



epv

IT Cost
Under Control

EPV Technologies

Newsletter

May 2022

THIS MONTH HIGHLIGHTS

- z16 Capacity Planning - Part 2
- New IBM zPCR version supporting z16

z16 Capacity Planning - Part 2

On April 5th IBM announced its new generation of the mainframe. The new system is called IBM z16 while the family model is 3931.

Experienced capacity planners know that every new generation of machines provides a major challenge to their skills. They also know that their best friends are the IBM LSPR benchmarks, the IBM zPCR tool, the Measurement Facility counters provided in SMF 113 and an up-to-date performance database.

This is especially true in this case because IBM has made significant changes to the processor cache architecture, which is very different from that of the z13, z14 and z15 machines.

In the first part of this paper, we'll have a look at the most important capacity characteristics of the IBM z16. Starting from the IBM LSPR benchmarks, we'll then estimate the MIPS capacity of each IBM z16 processor model. Finally, we will compare z16 single CP capacity and workload variability with previous machine generations.

In the second part we'll compare z15 and z16 processor cache architecture. Then we'll analyse in more detail the new z16 Measurement Facility basic and extended counters provided in SMF 113, using them to calculate the most important indexes to use in performance analysis and capacity planning.

*If you want to receive the paper you can reply to this e-mail writing "**z16 Capacity Planning - Part 2**" in the subject*

New IBM zPCR version supporting z16

zPCR is a PC-based productivity tool under Windows. It is designed to provide capacity planning insight for IBM Z and LinuxONE processors running LPAR configurations with various workload environments under z/OS, z/VM, z/VSE, KVM, Linux, SSC, and CFCC.

Capacity results are based on IBM's LSPR data supporting all IBM Z and LinuxONE processors including the new IBM z16 Model A01 processor family.

Download it at:

[Getting Started with zPCR](#)



Is it possible to assign a report class to a resource group?
I heard that this possibility has been introduced to support a new IBM pricing policy.

We often use dedicated service classes to set up the resource groups, if it was possible to use the report classes, we could reduce the number of service classes of the WLM policies ...

EPV Technical Support answer

IBM introduced Tenant Resource Groups and Tenant Report Classes with Container Pricing

With Container Pricing it is possible to isolate "new workloads" (accepted by IBM) in a logical container made up of one or more Tenant Resource Groups

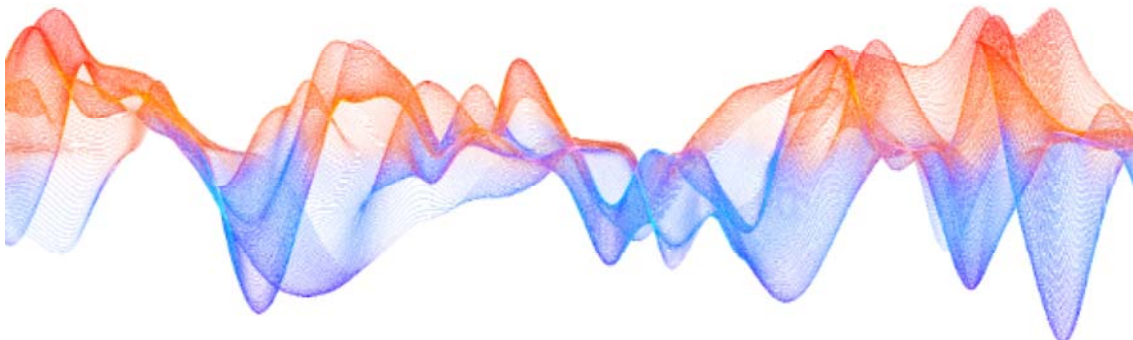
As a rule, each Tenant Resource Group must be associated with a solution id provided by IBM which identifies the "new application" and which, thanks to the solution id, receives a special price. The consumption of this solution id is automatically deducted from the WLC consumption by the SCRT.

However, you can define a Tenant Resource Group with an empty solution id (IBM gives this possibility for testing purposes before really using Container Pricing).

Tenant Report Classes, which are practically the same as the Report Classes, can then be associated to a Tenant Resource Group

There are some limitations but, even if this is a bit of a misuse, you can use Tenant Resource Groups, with an empty solution, and Tenant Report Classes as if they were Resource Groups.

Little known SMF parameters



NOCOMPRESS/COMPRESS(PERMFIX (nnnnM))

The NOCOMPRESS/COMPRESS parameter is included in the SMFPRMxx member of the system parmlib.

This parameter applies to SMF on log stream only. Default is NOCOMPRESS.

When specified with a zEDC Express feature available, SMF compresses SMF

records before writing to the log stream. This option allows for greater throughput of SMF records.

With z15, the hardware component of zEDC is automatically available at no cost (Integrated Accelerator for zEDC). However, the software feature has still to be acquired for SMF compression.

If a zEDC Express feature fails or none is available for use and COMPRESS is specified, message IFA730E is issued and SMF continues writing non-compressed records to the log stream. See example below:

```
IFA730E COMPRESSION FAILED FOR SMF 578
FOR IFASMF.S0W1.ALLSMF
```

This parameter can be specified for one or more log streams and for the default log stream.

When COMPRESS is specified the PERMFX sub parameter may specify the amount of storage that SMF can keep permanently fixed for purposes of communicating with the zEDC Express feature.

Storage that is used by the zEDC Express feature must be page fixed; it is important to remember that fixed pages are a constrained resource, so you need to be aware that:

- increasing PERMFX can improve performance of SMF but decreases the fixed storage available to the other applications;
- decreasing PERMFX can increase the fixed storage available to other applications but might degrade SMF performance.

PERMFX can range from a minimum of 1MB to a maximum of 2 GB.

If specified, this value overrides the global PERMFX value which, by default, is set to NOPERMFX.

Due to processing needs, even if this value is NOPERMFX, SMF can use up to 2 MB of fixed storage for zEDC usage.

Quotes



"I always believe I can beat the best, achieve the best. I always see myself in the top position."

Serena Williams

Copyright © 2022 EPV Technologies, All rights reserved.

If you've received this mail by mistake, or you don't want to receive any more such messages, please send an e-mail to epv.info@epvtech.com with subject "REMOVE". You'll be promptly removed from the list. If you want to subscribe to this list you can do that simply by sending an e-mail to epv.info@epvtech.com with a subject "SUBSCRIBE".

If you've received this mail by mistake, or you don't want to receive any more such messages, please send an e-mail to epv.info@epvtech.com with subject "REMOVE". You'll be promptly removed from the list. If you want to subscribe to this list you can do that simply by sending an e-mail to epv.info@epvtech.com with a subject "SUBSCRIBE".

Our mailing address is:

EPV Technologies
Viale Angelico, 54
Roma, RM 00195
Italy

[Add us to your address book](#)

Our mailing address is:

EPV Technologies
Viale Angelico, 54
Roma, RM 00195
Italy

Images designed by : [Freepik](#), [Flaticon](#)

EPV Technologies · Viale Angelico, 54 · Roma, RM 00195 · Italy

