	.000009s	.006320s	.000011s	.005941s	.000010s	.005672s	.000009s
14:24:00	MICKSTRS	600	600	.005583s	.000009s	.006327s	.000011s	.005834s	.000010s	.005583s	.000009s
14:23:00	MICKSTRS	600	600	.005804s	.000010s	.006841s	.000011s	.006149s	.000010s	.005804s	.000010s
14:22:00	MICKSTRS	600	600	.005419s	.000009s	.005779s	.000010s	.005743s	.000010s	.005419s	.000009s
14:21:00	MICKSTRS	600	600	.005679s	.000009s	.006250s	.000010s	.005873s	.000010s	.005679s	.000009s
14:20:00	MICKSTRS	500	500	.004788s	.000010s	.005576s	.000011s	.005079s	.000010s	.004788s	.000010s
14:19:00	MICKSTRS	600	600	.005829s	.000010s	.006756s	.000011s	.006150s	.000010s	.005829s	.000010s
14:18:00	MICKSTRS	600	600	.005689s	.000009s	.006606s	.000011s	.006105s	.000010s	.005689s	.000009s
14:17:00	MICKSTRS	600	600	.005592s	.000009s	.006113s	.000010s	.005821s	.000010s	.005592s	.000009s
14:16:00	MICKSTRS	600	600	.005950s	.000010s	.007111s	.000012s	.006217s	.000010s	.005950s	.000010s
14:15:00	MICKSTRS	600	600	.006235s	.000010s	.011121s	.000019s	.010190s	.000017s	.006235s	.000010s
14:14:00	MICKSTRS	600	600	.006077s	.000010s	.007547s	.000013s	.006279s	.000010s	.006077s	.000010s
14:13:00	MICKSTRS	600	600	.006104s	.000010s	.008372s	.000014s	.006353s	.000011s	.006104s	.000010s
14:12:00	MICKSTRS	500	500	.004790s	.000010s	.005393s	.000011s	.005065s	.000010s	.004790s	.000010s
14:11:00	MICKSTRS	600	600	.005887s	.000010s	.006990s	.000012s	.006087s	.000010s	.005887s	.000010s
14:10:00	MICKSTRS	600	600	.005566s	.000009s	.006154s	.000010s	.005803s	.000010s	.005566s	.000009s
14:09:00	MICKSTRS	600	600	.005808s	.000010s	.006816s	.000011s	.006043s	.000010s	.005808s	.000010s
14:08:00	MICKSTRS	600	600	.006101s	.000010s	.008162s	.000014s	.006492s	.000011s	.006101s	.000010s
14:07:00	MICKSTRS	600	600	.006161s	.000010s	.008219s	.000014s	.006547s	.000011s	.006161s	.000010s
14:06:00	MICKSTRS	301	301	.003141s	.000010s	.004004s	.000013s	.003261s	.000011s	.003141s	.000010s
13:48:00	MICKSTRS	501	501	.136171s	.000272s	20m 27s	2.45075s	.432046s	.000862s	.136171s	.000272s
13:47:00	MICKSTRS	500	500	.005064s	.000010s	.006652s	.000013s	.005275s	.000011s	.005064s	.000010s
13:46:00	MICKSTRS	600	600	.005765s	.000010s	.006792s	.000011s	.006037s	.000010s	.005765s	.000010s
13:45:00	MICKSTRS	600	600	.006388s	.000011s	1.29330s	.002156s	.046526s	.000078s	.006388s	.000011s
13:44:00	MICKSTRS	600	600	.005903s	.000010s	.007302s	.000012s	.006164s	.000010s	.005903s	.000010s
13:43:00	MICKSTRS	600	600	.006141s	.000010s	.008040s	.000013s	.006465s	.000011s	.006141s	.000010s
13:42:00	MICKSTRS	600	600	.005461s	.000009s	.005696s	.000009s	.005646s	.000009s	.005461s	.000009s
13:41:00	MICKSTRS	600	600	.005585s	.000009s	.006289s	.000010s	.005926s	.000010s	.005585s	.000009s
13:40:00	MICKSTRS	600	600	.006492s	.000011s	.010482s	.000017s	.008787s	.000015s	.006492s	.000011s
13:39:00	MICKSTRS	500	500	.004866s	.000010s	.005825s	.000012s	.005229s	.000010s	.004866s	.000010s
13:38:00	MICKSTRS	600	600	.005869s	.000010s	.007285s	.000012s	.006212s	.000010s	.005869s	.000010s
13:37:00	MICKSTRS	600	600	.005865s	.000010s	.007232s	.000012s	.006181s	.000010s	.005865s	.000010s
13:36:00	MICKSTRS	600	600	.005909s	.000010s	.007762s	.000013s	.006408s	.000011s	.005909s	.000010s
13:35:00	MICKSTRS	600	600	.006450s	.000011s	1.38433s	.002307s	.017602s	.000029s	.006450s	.000011s
13:34:00	MICKSTRS	600	600	.005648s	.000009s	.006236s	.000010s	.005897s	.000010s	.005648s	.000009s
13:33:00	MICKSTRS	600	600	.006537s	.000011s	2.83466s	.004724s	.092598s	.000154s	.006537s	.000011s

BACK | HOME | Hub C5D3:CMS on platform SB3(z/OS) | HISTORY

Program Data - Control of feature

- The program data is controlled via the OMEGAMON Global data area.
- The settings can be dynamically changed in the enhanced 3270 UI.

```
Command ==>
000058 *
000059 <PROGRAM_TRACKING>
000060 *
000061 ENABLE=AUTO
000062 AGGREGATE=AUTO
000063 WRITE_TO_HISTORY=YES
000064 SMF=YES
000065 *
```

File Edit View Tools Navigate Help 02/04/2022 14:46:41
Auto Update : Off
CICSplex : SB3
Region : CICD5501

Command ==>
KCPCPROG CICS Task Program Detail Control

Task Program Detail Status for CICS CICD5501

Task Program Detail.....	On
Aggregate Program detail.....	On
Write to Task History.....	On
Write to SMF.....	On

Modify EXIT

Additional Enhancements

IBM Z OMEGAMON for CICS 5.6.0 includes other significant enhancements:

- Resource limiting resolution for CPU has been increased to allow transaction limits to be set in millisecond increments. This lets you act much sooner, to prevent tasks from impacting the region.
- Finding resources within a group of regions is now much more intuitive. The new FIND command menu, provides a drop-down list of resources to search for together with related help for each resource type.
- New CICS policy statistics are available. For customers using policies within CICS to take actions on applications OMEGAMON will now show statistics on those policies.
- CICS Transaction Gateway Memory statistics now available.

IZMS or SMSz - Integration

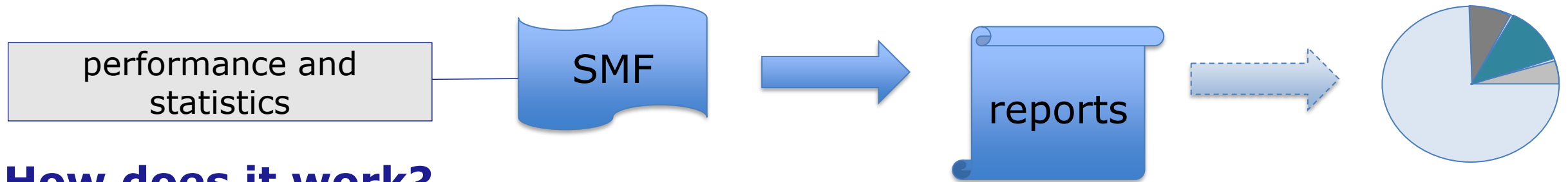
- OMEGAMON CICS and OMEGAMON DB2
 - Follow a CICS transaction as it goes from CICS to DB2
 - Identify whether the delay is in CICS or DB2
- OMEGAMON CICS and OMEGAMON Messaging
 - Watch a message written in MQ trigger a transaction in CICS to process
- OMEGAMON for CICS and OMEGAMON Integrator
 - Using individual situations from each product you can combine them into a single alert using the OMEGAMON Integrator

CICS Performance Analyzer for z/OS



What is CICS PA?

- A comprehensive performance reporting and analysis tool for CICS
- Provides ongoing system management and measurement reports on all aspects of CICS application performance



How does it work?

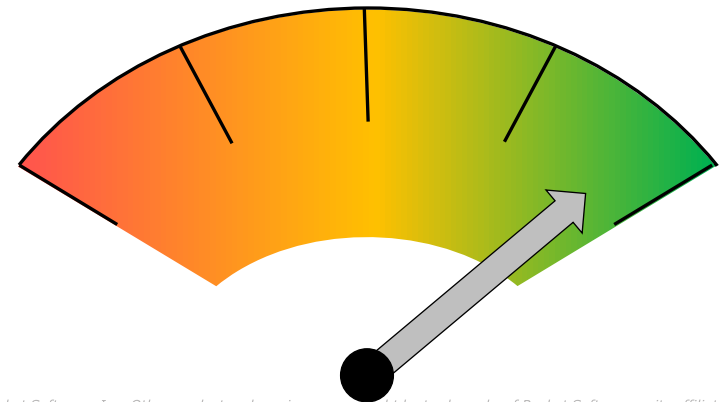
- Uses SMF data as input
- Easy to use interface for report generation (over 250 supplied report forms)
- Performance and statistical analysis
- Graphical performance analysis via CICS Explorer or CA10 SupportPac

What is its value?

- Analyze CICS application performance
- Improve CICS resource usage
- Evaluate the effects of CICS tuning efforts
- Improve transaction response time
- Provide ongoing system management and measurement reports
- Increase availability of resources
- Increase the productivity of system and application programmers
- Provide awareness of usage trends

Why is it important?

- Reduce time and resource required to analyze offline performance data
- Enables deep-dive CICS performance analysis and understanding of usage trends
- Aids capacity planning and tuning
- Help quickly identify trends, anticipate and prevent online performance problems



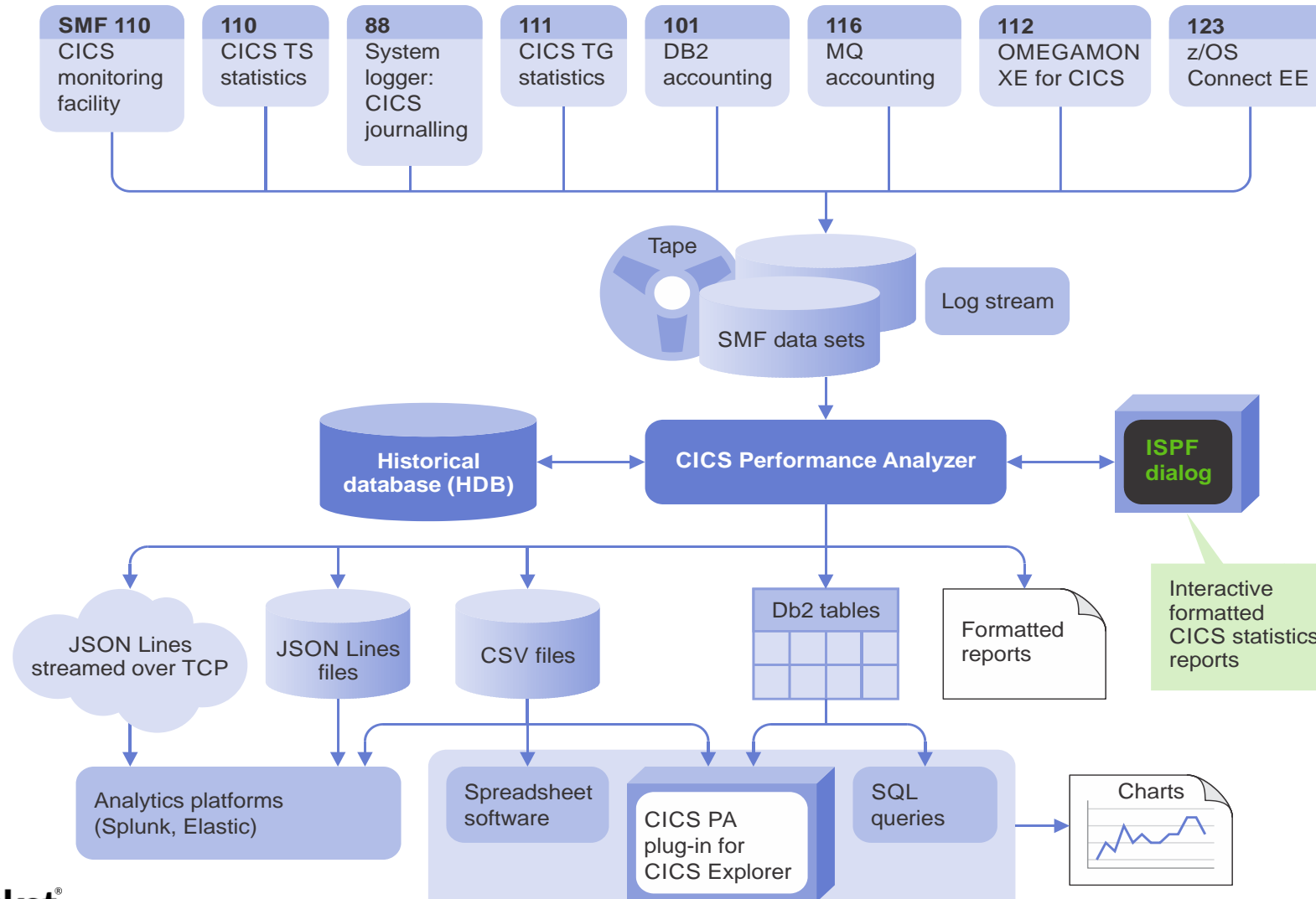
Benefits

- **Ease of use**
 - No additional setup or customization required
 - Familiar CICS terms and concepts
- **ISPF dialog to build, maintain, and submit reports**
 - Tailor your reports easily using report forms
 - Extensive online help available, and field descriptions
- **Extensive tabular reports and graph reports**
 - Summary, Wait Analysis, ...
 - Resource Usage, DB2, WebSphere MQ, z/OS System Logger
- **Extract data sets**
 - Cross-System Work, Export, Record Selection, System Logger

Benefits

- Trend and capacity planning
- Statistics reporting capability
 - Comprehensive reporting and analysis of CICS statistics data
 - Alert processing to highlight potential tuning opportunities
- Transaction profiling
 - Compares transaction performance between two time periods
- Plug-in to the CICS Explorer or CA10 support Pac
 - Graphical interface allows for interactive query analysis of performance data with the ability to create charts and graphs

CICS Performance Analyzer Architecture



New Features – JSON Support

- New output format: JSON Lines
- New output destinations:
 - TCP port (for example, Splunk or Elastic configured to listen for incoming data on a TCP port)
 - z/OS UNIX (zFS) files

In addition to form-based output, you can now also write *statistics alerts* to JSON Lines. Previously, you could only write statistics alerts to a report.

- Time values can be output as a single ISO 8601 date and time of day representation
- New sample report set ANALYTIC, with report forms and statistics alert definition, to output JSON Lines that works with the sample Splunk app
- Support Pac CA10 has sample Splunk app with dashboards and sample data

New Features – z/OS Connect Support

- **Requirement:**
 - RFE 104690 - Enhance CICS PA to process zOS Connect SMF 123 records
- **New functionality:**
 - System Definitions subsystem type ZCON
 - Report Set -> Subsystem Reports -> z/OS Connect
 - Report Set -> Extracts -> Record Selection -> z/OS Connect
 - Report Set -> Extracts -> z/OS Connect
 - Report Set -> Forwarding -> z/OS Connect
 - Splunk sample app -> z/OS Connect Dashboard

New Features – CICS Task Program Detail

- Historically, CICS Performance Analyzer customers have frequently asked if it could provide a list of task programs with metrics for those programs.
- Unfortunately, this level of program information was not available to CICS PA until now.
- New OMEGAMON Program List and Summary reports have been introduced to provide CICS task program details. These reports will be generated using the new OMEGAMON for CICS SMF 112 subtype 202 records.
- The new reports will compliment the existing CICS PA OMEGAMON DBMS reports.

Report Sets

CICS PA Reports Sets have been enhanced to include new Subsystem Reports OMEGAMON Program report definition.

```
file systems confirm options help
-----
EDIT                                     Report Set - OMEG                                     Row 1 of 15
Command ==> _____ scroll ==> CSR
Description . . . CICS PA Report Set
Enter "/" to select action.

---
+      ** Reports **
+      options                                     Active
+      selection criteria                         NO
+      performance Reports                       NO
+      Exception Reports                         NO
+      Transaction Resource Usage Reports        NO
+      Statistics Reports                        NO
-       subsystem Reports          NO
      DB2                                         NO
      websphere MQ                               NO
      OMEGAMON DBMS                              NO
      OMEGAMON Program                           NO
      z/OS Connect EE                            NO
+      System Reports                            NO
+      Extracts                                  NO
+      Forwarding                                NO
+      ** End of Reports **
```

Report Definition

The OMEGAMON Program report definition provides all options to run both List and Summary reports.

```
File systems options Help
-----
OMEG - OMEGAMON Program Report

Command ==> █

CICS system selection:
APPLID . . _____ +
Image . . _____ +
Group . . _____ +

Report output:
DDname : . . . . . : OMPG0001
Print Lines per Page : : _____ (1-255)

Reports Required:
_ 1. List 2. Summary

Summary options:
Key . . .1 _____ + 2 _____ + 3 _____ + 4 _____ +
Interval _____ (hh:mm:ss)
Sort Field _____ +

Field Functions (including sort):
/ Average Total
- Minimum Z Maximum
- Deviation
- Peak . . 90 (50-100%)

Report Format:
Title . . _____

selection criteria:
_ Performance
_ Program
```

Program List report

The new CICS PA OMEGAMON Program List report will provide details for each CICS defined program that has been used by a task.

```

V5R4M0
CICS Performance Analyzer
OMEGAMON - Program List

OMEG0001 Printed at 16:12:11 2/04/2022 Data from 16:05:02 12/14/2021 Page 37
-----
Start Date Start Time Tran Task No APPLID UOW Seq UOWID Netname # Progs
-----
12/15/2021 13:27:15.633 CATA 80 CACD55JB 2 C3F8C65BBF8C ROCKNET1.CACD55JB 4
-----
Program Count CPU Elapsed Dispatch QR CPU Othr CPU # ModeSW # Exec # Abends
-----
DFHZATA 1 .000226 .001279 .000238 .000226 .000000 0 21 0
DFHZATDX 1 .000004 .000004 .000004 .000004 .000000 0 1 0
DFHZCQ 1 .000100 .000252 .000252 .000100 .000000 0 0 0
DFHERMSP 1 .000000 .000000 .000000 .000000 .000000 0 0 0
Total 4 .000330 .001535 .000494 .000330 .000000 0 22 0
    
```


Program List report details

- The report contains an entry for each task and together with its associated programs.
- Each task entry is divided into 2 sections, task information and program details.
 - Task information identifies the task, including transaction id, START time, task number, APPLID, UOWID and Netname. This information can be used correlate with task metrics in the CICS PA CMF List report and OMEGAMON DBMS List report, as well as other CICS PA reports, for a detailed view of task performance.
 - Program details provides program execution information including performance metrics. This sections also includes a **Total** entry that aggregates the statistics for all programs for the task for overall task program usage.

Program List

```

V5R4M0
CICS Performance Analyzer
OMEGAMON - Program List
-----
OMPG0001 Printed at 12:19:58 4/26/2022 Data from 23:11:33 2/04/2022 Page 191
-----
Start Date Start Time Tran Task No APPLID UOW Seq UOWID Netname # Progs
-----
2/04/2022 19:48:15.255 STRS 36682 CACD5501 1 046D0D811572 ROCKNET1.CACD5501 1
-----
Program Count CPU Elapsed Dispatch QR CPU Othr CPU # ModesW # Exec # Abends
-----
MICKSTRS 1 .000009 .000015 .000015 .000009 .000000 0 6 0
Total 1 .000009 .000015 .000015 .000009 .000000 0 6 0
-----
Start Date Start Time Tran Task No APPLID UOW Seq UOWID Netname # Progs
-----
2/04/2022 19:48:15.255 STRS 36675 CACD5501 1 046D0D80FE10 ROCKNET1.CACD5501 3
-----
Program Count CPU Elapsed Dispatch QR CPU Othr CPU # ModesW # Exec # Abends
-----
MICKSTRS 1 .000158 .000545 .000159 .000158 .000000 0 6 1
DFHTFP 1 .000037 .000038 .000038 .000037 .000000 0 0 0
DFHPEP 1 .000004 .000004 .000004 .000004 .000000 0 2 0
Total 3 .000199 .000587 .000200 .000199 .000000 0 8 1
-----
Start Date Start Time Tran Task No APPLID UOW Seq UOWID Netname # Progs
-----
2/04/2022 19:48:15.255 STRS 36683 CACD5501 1 046D0D812686 ROCKNET1.CACD5501 1
-----
Program Count CPU Elapsed Dispatch QR CPU Othr CPU # ModesW # Exec # Abends
-----
MICKSTRS 1 .000015 .000015 .000015 .000015 .000000 0 6 0
Total 1 .000015 .000015 .000015 .000015 .000000 0 6 0
-----
Start Date Start Time Tran Task No APPLID UOW Seq UOWID Netname # Progs
-----
2/04/2022 19:48:15.255 STRS 36684 CACD5501 1 046D0D812A0A ROCKNET1.CACD5501 1
-----
Program Count CPU Elapsed Dispatch QR CPU Othr CPU # ModesW # Exec # Abends
-----
MICKSTRS 1 .000010 .000010 .000010 .000010 .000000 0 6 0
Total 1 .000010 .000010 .000010 .000010 .000000 0 6 0
-----
Start Date Start Time Tran Task No APPLID UOW Seq UOWID Netname # Progs
-----
2/04/2022 19:48:15.255 STRS 36685 CACD5501 1 046D0D812CA2 ROCKNET1.CACD5501 1
-----

```

Program Summary – key sequence

The Summary report provides summarized task and program statistics based on a user specified key. By default, this report is ordered by key value.

```

V5R4M0
CICS Performance Analyzer
OMEGAMON - Program Summary
DMPG0002 Printed at 12:05:18 4/26/2022 Data from 6:37:57 1/23/2022 to 13:44:47 2/05/2022 Page 47
-----
Tran APPLID Start Date Start Time Program
STRS CACD5501 2/04/2022 22:00:00 MICKSTRS
-----
Tasks Count CPU Elapsed Dispatch QR CPU Othr CPU # ModesW # Exec # Abends
-----
35080 35080 Avg .000009 .000346 .000019 .000009 .000000 0 6 0
Tot .326529 12.13904 .673619 .326529 .000000 0 210480 0
Max .000070 .211172 .118804 .000070 .000000 0 6 0
Min .000008 .000008 .000008 .000008 .000000 0 6 0
Dev .000003 .005142 .000755 .000003 .000000 0 0 0
90% .000013 .006938 .000987 .000013 .000000 0 6 0
-----
Tran APPLID Start Date Start Time Program
STRS CACD5501 2/04/2022 23:00:00 DFHPEP
-----
Tasks Count CPU Elapsed Dispatch QR CPU Othr CPU # ModesW # Exec # Abends
-----
26 26 Avg .000003 .000003 .000003 .000003 .000000 0 2 0
Tot .000076 .000076 .000076 .000076 .000000 0 52 0
Max .000004 .000004 .000004 .000004 .000000 0 2 0
Min .000002 .000002 .000002 .000002 .000000 0 2 0
Dev .000000 .000000 .000000 .000000 .000000 0 0 0
90% .000003 .000003 .000003 .000003 .000000 0 2 0
-----
Tran APPLID Start Date Start Time Program
STRS CACD5501 2/04/2022 23:00:00 DFHTFP
-----
Tasks Count CPU Elapsed Dispatch QR CPU Othr CPU # ModesW # Exec # Abends
-----
26 26 Avg .000039 .000039 .000039 .000039 .000000 0 0 0
Tot .001006 .001023 .001023 .001006 .000000 0 0 0
Max .000084 .000084 .000084 .000084 .000000 0 0 0
Min .000035 .000035 .000035 .000035 .000000 0 0 0
Dev .000009 .000010 .000010 .000009 .000000 0 0 0
90% .000051 .000052 .000052 .000051 .000000 0 0 0
-----
Tran APPLID Start Date Start Time Program
STRS CACD5501 2/04/2022 23:00:00 MICKSTRS
-----
Tasks Count CPU Elapsed Dispatch QR CPU Othr CPU # ModesW # Exec # Abends
-----
6874 6874 Avg .000009 .000975 .000014 .000009 .000000 0 6 0
Tot .063751 6.701784 .096778 .063751 .000000 0 41244 0
Max .000072 .370256 .021671 .000072 .000000 0 6 0
Min .000008 .000008 .000008 .000008 .000000 0 6 0
Dev .000003 .012956 .000266 .000003 .000000 0 0 0
90% .000013 .017584 .000355 .000013 .000000 0 6 0

```



Program Summary – field sequence (CPU)

It can be ordered in ascend or descending sequence on user select statistics field, e.g., CPU as well.

```

V5R4M0
CICS Performance Analyzer
OMEGAMON - Program Summary
OMPG0001 Printed at 17:12:56 4/27/2022 Data from 6:37:57 1/23/2022 to 13:44:47 2/05/2022
-----
Start Date Start Time APPLID Tran Program
2/04/2022 19:06:00 CACD5501 STRS MICKSTRS
-----
Tasks Count CPU Elapsed Dispatch QR CPU Othr CPU # ModesW # Exec # Abends
-----
1 1 Avg 1.561143 14723.54 2.065788 1.561143 .000000 0 146885 0
-----
Start Date Start Time APPLID Tran Program
1/24/2022 14:03:00 CACD5401 CEDA DFHDMP
-----
Tasks Count CPU Elapsed Dispatch QR CPU Othr CPU # ModesW # Exec # Abends
-----
1 2730 Avg .015917 .068054 .049485 .010596 .005321 20 0 0
-----
Start Date Start Time APPLID Tran Program
1/24/2022 14:19:00 CACD5401 CEDA DFHDMP
-----
Tasks Count CPU Elapsed Dispatch QR CPU Othr CPU # ModesW # Exec # Abends
-----
1 2726 Avg .015823 .059010 .050039 .011102 .004721 20 0 0
-----
Start Date Start Time APPLID Tran Program
1/24/2022 14:16:00 CACD5401 CEDA DFHDMP
-----
Tasks Count CPU Elapsed Dispatch QR CPU Othr CPU # ModesW # Exec # Abends
-----
1 2730 Avg .015665 .074054 .063531 .010932 .004733 20 0 0
-----
Start Date Start Time APPLID Tran Program
1/24/2022 14:17:00 CACD5401 CEDA DFHDMP
-----
Tasks Count CPU Elapsed Dispatch QR CPU Othr CPU # ModesW # Exec # Abends
-----
1 2730 Avg .015291 .061347 .050055 .010597 .004694 20 0 0
-----
Start Date Start Time APPLID Tran Program
1/24/2022 14:04:00 CACD5401 CEDA DFHDMP
-----
Tasks Count CPU Elapsed Dispatch QR CPU Othr CPU # ModesW # Exec # Abends
-----
1 2729 Avg .014159 .054327 .045649 .010508 .003651 18 0 0

```


Selection Criteria

- CICS PA reports will provide 2 levels of selection criteria, task and program.
- Task selection criteria will apply to all task data, i.e., task and its associated program data will be included or excluded based on the selection criteria. This selection criteria is used to focus the report on tasks or transactions of interest.
- Program selection criteria will apply to program data and will include or exclude the program data based on selection criteria. Program selection criteria can be applied to any field in the program detail section. This selection criteria is used to focus the report on programs of interest regardless of task and transaction.

Wrap up / Q&A



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