

Peter Enrico's and Tom Beretvas' 'Essential z/OS Performance Tuning'

(Visit www.epstrategies.com for class schedule.)

'An unparalleled learning opportunity'
(Quote from past student)

The seminar contents are continually enhanced to take into account the latest technologies

When was the last time you put everything else aside and took a fresh look at the performance of your DASD I/O subsystem, processor, storage and workloads on your z/OS systems? The goal of this class is to give you just such an opportunity.

If you are an experienced z/OS performance analyst, or new to the field of MVS performance management, then this class provides you with an incredible opportunity. First, taking this class will help you to brush up on your monitoring, analysis, and tuning skills. Second, during this class you will analyze *your own installation's data* to evaluate the effectiveness of the performance of *your own* DASD I/O subsystems, processors and LPARs, MVS system storage, and evaluate *your own* workloads and goals. At the conclusion of this class you will leave with a report of *your own* system's performance. Armed with your in-class evaluation, you will be prepared to return to work the following Monday and start making performance improvements.

Two experienced z/OS performance experts, Peter Enrico and Tom Beretvas, both with long IBM affiliations, will teach you practical z/OS performance management and tuning skills. You will learn how to identify performance problems, whether originating from z/OS system setup or excessive resource consumption. You will receive detailed explanations on how to interpret performance reports and how to remedy bad performance situations. This class is very much like a week of dedicated consulting.

A Week of Reviewing Your Own Data!

Prior to class we instruct you on what data to bring to class *from your own systems*. Then, while in class, you will also be spending a week doing an actually basic system performance basic Health Check® using the data you supplied. So if you have not done a basic Health Check® in a while, or have some performance nagging questions, this is a perfect opportunity for combined instruction, time doing analysis, and an opportunity to get input and recommendations from two leading S/390 and zArchitecture performance experts – Peter Enrico and Tom Beretvas.

This class is for you...

- If you want to perform a performance basic Health Check® on your z/OS system, sysplex, or I/O subsystem
- If you are an experienced performance analyst, but want the latest performance management information & advice
- If you are a novice performance analyst, or new to z/OS, and need to learn how to effectively manage the performance of your z/OS systems and DASD I/O subsystems.
- If you are already an z/OS generalist and are looking to brush up on your z/OS performance measurement, monitoring, analysis, and tuning skills
- If you are interested in some of the *newest* technologies such as MIDAW, specialty processors such as zIIPs and zAAPs, recent enhancements to WLM, processor storage, DASD I/O subsystem, and zSeries processors.



Class Highlights

- You will learn how to interpret z/OS performance measurements to identify performance problems, whether originating from the system setup parameters or from excessive resource consumption.
- You will evaluate ***your own*** system's performance measurements.
- You will be provided detailed explanations on how to remedy bad performance situations.
- You will leave the class with a basic performance evaluation of your own environment.

Class Objectives

This seminar is designed to provide the attendee with a fresh outlook on the performance management of their z/OS systems, sysplexes, and DASD I/O subsystems. It is designed to guide you in learning the basic concepts of z/OS performance management by teaching you a step-by-step approach to z/OS performance evaluation. You will learn how to analyze z/OS performance measurements. You will learn performance management of your own DASD I/O subsystem, processors and LPARs, MVS storage and Workload Manager service definition.

The strength of this seminar not only comes from the information learned, but from the performance analysis you can perform on your own data during the seminar week. All past seminar attendees found tuning opportunities as a result of the analysis done on their data during the seminar week. Each student is strongly encouraged to bring RMF or CMF measurement data and parmlib examples from their installation. Analysis and class exercises will make use of this data.

Both Peter and Tom will be available to help review the data, to answer questions, and provide expert feedback. You should think of this class as a workweek that you've scheduled specifically to perform a performance and capacity basic Health Check® of your MVS systems and DASD I/O subsystem.

For More Information...

For more information on this or other seminars, please contact:

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Please do not hesitate to call if you would like more information or details on this seminar. Peter and / or Tom will be happy to talk with you.

Seminar Dates and Location

Please visit www.epstrategies.com for details. Seminars are regularly offered in the USA, Europe, and Australia.

In-house

All seminars are available for in-house instruction.



Instructors

Peter Enrico

Peter has strong and diverse experience with the IBM S/390 and zArchitecture platforms, and a solid background in z/OS, Workload Manager, Parallel Sysplex, UNIX System Services, and S/390 e-business performance. Peter also has extensive experience porting UNIX applications (client-server) to the IBM z/OS platform, and with a reputation as a rounded technical project leader. Peter's abilities extend beyond just performance. He is considered a strong project manager and a highly qualified and effective seminar instructor.

Peter worked for 14 years at IBM and on such diverse areas as systems programming, RMF design, WLM algorithm development, MVS benchmarking and tuning, and evaluating the performance of applications ported to UNIX Systems Services. He later worked as the managing editor for Cheryl Watson's TUNING Letter, as well as other projects, with Cheryl Watson. Due to his diverse and unique set of skills, on a regular basis many customers, vendors, and even IBM tap Peter's knowledge of Workload Manager, Parallel Sysplex, UNIX Systems Services, WebSphere, e-business, and general z/OS performance.

Peter Enrico now works as an independent systems and software performance consultant, seminar instructor, benchmarker, and software project manager and designer. The key objectives for Peter Enrico and his colleagues at Enterprise Performance Strategies, Inc. are to provide 'world class consulting and educational services'. Details of their seminar schedule and service offerings can be found at <http://www.epstrategies.com>.

Peter is a regular speaker at SHARE, IBM z/OS Expo, both national and regional CMGs, and a variety of international conferences.

Tom Beretvas

Tom Beretvas, of Beretvas Performance Consultants, has over 35 years of experience in data processing. He joined IBM in 1964 and has focused on MVS performance since 1971, which is when he became the first MVS performance manager. He retired from IBM in 1992 after a distinguished career in which he specialized in MVS system, DASD, and paging performance. Tom spent several years tuning MVS installations, often visiting customers as a consultant. Since 1992, he has been active as a consultant, educator and mentor, specializing in storage performance issues. He is a regular speaker at SHARE, IBM Storage and Large System performance conferences, and Computer Measurement Group (CMG) conferences. He has published more than 40 papers and monographs.

Typical reaction to Tom's I/O Subsystem seminar is "the seminar was challenging but very worthwhile, and I could put what I learned to immediate use".

Tom also wants to stress that the joint **Essential z/OS Performance Tuning** seminar presented by himself and Peter Enrico represents an unique learning opportunity for the attendees since the expertise of the two instructors span such an expansive and wide-ranging area of performance, covering many practical performance problems encountered in z/OS installations.



Seminar Outline

z/OS Performance Overview

- Diagnosing a performance problem: The First Steps
- A top-down approach to z/OS measurement, monitoring, and tuning

DASD I/O Subsystem and Storage Performance

(Length: 2 days)

- Introduction to DASD architecture:
 - Basic DASD structure - CKD architecture
 - Anatomy of an I/O
 - Two-stage storage processors
- I/O Performance analysis: an introduction
 - Numeric concepts and calculations
- Storage processor technology
 - Evolution
 - RAID technologies
 - Remote copy facilities
 - Commonality and differences between the storage processors
- FICON channels – Overview, performance considerations, and recommendations
- MIDAW – Overview, performance considerations, and recommendations
- DASD RMF
 - The reports and interpretation
 - What is "Interesting DASD"
 - Use of the RMF spreadsheet reporter
 - Tuning your DASD storage subsystem response time
 - The need for tuning and frequent tuning situations
 - Case study using RMF spreadsheet reporter
- Examining *your own* DASD I/O Subsystem performance
 - Multi-system DASD I/O analysis, apparent bottlenecks
 - Logical Volume and control unit analysis
 - Digging further
- Analyzing and tuning processor storage activity
 - Does storage matter any more?
 - Understanding and using storage and page data set measurements
 - Understanding the effects of 64-bit and large read and virtual performance considerations

z/OS Performance

(Length: 2.5 days)

- Analyzing and tuning processor and LPAR activity
 - LPAR concepts including IRD, COD, ,MSUs, etc.
 - Understanding and using processor and LPAR performance measurements
 - LPAR performance considerations
 - zIIPs, zAAPs, and other specialty processors
 - The new ways of evaluating processor capacity
- Analyzing Workload Manager setup for correctness
(For *advanced WLM* please note our **WLM Performance and Re-evaluations of Goals** class.)
 - An advanced introduction to goals
 - Understanding WLM enclaves and Application Environments
 - Understanding and using workload activity measurements
 - Reviewing your WLM service definition for correctness
- Examining *your own* system and processor performance data
 - System performance summaries
 - Processor and LPAR summaries
 - System CPU, Storage, and Workload characterization and summaries
 - Evaluating WLM goals and importance levels for correctness

