



Welcome to the Virtual CICS user group newsletter. The Virtual CICS user group at [www.fundi.com/virtualcics](http://www.fundi.com/virtualcics) is an independently-operated vendor-neutral site run by and for the CICS user community.

## Virtual CICS user group presentation

The latest webinar from the Virtual CICS user group was entitled, "CICS Tools: Tuning CICS with CICS Performance Analyzer V5.3", and was presented by Ezriel Gross, CEO of Circle Software Inc.

Ezriel is Chief Executive Officer of Circle Software Incorporated, formally Circle Computer Group LLC, an IBM Business Partner that specializes in hands-on classes in CICS, DB2, and MQSeries. Ezriel has been a 'Gold Consultant' for many years, and attends the annual Gold briefing to keep current. Besides consulting, he teaches and develops CICS courses for both IBM and Circle. His specialities include: CICS Web services, CICS Web support, CICS performance/tuning, CICS internals, and CICSplex SM.

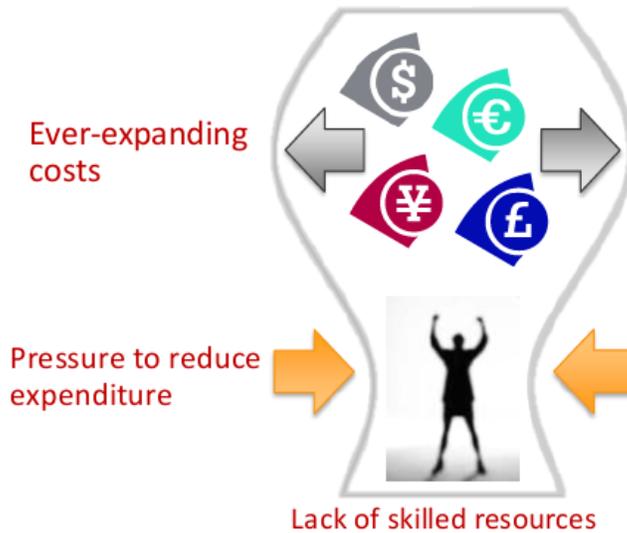
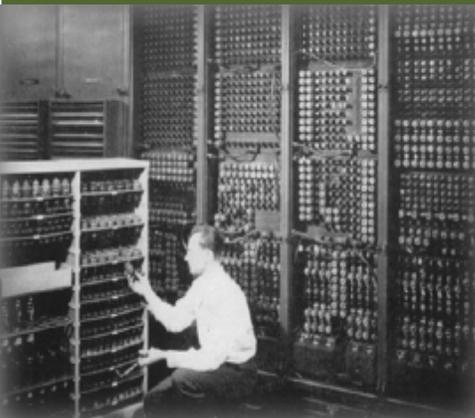


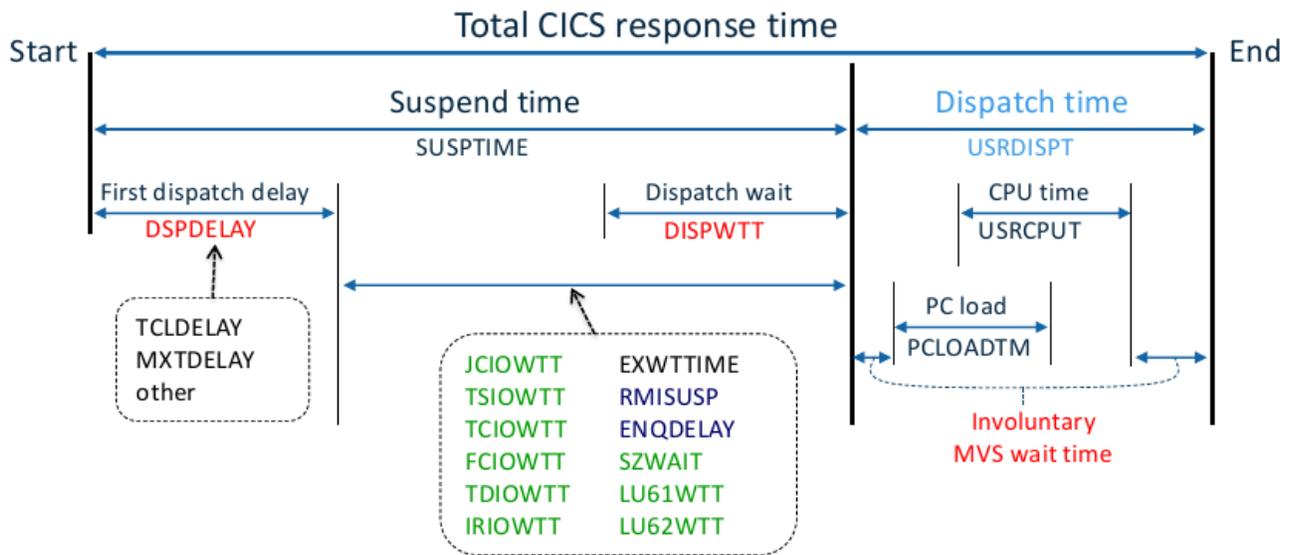
Figure 1: Today's world

Ezriel started his presentation by looking at the ever-increasing costs facing an organization and the pressure to reduce expenditure, while at the same time facing a lack of skilled resources (see Figure 1). That's why there is a need for effective tools.

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**Figure 2: CICS transaction response time structure**

Ezriel went on to give some basic definitions. A task is an instance of a transaction started by a user. When a user types in data and presses Enter or a Function key, CICS begins a task and loads the necessary programs. Tasks run concurrently; therefore, a user can run multiple instances of the same transaction simultaneously. CICS multitasks giving fast response times. CICS runs each task, briefly giving CPU time to each one.

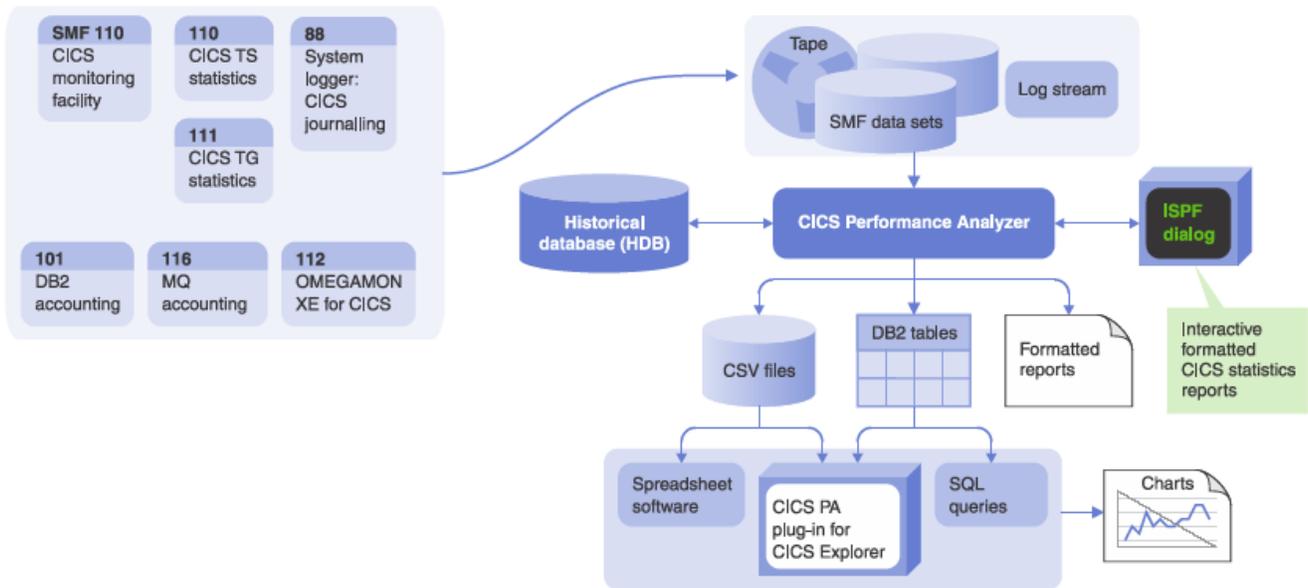
The CICS Monitoring Facility (CMF) collects data about all transactions in CICS. Records are written to SMF for later offline processing. CMF collects 4 classes of data: exception, identity, performance, and transaction resource. CMF can produce

a significant volume of data, so CICS compresses the data by default. To exclude monitoring data fields, use a Monitoring Control Table (MCT). To process output, you can use CICS Performance Analyzer or CICS-supplied sample program DFH\$MOLS.

CMF data types include:

- Exception class, which has information about resource shortages encountered (queueing for file strings and wait for temporary storage buffers). It highlights problems in CICS system operation and identifies system constraints that affect performance. There's one exception record written for each condition that occurs.

- Identity class, which provides enhanced audit information and captures identity propagation data from a client system across a network for eligible transactions.
- Performance class, which provides detailed transaction information, including processor and elapsed time, and time spent waiting for I/O. There's one record per transaction.
- Transaction Resource class, which provides additional transaction level information about individual resources accessed by a transaction, eg items such as distributed program links, or file and temporary storage



**Figure 3: Architecture**

queues. There's one transaction resource record per transaction monitored. A record is cut only if a transaction accesses at least one resource being monitored.

Response time (see Figure 2) consists of two elements:

- 1 Suspend time – the time a task is not executing (waiting).
- 2 Dispatch time – the time that CICS thinks the task is executing. This time is further divided into CPU time (the time the task is executing on CPU) and wait time (the time the CPU has been taken away from the task without the knowledge of CICS).

The CPU to dispatch ratio is the CPU time divided by the

dispatch time, then multiplied by 100. The objective is 80% or higher

CICS PA is a comprehensive performance reporting and analysis tool for CICS that provides ongoing system management and measurement reports on all aspects of CICS application performance.

It uses SMF data as input. It has an easy-to-use interface for report generation (over 250 supplied report forms). It provides performance and statistical analysis. And there's graphical performance analysis using CICS Explorer.

CICS PA analyzes CICS application performance. It improve CICS resource usage. It evaluate the effects of CICS tuning efforts. It improves transaction

response time. It provides ongoing system management and measurement reports. It increases the availability of resources, and it increases the productivity of system and application programmers. And it provide awareness of usage trends. It also reduces the time and resource required to analyze offline performance data. It enables deep-dive CICS performance analysis and understanding of usage trends. It aids capacity planning and tuning. And it helps to quickly identify trends, anticipate and prevent online performance problems.

The architecture of CICS PA is illustrated in Figure 3.

Report forms allow users to tailor the output and format of their reports and data



**Figure 4: CICS PA plug-in to the CICS Explorer**

extracts. There are over 250 sample report forms provided with CICS PA, covering every aspect of CICS transaction activity and resource usage.

Ezriel Gross ran through examples of a number of the reports available that he thought would be particularly useful. He also discussed the used of the Historical database.

With the CICS PA plug-in to the CICS Explorer:

- Graphical representation of performance and statistics data (see Figure 4)
- View statistics and performance alerts
- View data from CSV files or loaded from an HDB into DB2
- Customizable sheet view

- Bar charts, pie charts, and other graphs.

The CICS PA plug-in is shown in Figure 4.

A copy of Ezriel Gross’s presentation is available for download from the Virtual CICS user group Web site at [www.fundi.com/virtualcics/presentations/TuningwithCICSPANov16.pdf](http://www.fundi.com/virtualcics/presentations/TuningwithCICSPANov16.pdf).

You can see and hear the whole user group meeting by downloading the WMV file from [www.fundi.com/virtualcics/presentations/2016-11-08meeting.wmv](http://www.fundi.com/virtualcics/presentations/2016-11-08meeting.wmv).

### Meeting dates

The following meeting dates have been arranged for the Virtual CICS user group:

- On 31 January 2017, we have Luis Carlos Silva, DevOps for z Systems Product Line Manager at IBM talking about “Helping CICS Developers Everywhere Tackle their New Year’s Resolutions”.
- The following meeting is on 7 March 2017, when AlgoriNet’s Ishai Biran will be discussing “Recording CICS tasks”.

We will be using Citrix GoToMeeting for the user group meetings.

### Recent CICS articles

*Link to Liberty now available in CICS TS V5.3* by Matthew Wilson on developerWorks (14 November 2016). You can find the article at: <https://developer.ibm.com/>

cics/2016/11/14/link-to-liberty-now-available-in-cics-ts-v5-3/

*Great new enhancements to CICS Performance Analyzer for z/OS V5.3* by Satish Tanna on developerWorks (2 November 2016). You can find the article at: <https://developer.ibm.com/cics/2016/11/02/great-new-enhancements-to-cics-performance-analyzer-for-zos-v5-3/>

*How to validate CICS bundle resources* by Mark Cocker on developerWorks (1 November 2016). You can find the article at: <https://developer.ibm.com/cics/2016/11/01/how-to-validate-cics-bundle-resources/>

*Transaction tracking and the CICS Asynchronous API* by Amy Reeve on developerWorks (5 October 2016). You can find the article at: <https://developer.ibm.com/cics/2016/10/05/transaction-tracking-and-the-cics-asynchronous-api/>

*Provisioning a CICS & Liberty test environment with the CICS provisioning toolkit* by Daniel Millwood on developerWorks (4 October 2016). You can find the article at: <https://developer.ibm.com/cics/2016/10/04/provisioning-a-cics-liberty-test-environment-with-the-cics-provisioning-toolkit/>

*Java batch in CICS concepts* by Bei Chun Zhou on developerWorks (4 October 2016). You can find the article at: <https://developer.ibm.com/cics/2016/10/04/java-batch-in-cics-concepts/>

*Support for channels and containers over EXCI – now available in the CICS TS 5.4 open beta* by John Tilling on developerWorks (4 October 2016). You can find the article at: <https://developer.ibm.com/cics/2016/10/04/support-for-channels-and-containers-over-exci-now-available-in-the-cics-ts-5-4-open-beta/>

## Sponsorship opportunity

Are you missing a great opportunity to advertise your CICS software?

The Virtual CICS user group is now offering software vendors the opportunity to advertise their products in a number of ways. You could have an advert on the home page of the Web site (at [www.fundi.com/virtualcics](http://www.fundi.com/virtualcics)), you could advertise in the newsletter, and/or you could advertise in the monthly e-mails sent to members of the user group.

E-mail [trevor@itech-ed.com](mailto:trevor@itech-ed.com) for full information about marketing opportunities with the Virtual CICS user group.

## About the Virtual CICS user group

The Virtual CICS user group was established as a way for individuals using IBM's CICS TS systems to exchange information, learn new techniques, and advance their skills with the product.

The Web site at [www.fundi.com/virtualcics](http://www.fundi.com/virtualcics) provides a central point for coordinating periodic meetings (which contain technically-oriented topics presented in a webinar format), and provides articles, discussions, links, and other resources of interest to IBM CICS practitioners. Anyone with an interest in CICS is welcome to join the Virtual CICS user group and share in the knowledge exchange.

To share ideas, and for further information, contact [trevor@itech-ed.com](mailto:trevor@itech-ed.com).

The Virtual CICS user group is free to its members.